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REPORT
OF THE
Indian Tariff Board

REGARDING THE
GRANT OF PROTECTION TO THE
MANUFACTURE OF ELECTRIC
WIRES AND CABLES



CALCUTTA : GOVERNMENT OF INDIA
CENTRAL PUBLICATION BRANCH

1931

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Report regarding the Grant of Protection to the Manufacture of Electric Wires and Cables.

The enquiry into the grant of protection to the manufacture of electric wires and cables was referred to the Board in the Government of India, Commerce Department, Terms of Reference. Resolution No. 707-T. (1), dated the 11th May 1931. The Resolution runs as follows:—

“ In pursuance of paragraph 3 of the Resolution by the Government of India in the Department of Commerce No. 3748, dated the 10th July 1923 (Tariffs), the Government of India have decided to refer to the Tariff Board an application for protection to the manufacture of electric wires and cables other than paper-insulated cables, which has been received from the Indian Cable Company, Limited, Calcutta.

2. In making its enquiry the Board will be guided by the principles laid down in the Resolution adopted by the Legislative Assembly on the 16th February 1923 and will consider—

- (i) whether the conditions laid down in the Report of the Indian Fiscal Commission are satisfied in the case of the industry and whether it should be protected;
- (ii) if so, in what form and for what period protection should be given; and
- (iii) how its recommendations, if any, will affect other industries.

3. Firms and persons interested who desire that their views should be considered by the Tariff Board should address their representations to the Secretary to the Board.”

The Board decided to proceed with the enquiry immediately and issued the following press communiqué on the 19th May, 1931:—

“ Under Resolution No. 707-T. (1), dated the 11th May, 1931, the Government of India, Commerce Department, have referred to the Tariff Board an application for protection to the manufacture of electric wires and cables, other than paper-insulated cables, which has been received from the Indian Cable Company, Limited, Calcutta.

The Board has taken up the enquiry immediately and all firms and persons interested who wish their views to be considered by the Board should address written representations (with five spare copies) containing a full statement of their

views and all data upon which they are based, to the Secretary, Indian Tariff Board, 'Burnside', Ootacamund, not later than June 10th."

The Board issued a questionnaire on the 1st June, 1931 addressed to the Indian Cable Company and also addressed letters asking for information upon specific points and calling for a general expression of opinion to leading importing firms and to large consumers of wire and cable, such as the chief electric supply companies and the authorities interested in hydro-electric schemes. Replies were received from all the firms and persons addressed as also from local Governments interested in the development of electric power and we wish to express our indebtedness for these replies and for the information placed at our disposal. We also received a very large volume of correspondence from firms interested and from Chambers of Commerce throughout India and Burma. We wish to acknowledge particularly the assistance rendered us by Dr. L. L. Fermor, Director of the Geological Survey of India. The programme of inspection and oral examination was as follows:—

August 15th.—Inspection of Indian Cable Company's Works, Tatanagar.

August 21st.—Evidence of Indian Cable Company.

August 22nd.—Evidence of Messrs. W. T. Henley's Telegraph Works Company.

August 24th.—

Evidence of Director, Geological Survey of India.

„ of Indian Copper Corporation.

„ of British Indian Electric Committee.

August 30th.—Evidence of Messrs. J. C. Karaka and Company.

September 23rd.—Evidence of Major H. G. Howard, Hydro-electric Development, Government of Madras.

2. The manufacture of electric wires and cables falls generally into two main branches, the drawing of the wire and the insulation of the cable. The wire drawing operations are much the same as those employed in other industries with the exception that special attention has to be paid to the tensile strength of the wire drawn—an operation which requires highly skilled labour and close supervision—and in the case of wires for electrical instruments extreme accuracy in the diameter of the finished wire is essential. The copper rod is first annealed and pickled to remove surface oxidation. The heaviest wires are drawn on a single block, the smaller sizes being drawn on multiple block or tandem drawing machines, the dies in the case of very fine wires being diamonds. Wires that are to be insulated have to be again annealed in a bright annealing furnace and if the insula-

tion is to contain rubber have to be cleaned, fluxed and run through a bath of molten tin so that a thin film of tin coats the whole surface of the wire.

In the manufacture of insulated cables there is a great variety of operations according to the type of cable to be prepared. To begin with, the wires have to be stranded in various ways according to the size of conductor and the degree of flexibility necessary. For rubber insulation raw rubber is purchased in sheets and after a surface picking sent direct to mixing machines where it is reduced to a plastic consistency and mixed with various chemicals which assist vulcanisation, give colour and body and increase insulation resistance. The rubber is then rolled into sheets of various thicknesses and either pressed on the wire by grooved rollers or wrapped spirally round it. A further special wrapping of rubber proofed calico tape is then applied and after vulcanisation the cable is immersed in water for 24 hours and subjected to a severe insulation test. Finally, the cable is further covered with protective materials, cotton, jute or silk braiding, rubber sheathing, lead sheathing or armoured with galvanised iron or steel wire. The braiding is applied spirally by automatic bobbins, the rubber sheathing by the extrusion method and the lead sheathing by a hydraulic press, which forces a tube of plastic lead round the conductor. Armouring is performed by laying galvanised iron or steel wires round the conductor on a bedding of jute. There are also finishing operations with preservative, polishing and vulcanising compounds.

3. The Indian Cable Company was floated in 1920. They are the sole manufacturers in India and consequently the only applicants for protection. At the time of the formation of the Company all the articles which they proposed to manufacture were subject to a uniform revenue duty of 15 per cent. The Company actually started manufacture in 1923 and it was in that year that the duty on wires and cables having a sectional area of $1/80$ th square inch and over was reduced to $2\frac{1}{2}$ per cent. though no change was made in the rate of duty on raw materials such as copper rod, raw rubber and pig lead. In June of the same year the Government of India decided to exempt raw rubber imported into India from payment of Customs duty under section 23 of the Sea Customs Act. They also agreed that the Indian Cable Company should be allowed to import electrolytic copper rod (commonly known as black rod) free of Customs duty subject to certain conditions, but they stated clearly that this was a temporary expedient only and that the whole case would be examined by the Tariff Board. This arrangement is still in force. In October 1927 the duty on electric wires and cables with a sectional area of $1/80$ th square inch or more was entirely removed and the Company addressed the Government of India pointing out that these so-called heavy wires and cables formed by far the greater part of their production and that while the imported articles were admitted free of duty, almost all the raw

Previous history and legislation.

materials which required were subject to revenue duties varying from 5 per cent. to 30 per cent. The case was considered by the Board from the tariff inequality point of view in 1928 and the Board then recommended (a) that the duty on electrolytic copper rod, known as 'black rod', should be removed, and (b) that a duty of 5 per cent. should be levied on rubber insulated wires and cables over 1/80th square inch sectional area other than paper-insulated cables. With regard to the first recommendation the Government of India, when introducing the necessary Tariff Amendment Act, pointed out that while they agreed on principle with the Tariff Board that the Indian Cable Company should get their black rod free of duty, certain practical difficulties prevented them from adopting the Board's suggestion. In the first place, it was extremely difficult for administrative purposes to distinguish between electrolytic and other copper rod and, in the second place, it might be possible for electrolytic copper rod to be used in certain other industries now using other kinds of copper. They therefore proposed to continue the special exemption in favour of the Indian Cable Company. The second recommendation was accepted by the Government of India and with the sanction of the Legislature the duty was levied with effect from the 1st April, 1929. The present tariff position so far as the finished wires and cables are concerned may be summarised as follows:—

- | | |
|---|--------------|
| (1) All electric wires and cables less than 1/80th square inch sectional area, bare or insulated | 20 per cent. |
| (2) Rubber insulated electric wires and cables 1/80th square inch sectional area or over | 5 per cent. |
| (3) Electric wires and cables 1/80th square inch sectional area or over, bare or insulated, except rubber insulated | Free. |

The actual Customs entries will be found in items Nos. 18-A (5), 43-B and 90-A of the Statutory Schedule.

4. The Company's application for protection refers to rubber insulated cables and flexibles and to bare conductors. With regard to rubber insulated cables and flexibles they state that while the Indian made cables are manufactured to a very

The present application for protection.

high standard and are in all respects equal to the best imported cables, the competition which they have to face comes from cheap imported cables which though definitely of inferior quality possess an attractive finish and may even satisfy initial laboratory tests. Their chief suggestion, therefore, is that a system of control should be devised and a minimum standard laid down, suitable to the requirements of the country, to which all such articles must conform, and they ask that all cables not conforming to this standard should be prohibited from use or from entry into the country. In the event of such a system being impossible or im-

practicable of adoption, they ask for specific duties as detailed in the following schedules:—

SCHEDULE I.

Suggested specific duty on flexibles.

Size.	Glazed Cotton braided twin twisted flexible.		Silk braided twin twisted flexible.		Workshop round twin flexible.		Round twin C. T. S. flexible.	
	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.
14/36 . . .	}	3 0 0	4 0 0	2 12 0	..	..	..	..
35/40 . . .								
11/012	4 14 0	
23/36 . . .	}	3 9 0	5 0 0	3 3 0	..	..	..	5 5 0
70/40 . . .								
16/012	5 9 0	

SCHEDULE II.

Suggested specific duty on cables.

Size.	Braided single.	Lead or metal alloy single.	Lead or metal alloy flat twin.	Lead or metal alloy three core.	Single C. T. S.	Round or twin flat C. T. S.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
1/036 . . .	0 14 0	2 8 0	3 13 0	..	2 0 0	4 0 0
1/044 . . .	0 15 0	2 10 0	4 2 0	5 13 0	2 2 0	4 0 0
3/029 . . .	1 0 0	2 11 0	4 12 0	6 8 0	2 4 0	4 10 0
1/064 . . .	1 8 0	2 13 0	5 5 0	7 2 0	2 8 0	5 2 0
3/036 . . .	1 11 0	3 2 0	5 8 0	8 4 0	2 10 0	5 3 0
7/029 . . .	2 0 0	4 0 0	7 4 0	..	3 6 0	6 14 0
7/036 . . .	2 12 0	4 13 0	8 0 0	..	3 10 0	7 8 0
7/044 . . .	3 12 0	5 9 9	10 0 0	..	4 10 0	9 4 0
7/052 . . .	4 4 0	..	..	..	..	..
7/064 . . .	6 8 0	..	..	..	..	..
19/052 . . .	12 14 0	..	..	..	..	..
19/064 . . .	16 12 0	..	..	..	..	..

It will be observed that these schedules apply almost entirely to flexibles and rubber insulated cables less than 1/80th square inch in sectional area. The Company state definitely that if these specific duties are imposed they would withdraw their claim for an increase in duty on rubber insulated cables 1/80th square inch in sectional area and over.

On bare conductors their original request was for a duty of 10 per cent. *ad valorem*. Since 1929 there has been a very big fall in the price of electrolytic wire bar in consequence of which they now ask for a duty of 20 per cent. *ad valorem* or alternatively a specific duty of Rs. 6-8 per cwt. on uninsulated copper wire and strand and 20 per cent. *ad valorem* on other uninsulated conductors and weather proof braided aerial wires and cables not less than 1/80th square inch in sectional area. They suggest that the duty on bare conductors should apply to all uninsulated and aerial weather proof conductors except steel covered aluminium conductors over .25 square inch in cross sectional area.

5. In order to determine how far the claim to protection as embodied in these proposals may be accepted, it is necessary to

examine the evidence submitted by the Company in the light of the conditions laid down by the Fiscal Commission in paragraph 97 of their Report. The first condition is that the industry must be one possessing natural advantages such as an abundant supply of raw material, cheap power, a sufficient supply of labour or a large home market. As regards the last three factors, there is little doubt that the condition is substantially fulfilled by the Indian Cable Industry. At the prices ruling in 1930-31 the total capacity of the Indian Cable Company in respect of bare copper conductors and rubber insulated cables may be estimated at about Rs. 58 lakhs. The total consumption in India in 1930-31 of cables and wires of the kinds manufactured by the Indian Cable Company was as follows:—

	Rs. in lakhs.
<i>Imports in 1930-31—</i>	
Rubber insulated cables	36.90
Bare copper wire other than telegraph and telephone wires	21.85
Telegraph and Telephone wires and cables	2.88
	<hr/>
	61.63
<i>Indian Production in 1930-31—</i>	
Rubber Insulated Cables	9.71
Bare copper wire	3.08
Telegraph and Telephone wires and cables	6.56
	<hr/>
	19.35
	<hr/>

At the prices which prevailed in 1930-31 the total annual consumption in that year was approximately Rs. 81 lakhs. The maximum capacity of the Indian works is thus well within the total market available in the country. If the imports into markets other than Bengal were excluded there would still be left a market valued at about Rs. 40 lakhs. An output on this scale although less than the total capacity of the Indian Cable Company would enable them to manufacture at an economical level of costs. The consumption of electric wires and cables is rapidly increasing in India, and it is reasonable to assume that the market offered for the products of the Indian Cable Company in Bengal alone would hereafter be considerably higher than the figures of 1930-31 suggest.

6. The Company have found little difficulty in securing sufficient labour for their requirements. The total labour force

Labour and Power. employed in their works does not exceed 500 men. A large part of this labour is unskilled or semi-skilled, not more than half being of the class which may be described as skilled labour. Since most of the operations in the works are performed by means of automatic machines there is relatively little demand for highly skilled labour except in the copper wire mill and the rubber mixing machines. A sufficient supply of skilled labour for these departments has now been trained by the Company and no difficulty is anticipated in obtaining an increased supply if found necessary. The power employed in the works is electric power which is supplied by the Tata Iron and Steel Company. The cost per unit is 0.75 anna and a sufficient supply is available for the maximum requirements of the Company.

7. The manufacture of electric wires and cables requires a large variety of materials of which, judged by the quantities required, the most important are electrolytic copper rod, lead and raw rubber. The annual requirements of these materials on the basis of the output in 1930-31 are as follows:—

	Tons.
Electrolytic copper rod	1,060
Lead	175
Raw rubber	45

Of these lead and rubber are now obtained entirely from Indian sources, while electrolytic copper rod is imported. Since copper rod is the most important raw material for the industry, the possibility of sufficient supplies of suitable quality being obtained in India is obviously one of vital importance in connection with the Company's application for protection. The Company point out that the Indian Copper Corporation's mines at Ghatsila in the Singhbhum District afford a potential source of supply. It is on the validity of this claim that the case for protection depends as regards the first condition laid down by the Fiscal Commission.

8. The Indian Copper Corporation was formed in 1924 for the extraction of copper from the ores present in the Singhbhum copper belt. The Corporation erected

The present supply of copper in India.

their plant in 1927 and commenced operations in 1928-29. The Singhbhum

copper belt extends over 80 miles and from evidences of old workings which are still present its existence appears to have been known for a long period. The Geological Survey of India conducted a series of experimental borings in this area in 1906-08 and the results obtained showed that although in many places the ores contained a somewhat low percentage of copper there were also fairly high grade deposits present containing more than 3 per cent. of copper and in one case nearly 12 per cent. Several Companies attempted to operate these deposits in the past but for financial or other reasons were compelled to close down. Since the present Company started operations, however, a steady output of copper has been extracted and placed on the market in the shape of either copper ingots or yellow metal sheets. Taking the two years 1929 and 1930, the Company's average extraction of copper amounted to about 200 tons a month. At present the average monthly extraction is 350 tons which represents the maximum capacity of the extraction and smelting plant as now equipped.

9. We directed our examination of the Indian Copper Corporation's representative who appeared before us chiefly to two

The Indian Copper Corporation

questions—first, whether a sufficient supply of copper is available in the areas where the Corporation is working, and secondly,

whether there is a reasonable prospect of electrolytic copper being produced for the use of the Indian Cable Company. At present only one mine is being worked by the Corporation—the Mosaboni mine. The total reserve of copper ore present in this mine as estimated in 1930 is 697,146 short tons. At an average copper content of 3.20 per cent. this represents 22,309 short tons of copper. Meanwhile diamond drilling operations have been carried on at another centre—Dhobani—where ore bodies have been located which are estimated to contain 75,000 tons of copper ore with an average copper content of 4.98 per cent. which correspond to 3,735 short tons of copper. Taking the Mosaboni and Dhobani areas together, the total estimated copper content is therefore 26,044 short tons or 23,253 long tons. The Corporation are now producing slightly over 4,000 tons of refined copper for which they have a definite market either from the Government Ordnance Department or in the shape of yellow metal sheets in the Calcutta market. Taking the deposits which are now worked or have been definitely located, the estimated supply of copper is hardly sufficient for the Corporation's present requirements for six years. On this basis the possibility of the Indian Cable Company receiving its supplies of copper from this source seems altogether

unlikely. The Manager of the Copper Corporation's mines, however, in his evidence before us stated from his knowledge of the ore bodies in the Corporation's zone of operations that the total quantity of ore obtainable without any further preliminary expenditure was 1,000,000 tons and that, if additional preliminary expenditure was undertaken, a further 1,000,000 tons of ore could be developed. These however, he added, were approximate estimates not based on actual investigation. On the assumption that these additional supplies were available at an average copper content of 3.2 per cent., they would yield 64,000 short tons of copper or approximately 57,000 long tons. The Indian Cable Company's annual requirement on full output would be nearly 3,500 tons while the Copper Corporation's present consumption is 4,000 tons a year. At an annual demand of 7,500 tons, even this increased estimate of the available copper ore will not cover more than seven to eight years' requirements. According to the general practice of metal mines, reserves covering not more than a few years' requirements are blocked out at any particular time and in practice it is almost impossible to frame definite estimates of the future supplies which it may be possible to obtain. Whether the evidence regarding the Singhbhum copper belt generally justifies the expectation that sufficient supplies may be obtained for a reasonably long period is a question on which it is impossible to come to any definite conclusion. Dr. Fermor, the Director of the Geological Survey of India, who was present at our examination and whom we questioned on the subject was not prepared to go farther in his reply than that in his opinion "the evidence of deposits such as we have shows that they are worth working". The position stated in this form is so hypothetical that it hardly constitutes sufficient evidence that the necessary supplies of copper are available.

10. The question is further complicated by the fact that at present the Indian Copper Corporation is equipped only for the manufacture of ordinary merchant copper or fire refined copper which has a lower purity than electrolytic copper and is unsuitable for the manufacture of electrical conductors. The present plant of the Copper Corporation consists, besides the extraction and smelting plants, of a rolling mill for the manufacture of sheets of yellow metal consisting of two-thirds copper and one-third brass. At the time when the Corporation erected their plant the Indian Cable Company had already been granted the concession of importing electrolytic rod free of duty and this probably accounted partly for the Corporation's decision to use their copper for the manufacture of yellow metal sheets to the exclusion of electrolytic copper. It is not by any means certain however that even if the revenue duty had been in force the Corporation would have turned their attention to the manufacture of electrolytic copper rod rather than yellow metal sheets. The

Possibility of supply of electrolytic copper rod in India.

installation of an electrolytic furnace is an expensive undertaking and the only market for the product is that offered by the Indian Cable Company. The total consumption of yellow metal sheets in India is over 15,000 tons representing a demand for copper of about 10,000 tons, of which the market in Calcutta which is nearest the Corporation's works is approximately 4,000 tons. In addition to this, there is a demand for copper sheets in India of 7,500 tons. The maximum demand, however, for electrolytic copper from the Indian Cable Company will not exceed 3,500 tons. It was suggested in evidence that the minimum output for the economical working of an electrolytic furnace would be about 5,000 tons or 40 per cent. higher than the maximum Indian demand. The Indian Copper Corporation's representative however told us that while his Directors considered the present demand for electrolytic copper in India decidedly low, they would seriously consider a proposal for the installation of an electrolytic furnace if sufficient assurance could be given of a demand for 3,500 tons provided the revenue duty on electrolytic copper rod was enforced. He made it clear that whether the proposal would be accepted or not would depend on the degree of assurance given. The total capital expenditure which would be required for an electrolytic refinery and extrusion plant with the necessary additions to the extraction, smelting and power plants is estimated at Rs. 26 lakhs. The Corporation's representative admitted that from a purely financial point of view at the present price of electrolytic copper rod, *viz.*, £42 a ton, it was not an attractive proposition to instal an electrolytic plant even if a demand of 3,500 tons were assured. The price of electrolytic copper is partly determined by the recovery of the valuable metals—gold and silver—in the electrolytic process. Unfortunately the copper ore of Singhbhum has a very low gold and silver content and the recovery of these metals would not therefore be sufficient to make the electrolytic process attractive under present conditions. It is clear therefore that unless a market for 3,500 tons is definitely assured and unless the price of electrolytic copper rod is considerably higher than at present, there is no likelihood whatever of electrolytic copper rod being manufactured in India.

11. In view of the fact that any further extension of the production of yellow metal sheets would make it necessary for the Copper Corporation to seek more distant markets than Calcutta, it might conceivably be to their advantage to secure a definite market for their output in the shape of electrolytic copper supplied to the Indian Cable Company. The possibility of obtaining a definite market for electrolytic copper will depend on the extent of the orders which the Indian Cable Company can be expected to place, and further on the minimum price at which the Copper Corporation will be in a position to sell. If protection is granted to the Cable industry, there is no doubt that the Cable Company's output will be increased and a larger demand for elec-

Fiscal Commission's
first condition not satisfied

trolytic copper will arise than there is at present. But it is impossible to assume that, even if protection is granted, the Cable Company's output will increase to an extent which will justify them in entering into an agreement for the purchase of electrolytic copper up to their maximum requirement of 3,500 tons a year. Any agreement for the purchase of copper in quantities approximating to their maximum requirements may seriously embarrass the Cable Company. On the other hand the Copper Corporation may find it impossible, in view of the depressed condition of the copper market and the expensive nature of the plant and processes required, to manufacture electrolytic copper except at prices considerably higher than those at which it can be imported. In that case it will follow that the Cable Company will find it impossible to purchase its supplies of copper locally at economical prices. Taking these facts in conjunction with what we have stated in paragraph 9 regarding the available supply of copper, we find that as regards its most important raw material the Indian Cable industry does not fulfil the first condition laid down by the Fiscal Commission.

12. The first condition of the Fiscal Commission is based on the assumption that the existence of an abundant supply of raw material constitutes a natural advantage for an Indian industry. An important advantage which is derived from a local supply of raw material is that the freight which is paid on imported material is thereby saved. But it is extremely doubtful whether the cost of electrolytic copper to the Indian Cable industry would be necessarily lower if its manufacture were undertaken in India. Metals like copper have a world market and their prices are generally determined on a world parity basis. If the Indian Copper Corporation undertook the production of electrolytic copper the price charged by them would not be less than the import price plus duty. No saving in cost in that case would result to the Indian Cable industry but on the other hand an additional expenditure corresponding at least to the revenue duty would be incurred. In fact it has been specifically stated in evidence that an essential condition of the manufacture of electrolytic copper by the Indian Copper Corporation is that the imports of such copper into India should be subject to the revenue duty. From this point of view it may be urged that the presence of electrolytic copper in India does not necessarily constitute a natural advantage for the Indian industry and therefore the first condition of the Fiscal Commission is not strictly applicable to the case. A similar view was taken by the Board in the case of the Gold Thread industry of which the chief raw material is silver which is hardly produced in India and the price of which is determined on a world parity basis. There is, however, an important difference between silver and electrolytic copper considered as raw materials. Silver has various uses besides being a raw material for the gold thread industry and it is therefore extensively stocked in the country and readily available. But there is no

demand for electrolytic copper except as a material for the manufacture of electrical conductors and therefore the burden of maintaining adequate stocks would fall entirely on the Cable industry. It is admitted by the Indian Cable Company that one of its chief disabilities is the necessity of carrying large stocks of copper. The Company's evidence on the subject is worth quoting. "There is still one other disadvantage an industry of this kind has to contend with until its raw materials are obtainable in India. Heavy stocks of copper have to be carried at the factory and supplies must come forward steadily. In competition with wire held in competitors' stock the position is not nearly so acute as in the case where a buyer asks for prices for a specific quantity for forward delivery from America, Europe or Japan. In the former case the stockist covers for loss of interest on the money locked up; in the latter case the price quoted is regulated more by the anxiety to obtain the work for the foreign factory than by any other consideration and frequently results in a price with which no Indian industry could compete. This difficulty will be overcome when indigenous material is available". If, as we have found, there is little reasonable prospect of sufficient supplies of suitable copper being available in India, it follows that the burden of stocking an expensive material like copper in large quantities will be a serious handicap for the Indian industry.

13. We now proceed to consider the second condition laid down by the Fiscal Commission which runs as follows:—“The industry

The Fiscal Commission's second condition.

must be one which without the help of protection either is not likely to develop at all or is not likely to develop so rapidly as

is desirable in the interests of the country". The method usually adopted by the Tariff Board in determining whether and if so to what extent an industry requires protection is to estimate the fair selling price per unit of product manufactured in India and to compare it with the price of corresponding imported articles. This method is inapplicable in the present case. The Cable Company produce two main kinds of articles—bare conductors and insulated cables—each of which is made in different sizes; and rubber insulated cables are made not merely in different sizes but of different classes and different grades of finish. Each of these has a different cost of production which it is impossible to estimate except on a basis of arbitrary allocation. While this difficulty applies to both bare conductors and insulated cables, the difficulty is greater in the case of insulated cables. The variety of classes and grades of finish represented by rubber insulated cables makes it impossible to adopt any quantitative measurement of the total output. The total length or weight of the cables would convey no intelligible idea of the cost or value of the articles produced in any year. Unless it is possible to state the total output in quantitative terms, the calculations of overhead charges and profit per unit of product will present serious difficulties. For this reason we propose to adopt the following method in considering the need for protection and the measure of assistance required.

14. From the statements furnished by the Company we find that the total works expenditure in 1930-31 including all classes of articles manufactured during the year was Rs. 16.02 lakhs. No further economies in the works expenditure seem possible except about Rs. 10,000 under 'supervision' by the employment of Indians in certain superior positions, which will reduce the total expenditure to Rs. 15.92 lakhs. The present replacement cost of the plant and buildings is estimated at about Rs. 15 lakhs. The income-tax rates of depreciation, which the Company consider suitable to the industry, represent an average rate of 6½ per cent. on the total block. Applying this rate to the present replacement cost, we get an annual depreciation of Rs. 93,750. The working capital required represents approximately the works expenditure on 6 months' output which appears a reasonable estimate. Interest on this at 7½ per cent. amounts to Rs. 60,000. The Company's charges on account of head office expenses and Managing Agents' Commission amount at present to Rs. 90,000. The Managing Agents had waived their right to various sums in the early years of the Company's working and hence the present charges are fixed at a figure which we consider to be above the normal. Rs. 45,000 is a more reasonable figure under this head. Profit at 8 per cent. on the replacement cost amounts to Rs. 1,20,000. On these figures a fair return on the total output of the Company in 1930-31 may be estimated as follows:—

	Lakhs.
	Rs.
Works expenditure	15.92
Depreciation . . . . .	.94
Interest on working capital . . . . .	.60
Head office expenses and Managing Agency Commission . . . . .	.45
Profit	1.20
TOTAL	19.11

15. In order to determine whether the Company could secure an aggregate return of Rs. 19.11 lakhs on the output of 1930-31 without the help of protection, it is necessary to compare this figure with the actual realisations of the Company on the cables and wires manufactured by them in 1930-31. For this purpose we asked the Company to prepare a statement of the aggregate prices realised by them in 1930-31 excluding stocks carried over from 1929-30 but including stocks remaining unsold at the end of 1930-31 calculated at the average prices realised in 1930-31, all prices being calculated *ex works*, i.e., deducting freights, discounts, commissions and selling expenses. On this basis the aggregate price realised by the Company for the output of 1930-31 was Rs. 18.19 lakhs against a fair return of Rs. 19.11 lakhs estimated by us which leaves a deficiency of Rs. .92 lakh. Prices have fallen

considerably since March, 1931, and it is therefore reasonable to assume that on the basis of calculation adopted by us the deficiency incurred by the Company would be greater now. It is clear on these figures that the second condition of the Fiscal Commission is satisfied by the industry.

16. The third condition of the Fiscal Commission is that the industry must be one which will eventually be able to face world competition without protection. In deciding whether an industry satisfies this condition or not, the amount of assistance it requires affords a useful criterion. We shall first estimate the measure of protection on the assumption that protection equivalent to the deficiency between the estimated fair return and the actual realisations of 1930-31 would give the Company the necessary assistance. We have found that on the figures of 1930-31 the deficiency in the aggregate receipts of the Company amounts to Rs. 92 lakh. The following were the aggregate prices realised by the Company *ex works* in 1930-31—

	Rs.
A. (1) Rubber insulated cables less than 1/80th square inch at 15 per cent. duty	5,83,553
(2) Rubber insulated cables not less than 1/80th square inch at 5 per cent. duty	3,01,970
B. (1) Bare copper wire other than telegraph and telephone wires less than 1/80th square inch at 15 per cent. duty	41,395
(2) Bare copper wire other than telegraph and telephone wires not less than 1/80th square inch, duty <i>nil</i>	2,56,690
C. (1) Telegraph and telephone wires and cables less than 1/80th square inch at 15 per cent. duty	3,97,444
(2) Telegraph and telephone wires and cables not less than 1/80th square inch, duty <i>nil</i>	2,38,664
TOTAL	<u>18,19,716</u>

If no revenue duties had been in force, the prices realised would have been as follows:—

	Rs.
A. (1) Rs. 5,83,553 × $\frac{1}{100}$	5,07,437
(2) Rs. 3,01,970 × $\frac{1}{88}$	2,87,590
B. (1) Rs. 41,395 × $\frac{1}{118}$	35,991
(2)	2,56,690
C. (1) Rs. 3,97,444 × $\frac{1}{100}$	3,45,603
(2)	2,38,664
TOTAL	<u>16,71,975</u>

The total deficiency if there had been no duties would have been Rs. 19.11 lakhs *minus* Rs. 16.72 lakhs or Rs. 2.39 lakhs.

This represents approximately 15 per cent. of the duty free prices realised on the whole output. In other words an average duty of 15 per cent. on all classes of wires and cables manufactured by the Company would theoretically be sufficient to protect the industry. If a duty of 15 per cent. would give the Company a fair return, it would be reasonable to conclude that the industry would eventually be able to dispense with protection.

17. On an examination of the facts, however, it is evident that a duty at this rate would be far from sufficient to protect the industry adequately. The Indian market for insulated cables may be roughly divided into three groups according to the class of cables consumed—

- (1) Cables manufactured by British companies represented by the Cable Makers' Association and bearing the mark C. M. A.
- (2) Cables manufactured to British Standard Specifications but not bearing the mark of the C. M. A. These are manufactured by the Indian Cable Company in India, by Continental Companies like the Deutsche Kabelwerke Akt. Ges. of Berlin or by British Companies outside the C. M. A. group.
- (3) Cables which are manufactured to specifications other than British Standard.

The prices realised by the Indian Cable Company have in the past closely approximated to those of C. M. A. cables. There is a fairly large body of consumers in India consisting mainly of electric supply and other industrial corporations who prefer C. M. A. cables on account of their long standing in the market and their reputation for durability. This is a section of the market which for the time being at any rate must be regarded as being outside the reach of the Indian Cable Company. In the rest of the market, consisting largely of small sized cables used for housewiring, where the Indian Cable Company have to sell the bulk of their output, the main competition arises from Continental and Japanese cables. It is in relation to the prices at which these cables are sold that the prices of the Indian Cable Company would be largely determined hereafter. There has been a large increase in the imports from countries other than the United Kingdom as is shown by the following figures taken from the Trade Returns—

	1928-29.	1929-30.	1930-31.
	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.
<i>Rubber insulated cables—</i>			
United Kingdom . . .	35.58	34.70	27.69
Other countries . . .	4.37	7.59	9.20
<i>Bare Copper Wire—</i>			
United Kingdom . . .	23.80	21.57	15.14
Other countries . . .	3.44	7.35	6.70

Since the prices of Continental cables are considerably lower than those of British cables—in many cases by about 50 per cent.—these figures expressed in quantities would represent a much larger increase in Continental and other imports than is indicated by the total values. A protective duty which is to be really effective in safeguarding the Indian industry in future should be based not on the prices realised by the Indian Cable Company in the past but on the current prices of Continental cables of comparable quality.

18. For this reason the Indian Cable Company have proposed that if protection is granted it should take the form of specific duties. In the case of cables of smaller

The third condition not satisfied sizes they suggest that the duty should be calculated at the revenue rate on the values

of British cables. On an examination of the figures of British and Continental prices we find that specific duties calculated on this basis would still be insufficient to give the Indian Cable Company the level of prices necessary for adequate protection. The present c.i.f. prices of Continental cables of the principal classes used in India are approximately 50 to 60 per cent. of the prices at which the Indian Cable Company sold their cables in 1930-31. If the specific duties proposed are to afford adequate protection to the Indian industry, it will be necessary to fix them on a basis approximately equivalent to an *ad valorem* duty of 100 per cent. on the kinds of cables which chiefly compete with the products of the Indian industry. The following figures have been supplied to us by Messrs. J. C. Karaka and Company of Bombay who are the Indian representatives of Messrs. Deutsche Kabelwerke Akt.-Ges. of Berlin—

	V.			I.			R.			Lead covered.					
	7/064.			19/044.			19/052.			19/064.			7/064.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Landed cost per 100 yds. of "Deka" Cables, B. E. S. A. specification.	22	0	0	28	13	3	37	5	3	54	4	9	37	7	6
Selling price of Indian Cable Company.	40	11	0	57	0	0	76	5	0	104	14	0	78	14	0

These figures clearly indicate that unless a duty of at least 100 per cent is imposed, the prices which the Indian Cable Company could realise would fall short of the requirements of protection. We are unable to accept the plea that an industry engaged in the manufacture of an article which is not merely of general utility but essential to industrial development can be held to satisfy the third condition of the Fiscal Commission if its protection involves a duty fixed at so high a rate.

19. The difficulty of securing adequate protection unless very high import duties are levied is realised by the Indian Cable Company. Their primary proposal is that

No grounds for a system of control.

measures should be taken to prevent the import of cables which do not conform to certain prescribed tests in order to exclude from the market low priced cables competing with the Indian product. It is as an alternative to this proposal, should it be found impracticable, that specific duties have been suggested. The proposal that a system of control should be instituted is supported by the Indian Committee of the Cable Makers' Association and by the British India Electric Committee representing Electric Supply Corporations in India. The method which has been generally suggested for enforcing control is that all imports of cables should be tested at ports of entry with reference to certain definite standards to be prescribed for the purpose by the Government of India and that cables which do not conform to those standards should be prevented from entering the country. The principal arguments by which the proposal is supported are first, that the use of untested cables involves serious danger to public safety and secondly, that the exclusion of these cables would be the most effective means of protecting the Indian industry. If the proposal rested entirely on the first of these grounds its consideration would be clearly outside the province of the Tariff Board. We have, however, endeavoured to obtain evidence on the subject but such information as we have received has not established that actual danger has necessarily resulted from the use of inferior cables now imported into India. What entitles the proposal to our consideration is the contention that besides ensuring public safety it would provide an effective method of protecting the Cable industry in India. It is on the validity of this contention that, as far as we are concerned, the consideration of this proposal should be based. If a system of control based on recognised standards of quality were adopted it is inconceivable that any higher standards could be laid down than the specifications of the British Engineering Standard Association. Continental cables conforming to these specifications are now imported into India such as the "Deka" cables manufactured by Messrs. Deutsche Kabelwerke Akt.-Ges., which have been accepted for Government requirements by the Indian Stores Department. The prices of these cables as compared with the selling prices of the Indian Cable Company for corresponding classes have been shown in paragraph 18. It will be seen from these figures that, even if a system of control based on recognised standards were adopted, Continental cables conforming to these standards would still be imported at prices much lower than those charged by the Indian Cable Company. The exclusion of inferior cables in that case would benefit not the Indian Cable Company but foreign manufacturers who make cables to the prescribed specifications. We consider this a decisive reason for rejecting the proposal for instituting any system of control.

20. Our remarks in the preceding paragraphs refer mainly to rubber insulated cables. As regards bare conductors, the competition which the Indian industry has to

No case for protective duty on bare conductors.

face is equally severe but it assumes a somewhat different form. In rubber insulated cables the spread between the cost of metal and the final cost is much wider than in the case of bare copper conductors. Taking the costs as estimated by the Indian Cable Company we find that nearly 90 per cent. of the works cost of bare conductors is the cost of copper. In the case of rubber insulated cables the proportion is less than 50 per cent. as regards ordinary cables and considerably lower in the case of superior classes of cables. The cost of both cables and bare conductors is determined more by the cost of copper than by the cost of any other material. The spread above the cost of copper indicates the extent to which costs can be cut down in each case. The margin for reduction in costs is obviously small in the case of bare conductors whereas in the case of insulated cables there is a considerable margin for reduction either by more efficient methods of production or by the use of insufficient or inferior materials for insulation and protection. Nevertheless the Indian Cable Company's output of bare copper conductors has shown in recent years a large decline. The following are the figures of production during the past three years:—

	1928-29.	1929-30.	1930-31.
	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.
Rubber insulated cables	9 37	10 74	9 71
Bare conductors	9 70	3 95	3 08

A large part of this decline in the value of bare copper conductors is represented by the enormous fall in the price of copper since 1928-29. But there has also been a considerable fall in output judged by quantity. The price of copper has fallen by approximately 50 per cent. since 1929 whereas it will be noticed that the value of the output has fallen by nearly 70 per cent. We have already referred to the fact that since the Indian Cable Company depends on imported materials it is obliged to lay in heavy stocks of copper rod. This in our opinion is one of the chief reasons for the decline in their production of bare conductors. The price of copper wire is regulated by the prevailing price of electrolytic wire bar*. When a fall occurs in the current price of electrolytic copper, it obviously becomes less profitable to manufacture wire from

*The following note is attached to the Indian Stores Department's schedule of prices for bare copper conductors on contract with the Indian Cable Company in 1930:—

“The prices of bare copper conductors as detailed in the schedule are based on an electrolytic wire bar rate of £47 per ton and are subject to adjustment in accordance with the wire bar rate ruling as given in Messrs. Bagot and Thomson's Daily Commercial Report for the day on which the order is received by the Contractor, but no adjustment of prices shall be made unless the rate of electrolytic wire bars has risen or fallen by more than ten shillings above or below the basic rate of £47 per ton.”

stocks of copper rod purchased previously. The competition with which the Company is faced in respect of bare conductors is thus an inevitable result of its dependence on imported copper and illustrates the handicap to which an industry using imported material is exposed. It is a permanent disability which protection cannot remove.

21. Our examination has led us to the conclusion that the manufacture of electric wires and cables is not an industry which satisfies the conditions laid down by the Fiscal Commission. We have therefore no recommendations to make regarding the application for protection submitted by the Indian Cable Company.

J. MATTHAI,
President.

FAZAL IBRAHIM RAHIMTOOLA,
Member.

G. T. BOAG,
Member.

G. S. BOZMAN,
Secretary.

October 15th, 1931.

