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GOVERNMENT OF INDIA

TARIFF COMMISSION

REPORT

ON

The Continuance of Protection

TO THE

Non-Ferrous Metals Industry

BOMBAY 1965

PRIN[illegible] INDIA BY THE MANAGER GOVERNMENT OF INDIA PRESS
N[illegible] IOD [illegible]BLISHED BY THE MANAGER OF PUBLICATIONS DELHI-6
1966

[illegible]nd) *Rs.* 7·50 (*Foreign*) 17*s.* 6*d. or* $2 70 *cents.*

India, Tariff (.....Commission)
Report on the continuance of protection to the Non-ferrous Metals Industry-1965.

PERSONNEL OF THE COMMISSION

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SECRETARY

SHRI PRAMOD SINGH

1—11 T. C. Bom/65

GOVERNMENT OF INDIA
MINISTRY OF COMMERCE

New Delhi, the 19th November, 1965.

RESOLUTION

Tariffs

No. 9(1)-Tar/65.—The Tariff Commission has submitted its Report on the continuance of protection to the Non-ferrous Metals Industry on the basis of an inquiry undertaken by it under Sections 11(e) and 13 of the Tariff Commission Act, 1951 (50 of 1951). Its recommendations are as follows:—

(1) Protection granted to extruded Copper rods and sections [I.C.T. Item No. 64(3)], extruded brass rods and sections [I.C.T. Item No. 70(5)], copper pipes and tubes [I.C.T. Item No. 64(5)], brass pipes and tubes [I.C.T. Item No. 70(A)] and highly polished zinc sheets for making process blocks [I.C.T. Item No. 68(2A)] should be continued for another three years, *i.e.*, till 31st December, 1968 at the prevailing rates of duty.

(2) Directorate General of Technical Development should make an assessment of the total extrusion capacity available in the country as distinct from the overall capacity for the manufacture of extruded and drawn products.

(3) The total extrusion capacity is much in excess of the drawing and finishing capacity in the existing plants. In expanding capacity, therefore, priority should be given to increasing the drawing and finishing capacity of plants having excess of extrusion capacity. Such expansion would not need any foreign exchange since draw benches, annealing furnaces and other ancillary equipment are manufactured in the country.

(4) The Directorate General of Technical Development should look into the complaints of consumers regarding non-acceptance by producers of the customers' material for conversion into extruded and drawn sections for taking suitable remedial action where necessary since this indicates either lack of capacity for certain sections or lack of interest in producing them.

(5) The Small scale sector has a definite role to play in meeting the domestic demands for tubes and extrusions for small sizes and quantities which are not likely to interest the large units. It is therefore considered that small scale units should be encouraged even if the large units are estimated to be capable of meeting the country's total demand.

(6) The Development Commissioner, Small Scale Industries, should make a proper assessment of the extrusion capacity available in the small scale sector on the lines generally recommended by the Tariff Commission for the organised sector.

(7) The Development Commissioner, Small Scale Industries, should give technical assistance to the small scale units to enable them to improve the quality of their products.

(8) As there is a general complaint about meagre allotment of raw materials to the small scale manufacturers, it is suggested that the Development Commissioner, Small Scale Industries, may look into the matter and take suitable steps to improve allocation of raw material to these units.

(9) If no way can be found to procure copper at producers' prices and if London Metal Exchange prices continue to rule at the present level, it may be worthwhile giving consideration to the suggestion to import brass instead of its constituent metals to save foreign exchange.

(10) Lithographic zinc sheets which are not manufactured in the country at present and highly polished zinc sheets which are now being produced indigenously should be separated from each other in the Import Trade Control Schedule and a separate Import policy for highly polished zinc sheets be laid down in consultation with the D. G. T. D.

(11) The estimation of capacity will have no practical value unless it is linked up with the size and type of the final product. For the figures to be realistic it is desirable that the capacity should be related to the normal anticipated programmes of the factories in terms of their licences broken up into convenient groups of sections. This would not only give a true picture of the ability of the industry to meet the country's requirements but also assist the D. G. T. D. to maintain a check on the manner and the extent to which the demand is met.

(12) There is considerable scope for the manufacturers to improve their selling organisations so that genuine users are not put to undue inconvenience and delay and do not have to pay unreasonable prices. The industry has an obligation, as a protected industry, to serve the consumers' needs and its selling prices should have fair relation to the cost of manufacture. It is, therefore, recommended that the producers should fix their selling prices in fair relation to their costs of manufacture and ensure that their products are sold to the consumers at such prices.

2. Government have given careful consideration to recommendation (1) and having regard to the fact that in the present circumstances there is no likelihood of any unhealthy competition from imports and in view of rates of duty on protected categories of non-ferrous metals

having gone up under Finance (No. 2) Act, 1965 beyond the level of protective rates recommended by the Tariff Commission, Government consider that tariff protection to the Non-ferrous Metal Industry need not be continued beyond 31st December, 1965. Government, however, propose to continue the rates of duty as at present. Necessary legislation to implement Government's decision will be undertaken in due course.

3. Government have taken note of recommendations (2) to (11) and suitable action will be taken to implement them to the extent possible.

4. The attention of the Industry is also invited to recommendation (11). The attention of manufacturers and consumers of non-ferrous metals is drawn to recommendation (12).

ORDER

ORDERED that the Resolution be published in the Gazette of India and a copy of it be communicated to all concerned.

P. K. J. MENON,

Joint Secretary to the Government of India.

CONTENTS

REPORT ON THE CONTINUANCE OF PROTECTION TO THE NON-FERROUS METALS INDUSTRY

Previous tariff inquiries.

1. The history of tariff protection to the non-ferrous metals industry upto the end of 1957 is given in detail in the Commission's Report (1957) on the continuance of protection to the industry. Briefly, the industry was first given protection in 1948 after an inquiry by the Tariff Board and the scheme of protection included the levy of protective duties on certain non-ferrous alloys, semi-manufactures and manufactured articles. The period of protection which was initially fixed upto 31st December 1950, was extended by Government in consultation with the Tariff Board and later with the Tariff Commission year after year until 31st December 1957. On the recommendations of the Commission in its Reports of 1957, 1959 and 1962, protection to non-ferrous alloys, manufactures and certain semi-manufactures was discontinued while protection to other semi-manufactures was continued upto 31st December 1965. Further, accepting the recommendations of the Commission, Government gave protection for the first time to highly polished zinc sheets for making process blocks for a period of three years from 1st January 1963. Thus, the non-ferrous semi-manufactures that are enjoying protection at present are extruded copper rods and sections (other than electrolytic copper rods), copper pipes and tubes, extruded brass rods and sections, brass pipes and tubes, and highly polished zinc sheets for making process blocks.

Present inquiry.

2. As the current period of protection to non-ferrous semi-manufactures is due to expire on 31st December 1965, we have undertaken the present inquiry under Sections 11(e) and 13 of the Tariff Commission Act, 1951, to review the progress made by the industry under protection and to make suitable recommendations for further action.

3. Scope of the inquiry.

3.1. In connection with the present inquiry, the Small-scale Non-ferrous Industries' Association, Calcutta, requested us to extend the scope of the inquiry to cover all non-ferrous items, such as, lead sheets, zinc sheets, strips, etc. Multimetals Ltd., (formerly known as G. D. Binani & Co.), Calcutta, renewed its plea to include copper printing rolls for the textile industry within the scheme of protection. We have considered these two requests. The Small-scale Non-ferrous Industries' Association has not furnished any reasons for widening the scope of the inquiry. In fact, on the recommendations of the Commission in its Reports of 1959 and 1962 non-ferrous semi-manufactures such as copper and brass sheets (commercial and industrial), lead sheets for teachests and lead strips were deprotected from 1st January 1960 and lead sheets other than for teachests, zinc sheets not otherwise specified and zinc strips, were deprotected with

effect from 1st January 1963. We are therefore unable to concede its request to include in the scheme of protection, items such as lead sheets and zinc sheets which were deprotected earlier on valid considerations.

3.2. As regards copper printing rolls, considerations that led the Commission at the time of its last inquiry in 1962 to advise Multimetals Ltd., to renew its request at a later stage, prevail now also. The Company is yet to commence manufacture of copper printing rolls for textile industry and has not given us any estimates of likely cost of production so that a rough estimate of the likely disadvantage as against the landed cost of imported products could be made. The Company has mentioned that while imports of unwrought copper are now subject to a countervailing excise duty of Rs. 1,000 per tonne besides the new regulatory customs duty, imports of copper printing rolls are not liable to such countervailing duty. It has therefore stated that although its plant will not go into production until September 1965, a review of tariff policy regarding the import of copper printing rolls is desirable. Since in this case no indication of the indigenous cost of production is available, the Company is advised to renew its request at the time of the next inquiry. The question of disadvantage due to the countervailing excise duty on unwrought copper used in printing rolls may be examined by Government at the appropriate time. The scope of the present inquiry is therefore confined to the existing scheme of protection which covers the following products:

Products	Indian Customs Tariff Item No.
1. Extruded copper rods and sections, other than electrolytic copper rods	64(3)
2. Copper pipes and tubes	64(5)
3. Highly polished zinc sheets for making process blocks	68(2A)
4. Brass pipes and tubes	70(A)
5. Extruded brass rods and sections	70(5)

4. Method of inquiry.

4.1. Special questionnaires were issued in December 1964 to producers, importers and consumers of non-ferrous semi-manufactures covered by the inquiry. Simultaneously, a press note was issued inviting firms, associations or persons interested in the inquiry to obtain copies of the relevant questionnaires and send their replies. The Directorate General of Technical Development (D.G.T.D.) was requested to furnish a memorandum on the industry indicating the progress made by it since the last inquiry and its present position. The Development Commissioner, Small-scale Industries, was addressed for similar information in respect of the small-scale sector. Information regarding c.i.f. prices was called for from Collectors of Customs at principal Indian ports. The Indian Trade Representatives in the U.K., Belgium and West Germany were addressed for information regarding current f.o.b./c.i.f.

prices of non-ferrous semi-manufactures under consideration. The Geological Survey of India, the Indian Bureau of Mines, the National Mineral Development Corporation Ltd., the State Trading Corporation of India and the Indian Standards Institution were requested to furnish information on certain specific matters germane to the inquiry. The Directors of Industries of the States of Maharashtra, Rajasthan, West Bengal and Uttar Pradesh were asked to apprise the Commission of the present position of the industry in their respective States. Other State Governments were requested for their views on the question of continuance of protection to the industry. A list of firms, associations and Government departments to whom questionnaires and letters were issued and from whom replies or memoranda were received is given in Appendix I.

4.2. The factories visited by us and our officers in connection with this inquiry are listed in Appendix II. We have selected two units, namely, National Pipes & Tubes Co. Ltd., Calcutta, and Metals & Ores Co., a Division of Union Carbide India Ltd., Calcutta, for the purpose of cost investigation. One of our Cost Accounts Officers examined the costs of production of protected categories of non-ferrous semi-manufactures at these two units. We discussed our cost estimates with representatives of the costed units on 27th and 29th May 1965.

4.3. We held a public inquiry into this industry on 28th May 1965 at our office at Bombay. A list of persons who attended it is given in Appendix III.

5. Implementation of recommendations and suggestions made in the last Report.

5.1. The recommendations and suggestions made in the last Report (1962) on matters other than tariffs and the extent to which they have been implemented are indicated below:

5.2. *Recommendations:*

5.2.1. "Early steps should be taken by the Development Wing to assess the present installed capacity of Metals & Ores Co., Calcutta for the manufacture of zinc sheets and strips and Metallica Works (Pvt.) Ltd., Bombay, for the manufacture of lead sheets."

We are informed by the D.G.T.D. that the installed capacity of Metals & Ores Co. was reassessed after inspection of the factory, and accordingly, its total annual manufacturing capacity for zinc strips is 4,200 tonnes and that for photoengraver zinc sheets/plates (highly polished zinc sheets) is 600 tonnes on maximum plant utilisation basis. The D.G.T.D. has also assessed the annual capacity of Metallica Works (Pvt.) Ltd., for the manufacture of lead sheets of less than 4 feet in width at 150 tonnes.

5.2.2. "As the products of the non-ferrous semi-manufactures industry find increasing use in the manufacture of industrial items requiring higher standard of quality, it is necessary to assist

the industry in procuring equipment required for modernisation and testing. This matter should be considered by Government and a phased programme of imports of the more essential equipment required by the several units be drawn up and implemented for stepping up their production and for improving the quality of their products."

The D.G.T.D. has informed us that it has duly taken into account the above recommendation while considering the needs of the extrusion industry for modernising equipment and testing facilities from time to time since 1962 and that wherever the demands were fully justified, it has recommended import licences for such equipment. This, in its view, has helped in improving the quality of the protected products. The D.G.T.D. has also assured us that the requirements of the industry for testing equipment and other ancillary items for improvement of quality or for modernisation would continue to be looked after as and when the units concerned apply.

5.3. *Suggestions:*

5.3.1. "The units which sell a part of their products through distributors and stockists should compel the latter to display prominently at their premises the correct selling prices and also obtain from them periodical returns showing details of their sales."

The producers have informed us that they are implementing this suggestion. It has also been noted by Multi-metals Ltd., which is yet to go into production.

5.3.2. "It is essential that both the Development Council and the Indian Non-ferrous Metals Manufacturers' Association should make an earnest endeavour to create cost consciousness at all levels of management in everyone of the industrial units looked after by them. We strongly urge that all the units in the industry should, in their own enlightened self-interest, take early and effective action in this regard."

We are informed by National Pipes & Tubes Co., Kamani Tubes Pvt. Ltd., and Metals & Ores Co., that they have costing departments in their establishments. Multi-metals Ltd., has stated that it is keeping this suggestion in mind.

5.3.3. "The domestic market for the extruded products being so vast and expansive, the indigenous manufacturers will have little incentive to export unless they are allowed to import larger quantities of copper and zinc and achieve economies of larger output. We suggest that Government should give their sympathetic consideration to the requests of the industry".

Although the allocation of raw materials is now being made on a more liberal basis than at the time of last inquiry, producers have stated that due to foreign exchange difficulties they are not getting import licences

for their full requirements. They also mentioned that since import licences are given subject to monetary ceilings, the quantities that could be obtained against them get reduced when the prices go up. This matter is further discussed in paragraph 11.3.

6. Present position and future expansion of the industry.

6.1. *Number of units.*—In 1962 there were in the large-scale sector four units engaged in the manufacture of one or more of the non-ferrous products in the current protected list. Subsequent to the last inquiry, A.T. Gooyee Metal Works Pvt. Ltd., Calcutta was brought over to the list of the D.G.T.D. from the small-scale sector. Thus, there are at present five units in the organised sector which are licensed for manufacturing the protected items. The names of units and protected items licensed for manufacture by them are given below:

Name of unit	Protected items manufactured
1. National Pipes & Tubes Co., Ltd., Calcutta.	(i) Extruded copper rods and sections other than electrolytic copper rods. (ii) Copper pipes and tubes. (iii) Extruded brass rods and sections. (iv) Brass pipes & tubes.
2. Kamani Tubes Pvt. Ltd., Bombay	(i) Copper pipes and tubes. (ii) Extruded brass rods and sections. (iii) Brass pipes and tubes.
3. Devidayal Tube Industries Ltd., Bombay.	(i) Copper pipes and tubes. (ii) Brass pipes and tubes.
4. A. T. Gooyee Metal Works (Pvt.) Ltd., Calcutta.	Extruded brass rods and sections.
5. Metals & Ores Co., Calcutta .	Highly polished zinc sheets for making process blocks.

It will be seen that one unit is licensed to manufacture extruded copper rods and sections other than electrolytic copper rods. Three units are licensed for the manufacture of extruded brass rods and sections and three units for copper/brass pipes and tubes. Only one unit is licensed to manufacture highly polished zinc sheets for process blocks (photo-engraver plates). In addition to these, there are some units in the small-scale sector about which the available information is furnished in paragraph 6.3.

6.2. *Capacity:*

6.2.1.1. A statement showing annual licensed capacity and installed capacity of the organised sector as furnished by the D.G.T.D. and the producers is given on the next page. Kamani Tubes Private Ltd.,

Statement showing annual licensed and installed capacity as furnished by the D. G. T. D. and the producers

Sl. No.	Product heads and the names of the units	Annual licensed capacity as given by the D.G.T.D.		Installed Capacity in 1965		Remarks
		On single shift	On double shift or max. plant utilisation	As given by producers on single shift	As given by the D.G.T.D. on double shift basis	
1	*Extruded copper/brass rods and sections (solids)*	Tons	Tons	Tonnes	Tonnes	
	(i) National Pipes and Tubes Co. Ltd., Calcutta	3,000	6,000	3,048	6,000	
	(ii) Kamani Tubes Pvt. Ltd., Bombay	500	1,000	508*	1,000	*On the basis of maximum utilisation of plant and machinery, the firm estimated its capacity as 16,500 tonnes per annum on three shifts.
	(iii) A. T. Gooyee Metal Works, Calcutta	360	720	432	720	
		3,860	7,720	3,988	7,720	
2	*Copper/brass Pipes & Tubes (hollows)*					
	(i) National Pipes and Tubes Co. Ltd., Calcutta	900	1,800	305	1,800	
	(ii) Kamani Tubes Pvt. Ltd., Bombay	1,000	2,000	1,016†	2,000	†On the basis of maximum utilisation of plant and machinery, the firm estimated its capacity as 4,700 tonnes per annum on two shifts.
	(iii) Devidayal Tube Industries, Bombay	3,600	7,200	3,600	7,200	
		5,500	11,000	4,921	11,000	
3	*Highly polished zinc sheets for making process blocks*					
	Metals & Ores Co. (Division of Union Carbide India Ltd., Calcutta).	600‡	..	445	600	‡Maximum plant utilisation basis.

has claimed that on the basis of maximum plant utilisation its annual installed capacity is 16,500 tons for extruded brass solids and 4,700 tons for copper/brass hollows. The figures as given by the D.G.T.D. are based on two shift working which is, at present, the maximum plant utilisation but a third shift would be possible if raw materials were available. We discussed this matter at the public inquiry and it was pointed out by the producers that in the manufacture of extruded products there are two distinct groups of processes namely, (a) the processes up to extrusion and (b) the subsequent operations like drawing, annealing, surface finishing etc.

The capacity of a manufacturing unit has to be understood as meaning the capacity of its plant to produce the finished products of the type which it has been licensed to produce and not merely up to the stage of extrusion. The existing figures are therefore to some extent defective and a suggestion was thrown out at the public inquiry that to make them more realistic and useful, the capacities should be given not only up to the finished stage but also in terms of sizes or groups of sizes. Extrusion presses are rated in terms of the pressure which they can exert on the heated billets and are generally of a higher rating than necessary because of economies which arise through the use of high power presses. The quantity of material extruded depends firstly on whether it is solid or hollow, secondly on the composition of the material used, and lastly its cross-sectional area and other factors. The power of the press is also an important factor since higher power would allow the use of larger billets and consequently smoother and larger production. Production thus depends on the type of product manufactured and the weight produced would be higher where the product is solid or where the area of cross-section is large. Some of the units produce items not covered by the licence with customers' materials on a conversion basis. Kamani's representative clarified that the higher capacity claimed by it was for products upto the stage of extrusion only. Multimetals Ltd., also agreed that its extrusion presses have far greater capacity (due to extra power) than the licensed capacity for the finished product. We have on all these considerations decided to adopt for the purpose of the present Report the figures of installed capacity for finished products for which the unit is licensed right up to the final stage and not in terms of extrusion alone.

6.2.1.2. It will, however, be seen that estimation of capacity will have no practical value unless linked up with the size and type of the final product. Some of the existing units produce over a hundred sections and even amongst these some would be hollow and others solid. For the figures to be realistic it is desirable that the capacity should be related to the normal anticipated programmes of the factories in terms of their licences broken upto into convenient groups of sections. This would not only give a true picture of the ability of the industry to meet the country's requirements but also assist the D.G.T.D. to maintain a check on the manner and the extent to which demand is met. At our request, Devidayal Tube Industries Ltd., has furnished a detailed break-up of section-wise production against its present installed capacity of

200 tonnes per month on single shift basis (*vide* Appendix IV). Production programmes on this model would help in assessing capacity in the manner we would like it to be assessed. In fact some of the complaints we have had of the inability of the industry to meet certain specific demands could be for the reason that the raw material allotted by the D.G.T.D. is utilised with a view to securing the maximum profits. So long as the raw material is imported on a restricted basis and cannot meet all the country's demands it is obviously necessary to see that it is allocated equitably to all industrial needs and that production programmes are not entirely based on profit expectations alone. We would also like to mention in passing that scarcity of material as much as the dislocation which arises when one type of production is changed to another may lead to reluctance of the larger units to handle small demands particularly in unremunerative sections. This may also explain the inability of these units to meet demands for certain types and sizes with their own material, and the concurrent availability in the market of the same sizes manufactured on conversion basis at significantly unreasonable prices. The small scale industry would have a valuable part to play in this connection, a matter to which we make reference further down in this Report.

6.2.2.1. Some of the participants at the public inquiry also pointed out that some public sector undertakings had set up captive or ancillary plants. Heavy Electricals Ltd., Bhopal, was specifically mentioned in this connection. In the context of future expansion of capacity for the manufacture of extruded products it is essential therefore that an assessment be made of the total extrusion capacity available in the country. During the inquiry, the manufacturers stated that ample capacity was available in the country for extrusion to meet not only the current demand but also the increased demand in the near future. It was also stated that in order to augment the capacity for manufacture of extruded and drawn products, the existing producers would need only some additional equipment such as draw benches, swaging machines, annealing ovens, etc. It was stated further that the existing producers could achieve expansion more economically than new units in view of the fact that they already possess ample extrusion capacity. We recommend that the D.G.T.D. should make an assessment of the total extrusion capacity available in the country as distinct from the overall capacity for the manufacture of extruded and drawn products.

6.2.2.2. It is our view that the total extrusion capacity is much in excess of the drawing and finishing capacity in the existing licensed units. This excess of capacity could be a source of increased production since the heavier the press the larger the billet which it can extrude and the smoother the flow of production. In expanding capacity therefore priority should be given to increasing the drawing and finishing capacity of plants having excess of extrusion capacity. Such expansion would not need any foreign exchange since draw benches, annealing furnaces and other ancillary equipment are manufactured in the country.

6.2.3. We have, however, for the purpose of this inquiry, decided to take the capacities for copper and brass, solid extrusions and hollows,

as given by the D.G.T.D. with the reservation that this should be understood to mean the capacity for the manufacture of extruded and drawn or otherwise finished sections and not for extrusion alone. We have however adopted the installed capacity for hollows as reported by National Pipes & Tubes and Devidayal Tube Industries, as they have not yet installed the necessary plant and equipment to achieve their full licensed capacity. In the case of hollow sections, it was pointed out by the D.G.T.D.'s representative that no unit has been licensed for manufacture of hollows by any process other than by extrusion. In order to prove that there was not enough capacity for manufacture of extruded products some of the consumers produced evidence during the public inquiry to the effect that there was considerable unfulfilled demand. Khosla Plastics Pvt. Ltd., Poona and Kersons Manufacturing Co., Bombay, had specific complaints to make. They pointed out that some of the producers had declined to accept consumers' material for conversion into extruded and drawn sections. They also pointed out that consumers had considerable difficulty in obtaining brass sections below $\frac{1}{2}''$ dia. and thin-walled brass tubing for the manufacture of lamp holders. It is possible that in view of the scarcity of raw material and the existence of a sellers' market, the manufacturers are reluctant to take up difficult sections, with the result that some of the genuine demand remains unsatisfied. This is a state of affairs where corrective action needs to be taken and we suggest that the D.G.T.D. should look into these complaints and take suitable remedial action where necessary. That producers should decline to accept consumers' material for conversion indicates either a lack of capacity for certain sections or lack of interest in producing them. This matter also requires to be examined carefully.

6.2.4. As regards highly polished zinc sheets, for making process blocks, we have decided to accept the capacity of Metals & Ores Co., considering its achievement during the year.

6.2.5. The present aggregate installed capacity on maximum plant utilisation (equal to double shift) as adopted by us for various protected items is thus as follows:

Item	Present installed capacity (Tonnes)	
1. Copper/brass solids (rods and sections other than electrolytic copper rods)	7,720	
2. Copper/brass hollows (pipes and tubes) . . .	7,400	
3. Highly polished zinc sheets for making process blocks	445	(Single shift basis)

The aggregate capacities given above do not include the capacities in ordnance factories, railway workshops and small scale units.

6.3. *Small Scale Sector:*

6.3.1. At the time of the last inquiry there were 28 units in the small scale sector manufacturing protected non-ferrous items. Some items have since been deprotected. Presently, according to the Development Commissioner, Small Scale Industries (D.C.S.S.I.) there are 9 units manufacturing protected items. Particulars as furnished by him are given below:

State	Extruded rods and copper sections		Extruded rods and Brass sections	
	No. of units	Capacity (Tonnes)	No. of units	Capacity (Tonnes)
1. Maharashtra . . .	1	200	..	..
2. West Bengal . . .	3	2,084	1	162
3. Punjab.	..	..	1	13
4. Rajasthan	..	..	3	485
	4	2,284	5	660

The Director of Industries, West Bengal has furnished the names of 9 small scale units in the State engaged in this line of manufacture. Besides the above, Leos Mercantile Corporation—a small scale unit in Madras—claims to have an installed capacity for polishing 250 tonnes of zinc sheets per annum for use as photoengraver plates. It has stated that it will import zinc sheets and polish them to the required degree.

6.3.2.1. In the small scale sector some units are properly equipped with imported machinery while some others have made improvisations but are manufacturing extruded sections acceptable to the market. Industrial Metal Works Pvt. Ltd., Calcutta and Alcobex Metal Corporation, Jodhpur claim to have obtained their machinery on hire purchase basis from the National Small Industries Corporation Ltd., and should be considered properly equipped. Hindustan Metal Manufacturing Co., Bombay which we have visited, has purchased some machinery from the D.G.S. & D. and has re-conditioned and modified the same to make it suitable for manufacturing extruded and drawn copper tubes for the refrigeration industry. It must be said to the credit of this unit that it has shown considerable initiative and enterprise in having taken up manufacture of a difficult item without foreign exchange for machinery. Its draw-benches are also reported to be home-made.

6.3.2.2. Many demands for tubes and extrusions are for small sizes and quantities and are not likely to interest the large units since they would involve dislocation in their programmes of production. Small

quantities not only involve changes in the lay-out of tools and equipment but may also be un-remunerative compared with their general run of production. As a consequence, the small scale sector has a definite role to play in meeting such demands and we consider it should be encouraged even if the large units are estimated on the basis of extrusion capacity alone to be capable of meeting the country's total demand, for, with the exception of the extrusion presses all other equipment would be locally manufactured or improvised, and used extrusion presses are occasionally available from ordnance factories and other manufacturing units undergoing renovation.

6.3.2.3. An indication of the capacity of the small scale sector has been given by the D.C., S.S.I. The capacities as claimed by the units themselves, and as reported by the State Directors of Industries and the D.C., S.S.I. differ from each other. It is therefore not possible for us to make any reliable estimate of extrusion capacity available in the small scale sector. We recommend that the Development Commissioner, Small Scale Industries may make a proper assessment of the extrusion capacity available in the small scale sector on the lines generally recommended by us for the organised sector.

6.3.3. Some complaints have been received about the quality of the products of the small scale units. The complaints are about dimensions being beyond permissible tolerance and use of defective casting practice which has caused piping at intermittent intervals. We recommend that the D.C., S.S.I. should give technical assistance to the small scale units to enable them to improve the quality of their products.

6.3.4. There is a general complaint about meagre allotment of raw materials to the small scale manufacturers. Complaints have been made both by the Directors of Industries and the producers. The Director of Industries, West Bengal has reported that out of 9 small scale units in the State only 2 have some production and 7 have negligible production. The Director of Industries, Maharashtra has reported that 4/5th of the capacity of the single small scale unit in the state was unutilised because of shortage of raw materials. Alcobex Metal Corporation, Jodhpur has reported that it is getting only 1 per cent of its actual raw material requirements. Industrial Metal Works Pvt. Ltd., Calcutta has reported that because of meagre allotment of raw materials it has to keep a great percentage of its capacity idle. Since the same complaint has been made by small scale units in different States we suggest that the Development Commissioner, Small Scale Industries may look into the matter and take suitable steps to improve allocation of raw material to these units.

6.4. *Production.*—Practically all the producers of copper and brass extrusions and pipes manufacture partly from their own material and partly on conversion basis. In the latter case, the customer provides his own material to be extruded and drawn on payment of conversion charges. No reliable information is available about production in the

small scale sector, and production data are available only for units on the books of the D.G.T.D. and are furnished below:

(In tonnes)

Item	1962		1963		1964	
	Own material	Conversion	Own material	Conversion	Own material	Conversion
1. Extruded copper/brass solids (Rods and Sections other than electrolytic copper rods) .	2,582	656	3,397	1,138	3,056	2,114
2. Copper/Brass hollows (pipes and tubes) . .	484	--	888	--	1,262	..
3. Highly polished zinc sheets for process blocks	179	..	255	..	316	..

It will be seen that there has been a progressive increase in the manufacture of all the items during the last three years. Details of production of individual units are given in Appendix V.

6.5. *Future expansion.*—Since 1962 no new unit has been licensed, nor has any existing unit been granted further expansion in respect of the protected items. Multimetals Ltd., which was licensed in 1960, is expected to commission its plant at Kotah (Rajasthan) around September 1965. Its licensed capacity for extruded copper/brass rods and sections other than electrolytic copper rods is 600 tonnes and for copper/brass pipes and tubes 1,200 tonnes per year on single shift. It has entered into technical and financial collaboration with Revere Copper Brass Inc., New York. National Pipes & Tubes Co. has, against its expansion licence granted in 1956, undertaken an expansion scheme for increasing its capacity for copper/brass hollows by 600 tonnes per year. It has already ordered the necessary plant and machinery and expects to commission it during the next fifteen months. Devidayal Tube Industries will be raising its capacity for hollows from 2,400 tonnes to 3,600 tonnes a year on single shift in 1966. If the schemes of Multimetals Ltd., National Pipes & Tubes Co. and Devidayal Tube Industries are implemented as scheduled, the aggregate capacity for the manufacture of protected items in the organised sector by the end of 1966 will be as under:

Item	No. of units	Total annual installed capacity by the end of 1966 on maximum plant utilisation (double shift) basis	
		Tonnes	
1. Extruded copper/brass solids (rods and sections other than electrolytic copper rods)	4	8,920	
2. Copper/brass hollows (pipes and tubes)	4	13,400	
3. Highly polished zinc sheets for making process blocks . .	1	445	(Single Shift)

7. **Domestic demand.**

7.1. In its last Report the Commission estimated the domestic demand for 1962 at 4,500 tonnes for copper/brass solids and 3,000 tonnes for copper/brass hollows and expected these demands to increase to 8,000 tonnes and 7,000 tonnes respectively by 1965. No estimates of demand for highly polished zinc sheets for making process blocks were then framed as they were not in the protected category at that time. In connection with the present inquiry, we have received estimates of current and future demand from the D.G.T.D. and producers and they are shown in the following table.

(In tonnes)

Item	1965	1966	1967	1968
1. *Copper/brass solids (other than electrolytic copper rods)*				
(a) D.G.T.D.	5,500	6,500	7,500	9,000
(b) National Pipes & Tubes Co. Ltd.	5,500	6,000	6,500	7,000
(c) Kamani Tubes Pvt. Ltd.	10,000	11,500	13,225	15,209
(d) Multimetals Ltd.	11,000	12,250	13,500	14,750
2. *Copper/brass hollows*				
(a) D.G.T.D.	3,500	4,500	5,500	7,000
(b) National Pipes & Tubes Co. Ltd.	3,000	3,250	3,500	3,750
(c) Kamani Tubes Pvt. Ltd.	8,500	9,775	11,242	12,928
(d) Multimetals Ltd.	7,000	8,500	9,750	11,500
(e) Devidayal Tube Industries	6,000	7,000	7,000	7,000
3. *Highly polished zinc sheets for making process blocks*				
(a) D.G.T.D.	300	350	450	600
(b) Metals & Ores Co.	420	450	480	525

7.2. The supply position of protected items based on indigenous production and imports, during 1962, 1963 and 1964 was as shown below:

(In tonnes)

Products	Year	Indigenous production including conversion of customers' material	Imports	Availability (3+4)
1	2	3	4	5
(i) Copper rods and sections other than electrolytic	1962	144	71	215
	1963	240	41	281
	1964	120	22	142
(ii) Brass rods and Sections	1962	3,094	300	3,394
	1963	4,295	255	4,550
	1964	5,050	331	5,381
Total for (i) & (ii)	1962	3,238	371	4,609
	1963	4,535	296	4,831
	1964	5,170	353	5,523
(iii) Copper/brass pipes and tubes	1962	484	1,581	2,065
	1963	888	1,803	2,691
	1964	1,262	1,628	2,890
(iv) Highly polished zinc sheets	1962	179	282	461
	1963	255	119	374
	1964	316	116	432

We wish to point out that the import figures of copper/brass solids given above cover both extruded and rolled products, although the present scheme of protection includes only extruded products. Separate figures of imports of extruded products are not available as the Monthly Statistics of the Foreign Trade of India published by the Director General of Commercial Intelligence and Statistics does not record import figures separately for extruded and rolled copper/brass solids. The above figures show that although supplies of copper/brass solids and hollows have been increasing, we are dependent on imports for a major portion of our requirements of hollows and, to a lesser extent, of solids. Further the supplies of these products in 1963 were slightly higher than the domestic demand estimated by the Commission for 1962 and they were much lower than the estimates for 1965. The rather large imports of copper/brass hollows were explained by the representative of D.G.T.D. as due not so much to lack of capacity in the country as to certain trade agreements with countries which are not primary producers of metal but are producers of non-ferrous extrusions.

7.3. We have discussed the various estimates of demand given in paragraph 7.1 at the public inquiry. The availability of solids and hollows in 1964 and earlier years was higher than what is indicated by the figures given in the table in the preceding paragraph because the table does not include production of solids by the small scale sector. It was also contended during the public inquiry that the published figures of imports of solids and hollows are exclusive of imports of these items as parts of machinery. Providing for these deficiencies and also taking into account the prevailing conditions of scarcity and other relevant aspects, we estimate the domestic demand in 1965 at 8,000 tonnes for extruded copper/brass solids and at 4,000 tonnes for copper/brass hollows. Considering the trend in availability during the last three years and allowing for substitution and restrictions on uses, we anticipate an increase of about 50 per cent in demand over the next three years. As regards highly polished zinc sheets for making process blocks, it was agreed at the public inquiry that the estimates furnished by Union Carbide may be accepted. Accordingly, our estimates of demand for various protected items during the current and next three years are as under:—

(In tonnes)

Item	Estimated demand in			
	1965	1966	1967	1968
1. Extruded copper/brass solids (other than electrolytic copper rods)	8,000	9,300	10,600	12,000
2. Copper/brass hollows (Pipes and tubes)	4,000	4,700	5,400	6,000
3. Highly polished zinc sheets for making process blocks	420	450	480	525

8. Raw materials.

8.1. Copper and zinc are the principal raw materials required for the manufacture of the protected non-ferrous products. The present position regarding these two metals is discussed below:

8.2. *Copper:*

8.2.1. Indian Copper Corporation Ltd., with its factory at Ghatsila (Bihar), continues to be the only unit manufacturing fire-refined copper. Its annual installed capacity for fire-refined copper is 9,600 tonnes per annum and its production was 9,781 tonnes, 9,582 tonnes and 9,474 tonnes in 1962, 1963 and 1964 respectively. After meeting its own requirements for the manufacture of copper/brass sheets and circles, the company sold some quantities to the Director General of Supplies & Disposals and also made available some copper to the

D.G.T.D. for allocation amongst industriay consumers. The quantities so distributed were as under:

(In tonnes)

Year	Quantity		Total
	Sold to D.G.S. & D.	Allocated to D.G.T.D.	
1962	1,758	1,261	3,019
1963	2,556	501	3,057
1964	722	296	1,018

8.2.2. *Supply position.*—Taking together imports and indigenous production, the supply position of copper was as follows:

(In tonnes)

Year	Production	Imports	Total
1962	9,781	33,314	43,095
1963	9,582	39,208	48,790
1964	9,474	28,562	38,036

The import figures given above are for copper ingots, billets, etc., and copper scrap including ashes and dross. Electrolytic copper wire bars whose imports in 1962, 1963 and 1964 amounted to 34,743 tonnes, 32,702 tonnes and 32,488 tonnes respectively, are not included therein as, strictly speaking, they are not raw materials for the protected items.

8.2.3. The electrolytic copper refinery of Indian Copper Corporation which is now in an advanced stage of installation, is expected to go into production by July 1965. Its capacity will be 8,500 tonnes per annum. The factory of National Mineral Development Corporation to be located at Khetri for the manufacture of electrolytic copper will have a capacity of 21,000 tonnes per annum and is expected to be ready after about four years.

8.3. *Zinc:*

8.3.1. Metal Corporation of India Ltd., produces zinc concentrates and gets them smelted into zinc in Japan on a toll basis. The production of zinc concentrates and the zinc concentrates shipped to Japan and the metal obtained therefrom during the past three years are indicated below:

(In tonnes)

Year	Zinc concentrates produced	Zinc concentrates shipped to Japan for treatment	Zinc metal received after treatment
1961-62	9,008	10,895	4,327
1962-63	11,031	10,919	3,875
1963-64	9,900	9,922	4,826

The entire quantity of zinc slabs received after treatment in Japan have been allotted to Tata Iron & Steel Co. Ltd. and Indian Iron & Steel Co. Ltd., by Government.

8.3.2. Metal Corporation of India is setting up a zinc smelter at Udaipur with an annual capacity of 18,000 tonnes. It has informed that all the required plant and machinery have been received and 85 per cent of the same has been installed. Civil engineering works are also completed. According to the Corporation, the smelter is expected to be commissioned by the end of 1965, although from the press and other reports we understand that difficulties on account of finance and shortage of funds have arisen in the meantime and part of the machinery imported by the Corporation is still awaiting clearance at the docks. We consider the commissioning of this smelter to be a matter of importance.

8.3.3. Cominco Binani Zinc Ltd., Calcutta, is establishing its zinc smelter with an annual capacity of 20,000 tonnes at Edayar Development Area near Alwaye (Kerala) and it is expected to be in production in the latter half of 1966. It is learnt that three zinc smelters will be set up in the public sector during the Fourth Five Year Plan period and, if these schemes are implemented, it is expected that there will be five zinc smelters in the country with an aggregate annual capacity of about 200,000 tonnes by the end of the Fourth Plan period.

8.4. *Brass.*—According to import trade control policy, import of brass unwrought is not permitted. The representative of Khosla Plastics pointed out that the scheduled manufacturers and consumers of brass are allotted separate quotas of copper and zinc and are expected to get these alloyed to make their own brass. It was pointed out that at the current level of prices at which copper and zinc are being imported into the country we could save foreign exchange by importing brass itself because according to it the c.i.f. price of brass is less than the c.i.f. prices of the constituent metals. If no way can be found to procure copper at producers' prices and if London Metal Exchange prices continue to rule at the present level, it may be worthwhile giving consideration to this suggestion.

8.5. *Import control policy for raw materials:*

A summary of the import control policy pursued by Government for copper, zinc and brass during the licensing periods of April 1963—March 1964 and April 1964—March 1965 is given below:

8.5.1. *Copper.*—This falls under S. No. 47/I of Import Trade Control Schedule. During April 1963—March 1964, a quota of 100 per cent was provided for established importers who were not applying as actual users and the licences were valid for imports from the U.S.A. only. The sale of imported copper was to be effected by established importers only against permits issued by the Controller of Non-ferrous Metals at prices not exceeding 3½ per cent margin over the landed

cost. Actual users' applications from scheduled industries borne on the books of D.G.T.D. were considered by the Chief Controller of Imports (C.C.I.) on the recommendations of the D.G.T.D. The requirements of the non-scheduled sector/S.S.I. units were to be met from canalised imports. The same policy was continued during April 1964—March 1965 period.

8.5.2. *Zinc.*—This falls under S. No. 44(a)/I of I.T.C. Schedule. During April 1963—March 1964 period a quota of 30 per cent was provided for established importers. Actual users' applications from scheduled industries borne on the books of the D.G.T.D. and from units on the books of the Iron & Steel Controller, were considered by the C.C.I. on the recommendations of the D.G.T.D. and the Iron & Steel Controller. The requirements of non-scheduled units were met from canalised imports. Zinc was also being imported against licences issued to established importers under Serial No. 46(a) of Part I of I.T.C. Schedule for which the quota was 50 per cent. Quota licences were subject to the condition that sales/distribution of zinc or spelter unwrought in the form of ingots, cake, tile and slabs were to be effected by the established importers to scheduled actual users on the general or specific direction of the Controller of Non-ferrous Metals at prices not exceeding $3\frac{1}{2}$ per cent margin over the landed cost. Non-scheduled or S.S.I. units were not permitted to make purchases from stocks imported by the established importers. The same policy was continued during April 1964—March 1965 period also.

8.5.3. *Brass.*—This falls under S. No. 46(a)/I of I.T.C. Schedule. Import of brass unwrought was not allowed during April 1963—March 1964 period. Instead, the licences issued to established importers for a quota of 50 per cent were valid for import of zinc or spelter unwrought in the form of ingots, cake, tile or slabs falling under S. No. 44(a)/I of I.T.C. Schedule. The same policy was continued during April 1964—March 1965 period also.

8.6. *Imports of raw materials.*—Data relating to imports of raw materials, namely, copper, zinc and brass during 1962, 1963 and 1964 are given in Appendix VI.

8.7. The manufacturers have represented that they are not able to import raw materials even to work on single shift. They have further stated that when the prices of raw materials in the world markets soar up, with the licences which are subject to value limits, they could only import smaller quantities. They have suggested allocation of more foreign exchange to import raw materials so that they could attain an economic level of production. The D.G.T.D. has explained that the entire demand of the industry for the raw materials has to be met from imports and licences are given according to the foreign exchange made available from time to time by the Ministry of Finance through the Ministry of Steel & Mines. With the present scarcity of foreign exchange, it is becoming difficult for Government to allocate foreign exchange on a more liberal scale. The D.G.T.D. has further informed

us that for the extrusion industry during 1964-65 the allocation has been made at 85 per cent of the level of production in 1963 for rods and sections and at 125 per cent for tubes and pipes. The photo-engraver zinc plates industry has been given an allocation at about 100 per cent of its production in 1963. In the opinion of the D.G.T.D. these allocations to the protected sectors of the non-ferrous metal industry are at a much better level than what are given to other sectors like commercial rolling and non-ferrous alloy manufacturing. As against Rs. 112 lakhs worth of copper and Rs. 10 lakhs worth of zinc given to the extrusion industry during 1963-64, it was allotted Rs. 137.07 lakhs worth of copper and Rs. 20.26 lakhs for zinc in 1964-65.

8.8. *Import duty on raw materials.*—Import of copper scrap [I.C.T. Item No. 64(1)], copper unwrought [I.C.T. Item No. 64(2)] and zinc unwrought [I.C.T. Item No. 68(1)] is allowed free of duty whereas the import of zinc or spelter wrought and brass unwrought are subject to a revenue duty of 35 per cent and 10 per cent *ad valorem* respectively. A surcharge of 10 per cent of duty is leviable from 1st March 1963. In addition from 17th February 1965 a regulatory customs duty of 10 per cent of the value is also leviable on all imported articles.

8.9. *Excise duty on raw materials.*—An excise duty of Rs. 1,000 per tonne is leviable on copper and copper alloys containing not less than 50 per cent by weight of copper in any crude form including ingots, bars, blocks, slabs, billets, shots and pellets.

9. Quality and standards.

9.1. *Quality :*

9.1.1. In its last Report, the Commission observed that the industry suffered from certain handicaps which might be responsible for the occurrence of defects in the indigenous products and suggested that for the improvement of quality it was necessary to assist producers in procuring equipment required for modernisation and testing. We are now informed that wherever the demands for modernising and testing equipments were justified, import licences were recommended for the same and this has helped in improving quality of the indigenous products. In their replies to our questionnaire some consumers have expressed satisfaction with the quality of domestic products while a few others have made adverse comments. The main complaints are that the surface finish of brass rods and sections is not good, that they are not of free cutting quality as a result of incorrect composition of metal and that dimensional variations are beyond permissible limits. There are also some complaints about the quality of highly polished zinc sheets for making process blocks. It is stated that their quality varies from batch to batch, that the zinc is too soft with the result that when blocks go on the hydraulic machines for preparing matrices they flatten out and that due to defects in the composition of the metal the blocks do not etch well. The Chief Controller, Printing and Stationery, Government of India has informed us that indigenous zinc sheets have only been found useable for line and coarse half-tone purposes, and that

for fine half-tone and better quality work the standard of indigenous zinc sheets has to be improved considerably. The producers, on the other hand, have claimed that they have taken steps to remedy defects and have installed testing facilities to maintain proper quality standards.

9.1.2. The above subject was discussed at length during the public inquiry. The representative of Union Carbide pointed out that the exact composition of the material used for the manufacture of photoengraver zinc plates is a guarded trade secret and Union Carbide is not manufacturing zinc plates for this purpose in any other part of the world nor does it have technical collaboration with any manufacturer of photoengraver plates. Only its Indian division has taken up the manufacture as a pioneering venture. It has developed its own composition for the plates and a formula for the etching bath and the results obtained with its own plates in its own laboratory are said to compare favourably with the results on imported plates. The blockmakers on their part produced blocks made from Union Carbide plates to show the defects in Indian plates and explained how they were inferior to imported plates both for line and half-tone work. It was pointed out that with Indian plates it is not possible to work to the same limits of fine screens for half-tone work as with imported plates. An independent non-commercial block maker who was requested to make line and half-tone blocks under identical conditions on Indian and imported plates produced the results and demonstrated the difference which more or less supported the point of view of the block makers. Union Carbide has established a new industry in the country and is endeavouring to bring up the quality of its product to foreign standards. We are satisfied that the photoengraver plates manufactured by Union Carbide are suitable for the bulk of the work in the country though some imports will be necessary for some time to meet the requirements of quality work.

9.2. *Standard specifications.*—Since the last inquiry, the Indian Standards Institution has published the following five standards:—

(i) IS:319:1962 . . .	Free Cutting Brass rods and sections (revised).
(ii) IS:320:1962 . . .	High Tensile brass rods and sections (revised).
(iii) IS:2258:1962 . . .	Zinc plate, sheet and strip.
(iv) IS:2371:1963 . . .	Solid drawn copper-alloy tubes for condensers, evaporators, heaters and coolers using saline and hard water.
(v) IS:2501:1963 . . .	Copper tubes for general engineering purposes.

Some of the producers are holding licences under the ISI Certification Marking Scheme for some products.

10. Import control policy and imports.

10.1. The import control policy for the protected items for the last two licensing periods is summarised below :

10.1.1. *Extruded copper rods and sections other than electrolytic copper rods and copper pipes and tubes.*—These goods fall under Serial No. 41(ii)/I of the Import Trade Control Schedule. There was no provision for issue of quota licences for established importers during the licensing period April 1963—March 1964. Licences to actual users were to be issued from free resources for such copper pipes and tubes as were not produced indigenously. This policy continued to be in force for the subsequent licensing period also, namely, April 1964—March, 1965.

10.1.2. *Extruded brass rods and sections and brass pipes and tubes.* —These items fall under Serial No. 46(c)/I of the I.T.C. Schedule. During the licensing period April 1963—March 1964 there was no provision for quota licensing for established importers. Applications from actual users were to be considered by the port authorities on production of evidence to show that the items in question could not be manufactured indigenously. This policy was continued during the licensing period April 1964—March 1965 also.

10.1.3. *Highly polished zinc sheets for making process blocks.*— These sheets fall under Serial No. 44/I of I.T.C. Schedule. During the licensing period April 1963-March 1964 a quota of 10 per cent was allowed to established importers. Applications from printing industry for the import of these sheets were to be considered by licensing authorities at ports. During the licensing period April 1964-March 1965 these sheets were classified under Serial No. 44(e)/I. During this period there was no provision for quota licences for established importers. Applications from printing industry were considered for import of lithographic zinc sheets including highly polished zinc sheets specially prepared for making process blocks on the basis of past consumption. Applications from new units were also considered on the basis of their certified requirements.

10.1.4. Union Carbide has pointed out that there is a defect in the wording of the I.T.C. policy. According to the Company, it is not proper to mix up lithographic zinc sheets which have no indigenous angle and highly polished zinc sheets which are now being manufactured by it. We suggest that these items may be separated from each other in the I.T.C. Schedule and a separate import policy for highly polished zinc sheets may be laid down in consultation with the D.G.T.D.

10.2. *Imports.*—As already stated in paragraph 7.2. statistics of imports of extruded copper rods and sections and extruded brass rods and sections are not recorded separately in the Monthly Statistics of

the Foreign Trade of India. The countrywise imports of protected products for the last three years are given in Appendix VII while a summary is given below:—

Articles	1962		1963		1964	
	Qty. in tonnes	Value in lakh Rs.	Qty. in tonnes	Value in lakh Rs.	Qty. in tonnes	Value in lakh Rs.
1. Highly polished zinc sheets for making process blocks . . .	281·91	9·75	118·79	4·17	116·02	4·36
2. Brass pipes and tubes .	1033·61	54·14	1092·72	59·08	973·32	54·08
3. Brass rods . . .	300·39	10·74	254.62	9·68	330·88	12·48
4. Copper pipes and tubes .	546·86	33·94	709·89	46·85	655·34	40·66
5. Copper rods, other than electrolytic . . .	71·13	3·85	40·88	2·20	22·48	1·01
	2233·90	112·42	2216·90	121·98	2098·04	112·59

NOTES.—(i) The above statement does not include figures for brass bars and copper bars.

(ii) Figures of imports of extruded copper and brass rods are not separately available. The Statistics relate to copper and brass rods manufactured by extrusion, rolling and drawing processes.

11. Exports.

11.1. Export of protected non-ferrous products is free of control under the present Export Trade Control Regulations, and as such, no licence is required for their export.

11.2. Exports of protected items have been negligible during the last three years. The exports of copper pipes and tubes amounted to only 50 kgs. and 47 kgs. in 1962 and 1963 and there was no export of these items in 1964. While there was no export of brass rods and brass pipes and tubes in 1962 and 1963, their exports were of the order of 64 kgs. and 5 kgs. respectively in 1964. Metals and Ores Co. was stated to have exported one tonne of its products valued at Rs. 2,799 to Malaysia in 1964. Kamani Tubes has informed us that it has sent samples and trial lots to various markets and received satisfactory reports. Devidayal Tube Industries expects to export about 500 tonnes during 1965-66.

11.3. In its last Report the Commission suggested to Government that the request of the industry to import larger quantities of copper and zinc so as to achieve economies of output and to have incentive to export be sympathetically considered. Kamani Tubes has admitted that the allocation for import of raw materials for production of rods has gone up steadily but stated that it is not sufficient to maintain its

cost of production at the level obtaining in highly industrialised countries like Japan, U.K. and Yugoslavia. It has therefore urged that raw materials should be allocated on a more liberal basis so that the industry can reduce its cost of production and face competition. We have already mentioned in paragraph 8.5 how the raw materials allocation has increased.

11.4. The industry is getting 100 per cent import entitlement of f.o.b. value of exports and drawback of excise duty on finished products as export incentives. In spite of the liberal export policy and the incentives offered, exports have been insignificant. The high cost of raw materials which are wholly imported, the low level of production and the lack of surplus production are mentioned by the producers as coming in the way of exports.

12. Existing rates of duty.

12.1. *Import duty.*—Protected categories of non-ferrous semi-manufactures are assessed to import duty under item Nos. 64(3), 64(5), 68(2A), 70(A) and 70(5) of First Schedule to the Indian Tariff Act, 1934. Relevant extracts from that schedule are reproduced 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 U.K.	A Bur-mah Bri-tish Co-lony	
1	2	3	4	5		6
64(3)	*Extruded copper rods and sections, other than electrolytic copper rods—					
	(a) of British manufacture.	Protective	40 per cent *ad valorem*	.. .. ..		December 31st, 1965.
	(b) not of British manufacture.	Protective	50 per cent *ad valorem*	.. .. ..		December 31st, 1965.

1	2	3	4	5	6
64(5)	@Copper pipes and tubes—				
	(a) of British manufacture.	Protective	30 per cent *ad valorem*	.. .. ..	December 31st, 1965.
	(b) not of British manufacture.	Protective	40 per cent *ad valorem*	.. .. ..	December 31st, 1965.
68(2A)	*Highly polished zinc sheets for making process blocks.	Protective	35 per cent *ad valorem*	.. .. ..	December 31st, 1965.
70(A)	@Brass pipes and tubes	Protective	35 per cent *ad valorem*	.. .. ..	December 31st, 1965.
70(5)	*Extruded brass rods and sections.	Protective	40 per cent *ad valorem*	.. .. ..	December 31st, 1965.

NOTES—(1) *Brass rods and copper rods are subject to counterveiling excise duty of Rs. 1,000 per metric ton and zinc sheets to counterveiling duty of Rs. 300 per metric ton.

(2) @These items (copper pipes and tubes and brass pipes and tubes) are subject to counterveiling duty of 10 per cent *ad valorem* on landed cost.

(3) Under Section 76 of the Finance Act, 1965 a surcharge of 10 per cent is leviable on all imported articles. This is to remain in force upto 31st March, 1966.

(4) Under Section 77 of the Finance Act, 1965, a regulatory duty in addition to the customs duty already chargeable, of 25 per cent of the rate or 10 per cent of the value, whichever is higher, is leviable on all imports.

12.2. *Excise duty.*—Copper pipes and tubes are subject to an excise duty of 10 per cent *ad valorem* under item No. 26A(3) of the Central Excise Tariff while zinc sheets are liable to excise duty at Rs. 300 per metric ton under item No. 26B.

13. Estimates of cost of production and fair ex-works prices.

13.1. Our Cost Accounts Officer has examined the costs of production of two factories, namely, National Pipes and Tubes Co. Ltd. and Metals and Ores Co., a Division of Union Carbide (India) Ltd., for their latest accounting years ended 30th September 1964 and 25th December 1964 respectively. The following products were selected for cost-investigation:—

1. *National Pipes & Tubes Co. Ltd.*

(a)	Brass rods of dia.	¼″, ⅜″, ⅞″, 1″, 1⅛,1½″,2″,2½″ and 7 mm.
(b)	,, hexagon . . .	1 3/32″ A/F
(c)	,, square . . .	5/8″
(d)	,, flat . . .	2¾″ × 3/16″
(e)	,, tube . . .	1 5/8″ O/D and 1¾″ I/D
(f)	Pure copper rods of dia. . .	1″ and 3″
(g)	,, ,, flats . . .	4″ × ½″
(h)	,, ,, tubes . .	3½″ O/D × 3″ ID, 2½″ × 10 SWG and 1½″ × 10 SWG.

(i) Arsenical copper rods of dia. . 1" and 2"

(j) ,, ,, tubes . . 1 3/4 × 10 SWG, 2½" × 10 SWG.

2. *Metals & Ores Co.*

Highly polished zinc sheets for making process blocks. 20" × 40" (6·2 kg.)

The reports of the Cost Accounts Officer are sent separately to Government as confidential enclosures to this Report.

13.2. Although National Pipes and Tubes Co. Ltd., claims to have a costing system in its establishment, it has not yet developed a scientific costing system. The cost data were maintained by the Company in certain manufacturing departments but properly correlated records covering all the manufacturing processes were not available. Under the circumstances the costs were developed on the basis of available data and in consultation with the Commission's officials. Metals & Ores Co., on the other hand has a satisfactory system of costing which formed the basis for determining costs of production of highly polished zinc sheets for making process blocks.

13.3. On the basis of the actual costs of production during the period investigated by our Cost Accounts Officer we have estimated future fair ex-works prices after discussion with the representatives of the costed units. In forming our estimates we have taken into account the following factors:—

13.3.1. *Production.*—The total production of solids and hollows by National Pipes and Tubes Co. Ltd., during the actual period was 2,316 tonnes and 46 tonnes respectively. The output was much below the installed capacity of the Company. However, in our estimates of future costs we have taken into account the expansion scheme of the Company and have assumed production at higher levels of 2,400 tonnes of solids and 525 tonnes of hollows. As regards Metals & Ores Co., its annual production of highly polished zinc sheets for process blocks during the next three years has been adopted at 408 tonnes as against its actual output of 315.7 tonnes during the costed period.

13.3.2. *Raw materials.*—We have considered the latest price trends in the international markets and estimated material costs accordingly. While for copper the rates in general currency area and Dollar area were taken into consideration, the latest quotations/rates of purchases from general currency area alone were adopted for estimating the price of zinc for the future. The pattern of purchases in the future has been assumed to be the same as that during the actual period for both the companies. The melting and process losses have been provided for at the rates incurred during the costed period. In regard to polishing and packing materials used by Metals & Ores Co., their latest standards have been adopted.

13.3.3. *Conversion charges.*—Necessary allowance has been made for future increase in labour charges both to cover the annual increments and larger output, where necessary, and also for probable increase in the prices of stores materials. Provision has also been made for the

increase in expenses on account of the expansion of the machine shop for maintenance work, expansion for laboratory and research division etc., in the case of Metals and Ores Co.

13.3.4. *Depreciation.*—This has been calculated at income-tax rates on the written down value of the assets with extra shift allowance, wherever applicable.

13.3.5. *Return.*—Return has been provided at 12 per cent on the employed capital in which the element of working capital has been taken as equivalent to six months' cost of production.

13.4. We give below our estimates of the future fair ex-works prices of the costed products calculated in the manner explained in the foregoing paragraphs.

Statement showing estimates of fair ex-works prices

(Rs. per 50 kg.)

Items	Raw materials	Conversion cost	Packing	Return	Fair ex-factory price
1. NATIONAL PIPES & TUBES CO. LTD.					
(a) Brass rod ¼″ dia.	221·08	49·46	1·62	19·24	291·40
(b) ,, 7 mm.	221·08	44·88	1·62	18·56	286·14
(c) ,, ⅜″ dia.	222·40	47·04	1·62	18·34	289·40
(d) ,, ⅞″ dia.	222·40	42·82	1·62	17·88	284·72
(e) ,, 1″ dia.	222·40	42·39	1·62	17·82	284·23
(f) ,, 1⅜″ dia.	222·40	36·83	1·62	17·18	278·03
(g) ,, 1½″ dia.	222·40	36·70	1·62	17·16	277·88
(h) ,, 2″ dia.	222·40	33·09	1·62	16·72	273·83
(i) ,, 2½″ dia.	222·40	32·58	1·62	16·66	273·26
(j) Brass tube 0/D 1⅝″ × I/D 1⅛″ dia.	225·69	218·64	1·62	39·33	485·28
(k) Brass Hex 1 3/32″ A/F	222·40	60·93	1·62	20·94	305·89
(l) Brass Square 5/8″	222·40	55·99	1·62	20·36	300·37
(m) Brass flat 2½″ × 3/16″	222·40	52·91	1·62	19·72	296·65
(n) Pure Copper rods 1″ dia	300·21	62·78	1·62	24·60	389·21
(o) ,, ,, 3″ dia.	300·21	57·49	1·62	23·81	383·13
(p) Pure Copper tube 0/D 3¼″ × I/D 3″	301·17	123·25	1·62	33·39	459·43
(q) Pure Copper tube 2½″ × 10 SWG	301·17	122·33	1·62	33·16	458·28
(r) Pure Copper tube 1¾″ × 10 SWG	301·17	127·66	1·62	33·70	464·15
(s) Pure Copper flat 4″ × 1½″	300·21	53·81	1·62	23·85	379·49
(t) Arsenical Copper Rod 1″ dia.	304·91	81·51	1·62	28·16	416·20
(u) ,, ,, ,, 2″ dia	304·91	60·84	1·62	25·65	393·02
(v) ,, ,, Tube 1¾″ × 10 SWG	305·82	154·90	1·62	36·84	499·18
(w) ,, ,, ,, 2½″ × 10 SWG	305·82	149·64	1·62	36·31	493·39
2. METALS & ORES CO.			Per sheet		
Photoengravers Plate 20″ × 40″ (6·2 Kg.)	16·72	10·39	0·78	3·21	31·10

14. Data regarding c.i.f./f.o.b. prices of certain items of semi-manufactures and of highly polished zinc sheets for making process blocks received from the Collectors of Customs, our Embassies abroad, the importers and one of the domestic producers are shown in Appendix VIII. We could not, however, procure c.i.f. prices of rods and sections by sizes except for a few items of brass rods. In cases where f.o.b. prices were available the corresponding c.i.f. prices were calculated by providing for marine insurance and freight. We have decided to adopt the following c.i.f. prices for the purpose of assessing the degree of disadvantage of indigenous products against the imported ones.

C. i. f. prices

S. No.	Name of product	C.i.f. price/ quotation per 50 kg. Rs. P.
1	Brass rod $\frac{1}{4}''$	229·50
2	Brass rod 7 mm.	226·38
3	Copper tube $1\frac{3}{4}'' \times 10$ SWG	343·50
4	Copper tube $2\frac{1}{2}'' \times 10$ SWG	346·50
5	Arsenical copper tube $1\frac{3}{4}'' \times 10$ SWG	343·50
6	Arsenical copper tube $2\frac{1}{2}'' \times 10$ SWG	346·50
7	Zinc sheets—highly polished for making process blocks—$20'' \times 40'' \times 16$ SWG (6·2 kg.)	22·00 per sheet

15. The following table shows the comparison between the fair ex-works prices of indigenous non-ferrous semi-manufactures and the landed costs without duty of the corresponding imported products. It will be observed that the domestic commodities are under disadvantages ranging from 26.18 per cent in the case of 7 mm. brass rods to 44.30 per cent in the case of arsenical copper tubes of $1\frac{3}{4}'' \times 10$ SWG.

Comparison of fair ex-works prices with the c.i.f. prices and landed costs (Ex-duty) of imported products.

Statement showing the comparison between fair ex-works prices and the c. i. f. prices

Producer	Rs. Per 50 Kg.						Rs. per Sheet
	NATIONAL PIPES & TUBES CO. LTD.						METALS & ORES CO. LTD.
Items	Brass rod ¼″	Brass rod 7 mm.	Copper tubes 1¾″ ×10 SWG	Copper tubes 2½″ ×10 SWG	Aresenical copper tube 1¾″ ×10 SWG	Arsenical copper tube 2½″ ×10 SWG	Photo-Engravers plates 20″ ×40″ × 16 SWG (6·2 Kg.)
(a) C.i.f.	229·50	226·38	343·50	346·50	343·50	346·50	22·00
(b) Customs duty and surcharge	100·98	99·61	151·14	152·46	151·14	152·46	7·70
							0·77
(c) Regulatory duty	22·95	22·64	34·35	34·65	34·35	34·65	2·20
(d) Clearing charges	0·50	0·50	3·50	3·50	3·50	3·50	0·17
(e) Landed cost	353·93	349·13	532·49	537·11	532·49	537·11	32·84
(f) Landed cost excluding all tariffs	230·00	226·88	347·00	350·00	347·00	350·00	22·17
(g) Landed cost inclusive of regulatory duty but excluding other tariffs	252·95	249·52	381·35	384·65	381·35	384·65	24·37
(h) Fair ex-factory price	291·40	286·14	464·15	458·28	499·18	493·39	31·10
(i) Disadvantage of (h) as compared with (f)	61·40	59·26	117·15	108·28	152·18	143·39	8·93
(j) (i) as a percentage on (a)	26·75%	26·18%	34·10%	31·25%	44·30%	41·38%	40·59%
(k) Average for (j)	26·47			37·75			
(l) Disadvantage of (h) as compared with (g)	38·45	36·62	82·80	73·63	117·83	108·74	6·73
(m) (l) as a percentage on (a)	16·75%	16·18%	24·10%	21·25%	34·30%	31·38%	30·59%
(n) Average for (m)	16·47			27·75			

16. Measure of protection

16.1. Almost all the producers have pleaded for continuance of protection to the industry for a further period of three years beyond 31st December 1965, the only exception being A.T. Gooyee Metal Works Pvt. Ltd. In justification of their claim, the manufacturers have emphasised the several disadvantages suffered by them. National Pipes and Tubes Co. Ltd., has stated that the domestic industry is entirely dependent on imports for its raw materials the supplies of which, due to foreign exchange difficulties, are inadequate. While manufacturers in most foreign countries can secure their requirements of copper and zinc at producers' prices, the Indian producers have to purchase them on London Metal Exchange basis or from the U.S.A. under the A.I.D. Scheme at much higher prices. Further, there is a heavy customs duty (countervailing excise duty and the regulatory duty) on imported copper. In most countries there is an embargo on the export of scrap which is stated to be cheaper than the virgin metal. Therefore the foreign manufacturers who have ample quantities of scrap available, make extensive use of it. On the other hand, the position in India is that the price of scrap is sometimes higher than the price of the virgin metal itself. Another handicap of the domestic industry brought to our notice is that the capacity of its units is considerably smaller than that of the units in competing foreign countries. While the manufacturers abroad enjoy unlimited supply of raw materials, in view of the shortage of raw materials the local units are unable to work even upto their limited capacity. The efficiency of Indian labour was also stated to be comparatively low. The above factors, it was represented have contributed to the high cost of manufacture in India. Inadequacy of supplies and high prices of raw materials and the smaller sizes of domestic units have also been stressed by the other manufacturers as the major handicap of the industry. Metals and Ores Co., has stated that zinc processors in India who have to depend on imports of zinc are required to pay a premium for the metal in excess of the prices quoted on the London Metal Exchange and the premium at present is £9 per long ton. It is further stated that the processors in Europe in certain cases control directly or indirectly their own sources of zinc which gives them an inherent advantage over the industry in India. The company has stated that for all these reasons it is not possible for it to compete with the imported products.

16.2. The D.G.T.D. has expressed the view that there is a definite case for continuance of protection for a further period of three years to extruded products, particularly extruded brass/copper pipes and tubes as the manufacturers are yet to get over some of their initial difficulties and acquire proper technical efficiency and practice in the production of the various sizes and qualities of tubes required by industrial consumers. As regards rods and sections, the D.G.T.D. holds the view that only special sections need protection for development and that the interests of the industry are not likely to be affected if the sector manufacturing rods is deprotected. Many of the consumers, including India Government Mint, Tata Engineering & Locomotive Co. Ltd., are in favour of continuance of protection to the industry.

The Chief Controller of Printing and Stationery, New Delhi has also recommended continuance of protection to highly polished zinc sheets but subject to the condition that the quality of the sheets is considerably improved.

16.3. The Director of Industries, Government of West Bengal has, however, opposed extension of the period of protection on the ground that so long as restrictions on imports continue on account of foreign exchange difficulties there does not seem to be any necessity for continuance of protection.

16.4. The statement of comparison given in paragraph 15 reveals that the domestic products are at a great disadvantage as compared with the corresponding imported products. The average of the disadvantages is 26.47 per cent in the case of brass rods and 37.75 per cent in the case of copper and arsenical copper tubes. The highly polished zinc sheets for making process blocks would require a duty of 40.59 per cent to equate their fair ex-works price with the ex-duty landed cost of the imported article. Disadvantages of such high magnitude indicate that the industry cannot dispense with protection at this stage. Apart from this, the manufacture of highly polished zinc sheets in India is of recent development and the quality of these sheets needs to be improved further. In view of this and having regard to the handicaps of the industry and the views expressed by the various interests, we have come to the conclusion that protection should be continued for a further period of three years at the existing rates of duty. We accordingly recommend that protection granted to extruded copper/brass rods and sections [I.C.T. Item Nos. 64(3) and 70(5)], copper/brass pipes and tubes [I.C.T. Item Nos. 64(5) and 70(A)] and highly polished zinc sheets for making process blocks [I.C.T. Item No. 68(2A)] should be continued for another three years, *i.e.*, till 31st December 1968 at the prevailing rates of duty indicated in paragraph 12 above.

17. Selling system and prices

17.1. Kamani Tubes Pvt. Ltd., has appointed two sole distributors, one for rods and sections and the other for pipes and tubes and pays them commission at $7\frac{1}{2}$ per cent on sales. All of its products are sold through sole distributors who, in turn market them through their own dealers. National Pipes & Tubes Co., sells direct to the consumers and the trade in the States of West Bengal, Bihar, Madhya Pradesh, Assam and the Punjab. For Uttar Pradesh, Delhi City and suburbs, Madras, Mysore, Hyderabad City, Kerala, Maharashtra and Gujarat, it has appointed selling agents who are paid a commission of $2\frac{1}{2}$ per cent on all orders. Devidayal Tube Industries Ltd., markets its products through its sole selling agents and distributors who are paid commission at 5 per cent. Metals & Ores Co., has appointed distributors at Calcutta, Bombay, Delhi and Madras and the discounts given to them vary from $7\frac{1}{2}$ to 10 per cent depending on offtake.

17.2. Many consumers have expressed dissatisfaction with the supply position and prices of protected goods. The main complaints regarding supplies relate to prolonged delivery periods, short supplies,

and manufacturers' reluctance to book orders of new customers. Many consumers have stated that prices of indigenous products are exorbitant. They have pointed out that even for identical items prices vary from manufacturer to manufacturer and one consumer informed us that the same manufacturer charges different prices to different consumers for the same item. The charges for converting customers' raw materials are also stated to be high. Consumers have pointed out that while manufacturers express inability to supply their products, such products are freely available in market at abnormal prices. The producers have admitted that the supply position is far from satisfactory but have attributed it to the shortage of raw materials and other factors beyond their control. While shortage of raw materials and in certain cases lack of capacity for certain sections may be the main causes for the unsatisfactory supply position we are led to believe that there is considerable scope for the manufacturers to improve their selling organisations so that genuine users are not put to undue inconvenience and delay and do not have to pay unreasonable prices. As a protected industry, it has an obligation to serve the consumers' needs and its selling prices should have fair relation to the costs of manufacture. We, therefore, recommend that the producers should fix their selling prices in fair relation to their costs of manufacture and ensure that their products are sold to consumers at such prices.

Summary of conclusions and recommendations

18. Our conclusions and recommendations are summarised below:—

(i) The question of the disadvantage due to the countervailing excise duty on unwrought copper used in copper printing rolls for the textile industry may be examined by Government at the appropriate time after indigenous production of these rolls is set up.

(Paragraph 3.2)

(ii) The estimation of capacity will have no practical value unless it is linked up with the size and type of the final product. For the figures to be realistic it is desirable that the capacity should be related to the normal anticipated programmes of the factories in terms of their licences broken up into convenient groups of sections. This would not only give a true picture of the ability of the industry to meet the country's requirements but also assist the D.G.T.D. to maintain a check on the manner and the extent to which the demand is met.

(Paragraph 6.2.1.2)

(iii) The D.G.T.D. should make an assessment of the total extrusion capacity available in the country as distinct from the overall capacity for the manufacture of extruded and drawn products.

(Paragraph 6.2.2.1)

(iv) It is our view that the total extrusion capacity is much in excess of the drawing and finishing capacity in the existing plants. In expanding capacity, therefore, priority should be given to increasing the drawing and finishing capacity of plants having excess of extrusion

capacity. Such expansion would not need any foreign exchange since draw benches, annealing furnaces and other ancillary equipment are manufactured in the country.

(Paragraph 6.2.2.2)

(v) The D.G.T.D. should look into the complaints of consumers regarding non-acceptance by producers of the customers' material for conversion etc., referred to in paragraph 6.2.3. and take suitable remedial action where necessary. That producers should decline to accept consumers' material for conversion indicates either a lack of capacity for certain sections or lack of interest in producing them. This matter also requires to be examined carefully.

(Paragraph 6.2.3)

(vi) The small scale sector has a definite role to play in meeting the domestic demands for tubes and extrusions for small sizes and quantities which are not likely to interest the large units. We, therefore, consider that small scale units should be encouraged even if the large units are estimated to be capable of meeting the country's total demand.

(Paragraph 6.3.2.2)

(vii) The Development Commissioner, Small Scale Industries, should make a proper assessment of the extrusion capacity available in the small scale sector on the lines generally recommended by us for the organised sector.

(Paragraph 6.3.2.3)

(viii) The Development Commissioner, Small Scale Industries, should give technical assistance to the small scale units to enable them to improve the quality of their products.

(Paragraph 6.3.3)

(ix) As there is a general complaint about meagre allotment of raw materials to the small scale manufacturers, we suggest that the Development Commissioner, Small Scale Industries, may look into the matter and take suitable steps to improve allocation of raw material to these units.

(Paragraph 6.3.4)

(x) The domestic demand in 1965 is estimated at 8,000 tonnes for extruded copper/brass solids (rods and sections), 4,000 tonnes for copper/brass hollows (pipes and tubes) and 420 tonnes for highly polished zinc sheets for making process blocks. These demands are expected to increase by 1968 to 12,000 tonnes, 6,000 tonnes and 525 tonnes respectively.

(Paragraph 7.3)

(xi) If no way can be found to procure copper at producers' prices and if London Metal Exchange prices continue to rule at the present level, it may be worthwhile giving consideration to the suggestion mentioned in paragraph 8.4. to import brass instead of its constituent metals to save foreign exchange.

(Paragraph 8.4)

(xii) We are satisfied that the photoengraver plates manufactured by Union Carbide are suitable for the bulk of the work in the country though some imports will be necessary for some time to meet the requirements of quality work.

(Paragraph 9.1.2)

(xiii) We suggest that lithographic zinc sheets which are not manufactured in the country at present and highly polished zinc sheets which are now being produced indigenously should be separated from each other in the Import Trade Control Schedule and a separate import policy for highly polished zinc sheets be laid down in consultation with the D.G.T.D.

(Paragraph 10.1.4)

(xiv) Protection granted to extruded copper/brass rods and sections [I.C.T. Item Nos. 64(3) and 70(5)], copper/brass pipes and tubes [I.C.T. Item Nos. 64(5) and 70(A)] and highly polished zinc sheets for making process blocks [I.C.T. Item No. 68(2A)] should be continued for another three years, *i.e.*, till 31st December 1968 at the prevailing rates of duty.

(Paragraph 16.4)

(xv) There is considerable scope for the manufacturers to improve their selling organisations so that genuine users are not put to undue inconvenience and delay and do not have to pay unreasonable prices. The industry has an obligation, as a protected industry, to serve the consumers' needs and its selling prices should have fair relation to the cost of manufacture. We, therefore, recommend that the producers should fix their selling prices in fair relation to their costs of manufacture and ensure that their products are sold to the consumers at such prices.

(Paragraph 17.2)

Acknowledgements

19. We wish to express our thanks to manufacturers, importers and consumers who furnished us with detailed information in connection with this inquiry and to their representatives who gave evidence before us.

M. P. PAI,
Chairman.

R. BALAKRISHNA,
Member.

B. G. GHATE,
Member.

M. ZAHEER,
Member.

PRAMOD SINGH,
Secretary.

BOMBAY, 30*th June*, 1965.

APPENDIX I

(*Vide* Paragraph 3·1)

List of firms, bodies and Government Departments to whom the Commission's questionnaires/letters were issued and from whom replies were received

*Indicates those who furnished information in reply.

@Indicates those who had no information to furnish in reply.

A. PRODUCERS.

*1 National Pipes and Tubes Co. Ltd., Nicco House, 122, Hare Street, Calcutta-1.

@2. Jaipur Metals & Electricals Ltd., Jaipur, Rajasthan.

3 Jayant Metal Mfg. Co., 924-A, Sayani Road, Bombay-28.

*4. Metals & Ores Co., Division of Union Carbide India Ltd., 1 & 3, Brabourne Road, Calcutta-1.

5. Hooseini Metal Rolling Mill Pvt. Ltd., Atlas Mill Compound, Reay Road, Bombay-10.

@6. Standard Metal Works Pvt. Ltd., 17, Tardeo Bridge, (Low level), Bombay-7.

*7. Devidayal Tube Industries Ltd., 71, Kanjur Village Road, Devidayal Nagar, Bombay-78.

*8. Kamani Tubes Pvt. Ltd., Agra Road, Kurla North, Bombay-70.

@9. Kamani Metals & Alloys Ltd., Kamani Chambers, Nicol Road, Ballard. Estate, Fort, Bombay-1.

10. Devidayal Rolling & Refineries Pvt. Ltd., P.B. No. 6215, Gupta Mills Estate, Reay Road, Bombay-10.

@11. Messrs. Shri Mahesh Metal Works, Kishingarh (Rajasthan).

@12. Lalubhai Amichand, 48-50, Kansara Chawl, Bombay-2.

@13. Saru Smelting & Refining Corpn. Ltd., Near Cantt. Rly Station, Meerut.

*14. Multimetals Limited, 38, Strand Road, Calcutta-1.

15. Jaipur Metal Rolling Mills, City Palace Road, (Behind Atish), Post Box No. 36, Jaipur.

*16. A. T. Gooyee Metal Works Pvt. Ltd., 11-A, Umakanto Sen Lane, Calcutta-30.

B. SMALL SCALE PRODUCERS

*1. Hindustan Metal Mfg. Co., Near Nair Hospital, Lamington Road, Bombay-11.

2. Vijay Industrial Works, 8, M.G. Road, Calcutta-46.

3. M. Goyee & Co. Ltd., 11-B, Mahendra Road, Calcutta-4.

@4. Bhola Nath Karmakar, 28, Granhatta Street, Calcutta.

5. Banta Singh Bakhshish Singh, Rly. Road, Banga, Punjab.

6. Sherji Ram Ram Kumar, Agra Road, Jaipur.

*7. Bansi Metal Industries, Jaipur.

*8. Alcobex Metal Corpn., Industrial Press, Jodhpur.

*9. Burman Metal Works, 17, Tarak Pramanik Road, Calcutta-6.

*10. Industrial Metal Works (P) Ltd., 12-2, Clive Row, Calcutta-1.

11. East Bengal Engg. Works, 10, Nandalal Dey Street, Calcutta-36.

12. Cossipore Pipe Industry, 7-A, Pran Nath Chowdhury Lane, Calcutta-2.

@13. United Metal Works, 16, Joybibi Road, Ghusury, Howrah.

@14. Monoranjan Chakraborty & Co., 157, Netaji Subhas Road, Room No. 134, Calcutta-1.

*15. Leos Mercantile Corporation, 25, Bank Street, Bombay-1.

C. IMPORTERS

@1. Imperial Chemical Industries (India) Pvt. Ltd., I.C.I. House, 34, Chowringhee Calcutta-1.

2. Binani Commercial Co. Pvt. Ltd., 28/30, Anantwadi, Bombay-2.

3. Muni & Co., General Assurance Building, 232, Dr. D. Naorojee Road, Fort, Bombay-1.

4. India Metal Agencies, India House, G.P.O., Bombay-1.

5. Choonilal Mohanlal & Co., 54, Kika Street, Bombay-4.

@6. Abdul Kader & Sons, 7, Angappa Naick Street, Post Box No. 229, Madras-1.

*7. Metal Distributors Ltd., 12/18, Vithalbhai Patel Road, Bombay-4.

@8. British Metal Corporation (India) Pvt. Ltd., Steelcrete House, D. Vacha Road, Bombay-1.

@9. Metallica Works Pvt. Ltd., 79/83, Dr. Annie Besant Road, Bombay-18.

*10. Emmes Metal Pvt. Ltd., 79/83, Dr. Annie Besant Road, Bombay-18.

11. Ratilal K. Gandhi, Hira Building, 1st Parsiwada, Bombay-4.

D. CONSUMERS

1. C. S. Pochee & Sons, 586, Chira Bazar, Girgaum Road, Bombay-1.

2. Hindusthan Motors Ltd., 8, India Exchange Place, Calcutta-1.

*3. Ashok-Leyland Ltd., Bank of Mysore Buildings, N.S.C. Bose Road, Madras-2.

@4. Standard Motor Products of India Ltd., 29, Mount Road, Madras-2.

*5. Tata Engineering & Locomotive Co. Ltd., Bombay House, 24, Bruce Street; Fort, Bombay-1.

*6. Simpson & Co. Ltd., 202/203, Mount Road, Madras-2.

*7. Gurunanak Electro Mechanical Works, Phagwara (Punjab).

@8. Estrela Batteries Ltd., Post Box No. 6602, Bombay.

9. Radio & Electricals Mfrg. Co. Ltd., Mysore Road, Bangalore.

*10. Premier Automobiles Ltd., Construction House, Ballard Estate, Bombay-1.

11. Racek Industries (P) Ltd., 12-A, Agra Road, Bombay-79.

12. Senior Store Keeper, Mazagaon Docks Ltd., Bombay.

@13. Crompton Parkinson (Works) Pvt. Ltd., P.O. Box No. 5663, Haines Road, Worli, Bombay-18.

14. Mysore Electrical Industries Ltd., Okleypuram, Post Box No. 561, Bangalore-21.

*15. English Electric Co. of India Pvt. Ltd., P.B. No. 2392, Pallavaram, Madras-27.

@16. T.I. Cycles of India Ltd., Ambattur, Madras.

*17. Motor Industries Co. Ltd., Bangalore.

18. Maharashtra Sugar Mills Ltd., Industrial Assurance Building, Churchgate, Bombay-1.

*19. Man Industrial Corpn. Ltd., Post Box No. 131, Jaipur.

20. Philips India Ltd., Poona.

*21. General Electric Co. of India Pvt. Ltd., Magnet House, 6, Chittaranjan Avenue, Calcutta-13.

*22. Associated Electrical Industries Mfg. Pvt. Ltd., Crown House, 13, Rajendra Nath Mukherji Road, Calcutta-1.

*23. India Electric Works Ltd., Diamond Harbour Road, Calcutta-24.

24. British India Electric Construction Co., 6, Mayur Bhanj Road, Calcutta-23.

*25. Southern Screws Pvt. Ltd., 7, L.G. Nagar Road, Madras-2.

26. Hindustan General Electric Corpn. Ltd., Thapar House, 25, Brabourne Road, Calcutta-1.

@27. Aluminium Corpn. of India Ltd., 7, Council House Street, Calcutta-16.

28. Saxby & Farmer (India) Pvt. Ltd., 17, Convent Road, Entally, Calcutta-14.

*29. Port Engineering Works Ltd., 8, Clive Row, P.O. Box No. 150, Calcutta-1.

@30. Calcutta Tramways Co. Ltd., P-4, Mission Row Extension, Calcutta-1.

*31. Tata Iron & Steel Co. Ltd., Jamshedpur.

*32. Tata Chemicals Ltd., Mithapur, Okhamandal, Gujarat State.

33. The Tinplate Co. of India Ltd., Wallace House, 4, Bankshall Street, Calcutta-1.

*34. Indian Iron & Steel Co. Ltd., 12, Mission Row, Calcutta-1.

35. Alkali & Chemical Corpn. of India Ltd., 34, Chowringhee Road, Calcutta-16.

36. Sen-Raleigh Industries of India Ltd., Mercantile Buildings. Calcutta -1.

*37. Oriental Metal Pressing Works (P) Ltd., Post Box No. 6556, 131, Worli, Bombay-18.

*38. Rallifan Pvt. Ltd., Agra Road, Mulund, Bombay-80.

39. Perfect Valves & Machine Tools Corpn., 29-B, Ali Chambers, Dean Lane, Fort, Bombay-1.

40. Hyderabad Allwyn Metal Works Ltd., Sanatnagar P.O., Hyderabad-18.

41. Bajaj Electricals Ltd., 15-17, Victoria Road, Mazgaon, Bombay-10.

42. The Precision Engineers, A-3, Industrial Ectate, Rajajinagar, Bangalore-10.

43. Andhra Scientific Co. Ltd., 4, Blackers Road, Mount Road, Madras.

*44. National Fastners Pvt. Ltd., 'B' Super, Industrial Estate, Guindy, Madras-32.

*45. Vanaz Engineering Pvt. Ltd., 396, Cadell Road, Prabhadevi, Bombay-28.

*46. Auto Accessories (India) Pvt. Ltd., Forbes Building, Home Street, Bombay-1.

*47. D. D. Neroy & Co. 534, Sandhurst Bridge, Bombay-7.

*48. Commercial Art Engravers (Pvt.) Ltd., 4th Floor, (Saraswati Mandir), Kennedy Bridge, Grant Road, Bombay-7.

*49. Sun Process Works, 8, Swadeshi Mills Compound, Tata Road, off Road, Bombay-4.

*50. Express Block & Engraving Studios Pvt. Ltd., Mustafa Building, Sir, Pherozeshah Mehta Road, Bombay-1.

*51. Bradma of India Pvt. Ltd., Lakshmi Building, Sir P.M. Road, Bombay-1.

*52 . Hutti Gold Mines Co. Ltd., Hutti P. O., Via Raichur-Deccan.

*53. Century Rayon, 159, Churchgate Reclamation, Industry House, Bombay-1.

@54. The Baroda Rayon Corpn. Ltd., 130-132, Appollo Street, Bombay-1.

55. H. Dawoodbhai & Co., 41, Kolsa Mohalla, Bombay-3.

@56. The National Rayon Corpn. Ltd., Ewart House, Bruce Street, Bombay-1.

@57. Atlas Metal Trading Co., 47, Kolsa Mohalla, Bombay-3.

@58. The Indian Alum. Mfg. Co. Ltd. 305, Kalbadevi Road, Bombay-2.
59. Jatin Traders India, Tardeo, Sonawala Estate, Bombay.
60. Govindram Murlidhar, 54, Latoucha, Lucknow.
*61. South India Viscose Ltd., Shanmuga Marga, Race Course, Coimbatore.
@62. Kasajang Products, Kurla, Andheri, Bombay.
@63. Devidayal Cable Industries Pvt. Ltd., Reay Road, Darukhana, Bombay.
64. Tambawala Products Agencies Pvt. Ltd., Narayan Dhuru Street, P.B. No. 3092, Bombay-3.
*65. Larsen & Toubro Ltd., I.C. House, Ballard Estate, Bombay-1.
66. R. Somasundram, 221, Vadgadi, Bombay-3.
67. Hindustan Lever Ltd., Scindia House, Ballard Estate, Bombay-1.
68. Dhanra Mill Pvt. Ltd., Sun Mill Road, Lower Parel, Bombay.
69. Chandulal Narayandas, 96, Gulalwadi, Bombay.
@70. Abdul Kador & Sons, Angappa Naick Street, Madras.
71. B. J. Taraporewala & Co., 384, Dabholkerwadi, Kalbadevi, Bombay.
72. Atlas Cycle Industries Ltd., Sonepat (Near Delhi).
*73. Automobile Products of India Ltd., Bhandup, Bombay-78.
@74. A. K. Abdullabhai & Co., 319, Linghi Chetty Street, Madras-1.
75. Dayalal Virchand, 38, Kolsa Mohalla, Bombay.
@76. Eastern Chemical Industries, C-E-I, Harinagar, New Delhi.
*77. India Supplies Engineering Works Pvt. Ltd., Fazalganj, Kanpur.
78. Kaizer & Co., 79, Mohamedally Road, Bombay.
*79. Teksons Pvt. Ltd., Modi Chambers, Bombay-4.
80. Bhogilal Jamnadas, 63, Tamba Kanta, Sutar Bazar, Bombay.
81. Bombay Hardware Co., 85, Kika Stteet, Gulalwadi, Bombay-4.
@82. Coimbatore Machinery & Metal Mart, 12-2A, Frazer Square, Coimbatore.
@83. East India Engineering Corpn., 98, Banazbaber Road, Kanpur.
84. Tekano Chemical Industries Ltd., P. B. 74, Calicut.
85. A. Natverlal, 72-80, Nagdevi Cross Lane, Bombay.
86. Blue Star Industries Pvt. Ltd., Lalunigam Road, Colaba, Bombay-5.
87. D. C. M. Chemical Works, Post Office Box 1211, Najafgar Road, Delhi.
88. Haribhai Lalji & Co., Sontakunji, Bombay.
89. M. R. Nathumal Jain, Jain Bazar, Jammu-Kashmir.
90. K. K. Shah & Bros., Telgali, Shiyaganj, Indore.
91. Textile Aniline Chemical Co. Pvt. Ltd., Pratapnagar, Baroda-4.
92. Delhi Cloth Mills, Bara Hindu Rao, Delhi.
93. Tanki & Co., 22, Krishna Park, Khanpur, Ahmedabad.
94. Overseas Traders, Yusuf Building, Vir Nariman Road, Bombay-1.
@95. Tirpur Hardware & Machinery Mart, Paladam Road, Tirupur.
96. A. Ahmedally & Co. Pvt. Ltd., 14-17, Shree Narsi Maharaja Road, Bangalore.
97. A.S. Hasanally, Kolsa Mohalla, Bombay.
98. Bharat Corporation, Jogidas Vithaldas Street, Raopur, Baroda.
99. Ratanji Bhagwanji & Co., 3760, Chawri Bazar, Delhi.
@100. Central India Machinery Mfg. Co. Ltd., Birlanagar (M.P.).
101. Chhotalal & Bros., 138, Nagdevi Street, Bombay.
102. Gwalior Rayon Silk Mfg. (Wvg.) Co., Birlagram, Nagda (M.P.).

@103. J. K. Business Machines Ltd., 2, Mangoe Lane, Calcutta-1.

@104. Pranab Industries, Bipin Behari Ganguli Street, Calcutta-12.

105. New Associated Commercial Enterprise Co. Ltd., 127-129, Modi Street, Ahmed Building, Bombay-1.

@106. Printers House Pvt. Ltd., 10, Scindia House, Post Box No. 273, New Delhi-1.

107. Chimanlal Desai Ltd., Gool Mansion, Homji Street, Fort, Bombay-1.

108. Raka Trading Co., 5054, Sirki Valan, Delhi-6.

109. H. Chandamall & Co., 57, Nyniappa Naick Street, Madras.

110. Arim Metal Industries Pvt. Ltd., 23, Convent Road, Calcutta.

@111. Ashok Mfg. Co. Pvt. Ltd., 37, Panchkuin Road, Post Box No. 305, New Delhi.

*112. The Kersons Mfg. Co. of India (Pvt.), Ltd., Agra Road, Bhandup, Bombay-78.

113. Radha Mohan Khandelwal, 718, Cotton Exchange Building, Kalbadevi Road, Bombay-1.

114. Bombay Metal & Alloys Mfg. Co. Pvt. Ltd., Near Reay Road Station, Bombay-10.

115. Vijay Tailoring and Cutting College, 696, Budhwar Chowk, Poona-2.

*116. Khosla Plastics Pvt. Ltd., Kirkee, Poona-3.

117. Shri Upendra Jamnadas Sheth, Panjarapole Road, Off Excise office, Godhra (Gujarat).

118. Essel Conductors Pvt. Ltd., 24, Anand Nivas, 'A' Road, Marine Drive, Bombay-1.

119. Agrawal Industrial Products, Muzaffar Ganj, Mirzapur.

GOVERNMENT CONSUMERS

*120. The Controller of Stores, Southern Railway, Perambur, Madras.

*121. The Controller of Stores, North Eastern Railway, Gorakhpur.

*122. The Controller of Stores, Western Railway, Headquarter Office, Churchgate. Bombay-1.

*123. The Controller of Stores, Central Railway, New Administrative Building, Bombay-1.

124. The Controller of Stores, Eastern Railway, Calcutta.

125. The Controller of Stores, Northern Railway, Headquarters Office, Baroda House, New Delhi.

126. The Controller of Stores, South Eastern Railway, Garden Reach, Calcutta-23.

@127. General Manager, Integral Coach Factory, Perambur, Madras.

*128. General Manager, B. E. S. T. Undertaking, Electric House, Colaba, Bombay.

*129. The Mint Master, The India Government Mint, Fort, Bombay-1.

*130. The Chief Controller of Printing & Stationery, Government of India Printing & Stationery Dept., New Delhi.

*131. Hindustan Machine Tools Ltd., Jalahalli P. O., Bangalore.

132. Hindustan Aircraft Ltd., Hindustan Aircraft Post, Bangalore.

*133. The General Manager, Indian Telephone Industries Ltd., Durvaninagar P.O., Bangalore.

*134. The Director General, Ordnance Factories, 6, Esplanade East, Calcutta.

*135. The Directorate of Co-ordination and Statistics, Director General of Supplies and Disposals, National Insurance Building, Parliament Street, New Delhi.

*136. Bharat Electronics Ltd., Jallahalli P.O., Bangalore-13.

137. Hindusthan Shipyard Ltd., Gandhigram, Visakhapatnam, Andhra.
138. Indian Airlines Corporation, Banerjee Building, 21-B, Asaf Ali Road, New Delhi.
@139. Mysore Implements Factory, Post Box No. 4, Hassan.
*140. Commissioner for the Port of Calcutta, Calcutta.
141. Controller of Stores, Bombay Port Trust, Bombay-10.
*142. Hindusthan Steel Ltd., Bihar Secretariat Bldg., P.O. Hinoo, Ranchi (Bihar State).
*143. Government Electric Factory, Bangalore.
144. Government Precision Factory, Lucknow.
145. Dy. Controller of Stores, Chittaranjan Loco Works, Chittaranjan.
146. National Instruments Factory, Jadavpur, Calcutta.
*147. India Security Press, Nasik Road.
148. Heavy Electricals (India) Ltd., Bhopal.
149. Naval Stores Officer, Naval Stores Depot, Kurla, Bombay-70.
*150. Government H. & S. Factory, Post Box No. 76, Kanpur.
*151. Ordnance Factory, Ambarnath (Near Bombay).
*152. Ordnance Factory, Bhandara (Maharashtra).
*153. Ordnance Factory, Bhusaval (Maharashtra).
*154. Metal & Steel Factory, Ishapore (West Bengal).
*155. Hindustan Steel Ltd., Durgapur Steel Plant P. O. Durgapur-3, Dt, Burdwan, (W. Bengal).
*156. High Explosives Factory, Kirkee, Poona-3.
*157. Ahoora Blocks Pvt. Ltd., (Non-Govt. Consumer) 41—45, Medows Street, Bombay-1.

E. RAW MATERIAL SUPPLIERS

*1. Cominco Binani Zinc Ltd., 38, Strand Road, Calcutta-1.
*2. Metal Corporation of India Ltd., 135, Canning Street, Calcutta-1.
*3. Indian Copper Corporation Ltd., P. B. No. 174, Calcutta.

F. MANUFACTURERS' & OTHER ASSOCIATIONS

*1. The Secretary, Indian Non-Ferrous Metals Manufacturers' Assn., India Exchange, India Exchange Place, Calcutta-1.
2. Ahmedabad Metal Merchants' Association, Railwaypura, Kansara Dehla, Ahmedabad-2.
3. The Bombay Metal Exhange Ltd., Gogate Mansion, Kika Street, Bombay-2.
4. The Federation of Non-ferrous Metals Importers (India), 32, Second Bhoi Wada, Bombay-2.
*5. All India Non-Ferrous Metal Industries Association, Liberty Building, Marine Lines, Bombay-1.
6. The Small-Scale Copperware Mfrs. Association, 39, Bhajipala Lane, Bombay-3.
7. The Maharashtra State Process Engravers Assn., Lucky Mansion, 3rd Floor 79, Ghogha Street, Fort, Bombay-1.
8. Tamilnad Non-ferrous Metals Rolling Mills Assn., 19, Venkatachala Mudali Street, Madras-3.
9. The Jamnagar Factory Owners' Association, Near Jain Temples, Santosh Nivas, Jamnagar.

10. Mirzapur Non-Ferrous Metals Mfrs. Assn. Ltd., Durgadevi, Mirzapur (U.P.).
11. Small Scale Non-ferrous Industries Association, P-11, Mission Row Extension, Calcutta-1.
12. Federation of Associations of Small Industries of Rajasthan, Near Shah Buildings, Sawai Mansingh Highway, Jaipur (Rajasthan).

G. GOVERNMENT DEPARTMENTS

*1. The Development Commissioner, Small Scale Industries, Udyog Bhavan, Maulana Azad Road, New Delhi.
*2. The Director General of Technical Development, (Non-ferrous Metals Directorate), Udyog Bhavan, Maulan Azad Road, New Delhi.
*3. The Director General, The Geological Survey of India, 27, Chowringhee, Calcutta.
*4. The Chief Controller of Imports & Exports, Udyog Bhavan, Maulana Azad Road, New Delhi.
*5. National Mineral Development Corpn. Ltd., N. I. T., Faridabad, Near Delhi.
*6. The State Trading Corporation, Express Building, Bahadur Shaha Zafar Marg, New Delhi.
*7. The Collerctor of Customs, New Custom House, Bombay-1.
*8. The Collector of Customs, Custom House, Madras.
*9. The Collector of Customs, Custom House, Calcutta.
*10. The Collector of Customs & Central Excise, Custom House, Cochin.
@11. The Asstt. Collector of Customs, Rajkot.
*12. The Director, Indian Standards Institution, Manak Bhavan, 9, Bahadur Shah Zafar Marg., New Delhi.
*13. The Minister (Economic) to the High Commissioner for India in the U.K., India House, Aldwych, London W.C. 2.
14. The First Secretary (Commercial) to the Embassy of India in Belgium, 141, Avenue Lauise, Square Du Bois, Brussels (Belgium).
*15. The Counsellor (Commercial) to the Embassy of India in Germany, 262, Koblenzer Strasse, Bonn (West Germany).
*16. The Director of Industries, Government of Maharashtra, Sachivalaya Annexe, Bombay-32.
*17. The Director of Industries, Government of West Bengal, New Secretariat Building (9th Floor), 1, Hastings Street, Calcutta-1.
@18. The Director of Industries, Govt. of Uttar Pradesh, Research and Planning Division, Kanpur (U.P.).
*19. The Director of Industries, Government of Rajasthan, Jaipur.
*20. The Director, Indian Bureau of Mines, Nagpur.
21. The Director of Industries, Government of Punjab, Chandigarh.
22. The Director of Industries, Government of Madras, Madras.
@23. The Director of Industries, Government of Bihar, Patna.
@24. The Director of Industries, Government of Mysore, Bangalore.
@25. The Mineral and Metals Trading Corporation, Express Building, Bahadur Shah Zafar Marg, New Delhi.
*26. The Director General of Commercial Intelligence and Statistics, 1, Council House Street, Calcutta-1.
*27. The Textile Commissioner, P. B. No. 10004, Bombay-1.

CHIEF SECRETARIES OF STATES

1. The Chief Secretary to the Government of Andhra Pradesh, Hyderabad.
2. The Chief Secretary to the Government of Assam, Shillong.
@3. The Chief Secretary to the Government of Bihar, Patna.
*4. The Secretary to the Government of West Bengal, Calcutta.
5. The Chief Secretary to the Government of Gujarat, Ahmedabad.
6. The Chief Secretary to the Government of Jammu and Kashmir, Srinagar.
*7. The Chief Secretary to the Government of Kerala, Trivandrum.
8. The Chief Secretary to the Government of Madhya Pradesh, Bhopal.
@9. The Chief Secretary to the Government of Madras, Madras.
*10. The Chief Secretary to the Government of Maharashtra, Bombay.
*11. The Chief Secretary to the Government of Mysore, Bangalore.
12. The Chief Secretary to the Government of Orissa, Bhubansehwar.
13. The Chief Secretary to the Government of Pnunjab, Chandigarh.
14. The Chief Secretary to the Government of Rajasthan, Jaipur.
@15. The Chief Secretary to the Government of Uttar Pradesh, Lucknow.
16. The Chief Commissioner, Delhi Administration, Delhi.
@17. The Chief Commissioner, Himachal Pradesh, Simla.

APPENDIX II

(*Vide* paragraph 4·2)

List of the factories visited by the Commission and its Officers

Sl. No.	Name of the factory/unit visited	By whom visited	Date of the visit
1	2	3	4
1	National Pipes and Tubes Co. Ltd., Calcutta	(i) Dr. B. G. Ghate, Member (ii) Dr. P. V. Gunishastri, Director (Reviews and Research) (iii) Shri A. K. Banerji, Cost Accounts Officer	17th May 1965. 18th December 1964. Between 8th and 21st February 1965.
2	Metals and Ores Co., Calcutta	(i) Dr. B. G. Ghate, Member (ii) Shri A. K. Banerji, C.A.O.	18th May 1965. Between 8th and 21st February 1965.
3	Leor Mercantile Corporation, Madras	Shri N. Das, Technical Director (Engineering & Metallurgy)	13th November 1964.
4	Jaipur Metals and Electricals Ltd., Jaipur	Ditto.	11th December 1964.
5	Hindustan Metal Mfg. Co., Bombay	(i) Shri M. P. Pai, Chairman (ii) Shri M. Zaheer, Member (iii) Shri Pramod Singh Secretary (iv) Shri N. Dass, T. D. (E. & M.)	28th June 1965. 13th May and 28th June 1965.
6	Devidayal Tube Industries Ltd., Bombay	(i) Shri M. P. Pai, Chairman (ii) Shri M. Zaheer, Member (iii) Shri Pramod Singh Secretary (iv) Shri D. Das, T. D. (E. & M.)	29th June 1965. 23rd April and 29th June 1965.
7	Express Block & Engraving Studios Pvt. Ltd., Bombay	Shri N. Das, T. D. (E. & M.)	14th May 1965.
8	Commercial Art Engravers Pvt. Ltd., Bombay.	Ditto	15th May 1965.
9	Kamani Tubes Pvt. Ltd., Bombay	Ditto	11th May 1965.

APPENDIX III

(*Vide* paragraph 4.3)

List of the persons who attended the Commission's public inquiry

Name of the persons	Parties represented
1	2
A. PRODUCERS	
1. Shri R. N. Mukherji . .	National Pipes & Tubes Co. Ltd., Nicco House, Hare Street, Calcutta-1.
2. Dr. D. P. Antia .	Metals and Ores Co., Division of Union Carbide India Ltd., P-4, Transport Depot Road, Alipore, Calcutta-27.
3. Shri V. D. Pendse .	
4. Shri N. Sreenivasan	
5. Shri P. C. Reddy .	
6. Shri P. C. N. Majumdar	Kamani Tubes Pvt. Ltd., Agra Road, Kurla North, Bombay-70.
7. Shri M. D. Parikh .	
8. Shri S. C. Sarkar .	
9. Shri A. T. Gupta .	Devidayal Tube Industries Ltd., 71, Kanjur Village Road, Devidayal Nagar, Bombay-78.
10. Shri N. K. Oza . .	
11. Shri B. A. Devidayal .	
12. Shri T. Ghose . . .	A. T. Gooyee Metal Works Pvt. Ltd., 11-A, Umakanto Sen Lane, Calcutta-30.
13. Shri R. K. Bagri .	Multimetals Ltd., 38, Strand Road, Calcutta-1. (Shri R. K. Bagri represented Cominco Binani Zinc Ltd., Calcutta, also.)
14. Shri G. D. Ranga	
B. SMALL-SCALE PRODUCERS	
15. Shri K. S. Shah .	Hindustan Metal Mfg. Co., Near Nair Hospital, Lamington Road, Bombay-11.
16. Shri S. K. Shah .	
17. Shri A. S. R. Murty . .	Leos Mercantile Corporation, 25, Bank Street, Fort, Bombay-1.
C. IMPORTERS	
18. Shri C. P. Roy . . .	Metal Distributors Ltd., 12/18, Vithalbhai Patel Road., Bombay-4.
19. Shri P. N. Dinshaw . .	British Metal Corpn. (India) Pvt. Ltd., Steel Crete House, D. Vachha Road, Bombay-1.
D. CONSUMERS	
20. Shri M. K. Capadia . .	Auto Accessories (India) Pvt. Ltd. Forbes Building, Home Street, Bombay-1.
21. Shri B. F. Poonawala .	Commercial Art Engravers (Pvt.) Ltd., Saraswati Mandir (4th Floor), Kennedy Bridge, Grant Road, Bombay-7.

APPENDIX III—*contd.*

1	2
22. Shri M. S. Joice. 23. Shri S. Narayan	Teksons Pvt. Ltd., Modi Chambers, Bombay-4.
24. Shri J. P. Velkar 25. Shri R. W. Wad	Oriental Metal Pressing Works (Pvt.) Ltd. Post Box No. 6556, 131, Worli, Bombay-18.
26. Shri K. V. Ramachandran	Larsen & Toubro Ltd., I. C. House, Ballard Estate, Bombay-1.
27. Shri S. P. Khosla 28. Shri E. N. Viswanathan	Khosla Plastics Pvt. Ltd., Kirkee, Poona-3.
29. Shri J. N. Shah 30. Shri M. N. Shah	The Kersons Mfg. Co. of India Ltd., Agra Road, Bhandup, Bombay-78.
31. Shri S. Mohamed	Express Block & Engraving Studios Pvt. Ltd., Mustafa Building, Sir P. M. Road, Bombay-1.
32. Shri S. D. Neroy 33. Shri K. A. Mistry	D. D. Neroy & Co., 534, Sandhurst Bridge, Bombay-7.
E. GOVERNMENT CONSUMERS	
34. Shri B. G. Srinath	Indian Telephone Industries Ltd., Durvaninagar P. O., Bangalore.
35. Shri K. R. Narayanswamy	The Controller of Stores, Western Railway, Headqurter Office, Churchgate, Bombay-1.
36. Shri K. Chinnikrishna.	The Controller of Stores, Central Railway, New Administrative Building, Bombay-1.
37. Shri J. W. D'Souza	Directorate of Printing, Stationery and Publications, Government of Maharashtra, Charni Road Gardens, Bombay-4.
F. RAW MATERIAL SUPPLIERS	
38. Shri B. C. Chakravarti	Metal Corporation of India Ltd., 135 Canning Street, Calcutta-1.
39. Shri J. F. Bleaden 40. Shri A. J. Pereira	Indian Copper Corporation Ltd., P. B. No. 174, Calcutta-1.
G. PRODUCERS' ASSOCIATIONS AND OTHERS	
41. Shri F. A. Jasdanwalla 42. Shri P. C. Jain	Indian Non-ferrous Metals Manufacturers Association, India Exchange, India Exchange Place, Calcutta-1.
43. Shri B. K. B. Gupta	All India Non-ferrous Metal Industries Association, Liberty Building, Marine Lines, Bombay-1.

APPENDIX III—*concld.*

1	2
44. Shri S. N. Parikh . .	Bombay Metal Exchange Ltd., Gogate Mansion, Kika Street, Bombay-2.
45. Shri M. P. Shah . .	Morlidhar Premchand & Co., Third Floor, 154/156, Kalbadevi Road, P. B. No. 2509, Bombay-2.
H. GOVERNMENT DEPARTMENTS	
46. Dr. P. Dayal, Development Officer (Non-ferrous Metals Directorate).	Directorate General of Technical Development, Ministry of Industry & Supply, Udyog Bhavan, New Delhi.
47. Dr. M. K. Roychowdhury, Superintending Geologist.	The Director General, Geological Survey of India, 27, Chowringhee Road, Calcutta-13.
48. Shri A. S. Gopalachari, Deputy Mineral Economist.	The Director, Indian Bureau of Mines, Nagpur.
49. Shri B. L. Bansal, Assistant Director.	The Development Commissioner, Small Scale Industries, Udyog Bhavan, New Delhi.
50. Shri A. M. Mankikar, Assistant Director of Supplies (Bombay Office).	The Directorate of Co-ordination and Statistics, Director General of Supplies and Disposals, National Insurance Building, Parliament Street, New Delhi.
51. Shri Y. K. M. Nedarya, Appraiser.	The Collector of Customs, New Custom House, Bombay-1.
52. Shri S. Subrahmanyan, Head, Bombay Branch Office.	Indian Standards Institution, Manak Bhavan, 9, Bahadur Shah Zafar Marg, New Delhi.
53. Shri R. N. Kadaba, Deputy Director (Engineering).	Director of Industries, Government of Maharashtra, Sachivalaya Annexe, Bombay-32.
54. Shri S. Mitra, Deputy Director of Industries.	Director of Industries, Government of West Bengal, New Secretariate Building (9th Floor), 1, Hastings Street, Calcutta-1.

APPENDIX IV

(*Vide* Paragraph 6.2.1.2)

Chart showing Details of the Production of 200 *Tons Copper/Brass Tubes from the Existing Installed Machines as Furnished by Devidayal Tube Industries Ltd., Bombay.*

COPPER TUBES

Sl. No.	Size/Gauge	Qty./month	Wt. of 16 ft., long tube	No. of 16 ft. long tubes in one tonne	No. of 16 ft. tubes/month	No. of draws required to finish the tube	Total No. of draws required per month
1	2	3	4	5	6	7	8
1	3/4″ × 10 SWG	10 Tons	9·870 Kgs	105	1050	2	2,100
2	1″ × 10 ,,	4 ,,	12·700 ,,	80	320	2	640
3	1·1/4″ × 10 ,,	4 ,,	15·458 ,,	70	280	2	560
4	1·1/2″ × 10 ,,	4 ,,	18·289 ,,	55	220	2	440
5	2″ × 10 ,,	3 ,,	23·877 ,,	45	135	2	270
6	2·1/4″ × 10 ,,	3 ,,	26·707 ,,	40	120	2	240
7	2·1/2″ × 10 ,,	3 ,,	29·538 ,,	35	105	2	210
8	2·3/4″ × 10 ,,	3 ,,	32·368 ,,	30	90	2	180
9	3/8″ × 16 ,,	10 ,,	2·467 ,,	405	4050	3	12,150
10	1/2″ × 16 ,,	10 ,,	3·193 ,,	325	3250	3	9,750
11	5/8″ × 16 ,,	10 ,,	3·846 ,,	255	2550	3	7,650
12	3/4″ × 16 ,,	7 ,,	4·572 ,,	225	1575	3	4,725
13	7/8″ × 16 ,,	6 ,,	5·297 ,,	195	1170	3	3,510
14	1″ × 16 ,,	4 ,,	5·951 ,,	170	680	3	2,040
15	1·1/8″ × 16 ,,	4 ,,	6·677 ,,	155	620	3	1,860
16	1·1/4″ × 16 ,,	4 ,,	7·402 ,,	135	540	3	1,620

1	2	3	4	5	6	7	8
17	1·5/8″ × 16 SWG	3 Tons	9·507 Kgs	105	315	3	945
18	1·7/8″ × 16 ,, ...	3 ,,	10·886 ,,	95	285	3	855
19	2″ × 16 ,, ...	4 ,,	11·612 ,,	85	340	3	1,020
20	2·1/8″ × 16 ,, ...	4 ,,	12·265 ,,	80	320	3	960
21	3/8″ × 18 ,, ...	4 ,,	1·814 ,,	560	2240	5	11,200
22	1/2″ × 18 ,, ...	4 ,,	2·322 ,,	435	1740	5	8,700
23	5/8″ × 18 ,, ...	4 ,,	2·830 ,,	360	1440	5	7,200
24	3/4″ × 18 ,, ...	8 ,,	3·338 ,,	300	2400	5	12,000
25	7/8″ × 18 ,, ...	2 ,,	3·919 ,,	255	510	5	2,550
26	3/8″ × 20 ,, ...	5 ,,	1·299 ,,	775	3275	6	23,250
27	1/2″ × 20 ,, ...	5 ,,	1·691 ,,	600	3000	6	18,000
28	9/16″ × 20 ,, ...	5 ,,	1·887 ,,	525	2825	6	15,750
29	5/8″ × 20 ,, ...	5 ,,	2·105 ,,	500	2500	6	15,000
30	3/4″ × 20 ,, ...	5 ,,	2·467 ,,	425	2125	6	12,750
		150 ,,		7425	40070		1,78,125
	BRASS TUBES						
31	3/4″ × 10 SWG	2 ,,	6·749	150	300	3	900
32	7/8″ × 10 ,, ...	2 ,,	8·056	125	250	3	750
33	1″ × 10 ,, ...	2 ,,	9·435	105	210	ε	630

34	1·1/8″ × 10	,,	2	,,	10·813	95	190	3	570
35	1·1/4″ × 10	,,	2	,,	12·120	85	170	3	510
36	1·1/2″ × 10	,,	2	,,	14·805	65	130	3	390
37	1·3/4″ × 10	,,	2	,,	17·998	55	110	3	330
38	2″ × 10	,,	2	,,	20·248	50	100	3	300
39	5/8″ × 16	,,	4	,,	3·048	335	1340	4	5360
40	3/4″ × 16	,,	4	,,	3·701	260	1040	4	4160
41	7/8″ × 16	,,	4	,,	4·354	240	960	4	3840
42	1″ × 16	,,	4	,,	5·080	200	800	4	3200
43	1·1/8″ × 16	,,	4	,,	5·733	175	700	4	2800
44	1·1/4″ × 16	,,	2	,,	6·387	165	330	4	1320
45	1·3/8″ × 16	,,	2	,,	7·112	145	290	4	1160
46	1·1/2″ × 16	,,	2	,,	7·765	130	260	4	1040
47	1·3/8″ × 16	,,	1	,,	8·419	120	120	4	480
48	1·3/4″ × 16	,,	2	,,	9·144	110	220	4	880
49	1·7/8″ × 16	,,	1	,,	9·797	105	105	4	420
50	2″ × 16	,,	2	,,	10·451	95	190	4	760
51	2·1/8″ × 16	,,	2	,,	11·176	90	180	4	720
			50 Tons				7995 Nos.		30,520 Draws/month

210,000 Draws/month
=8,500 Draws per day.

Total No. Tubes 48,000

Total weight of 48,000 Tubes=200 Tons.

DRAWING SECTION

Draw benches	Capacity/ Shift	On double shift basis
Tons	Draws	Draws
10 J.F.M.	600	1200
10 W.M.W.	400	800
Bull Block	400	800
Schumag	400	800
50 Tons	250	500
DTI-No. 1	300	600
DTI-No. 2	300	600
DTI-No. 3	300	600
DTI-No. 4	300	600
Anaconda 15 T	400	800
,, 10	400	800
,, 10	400	800
ME-1	400	800
ME-2	400	800
Delta 30 Tons	500	1000
,, 30 ,,	500	1000
,, 15 ,,	500	1000
,, 5 ,,	300	600
,, 5 ,,	300	600
1,20,000 (Tripple draw bench)		
TOTAL .	7350	14700

I. *Raw material*

for 150 Tons Copper Tubes+
50 Tons Brass Tubes
165 Tonnes Copper 35 Tons Copper
20 Tons Zinc
i.e. 200 Tons Copper
20 Tons Zinc } per month

II. *Melting*

To produce 200 Tons Tubes we should produce 400 Tons Billets *i.e.* 200 Tons Copper Billets (Imported) 200 Tons must be casted in the Melting Shop (8 Tons per day—25 working days per month) We have sufficient capacity.

III. *Billet Cutting*

To produce 200 Tons tubes, we require 9000/10,000 Billets *i.e.* 400 Billets daily. We have sufficient capacity.

IV. *Billet Drilling*

We require 400 Billets to be drilled daily. We have received A.M.T. Boaring machine from M/s. Delta Machine Co. which serves the purpose along with Local purchase Drilling machine.

NOTE.—In order to produce 100 tons—10/16 gauges & 50 tons 18/20 gauges of copper tubes & 50 tons of 10/16 gauge Brass Tubes we require 8,500 Draws per day while we have the capacity 14,700 draws per day working the drawbenches on double shift basis and hence we can produce more 18/20 gauge Tubes with the existing installed Drawbenches.

V. *Extrusion*

No sooner 1,20,000 lbs Tripple Draw bench goes into production we can produce 50 tons of Copper tubes & 50 tons of 70/30 Brass tubes making total of 300 tons per month.

Capacity of the Plant : 200/250 Extrusion/ 8 hour shift—or 400/500 Extrusion/Double Shift basis or 10,000/12,000 Extrusion monthly working 25 days on double shift basis.

400 Tons Billets

320 Tons cut & drilled billets

80 Tons scrap

$10'' \times 5''$ dia $\times$ 4000 Billets	$12'' \times 5''$ (36 Kg) $\times$ 3000 Billets	$14 \times 5\frac{1}{2}''$ (46 Kgs) 2000 Billets
120 Tons	108 Tons =320	92 Tons
4000 Ext.	3000 Ext. Total 9000 Ext.	2000 Ext.
4000 Shells $1 \cdot 1/2'' \times 12$ G (25 Kg) (25 ft)	3000 Shells $1 \cdot 7/8 \times 13$ G (30 Kg) (30 ft)	2000 Shells $2\frac{1}{2}'' \times 6$ G (40 Kg) (16 ft)
100 tons $\times 8$	90 tons =270 tons Extruded shells / 4	80 tons / 2
32,000 Tubes	12,000 Tubes =48,000 Tubes	4,000 Tubes

Weight of 48,000 Tubes=200 Tons.

APPENDIX V

(*Vide* Paragraph 6.4)

Statement showing production of non-ferrous semi-manufactures as furnished by the producers

(In Tonnes)

Sl. No.	Article		National Pipes & Tubes Co.			Kamani Tubes (P) Ltd.			Devidayal Tube Industries			A. T. Gooyee Metal Works			Metals & Ores Co.		
			1962	1963	1964	1962	1963	1964	1962	1963	1964	1962	1963	1964	1962	1963	1964
1	Extruded copper rods and sections other than electrolytic copper rods	Own material	144	234	114	..	..	..	..	..	..	..	..	..	..	..	..
		On conversion	..	6	6	..	..	..	..	..	..	..	..	..	..	..	..
		TOTAL	144	240	120	..	..	..	..	..	..	..	..	..	..	..	..
2	Extruded brass rods and sections	Own material	1,729	1,947	1,393	658	1,116	1,462	..	..	..	51	100	87	..	..	..
		On conversion	..	82	599	390	698	921	266	352	574	..	..	14	..	..	..
		TOTAL	1,729	2,029	1,992	1,048	1,814	2,383	266	352	574	51	100	101	..	..	..
3	Copper brass pipes & tubes	Own material	62	59	44	..	307	742	422	522	476	..	..	..	..	..	..
		On conversion	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		TOTAL	62	59	44	..	307	742	422	522	476	..	..	..	..	..	..
4	Highly polished zinc sheets for making process blocks.	Own material	..	..	..	..	..	..	..	..	..	..	..	..	179	255	316

			Total production		
			1962	1963	1964
1 Copper/brass solids (rods and sections other than electrolytic copper rods).	Own material .	.	2,582	3,397	3,056
	On conversion,	.	656	1,138	2,114
	TOTAL	.	3,238	4,535	5,170
2 Copper/brass hollows (Pipes and tubes).	Own material .	.	484	888	1,262
3 Highly polished zinc sheets for making process blocks.	Own material .	.	179	255	316

APPENDIX VI

(*Vide* Paragraph 8.6)

Statement showing a summary of the imports of raw materials during 1962, 1963 *and* 1964

(Quantity in tonnes : Value in lakhs of Rs.)

Sl. No.	Name of the article	1962		1963		1964	
		Quantity	Value	Quantity	Value	Quantity	Value
I	*Copper :*						
	(i) Copper unwrought, ingots, billets etc.	31,965	1,025·14	37,804	1,308·11	26,780	960·29
	(ii) Copper scrap (including ashes and dross)	1,167	38·21	1,319	40·69	1,782	60·79
	(iii) Copper Bars except electrolytic	182	6·41	85	3·20	..	..
	TOTAL	33,314	1,069·76	39,208	1,352·00	28,562	1021·08
II	*Brass :*						
	(i) Brass unwrought, Brass etc. 55 to 74 p.c. Cu. 26 to 42 p.c. ZN	2	0·10	..	..	..	..
	(ii) Brass, bronze and similar alloy scrap (including ashes and dross)	131	3·07	253	5·57	168	4·18
	(iii) Brass bars	50	2·43	47	2·00	74	3·72
	TOTAL	183	5·60	300	7·57	242	7·90
III	*Zinc :*						
	Zinc spelter in ingots, slabs etc.	76,432	776·92	81,307	893·01	62,914	935·12
		109,929	1,852·28	1,20,815	2,252·58	91,718	1964·10

APPENDIX VII

(*Vide* Paragraph 10.2)

Statement showing countrywise imports of non-ferrous semi-manufactures during 1962, 1963 *and* 1964

(Qty. in Tonnes)
(Value in lakh Rs.)

Sl. No.	Articles and countries from which imported	1962		1963		1964	
		Quantity	Value	Quantity	Value	Quantity	Value
1	2	3	4	5	6	7	8
1.	A. *Semis* :						
	Highly polished zinc sheets for making process blocks						
	Belgium	44·94	1·57	8·47	0·33	17·07	0·61
	W. Germany	90·01	3·06	34·50	1·22	37·83	1·45
	U. K.	133·38	4·61	64·10	2·18	48·29	1·82
	U. S. A.	8·46	0·32	11·72	0·44	12·83	0·48
	China	0·12	0·01	..	..	..	..
	Small value transactions	5·00	0·18	..	..	..	..
	TOTAL OF (1)	281·91	9·75	118·79	4·17	116·02	4·36

1	2	3	4	5	6	7	8
2.	*Brass pipes and tubes :*						
	W. Germany	315·08	17·34	298·46	16·64	265·27	16·30
	U. K.	528·18	27·47	211·99	12·00	109·20	6·31
	Italy	82·81	3·91	50·77	2·47	54·93	2·86
	Netherlands	1·36	0·07	1·20	0·09	0·47	0·03
	Sweden	7·64	0·45	27·06	1·54	2·65	0·18
	Austria	2·14	0·11	1·06	0·03	6·35	0·27
	Japan	3·13	0·16	117·06	6·02	207·08	10·73
	Switzerland	0·46	0·10	..	..	2·49	0·12
	U.S.A.	5·63	0·41	104·91	6·82	17·68	1·24
	U.S.S.R.	2·37	0·09	38·46	1·87	1·87	0·08
	Yugoslavia	83·81	3·97	230·47	11·08	293·86	15·37
	Belgium	..	..	11·28	0·52	..	..
	E. Germany	..	..	..	..	8·43	0·45
	Canada	..	..	..	..	0·28	0·02
	Czechoslovakia	..	..	..	..	2·76	0·12
	Small value transactions	1·00	0·06	..	..	..	..
	TOTAL OF (2)	1033·61	54·14	1092·72	59·08	973·32	54·08
3.	*Brass rods :*						
	Netherlands	37·96	1·33	64·34	2·14	58·19	2·11
	U. K.	99·83	4·34	129·40	5·21	155·49	6·14
	W. Germany	9·60	0·39	6·04	0·25	33·67	1·31
	Yugoslavia	123·45	3·59	13·00	0·38	36·53	1·08

Austria	1·46	0·04	3·12	0·10	1·00	0·05
France	2·77	0·15	0·93	0·05	0·04	0·01
Switzerland	7·00	0·24	16·74	0·64	10·10	0·44
U. S. A.	17·85	0·63	18·11	0·77	5·09	0·26
Canada	..	..	0·20	0·02	..	..
Belgium	..	..	1·34	0·06	0·72	0·05
Denmark	..	..	1·02	0·04	8·52	0·27
Japan	..	..	0·38	0·02	21·53	0·76
Small value transactions	0·47	0·03	..	..	..	..
TOTAL OF (3)	300·39	10·74	254·62	9·68	330·88	12·48
4. *Copper pipes and tubes :*						
W. Germany	101·21	6·12	106·70	7·23	116·12	7·83
Italy	49·50	3·47	6·67	0·42	36·13	2·01
U. K.	196·66	11·66	182·42	12·62	70·21	5·08
U. S. A.	51·27	4·47	257·55	18·05	65·64	5·46
Canada	28·15	1·68	20·53	1·17	61·02	3·65
Netherlands	1·76	0·14	..	..	..	..
Japan	64·72	3·10	43·18	2·23	80·54	4·37
Sweden	12·22	0·55	..	..	11·86	0·63
Australia	12·72	0·64	3·86	0·20	19·87	1·00
France	1·97	0·24	6·46	0·46	..	..
Hungary	0·67	0·04	..	..	..	..
Switzerland	0·30	0·04	0·13	0·01	0·15	0·05
Yugoslavia	23·74	1·62	58·00	3·23	103·73	6·29
Czechoslovakia	..	..	1·22	0·23	..	..

1	2	3	4	5	6	7	8
	U. S. S. R.	..	..	23·17	1·00	83·74	3·90
	E. Germany	..	..	..	..	2·18	0·13
	Norway	..	..	..	..	0·97	0·11
	Austria	..	..	..	..	3·18	0·15
	Small value transactions	1·97	0·17	..	..	..	..
	TOTAL OF (4) .	546·86	33·94	709·89	46·85	655·34	40·66
5.	*Copper rods, other than electrolytic* :						
	U. S. A.	1·85	0·12	0·27	0·02	0·23	0·01
	Canada	25·39	0·82	..	..	..	..
	U. K.	43·29	2·86	40·42	2·17	22·13	0·99
	France	0·54	0·05	..	..	0·12	0·01
	W. Germany	0·02	..	0·19	0·01	..	..
	Small value transactions	0·04	..	..	..	..	..
	TOTAL OF (5) .	71·13	3·85	40·88	2·20	22·48	1·01
	TOTAL OF A (1 TO 5) .	2233·90	112·42	2216·90	121·98	2098·04	112·59

APPENDIX VIII

(*Vide* Paragraph 14)

Statement showing c.i.f. prices, customs duty, clearing charges and landed costs

(Rs. per Kg.)

Sl. No.	Source of information	Origin of Import	Date of Import	Specification	c.i.f. price	Customs duty	Clearing charges	Landed cost	Remarks
1	2	3	4	5	6	7	8	9	10
					Rs.		Rs.	Rs.	
				(1) *Copper Rods*					
1	Collector of Customs, Madras	U.K. . .	10-12-64	111(H.C.) in 8--10′ length .	6·74	3·26	0·01	10·01	
2	Collector of Customs, Calcutta	U.K. . .	31-12-64	Tapered commutator segment bar section 3·314″ width base.	5·74	2·83	0·44	9·01	
				(2) *Copper Pipes & Tubes.*					
3	Collector of Customs, Calcutta	U.K. . .	26-11-64	20 g. 3/8″ bore-pure copper tube.	6·75	3·12	0·01	9·88	
4	State Trading Corpn. of India, New Delhi.	Yugoslavia .	March, 64	16 SWG × OD 3/4″	5·88	3·45	0·18	9·51	
5	Collector of Customs, Bombay	W. Germany	As per suppliers quotation dated 21-1-65	3/4″ × 13 SWG-IRSWI . .	6·74	3·94	0·02	10·70	No actual imports—only quotation.
		Ditto .	Ditto .	2-1/4″ × 10 SWG . . .	7·21	4·21	0·08	11·50	Ditto.
		Ditto .	Ditto .	1-3/4″ × 10 SWG . . .	6·59	3·85	0·07	10·51	Regulatory duty not included.
6	Metal Distributors Ltd., Bombay.	Ex-U.K.current f.o.b. prices	..	3/4″ non size BS 659 . . 1″ O.D. × 16 SWG . .	6·50 6·36	.. ..	.. ..	.. ..	

1	2	3	4	5	6	7	8	9	10
					Rs.		Rs.	Rs.	
7	Embassy of India, Bonn	W. Germany	f.o.b. quotation dated 26-2-65	Seamless drawn copper tubes commercial quality, hard temper tolerances to DIN 1754, in straight random lengths arsenic copper with 0·3-05% arsenic—					
				1" × 10 SWG	6·79	..	..	..	f.o.b. quotations
				1·1/4" × 10 SWG	6·77	..	..	..	
				1·1/2" × 10 SWG	6·77	..	..	..	
				1·3/4" × 10 SWG	6·73	..	..	..	
				2" × 10 SWG	6·75	..	..	..	
				2·1/4" × 10 SWG	6·76	..	..	..	
				2·1/2" × 10 SWG	6·79	..	..	..	
				99·9% copper without arsenic—					
				3/4" × 16 SWG	7·16	..	..	..	
				2·1/4" × 10 SWG	6·76	..	..	..	
				1" × 10 SWG	6·79	..	..	..	
				1·1/4" × 10 SWG	6·77	..	..	..	
				1·1/2" × 10 SWG	6·77	..	..	..	
				1·3/4" × 10 SWG	6·73	..	..	..	
				2" × 10 SWG	6·75	..	..	..	
				2·1/4" × 10 SWG	6·76	..	..	..	
				2·1/2" × 10 SWG	6·79	..	..	..	
			f.o.b. quotations dated 12-3-65	Seamless drawn copper tubes, hard temper in lengths of about 5m. (Arsenic 0·45%)					
				1·1/2" O.D. × 10 SWG	6·81	..	..	..	f.o.b. quotations.
				2" O.D. × 10 SWG	6·80	..	..	..	
				3/4" × 16 SWG	7·21	..	..	..	
				2·1/4" O.D. × 10 SWG	6·81	..	..	..	
				1" O.D. × 10 SWG	6·84	..	..	..	
				1·1/4" O.D. × 10 SWG	6·81	..	..	..	
				2" O.D. × 10 SWG	6·80	..	..	..	
				(3) *Highly polished Zinc sheets for making process blocks.*					
8	Collector of C oms & Central Excise, Coch n.	U.K.	21-7-64	40" × 20" × 16 G	24·7 each or 4·06 per kg.	1·86	0·01	5·93	
9	Collector of Customs, Madras	U.K.	18-1-65	40" × 20" × 16 G	22·00 per sheet-7 kg. per sheet.	10·56	0·01	32·57 per sheet	
10	Collector of Customs, Calcutta	U.K.	26-6-64	20" × 40" × 16 SWG (weight 6·2 kg.)	22·00 per sheet.	10·33	0·17	32·50 per sheet	

11	Collector of Customs, Bombay	U.K.	12-2-65	20″ × 40″ × 16 SWG	23·00 per piece of 6 kg.	10·65	0·35	34·00	Does not include regulatory duty.
12	Metal Distributors Ltd., Bombay	U.K.	..	20″ × 40″× 16 SWG	22·00 per sheet	..	..	..	
13	D. D. Neroy, Bombay . .	..	1964	29″ × 40″ × 16 G	19·34	..	..	..	
14	Commercial Art Engravers (Private) Ltd., Bombay.	W. Germany	4-1-65	20″ × 40″ × 16 G	23·38	..	..	..	Only quotation—no actual imports.
15	Metals & Ores Co., Calcutta .	..	..	..	24·00 per plate	..	..	..	
				(4) *Brass Pipes & Tubes.*					
16	Collector of Customs, Madras	..	..	Solid drawn (seamless) Brass tubes 16′ length					
		U.K.	25-5-64	(a) 1/2″ out/dia $\times \frac{7}{16}$″ bore	8·00	4·18	0·01	12·19	
		U.K.	25-5-64	(b) 2 1/8″ out /dia × 2″ bore	5·50	2·87	0·01	8·38	
		U.K.	3-6-64	(c) $\frac{5}{8}$″ out/dia × $\frac{9}{16}$″ bore	8·00	4·18	0·01	12·19	
		U.K	10-11-64	(d) $\frac{3}{8}$″ out /dia × $\frac{5}{16}$″ bore	11·00	5·74	0·01	16·75	
17	Collector of Customs, Calcutta	Italy	6-12-64	20 mm Od—18 mm Id	5·47	2·86	0·04	8·37	
18	State Trading Corpn. of India, New Delhi.	Yugoslavia	Aug.-Nov. 1964	16 SWG × O.D. 1 1/4″ 16 SWG × O.D 1 1/2″	4·88	2·57	0·14	7·59	
19	Collector of Customs, Bombay	Yogoslavia	Sept. 64	1—5/8″ O.D. 16 SWG wall 13′-1″ thickness long 70/30 alloy seamless solid drawn BSS 378	4·89	2·57	0·07	7·53	Regulatory duty included.
		Yugoslavia	Sept. 64	2″ O.D. × 18 SWG 6′ 1/2″	4·90	2·58	0·07	7·55	
		U.K.	As per quotation dated 28-7-64	1″ O.D. × 18 SWG 16′-2-3/4″ 70/30 condenser tubes BSS 378/53	6·19	3·26	0·09	9·54	
20	Metal Distributors Ltd., Bombay.	Ex. U.K. current f.o.b. prices	..	1″ O.D. × 16 SWG 1·1/2″ 1½″ O.D × 16 SWG	6·76 6·65	.. ..	.. ..	.. ..	
21	Kamani Tubes Private Ltd., Bombay.	Average f.o.b. prices	..	Brass pipes and tubes	6700·00 per ton.	..	..	..	

1	2	3	4	5	6	7	8	9	10
					Rs.		Rs.	Rs.	
22	Embassy of India, Bonn	W. Germany	f.o.b. quotation dated 26-2-65	Seamless drawn Brass Tubes 70'30% hard temper tolerances to DIN 1755 in random mill lengths—					
				1"×16 SWG	6·39	..	..	..	
				7·1/4"×16 SWG	6·37	..	..	..	
				1·1/2"×16 SWG	6·39	..	..	..	
				1·3/4"×16 SWG	6·39	..	..	..	
				2"×16 SWG	6·41	..	..	..	
				2·1/4"×16 SWG	6·47	..	..	..	
				2·1/2"×16 SWG	6·53				
23	National Pipes & Tubes Co. Ltd., Calcutta.	U.K	14-4-65	Admiralty brass tubes 7/8" o.d.×18 B.W.G.	7·67	..	..	..	Quotation—no actual imports.
		Italy	19-4-65	Do.	6·40	..	..	..	Do.
				(5) *Brass Rods.*					
24	Collector of Customs & Central Excise, Cochin.	W. Germany	31-12-64	3/8", 1/4, 5/16"×1/2	4·59	2·32	0·01	6·92	
25	Collector of Customs, Madras	U.K.	Jan. 65	..	4·49	2·26	0·01	6·76	
26	Collector of Customs, Calcutta	U.K.	4-12-64	2" ×1" in various lengths 'U' sections $4\frac{1}{2}$" thickness in lengths.	4·63	2·34	0·03	7·00	
		U.K.	5-11-64		5·10	2·54	0·03	7·67	
27	Collector of Customs, Bombay	U.K.	17-2-65	Extruded brass section Bars (feather edged section).	5·79	3·43	0·10	9·32	Duty includes regulatory duty.
28	Metal Distributors Ltd., Bombay.	Ex-U.K. current prices.	f.o.b.	BS 249 & 218 1/2"—3"	3·92 (f.o.b.)	..	..	..	Quotations—no actual imports.
29	Kamani Tubes Private Ltd., Bombay.	Average f.o.b. prices.	..	Brass Rods.	4200·00 per ton.	..	..	..	
30	National Pipes & Tubes Co. Ltd., Calcutta.	U.K.	June. 64	Brass rods of screwing & turning quality 5/16" dia.	3·57	..	..	..	
		..	..	Brass rods of screwing & turning quality 3/8" dia.	3·53	..	..	..	
				Brass rods of screwing & turning quality 5/16" Sqr.	3·79	..	..	..	
				Brass rods of screwing & turning quality 3/8" Sqr.	3·75	..	..	..	
		Switzerland	2-2-65	Brass rods of screwing & turning quality 7 mm dia.	4527·50 per tonne.	..	..	..	

GIPN—S3—11 T. C. Bom./65—10-3-9166—