

INDIAN TARIFF BOARD

STATUTORY ENQUIRY—1933

Steel Industry

Volume I

Written Evidence given by the
Tata Iron and Steel Company,
Limited, before the Indian
Tariff Board.



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No. 260-T. (8)/33.

GOVERNMENT OF INDIA.

DEPARTMENT OF COMMERCE.

Simla, the 26th August, 1933.

RESOLUTION.

TARIFFS.

The protection afforded to certain manufactures of iron and steel by the Steel Industry (Protection) Act, 1927, as subsequently amended, will determine on the 31st day of March, 1934. Clause 3 of that Act provides that the Governor General in Council shall, not later than the 31st day of March, 1934, cause to be made by such persons as he may appoint in this behalf, an enquiry as to the extent, if any, to which it is necessary to continue the protection of the steel industry in British India and as to the manner in which any protection found necessary should be conferred. The Government of India have decided that the prescribed Statutory Enquiry should be undertaken by the Tariff Board and the following terms of reference have been framed for its guidance :—

- (a) The Board is requested to re-examine the measures of protection now enjoyed by the steel industry under the Steel Industry (Protection) Act of 1927, as subsequently amended, the Wire and Wire Nail Industry (Protection) Act of 1932 and the Indian Tariff (Ottawa Trade Agreement) Amendment Act of 1932 and to report in respect of each protected article whether it is still necessary to continue protection and, if so, whether the existing measure of protection should be increased or diminished or whether the manner in which protection is conferred should be altered.
- (b) In dealing with the wire and wire nail industry the Board will bear in mind the considerations set forth in paragraphs 3, 4 and 5 of its 1931 Report on the Wire and Wire Nail Industry and will consider whether the first of the conditions prescribed by the Indian Fiscal Commission in paragraph 97 of its Report is now satisfied.
- (c) In making its recommendations the Tariff Board will take all relevant considerations into account including that stated in part (b) of the Resolution adopted by the Legislative Assembly on the 16th February, 1923.

(d) The Board will also be at liberty to examine the claims for protection of industries making iron and steel products which do not come within the scope of the present Acts and to report whether, having regard to the principles laid down in paragraph 97 of the Report of the Indian Fiscal Commission such claims should be admitted, and, if so, the nature and extent of the protection that should be given.

2. Firms or persons interested in the iron and steel industry or industries dependent on the use of iron and steel, who desire that their views should be considered by the Tariff Board should address their representations to the Secretary of the Board.

ORDER.—Ordered that a copy of the above Resolution be communicated to all local Governments and Administrations, all Departments of the Government of India, the Director General of Commercial Intelligence and Statistics, the Central Board of Revenue, the Indian Trade Commissioners, London and Hamburg, the Secretary, Tariff Board, the High Commissioner for India, London, His Majesty's Trade Commissioner in India, the Canadian Trade Commissioner in India, all Chambers of Commerce and Associations, the French Trade Commissioner in India, Burma and Ceylon, the Secretary, Imperial Council of Agricultural Research, and the Chief Controller of Stores.

Ordered also, that it be published in the *Gazette of India*.

Press Communiqué issued by the Tariff Board on the 4th September 1933.

In the Resolution of the Government of India (Department of Commerce) No. 260-T. (8)/33, dated the 26th August, 1933, the Tariff Board is directed to examine the extent, if any, to which it is necessary to continue the protection now granted to the Steel industry and the manner in which any protection found necessary should be conferred. The Board is also authorised to enquire into the claim for protection which may be raised by any industries manufacturing iron and steel products which do not come within the scope of the existing scheme of protection. All representations intended for the Tariff Board in connection with this enquiry should be submitted (with six spare copies) so as to reach the Secretary of the Board at 1, Council House Street, Calcutta, not later than the 23rd September, 1933.

(1) Letter No. G.-347/33, dated the 2nd September, 1933, from the Tata Iron & Steel Co., Ltd.

With reference to Government of India Resolution No. 260-T. (8)/33, dated the 26th August, 1933, the Tata Iron and Steel Company has the honour to submit herewith, for the consideration of the Tariff Board, its representation regarding the protection of the Steel Industry in India.

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CHAPTER I.

INTRODUCTION.

The period of the existing scheme of protection, beginning with 1st April 1927, has been one of extreme difficulty not only for the steel industry in India but for all industries throughout the world. Output has been reduced and prices have collapsed to such an extent that the world production of pig iron for the year ending 31st December 1932 was slightly less than half and of steel less than two-thirds of that of 1913. Prices have similarly fallen below the pre-war level. The same period has witnessed catastrophic fluctuations in currencies and the raising of tariff barriers until the United Kingdom, with the oldest established iron and steel industry in the world, was compelled to adopt a policy of substantial protection for its industry. Apart from these world-wide causes, this Company had to meet a strike of the first magnitude which put back its progress for a period of two years. As the Company hopes to show in the course of this representation, it has striven against all adverse factors to maintain its output, reduce costs and improve efficiency; and if it now claims that a further measure of protection is necessary to enable it to meet world competition under present conditions, it is only claiming what much older and better established industries of the world are enjoying now and without which it will be difficult for it to live in competition with them.

2. The Steel Company entered on the period of protection now about to expire with the determination to do everything within its power to achieve the results expected of it by the Tariff Board and to improve upon them so far as might be possible. It submits that the statements attached to this representation show that it has already achieved reductions in the costs of production which are fully equivalent to those which in 1926 were expected to be achieved only in the completed year 1933-34; and that if the costs of the first half of the year 1933 are considered in relation to the relatively low actual production of that year, they represent a definite improvement on the expectations formed by the Board in its 1926 Enquiry.

3. As the Board is aware, the three main factors governing the success of the scheme of protection are the costs of production, the volume of production and the prices at which the products can be sold. Of these, the first is to a substantial extent within the control of the Company and in this matter the Company has met the obligations which were laid upon it. The volume of production is not to any appreciable extent susceptible of control by the Company, provided that the Company can show, as in fact it can, that of each protected kind of steel it has produced the maximum quantity of which its plant was capable and which could be sold in India in the prevailing conditions of the market for steel. The main factor governing production is the demand of the market; this is not under the control of the Company. The failure of this demand to meet expectations is one of the main causes of the failure of the current protective scheme. The third factor, that of the selling prices of steel, is almost entirely dependent on the prices at which imported steel is delivered at Indian ports; these prices are dependent on the conditions of world trade from time to time and are not subject to the influence of the Company. The fall of many of these prices to unprecedentedly low levels is an important factor in the failure of the current scheme of protection to the steel industry to achieve its aims.

4. Since the Enquiry of 1926 the world's steel industry has passed through drastic changes similar to those which have occurred in most other industries. In 1929 the world's output of steel reached a record high figure. Prices were only moderate and in no country were high profits earned on the manufacture of steel of ordinary qualities. The slump began at the end of 1929 and by 1932 was so severe that the world's output in that year was less than 40 per cent. of the output three years earlier. Prices also fell heavily, as will be shown later, and the United Kingdom, the last major industrial country to adopt protection for the steel industry, found it necessary during 1932 to increase its protective duties.

5. It was laid down in no uncertain terms by the first Tariff Board, and repeated with equal emphasis by the second, that the protection afforded to the steel industry

should be adequate not only to enable the Tata Iron and Steel Company to work at a profit but also to encourage other large steel-works to be established in India, so that the country may ultimately become self-supporting in the matter of iron and steel. Unfortunately, so confused has been the course of world trade during the past decade and so great and incalculable have been the changes in the factors affecting production, consumption, costs and prices, that the protection which has been granted during the last nine years has failed not only to lead to the establishment of new works but even to provide the desired measure of assistance to the industry as it already existed. This was mainly due to reasons which could not be foreseen by the Tariff Board, for at no time have world conditions been so adverse as during the last three years. It is largely due to the effect of these conditions that protection for a further period is absolutely necessary. Before the question of provision for the future is taken up, however, the Company wishes to set out in some detail the developments of the past years in the form of statements showing the changes in costs, production and prices of the kinds of steel produced by the Company. The Company will also call attention to other factors which have rendered the measure of protection inadequate.

6. In the preparation of the present representation, the Company has adhered generally to the arrangement of the Board's Report on the 1926 Enquiry, in the anticipation that this will be found convenient to the Board and to others who may be concerned in the present Enquiry and will facilitate the proceedings of the Board by simplifying comparisons with its previous findings and arguments.

CHAPTER II.

RECENT PROGRESS OF THE INDUSTRY.

7. As the Tata Iron and Steel Company still remains the only large producer of steel in India, the account of the progress of the industry is necessarily confined to that of the Company. All the statements referred to herein are therefore based on the records of the Company or on its anticipations for the future.

8. Statement 1 (a) attached shows the progress of the Company in securing reductions in the costs of production in various departments during the last 10 years. In Statement 1 (b) these figures are arranged according to saleable products as classified in the Board's Report. Since these costs are substantially affected by the price which the Company has to pay for the large quantity of coal required in the production of steel and since the price of coal has varied greatly within the period, Statements 2 (a) and 2 (b) are also submitted in which the costs shown in Statements 1 (a) and 1 (b) are adjusted to a uniform basis of Rs. 5-12 per ton of coal delivered f.o.r. Tatanagar, this being the average price of the last six years. The costs of galvanized sheets have also been adjusted to a uniform price of Rs. 235 per ton of spelter. For convenience of comparison, there are also set out in Statement 2 (b) the Board's estimates formed in 1926 of the average costs of production, firstly, for the whole seven-year period 1927-34 and, secondly, for the year 1933-34, these figures also being adjusted as indicated above.

9. It will be seen that when the 1926 estimates and the actual costs are brought to a uniform basis as regards the prices of coal and spelter, all the costs for the first half of the calendar year 1933, with the single exception of that of rails, were below those estimated for the average of the seven-year period; and that the costs of bars, plates, black sheets, galvanized sheets, and sleepers were below those estimated for 1933-34. Even by 1931-32 most of the costs were below those estimated for the seven-year average. These reductions were achieved against the handicap of low output. In no year has it been possible to produce and sell in India a quantity of steel equal to the estimated average; the highest output in any individual year (1931-32) was only three-quarters of the estimate for 1933-34. In spite of the comparatively small output, the costs for the period January to June 1933 were less than the Board's estimates for 1933-34 by a net amount representing a saving

of over Rs. 12 lakhs in a full year. Thus the Company can claim to have effected greater cost reductions than were expected of it, in spite of the handicap of lower total output and even when the influence of the fall in the prices of coal and spelter is entirely eliminated. The methods by which the economies have been effected are described in Chapter X.

10. The Company's output in each year by departments is set out in Statement 3 (a). These figures are re-arranged in Statement 3 (b) according to the Board's classification of saleable products, and in this Statement are included the Board's estimates formed in 1926 of the average yearly output for the seven-year period 1927-34 and of the output of 1933-34. Statement 4 shows the percentage of the Steel Company's output to the total consumption in India of each of the main classes of steel, the total consumption being obtained by adding to the Company's despatches the quantities of the kinds of steel produced by the Company which were imported, so far as these can be ascertained from the official returns of Overseas Trade.

11. The statistics of output show that although in each year from 1927-28 onwards (except 1928-29 which was affected by the strikes) a larger output was obtained than in any year prior to 1927-28, the progress was much less rapid than was anticipated in 1926. In spite of the serious marketing difficulties from 1930 onwards, the output of all kinds of steel other than those supplied direct to Railways has been brought up practically to the levels expected. But the very grave fall in the order for rails, fishplates and sleepers made it impossible for the total output to be brought even nearly up to the estimates. It was only by the strenuous efforts of the Company to extend its sales of other products even to the most distant parts of India and its production to the largest practicable variety of sections that the outputs of these products could be raised to the extent shown. But no corresponding efforts by the Company could influence the quantities of rails purchased by the Railways. This very serious factor in the breakdown of the 1926 scheme of protection was entirely outside the control of the Company. Statement 4 shows to how unexpectedly large an extent the Company has met the requirements of India in those classes of steel which it can produce. It is clear that no further substantial increase of output can be obtained until the demand in India revives, except to a limited extent by such methods as the extension of the sheet mills which is already in progress.

12. Statement 5 shows the average c.i.f. prices at which British steel of various kinds was delivered at Indian ports during the period under consideration and also the corresponding prices taken by the Tariff Board in 1926 as the basis of its scheme of protection. Statement 6 shows the corresponding prices for Continental steel. Statement 7 shows the prices of Statement 5 converted into rupees at the average rate of exchange for the year *plus* the average landing charges and duties. These prices for British material landed at Indian ports are those which control the prices at which Indian tested steel (*i.e.*, steel used mainly for engineering purposes) can be sold. Similarly, Statement 8 shows the prices of Statement 6 adjusted for landing charges and duties, thus setting out the basis on which Indian untested steel (*i.e.*, ordinary bazar material) can be sold. Statement 9 shows the average net realisations f.o.r. Tatanagar by the Company on its sales of tested steel, Statement 10 the corresponding realisations on untested steel and Statement 11 the weighted averages of the figures in the two preceding statements.

13. Throughout the period covered by the above statements the c.i.f. prices of British structural sections and plates have remained higher than those which were taken by the Board in 1926 as the basis of its recommendations; the prices of British sheets, both black and galvanized, have however fallen steadily and have not in any year been as high as the 1926 figures; and the prices of British bars were for the first four years above the basis figure and have for the last two years were below that figure. The prices of Continental sheets have throughout been below the basis figure, but Continental sections, bars and plates averaged somewhat higher prices during the first three years than the basis prices, but have from 1930 onwards been delivered at Indian ports at prices much below the basis prices;

even the fall of the exchange value of sterling since September 1931 has not prevented the further fall in the sterling prices of Continental steel. Nor has the levying of the 25 per cent. surcharge on the duties since October 1931 sufficed to bring back the prices landed in India of British bars and sheets or of any kind of Continental steel to the "fair selling prices" which the Board made the basis of its scheme in 1926.

14. Although in previous years the Company was able in certain cases to obtain net realisations which were comparatively favourable, mainly owing to freight advantages, it has not been able to do so in respect of any class of steel, considered as a whole, during the last two years. The factors affecting the net realisations will be discussed more fully at a later stage of this representation, but it is important to realise that it is when prices and demand are lowest that the Company experiences the greatest difficulty in realising even such prices as nominally prevail.

15. In the above Statements (6 to 11) the prices of rails, fishplates, tinbar and sleepers have not been included. The first three articles have been sold under contracts covering the whole period 1927 to 1934 and have realised the prices anticipated by the Board in 1926, namely Rs. 110 per ton for rails, Rs. 148 per ton for fishplates and Rs. 82.2 per ton for tinbar, all f.o.r. the Steel Company's Works. The difficulty in connection with these articles has been the fall in the orders, particularly those for rails. In partial compensation for this fall in the orders, Government, with the approval of the Legislature, agreed to pay a price of Rs. 130 per ton in respect of the rails ordered for supply to the State-owned Railways in 1930-31 and 1931-32 only. As regards sleepers, the orders received by the Company have been small and spasmodic, but to some extent this has been counteracted by orders which the Company was able to obtain for sleeper-bar (made on the Sheet-bar and Billet Mill) for manufacture by another Indian firm into sleepers of a type which cannot be made on the Steel Company's plant. The price of this bar was controlled by the price which the sleeper-making firm was able to obtain for its finished sleepers in competition with sleepers offered from abroad. Statement 12 shows the quantities of sleepers and sleeper-bar despatched in each year and the prices at which they were sold. It will be seen that the average annual orders for both products together were nearly 4,000 tons less than the Board's estimate of the orders for sleepers: and that the average price of sleepers was Rs. 6 per ton below the Board's "fair selling price" and that of sleeper-bar Rs. 14 per ton below the "fair selling price" of products of the Sheet-bar and Billet Mill.

16. In addition to the articles dealt with above, the Company has sold relatively small tonnages of blooms, billets and sheet-bar for consumption in India. The quantities despatched and prices are shown in Statement 13. In the aggregate, the receipts from the sleepers, sleeper-bar and semis sold during the six years were rather more than Rs. 12 lakhs lower than they would have been if the "fair selling prices" anticipated by the Board had been received.

17. Although the fall in the demand in India for those kinds of steel which the Company supplies to the general market, namely structural sections, bars, plates and sheets, has not proceeded so far as to prevent the Company from producing approximately the estimated quantities of those kinds of steel, it has been accompanied by a change in the market conditions from which the Company has definitely suffered. The results which the Board expected to be achieved from the current scheme of protection were dependent on the sale of certain estimated proportions of the output in tested quality, which commands a higher price than untested quality. While those estimated proportions were maintained (within reasonable margins) in the earlier years, it has not been possible to maintain them in the more recent years from 1930-31 onwards. This is largely due to the drastic curtailment of orders by the Railways for bridges, wagons, buildings, etc., and to the marked decline of industrial and commercial construction, for much of which steel of tested quality is required. The result has been that a steadily increasing proportion of the Company's output of bars, structural sections, plates and black sheets has necessarily been in untested quality, which has commanded much lower prices than steel of tested quality, Statement 14 shows the proportions of each of the

two qualities for the period from 1927-28 onward, as well as the proportion which the Tariff Board in 1926 anticipated would prevail on the average.

CHAPTER III.

COMPARISON OF RESULTS WITH TARIFF BOARD'S ESTIMATES.

18. It will now be convenient to consider the effects on the net receipts of the Company of the various changes in the factors affecting the industry which have been referred to in the preceding chapter. The effects of the falls in prices of sections, bars, plates and sheets are set out in Statement 15. In order to simplify the consideration, the period 1927 to 1930 is omitted, as the changes were comparatively small; their effects are summarised later. Statement 15 therefore deals only with 1930-31, 1931-32 and 1932-33; it sets out the additions which would have been made to the Company's profits if the c.i.f. prices of imported steel had remained as estimated by the Board in 1926 and if the surcharges on the duties levied from 1st October 1931 had not been introduced. The differences between the estimated prices and those which actually prevailed are applied to the production as actually obtained and as actually distributed between tested and non-tested qualities.

19. The figures indicate that apart from the effect of any compensatory factor, the Company's profits were reduced by Rs. 22·7, 45·1 and 47·4 lakhs respectively in the years 1930-31, 1931-32 and 1932-33, a total of about Rs. 115 lakhs due to the difference between the actual c.i.f. prices of imported sections, bars, plates and sheets and those estimated by the Board in 1926. In the previous three years, 1926-27 to 1929-30, prices had been slightly in the Company's favour by comparison with the basis prices; the total benefit to the Company for the three years was Rs. 13·7 lakhs. The loss due to price changes for the whole six years was thus about Rs. 101 lakhs. Although the Steel Industry (Protection) Act, 1927 provided means for dealing with such circumstances, the only compensating factor (apart from the revision of the duty on galvanized sheets, which has been taken into account in calculating the above figures) was the levying from 1st October 1931, for purposes of general Government revenues, of a surcharge of 25 per cent. on all duties. The benefit of this to the Company may be taken as Rs. 13·7 lakhs in 1931-32 and Rs. 26·5 lakhs in 1932-33. This reduces the total loss of profit to the Company on sections, bars, plates and sheets for the six years considered as a whole period to Rs. 61 lakhs. When the loss on sleepers, sleeper-bars and semis (referred to in paragraph 16) is added, the aggregate loss due to falls in prices of steel for the six years is seen to be Rs. 73 lakhs.

20. The results of the change from the Board's estimates in the proportions of tested steel sold are shown in Statement 16, from which it will be seen that if the proportions had remained as estimated, the Company would have made Rs. 2, 14 and 19 lakhs more profit in each of the years 1930-31, 1931-32 and 1932-33 respectively than was actually realised. In the previous three years, however, the aggregate proportions of tested steel had been slightly higher than the estimate, so as to benefit the Company by about Rs. 2 lakhs on the whole. The combined loss to the Company for the six years as a whole on this account was thus Rs. 33 lakhs. This loss of profit was essentially due to the fall in demand for steel for engineering purposes.

21. It will also be realised that the decline in the demand for steel in India has had the further effect that whereas the Board anticipated in 1926 that the Company would be able to deliver its steel to the purchasers, on the average, at a slightly lower cost in railway freights than would be incurred in distributing imported steel to those purchasers from Indian ports (*i.e.*, the Company would have a "freight advantage"), the Company has in recent years been distributing its steel under a freight disadvantage. The decline in the demand made it necessary for the Company, in its endeavour to keep production to the maximum, to sell increasing proportions of its steel in parts of India far distant from Tatanagar, incurring thereby

much heavier expenditure on freights than imported steel landed at the nearest Indian ports would have to bear. Statement 17 shows the additional profit which the Company would have received if the demand had remained such as would have enabled the anticipated freight advantages to be realised. It will be seen that the Company has suffered losses of profit amounting to about Rs. 4 lakhs in 1930-31 and about Rs. 12 lakhs in each of the next two years. The total loss on this account was Rs. 28 lakhs in the last three years, whereas the total amount by which, in the previous three years, the Company had received more benefit than was estimated was Rs. 5 lakhs. Over the six years from 1927-28 onwards as a whole, the Company therefore lost Rs. 23 lakhs on account of freight disadvantages.

22. The attention of the Board is requested to the very grave effect on the Company of the strikes which occurred in 1928. During 1927 the Company endeavoured to give effect to the Board's recommendation that the number of men employed should be substantially reduced; it chose a method of securing this result which would give rise to practically no individual hardship, namely that of not filling vacancies when they occurred in the ordinary course of events, such vacancies being numerous up to that time. The Company also worked out during 1927 and began to put into operation in 1928 a scheme of standardized wages which was calculated to raise the average rates somewhat, while avoiding reductions in each individual case. In spite of what the Company still regards as the very considerate nature of these arrangements, departmental strikes occurred between February and May 1928; and for 3½ months from the beginning of June the strike was general, production being almost completely stopped. Even when work was resumed, unrest continued and it was not until about the middle of 1931 that the men could be said to be working normally again and that the plant had been brought back to its proper condition of maintenance. Throughout 1928-29, 1929-30 and the first half of the following year production was at a lower rate and Works costs were higher than in 1927-28. The direct effect of loss of production, calculated on the very safe assumption that the production of 1927-28 would have been maintained, and the expenses directly resulting from the strike cost the Company a total of about Rs. 83 lakhs, apart from which the development of the Works as regards both efficiency and the installation of new equipment was severely retarded.

23. The loss due to the strikes of 1928 as stated in the preceding paragraph contains no allowance for the direct effect of the strikes on the Works costs or for the retardation of the reduction of those costs. Statement 1 (a) shows that the costs were being reduced rapidly until 1928-29; those for 1927-28 were distinctly lower than those for August 1926, which was the initial period used in the Board's estimates. And Statement 2 (b) shows that, even on the basis of a uniform price of coal, the costs of the first half of 1933 were in the aggregate below the levels assumed by the Board for 1933-34. Thus the Company commenced its seven-year period with an adequate reduction and, in spite of the heavy handicap which intervened, has fully achieved the economies which had been anticipated for the end of the period. There can, therefore, be no doubt that, if the strikes had not occurred, the costs would as an average for the six years not have exceeded the Board's estimated average. The expenditure on the production of steel, however, over the six-year period exceeded the estimates by a total of Rs. 137 lakhs (on the assumption that the rate of production of 1927-28 continued until the middle of 1930-31 and on the actual rate of production thereafter). This serious reduction of the Company's surplus below the estimates must be regarded as directly and indirectly due to the strikes of 1928.

24. The previous paragraphs of this Chapter have shown the effect of the breakdown of the current protection scheme in respect of four important factors. A further very serious factor, however, was the falling off in the orders for rails. The tonnages ordered by the Railways for each year are shown in Statement 20. The Company accepts the orders for 1927-28 as adequate; for 1928-29 the orders were relatively small, but owing to the strikes, the Company could not have executed larger orders and it is doubtful whether it could have done so in 1929-30 owing to the after-effects of the strikes. For the remaining four years, however, the Company received orders totalling only 253,000 tons whereas on the basis of the Board's

estimate of 1926 the order should have totalled 780,000 tons. The Company could have executed these orders. The additional quantity would have been 527,000 tons. In 1926 the Board estimated (Paragraph 74 of the Report) that the Company would earn a surplus of Rs. 39 per ton of rails above its Works costs. The costs actually obtained show that in the four years from 1930-31 onwards this estimate would have been fully realised if the full estimated orders had been received. The Company would have earned an extra Rs. 205 lakhs on the above additional quantity. The only compensation received for this loss was the payment in respect of the rails ordered for 1930-31 and 1931-32 of higher prices to the total extent of Rs. 30 lakhs. When this is taken into account the remaining loss is about Rs. 175 lakhs.

25. It is possible, however, that if the full quantity of rails had been produced it might have been necessary in 1930-31 and 1931-32 to curtail somewhat the production of sections on the new 28-inch mill and in the two next years it might have been necessary to keep the old 28-inch mill in operation for the production of medium sections (unless a new 22-inch mill had been installed in the interval). At the most, the reduction of output of sections would not have been more than about 30,000 tons; the consequential reduction of profit would have been about Rs. 10 lakhs. This adjustment, however, is much more than counterbalanced by the assistance which full orders for rails would have given in further reductions of the works costs of all the steel produced. The average output of steel over the four years in question would have been increased by nearly 30 per cent., to over 560,000 tons instead of 440,000. While it is difficult to say precisely to what extent this would have affected the costs, it is an underestimate rather than the contrary to assess the effect at Rs. 3 per ton on all steel produced. The effect of this for four years on an average of 560,000 tons would have been an additional profit to the Company of about Rs. 67 lakhs. If orders for the full quantity of rails had been placed, the Company would also have received orders for about 16,000 tons more fishplates in the four years than were actually ordered. The additional surplus at the rate of Rs. 45 per ton estimated by the Board would have been over Rs. 7 lakhs. It can conservatively be stated that the shortage of orders for rails and fishplates for the four years 1930-31 to 1933-34 below the estimate on which the scheme of protection was based has deprived the Company of about Rs. 240 lakhs of surplus available for depreciation and profit. For the period ending March 1933 the corresponding figure would be Rs. 160 lakhs.

26. It will be shewn at the end of Chapter VII (paragraph 78) that excessive adjustments were made by the Board in 1926 for landing charges and that these, together with two other minor causes, led to the duties on sections, bars, plates and sheets being too low to produce the results intended by the Board. The effect was to reduce the Company's realisations by about Rs. 58 lakhs over the last six years below what they should have been.

27. The only important external factors in the Board's estimate of 1926 which have changed to the Company's benefit are the prices of coal, spelter and stores. The Board assumed that the average prices f.o.r. Tatanagar would be Rs. 8 per ton of coal and Rs. 555 per ton of spelter up to the end of 1930 and Rs. 282 thereafter. The actual averages for the years 1927-28 to 1932-33 have been about Rs. 5-12 for coal and Rs. 312 per ton of spelter. On the total quantity of coal consumed during the six years (shown in Statement 25) the saving to the Company has been almost Rs. 2 crores and on the total consumption of spelter (nearly 18,000 tons) the saving amounted to Rs. 16½ lakhs.

28. It is not practicable to work out with any precision the effect of changes in the prices of stores and supplies. The number of articles falling within this category is very large and changes in the kinds of stores are made from time to time for technical reasons. The prices of most articles per unit quantity have fallen, the extents of these reductions varying greatly; there has been no appreciable change in the prices of certain stores; while the prices of a few (for example, sulphur) have risen. There will, however, probably be no serious error in assuming that

the average level of prices of stores and supplies during the last six years has been about 10 per cent. below the levels of 1926 and 1927.

29. In Table VI of Chapter II of the Tariff Board's Report on its 1926 Enquiry, the Board set out figures showing how the realised surplus of the Company during the first period of protection, 1924 to 1927, compared with that which had been anticipated from the scheme then drawing to a close. The figures in Statement 18 attached to this representation show the corresponding results for the six years 1927 to 1933 in comparison with the results anticipated from the present scheme. These figures, culminating in a shortage of Rs. 471 lakhs in the Company's surplus, are based on the actual outputs, Works costs, and net realisations shown in the statements previously referred to, with the exclusion only of the relatively small amount of semi-finished steel exported during the last two years, since no account was taken in the Board's estimates of 1926 of the possibility of such exports and they are in any event independent of the scheme of protection. The total surplus earned on pig iron and steel during the last six years is Rs. 749 lakhs, whereas the Company's profit and loss accounts for that period show a surplus of Rs. 725 lakhs as the result of the whole of the operations of the Company. Both figures are arrived at before provision has been made for interest charges, head-office expenses and depreciation. The profit and loss account figures cover a number of minor items (some of a debit nature and some of a credit nature) which are not covered by the cost-sheet figures, but it will be seen from the above comparison that over the six-year period the two sets of figures are in good agreement.

30. In conclusion of this portion of its representation, the Company submits that it is clearly established that the current scheme of protection has very seriously failed to achieve the results anticipated, for reasons outside the control of the Company; and further that even the recent results obtained with the assistance of the existing duties (including the surcharge) are such as to make it obvious that a continuance of protection is required. The further portions of this representation will therefore be devoted to an examination of the future requirements.

CHAPTER IV.

ESTIMATED FUTURE PRODUCTION.

31. The grant of protection in India, not only to the steel industry but also to other industries, has been for stated periods only. Definite estimates of future production and future costs must be based on the assumption that they apply to a specified period. Before these are discussed, therefore, the Company submits that protection should be continued for a period of seven years from 1st April 1934. The hopes for the success of the Indian Industry which were entertained in 1926 have not been realised, for reasons beyond the Company's control, as mentioned in the preceding chapter. The Company is grateful for the fact that the assistance accruing from protection has kept the industry in active existence, but it submits that more than this is required to establish the industry permanently on a sound basis. Protection should not be abandoned or even substantially reduced until the industry is in a position to face, without unduly grave risk, such vicissitudes, should they recur in the future, as those which have recently been and are still being experienced. The record of the Company during the past few years shows that it is not only determined but able to do all in achieving success which may properly be expected of it; it has achieved more than has been expected of it. The Company will continue to use its utmost endeavours to effect economies and improve efficiency in all branches of its organization. But it holds strongly that there is nothing in the position of the world's steel industry to justify the expectation that, even with such further improvement in efficiency in India as should be possible, protection on the scale indicated in this representation could safely be dispensed with in a shorter period than seven years. At a time when the world output of steel is less than half the total capacity, it would be taking an unjustifiable risk to expect an

early return to favourable conditions in the world industry. The failure of protection during the period now expiring has left gaps in the financial strength of the industry which must be filled before the position can be regarded as satisfactory and has prevented the growth of that confidence in the future stability of the industry which alone can be expected to lead to further substantial developments, such as the erection of a second large steel-works in India, when the demand for steel in the country again increases. The Company therefore submits that protection should be continued for seven years in order to give the industry as it now exists a fair chance of reaching a stable position and in order to provide scope and incentive for further development of the industry in India if and when conditions become favourable.

32. The Company's estimates of the future production and costs are accordingly based on the next seven years. In 1926 the Board decided that it was preferable to estimate averages for the whole period rather than for each year separately. With this procedure the Company agrees. The future costs will to a considerable extent be affected by the future output and this will in turn partially depend on any extensions to the capacity for producing saleable steel which may be undertaken by the Company during the next seven years. Statement 19 shows the programme of capital expenditure which the Company expects to undertake during the next seven years if the circumstances existing from time to time permit. The notes accompanying the statement explain briefly the necessity for each item. For the present purpose it is sufficient to observe that the only provisions for additional output of saleable steel are for sheet mills and for a 22-inch mill; the function of the latter, however, will be mainly to replace the existing old steam driven bar mills and to roll those sections now being produced on the new 28-inch mill which could not be rolled there if that mill were required to roll many more rails and which could in any event be rolled more suitably on the smaller mill, when installed. It is not certain that the erection of this mill will be possible or justifiable in the early part of the new period. It will therefore have comparatively little effect on the average production of the next seven years either in respect of quantity or in respect of costs.

33. The average annual production of steel for sale during 1934 to 1941 is expected to be as follows:—

TABLE I.

Estimated Average Output.

	Tons.
Rails	80,000
Fishplates	3,000
Structural Sections	117,000
Bars	80,000
Plates	35,000
Tinbar and Billets	90,000
Black Sheets	25,000
Galvanized Sheets	90,000
Sleepers	10,000
TOTAL	530,000

34. In forming the above estimates the Company has had regard both to the capacity of its plant and to the probable demand for steel in India. The very great

fall in the orders for rails (the figures for which are shown in Statement 20) in recent years has shown that any scheme of protection based on the assumption of a large output of rails is gravely insecure and the Company considers that no prudently conceived scheme can assume a higher annual average than 80,000 tons. The estimated output of fishplates is consequential on that of rails. The estimate for structural sections is based on the maximum output of mixed sections from the 28-inch mill which will be possible when 80,000 tons of rails are being produced, *plus* the normal proportion of light sections from the Merchant Mill when the latter is working at full output and a small quantity of sections from the old bar mills, to be replaced later by the 22-inch mill.

35. The estimated output of bars assumes that the Merchant Mill will work at its maximum output throughout the period (that output being distributed between light sections and light, medium and heavy bars in the existing proportions) and that a very small quantity of bars of special sizes will continue to be rolled on the old bar mills. The production of plates is estimated to average a little higher than the output in the last two years in the hope that there will be an improvement in the demand for plates of medium thickness. The demand for tinbar during the next few years will depend on the activities of the Tinsplate Company of India and that for billets mainly on the comparatively small demand of the East Indian Railway for its Workshops at Jamalpur and on the probably larger demand from Messrs. The Indian Steel Wire Products when their new rolling mill is in regular operation. The combined demand for these products of the Steel Company's Sheet-bar and Billet Mill is not expected to average more than 90,000 tons annually. No allowance has been made for the supply of billets to the Eagle Rolling Mills at Kumardhubi, partly because the arrangement under which the supply is being made terminates in 1936 and partly because the main function of the arrangement is not the small direct profit, but the avoidance of a reduction in the selling price of bars.

36. It has already been shown that the Company intends to increase its capacity for making sheets. A new unit for this purpose was recently installed and came into operation in February 1933. A second similar unit will be planned as soon as the first unit has been working sufficiently long to ensure that the new orders can be placed on the best possible basis of actual operating experience; and the new equipment will be installed without delay, if the prospects of the market for sheets are then good enough to justify the step. If conditions are favourable, the new unit may be working by the end of 1934. The annual capacity of the Company's plant should then be 20,000 to 25,000 tons of black sheet and 85,000 to 90,000 tons of galvanized sheet. For the last two years the Indian consumption (including that of Burma) of galvanized sheet has been under 120,000 tons a year. It would therefore not be advisable to plan for the installation of a third sheet-mill unit until a reasonably permanent rise in the demand can be foreseen. This third extension, which is covered by the capital expenditure programme referred to above, may not be undertaken until towards the end of the seven-year period. The average output is, therefore, estimated at 25,000 tons of black sheets and 90,000 tons of galvanized.

37. The figures given in Statement 12 show that the estimate of an average output of 10,000 tons of sleepers per year is not unduly low. The competition of wooden and cast-iron sleepers with steel sleepers is, and will probably remain, keen.

38. It will be noticed that although the Company has, during the last two years, exported small quantities of semi-finished steel by way of ordinary sale and, during the last few months, sheet-bar to the United Kingdom under the arrangement resulting from the Ottawa Conference, no provision has been made in the above estimates of production for the output of such material for export. The Company's view is that as far as ordinary sales for export are concerned, they are outside the purview of a protection scheme. Moreover it is doubtful whether sales on any important scale will be possible at prices which will do more than cover the actual costs. While the export of sheet-bar under a special arrangement for conversion into sheets for the Indian market falls within a different category, the experience

of the working of such an arrangement has, so far been such and the prospective scale on which it could be continued, if at all, when the second sheet mill unit at Jamshedpur is operating, is so small that this feature of the Company's present operations may be left out of account in considering the protection required in the future.

CHAPTER V.

ESTIMATED FUTURE WORKS COSTS.

39. The estimates of future costs are based on the possibility of securing reductions from the recent costs. For this purpose it is necessary to make two adjustments of the recent costs as already set out. The costs shown in Statement 1 (a) are as taken from the Company's cost-sheets. In accordance with usual practice, the system of costing provides for certain types of expenditure (*e.g.*, furnace relining, ingot moulds and rolls) at fixed rates per ton of product. In the last seven years, few changes have been made in these rates of provision, but economies have been effected in this class of expenditure as in others, with the result that the cost-sheet figures exceed the true net costs to the Company to a gradually increasing extent. It now appears safe to assume that for next few years provisions at lower rates than have been made in recent years will be adequate and the Company proposes to introduce lower rates into its cost-sheets after the end of the current year.

40. The Board will realize that expenditure against these provisions is of a nature which may fluctuate considerably from time to time and that it is therefore not prudent to reduce the provisions to the absolute minimum which the expenditure of the most favourable year might appear to justify. The reduction contemplated in the provisions is estimated to bring down the surplus to not more than the reasonable margin existing in 1925-26, the details of which were before the Board in its 1926 Enquiry. The effect of these changes, if applied to the recent production and costs, would be to reduce the costs of saleable steel produced in various departments by between Rs. 2.2 and Rs. 4.7 per ton, the over-all average being nearly Rs. 3 per ton.

41. The second of the two adjustments referred to in paragraph 39 above is in connection with scrap. The scrap which is unavoidably produced in the rolling of steel in the mills is credited to the mills in the cost-sheets at prices which average about Rs. 20 per ton. The greater part of the scrap is consumed in the steel-making departments, which are debited on the same basis as the credits, in respect of this portion of the scrap, therefore, no adjustment is required. But part of the scrap is sold outside; to the extent to which the prices realized are higher than those credited to the mills, an adjustment is required to show the true net cost to the Company of the products of the mills, *i.e.*, of saleable steel. Here again, the surplus realized fluctuates from time to time, for 1932-33 the surplus was higher than in the previous year, but as larger quantities of scrap are put on to the market due to increased production of steel (*e.g.*, sheets) it may not be possible to maintain the prices of that year; and to the extent to which good prices were realized in that year by the sale of scrap in freight-advantage areas, which might otherwise absorb more ordinary steel, the soundness of the policy is now under re-examination by the Company. It is, therefore, proposed to take, as adjustment of costs on account of scrap, about two-thirds of the total surplus earned in 1932-33, *i.e.*, an average of about Re. 1 per ton of steel, the rates applicable to the different mills varying between Re. 0.1 and nearly Rs. 4 per ton.

42. The effect of these adjustments can most conveniently be judged by their application to the costs for the first half of the calendar year 1933 as shown in Statement 2 (b). As these figures have already been adjusted for the prices of coal and spelter which are assumed to prevail during the next few years, the figures in the

last column of the following table may be taken as the basis of the estimates of the net cost of steel to the Company during the next few years.

TABLE II.
Adjustments of works costs, January to June, 1933.

	As shewn in Statement 2(b).	To be reduced on account of		Adjusted net costs.
		Excess provisions in costs.	Additional credit for scrap.	
	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Rails	66.2	2.6	0.1	63.5
Fishplates	95.0	3.4	0.6	91.0
Structural Sections	67.4	2.9	0.5	64.1
Bars	66.9	3.4	1.4	62.2
Plates	72.0	2.4	3.9	65.7
Tin-bars and Semis.	50.7	2.2	0.1	48.4
Black Sheets	98.0	4.7	2.3	91.0
Galvanized Sheets	128.4	4.2	2.1	122.1
Sleepers	61.7	2.4	0.1	59.2

43. The costs of producing the quantities of steel mentioned in paragraph 33 may now be considered. They will be affected by the quantities of materials required per ton of product and by the prices of those materials. These quantities will in some instances be reduced as further improvements in efficiency are obtained, which in turn depend to a substantial extent on the modernisation and improvement of the plant which many of the items in the capital expenditure programme are intended to effect. The estimates submitted in this chapter are based on these improvements of the plant and can be realised only if the Company is enabled to earn such a surplus over the works costs as will provide the necessary finance.

44. As the Board pointed out in 1926, the largest single item of the Company's expenditure is on labour. Although the expenditure under this head has, like that in all the main groups of expenditure, fallen considerably, it is still the largest item. The changes in the expenditure are shown in Statement 21, which sets out the figures for the total labour employed at Jamshedpur (excluding the Town, etc.) for each year from 1927-28 onwards sub-divided into covenanted employees, monthly-paid Indian employees, weekly-paid employees and contractors' labour. Statement 22 shows the incidence of this expenditure on each group of employees on the cost per ton of saleable steel. Statement 23 shows the average cost per head to the Company for each group of employees. The changes in the numbers of men employed are shown in Statement 24, which sets out the average daily attendance in each of the above years.

45. It will be seen that the number of men employed has fallen substantially, and to a greater extent than was anticipated by the Board in 1926. The expenditure, however, has not fallen in proportion to the numbers employed, the average cost per man having risen owing to increases in rates of wages since the Board last reported and to the production bonus granted in 1928. While the Company will effect such further economies as are found possible from time to time, it does not propose to reduce the wage-rates of the workmen nor does it anticipate that marked reductions in numbers will be possible in the next few years. For the production

estimated in the previous chapter, which is about 20 per cent greater than the average production of the last 3 years, the Company does not think that it would be safe to estimate any reduction in the labour expenditure of 1932-33: it is on the other hand probably necessary to provide for some increase.

46. The next largest item of expenditure at the Company's Works is that connected with the supply of fuel, mainly in the form of coal but to a small extent in the form of coke which has to be purchased so long as the Company's coke-making plant is not large enough to meet the requirements. The quantities of coal consumed in the Works in each year from 1927-28 onwards are shown in Statement 25, along with the average prices at which the coal was delivered f.o.r. Tatanagar, the statement also shows the quantities of purchased coke supplied and the average prices. It will be seen that the average price of coal for the last six years has been approximately Rs. 5-12 per ton. The Board will no doubt wish to make its own estimate of the average price of coal which may be expected to prevail for the next seven years. The Company thinks it possible that that average price may be higher than the average for the last six years; but for the purpose of the present representation, the calculations are being made on the basis of the past average of Rs. 5-12 per ton for coal f.o.r. Tatanagar, in order that the estimates of costs may be comparable in this respect with the figures of past costs in Statement 2B. If the final estimate of the average price of coal be higher than Rs. 5-12, it will be necessary correspondingly to raise the estimates of the future costs of producing steel.

47. The consumption of coal per ton of saleable steel from 1925-26 onwards is shown in Statement 26. In 1926 the Board estimated (paragraph 45 of the Report) that the consumption would be reduced to 3-14 tons in 1933-34 for a production of 600,000 tons of steel. The statement shows that in the last two years the Company has much improved on this estimate even though the steel output anticipated could not be reached. This reduction in the coal consumption has been an important factor in the Company's success in obtaining recently greater reductions in its works cost than were anticipated in 1926. Further economies in fuel consumption are anticipated and the Company intends to maintain an active campaign in this direction. The maximum results can, however, not be obtained in the immediate future, as much of the possible economy can be obtained only as the result of capital expenditure, the rate of which is dependent on the finance available from time to time. Moreover, the steel production programme for the future pre-supposes the manufacture of a larger percentage of finished steel, e.g., sheets, and a smaller percentage of semi-finished steel such as billets and sheet-bar than have prevailed in the actual output of recent years. This necessarily involves a larger average consumption of coal per ton of steel than would be required if the output were of the same nature as in recent years. The Company estimates that the average consumption of coal in the next seven years per ton of steel on the programme indicated in paragraph 33 above will be 2-6 tons as compared with an average actual consumption for the six years 1926 to 1933 (the strike year 1928-29 being omitted) of 3-4 tons. It should be observed that the figures in Statement 26 and in the present paragraph are independent of the consumption of coal required to produce any pig-iron which may be surplus to the actual requirements for the production of steel and to produce electricity consumed outside the works.

48. The estimates of costs which are being put forward by the Company pre-suppose only a slight reduction in the cost of ores and fluxes required for making pig-iron (and, through it, steel) below the levels prevailing at the beginning of 1933. There is little possibility of reduction of the quantities of these materials required per ton of product except in so far as a reduction in the consumption of coke per ton of iron will facilitate a small reduction in the consumption of blast furnace flux, the benefit of which has been assumed in the preparation of the estimates. Similarly, no further important saving in the quantities of stores and supplies consumed per ton of product can now be assumed, nor can it be expected that the prices will fall further; the probability is that they may rise sufficiently to counter-balance any further reductions in the quantities consumed. For the purposes of these estimates the price of spelter (the largest item falling under the general head 'stores

and supplie's) has been assumed to be Rs. 235 per ton f.o.r. Tatanagar, which was the average price for the first six months of 1933.

49. In so far as the cost of the main raw materials delivered at the Jamshedpur Works is largely governed by railway freight rates, the Company wishes to point out that the freight agreement with the Bengal Nagpur Railway which govern these rates expired on 30th June 1933. The question of its renewal or modification is still under consideration. If the final decision were that higher freight rates should be levied in future than prior to the above date, the whole of these cost estimates would require revision and higher figures would need to be substituted. This matter is dealt with more fully in paragraphs 136 to 141.

50. The Company considers that an attempt to estimate the costs of production of individual products in each year could not be expected to produce accurate results. The factors which affect the cost are subject to many variations, the incidence of few of which can be foreseen with any precision. The total output in a particular year, its distribution between various products, the price of coal, the rate of progress of the capital expenditure programme, etc., cannot be predicted with much accuracy. It is therefore submitted that an estimate of the average cost of production for the seven years from 1934 of an average annual output of 530,000 tons of saleable products distributed as indicated in paragraph 33 above, will form an adequate basis for the consideration of the problem before the Board. Having due regard to the factors discussed in the preceding paragraphs, the Company estimates that the average costs for the next seven years will be:—

TABLE III.

Estimated Works Costs.

	Output.	Works Cost.
	Tons.	Rs. per ton.
Rails	80,000	56
Fishplates	3,000	80
Structural Sections	117,000	60
Bars	80,000	60
Plates	35,000	62
Tinbar and Billets	90,000	46
Black Sheets	25,000	86
Galvanized Sheets	90,000	116
Sleepers	10,000	56

51. A comparison of these costs with those in the last column of Table II and in Statement 2 (b) will show the extent of the further reduction anticipated beyond that achieved upto 1933 and will also show that with the single exception of rails (in respect of which there is a rise of less than Rs. 2 per ton) all the costs now estimated are lower, several being very much lower, than was anticipated by the Board in 1926 for a total output of 600,000 tons in 1933-34. The methods by which the Company has effected, and hopes to continue to effect, reductions in costs are described in Chapter X. It should be noted in any comparison of these estimates with the costs obtained in the last two years, that the above estimates provide not only for the net expenditure on the Town, but also for the expenditure on the Sales Department, for which no provision is contained in the cost sheets since April 1931, when this expenditure was removed and a provision for the loss on the Town was introduced for the first time. As the two amounts practically balanced, the change made no appreciable effect on the final costs; comparisons between figures since 1931 and earlier remain valid.

CHAPTER VI.

OVERHEAD CHARGES AND FUTURE FAIR SELLING PRICES.

52. Following the lines of the Board's Report on the 1926 Enquiry, this representation will now deal with the overhead charges which form part of the total costs of the industry. Of these charges, the largest is that for depreciation. The Company accepts the principle hitherto adopted by the Board that the depreciation should be calculated on a fair valuation of the fixed assets involved in the production and that the annual charge should be at the rate of $6\frac{1}{2}$ per cent of those assets.

53. Any attempt to value the fixed assets of the Company item by item would not only involve a long, laborious and expensive task but would require assumptions, some of which would be contentious, at so many points and on so large a variety of matters that the final result would probably contain an aggregate of errors or uncertainties at least as large as those contained in an estimate reached by more simple methods. The Company, therefore, proposes to examine the question in the way adopted by the Board in 1926. It wishes, however, to bring under reconsideration the valuation then arrived at.

54. Starting on the basis of a valuation of the fixed assets (without the collieries) in 1923 at Rs. 15 crores, the Board in 1926 reduced the valuation to Rs. $12\frac{1}{2}$ crores by assuming that the expenditure in India need not be written down, but that the expenditure on imported machinery, etc., should be written down by 20 per cent. The Company does not wish to question either the method or the percentage, but it submits that the ratio of expenditure in India to expenditure abroad should have been as about 2 to 3 and indeed possibly 1 to 1, instead of the 1 to 4 on which the Board's calculations were based. The Board recognized that the expenditure on the town, roads, waterworks, etc., was mainly of a local nature, but it was not aware of the large proportion of the expenditure on items of Works' plant and machinery which is incurred locally or in connection with Indian materials or services. Foundations, bricks, railway freights, costs of erection, etc., form a larger proportion of the cost of most items of capital expenditure inside the Works than was realised in 1926.

55. If the Board had in 1926 applied its method to a total of Rs. 15 crores, of which Rs. 6 crores (instead of Rs. 3 crores), had represented local expenditure and Rs. 9 crores (instead of Rs. 12 crores) expenditure on imports, it would have arrived at a final valuation of Rs. 13.2 crores, of which Rs. 6 crores would have represented the former and Rs. 7.2 crores the latter type of expenditure. The Company submits that these figures should be taken as the basis of any fresh valuation.

56. During the six years from 1st April 1927 the Company has spent over Rs. 3 crores on capital account and has allocated over Rs. 4 crores from profits to the general depreciation fund, both figures being for the block other than collieries. Both these amounts would have been substantially larger but for the effect on the Company's finances of the 1928 strike and of the continuing disturbance of efficiency during the subsequent year. The actual production during the six years has been only four-fifths of that expected by the Board; having this in view, the Company considers that the depreciation allocated has been adequate.

57. The Company submits, therefore, that the value of the block for the purposes of the present enquiry should be based on a valuation of about Rs. $13\frac{1}{2}$ crores in 1926 conditions. Of this, about Rs. 6 crores represents expenditure in India most of which has been incurred in Jamshedpur and ultimately represents wages paid to labour there. Since its inception, the Company has followed a policy of maintaining or improving the rates of wages paid to its workpeople; and even during the recent very difficult years it has not reduced these rates. The Company is confident that this policy will have the support of the Board, the Government and the Legislature. Such a policy precludes the possibility of writing down that part of the valuation of the block which represents local expenditure.

58. The valuation of that part of the block which represents imported machinery, equipment, etc., is subject to different considerations. Most of this material is specially designed and specially constructed for the Works for which it is destined;

the prices of work of this kind have not fallen to nearly the same extent as those of ordinary commodities. Almost the whole of it was imported under the Customs classification "Machinery" free of import duty, whereas it would now be subject to a duty of 10 per cent; and it may be presumed that the duty will remain at this level for some years. The valuation of 1926 was based on a rupee worth $1/6$ gold; if the plant were to be replaced now or in the near future, a large proportion (even if less than in the past) would be purchased from countries which are still on the gold standard or are nearer to it than India is; it follows, therefore, that even if the gold prices of the plant were lower now than in 1926 the rupee prices would not necessarily be lower; they might even be higher. It is also to be borne in mind that what is required for an estimate governing a period of years is not merely a valuation of the plant as it exists at the commencement of the period, but as it will be on the average throughout the period. Even if there has been some small fall in the rupee value of the plant in question since 1926, some part, if not the whole, of that fall may be recovered during the next seven years.

59. Moreover, it may be noted that if the new scheme of protection is fully effective, the Company expects not only to carry out the programme set out in the Statement 19 but also to undertake such other additions to the plant as become necessary. The Board will have observed that the Company will be adding to its plant items of kinds not at present installed which will add to the efficiency of the whole; and also that practically the whole of the original equipment of the Works will have been replaced in a few years' time. The Company considers, therefore, that if effective protection is given, its block will be more valuable at the end of the period than it is now and that allowance should be made in the valuation for this improvement.

60. On the whole, therefore, the Company considers that no adequate case can be made out for a reduction in the valuation of the fixed assets of the Company even from the basis which in its opinion would have been correct in 1926. If, however, the valuation of the imported portion of those assets were reduced by 10 per cent, the value would still be Rs. $6\frac{1}{2}$ crores which, with Rs. 6 crores as the value of the local expenditure, would give a total valuation of Rs. $12\frac{1}{2}$ crores. Although this is in the Company's opinion an undervaluation, the Company is prepared to accept the figure of Rs. $12\frac{1}{2}$ crores as the value of its block, other than collieries, on which depreciation and profit are to be calculated. On this valuation a provision of $6\frac{1}{2}$ per cent for depreciation would require an allocation of Rs. 78 lakhs annually. If to the valuation of Rs. $12\frac{1}{2}$ crores were added a valuation of the Company's coal properties reduced from the original expenditure in the same proportion, the total value of the Company's fixed assets would become about Rs. $13\frac{1}{2}$ crores, a sum which is slightly greater than the amount of the Company's share capital and debentures outstanding in March 1933.

61. In 1926 the Board allowed a provision on account of interest on working capital at the rate of 7 per cent on the estimated average Works costs of 6 months' production of steel. In view of the change of conditions in the money market, a somewhat lower rate may be regarded as adequate for the next seven years. A six per cent rate applied on the above basis would involve an average provision of practically Rs. 11 lakhs per year for the period under consideration. For Agents' commission, Head Office and other expenses, which do not fall within the category of Works costs, the Board in 1926 allowed a provision of Rs. 10 lakhs per year. The Company considers that this provision should be continued unchanged.

62. On previous occasions the Board has allowed for profit on the investment in the industry a rate of 8 per cent on the current valuation of the fixed assets. The Company submits that in view of the past history of the industry no lower rate would be either reasonable for the industry as it exists at present or sufficient to attract new capital to the industry. The profit thus required on a valuation of Rs. $12\frac{1}{2}$ crores is Rs. 100 lakhs annually.

63. In its previous reports the Board, when calculating the total amount of overhead charges and profit which should be borne by the steel to be produced, has made deductions on account of an estimated excess of selling price over Works cost

of the surplus pig-iron which would be made and sold independently of the steel. It is probable that in the next seven years the quantity of such pig-iron will average about 120,000 tons annually, although if the rates on railway freights on material brought to the works or products sent out are raised, the export of pig-iron will become impossible and the company will have to avoid the production of any appreciable surplus of iron. The market for this commodity is and has for the last few years been so depressed that no reasonable expectation of an appreciable profit on these sales in the future can be entertained even if freight rates remain unchanged. The Company submits, therefore, that no adjustment should be made on this account.

64. The total amount of overhead charges and profit which should be borne by the output of steel is therefore as follows:—

TABLE IV.

<i>Overhead charges and profit.</i>		Rs. Lakhs.
I. Overhead		
Depreciation		78
Interest on working capital		11
Agents' commission, Head Office expenses, etc.		10
	Total overhead	99
II. Manufacturers' Profit		100
GRAND TOTAL		199

65. The above figure involves an average incidence of about Rs. 37.5 per ton of steel to be produced as against the corresponding figure of Rs. 38.9 assumed in the Report of the 1926 Enquiry. On that occasion the Board distributed the overhead at different rates between the different products. This principle may be applied on the present occasion and the Company suggests that the following distribution would be suitable. For convenience the production and Works costs are again stated and also the "fair selling prices f.o.r. Works," these figures being the totals of the Works costs, overhead and profit per ton.

TABLE V.

Fair selling prices.

Product.	Average output.	Average Works costs.	Overhead and Profit.	Fair selling price f.o.r. Works.
	Tons.	Rs. per ton	Rs. per ton	Rs. per ton
Rails	80,000	56	38	94
Fishplates	3,000	80	44	124
Structural Sections	117,000	60	37	97
Bars	80,000	60	37	97
Plates	35,000	62	39	101
Tinbar and Billets	90,000	46	24	70
Black Sheets	25,000	86	43	129
Galvanized Sheets	90,000	116	50	166
Sleepers	10,000	56	36	92

66. The figures in the last column of the above Table represent the net prices f.o.r. Tatanagar which the Company should receive for its products if the new

protective scheme is to produce the results anticipated. It will be necessary so to adjust the duties that the prices of imported steel landed at Indian ports will be such as to enable the Company to realise these prices after full provision has been made for such disadvantages as may exist in connection with internal freights and for all charges, discounts, etc., connected with the effective placing of the steel on the market (except only the direct expenditure on the Company's own Sales Department, which is included in the above costs).

CHAPTER VII.

PRICES OF IMPORTED STEEL.

67. It is now necessary to ascertain the prices of imported steel for correlation with the fair selling prices of Indian steel. It will be convenient to consider first the prices of rails, fishplates, sleepers and semi-finished products and then those of structural sections, bars, plates and sheets.

68. The sale of rails and fishplates on the general export market from Europe and the United States of America is controlled by the International Rail Makers' Association. This body functioned from about 1904 to 1914, when it was suspended as a result of the Great War. It was reconstituted towards the end of 1926 and under its present agreement it continues until 1935; its past record is such as to make it reasonable to presume that the Association will continue to control the rail export market after that date. It is believed that the Association reserves to the makers in individual countries which are its members their own internal markets and those within their overseas dominions (where such exist) and that the orders available from all other markets from time to time are allocated among member countries according to an agreed scheme of quotas. A minimum price must be quoted by the country to which the order is allocated. It is understood that for the last few years the minimum price for open-hearth rails has been £5-17-6 (gold) f.o.b. maker's port. If this price were applied to sales from other countries to India and if the freight from Europe to India were 17 shillings (see Report on 1926 Enquiry, Vol. V, page 363), the c.i.f. price, Indian port, would be about Rs. 125-2 per ton at a time when £1 Sterling equals 85-7 French Francs. Landing charges (Rs. 2-12) and a duty of 15-5/8 per cent, the present revenue duty on non-protected kinds of steel, would bring the price landed at Indian ports to Rs. 147.

69. India, however, like all other parts of the British Empire (and also certain South-American Railways), is part of the market reserved to British manufacturers. Rails imported into India would therefore be sold not necessarily at the above price but at a price fixed independently by the British rail makers. So far as can be ascertained, the lowest price at which the United Kingdom sold rails during 1932 in its reserved markets has been £7-7-6 f.o.b. If the freight from the United Kingdom ports to India be again taken at 17 shillings, this price would be equal to a price c.i.f. Indian port of Rs. 109-7. Landing charges and a revenue duty of 15-5/8 per cent would bring this to a total price for rails landed at Indian ports of practically Rs. 130 per ton.

70. The I. R. M. A. prices for fishplates of ordinary patterns and qualities have for several years been fixed at £2 (gold) per ton above the current price of rails made from steel produced by the same process. This is equal, at the rate of exchange indicated above to Rs. 38-6.

71. The prices of sleepers exported from other countries are not at present subject to the kind of control which is applied to the prices of rails and fishplates; they are, therefore, more subject to variation. To the best of the Company's knowledge, the lowest prices quoted by other countries in 1932 and 1933 for sleepers required for India were a little over Rs. 84 and Rs. 83 respectively per ton c.i.f. Indian ports. One of these prices was for sleepers of Belgian manufacture and the other for German. The average c.i.f. price, plus landing charges, in present circumstances may be taken as Rs. 86 per ton. This price is for pressed steel sleeper bodies, without fittings.

72. The Company believes that there have been no imports into India within the last two or three years of billets or sheet-bars ("semis") with the exception of small quantities of British billets of special qualities for railway purposes. If semis of ordinary quality were imported, they would almost inevitably come from the Continent. In the absence of definite quotations for delivery to India, the c.i.f. prices of Continental semis are taken as the prices f.o.b. Antwerp quoted in the weekly market report received by the Company, plus 18s. 6d. for freight and insurance. The average prices ascertained in this way for the months January to June (inclusive) 1933 are £4-1-6 for billets and £4-2-5 for sheet-bar, both c.i.f. Indian ports. These prices are equal to Rs. 57'1 and Rs. 57'7 respectively after conversion at the rate of Re. 1=1s. 6d. and the addition of Rs. 2-12 per ton for landing charges.

73. The average prices of imported bars landed at Indian ports, but without duty, ascertained through trade channels and converted from Sterling c.i.f. prices in the manner indicated above, were for the period January to June 1933 Rs. 96'1 and Rs. 65'0 for British bars and Continental bars respectively.

74. The corresponding prices for medium and heavy structural sections were Rs. 112'7 (British) and Rs. 61'5 (Continental); for plates 3/16 inch and upwards in thickness, Rs. 114'4 (British) and Rs. 81'2 (Continental); and for black sheets of 14 to 18 gauge Rs. 119'4 (British) and Rs. 95'7 (Continental).

75. As regards galvanized sheets, there were no serious quotations for Continental material for the Indian market in the first half of 1933, while those for British sheets were influenced by the arrangements resulting from the Ottawa Conference and did not represent ordinary competitive prices. The Company considers therefore that the most satisfactory method of arriving at what would presumably have been normal trading prices in the first six months of 1933 is to take the prices prevailing during the first six months of 1932 and adjust them for changes in the prices of spelter between that period and the beginning of 1933, on the basis of a requirement of 1½ cwts. spelter per ton of sheets. The average prices of imported galvanized sheets landed at Indian ports, but without duty, ascertained in this way and converted from Sterling c.i.f. prices as indicated in paragraph 68 above would be Rs. 140'9 (British) and Rs. 142'2 (Continental). These prices are for 24-gauge corrugated sheets, which are the basis of quotations for all galvanized sheets.

76. The above figures are set out in tabular form below :—

TABLE VI.

Landed prices (without duty) of imported steel.

	British Rs. per ton.	Continental. Rs. per ton.
Rails	112'5	..
Fishplates	151	..
Structural Sections	112'7	61'5
Bars	96'1	65'0
Plates	114'4	81'2
Billets . . . . .	..	57'1
Sheet-bar . . . . .	..	57'7
Black Sheets	119'4	95'7
Galvanized Corrugated Sheets	149'9	142'2
Sleepers . . . . .	..	86

77. The c.i.f. prices used by the Company in the preparation of the above figures for those kinds of steel which are mainly sold on the general market are obtained weekly by the Company from a market reporter who is closely in touch with the

markets for both British and Continental steel. Inevitably there are occasional differences between the prices thus reported and those indicated from other sources, but on the whole they have been found to be reliable. It is found from time to time that business has actually been done at prices lower than those reported, but the Company has never seen any indication that the prices reported were below the real level of the market, *i.e.* that business was actually being done at prices above those reported. It should also be observed that the prices stated in Table VI are for steel from the United Kingdom and the Continent only, since hitherto these have been the only sources of serious competition with Indian steel. There have, however, been indications during the last few months that competition from Japan may develop. If this should be found to occur, it may be necessary for the Company in the course of the enquiry to ask the Board to frame its recommendations on the basis of different prices, or for the Company to request Government to take the necessary action under the Safeguarding of Industries Act, 1933.

78. Throughout this Chapter, the average landing charges for imported steel at Indian ports are taken as Rs. 2-12, which figure represents the port charges, etc., and the cost of taking the material from the ship and landing it at the wharf or jetty for removal to its destination. Any other costs which may be incurred are paralleled by the cost of removing and transporting Indian steel to its destination from railway wagons at the delivery station. In 1926 the Board (paragraph 86 of the Report) assumed higher charges for sections, bars, plates and sheets. The Company is of opinion that these higher charges are not correct and also that the Board was not fully informed of the trade practice when it allowed an addition of Rs. 2 per ton to the price of Continental bars on the ground of light weight. Moreover, an accidental error appears to have occurred in the preparation of Table XVII of the Report. The adjusted price of Continental sections is stated as being Rs. 86, whereas on the basis adopted by the Board it should have been Rs. 77 (the figure given in Table XVI) *plus* Rs. 6, *i.e.*, Rs. 83. The subsequent calculations seem to have been based on the figure of Rs. 86 and the duty on Continental sections was thus Rs. 3 per ton lower than was required by the Board's assumptions. If, as the Company submits should have been done, the landing charges had been taken as Rs. 2-12 only and if the error just referred to had not occurred, the Company would, by reason of the consequentially higher duties, have earned a total of about Rs. 58 lakhs more during the last six years than it actually did.

CHAPTER VIII.

NECESSARY ADJUSTMENTS OF PRICES.

79. A scheme of protection based solely on the difference between the prices at which imported steel can be landed in India without duty and the fair selling prices " shown at the end of Chapter VI would assume that the average net realisation by Indian industry *f.o.r.* Indian Works would be identical with the price of imported steel at Indian ports. This assumption would not be correct, as was realised by the Board in 1926. On that occasion the Board made adjustments on account of internal freights and for the effect on average realisations of the sale of second-class materials. Corresponding adjustments are still required and it will be shown that other factors must be taken into account in connection with material sold in the general market.

80. The only adjustments previously made in connection with rails, fishplates and sleepers are those for internal freights; the Company accepts this limitation of the adjustments for these products. In 1926 the Board estimated that the average freight disadvantage on Indian rails and fishplates would be about Rs. 8 per ton and on Indian sleepers Rs. 5 per ton. Experience has shown that the former figure is practically correct, the average freight disadvantage on the rails and fishplates supplied by the Company during the last seven years having been Rs. 7 per ton. As the disadvantage is subject to some variation it is submitted that the allowance on this account should remain at Rs. 8 per ton.

81. As regards sleepers, however, the average freight disadvantage on the sleepers supplied by the Company during the last few years and to be supplied during 1933, so far as can at present be foreseen, is about Rs. 10 per ton. While the quantity on which this average is based is relatively small, there is no reason for supposing that larger orders would have produced an essentially different average and it is submitted that the allowance on this account should be taken at Rs. 10 per ton of sleepers.

82. The Company submits that it is necessary that the new scheme of protection should include billets, tinbar and sheetbar, *i.e.*, semis generally. This would not affect the prices at which these articles would be supplied to the Tinsplate Company of India or to Messrs. Indian Steel Wire Products, supplies to both these companies being governed by existing arrangements. It is, however, necessary to make arrangements which would preclude the possibility of installation of small re-rolling mills at the more distant ports which might take advantage of the protective duty on bars and light sections or on sheets and produce these articles from foreign steel imported at low rates of duty. Such industries would not fulfil the conditions laid down by the Fiscal Commission as alone justifying protection, since they would be based on foreign material. Even so, the Company would not now, as it did not in 1926, ask for protective duties on semis but for the fact that the demand for steel in India has so fallen that the setting up of such industries, instead of replacing the imported finished product only, would to a preponderating extent reduce the market for, and therefore the output of, the basic industry in the country which would otherwise supply the market with products completely Indian. The Company is satisfied that present conditions have made this problem a real one and that protective duties must be applied to semis if the basic industry is to attain the outputs estimated in Chapter IV.

83. The adjustment for freight disadvantage on semis cannot be estimated on the basis of actual past experience. The Company considers, however, that the more serious competition from such imports would arise if the semis were imported to the more distant ports such as Madras and Bombay, where the Company's freight disadvantage is over Rs. 15 per ton, even if the rates prevailing upto June 1933 are not increased. It submits, therefore, that the duty should be based on the assumption that the average freight disadvantage to be borne by the Indian industry would be Rs. 12 per ton.

84. While the Company does not ask for any adjustments other than for freight disadvantage in respect of the above products, it finds it necessary to deal in much more detail than was done in 1926 with the adjustments required in respect of the remaining products, namely sections, bars, plates and sheets, which together constitute over 60 per cent of the total estimated output of steel. These products also have to be sold against freight disadvantages, except in the case of sheets, where the Company has still been able to retain small advantages upto the present time. They have, moreover, in the main to be distributed to buyers of relatively small quantities, which necessitates the utilisation of merchants and dealers as partsof the distributing organisation. This inevitably involves expenditure. Moreover these products are sold in numerous transactions daily and the price has to be fixed for each transaction in accordance with the market conditions prevailing at the time. These conditions may be affected by factors other than the c.i.f. price quoted at the moment for imported material.

85. The Company's system of selling provides for the granting of discounts for cash payment, of commissions to agents in certain areas and of rebates to merchants houses in other and of deferred rebates to dealers (as distinct from merchants) who handle only the Company's products. The expenditure in connection with stockyards at certain places where the Company's steel is stored under its own ownership for more convenient distribution is treated as part of the Sales Department expenditure and thus as part of the costs. Occasionally, claims have to be met for such items as delayed delivery, losses in transit and errors in loading or despatch. In addition, bad debts occur from time to time and must in effect be provided for. The production also unavoidably includes a small percentage of non-standard and

defective material which has to be sold at somewhat lower prices than ordinary material; this reduces the average price realised on the output as a whole and an adjustment on this account is necessary, as was pointed out in paragraph 75 of the Report of the 1926 Enquiry.

86. The effect of all these factors has been carefully analysed in connection with the sales made during 1932-33. The results are shown in Statement 27 for tested sections, bars, plates and sheets and in Statement 28 for untested products. The cash discounts actually paid average about 1 per cent of the gross value of the total sales of each class of steel and the Company considers that an allowance on this basis can reasonably be made. The incidence of the total commissions varies more from item to item, but here again the Company considers that an all-round allowance of one per cent should be made; it understands that the merchant houses which place the orders with foreign manufacturers for imported steel are granted commissions on approximately this scale by way of rebate from the quoted c.i.f. prices.

87. The deferred rebates are granted at the rate of Rs. 2 per ton to those dealers who in the course of the year have not dealt in any steel other than that supplied by the Company of the forms and sizes produced by the Company. It has been found desirable, in order to obtain the maximum volume of sales, to extend the scope of the rebate system beyond what is indicated in Statement 28. On the other hand it is not expected that it will at any time apply to each individual sale. The Company considers, therefore, that an allowance of Rs. 1.5 per ton of all sales of untested materials should be adequate and should be made. No allowance for deferred rebate on sales of tested materials is claimed.

88. The miscellaneous claims are naturally somewhat higher in respect of tested steel, for which a higher standard of accuracy is required, than of untested steel. The Company however does not ask for a higher allowance under this head than 0.5 per cent. for tested material and 0.25 per cent. for untested.

89. Non-standard and defective material can naturally not be sold as tested. The influence of the sale of this material is therefore borne by the untested material; it is however smaller than was estimated by the Board in 1926. The proportion of this material to the whole output has been kept down satisfactorily; and as it has been sold mainly in the freight advantage areas, the price received has not been seriously below the average for untested good material. The Company therefore thinks that an allowance of 0.25 per cent. on the price of untested material will be sufficient under this head. No bad debts have accrued on sales of tested materials, whereas those accrued on untested materials during the last six years have averaged about 4 annas per cent. on the value of the sales. The Company trusts that the Board will accept this as a figure which is not excessive and will agree that an allowance of 0.25 per cent. of the value of untested materials should be made in connection with further protection.

90. The Company submits that the allowances asked for in the preceding paragraphs are based on reasonable business requirements and are not excessive. The totals are: for tested materials $2\frac{1}{2}$ per cent.; for untested material $2\frac{1}{2}$ per cent. plus Rs. $1\frac{1}{2}$ per ton. The freight disadvantages remain to be dealt with. These disadvantages form a substantial handicap in the distribution of an Indian product of which the manufacture is concentrated in one place or district. For example, the freight charges on many forms of steel despatched from the Company's Works to Bombay, Madras, Karachi and Rangoon are higher than those from European ports to these Indian ports. The actual disadvantages (or advantages) accruing in the year 1932-33 are set out in Statement 29 for tested materials and Statement 30 for untested. It will be seen that the average net freight disadvantages on tested sections, bars and plates have been practically Rs. 5 per ton and it is submitted that this figure be allowed in future: while the sales of tested black sheets in the year in question were too low to form the basis of any reliable separate consideration, an allowance of Rs. 5 per ton for freight disadvantage would be reasonable in this case also. The future output of untested bars will probably not differ greatly from that of 1932-33 but owing to the growth of competition from re-rolling mills in good areas, the freight disadvantage will probably increase and the Com-

pany considers that an adjustment of Rs. 6 per ton on this account is required for the future. The output of sections and plates however should be appreciably greater and the freight disadvantages should be taken as respectively Rs. 3 and Rs. 5 per ton. The future output of sheets should be about twice as high as the sales in 1932-33 and the Company estimates that the present freight advantages will be converted to disadvantages averaging about Rs. 2 for black sheets and Rs. 5 for galvanized sheets. It is important that the Board should realise that the above estimates are based on the rates of freights prevailing in 1932-33 and that if the rates were altered so as to be still further to the Company's disadvantage, it would be necessary to make correspondingly larger adjustments than those shown above. This matter is dealt with more fully in paragraphs 136 to 141.

91. Statements 29 and 30 (last column of each statement) bring out a fact which requires special attention, namely, that the Company does not obtain on the average for any class of steel sold on the general market, the price which would be expected on the bases of the landed price of imported steel, even when adjustments are made for the factors dealt with in the preceding paragraphs. There are several reasons for this. One of these has been referred to previously in paragraph 77, namely, that the nominal prices of imported steel should be regarded as maximum prices rather than as fixed prices at which business is necessarily done. The main reason of general application, however, is that in order to keep its freight expenditure to a minimum, the Company must sell its steel in full wagon-loads most buyers, particularly of untested steel, would prefer delivery in small lots and must be offered a price inducement to buy on the larger scale. It is also to be borne in mind that in view of the necessity of keeping its output as high as possible, the Company must continue to sell practically at the normal rate even in periods of seasonal slackness of demand; this at times involves some reduction of prices. In addition, the market is frequently unwilling to follow temporary rises in the import prices: these rises enter into the averages shown in the first columns of Statements 29 and 30, but if the market refrains from buying at those times it is not possible for the Company to obtain corresponding rises in the net realisations. The Company has also found it necessary to quote lower base prices for its sales to freight advantage areas than to ports in order to prevent the demand from these areas being met by supplies from ports in small lots either of the Company's own steel or imported material.

92. For certain transactions the Company must fix the price of its steel not so much on the basis of the price of imported steel as on the basis of the price of imported finished articles of the kind which the Indian buyer intends to make from the steel purchased from the Company. Occasionally the Company finds it advisable to quote a flat rate for two or more different kinds of steel required in connection with one sale; this rate is higher than the normal price of the cheaper material and lower than that of the dearer; such transactions affect the net realisations in opposite ways. Special factors apply at times to the selling prices of bars, plates and sheets. It is occasionally necessary to offer these at special prices in order to encourage the use of steel rather than other materials or to encourage a nascent subsidiary industry. The net realisations on galvanized sheets in 1932-33 have been affected by the necessity, owing to the large increase in the output, of selling comparatively large quantities in areas where the Company's sheets were not previously known. Over a large part of India, imported sheets of well-known brands had established a hold; they could at first be displaced only by offers of the Company's sheets at low prices, and further time must still elapse before the Company's sheets are sufficiently well-known in all markets to sell on the same basis as the established imported brands, some of which still command a premium in some Indian markets because of their long established connection and reputation. And during the last quarter of 1932 the market for galvanized sheets, particularly in Bengal, was very disturbed as a result of uncertainty about the forthcoming changes in the duty; the Company had therefore to make reductions of price in order to ensure the disposal of its output.

93. While the Company submits that the above factors afford ample and valid justification for a difference between its average net realisations and the average

prices of imported steel, it is not possible to assess statistically the effect of each factor separately. The combined effect will vary from time to time, but the Company considers that only by a vigilant control of sales and by unremitting efforts to obtain the maximum prices consistent with the disposal of the output estimated in this representation will it be possible to keep the average effect of these factors down to Rs. 4 per ton for sections and Rs. 6 per ton for bars, plates and black sheets (tested and untested) and Rs. 8 per ton for galvanized sheets.

94. It is now possible to summarise the adjustments which have been dealt with above in paragraphs 90 and 93. Where the adjustments have been stated as percentages they are calculated on the "fair selling prices" already shown at the end of Chapter VI. The results are set out in Statement 31.

CHAPTER IX.

AMOUNT OF PROTECTION NECESSARY.

95. In its Report on the Enquiry held in 1926, the Board gave its reasons (paragraph 95 of the Report) for recommending protection by means of import duties rather than by bounties. The Company anticipates that experience since 1926 and present circumstances will combine to lead the Board to recommend the same method of protection for the coming period. The Company's proposals in the following paragraphs will therefore assume that protection will be granted by import duties.

96. As the duties should be equal to the difference between the prices at which foreign steel can be landed at Indian ports without duty and the landed prices of such steel necessary to enable the Indian industry to obtain the fair selling prices, it will be convenient to set out the figures in tabular form side by side.

TABLE VII.

Prices to which imported steel must be brought.

	Prices of imported steel landed Indian ports without duty January to June 1933.		Prices to which imported steel landed Indian ports must be brought by duties.	
	British. Rs. per ton.	Continental. Rs. per ton.	Tested. Rs. per ton.	Untested. Rs. per ton.
Rails	112.5	..	102	..
Fishplates	151	..	132	..
Structural Sections	112.7	61.5	108.4	108.2
Bars	96.1	65.0	110.4	113.2
Plates	114.4	81.2	114.5	116.3
Billets . . . . .	..	57.1	..	82
Sheet Bar . . . . .	..	57.7	..	82
Black Sheets	119.4	95.7	143.2	142.0
Galvanized Sheets	140.9	142.2	..	185.1
Sleepers . . . . .	..	86	..	102

97. It will be clear that the Company expects so to reduce its cost of making rails and fishplates that no duty is required so long as the price of imported rails remains as at present. Although this is probable it cannot be regarded as certain, and it is desirable to retain these two products in the category of protected articles in order to facilitate the measures which would be necessary if foreign prices fell substantially. The present protective duties are Rs. 16½ per ton on rails and Rs. 7½ or 12½ per cent. on fishplates, whereas duties at the rate of 15½ per cent. (the present uniform rate of revenue duty on non-protected forms of steel) would, when applied to the values shown, be Rs. 17½ and Rs. 23½ respectively. It is submitted that the duties be Rs. 17 and Rs. 23 per ton or the revenue duties current for the time being, whichever are the higher. The duty required on steel sleepers is Rs. 16 per ton. It is submitted that a protective duty at this rate be levied.

98. The duty required on billets is Rs. 24.9 and on sheet bar Rs. 24.3 per ton. The Company submits that a uniform protective duty of Rs. 25 per ton be levied on all those forms of steel usually known as "semis", namely blooms, billets, sheet bar and tin bar.

99. Consideration of the duties on sections, bars, plates and black sheets is complicated by the fact that the Company sells these products in two qualities, namely tested and untested, and that the competition comes essentially from two sources, the United Kingdom and the Continent, at very different price levels. In its report on the first Enquiry the Board recommended uniform duties based on the weighted averages of what would be required if each quality were considered separately. In the 1926 Report, however, the Board recommended a system of differential duties for the two qualities. It was found necessary in practice to base the differences on the sources of origin of the imported steels, i.e., British and non-British. A consideration of this question raises important issues of the tariff policy of the Government of India and the commercial relations between India and the United Kingdom. With questions of general policy the Company has no concern; but the adoption of protection by the United Kingdom and the conditions on which exemption from protective duties has been granted to the products of this industry entering the United Kingdom under the Ottawa agreement have rendered this question of direct interest to the Indian steel industry. The Company therefore considers that it will not be travelling beyond its legitimate sphere if it urges upon the Tariff Board to recommend to the Government of India that the adoption of a scheme of differential duties, if any, should be made conditional upon the continued exemption of the products of the Indian iron and steel industry from protective duties in the United Kingdom throughout the period of the protection of the Indian steel industry. In the succeeding paragraphs an attempt has been made to work out the duties both on a uniform and a differential basis for the guidance of the Tariff Board, without expressing any opinion on behalf of the Company regarding the best method of imposing the duties. If a system of differential duties is adopted the Company would prefer to see it made a condition of the admission of British steel at the lower rate of duty that the steel complies with a standard specification. Should this, however, be found to be administratively impracticable, the Company suggests that a declaration be required to the effect that the British steel for which entry is claimed at the lower rate of duty is not made by the Basic Bessemer process.

100. For the reasons given in paragraph 97 of the Board's Report of 1926, the differential duties were so adjusted as to leave the duty-paid prices of untested steel Rs. 7 per ton lower than those of tested steel of the same kinds. In order to ensure that the Company's total receipts for each kind of steel should be as anticipated, this adjustment must be weighted in accordance with the proportions of the two qualities which the Company is expected to be able to sell. This weighting and also that required for the system of uniform duties, if this alternative be adopted, are based on the proportions of tested and untested steel sold in 1932-33.

101. The following table sets out the duties required on the materials referred to in paragraph 99 according to each of the above methods, the figures being rounded off to the nearest whole rupee.

TABLE VIII.

Duties required.

	Uniform. Rs. per ton.	Differential.	
		British. Rs. per ton.	Non-British. Rs. per ton.
Structural Sections	40	2	46
Bars	45	21	47
Plates	21	4	32
Black Sheets	46	31	46

The duty on British sections and plates should be treated like that on rails and made Rs. 18 or the revenue duty, whichever is the higher.

102. It has been shown in paragraph 75 above that in normal circumstances the prices of British and non-British galvanized sheets are practically identical. If the lower of these two prices is taken, the duty required in future is seen to be Rs. 44 per ton. This duty, however, is based on the import price of corrugated sheets, whereas the import price of plain sheets is normally nearly Rs. 7 higher than that of corrugated. As the consumption in India of plain sheets is over 20 per cent. of the total quantity of galvanized sheets and the Company's output is in much the same ratio, a duty of Rs. 42 per ton on all galvanized sheets will be adequate.

103. For convenience of reference the above proposals are set out in tabular form below, along with figures showing the present duties :—

TABLE IX.

Proposed duties compared with present duties.

	PROPOSED DUTIES.			PRESENT DUTIES.		
	British. Rs. per ton.	Uniform. Rs. per ton.	Non- British. Rs. per ton.	British. Rs. per ton.	Uniform. Rs. per ton.	Non- British. Rs. per ton.
Rails . . . . .	..	17*	..	..	16½	..
Fishplates . . . . .	..	23*	..	..	7½*	..
Structural Sections.	18*	40	46	23½	..	37½
Bars	21	45	47	32½	..	46½
Plates	18*	21	32	25	..	45
Semis . . . . .	..	25	..	10%	..	20%
Black Sheets	31	46	46	43½	..	73½
Galvanized Sheets.	..	42	..	53†	..	83
Sleepers . . . . .	..	16	..	..	12½*	..

* Or the revenue duty, whichever is the higher.

† Rs. 30 if made from Indian sheet-bar.

104. The duties set out in Table IX have been calculated on the assumption that each product is dealt with entirely separately without regard to the duty

fixed for any other product. If, however, minimum duties are fixed on the present revenue basis on rails and fishplates and on British sections and plates, whereas little or no duty is required to bring the landed prices of imported materials to the figures shown in the third column of Table VII, the new protective scheme would provide a surplus over the requirements as calculated in the preceding chapters, which could be utilized to reduce the protection on other forms of steel.

105. The extent of the surplus will depend largely on such arrangements as may be made between the Railway Board and the Company for the supply of rails and fishplates from April 1934 onwards. The Company understands that it is the policy of Government to purchase the whole of its requirements of rails and fishplates in India at the prices at which it could import these articles, but it trusts that the arrangements will be made which will compensate the Company, if the orders fall sensibly short of those assumed in Table I of this representation. The Company has already (paragraph 69) stated its views about the price at which rails can be imported into India, but for the purpose of indicating the nature of the adjustment now under consideration the price of rails provided for in the current contract, namely Rs. 110 per ton f.o.r. Tatanagar, is taken by way of illustration, without implying that this is a proper price for a future contract. This price is Rs. 16 per ton above the price shown as necessary in Table V. On 80,000 tons of rails this would produce a surplus of about Rs. 12·8 lakhs. Similarly there would be a surplus of Rs. 0·7 lakhs if the present price of fishplates were continued.

106. If a system of uniform duties were adopted, this surplus of Rs. 13·5 lakhs would be the only amount available for the reduction of other duties. If, however, the system of differential duties were adopted, the duties on British sections and plates indicated in Table IX would be Rs. 16 and Rs. 14 per ton respectively above the requirements indicated in Table VIII. These would yield a total surplus of about Rs. 4·8 lakhs if the proportion of tested sections and plates bore the same ratio to the estimated future production as prevailed during 1932. The amounts available for reduction of other duties would be Rs. 13·5 lakhs if uniform duties are adopted or Rs. 18·3 lakhs if differential duties are adopted.

107. There are more ways than one in which such amounts could be utilized but for the purpose of the present illustration it is proposed to show the effect of applying the whole of the amounts to the duties (uniform or non-British respectively) on sections and bars, since the duties on these articles as set out in Table IX are relatively the highest. The amounts available would serve to reduce the duties by Rs. 7 per ton on the uniform scale and by Rs. 10 per ton on the differential scale. The table of duties would then become :—

TABLE X.

Proposed duties absorbing surpluses.

	British. Rs. per ton.	Uniform. Rs. per ton.	Non-British. Rs. per ton.
Rails . . . . .	..	17*	..
Fishplates . . . . .	..	23*	..
Structural Sections	18*	33	36
Bars	21	38	37
Plates	18*	21	32
Semis . . . . .	..	25	..
Black Sheets	31	46	46
Galvanized Sheets . . . . .	..	42	..
Sleepers . . . . .	..	16	..

* Or revenue duty, whichever is higher.

108. It is submitted that in the forthcoming revision of the Tariff, the opportunity be taken to make all iron or steel bar and rod of whatever quality, composition, size or shape subject to the same duty or duties as shown above for ordinary bars. At present bars of the kinds entered under No. 102c in the Tariff Schedule are subject to a duty of 10 per cent. if of United Kingdom origin and of 20 per cent. if of other origin. This has left scope for attempts to defeat the purpose of the protective duties. It is believed that while the change might involve slightly heavier duties on certain types of non-protected bar and rod, it would reduce the duties in other instances; and that the net effect on Government revenues would be very small.

109. Similarly, it is desirable that all plates (not under $\frac{1}{4}$ inch thick) other than galvanized should be brought under one head in the Tariff Schedule and subjected to the proposed protective duties; this would avoid the possibility of future difficulties, while having little effect on the duties leviable on the basis of the present revenue duties and tariff valuations of non-protected plates. It may be necessary in the future for the Company to undertake the manufacture of the kinds of plates which are at present not protected. Item 102e of the Tariff Schedule could probably be completely eliminated without causing any complications, as it is doubtful whether any steel genuinely of the kinds described (alloy, etc.) is imported other than in the form of bar or of some article falling clearly under some other head. The presence of this item in the Schedule leaves a loophole for attempts at evasion of the protective duties on such articles as black sheets, and as the Company is undertaking the manufacture of high tensile alloy steel for sections and plates it is important that imports of similar material should not enter at the non-protective duty. It is also doubtful whether item 102f need be retained. And item 103n C should be extended to read "sleepers, other than cast iron, and bars of special shapes therefor."

110. The Company also suggests that the Board consider the advisability of arranging that any substantial reductions of duty which may be recommended be effected by relatively small stages at fixed intervals. If there is a prospect of a large reduction it is inevitable that the market will realise the possibility several months before effect can be given to it; there will then be a strong inducement for buyers to hold off the market, which will disturb the trade and may seriously affect for a time the output of the Indian industry. If, however, the reduction is made in stages it can probably be arranged that they shall be such as are not much, if at all, greater than the normal fluctuations of prices which occur from time to time. In that event the change could be effected without any appreciable disturbance to the course of trade and manufacture.

111. In this representation the Company has used its best endeavours to place before the Board a full, frank and detailed statement of all the factors affecting its costs, selling prices, profits, etc. Calculations of the duties required must be based on specified figures for the prices of imported steel. In view of the extent to which previous estimates have proved to be erroneous, the Company considers that no estimates of the future trend of prices should be formed, but that the duties should be based on the average prices which actually prevailed for the first six months of 1933. Prices for a shorter period would probably be misleading, in view of the relatively frequent fluctuations. In suggesting this basis the Company should not be regarded as estimating that these prices are likely to be maintained for any length of time. They are merely an ascertained basis on which duties can be framed which would be adequate for the circumstances then existing, and the Company holds it to be essential that future fluctuations of prices should be dealt with in the manner proposed in the next paragraph. While it is true that the level of prices in June and July 1933 was somewhat higher than the average for the first half of the year, this was due to the recent reorganization of the Continental Steel Cartel and past experience has shown that such Cartels have not been able to maintain a high level of prices for any length of time and prices collapse to a very low level as soon as the Cartels break. Apart from this, world conditions are adverse to the maintenance of a high level of prices in the Steel Industry for many years

to come. Currency conditions are unstable and any departure of the Franc from gold parity may lead to a collapse of prices and very severe competition from the Continent. Even when trade conditions improve, the competition of the up-to-date steel-making plant at present lying idle throughout the world will keep prices down for as long a time as it is necessary to estimate for present purposes.

112. The practice of the Tariff Board has hitherto been to base its proposals on somewhat meticulous calculations of costs, prices, etc. This would certainly be unexceptionable and satisfactory if machinery were utilised to meet any serious changes in the factors on which the calculations of the Tariff Board are based. Such machinery has in fact been provided to meet conditions resulting from an unforeseen fall in import prices. In this connection attention is invited to Chapter III of the report of the first Tariff Board in which the proposal was made that power should be conferred on the executive Government by legislation to impose additional duties, if after such enquiry as they might consider necessary they were satisfied that steel was entering India from abroad at such prices as were likely to render the protection given ineffective. Such power has actually been conferred by legislation on the Governor-General in Council by the Steel Industry (Protection) Act, but during the current period of protection, although import prices have fallen to a considerable extent, the power has not been utilised except in the one case of galvanized sheets. The scheme of protection may also break down through unforeseen circumstances beyond the control of the Company other than a serious fall in import prices, such as a strike, an unavoidable breakdown of machinery or of transport. During the current scheme of protection, apart from the great strike of 1928 the scheme broke down because of the inability of Government to order the tonnage of rails on which the whole scheme of protection was based, as is clear from a reference to paragraph 109 of the Report of the Tariff Board. Due provision, therefore, requires to be made to prevent the failure of the next scheme of protection owing to such serious unforeseen circumstances. It is suggested that in the future legislation there should be statutory obligation on Government to ascertain, not less frequently than once a year, the prices at which protected kinds of steel are being landed at Indian ports without duty and to raise the duties by the necessary amounts if the prices so ascertained are more than 10 per cent. below those assumed by the Board as the basis of its recommendations. If the enquiry shows that prices have on the other hand increased by more than 10 per cent., steps may similarly be taken to reduce the duties, after giving the Company an opportunity of adducing reasons, if any, against such reduction. The increase or decrease of duties which might be necessitated by changes in import prices need be made by executive action alone, and the facts reported at the earliest opportunity to the Legislature. The statutory provision of the one year period need not prevent urgent action being taken in a sudden and grave emergency on the application of the Company or otherwise.

113. When any action is required to make the scheme of protection effective owing to reasons other than a change in the prices of imported steel, it is suggested that it should be taken after full enquiry and with the sanction of the Legislature. It is only by the adoption of such measures that the protection as proposed by the Tariff Board and finally adopted by Government and the Legislature can be made effective. If these measures cannot be adopted, the only alternative seems to be that the Tariff Board should recommend duties on a higher scale so as to provide a margin for unforeseen circumstances.

CHAPTER X.

IMPROVEMENTS IN WORKS EFFICIENCY.

114. It has already been shown at earlier stages of this representation that the Company has during the last seven years succeeded in reducing its Works cost substantially, apart altogether from the effect of the fall in the prices of coal and spelter; and general indications have been given of the economies effected in

the use of coal and labour. The Board may, however, wish to have fuller information on the subject of Works efficiency, as this is the main factor making for the soundness of the industry which is within the Company's control. During the period covered by the Board's review in 1926, the Company's efforts were necessarily concentrated mainly on ensuring that the volume of output anticipated from the then new plant could actually be obtained. As soon as this was done, it was necessary to focus the energies of the Works' organization on improving the efficiency of operations throughout. The success of this policy is evidenced by the reductions in the costs.

115. Progress in efficiency is dependent largely on the efforts of the staff of each individual department and much of the success achieved is due to the increased attention given to economy by the departmental staffs and to their greater experience of the plant and of the problems before them. The Company, however, was not content with such improvement as could be effected by the staffs of the various departments as they existed in 1926. The Metallurgical Department, which had been started in 1925, was rapidly extended and developed a Works inspection branch which continuously scrutinised the output and accuracy of product of the various mills. In 1927 a system of close supervision of the supplies of coal was instituted. A Fuel Economy Department was established in 1928 and a Lubricating Engineer appointed a little later. Arrangements were made for the constant scrutiny and criticism by those concerned of all available figures bearing on efficiency and costs and for joint consultations on all serious problems or new proposals, which are effected by means of committees of departmental officers. Prominent among these are the Retrenchment Committee, which has already achieved much useful work, and the monthly Cost Committee of all departmental heads presided over by the General Manager.

116. The over-all consumption of coal per ton of saleable steel for each of the last seven years has already been set out in Statement 26. As these figures vary to some extent according to the nature of the output in each year and as they do not show the stages at which economy has been effected, fuller details are given in Statement 32, from which it can be seen that the consumption has been reduced at each stage. In some of the mills the output and the nature of the product have varied considerably during the period. It is therefore considered that the consumption of coal in the manufacture of merchant mill products is the most suitable simple criterion of the technical progress achieved. The consumption has fallen from 3.6 tons in 1926-27 to 2.8 tons in 1932-33, a saving of over 20 per cent.

117. Statement 33 shows the yields of good steel from ingots at the rolling mills for the years 1926-27 and 1927-28, as representing the beginning, and for 1931-32 and 1932-33, as representing the end, of the period under consideration. The improvement at the new 28-inch Mill is only small (due to the commencement of rolling several new and difficult sections on this mill during the last two years) but at all the other mills there are marked improvements. This is the more satisfactory as improvements in this respect are dependent largely on the increasing skill of the workmen and are not the result of the installation of new plant or appliances. The value of this kind of improvement can be illustrated by the results at the Merchant Mill. If the average yield of the last two years had been only the same as that of 1926-27 and 1927-28, the amount of good material available for sale would have been nearly 4,000 tons less in the later two-year period and there would have been a correspondingly larger amount of scrap and also a larger consumption of ingots and blooms at the previous stages. Owing to this latter factor and to the difference between the value of good product and scrap, the profits would have been less than they were by nearly Rs. 3 lakhs over the two-year period, if the yield had not been improved.

118. A further method of economy has been the production of an increasing proportion of the total ingots required by the Duplex process (which, in the Company's circumstances, is the cheaper process) and a decreasing proportion in the

Open Hearth plant. The statistics are contained in Statement 3 (a). The latter plant must be kept in operation to absorb unsaleable scrap, but its operation is now limited to the extent required for this purpose so far as it is consistent with the production of the kinds of steel required.

119. Statistics of the total expenditure on labour have already been given (Statements 21, 22 and 23) as well as of the average daily number of men working (Statement 24). The cost of labour per ton of product in each of the main producing departments is now set out in Statement 34. And the average number of men working in each department is given in Statements 35 (a) to 35 (m), along with the total output of the department and the output per man per year. Whereas in 1926 most of the departments were comparatively new or, if not new, were to a large extent equipped with new plant and machinery, the workmen have in the interval become familiar with the plant and the work required of them and it has generally been found possible in practically all departments to refrain from filling such vacancies as have occurred during the last few years and thus to obtain an appreciable reduction in the number of men and in the cost of labour per ton of product and an increase in the output per man.

120. It cannot be denied that the labour employed by the Company was excessive in the past and may be considered excessive now if judged by European or American standards. The substantial reduction in numbers that has been achieved has been made gradually without causing individual hardship, mainly by the method of refraining from filling up vacancies. The actual wages per man have risen. If a greater reduction in labour costs has not been achieved it is because of the solicitude of the Company for the welfare of its labour and its keen desire to treat it with fairness and consideration. In the matter of their emoluments, the amenities provided or the privileges enjoyed by them regarding leave, provident fund, etc., the Company claims to treat its men at least as liberally as, if not more so than, any other large commercial concern in India that it is aware of. Even during the period of acute depression through which the Company has passed when production had to be curtailed, it avoided dismissing the men outright as far as it was possible and took steps to provide employment for as many as possible by reducing the number of days per week and by adopting a system of leave by rotation. It is the intention of the Company to pursue the same policy in the future because it is convinced that it is right in the mutual interests of both the employers and the employed and ultimately, therefore, of the Steel Industry.

121. In addition to the salient items of economy dealt with above, appreciable reductions have been made in the consumption of stores and materials and economies have been effected in various other ways. The combined effect of all the economies in each department can best be seen by comparison of the "costs above net metal" which are set out in Statement 36. In the case of pig iron these figures represent the cost per ton of iron after deduction of the cost of the materials charged into the furnaces reduced by the value of the scrap produced and after credit has been taken for the blast-furnace gas used for steam-raising; in the other departments they represent the cost per ton of product after deduction of the cost of the metal consumed reduced by the value of the scrap produced. It will be seen that there have in practically all cases been large reductions in these costs; these reductions represent the combined effect of improvements in efficiency and of falls in the prices of materials other than those forming part of the charge of the furnaces and other than spelter. In almost every department "costs above net metal" have been obtained during the last year which are lower than any corresponding cost since 1920.

122. The part played by the staff of the Company in obtaining the economies achieved has been indicated above, but no efforts by the staff could have secured the full results if much new plant had not been installed by the Company during the period in question. The Company's 1926 programme of additions to plant is shown on pages 31-32 of Vol. II of the Report of the 1926 Enquiry. Although changes in the programme were found to be necessary, effect has been given to practically all the major items. Two of the blast furnaces have been greatly enlarged and four blowers of unusually high capacity installed. A third converter

and a third finishing furnace have been erected at the Duplex plant. Several new and more efficient gas-producers have been erected. Additional soaking pits have been constructed at the New Blooming Mill and a 35-inch Roughing Mill has been installed for roughing the blooms for the new 28-inch Mill and furnaces for reheating them. Quite recently a new motor has been erected at the Sheet-bar and Billet Mill and a new unit of Sheet Mills installed : these items, however, have not appreciably affected the costs for 1932-33. New auxiliary equipment (cranes, charging-machines, shears, etc.) has been supplied to most of the main producing departments. For the "service" departments, new rolling-stock has been provided and the railway tracks thoroughly overhauled and extended where necessary ; an 18,000 K. W. Generator has been installed and a battery of 20 Wicks boilers replaced by 10 Thompson boilers of much higher efficiency ; the foundry has been extended and a number of other improvements made.

123. The above additions to the plant have contributed at many points to the improvement in efficiency. One result which will be of special interest to the Board is that they have made it possible for the Company to keep the old Blooming Mill and the old 28-inch Mill closed since the end of May 1932. This in turn has enabled the Company to close down the old hand-fired boilers in Boiler House No. 1. These two changes have contributed substantially to the reduction in cost of the Company's output in 1932-33.

124. Other additions to the plant are at present in progress. They are mostly of a relatively minor nature. Recently, however, the Company has placed an order for a large plant for fine-cleaning the whole of the blast-furnace gas, with the object of securing the benefit of greater efficiency in the combustion of this gas in stoves and boilers and of rendering it suitable for use in reheating coke-ovens so that the maximum amount of coke-oven gas may be liberated for use in replacing producer-gas. The Company also expects during 1933 to order coal-unloading and mixing bunkers for the coke ovens with the object of reducing the cost of handling the coking coal and still more of securing a more uniform coke which should enable the consumption of coke per ton of iron to be reduced. The programme of future additions to the plant has been set out in Statement 19, with explanatory notes, which show that a large proportion of the proposed expenditure is aimed at further reduction of costs or improvement of efficiency.

125. The Company believes that the above record will satisfy the Board that every effort has been made to bring the Indian Steel Industry to an increasingly better standard of efficiency and that, when regard is paid to the circumstances in which the improvements have been made and particularly to the very grave effect on efficiency (as well as on all other aspects of the Company's affairs) of the strikes of 1923 and their aftermath, the Board will agree that the results achieved are such as fully to justify the Company's contention that the necessity of further protection does not arise from any omission on the part of the Company.

126. While the Company will continue to strive for higher efficiency in its operations and is confident of achieving a measure of success in that direction, it must not be anticipated that progress can be as rapid in the future as in the past. The field within which economies were possible has already been greatly narrowed. The Company has made a reasonable allowance for the effects of the new expenditure and further improvements in efficiency in its estimates of the future Works costs and trusts that the Board will recognise that the realization of these further reductions will represent no small achievement.

127. In paragraph 140 of the 1926 Report, the Board expressed the view that the Company would be well advised to keep more closely in touch with technical developments in Europe than it had done in the past. The Company has acted on this suggestion and in the interval many of its officers, both Indian and other, have visited steel works in the United Kingdom and on the Continent and have taken all such other steps as were possible to familiarise themselves with the methods which have led to the progress of the industry in those countries. Several of the younger Indian members of the technical staff have spent periods of a year or more in various European works or following special courses of study in Europe. In some cases the Company has borne practically the whole cost of these visits and in

others it has given assistance and provided special facilities to Indians proceeding on long leave. The Company is doing and will continue to do everything possible to study developments in all other countries and to apply any improvements of which information may be obtained to the practice at Jamshedpur, wherever practicable. Similarly, tenders for new plant, equipment, etc., are called for from makers in all countries equally. As regards both the contact of its staff with modern operating progress in all other countries and the planning of new equipment on the best lines and its purchase in the most suitable markets, the Company is doing everything possible, in spite of its geographical disadvantage, to secure the benefits of new developments wherever they may occur.

CHAPTER XI.

MISCELLANEOUS.

128. At the time of the 1926 Enquiry, the Company's programme for the building of houses for its employees was still suspended owing to the shortage of finance which had prevailed since 1922. The Company is pleased to be able to report that in 1929 it resumed the construction of houses. Although, owing to the breakdown in the scheme of protection, the progress made is not as great as could have been wished, Statement 37 shows that at the end of March 1933 the number of houses available in Jamshedpur was 13,200, whereas the number of employees on the Company's pay-roll was about 24,000. About 40 per cent. of these houses were built and owned by the Company and the balance were built by the employees, in almost all cases with assistance from the Company. The percentage of employees for whom accommodation was thus available was 56 in 1933 as compared with only 34 in 1926. As is shown in Statement 19, the Company intends to continue the building of houses as finance is available and it trusts that as an important result of the new scheme of protection, good housing accommodation will be available within a few years for all the employees on the Company's pay-roll. Statement 38 shows the capital cost, revenue, etc., from the Company's houses, from which it will be seen that after expenditure on repairs and maintenance has been met the rents received are still insufficient by more than Rs. 1 lakh a year to furnish a return of 5 per cent. on the capital outlay on the houses. Statement 39 shows the number of houses in each rent group.

129. The Company has actively maintained its policy of developing technical training in Jamshedpur. Up to the end of 1932, nearly 250 men had been admitted to the Institute, of whom 104 had passed successfully through the course of training and had received employment under contract with the Company. The majority of the students came from Bihar and Orissa, the Punjab, Bengal and Madras and others came from Bombay, the United Provinces, Assam and the Central Provinces. The ex-students who are now employed are distributed over 25 departments of the Works, the largest numbers being in the steel-making departments, the various rolling mills and the blast-furnace department. Details are set out in Statements 40(a) and 40(b). In 1931 a Committee was appointed under the Chairmanship of Sir M. Visvesvaraya to reorganize the methods of recruitment and training at the Technical Institute and as a result of the recommendations of that Committee a revised system has been introduced since the beginning of 1932 under which steps have been taken to recruit highly qualified candidates and much greater attention is being paid to the practical training of the recruits under the supervision of suitable officers belonging to the various departments of the Works. At the same time, a system of training of apprentices, who are confined largely to the sons of old employees, for the subordinate positions in the Works has been undertaken and about 50 boys are being admitted to this apprentice class every year. It is hoped by this means to build up ultimately a class of educated and trained labour to fill up all posts other than the unskilled.

130. Largely as a consequence of the successful training of a large number of men in the Technical Institute, many of whom are now holding responsible technical posts, the Company has been able to reduce very greatly the number of its covenanted employees. The number of these employees at Jamshedpur

reached its maximum, 229, in September 1924. By June 1926 it had been reduced to 161; the number has since fallen every year without interruption until on 1st April 1933 it was only 70. The particulars are shown in Statement 41. The cost per ton of saleable steel of these covenanted employees has been set out in Statement 22; in 1932-33, when the average number employed was about 74, the cost per ton was only Rs. 3.6. The cost will be lower in 1933-34 and will fall still further as the number of these employees is gradually reduced and as the output of steel rises. Considering the small number of covenanted officers now left and the fact that their places must be taken by Indians on salaries ranging from 50 to 75 per cent. of those of the officers whom they replace, it will be realised that there is no very great scope for further reduction of the cost of steel merely by dispensing with the services of the covenanted staff. The Company is, nevertheless, determined to continue its policy of Indianisation as actively as the increasing experience of the Indian staff and the exigencies of the work permit.

131. The manufacture of wire rod, rods for the general market and round bars of small diameter from Indian steel by Messrs. Indian Steel Wire Products should commence before the beginning of the new period of protection. This represents a new development in the industry, which the Company has encouraged by agreeing to supply billets on special terms in the early stages. The Company would welcome the development of other new outlets for Indian steel and would be willing to consider the possibility of initial assistance of the above kind. It is a matter for regret that the Indian rolling-stock industry, which in normal times should be able to absorb a substantial quantity of steel, still remains confined to the building of underframes and of wagons-bodies. The necessary wheels, axles and springs are imported and so are all the locomotives required for the Indian railways. If any practical plan were developed for the extension of the rolling-stock industry in any of these directions, the Company would be prepared to co-operate in the supply of steel to the greatest extent possible.

132. In thus indicating its desire for the establishment of new steel-using industries and its willingness to co-operate to the fullest practicable extent, the Company is maintaining the policy which it has pursued consistently during the past 15 years. It has assisted seven works (three of them being branch works of previously existing Companies) by leasing land and by supplying water, electric power and municipal services at favourable rates. It has also assisted in the formation of six new Companies not only in the above way but also by subscribing capital or by undertaking to supply materials at special rates, or by both these methods. This assistance has been given at a heavy financial cost of the Company in some instances but the policy will still be maintained of affording such help as may be found practicable in the establishment of new consuming interests which offer sound prospects of success.

133. It will hardly be necessary for the Company to refer more than very briefly to the importance of adequate protection to those industries in India which use Indian steel. For an essential part of its market the steel-making industry is dependent on other industries which convert rolled steel into articles of use which must be sold in competition with similar articles offered to the Indian market by foreign manufacturers. If these Indian industries are not enabled successfully to meet this competition, the position of the basic industry may be greatly weakened. The major industries of this kind are those concerned with the building of rolling-stock bridges and fabricated steel structures and the manufacture of tinplate, wire and wire-nails. Among the smaller industries are those considered by the Board in its 1930 "Report regarding certain railway materials made of steel". The Company trusts that such protection will be given to these and similar industries as will ensure their stability as important elements of the Indian steel market.

134. In Chapter II of this representation, the financial results of the current scheme of protection have been calculated on the difference between realised prices and costs. The effect on the financial return to the shareholders is shown in Statement 42 which sets out the dividends paid from 1925-26 onwards, this date being chosen in order to make the record continuous with that contained in Statement 56, Vol. II of the Report of the 1926 Enquiry. The total amount (gross) paid

in dividends on a share capital of about Rs. 10½ crores has been only Rs. 138 lakhs in the six years 1927-28 to 1932-33, i.e., at an average rate of only 2.2 per cent. per annum. Even this small payment would have been reduced substantially if the Company had not been able to draw on funds accumulated in earlier years for purposes for which the provision was subsequently found to be unnecessary. During the same period the expenditure of the Company on wages, etc., for the men employed at Jamshedpur alone has been about Rs. 9½ crores.

135. If the view should be advanced that prices of imported steel are now so low that in all probability they will rise during the next few years and that the protection asked for may thus become more than the minimum required to fulfil the intentions of the scheme, the Board is requested to bear in mind that in each previous enquiry it was found that the prices then prevailing were lower than those of the previous few years and opinions were expressed that a rise in prices was more probable than a fall. These expectations have always been falsified. It will also be realised that the protection now asked for will depend for its adequacy on such uncertain factors as the recovery of the demand in India to the assumed levels and on the price of coal not exceeding the anticipated figure. Furthermore, although protection to the steel industry has now been in existence since 1924, it has never yet produced the full results anticipated, in spite of the fact that the Company has consistently fulfilled the obligations laid on it and has realised the economies and the improvements in efficiency at which the Board has said that it should aim. It has always been the hope of those responsible for the granting of protection that the results would be such as would encourage others to enter the industry. This result cannot be achieved so long as the industry is in its present position. In the long run it will be better for the country and for the industry and will hasten the coming of the time when protection may no longer be essential, if the industry is allowed, after so many years of bare subsistence in circumstances of great difficulty, to retain the benefit of rising prices, should an improvement in world economic conditions bring about such a change. For the reasons indicated in paragraph 111 it is barely conceivable that the change could be so marked as to be sufficient during the seven-year period proposed, to counterbalance the shortcomings of the previous protection period.

136. References have already been made in paragraphs 49 and 90 to the serious effect of increases in the railway freights payable by the Company. The freight agreement with the Bengal Nagpur Railway having expired on 30th June 1933 the Railway Company has provisionally announced higher freight rates with effect from 1st July 1933 the result of which will be to increase the total freight expenditure of the Company by nearly Rs. 40 lakhs yearly on the basis of the traffic of 1932-33. In order to make the effect of this clear, the costs for the first six months of 1933 have been re-calculated on the basis of the revised rates of freight. The results are given in the following Table:—

TABLE XI.
Works costs under revised Railway freights Jan.-June 1933.

	Under old	Under revised	Increase.
	freights.	freights	
	Rs. per ton.	Rs. per ton.	Rs. per ton.
Pig Iron	18.6	22.1	3.5
Rails	64.8	71.2	6.4
Fishplates	93.2	100.5	7.3
Structural sections	65.9	72.2	6.3
Bars	65.1	71.2	6.1
Plates	70.0	76.8	6.8
Tin-bars and semis	49.2	54.6	5.4
Black sheets	95.8	103.3	7.5
Galvanized sheets	126.5	133.8	7.3
Sleepers	60.1	66.1	6.0

137. It will be evident that the estimated future Works costs must be revised in accordance with the above figures. One of the first consequences of such increases in freights would be the impossibility of exporting pig iron in the present condition of the world's markets. The output of saleable pig iron would have to be limited to the very small requirement of the Indian market. The surplus of 120,000 tons referred to in paragraph 63 above would be reduced by about 100,000 tons, with the result that the cost of the pig iron used at Jamshedpur for steel-making would be somewhat higher than otherwise. On the other hand, the anticipated reduction in the quantity of coal required in the future per ton of steel would reduce to some extent the burden of the proposed increase of freights. It would be necessary to revise the estimates of future Works costs as follows:—

TABLE XII.
Future Works costs under revised Railway freights.

	Old freights (as Table III).	Revised freights.	Increase.
	Rs. per ton.	Rs. per ton.	Rs. per ton.
Rails	56	62	6
Fishplates	80	87	7
Structural sections	60	66	6
Bars	60	66	6
Plates	62	69	7
Tin-bar and billets	46	51	5
Black sheets	86	93	7
Galvanized sheets	116	123	7
Sleepers	56	62	6

138. Corresponding increases would be required in the "fair selling prices" shown in the last column of Table V (paragraph 65). But the effect of the revision of freights is not limited to the Works costs. It is proposed that the freights on outgoing materials leaving the Works should also be raised. This will increase the freight disadvantages referred to in paragraphs 83 and 90. As it is anticipated that billets (other than for the Associated Companies at Jamshedpur) would have to be sent to distant destinations, the freight disadvantage on semis is assessed at Rs. 15 instead of Rs. 12 per ton. On other forms of steel the effect of the proposed increases would not be uniform, as the increases are not the same for all kinds of steel and as the average distances over which the various kinds are carried on the B. N. R. vary to some extent. On the basis of the distribution of 1932-33 modified only for the anticipated increases in output, the probable increase in the freight disadvantage would be as follows, the figures in the first columns of the Table (other than that for semis) being those assumed in paragraph 90.

TABLE XIII.
Freight disadvantages under revised Railway freights.

	Under old freights.		Under revised freights.		Increase.
	Tested.	Untested.	Tested.	Untested.	
	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	
Structural sections	5	3	7	5	2
Bars	5	6	7.4	8.4	2.4
Plates	5	5	7.3	7.3	2.3
Semis . . . . .	..	12	..	15	3
Black sheets	5	2	7	4	2
Galvanized sheets . . . . .	..	5	..	7.5	2.5

139. A minor further adjustment which is necessary is that the allowances referred to at the beginning of paragraph 90 will, so far as they are percentages of the selling prices, become a little higher as the percentages must be applied to higher figures. The combined effect of the revisions in Tables XII and XIII and of this further adjustment are shown in the following Table, in which are set out for comparison the figures from the last two columns of Table VII which are applicable to the old freights.

TABLE XIV.

Revised prices to which imported Steel must be brought.

	Under old freights.		Under revised freights.	
	Tested.	Untested.	Tested.	Untested.
	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Rails	102	..	108	..
Fishplates	132	..	139	..
Structural sections	108-4	108-2	116-6	116-3
Bars	110-4	113-2	119-0	121-7
Plates	114-5	116-3	124-0	125-8
Billets . . . . .	..	82	..	90
Sheet bar . . . . .	..	82	..	90
Black sheets	143-2	142-0	152-4	151-2
Galvanized sheets . . . . .	..	185-1	..	194-8
Sleepers . . . . .	..	102	..	108-0

140. It would then become necessary to revise the duties on the basis of the differences between the figures in the two last columns of Table XIV and the two first columns of Table VII. The amount available in the form of surplus on rails and fishplates and on British sections and plates would be much less than under the existing freights, but such amount as is available is utilized in the preparation of the following Table in the way indicated in paragraphs 103 to 107 in order to make the figures comparable with those in Table X, the figures of which are repeated for convenience of comparison.

TABLE XV.

Revised duties absorbing surpluses.

	Under old freights.			Under revised freights.		
	British.	Uniform.	Non-British.	British.	Uniform.	Non-British.
	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Rails . . . . .	..	17*	..	..	17*	..
Fishplates . . . . .	..	23*	..	..	23*	..
Structural sections	18*	33	36	18*	44	48
Bars	21	38	37	29	49	50
Plates	18*	21	32	18*	31	42
Semis . . . . .	..	25	..	..	33	..
Black sheets	31	46	46	40	55	55
Galvanized sheets . . . . .	..	42	..	..	52	..
Sleepers . . . . .	..	16	..	..	22	..

* Or revenue duty, whichever is higher.

141. It will be observed that whereas Table X indicated the possibility of reducing the duties to below the present levels on all forms of steel required by the general market (*i.e.*, about two-thirds of the whole) and that the duties on the remaining articles would only nominally be raised, the proposed revision of freight rates not only makes nearly all such reductions of duty as remain smaller than they otherwise would be, but necessitates the raising of the already high duties on untested sections and bars. It should be clearly realised that these increases of duty, or failure to reduce duties substantially, would not arise from any failure by the Company to increase its efficiency and to lower its costs, but would be due to increases in Indian freight rates above the levels prevailing for the last 25 years. In the opinion of the Company the old rates have been adequate in view of the very large amount (over 400,000,000 ton-miles yearly in recent years) of traffic involved and of its high concentration. The Company must disclaim responsibility for any additional burden on the consumers of steel which might arise from the raising of freight rates. If the outcome of the negotiations now proceeding is that the Company must pay higher freights, the Company will have no option but to request the Board to take the increase of expenditure into accounts in assessing the measure of protection required for the next seven years.

CHAPTER XII.

SUMMARY.

142. During the first six years, April 1927 to March 1933, of the current scheme of protection, the Company succeeded in reducing the cost of making rolled steel to the extent required by the Tariff Board in 1926, the costs actually obtained in the early part of 1933 being lower than those anticipated by the Board for 1933-34. The average costs for the whole period, however, were not as favourable as the Board's estimates, owing to the serious and prolonged effects on efficiency of the strikes of 1928.

143. In spite of the heavy fall in the consumption of steel in India, the Company in 1932-33 produced and sold practically as much steel of those kinds which are taken by the general market as the Board estimated that the Company would be able to produce by 1933-34; and the average quantity of these kinds of steel produced and sold in the five years 1927-28 and 1929 (April) to 1933 (March) was slightly greater than the Board's estimate of the average production for the whole period. In 1932-33 the Company supplied over 80 per cent. of India's consumption of sections, bars and plates and 40 per cent. of the consumption of sheets. The drastic reduction in the orders for rails, fishplates and sleepers, which according to the Board's estimates should have absorbed 43 per cent. of the Company's output of saleable steel, made it impossible for the Company to attain the estimated total output of steel. The orders for rails alone fell from over 180,000 tons for 1927-28 to about 35,000 tons for 1932-33, whereas the Board had estimated that the Company would receive orders averaging 195,000 tons annually.

144. The fall in the consumption of steel in India was very marked during the last three years in respect of steel of tested quality. As the price of this material was distinctly higher than that of untested steel, the Company's position was unfavourably affected. A further result of the fall in demand, particularly during the last three years, was that the Company had to sell increasing proportions of its output in distant parts of India such as Bombay, Karachi, Madras and Rangoon. This involved much heavier expenditure on freights in the distribution of steel than had been estimated by the Board; the anticipated "freight advantage" was turned into a disadvantage, at the expense of the Company.

145. The prices of Continental sections, bars and plates, in competition with which the Company has to sell its untested material, were, during the first three years, a little higher than the Board's estimates, but during the last three years

they were very seriously lower than the estimates, while the prices of sheets, both black and galvanized, whether from the Continent or from the United Kingdom, have been lower than the estimates throughout the whole period, and were very much lower towards the end. The prices of other British material have in the aggregate been about equal to or slightly higher than the estimates, but the demand for the tested material which the Company sells in competition with British steel has been relatively so small that the maintenance or improvement of these prices has had very little effect in counterbalancing the falls in the prices of other steel.

146. The scheme of protection framed by the Board in 1926 did not make allowance for the costs of distribution of Indian steel (other than on railway freight) or for unavoidable differences between the net prices which could be realised by the Indian manufacturer and the nominal prices of imported steel. The scheme also assumed that the landing charges, etc. connected with imported steel were higher than they are in practice. In respect of these factors and certain minor items, the Company's net realisations were in the aggregate seriously lower than the scheme assumed that they would be.

147. The only important factors outside the Company's own control which developed in a way favourable to the Company were the falls in the prices of coal, stores and spelter, but the fall in the price of spelter was one of the factors which led to the fall in the price of imported galvanized sheets; hence it did not actually benefit the Company. Government assisted the Company by increasing the duty on galvanized sheets from the beginning of 1931, although this was partly offset by further falls in the price of imported sheets, and by paying a higher price for the rails ordered for 1930-31 and 1931-32 only. This higher price, however, did very little to offset the effect of the fall in the quantities of rails ordered. In addition, the surcharge levied on all import duties since October 1931 assisted the Company to a moderate extent.

148. The total effect of the changes in the conditions in which the Company has had to work is that over the six years April 1927 to March 1933, the Company's surplus was less by about Rs. 4½ crores than it would have been if the Board's estimates of 1926 had been fulfilled. The Company gained about Rs. 2 crores by reduced prices of coal in comparison with the 1926 estimate; on the other hand a somewhat larger sum was lost by the effects, direct and indirect, of the strikes of 1929; there was a deficit of nearly Rs. 2 crores in the Company's surplus due to the causes referred to in paragraph 139; the shortage of rail orders caused a loss of surplus of about Rs. 160 lakhs; the fall in prices of imported steel caused a loss of about Rs. 73 lakhs, after allowance has been made for the surcharge on the import duties; and the fall in the proportion of tested steel together with the change from freight advantages to disadvantages reduced the Company's surplus by Rs. 56 lakhs. The net profits of the Company during the last six years have therefore been only a small fraction of what the Board aimed at providing.

149. The necessity for the continuance of protection is obvious from the statistics accompanying this representation. The Company suggests that the new scheme should be applied for seven years from April 1934. The Company will further develop its plant and it estimates that it will produce an average of 530,000 tons of saleable steel a year, as against an average of about 430,000 tons a year for the period 1927 to 1933 (excluding the strike year 1928-29). On this rate of production, the Works costs should be as shown in paragraph 50. All these costs are lower than any hitherto attained.

150. In Chapter VI the Company discusses the valuation of the plant for the purpose of calculating the depreciation required and shows that it will be maintained fully up to the valuation: fixed by the Board in 1926. The various items of overhead charges are dealt with; and it is shown that the incidence of overheads and fair profit per ton of saleable steel to be produced will be slightly less than was assumed by the Board in 1926.

151. The prices of imported steel prevailing in the first six months of 1933 are set out in Chapter VII together with notes on the method of ascertainment of

the prices and on landing charges. In the aggregate, these prices are seriously lower than those prevailing at the time of the Board's Enquiry in 1926.

152. The import prices need to be adjusted on account of the freight disadvantages to which the Company's steel is subjected as compared with imported steel landed at Indian ports. Further adjustments are required on account of discounts, commissions, rebates, etc., and allowances must be made for such factors as the necessity of selling in complete wagon-loads rather than in small lots. The sales for 1932-33 are analysed in detail and the Company submits that suitable allowances should be made for all the above factors in framing the next scheme of protection.

153. The protective duties required are worked out both on a uniform basis and on a differential basis. If the latter is continued, the duties required on British steel will in all cases be less than those at present in force; for most kinds of steel duties at the rates of the existing revenue duties will be sufficient, but the duties required on bars and sheets from the United Kingdom are at somewhat higher rates than the ordinary revenue duties. On Continental steel substantial duties are still required, but they are lower than the existing duties for all kinds of steel except structural sections and bars, and the duties on these two materials also will be brought below the present levels if they are given the benefit of the surplus which the Company may expect to earn under the new scheme on rails, fishplates, British sections and plates. Proposals are made for certain changes in the Tariff Schedule to avoid evasion and also for powers to be exercised by Government if prices of foreign steel should fall further.

154. So far as the success of the industry is within the control of the manufacturer, the main factor is efficiency and economy in production. The extent to which the Company's efforts in this direction have been successful is shown in the statistics of costs. Marked improvements have been made in coal consumption, yield of good steel from ingots, increasing proportion of ingots produced by the cheaper method, increasing output per man and the closing down of old and relatively inefficient plant. These improvements have been due to close concentration by the staff and workmen on efficiency, to better organization and to the provision of new plant.

155. The Company has achieved substantial success in its endeavours to provide good technical training for practically all classes of its Indian employees. As a consequence, it has been able to Indianise its staff to such an extent that the number of covenanted employees (European) at the Works has fallen from 161 in June 1926 to 70 in April 1933. This policy will be actively continued as the experience of the Indian staff increases.

156. It is shown in paragraphs 136 to 141 that if the freights payable by the Company to the Bengal Nagpur Railway both on raw materials brought to the Works and on saleable products despatched from the Works were substantially raised, it would be necessary that the protective duties be correspondingly raised. This would involve an addition to the burden on the consumers of steel in India for which no responsibility would lie with the Company.

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STATEMENT 1 (A).

WORKS COSTS: ANNUAL AVERAGES ARRANGED BY DEPARTMENTS.

	1923-24.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.	Jan. to June 1933.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs. per ton.
Pig Iron	36.3	32.7	28.5	25.0	22.9	24.4	22.7	22.7	20.8	19.4	18.6
Open Hearth Ingots	68.6	60.6	55.5	51.3	49.5	51.1	50.1	48.5	44.2	42.1	40.9
Duplex Plant Ingots	82.1	70.8	58.8	49.7	43.8	47.0	46.3	44.3	40.0	36.7	35.6
Average all Ingots	71.0	65.1	57.3	50.4	46.2	48.9	47.9	45.9	41.4	38.4	37.2
Old Blooming Mill	85.8	77.0	73.2	72.2	70.6	73.2	72.7	69.8	59.9	59.0	..
New Blooming Mill	94.0	85.4	68.4	60.0	54.6	58.1	57.1	54.5	48.4	44.6	43.1
Old 28-inch Mill	120.9	110.3	113.0	112.1	104.7	104.5	108.1	106.1	88.8	91.8	..
New 28-inch Mill . . . . .	..	113.2	96.0	79.5	73.4	85.3	80.7	77.3	74.0	67.1	64.8
Old Bar Mills	132.5	123.3	125.2	124.9	121.8	128.4	136.8	124.1	103.3	89.1	93.2
Merchant Mill . . . . .	..	134.1	104.6	94.9	85.3	86.9	84.9	82.4	72.7	68.0	64.9
Plate Mill	142.1	145.8	124.3	103.3	90.4	94.4	94.7	89.3	82.7	74.1	70.0
Sheet-bar and Billet Mill	115.8	96.1	77.8	69.5	63.7	67.2	65.5	62.6	55.7	51.3	49.2
Black Sheets . . . . .	..	203.9	181.2	164.0	136.3	131.6	128.2	122.6	105.7	99.5	95.8
Galvanized Plain Sheets . . . . .	..	332.1	298.9	261.5	225.7	204.9	203.4	178.5	145.3	133.2	125.3
Galvanized Corrugated Sheets . . . . .	..	357.5	314.2	272.2	239.5	212.4	210.2	184.0	149.8	135.1	126.8
Sleepers . . . . .	..	..	119.4	130.0	80.7	84.1	87.1	84.2	..	61.4	60.1
All Saleable Steel: Average	126.5	119.9	115.2	97.3	86.1	92.5	93.3	89.8	76.9	72.7	69.6

STATEMENT I (B).

WORKS COSTS: ANNUAL AVERAGES ARRANGED BY PRODUCTS.

	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.	Jan. to June, 1933.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs. per ton.
Rails *	99.2	80.4	74.4	86.5	82.2	77.8	74.6	67.8	64.8
Fish-plates	125.2	124.9	121.4	127.0	136.8	123.5	103.3	89.1	93.2
Structural Sections	112.7	108.2	97.1	96.7	105.5	91.2	76.9	69.3	65.9
Bars	109.7	101.7	89.8	90.1	89.0	86.4	73.4	68.9	65.1
Plates	124.3	103.3	90.4	94.4	94.7	89.3	82.7	74.1	70.0
Black Sheets	181.2	164.0	136.3	131.6	128.2	122.6	105.7	99.5	95.8
Galvanized Sheets †	311.3	269.4	234.9	210.4	207.8	182.7	148.1	134.5	126.5
Sleepers . . . . .	..	..	80.7	84.1	87.1	84.2	..	61.4	60.1
Tin-bars	77.8	69.5	63.7	67.2	65.5	62.6	55.7	51.3	49.2
Other Semis	113.0	112.1	104.7	104.5	72.4	64.6	56.0	51.3	49.1

* Heavy and medium rails only. Light rails (of which the output is very small) are classified as bars in this and subsequent statements.

† The sub-division of these sheets into plain and corrugated is shown in statement I (a).

STATEMENT 2 (B).

WORKS COSTS : ANNUAL AVERAGES ARRANGED BY PRODUCTS : ADJUSTED TO UNIFORM PRICES OF COAL (RS. 5-12 PER TON) AND SPELTER (RS. 235 PER TON).

	Tariff Board's 1926 Estimates.		1925-26.	1926-27.	1927-28.	1929-30.	1930-31.	1931-32.	1932-33.	Jan. to June, 1933.
	Average, 1927-34.	1933-34.								
	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Rails	63.2	54.5	89.5	77.0	72.7	83.1	78.2	74.8	69.0	66.2
Fish-plates	95.2	82.9	112.9	119.6	119.6	138.0	124.7	103.5	90.0	95.0
Structural Sections	73.2	62.0	102.4	103.6	95.3	97.5	91.5	80.0	70.3	67.4
Bars	80.2	69.9	99.9	97.1	84.5	90.9	86.8	73.5	69.8	66.9
Plates	84.2	73.2	113.6	99.3	88.5	95.7	89.7	83.0	75.3	72.0
Black Sheets	135.2	114.9	170.0	156.8	134.2	129.2	123.1	106.0	100.8	98.0
Galvanized Sheets	196.8	165.5	237.5	207.4	193.6	181.4	169.2	148.6	137.4	128.4
Sleepers	66.2	64.9	109.3	120.4	78.8	88.1	84.6	..	62.4	61.7
Tin-bars	55.2	48.3	70.2	66.1	62.2	66.2	62.9	55.9	52.2	50.7
Other Semis . . . . .	..	..	102.7	107.4	102.7	73.0	64.9	56.2	52.2	50.6

N.B.—The Tariff Board's estimates were originally based on a price of Rs. 8 per ton for coal and a consumption of 3.47 tons as average for the period and 3.14 tons for 1933-34 and on a price of Rs. 555 per ton for spelter. These have been adjusted by assuming that the consumption of coal per ton of steel would be the same for all products : the errors introduced by this simplified method are small.

All other figures in this statement and those in statement 2(a) have been adjusted on the basis of the actual consumption throughout.

STATEMENT 3 (A).

OUTPUT OF STEEL: ANNUAL TOTALS ARRANGED BY DEPARTMENTS. (THOUSANDS OF TONS.)

	1923-24.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.	Jan. to June, 1933.
Pig Iron.	442.6	552.7	573.2	612.8	644.3	496.7	740.6	714.3	804.7	672.1	339.7
Open Hearth Ingots	193.4	206.1	220.3	230.2	251.6	182.8	241.8	243.9	210.6	186.6	95.2
Duplex Plant Ingots	41.6	164.0	250.2	300.2	347.9	213.3	339.0	380.7	391.7	404.1	215.5
Old Blooming Mill	181.5	154.1	87.8	70.0	61.5	33.9	56.5	54.7	52.2	4.7	..
New Blooming Mill	23.7	158.9	321.0	391.7	449.5	302.5	444.1	478.9	477.3	510.0	273.1
Old 28-inch Mill	93.1	85.9	45.2	36.8	38.8	26.2	40.0	36.7	41.7	3.7	..
New 28-inch Mill . . . . .	..	54.8	94.2	146.2	168.0	86.0	131.4	128.2	82.8	101.9	59.6
Old Bar Mills	41.2	33.8	28.0	23.5	18.4	9.4	11.3	14.0	5.8	10.6	3.8
Merchant Mill . . . . .	..	19.7	60.1	65.3	81.0	58.0	98.0	99.1	113.0	106.2	55.4
Plate Mill	22.2	18.3	20.9	27.1	25.9	21.6	31.7	34.7	23.3	28.9	17.3
Sheet-bar and Billet Mill	6.7	63.1	150.5	155.9	177.2	140.9	206.2	246.1	319.2	317.5	166.8
Black Sheets . . . . .	..	5.7	28.6	22.2	27.1	20.3	38.3	47.2	50.0	55.8	31.9
Galvanized Plain Sheets . . . . .	..	2.1	12.6	12.3	8.5	10.0	18.5	26.4	28.7	46.9	26.3
Galvanized Corrugated Sheets . . . . .	..	1.9	10.3	9.2	5.7	7.4	12.0	20.3	21.1	36.9	23.5
Sleepers . . . . .	..	..	1.8	0.4	4.4	0.9	8.2	2.2	..	7.6	3.1
Total Saleable Steel	163.2	248.0	319.9	374.2	428.7	275.8	411.9	433.7	449.9	426.9	233.3
Saleable Steel, included in the above, made from imported billets . . . . .	..	..	..	..	20.3	8.7	10.2	..	..	..	..

STATEMENT 3 (B)

OUTPUT OF STEEL: ARRANGED BY PRODUCTS ALSO TARIFF BOARD'S ESTIMATES FOR 1927-34 AND 1933-34.

(Thousands of Tons.)

	Tariff Board's Estimates.		Actual Output.						
	Yearly Average, 1927-34.	1933-34.	1927-28.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.	Jan. to June, 1933.
Rails	195	210	174	89	136	112	47	38	15
Fish-plates	7	8	7	4	4	6	2	2	1
Structural Sections	70	95	52	39	63	83	103	99	60
Bars	90	100	72	49	80	77	93	86	45
Plates	30	35	26	21	32	35	23	29	17
Black Sheets	13	15	19	11	21	23	24	12	8
Galvanized Sheets	30	47	9	10	18	27	29	47	26
Sleepers	15	30	4	1	8	2	..	8	3
Tin-bars	50	60	65	52	48	57	65	53	22
Other Semis* . . . . .	..	..	1	..	2	12	64	53	36
Total	500	600	429	276	412	434	450	427	233

* Including Sleeper-bars.

STATEMENT 4.
CONSUMPTION OF STEEL IN INDIA.

Despatches by Tata Iron and Steel Company to Indian Market plus imports into British India of corresponding kinds of steel.
(Thousands of Tons.)

	1923-24.		1924-25.		1925-26.		1926-27.		1927-28.	
	Total.	Tisco despatches.	Total.	Tisco despatches.	Total.	Tisco despatches.	Total.	Tisco despatches.	Total.	Tisco despatches.
	Tons.	Per cent.	Tons.	Per cent.	Tons.	Per cent.	Tons.	Per cent.	Tons.	Per cent.
Rails and Fish-plates*	177.7	48.4	137.4	87.3	172.2	73.8	181.9	88.1	336.1	55.7
Structural Sections	152.5	15.5	166.4	22.7	189.5	25.2	182.8	28.8	258.9	18.9
Bars *	189.7	10.0	147.6	20.5	175.1	34.0	188.2	33.6	194.5	33.8
Plates	112.4	3.8	71.5	23.4	60.1	38.2	58.2	46.3	71.3	37.9
Black Sheets	..	..	55.1	4.4	59.5	22.5	39.9	28.9	49.1	31.7
Galvanized Sheets	165.0	..	204.9	0.9	294.4	4.0	287.6	4.5	338.0	2.7
Tin-bars	14.3	100.0	29.5	100.0	39.9	100.0	51.4	100.0	62.5	100.0
Other Government Imports†	11.0	..	14.2	..	26.1	..	15.2	..	22.9	..
Total	822.6	17.9	826.6	28.8	1016.8	31.8	984.6	37.9	1333.3	31.2
Steel Sleepers and Sleeper-bars	..	..	..	..	..	..	..	..	..	..
Blooms and Billets	0.5	72.3	1.7	62.7	2.0	75.7	2.5	83.4	31.2	9.1
Sheet-bars	..	..	..	..	..	..	..	..	..	..
Miscellaneous	16.5	..	11.1	..	19.2	..	17.5	..	33.7	..
Total	17.0	2.0	12.8	8.2	21.2	7.0	20.0	10.3	69.3	18.9
GRAND TOTAL	839.6	17.6	839.4	28.5	1038.0	31.3	1004.6	37.3	1402.6	30.1

* Including Imports by Government except for 1932-33, for which year these imports are included in "Other Government Imports".

† Mainly Plates, Sheets and Structural Sections.

N.B.—Imports entering by Kathiawar Ports not taken into account. These imports were probably about 5 per cent. of the total consumption. Semi-finished Steel despatched by the Tata Iron and Steel Company for export from India is not included in the above figures.

STATEMENT 4.

CONSUMPTION OF STEEL IN INDIA.

Despatches by Tata Iron and Steel Company to Indian Market plus imports into British India of corresponding kinds of steel.

(Thousands of Tons.)

	1928-29.		1929-30.		1930-31.		1931-32.		1932-33.	
	Total.	Tisco des-patches.	Total.	Tisco des-patches.	Total.	Tisco des-patches.	Total.	Tisco des-patches.	Total.	Tisco des-patches.
	Tons.	Per cent.	Tons.	Per cent.	Tons.	Per cent.	Tons.	Per cent.	Tons.	Per cent.
Rails and Fish-plates *	139.0	64.2	150.4	81.9	136.5	92.9	64.6	94.6	45.1	98.5
Structural Sections	240.2	15.8	219.4	27.0	184.1	38.3	135.2	59.7	134.8	79.6
Bars *	153.4	31.7	174.6	41.8	129.2	59.9	132.6	74.2	122.9	82.2
Plates	63.0	30.0	69.6	47.1	50.0	61.6	31.3	75.2	34.6	84.6
Black Sheets	49.0	29.2	43.0	44.0	40.9	52.5	35.5	61.4	32.1	48.4
Galvanized Sheets	334.9	2.9	271.9	5.8	166.6	12.0	114.5	27.2	115.3	37.2
Tin-bars	49.3	100.0	47.7	100.0	53.6	100.0	51.5	100.0	50.7	100.0
Other Government Imports†	24.6	..	9.8	..	4.1	..	2.8	..	1.1	..
Total	1053.4	25.5	986.4	38.6	765.0	53.4	568.0	64.8	536.6	72.9
Steel Sleepers and Sleeper-bars	56.9	1.6	63.1	12.8	26.5	..	37.7	86.1	14.1	76.3
Blooms and Billets	11.1	14.3	11.7	24.6	4.9	68.6	11.5	87.0	6.4	82.4
Sheet-bars	..	..	..	..	..	..	..	..	8.0	100.0
Miscellaneous	24.5	..	17.5	..	15.0	..	10.0	..	9.0	..
Total	92.5	2.7	92.3	11.9	46.4	31.2	59.2	71.5	37.5	64.0
GRAND TOTAL	1145.9	23.7	1078.7	35.4	811.4	51.2	627.2	65.4	574.1	72.3

* Including Imports by Government except for 1932-33, for which year these imports are included in "Other Government Imports".

† Mainly Plates, Sheets and Structural Sections.

N.B.—Imports entering by Kathiawar Ports not taken into account. These imports were probably about 5 per cent. of the total consumption. Semi-finished Steel despatched by the Tata Iron and Steel Company for export from India is not included in the above figures.

STATEMENT 5.

C. I. F. PRICES OF BRITISH MATERIALS PER TON.

	Tariff Board Prices.	1927-28.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.	Jan. to June 1933.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Structural Sections	7 7 0	8 13 4	8 6 4	8 5 10	8 6 8	8 6 0	8 5 1	8 5 0
Bars	7 13 0	8 16 2	8 8 7	8 11 9	7 14 9	7 8 6	7 0 3	7 0 0
Plates 3/16 inch	8 4 0	8 19 5	8 16 4	8 15 5	8 15 4	8 14 0	8 9 2	8 7 6
Black Sheets 14/18 Gauge	11 0 6	10 15 4	10 6 4	9 16 2	9 7 4	9 3 6	8 15 10	8 15 0
Galvanized Corrugated Sheets 24 Gauge.	17 11 0* (Plain and Corrugated).	15 5 3	14 15 0	14 2 5	12 8 4*	10 9 10	11 5 9†	12 7 6†

* The price of Galvanized Sheets was estimated by the Tariff Board in October 1930 at £12-4-6 for the purpose of the adjustment of duty then recommended.

† From October 1932 onwards the prices were the result of arrangement made under the Ottawa Agreement.

STATEMENT 6.

C. I. F. PRICES OF CONTINENTAL MATERIALS PER TON.

	Tariff Board Prices.	1927-28.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.	Jan. to June 1933.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Structural Sections †	5 16 0	5 17 0	6 3 0	6 4 0	5 5 5	4 9 6	4 5 1	4 8 2
Bars	6 3 0	6 0 0	7 0 0	6 9 0	5 6 9	4 9 6	4 7 0	4 13 5
Plates 3/16 inch	6 9 0	7 4 0	7 9 0	7 6 0	6 4 2	5 5 0	5 0 10	5 17 9
Black Sheets 14/18 Gauge	8 14 0	7 10 0	7 14 9	7 9 4	6 9 2	6 4 8	6 7 5	6 19 6
Galvanized Corrugated Sheets 24 Gauge.	*	..	14 8 4	13 17 2	12 3 3	10 12 6	10 6 0†	..

* The Tariff Board did not make any separate estimate in 1926 for Continental Galvanized Sheets. Its general estimates are shown in statement 5.
 † These are the base prices of beams, i.e., they apply mainly to "heavy" structural sections; the prices of "light" sections are practically identical with those of bars. The prices of "light" British sections on the other hand are practically identical with those of "heavy" British sections.
 ‡ April to September only.

STATEMENT 7.

YEARLY AVERAGE PRICES PER TON OF BRITISH STEEL LANDED AT INDIAN PORTS.

	Tariff Board Prices (Table XXI 1926 Report).	1927-28.	1928-29.	1929-30.	1930-31.†	1931-32.†	1932-33.†	Jan. to June 1933.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Structural Sections	123	138-5	132-6	132-3	134-2	135-3	136-4	135-7
Bars	134	148-7	141-1	144-2	133-2	131-4	129-1	127-9
Plates 3/16 inch	135	143-8	140-3	140-7	141-1	141-8	140-3	138-6
Black Sheets 14/18 Gauge	188	182-8	175-3	169-7	164-2	165-1	163-5	162-4
Galvanized Corrugated Sheets 24 Gauge.	270* (Plain and Corrugated).	238-4	229-4	222-7	209-6	218-7	229-0	219-6

N.B.—The above figures (except the Tariff Board Prices) represent those in statement 5 converted into rupees at the average exchange of each year plus the average landing charges (Rs. 2-12-0 per ton) plus the average customs duty for each year on each class of material.

* From 1st January 1931 the estimated price of Galvanized Sheets was Rs. 236 per ton as a result of the Board's revision of the estimated c. i. f. price and of the duty.

† The duties on galvanized sheets changed during each of these years :

(a) on 1st January 1931 from Rs. 30 to Rs. 67 per ton.

(b) on 1st October 1931 from Rs. 67 to Rs. 83-12-0 per ton.

(c) on 1st January 1933 from Rs. 83-12-0 to { (i) Rs. 83 on non-British sheets.
(ii) Rs. 53 on British sheets rolled from non-Indian bars.
(iii) Rs. 30 on British sheets rolled from Indian bars.

The duties on all other materials were increased from 1st October 1931 by a surcharge of 25 per cent.

The above averages have been adjusted in accordance with these changes.

STATEMENT 8.

YEARLY AVERAGE PRICES PER TON OF CONTINENTAL STEEL LANDED AT INDIAN PORTS.

	Tariff Board Prices (Table XXI 1926 Report).	1927-28.	1928-29.	1929-30.	1930-31.*	1931-32.*	1932-33.*	Jan. to June 1933.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Structural Sections †	116	111-6	114-7	116-9	103-9	96-9	96-9	98-6
Bars	127	120-6	133-1	126-5	111-8	104-3	106-9	110-8
Plates 3/16 inch	128	135-8	138-1	136-9	122-5	113-5	114-8	125-7
Black Sheets 14/18 Gauge	181	162-8	164-9	162-3	148-9	152-6	161-3	168-9
Galvanized Corrugated Sheets 24 Gauge.	..	..	225-0	219-2	206-2	220-5	223-4†	..

N.B.—These figures are based on those in statement 6. See note on statement 7.

* See corresponding note on statement 7.

† See corresponding note on statement 6.

STATEMENT 9.

AVERAGE REALISATIONS PER TON ON TESTED MATERIALS DESPATCHED.

—	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Structural Sections—						
Light	136.2	125.8	132.6	133.3	126.5	124.7
Heavy	128.9	125.2	125.1	130.4	123.1	120.7
Average	131.6	125.3	127.6	131.2	123.9	121.5
Bars	138.8	131.8	134.3	127.0	111.5	118.3
Plates	137.8	126.6	131.3	124.3	126.9	125.3
Black Sheets	193.8	195.4	195.6	180.7	161.2	..
Galvanized Sheets			See Statement 10			

N.B.—Basis for 1932-33 is more exact than previous years.

STATEMENT 10.

AVERAGE REALISATIONS PER TON ON UNTESTED MATERIALS DESPATCHED.

—	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs. †
Structural Sections—						
Light	124.4	113.7	121.3	110.4	97.4	92.0
Heavy	137.5	116.3	117.2	110.6	95.5	89.4
Average	128.2	114.6	119.8	110.5	96.1	90.3
Bars	125.3	109.6	120.9	107.0	97.1	92.2
Plates	114.7	107.8*	92.2*	111.0	105.2	101.9
Black Sheets	167.6	164.4	156.5	146.6	142.2	149.7
Galvanized Sheets—						
Plain	265.0	256.2	242.9	217.3	224.4	221.4
Corrugated	258.9	234.5	230.1	213.1	209.3	208.4
Average	261.0	239.0	234.1	214.2	213.0	211.3

N.B.—Untested includes non-standard and defectives, as these form part of production figures.

Kumardhubi materials are included in the above.

Basis for 1932-33 is more exact than previous years.

* An unusually high proportion of non-standard plates was sold in these years at prices much below those of ordinary untested plates.

† The realisations for 1932-33 are reduced by 0.26 per cent. as provision for bad debts on the basis of a six-years average.

(See also foot-note, statement 11.)

STATEMENT 11.

AVERAGE REALISATIONS PER TON OF TESTED AND UNTESTED MATERIALS TOGETHER.

—	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Structural Sections—						
Light	128.0	117.1	124.7	116.8	101.0	94.4
Heavy	131.0	121.8	121.9	120.7	100.7	93.7
Average	130.2	119.4	123.3	119.1	100.8	93.9
Bars	130.2	115.0	124.3	112.1	98.5	93.8
Plates	132.4	119.8	119.8	121.4	114.6	111.7
Black Sheets	174.5	171.0	159.4	149.4	145.5	149.7
Galvanized Sheets—						
Plain	265.0	256.2	242.9	217.3	224.4	221.4
Corrugated	258.9	234.5	230.1	213.1	209.3	208.4
Average	261.0	239.0	234.1	214.2	213.0	211.3
Total Sales debits not allocated to individual products (Rs. lakhs)	1.8	3.3	5.3	5.1	7.6	Nil.

The above figures are averages of the corresponding figures in statements 9 and 10 weighted in proportion to the quantities for which orders were booked in tested and untested qualities in each year.

The figures in the lowest lines are the totals of sundry sales debits (including provision for bad debts) not allocated to individual products prior to 1932-33.

STATEMENT 12.

SLEEPER-BARS AND SLEEPERS : PRICES AND QUANTITIES DESPATCHED.

	Sleeper Bar.		Sleepers.	
	Despatches.	Prices.*	Despatches.	Prices.*
	Tons. (Thousands).	Rs. per ton.	Tons (Thousands).	Rs. per ton.
1927-28 . . . . .	..	..	4.4	118.3
1928-29 . . . . .	..	..	0.9	117.1
1929-30 . . . . .	..	..	8.1	110.4
1930-31	9.6	78.1	1.5	91.0
1931-32	32.1	71.5	0.3	101.1
1932-33	2.8	68.0	7.9	90.9
Annual Average for 6 years	7.4	72.5	3.9	104.1

* The prices are converted to the equivalents f.o.r. Tatanagar.

STATEMENT 13.

BLOOMS, BILLETS AND SHEET-BARS.

(For Indian Market.)

	Despatches.	Prices.*
	Tons (Thousands).	Rs. per ton.
1927-28	2.8	106.5
1928-29	1.6	102.1
1929-30	2.9	92.0
1930-31	3.3	96.5
1931-32	10.0	58.0
1932-33	13.3	66.6
Annual Average	5.6	74.4

* The prices are converted to the equivalents f.o.r. Tatanagar.

STATEMENT 14.

PERCENTAGE OF ORDERS BOOKED, TESTED AND UNTESTED MATERIALS. (GOOD MATERIALS ONLY.)

	TARIFF BOARD ESTIMATES.		ACTUALS.											
			1927-28.		1928-29.		1929-30.		1930-31.		1931-32.		1932-33.	
	Tested.	Untested.	Tested.	Untested.	Tested.	Untested.	Tested.	Untested.	Tested.	Untested.	Tested.	Untested.	Tested.	Untested.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Structural Sections .	57.1	42.9	61.4	38.6	48.7	51.3	47.7	52.3	44.4	55.6	17.4	82.6	15.3	84.7
Bars	28.6	71.4	38.5	61.5	27.4	72.6	28.6	71.4	27.0	73.0	24.8	75.7	9.3	90.7
Plates	71.4	28.6	81.6	18.4	69.2	30.8	82.7	17.3	79.0	21.0	43.3	56.7	40.4	59.6
Black Sheets . . .	20.0	80.0	27.3	72.7	21.8	78.2	7.5	92.5	8.2	91.8	1.8	98.2	0.2	99.2

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STATEMENT 15.

FINANCIAL EFFECTS OF CHANGES IN C.I.F. PRICES FROM PRICES ESTIMATED BY THE TARIFF BOARD.

	1930-31.			1931-32.			1932-33.		
	Tested.	Untested.	Total.	Tested.	Untested.	Total.	Tested.	Untested.	Total.
	Rs. lakhs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs. lakhs.
Structural Sections	4.9	-3.2	1.7	2.3	-15.1	-12.8	1.8	-17.3	-15.5
Bars	0.2	-6.1	-5.9	-0.7	-15.8	-16.5	-0.7	-18.7	-19.4
Plates	2.1	-0.2	1.9	0.7	-2.1	-1.4	0.4	-3.2	-2.8
Black Sheets	-0.4	-6.4	-6.8	-0.1	-7.6	-7.7	0.0	-3.8	-3.8
Galvanized Sheets . . . . .	..	-13.6	-13.6	..	-6.7	-6.7	..	-5.9	-5.9
TOTAL	6.8	-29.5	-22.7	2.2	-47.3	-45.1	1.5	-48.9	-47.4
Effect of Surcharge on duty . . . . .	..	..	..	0.9	12.8	13.7	1.8	24.7	26.5
Net effect	6.8	-29.5	-22.7	3.1	-34.5	-31.4	3.3	-23.2	-20.9

STATEMENT 16.

FINANCIAL EFFECTS OF CHANGES IN PROPORTIONS OF TESTED AND UNTESTED STEEL SOLD.

	1930-31.				1931-32.				1932-33.			
	TESTED.		UNTESTED.		TESTED.		UNTESTED.		TESTED.		UNTESTED.	
	Changes in		Changes in		Changes in		Changes in		Changes in		Changes in	
	Quantity.	Profits.	Quantity.	Profits.	Quantity.	Profits.	Quantity.	Profits.	Quantity.	Profits.	Quantity.	Profits.
	Tons thousands.	Rs. lakhs.	Tons thousands.	Rs. lakhs.	Tons thousands.	Rs. lakhs.	Tons thousands.	Rs. lakhs.	Tons thousands.	Rs. lakhs.	Tons thousands.	Rs. lakhs.
Structural Sections	+10.1	+4.0	-10.1	1.9	+41.1	19.3	-41.1	7.9	+41.6	21.7	-41.6	8.9
Bars	+1.2	+0.5	-1.2	0.3	+4.0	1.5	-4.0	0.9	+16.5	8.1	-16.5	3.9
Plates	-2.6	-0.9	+2.6	0.6	+6.6	2.9	-6.6	1.5	+9.0	4.6	-9.0	2.5
Black Sheets	+0.3	+0.2	-0.3	0.1	+4.8	2.4	-4.3	1.6	+2.4	1.2	-2.4	1.2
Total . . . . .	..	+3.8	..	-1.7	..	+26.1	..	-11.9	..	+35.6	..	-16.5
Combined effect on year's profits (Rs. lakhs).		+2.1				+14.2				+19.1		

NOTE.—In the above statement a plus sign means that the quantity sold of the kind of steel in question or the profits derived from the total sales of that kind of steel for the year would have been greater (and, correspondingly, a minus sign means less) than they actually were if the total quantity of steel sold had been distributed between the tested and untested qualities in the proportions estimated by the Board in 1926. Thus a plus sign in the bottom line ("combined effect") indicates that the Company would have made more profit by the amount shown in the figures than was actually made.

STATEMENT 17.

(A) FREIGHT ADVANTAGES AND DISADVANTAGES : YEARLY AVERAGES ON TOTAL SALES.

	Estimated by Tariff Board 1926.	ACTUALS.					
		1927-28.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.†
	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Structural Sections*	1	2.1	2.3	0.3	1.2	-1.3	-1.2
Bars	1	4.3	1.1	2.6	-0.3	-3.8	-5.0
Plates	2	-0.9	-2.8	-3.6	-4.4	-5.4	-4.4
Black Sheets	3	7.1	3.5	4.8	1.2	-1.6	4.2
Galvanized Sheets	8	15.8	13.0	15.7	7.1	3.5	1.4
Weighted average all products	2.1	4.2	1.6	2.7	0.1	-2.0	-2.1

* In the figures for "actuals," light structural sections are included with bars upto 1931-32.

† Non-standard and defective materials are included in 1932-33, but not in previous years.

STATEMENT 17—*contd.*

(B) FINANCIAL GAIN (PLUS) OR LOSS (MINUS) DUE TO ABOVE CHANGES FROM ESTIMATES.

	Estimated by Tariff Board 1926.	ACTUALS.					
		1927-28.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.
		Rs. lakhs.	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.
Structural Sections	1.1	0.3	-0.3	-0.4	-3.1	-2.1
Bars	2.3	0.1	1.2	-1.0	-4.5	-5.2
Plates	-0.8	-1.0	-1.8	-2.2	-1.7	-1.8
Black Sheets	0.8	0.1	0.4	-0.4	-1.1	0.1
Galvanized Sheets	0.7	0.5	1.4	-0.2	-1.3	-3.1
Total all products	4.1	0.0	0.9	-4.2	-11.7	-12.1

STATEMENT 18.

SURPLUS OVER WORKS COSTS FROM 1927-28 TO 1932-33, COMPARED WITH TARIFF BOARD'S ESTIMATE (1926).

Tons (thousands) : Rupees lakhs.

	Production of steel for Indian Market.	Surplus earned by steel.	Pig iron available for sale.	Surplus earned by pig iron.	Total surplus.
	Tons.	Rs.	Tons.	Rs.	Rs.
1927-28	428.7	134.7	69.1	13.6	148.3
1928-29	275.8	58.1	117.5	17.5	75.6
1929-30	411.9	104.3	160.3	22.9	127.2
1930-31	433.7	138.1	112.1	7.7	145.8
1931-32	439.1	117.6	216.1	-0.2	117.4
1932-33	397.8	135.0	96.5	-0.3	134.7
Total	2,387.0	687.8	771.6	61.2	749.0

SUMMARY OF ABOVE.

	Actual production.	Realized surplus.	Anticipated surplus.		Deficiency of surplus from estimate.	
			Based on actual production.	Based on 500,000 tons Steel yearly.	Based on actual production.	Based on 500,000 tons Steel yearly.
	Tons.	Rs.	Rs.	Rs.	Rs.	Rs.
All Steel	2,387.0*	687.8	927.8	1,166.4	240.0	478.6
Pig Iron for Sale	771.6	61.2	115.8	54.0	54.6	-7.2 (excess)
Total . . . . .	..	749.0	1,043.6	1,220.4	294.6	471.4

* Production for export is excluded.

Figures for estimated surplus are calculated on the average estimated surplus of Rs. 38.87 per ton of steel indicated on page 38 of Tariff Board Report, 1927. Those for actual surplus are calculated on the differences between the Works cost statement 1 (b) and the net realisations (statement 11) including allowance for Sales Department expenditure in 1931-32 and 1932-33 not provided for in Cost sheets.

STATEMENT 19.

CAPITAL EXPENDITURE EXPECTED TO BE REQUIRED DURING NEXT SEVEN YEARS.

	ESTIMATED COST. Rs. lakhs.
1. Housing, Sanitation, Street Lighting, etc., in Town	30
2. Main Water Supply for Town and Works	10
3. Additional Sheet Mills	45
4. 22-inch Mill	30
5. Benzol Plant	20
6. Slag-cement Plant	15
7. Brick-making Plant	15
8. Ore Mines	10
9. Coke Ovens and By-product Plant	160
10. Steel-making Plant	40
11. Boiler and Power Plant	40
12. Equipment for Machine Shops	10
13. Calcining Kilns	10
14. Rolling Stock	5
15. Railway Tracks	5
16. Gas-cleaning Plant (completion)	9
17. Gas-holder, Mains, Burners, etc., for Fuel Economy	30
18. Measuring instruments for Steam, Electricity and Gas	5
19. Laboratories	5
20. Weighbridges	15
21. Re-heating Furnace (Continuous) for 23-inch Mill	10
22. Annealing Furnace for Plate Mill	4
23. New Stands for Sheet-bar and Billet Mill	7
24. Steel Foundry	4
25. Blast-drying Plant	20
Total	554

NOTES ON STATEMENT 19.

(CAPITAL EXPENDITURE PROGRAMME.)

General.—The statement shows the main items on which expenditure will probably be necessary. They fall under the following general heads, although certain items might with almost equal suitability be classified under more than one head: Town (items 1 and 2); additional producing units (items 3 to 7); plant for replacement and/or extension of existing equipment (items 9 to 15); plant for improving efficiency (items 16 to 25).

Item 1.—Further provision of housing and sanitation for the Company's workmen in Jamshedpur is very necessary.

Item 2.—An addition to the capacity of the water supply system may become necessary in the next few years.

Item 3.—An additional new sheet-mill unit will probably be installed in 1934 and a further unit towards the end of the period if the market improves. The sum indicated is estimated to be sufficient to bring the total capacity to about 25,000 tons black sheets and 120,000 tons galvanized.

Item 4.—A 22-inch mill is required for the efficient manufacture of sections now rolled on the old steam-driven bar mills, including fish-plates; and also of light beams, bearing-plates, bars for metre-gauge sleepers, etc.

Item 5.—If the climatic difficulties can be overcome at reasonable cost and if suitable arrangements can be made for marketing the product, a plant for the recovery of benzol should be profitable.

Item 6.—Tests have already shown that the Company's blast-furnace slag can be converted into good Portland cement.

Item 7.—The manufacture of bricks (fireclay, silica and magnesite) by the Company to meet its large requirements should lead to substantial savings.

Item 8.—This sum will be required during the next two or three years for the development of the Company's new mines (mainly manganese ore) in the States of Keonjhar and Bonai.

Item 9.—The existing coke ovens and by-product plant should be replaced during the next seven years by plant of the most efficient and economical type; the new plant should be large enough to cover the whole of the Company's requirements of coke.

Item 10.—Most of the Company's open-hearth plant is now over 20 years old; much of it should be rebuilt or replaced to secure good efficiency.

Item 11.—The same remarks apply to this as to item 10.

Item 12.—As item 10.

Item 13.—As item 10.

Item 14.—As item 10.

Item 15.—Most of the important items of new construction involve either the extension of the track system or realignment of part of the tracks.

Item 16.—The amount shown is the balance of expenditure estimated to be required after 1st April 1934 for the completion of the gas-cleaning plant ordered in May 1933.

Item 17.—This equipment will be required in order to enable the most efficient use of by-product gases to be made, with the object of reducing the consumption of coal.

Item 18.—Fuller equipment is required for proper control of the consumption of steam, electricity and gas at many points throughout the Works.

Item 19.—The greater attention now being paid to all details of technical efficiency requires the provision of more accommodation for metallurgical, chemical, and fuel laboratories.

Item 20.—Weighbridges are required at many more points in order to check the consumption and production of materials with the object of securing higher yields.

Item 21.—A properly designed re-heating furnace will not only reduce the fuel consumption but also facilitate more efficient rolling and give a better product from the 28-inch mill.

Item 22.—If the estimated output of plates is to be obtained, the Company must be in a position to accept all orders available for annealed plates and to conduct the annealing economically and efficiently.

Item 23.—This improvement at the Sheet-bar and Billet Mill would enable thin wide sheet-bar to be rolled, the use of which would both reduce the costs and increase the output at the Sheet Mills.

Item 24.—The Company's present method of producing in the Open-Hearth plant the many small steel castings which it requires is not suitable; a special small foundry should show a good saving.

Item 25.—The high humidity of the air at Jamshedpur in certain seasons of the year involves a much higher consumption of coke per ton of iron produced at the blast furnaces than would otherwise be necessary. The installation of a blast-drying plant should enable large savings to be made.

STATEMENT 20.

RAIL ORDERS BOOKED FOR RAILWAYS.

Year.	Quantity.	Average Price.
	Tons. (Thousands).	Rs. per ton.
1923-24	76.6	133.7
1924-25	104.8	124.9 plus rail bounty Rs. 32
1925-26	117.4	122.9 plus rail bounty Rs. 26
1926-27	139.8	121.1 plus rail bounty Rs. 20
1927-28	182.8	110.0
1928-29	59.7*	110.0
1929-30	119.7	110.8
1930-31	95.6	129.6
1931-32	80.8	128.2
1932-33	36.5	113.5
1933-34	40.0 approx.	..

* Strike Year.

N. B.—1. All prices are f. o. r. Tatanagar. Up to and including 1927-28 the prices shown above are based on the despatches from the works during the year in question; those for subsequent years are based on the orders placed by the Railways in respect of their requirements during the year in question.

2. The prices from 1929-30 onwards include those of 115 lb. rails, for which the prices were Rs. 120 per ton in 1929-30 and 1932-33 and Rs. 130 per ton in the other two years.

3. The prices from 1930-31 onwards include those of small quantities of chromium-steel rails, which were Rs. 30 per ton above the prices of ordinary rails.

4. The above prices include those of rails supplied to Native State Railways; these prices were not governed by the Company's seven-years contract with the Railway Board and the additional Rs. 20 per ton paid by the Board for its requirements for 1930-31 and 1931-32 was not paid in respect of rails supplied to Native States,

STATEMENT 21.

TOTAL YEARLY EXPENDITURE ON LABOUR.

*Jamshedpur Staff.**

	1927-28.	1929-30.	1930-31.	1931-32.	1932-33.
	Rs. Lakhs.	Rs. Lakhs.	Rs. Lakhs.	Rs. Lakhs.	Rs. Lakhs.
COVENANTED EMPLOYEES—					
Wages	17-70	16-75	14-18	10-99	9-62
Overtime allowance	0-10	0-11	0-03	0-02	0-01
Leave Pay	1-80	1-62	1-51	1-37	1-11
Bonus	10-70	8-69	8-65	5-67	4-50
Contingent Fund †	2-60	1-14	1-22	1-58	0-93
Total for Covenanted Employees	32-90	28-31	25-59	19-63	16-17
MONTHLY-PAID EMPLOYEES—					
Wages	84-60	90-30	89-94	87-40	81-06
Overtime allowance	4-20	9-77	3-00	0-37	0-11
Leave Pay	4-10	5-16	5-58	5-65	6-18
Departmental Bonus	0-60	2-10	3-93	4-28	4-72
General Bonus . . . . .	..	4-36	5-74	6-42	5-05
Company's contribution to Provident Fund and interest	5-50	7-49	8-04	8-58	8-26
Accident and death compensation	0-50	0-77	0-67	0-47	0-47
Total for Monthly-paid	99-50	119-95	116-90	113-17	105-85
WEEKLY-PAID EMPLOYEES—					
Wages	9-10	7-75	7-23	6-98	6-31
Accident and death compensation	0-10	0-02	0-01	0-01	0-01
Total for Weekly-paid	9-20	7-77	7-24	6-99	6-32
CONTRACT LABOUR—					
Wages	5-10	7-08	6-68	4-09	2-45
Accident and death compensation . . . . .	..	0-04	0-01	..	..
Total for Contract Labour	5-10	7-12	6-69	4-09	2-45
GRAND TOTAL	146-70	163-15	156-42	143-88	130-79

* The above figures cover the whole of the Jamshedpur organization, except the Construction, Town and Agrico departments. They therefore include all the labour expenditure which enters into the cost of producing iron, steel and bye-products.

† Cost of passages, etc.

STATEMENT 22.

LABOUR COST * PER TON OF SALEABLE STEEL.

—	1927-28.	1929-30.	1930-31.	1931-32.	1932-33.
	Rs.	Rs.	Rs.	Rs.	Rs.
Covenanted employees	7.6	6.7	5.8	4.1	3.6
Monthly-paid employees	23.0	28.2	26.4	23.6	23.9
Weekly-paid employees	2.1	1.8	1.6	1.4	1.4
Contractors' labour	0.9	1.3	1.2	0.7	0.4
Total	33.6	38.0	35.0	29.8	29.3

* The expenditure on labour employed in the production of surplus pig iron is excluded from the total labour expenditure on which these figures are based.

STATEMENT 23.

COST OF LABOUR * PER HEAD PER ANNUM.

—	1927-28.	1929-30.	1930-31.	1931-32.	1932-33.
	Rs.	Rs.	Rs.	Rs.	Rs.
Covenanted employees	25,271	25,924	26,389	25,597	24,328
Monthly-paid employees	619	782	794	836	834
Weekly-paid employees	158	189	179	184	174
Average for Monthly-paid and Weekly-paid employees together (excluding covenanted)	497	656	662	693	688

* Total expenditure for year divided by average actual attendance.

STATEMENT 24.

NUMBERS * OF MEN EMPLOYED.

(AVERAGE DAILY ATTENDANCE.)

—	Productive Departments.	Service Departments.	Total.
1925-26	16,393	9,897	26,290
1926-27	14,068	10,988	25,056
1927-28	13,622	10,586	24,208
1928-29	11,116	10,750	21,866
1929-30	12,307	10,546	22,853
1930-31	11,925	9,810	21,735
1931-32	11,139	8,407	19,546
1932-33	9,777	8,336	18,113
January to June 1933	9,377	8,140	17,517

* See footnote to statement 21. The figures include Contractors' labour, and the staff of the Sales department.

STATEMENT 25.

QUANTITIES AND PRICES OF COAL CONSUMED AND COKE PURCHASED YEARLY.

	Coking and Boiler Coal.	Gas- Producer Coal.	Total Coal.	Average Price f.o.r. Tata- nagar.	Coke Pur- chased.	Average Price of Coke f.o.r. Tata- nagar.
	Tons lakhs.	Tons lakhs.	Tons lakhs.	Rs. per ton.	Tons lakhs.	Rs. per ton.
1927-28 . . .	14.2	1.9	16.1	6.2	0.3	10.8
1928-29 . . .	11.2	1.5	12.7	5.9	0.6	10.1
1929-30 . . .	13.4	2.4	15.8	5.5	0.9	10.6
1930-31 . . .	12.9	2.6	15.5	5.6	1.8	10.5
1931-32 . . *	12.7	2.0	14.7	5.7	2.5	10.5
1932-33 . . .	11.8	1.8	13.6	5.4	0.7	10.8

STATEMENT 26.

CONSUMPTION OF FUEL PER TON SALEABLE STEEL.

Yearly averages.

	Tons.
1925-26	4.06
1926-27	3.85
1927-28	3.48
1928-29	4.20*
1929-30	3.70
1930-31	3.56
1931-32	3.00
1932-33	2.87

* Strike Year.

NOTE.—The above figures are in terms of coal having an average heating value of 12,500 B. T. U per lb. The consumption of fuel for surplus pig iron is excluded from the above figures.

STATEMENT 27.

DEDUCTIONS FROM SELLING PRICES 1932-33 TESTED MATERIALS.

	Quantity Sold.	Gross Price* f.o.r. Tatanagar.	AVERAGE DEDUCTIONS.			Miscellaneous Claims.	Net Price f.o.r. Tatanagar.
			Cash Discount.	Commissions† to Merchants and Agents.	Deferred Rebate.		
	Tons (thousands).	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Structural Sections—							
Light	3.3	129.4	1.3	1.0	0.1	1.0	126.0
Heavy	11.5	124.1	1.2	1.0	0.1	0.8	121.0
Average	14.8	125.3	1.2	1.0	0.1	0.9	122.1
Bars	6.4	119.9	1.4	0.3	0.1	1.8	116.3
Plates	11.3	128.3	1.1	0.1	..	0.2	126.9
Black Sheets	0.1	157.4	..	..	..	..	157.4

* These are the average prices at which orders were booked during the year.

† These commissions include " Agents' commissions," " Merchant House Rebates " and commissions on sales from stockyards.

STATEMENT 28.

DEDUCTIONS FROM SELLING PRICES 1932-33. UNTESTED MATERIALS.

	Quantity Sold.	Gross Price* f.o.r. Tatanagar Good Materials only.	AVERAGE DEDUCTIONS.					Provision for bad debts.	Net Price f.o.r. Tatanagar. All materials including defective.
			Cash Discount.	Commissions to Merchants and Agents.	Deferred Rebate.	Miscellaneous Claims.	Effect of sales of non-standard and defective.		
	Tons (thousands).	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Structural Sections—									
Light	30.9	94.7	0.8	1.5	1.1	0.5	0.1	0.2	90.5
Heavy	54.0	93.5	0.9	1.0	1.1	0.4	0.5	0.2	89.4
Average	84.9	93.9	0.9	1.2	1.1	0.4	0.3	0.2	89.8
Bars	78.0	95.0	0.6	1.1	0.7	0.3	0.5	0.2	91.6
Plates	17.1	105.3	0.9	0.7	0.9	0.5	0.1	0.3	101.9
Black Sheets	11.7	157.8	1.5	2.1	1.2	0.6	1.6	0.4	150.4
Galvanized Sheets—									
Plain	9.7	226.9	2.2	2.0	1.5	1.0	0.3	0.6	219.3
Corrugated	32.4	210.2	1.8	0.9	1.0	0.3	0.4	0.6	205.2
Average	42.1	214.0	1.9	1.1	1.1	0.5	0.4	0.6	208.4

* These are the average prices at which orders were booked during the year.

STATEMENT 29.

FREIGHT DISADVANTAGES ON TESTED STEEL 1932-33 AND COMPARISON OF NET REALISATIONS WITH PRICES OF IMPORTED STEEL.

	Imported Steel Landed Indian Ports. *	Average Freight Disadvantage.	Total Deductions. Statement 27.	Net Realisation.	Difference† not accounted for.
	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Structural Sections—					
Light	136.4	3.5	3.4	126.0	—3.5
Heavy	136.4	4.7	3.1	121.0	—7.6
Average	136.4	4.2	3.2	122.1	—6.9
Bars	129.1	5.1	3.6	116.3	—4.1
Plates	140.3	5.5	1.4	126.9	—6.5
Black Sheets	163.5	..	..	157.4	..

* C. i. f. prices plus landing charges plus duty.

† In this column a minus sign shows that the net realisation is lower than it should have been on the basis of the landed price of imported steel after allowing for freight disadvantage and total deductions.

STATEMENT 30.

FREIGHT DISADVANTAGES ON UNTESTED STEEL 1932-33 AND COMPARISON OF NET REALISATIONS WITH PRICES OF IMPORTED STEEL.

	Imported Steel Landed Indian Ports.	Average Freight Disadvantage (—) or Advantage (+).	Total Deductions. Statement 28.	Net Realisation.	Difference not accounted for.
	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Structural Sections—					
Light	98.2	—1.6	4.2	90.5	—1.9
Heavy	96.9	—0.2	4.1	89.4	—3.2
Average	97.4	—0.7	4.1	89.8	—2.8
Bars	106.9	—5.0	3.4	91.6	—6.9
Plates	114.8	—3.6	3.4	101.9	—5.9
Black Sheets	161.3	+4.2	7.4	150.4	—7.7
Galvanized Sheets—					
Plain	235.6	+8.3	7.6	219.3	—17.0
Corrugated	229.0	—0.5	5.0	205.2	—18.3
Average	230.5	+1.5	5.6	208.4	—18.0

STATEMENT 31.

ADJUSTMENT REQUIRED IN SELLING PRICES.

	Fair selling price unad-justed.	ADJUSTMENT REQUIRED.		PRICES TO WHICH IMPORTED STEEL MUST BE BROUGHT, LANDED AT PORTS.	
		Tested.	Untested.	Tested.	Untested.
		Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Rails	94	8		102	
Fish-plates	124	8		132	
Structural Sections	97	11.4	11.2	108.4	108.2
Bars	97	13.4	16.2	110.4	113.2
Plates	101	13.5	15.3	114.5	116.3
Tin-bar and Sheet-bar	70	12		82	
Billets	70	12		82	
Black Sheets	129	14.2	13.0	143.2	142.0
Galvanized Sheets	166	..	19.1	..	185.1
Sleepers	92	10		102	

STATEMENT 32.

CONSUMPTION OF COAL PER TON OF PRODUCTS.

	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Pig Iron	1.27	1.31	1.51	1.24	1.29	1.14	1.18
Ingots—							
Open Hearth	1.45	1.37	1.72	1.43	1.40	1.15	1.16
Duplex	2.14	2.08	2.44	2.04	2.02	1.78	1.79
Blooms and Slabs (New Blooming Mill).	2.40	2.31	2.68	2.35	2.32	2.03	2.02
Rolls and Sections (New 28-inch Mill).	3.37	3.27	4.28	3.43	3.31	3.05	2.96
Sheet-bar and Billets	2.72	2.61	3.03	2.65	2.60	2.31	2.28
Bars and Light Sections (Merchant Mill).	3.58	3.31	3.74	3.27	3.19	2.87	2.77
Plates	4.47	4.66	5.16	4.46	4.29	4.00	3.51
Black Sheets	4.40	3.97	4.52	4.04	3.89	3.59	3.42

STATEMENT 33.

YIELD OF GOOD STEEL FROM INGOTS.

From Ingots to products of.	1926-27.	1927-28.	1931-32.	1932-33.
	Per cent.	Per cent.	Per cent.	Per cent.
Sheet-bar and Billet Mill	78.9	78.6	80.2	80.6
New 28-inch Mill	71.6	70.3	72.3	71.2
Merchant Mill	70.2	71.4	73.8	73.3
Plate Mill	61.1	61.9	68.5	69.1
Sheet Mills (Black Sheets)	62.3	63.7	65.1	65.8

STATEMENT 34.

COST OF LABOUR PER TON OF PRODUCTS ARRANGED BY DEPARTMENTS.

	1923-24.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.	Jan. to June 1933.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs. per ton.
Pig Iron	2.5	2.0	1.9	1.6	1.4	1.6	1.4	1.2	1.0	0.9	0.8
Ingots Open Hearth	5.6	5.4	5.2	5.0	4.9	5.0	5.0	4.5	4.1	3.9	3.9
Ingots Duplex*	7.8	6.1	4.3	3.8	3.6	3.9	3.9	3.4	2.8	2.4	2.2
Old Blooming Mill	1.7	1.7	2.1	2.6	2.5	2.7	2.7	2.5	2.4	2.2	..
New Blooming Mill	2.3	1.8	1.5	1.3	1.1	1.2	1.1	1.0	1.0	0.8	0.7
Old 28-inch Mill	7.6	7.4	9.5	10.4	9.0	8.1	9.4	9.4	7.8	8.3	..
New 28-inch Mill . . . . .	..	4.8	6.1	4.6	4.6	6.7	6.0	5.8	7.2	6.5	6.3
Old Bar Mills	11.6	14.1	14.4	14.6	14.2	16.2	19.8	15.3	14.6	13.9	17.6
Merchant Mill . . . . .	..	8.0	6.6	6.1	5.0	5.7	5.1	5.2	4.7	4.6	4.4
Plate Mill	10.5	12.2	11.5	9.3	9.6	9.2	9.1	8.6	9.4	7.7	7.1
Sheet-bar and Billet Mill	3.0	2.1	1.2	1.2	1.2	1.3	1.1	0.8	0.8	0.8	0.8
Black Sheets . . . . .	..	62.1	53.1	41.4	33.1	29.4	27.3	24.7	20.5	20.2	19.9
Galvanized Plain Sheets . . . . .	..	27.5	17.8	13.6	13.0	8.8	9.0	6.1	5.9	4.8	4.4
Galvanized Corrugated Sheets . . . . .	..	17.4	9.9	6.6	7.4	3.9	3.5	1.7	1.5	0.9	0.8
Sleepers . . . . .	..	..	14.1	20.5	6.7	8.9	8.3	7.6	..	5.1	4.9

* These figures include the cost of labour at the converters as well as at the finishing furnaces.
N.B.—Above figures do not include the debits to the Contingent Funds.

STATEMENT 35 (A).

LABOUR EMPLOYED* AND OUTPUT PER HEAD AT BLAST FURNACES.

	Number of Employees.			Production.†	Production per head per annum.
	Cove-nanted.	Uncove-nanted.	Total.		
				Tons Thousands.	Tons.
1923-24 . . .	10	2,196	2,206	471.6	214
1924-25 . . .	13	2,028	2,041	577.7	283
1925-26 . . .	12	2,004	2,016	602.4	299
1926-27 . . .	10	1,392	1,402	644.8	466
1927-28 . . .	10	1,063	1,073	674.9	629
1928-29 . . .	10	961	971	499.3	514
1929-30 . . .	10	704	714	761.9	1,067
1930-31 . . .	8	828	836	742.1	888
1931-32 . . .	6	781	787	847.3	1,077
1932-33 . . .	5	486	491	672.1	1,369

* The numbers of employees represent average daily attendances of men directly employed in the department.

† Figures include Ferro-manganese at 1 ton=4 tons Pig.

STATEMENT 35 (B).

LABOUR EMPLOYED* AND OUTPUT PER HEAD AT OPEN HEARTH.

	Number of Employees.			Production.	Production per head per annum.
	Cove-nanted.	Uncove-nanted.	Total.		
				Tons Thousands.	Tons.
1923-24 . . .	35	1,208	1,243	193.4	156
1924-25 . . .	31	1,174	1,205	206.1	171
1925-26 . . .	29	1,076	1,105	220.3	199
1926-27 . . .	26	921	947	230.2	243
1927-28 . . .	26	1,007	1,033	251.6	244
1928-29 . . .	23	713	736	182.8	248
1929-30 . . .	23	684	707	241.8	342
1930-31 . . .	19	670	689	243.9	354
1931-32 . . .	13	688	701	210.6	300
1932-33 . . .	5	608	613	186.6	305

* The numbers of employees represent average daily attendances of men directly employed in the department.

STATEMENT 35 (C).

LABOUR EMPLOYED* AND OUTPUT PER HEAD AT DUPLEX PLANT.

(Including Converters).

	Number of Employees.			Production.	Production per head per annum.
	Cove-nanted.	Uncove-nanted.	Total.		
				Tons Thousands.	Tons.
1923-24 . . .	20	515	535	41.6	78
1924-25 . . .	23	1,345	1,368	164.0	120
1925-26 . . .	20	1,286	1,306	250.2	192
1926-27 . . .	21	1,093	1,114	300.2	269
1927-28 . . .	21	1,181	1,202	347.9	289
1928-29 . . .	18	870	888	213.3	240
1929-30 . . .	17	745	762	339.0	445
1930-31 . . .	19	743	762	380.7	500
1931-32 . . .	17	749	766	391.7	511
1932-33 . . .	15	706	721	404.1	560

* The numbers of employees represent average daily attendances of men directly employed in the department.

STATEMENT 35 (D).

LABOUR EMPLOYED* AND OUTPUT PER HEAD AT OLD BLOOMING MILL.

	Number of Employees.			Production.	Production per head per annum.
	Cove-nanted.	Uncove-nanted.	Total.		
				Tons Thousands.	Tons.
1923-24 . . .	3	305	308	181.5	589
1924-25 . . .	3	284	287	154.1	537
1925-26 . . .	2	213	215	87.8	408
1926-27 . . .	1	215	216	70.0	324
1927-28 . . .	1	198	199	61.5	309
1928-29 . . .	1	154	155	33.9	219
1929-30 . . .	1	169	170	56.5	333
1930-31 . . .	1	146	147	54.7	372
1931-32 . . .	1	139	140	52.2	373
1932-33 . . . (2 months).	..	66	66	4.7	432

* The numbers of employees represent average daily attendances of men directly employed in the department.

STATEMENT 35 (E).

LABOUR EMPLOYED* AND OUTPUT PER HEAD AT NEW BLOOMING MILL.

	Number of Employees.			Production.	Production per head per annum.
	Cove-nanted.	Uncove-nanted.	Total.		
				Tons Thousands.	Tons.
1923-24 . . . (5 months).	6	92	98	23.7	580
1924-25 . . .	5	353	358	158.9	444
1925-26 . . .	7	390	397	321.0	809
1926-27 . . .	7	561	568	391.7	690
1927-28 . . .	7	521	528	449.5	851
1928-29 . . .	5	369	374	302.5	809
1929-30 . . .	3	410	413	444.1	1,075
1930-31 . . .	1	432	433	478.9	1,106
1931-32 . . .	1	346	347	477.3	1,376
1932-33 . . .	1	401	402	510.0	1,269

* The numbers of employees represent average daily attendances of men directly employed in the department.

STATEMENT 35 (F).

LABOUR EMPLOYED* AND OUTPUT PER HEAD AT OLD RAIL MILL.

	Number of Employees.			Production.	Production per head per annum.
	Cove-nanted.	Uncove-nanted.	Total.		
				Tons Thousands.	Tons.
1923-24 . . .	13	1,338	1,351	93.1	69
1924-25 . . .	10	1,168	1,178	85.9	73
1925-26 . . .	3	738	741	45.2	61
1926-27 . . .	2	695	697	36.8	53
1927-28 . . .	2	599	601	38.8	65
1928-29 . . .	2	502	504	26.2	52
1929-30 . . .	1	595	596	40.0	67
1930-31 . . .	..	575	575	36.7	64
1931-32 . . .	..	536	536	41.7	78
1932-33 . . . (2 months).	..	337	337	3.7	66

* The numbers of employees represent average daily attendances of men directly employed in the department.

STATEMENT 35 (G).

LABOUR EMPLOYED* AND OUTPUT PER HEAD AT NEW RAIL MILL.

	Number of Employees.			Production.	Production per head per annum.
	Covenanted.	Uncovenanted.	Total.		
				Tons Thousands.	Tons.
1924-25	9	501	510	54.8	143
(9 months).					
1925-26	11	791	802	94.2	118
1926-27	10	1,075	1,085	146.2	135
1927-28	8	1,177	1,185	168.0	142
1928-29	6	1,032	1,038	86.0	83
1929-30	4	956	960	131.4	137
1930-31	3	949	952	128.2	135
1931-32	2	917	919	82.8	90
1932-33	1	1,022	1,023	101.9	100

* The numbers of employees represent average daily attendances of men directly employed in the department.

STATEMENT 35 (H).

LABOUR EMPLOYED* AND OUTPUT PER HEAD AT BAR MILLS.

	Number of Employees.			Production.	Production per head per annum.
	Covenanted.	Uncovenanted.	Total.		
				Tons Thousands.	Tons.
1923-24	3	973	976	41.2	42
1924-25	1	813	814	33.8	42
1925-26	1	789	790	28.0	35
1926-27	1	727	728	23.5	32
1927-28	1	487	488	18.4	38
1928-29	1	327	328	9.4	29
1929-30	1	366	367	11.3	31
1930-31	1	347	348	14.0	40
1931-32	1	284	285	5.8	34
(7 months).					
1932-33	1	238	239	10.6	45

* The numbers of employees represent average daily attendances of men directly employed in the department.

STATEMENT 35 (I).

LABOUR EMPLOYED* AND OUTPUT PER HEAD AT MERCHANT MILL.

	Number of Employees.			Production.	Production per head per annum.
	Cove-nanted.	Uncove-nanted.	Total.		
				Tons Thousands.	Tons.
1924-25 . . .	5	325	330	19.7	72
(10 months)					
1925-26 . . .	3	899	902	60.1	67
1926-27 . . .	3	700	703	65.3	93
1927-28 . . .	2	730	732	81.0	111
1928-29 . . .	2	625	627	58.0	92
1929-30 . . .	1	921	922	98.0	106
1930-31 . . .	1	893	894	99.1	111
1931-32 . . .	1	891	892	113.0	127
1932-33 . . .	1	870	871	106.2	122

* The numbers of employees represent average daily attendances of men directly employed in the department.

STATEMENT 35 (J).

LABOUR EMPLOYED* AND OUTPUT PER HEAD AT PLATE MILL.

	Number of Employees.			Production.	Production per head per annum.
	Cove-nanted.	Uncove-nanted.	Total.		
				Tons Thousands.	Tons.
1923-24 . . .	5	178	183	22.2	122
1924-25 . . .	4	191	195	18.3	94
1925-26 . . .	3	251	254	20.9	82
1926-27 . . .	2	390	392	27.1	69
1927-28 . . .	3	386	389	25.9	67
1928-29 . . .	2	263	265	21.6	81
1929-30 . . .	2	339	341	31.7	93
1930-31 . . .	2	354	356	34.7	98
1931-32 . . .	1	311	312	23.3	75
1932-33 . . .	..	278	278	28.9	104

* The numbers of employees represent average daily attendances of men directly employed in the department.

STATEMENT 35 (K).

LABOUR EMPLOYED* AND OUTPUT PER HEAD AT SHEET-BAR AND BILLET MILL.

	Number of Employees.			Production.	Production per head per annum.
	Covenanted.	Uncovenanted.	Total.	Tons Thousands.	Tons.
1923-24 (2 months).	3	35	38	6.7	1056
1924-25	3	84	87	63.1	725
1925-26	3	146	149	150.5	1010
1926-27	3	175	178	155.9	876
1927-28	2	203	205	177.2	864
1928-29	2	162	164	140.9	859
1929-30	1	180	181	206.2	1139
1930-31	1	182	183	246.1	1345
1931-32	1	254	255	319.2	1252
1932-33	1	259	260	317.5	1221

* The numbers of employees represent average daily attendances of men directly employed in the department.

STATEMENT 35 (L).

LABOUR EMPLOYED* AND OUTPUT PER HEAD AT SHEET MILL.

	Number of Employees.			Production.	Production per head per annum.
	Covenanted.	Uncovenanted.	Total.	Tons Thousands.	Tons.
1924-25 (4 months).	65	935	1000	5.7	18
1925-26	56	1259	1315	28.6	22
1926-27	23	1174	1197	22.2	19
1927-28	20	1007	1027	27.1	26
1928-29	17	963	980	20.3	21
1929-30	17	1131	1148	38.3	33
1930-31	17	1196	1213	47.2	39
1931-32	13	1168	1181	50.0	42
1932-33	14	1305	1319	55.8	42

* The numbers of employees represent average daily attendances of men directly employed in the department.

STATEMENT 35 (M).

LABOUR EMPLOYED* AND OUTPUT PER HEAD AT SLEEPER PLANT.

	Number of Employees.			Production.	Production per head per annum.
	Cove- nanted.	Uncove- nanted.	Total.	Tons Thousands.	Tons.
1925-26 . . . (7 months).	..	61	61	1.8	50
1926-27 . . . (2 months).	..	48	48	0.4	48
1927-28 . . . (9 months).	..	75	75	4.4	79
1928-29 . . . (3 months).	..	57	57	0.9	64
1929-30 . . .	1	88	89	8.2	92
1930-31 . . . (3 months)	..	138	138	2.2	64
1931-32 . . .	..	..	..	..	..
1932-33 . . . (5 months).	1	187	188	7.6	98

* The numbers of employees represent average daily attendances of men directly employed in the department.

STATEMENT 36.

COST ABOVE NET METAL.

Departments.	1923-24.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.	Jan. to June 1933.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs. per Ton
Pig Iron	7.0	5.9	5.2	4.3	4.0	4.7	4.2	4.1	3.0	2.9	2.6
Ingots Open Hearth	31.8	29.3	27.4	25.0	24.8	24.9	24.9	23.8	22.9	22.3	21.7
Ingots Duplex*	38.8	29.9	23.6	19.0	16.5	18.2	18.7	16.9	14.8	13.5	12.9
Old Blooming Mill	8.6	9.7	11.3	13.3	13.4	14.2	14.0	14.4	11.0	11.7	..
New Blooming Mill	5.8	5.8	4.3	4.1	3.6	4.1	4.1	3.9	3.5	3.1	2.9
Old 28-inch Mill	22.8	23.8	27.9	31.8	27.9	24.9	27.0	28.7	22.6	25.2	..
New 28-inch Mill . . . . .	..	14.3	15.4	13.0	12.6	18.5	17.7	16.8	18.8	16.8	16.4
Old Bar Mills	34.3	39.0	41.6	44.1	44.5	51.8	59.4	49.6	39.2	32.8	39.6
Merchant Mill . . . . .	..	23.9	17.2	18.0	15.6	15.6	14.5	15.0	12.9	12.3	12.2
Plate Mill	26.9	31.1	30.2	31.1	26.6	28.6	27.3	26.3	28.1	22.2	20.8
Sheet-bar and Billet Mill	8.3	7.3	5.1	5.2	5.4	5.2	4.9	4.5	4.2	4.3	4.1
Black Sheets . . . . .	..	98.6	88.7	78.5	60.8	57.2	51.9	48.4	41.2	39.8	38.5
Galvanized Plain Sheets . . . . .	..	53.4	38.4	30.0	31.9	27.5	27.5	22.2	19.3	17.1	14.1
Galvanized Corrugated Sheets . . . . .	..	24.2	15.4	11.8	13.7	8.2	5.9	4.3	3.8	1.6	1.5
Sleepers . . . . .	..	..	32.4	34.0	14.7	19.5	17.9	21.2	..	12.5	12.3

*These figures include the cost above net metal at the converters as well as at the finishing furnaces.

STATEMENT 37.

HOUSING OF EMPLOYEES AT JAMSHEDPUR 31-3-1933.

	Company's Quarters.			Huts and Houses of Company's Employees.		Totals.	
	Number of employees on Pay Roll.	Number of quarters.	Percentage to employees.	Number of houses.	Percentage to employees.	Total Number of houses.	Percentage to employees.
Monthly-paid .	18,570	5,358	28.85	3,250	17.50	8,608	46.35
Weekly-paid .	5,251	2	0.03	4,603	87.66	4,605	87.69
Total .	23,821	5,360	22.50	7,853	32.96	13,213	55.48

NOTE.—The total number of houses owned by the Company is 5,401. Of these only 5,360 are occupied by Company's employees; the remainder are rented mainly to Government staff resident in Jamshedpur.

STATEMENT 38.

REVENUE RECEIVED FROM THE COMPANY'S HOUSES AT JAMSHEDPUR FROM 1925-26 TO 1932-33.

	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.
	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.
Capital cost of houses including electric installation and fencing.	74.1	76.3	78.6	81.9	91.4	97.5	97.9	100.5
House rent recovered during the year.	3.6	3.7	3.7	3.9	4.3	4.7	5.1	5.2
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Gross return on Capital	4.8	4.8	4.7	4.7	4.7	4.8	5.2	5.2
	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.	Rs. Lakhs.	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.
Expenditure on Repairs and Maintenance.	1.3	1.3	1.6	1.4	1.3	1.7	1.3	1.3
Net revenue	2.3	2.4	2.1	2.5	3.0	3.0	3.8	3.9
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Net return on Capital	3.1	3.1	2.7	3.1	3.2	3.1	3.9	3.9
	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.
Net revenue required to produce 5 per cent. on capital cost.	3.7	3.8	3.9	4.1	4.6	4.9	4.9	5.0
Estimated loss of revenue on 5 per cent. basis.	1.4	1.4	1.8	1.6	1.6	1.9	1.2	1.1

STATEMENT 39.

NUMBER OF HOUSES PROVIDED BY THE COMPANY ON 31ST MARCH 1933 IN EACH RENT GROUP.

Monthly Rents.		Number of Units.	Total Capital Cost.
Rs.	Rs.		Rs. lakhs.
Up to	5	3028	18.4
5 to	10	1458	30.8
10 „	15	426	11.2
15 „	20	114	9.0
20 „	25	37	1.3
25 „	30	86	4.5
30 „	40	103	6.1
40 „	50	24	2.1
50 „	65	56	5.0
65 „	75	11	1.5
75 „	85	7	1.0
85 „	95	24	3.8
95 „	100	5	0.7
100 „	150	16	3.1
Above	150	6	2.0
		5401	100.5

STATEMENT 40 (A).

EX-STUDENTS OF TECHNICAL INSTITUTE EMPLOYED BY THE TATA IRON AND STEEL COMPANY, LIMITED, ARRANGED BY DEPARTMENTS.

Year of Admission to Institute.

	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	TOTAL.
1. General Superintendent's Office . . . . .	..	..	1	..	..	..	..	..	..	1	2
2. Order Department	1	..	..	..	..	..	..	..	..	..	1
3. Coke Ovens . . . . .	..	1	..	..	1	..	..	..	2	..	4
4. Blast Furnaces	4	2	..	..	2	2	..	2	2	1	15
5. Open Hearth	2	2	4	5	2	3	1	2	4	..	25
6. Converters	1	2	..	..	..	..	..	..	..	..	3
7. Duplex Plant . . . . .	..	1	..	1	1	3	2	1	2	5	16
8. Blooming Mill	1	2	..	..	1	..	..	..	2	..	6
9. Sheet-bar and Billet Mill . . . . .	..	1	1	..	..	..	..	..	..	..	2
10. West Mills	1	..	..	..	..	..	..	..	..	..	1
11. Rail Mill East . . . . .	..	..	1	3	..	..	1	1	..	..	6
12. Plate Mill . . . . .	..	..	..	..	..	..	2	..	..	..	2
13. Sheet Mill . . . . .	..	1	4	1	..	..	..	2	1	5	14
14. Roll Turning . . . . .	..	..	..	..	..	..	..	..	..	1	1
15. Mechanical . . . . .	..	..	..	..	..	1	..	..	..	..	1
16. Boiler . . . . .	..	..	1	..	3	..	..	..	..	..	4
17. Bricks . . . . .	..	..	..	..	..	..	..	..	..	1	1
18. Foundry . . . . .	..	..	..	..	..	..	1	2	..	..	3
19. Traffic . . . . .	..	..	1	..	..	..	..	..	..	..	1
20. Loco . . . . .	..	..	..	..	1	..	..	..	..	..	1
21. Metallurgical	1	..	3	2	1	..	..	..	..	..	7
22. Inspection Dept. . . . .	..	2	..	..	..	..	1	..	..	..	3
23. Fuel . . . . .	..	..	..	..	1	2	4	..	..	..	7
24. Lubrication . . . . .	..	..	..	..	..	..	..	1	..	..	1
25. Technical Institute . . . . .	..	1	..	..	..	..	..	..	..	..	1
	11	15	16	12	13	11	12	11	13	14	128

The above statistics include 10 men who were started in a lower grade without a contract after completing the course.

STATEMENT 40 (B).

EX-STUDENTS OF TECHNICAL INSTITUTE EMPLOYED BY TATA IRON AND STEEL COMPANY ARRANGED BY PROVINCES OF ORIGIN.

Province.	Admitted in 1921.	Admitted in 1922.	Admitted in 1923.	Admitted in 1924.	Admitted in 1925.	Admitted in 1926.	Admitted in 1927.	Admitted in 1928.	Admitted in 1929.	Admitted in 1930.	Total.
Bihar and Orissa .	6	4	6	3	4	6	6	4	3	2	44
Bengal	2	4	5	3	3	1	1	2	4	2	27
Punjab	1	4	2	2	3	4	2	2	4	3	27
Madras	1	2	2	2	2	..	3	3	2	3	20
United Provinces .	1	..	..	..	..	..	..	..	..	1	2
Assam . . . .	..	1	..	1	..	..	..	..	..	..	2
Central Provinces .	..	..	1	..	..	..	..	..	..	..	1
Bombay . . . .	..	..	..	1	1	..	..	..	..	3	5
Total .	11	15	16	12	13	11	12	11	13	14	128

Received T. I. S. Co., contract or expected to be contracted in 1933	118
Received contract but died after employment	1
Received outside contract after successfully completing the course	4
Completed the course but employed without a contract	10
Failed the course and employed without a contract	13
Resigned and discharged	87

Total admitted 1921-1930 233

STATEMENT 41.

NUMBER OF COVENANTED EMPLOYEES ON THE COMPANY'S PAY ROLL (JAMSHEDPUR, CALCUTTA AND ORE MINES).

	1st June 1926.	1st Jany. 1927.	1st Jany. 1928.	1st Jany. 1929.	1st Jany. 1930.	1st Jany. 1931.	1st Jany. 1932.	1st April. 1933.
General Manager's Office	2	3	3	3	3	2	2	2
Works Engineering	2	2	2	2	2	2	2	2
Mining and Prospecting	2	2	2	2	2	2	2	2
Order Department	1	1	1	1	1	1	1	..
General Superintendent's Office	2	2	2	2	2	1	2	3
Coke Ovens	..	..	..	..	..	..	..	1
Blast Furnaces	12	12	11	11	10	9	6	6
Open Hearth	27	24	23	21	23	17	8	3
Duplex Plant	21	22	21	18	16	18	17	13
Rolling Mills West and Roll Turning	26	23	17	14	11	9	8	4
Rolling Mills East	18	18	16	12	8	5	4	2
Merchant Mill	3	3	2	2	1	1	1	1
Plate Mill	2	2	3	2	2	2	1	..
Sheet Mill	22	22	18	17	17	17	11	14
Sleeper Press	..	..	..	..	..	..	..	1
Mechanical	7	6	7	6	6	5	4	4
Electrical Engineering	..	..	1	1	1	1	..	..
Brick	2	2	2	2	2	2	2	1
Foundries	2	2	2	2	2	2	1	1
Pattern-Shop	1	1	1	1	1	1	1	1
Traffic	1	1	1	1	1	1	1	1
Metallurgical	1	1	2	2	1	1	1	1
Fuel	..	..	1	1	1	..	..	1
Lubrication	..	..	..	..	..	1	1	1
Main Stores	1	1	1	1	1	1	1	1
Construction	1	2	2	3	3	3	2	1
Agrico	1	1	1	1	1	1	1	1
Sales	1	1	2	2	1	1	1	..
Technical Institute	2	2	2	2	2	2	2	1
Town Administration and Engineering	1	1	1	1	1	1	2	1
TOTAL	161	157	147	133	122	109	85	70

STATEMENT 42.

DIVIDENDS PAID BY THE TATA IRON AND STEEL COMPANY.

Year.	Total amount.	6% Cumulative Preference.	7½% Cumulative Second Preference.	Ordinary.		Deferred.	
				Per cent.	Amount.	Per cent.	Amount.
	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.		Rs. lakhs.		Rs. lakhs.
1925-26	35.1	9.0	26.1	..	<i>Nil</i>	..	<i>Nil</i>
1926-27	63.4	4.5	55.4	1.33	3.5	..	<i>Nil</i>
1927-28	56.5	4.5	52.0	..	<i>Nil</i>	..	<i>Nil</i>
1928-29	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>	..	<i>Nil</i>	..	<i>Nil</i>
1929-30	9.0	9.0	<i>Nil</i>	..	<i>Nil</i>	..	<i>Nil</i>
1930-31	21.8	4.5	17.3	..	<i>Nil</i>	..	<i>Nil</i>
1931-32	11.4	4.5	6.9	..	<i>Nil</i>	..	<i>Nil</i>
1932-33	39.2	4.5	34.7	..	<i>Nil</i>	..	<i>Nil</i>

(2), Letter, dated 31st August, 1933, from the Tata Iron & Steel Company, Limited, Calcutta.

Subject :—TRANSMISSION TOWERS.

We have the honour to invite attention to our telegram No. S-1550, dated the 30th August, 1933, on the subject of the duty on transmission towers. These towers are now imported into India on payment of 10 per cent. *ad valorem* duty under No. 59-A(5) of the Customs Statutory Schedule. We forward herewith a sketch showing the construction of transmission towers from which it will be clear that they are entirely composed of fabricated structural steel sections. We are in a position to supply all the steel required for such towers and the fabrication as well as galvanising can be easily carried out in India. The admission of these towers on the 10 per cent. *ad valorem* duty seems to be due to their being treated on the same lines as poles for the carriage of cables. Transmission poles are a very specialised line of manufacture and are not at present made in India. Transmission towers, however, are easily capable of being manufactured in India and it is submitted, therefore, that the duty applicable to the poles should not be applicable to the towers which are composed of fabricated steel sections and should pay the duty on fabricated steel.

Large orders for transmission towers are likely to be placed in India in connection with the various hydro-electric schemes. For a recent order we quoted a price for steel of British standard specifications considerably lower than the prevailing market price for such steel in India. Nevertheless a Continental firm has been able to quote a slightly lower price than that of the engineering firm which had based its quotation on the manufacture of the towers in India from our steel. The keeping of such orders in India would be of considerable assistance to the steel making and fabricating industries, besides providing work for Indian labour and materials for transport to Indian railways.

In the light of these considerations we submit that steps may kindly be taken by the Government of India to alter the rate of duty on the import of transmission towers as proposed.

(3) Letter No. G-958/33, dated the 20th September, 1933, from The Tata Iron & Steel Company, Limited.

By separate registered packet we are forwarding you six copies of the following :—

Copy of Agreement between the Tata Iron & Steel Company and the Oriental Steel Company, Limited, dated 24th December, 1932.



AN AGREEMENT made the Twenty-fourth day of December one thousand nine hundred and thirty-two BETWEEN THE TATA IRON & STEEL COMPANY, LIMITED, of Bombay, India (hereinafter called the Tata Company) of the one part and THE ORIENTAL STEEL COMPANY, LIMITED of High Holborn, London (hereinafter called the Oriental Company) of the other part WHEREBY IT IS AGREED as follows :—

1. The Oriental Company is a Company controlled by the British Sheet Makers' Conference the members of which have agreed that all sales of Galvanized Sheets for the Indian Market made by them shall be effected by the Oriental Company.

The Oriental Company guarantee the due performance of this agreement by each of the said members.

In carrying out this Agreement the Tata Company and the Oriental Company will at all times consult together and endeavour to conduct the business in accordance with the wishes of both parties as regards their respective obligations.

The Tata Company shall be entitled to have the benefit of all engagements entered into by Members of the British Sheet Makers' Conference with the Oriental Company to perform or observe all or any of the conditions contained in this Agreement which ought to be performed or observed by such Members and the Oriental Company shall execute and do all such deeds acts and things as may be necessary to enable the Tata Company to enforce such engagements or otherwise obtain the benefit thereof.

2. The Oriental Company undertake not to sell or quote for any Galvanized Sheets not made from Indian Bars for delivery in or shipment to India in any month unless at the date of any such sale or quotation the whole output of Sheets made by the Tata Company at their Jamshedpur Works and also sheets made in the United Kingdom from Indian Bars of an aggregate amount equal to six thousand four hundred tons per month from the date when this agreement comes into force have been sold.

3. The Tata Company undertake to supply sheet bars to the Oriental Company suitable for conversion into sheets in monthly quantities which are to be decided by the Tata Company from time to time in accordance with their estimate of the quantity required to meet the demand of the Indian Market for sheets after allowing for the output from time to time of the Tata Company's Jamshedpur sheet mills. The estimate of the demand of the Indian market shall be made from time to time by the Tata Company after consulting the Oriental Company and the present distributors of British Sheets which estimate is to be final. In no month shall the quantity of bars supplied by the Tata Company exceed seven thousand tons, but they may ship up to that quantity in any month notwithstanding that it may exceed their estimate of the immediate requirements. This estimated demand shall be met in the first instance by sheets rolled from Indian Bars which have been sent or can be sent in due time but to the extent that the estimated demand is greater than can be met by sheets rolled from Indian Bars the Oriental Company may sell sheets made from other bars.

The intention of this agreement is that the Tata Company shall be at liberty to market during the currency of this agreement all the sheets which they are able to produce in their Jamshedpur works and all the requirements of the Indian Market in excess of this are to be supplied by sheets sold by the Oriental Company and made from Indian Bars so far as available and otherwise by sheets made from other Bars and if at any time suitable Indian Bars are not available in time to enable the Oriental Company to fulfil their sales already made with sheets made from Indian Bars the Oriental Company may fulfil such sales with sheets made from other bars.

The Tata Company will not supply Indian Bars for delivery to any person in the United Kingdom other than the Oriental Company.

The Oriental Company are not in any case to be bound to ship more sheets made from Indian Bars than will make up an average of six thousand four hundred tons per month from the date when this agreement comes into force.

If any question shall arise as to suitable Indian Sheet Bars being available in time to enable the Oriental Company to fulfil a sale already made such question shall be settled in England by two Arbitrators one to be appointed by each party or an umpire to be appointed by the Arbitrators before proceeding on the reference under the provisions of English Law relating to Arbitration except that three days shall be substituted for seven days in Section 5 and Section 6 of the Arbitration Act 1889 and five days shall be substituted for three months and one month in Rules C. and E. First Schedule to that Act. Any notice under the said Act may

be served on the Tata Company by leaving the same at the Registered Office in London of Tata Limited. No sheets not made from Indian Bars shall be shipped in fulfilment of such sale until the Award is made in such Arbitration or the expiration of fifteen days from the date that notice is given by either party to the other party to appoint an Arbitrator whichever period is the shorter.

4. The distribution of all sheets handled by the Oriental Company for the Indian Market shall be confined to the present distributors of British sheets and the prices at which the Oriental Company sell sheets made from Indian Bars shall be such as shall be fixed by the Tata Company from time to time and the prices at which it sells sheets rolled from bars other than Indian shall be mutually agreed from time to time between the Tata Company and the Oriental Company or failing such agreement shall not be less than the minimum price fixed by clause 11 hereof.

5. The Oriental Company will furnish weekly and at other times when requested to the Tata Company full particulars of all sales of sheets for the Indian market and agrees that the distribution of the sheets to the different Ports in India shall be such as will in the opinion of the Tata Company involve the least disadvantage both in the marketing of the Tata Company's sheets made in India and in the distribution within India of the sheets arriving from the United Kingdom.

6. Each Party here undertakes not to prejudice or influence buyers against the other party's brands in favour of their own brands. All sheets rolled in the United Kingdom from Indian Bars be sold under British Brands but if so requested by the Tata Company all sheets made from Indian bars shall in addition to the Maker's usual brand also be branded with the words "MADE FROM INDIAN STEEL" or "MADE FROM TATA'S STEEL".

7. For every twenty-two and a quarter hundred weights of Bars supplied by the Tata Company one ton of sheets (twenty-four gauge basis) shall be returned by the Maker of the Sheets and the resulting scrap shall be the property of the makers.

From delivery of the bars at the Port of arrival till delivery of the resulting sheets at the Port of shipment the bars and resulting Sheets shall be at the risk of the maker but subject to Clause 10 hereof.

8. Except as hereinafter provided the price to be paid for the service of converting the bars into sheets (including all charges and expenses from the arrival of the Indian bars c.i.f. Maker's Port up to and including the delivery of the sheets f.o.b. Maker's Port) shall be determined as follows, *videlicet* :—

(a) When the spot price of spelter in London is equal to the average London price of spelter in the first two weeks of June one thousand nine hundred and thirty-two the price to be paid for prime sheets shall be six pounds five shillings per ton of sheets and for wasters and seconds five pounds ten shillings per ton on a twenty-four gauge basis in each case.

(b) For each rise of one pound in the price of spelter the price to be paid shall be increased by one shilling and six pence per ton of sheets and for each fall of one pound in the price of spelter the price to be paid shall be reduced by one shilling and six pence per ton of sheets and so in proportion for changes of less than one pound.

9. The conversion of the bars into Galvanized Sheets shall be in accordance with the best British practice and not more than five per cent. of the sheets supplied shall be wasters or seconds.

10. The bars sent from India and the sheets rolled therefrom under this Agreement shall remain the property of the Tata Company and shall be held in trust for them until payment for the sheets has been received by the Oriental Company. The Oriental Company shall sell the sheets on the terms of payment in cash against shipping documents and shall forthwith upon receipt of the price for any of the sheets pay the balance thereof after deduction of the amount payable for conversion of such sheets and other charges (if any) relating thereto to The Tata Company in London as they may from time to time direct. The Oriental Company guarantees the due payment for all sales and are responsible for bad debts (if any)

11. Unless otherwise previously agreed by the Tata Company all sales shall be on a c.i.f. duty paid basis and no sales shall be made at a lower price than is determined as follows, *videlicet*, the minimum selling price shall be Rupees two hundred and fifteen per ton duty paid when the price of spelter is equal to the average London price of spelter in the first two weeks of June one thousand nine hundred and thirty-two and shall vary with the price of spelter by the amounts provided for variation of the payment for conversion under clause 8 hereof.

12. Deliveries under this Agreement shall be subject to partial or complete suspension by either party in the event of strikes lock-outs breakdown of plant interruption of transport or other circumstances of the nature of force *majeure* preventing fulfilment for the time being by such party of its obligations under this Agreement provided that immediate notice shall be given to the other party by the party so affected.

13. The following Import Duties having been imposed by the Government of India, namely :—

“ Rupees 30 per ton on United Kingdom Sheets made from Indian semi-finished material ;

Rupees 53 per ton of United Kingdom sheets made from any other semi-finished ;

Rupees 83 Annas 12 per ton on foreign sheets.”

This agreement shall come into force forthwith and this agreement shall remain in force until the thirty-first day of March one thousand nine hundred and thirty-four.

PROVIDED that if the above duties are modified during the currency of this Agreement otherwise than by the imposition of an additional duty on sheets not made in the United Kingdom or by measures taken by either the British Government or the Indian Government under clause 3 of the contemplated conditions set out in the letter dated twenty-second September one thousand nine hundred and thirty-two from Sir George Rainy to Sir Horace Wilson printed on page 88 of the Ottawa Blue Book (Omd. 4174), then the parties hereto are to meet and consult together as to any adjustment which either party may consider necessary and in the absence of mutual agreement between both parties as to such adjustment this Agreement can be cancelled and brought to an end by either party by written notice given to the other party but any such cancellation shall not affect the liability of either party to perform the obligations imposed by this Agreement down to the date of such cancellation or any of such obligations in course of performance at that date although actual performance be due to take place after that date.

PROVIDED ALSO that the supply of Indian bars may terminate on a date after which it would not be possible for any sheets produced from any further supply of bars to be cleared through the Indian Customs on or before thirty-first March one thousand nine hundred and thirty-four.

IN WITNESS whereof the said parties to these presents have caused their respective Common Seals to be hereunto affixed the day and year first above written.

The Common Seal of The Tata Iron & Steel Company Limited was hereunto affixed in the presence of—

(Sd.) PHIROZE SETHNA, } *Directors.*
(Sd.) J. D. GHANDY, }



For and on behalf of The Tata Iron & Steel Co., Ltd.,
Tata Sons Ltd., Agents—

(Sd.) JEHANGIR R. D. TATA,
Director.

The Common Seal of The Oriental Steel Company
Limited was hereunto affixed in the presence of—

(Sd.) HENRY SUMMERS, } *Directors.*
(Sd.) WM. FIRTH, }
(Sd.) BASIL E. WENHAM,
Secretary.

Copy of letter dated London, 22nd September 1932, from Sir George Rainy to Sir Horace Wilson, K.C.B., C.B.E., Chief Industrial Adviser to His Majesty's Government in the United Kingdom.

Sir,

When the Agreement between the British and Indian Delegations was made at Ottawa it was found necessary to postpone a final settlement of certain questions relating to iron and steel. By Article 1 of the Agreement His Majesty's Government in the United Kingdom undertook to continue after the 15th November free entry to all clauses of Indian goods covered by the Import Duties Act. It was clearly understood, however, between the two Delegations that the continuance of the free entry of Indian iron and steel for a longer period than six months from the date of the Agreement was dependent on the settlement of satisfactory conditions in regard to the tariff treatment of galvanised sheet on importation into India. At the same time an understanding was reached that the conditions which would be satisfactory to His Majesty's Government in the United Kingdom were as follows:—

- (1) On the basis of present selling prices, the duties on galvanised sheet in the tariff to be adjusted as follows:—
 - 30 rupees per ton on sheet made in the United Kingdom from Indian sheet bar.
 - 53 rupees per ton on sheet made in the United Kingdom from other sheet bar.
 - 83 rupees per ton on sheet not made in the United Kingdom.
- (2) In the event of further reductions in the price of sheet imported into India and not made in the United Kingdom, the Government of India, as soon as they are satisfied that a fall in prices had in fact occurred, would, without an enquiry by the Tariff Board, take prompt and effective action to meet the situation by the imposition of an additional duty. The amount of the additional duty would not necessarily be limited to the amount of the price reduction actually made, but would be sufficient to make clear the intention of the Government of India to maintain prices.
- (3) Each Government would remain at liberty to take appropriate measures to prevent sales at unfair prices by the manufacturers in the other country, or to check an unnecessary increase in prices against the consumer by a combination of manufacturers in both countries.
- (4) These arrangements to remain in force until action is taken by the Government of India, following the next statutory Tariff enquiry in India into the Iron and Steel Industry.

2. The Indian Delegation are now prepared to undertake, on behalf of the Government of India, that proposals will be placed before the Indian Legislature for the adjustment of the duties on galvanised sheet at the rates set forth in clause (1) above, and for obtaining the powers which are necessary to carry out the intention of clauses (2) and (3). I have been authorised by my colleagues of the Indian Delegation to make this communication to you, and I have now the honour to request that you will inform me whether the terms of the understanding have been correctly stated in this letter.

Copy of letter dated London, 22nd September 1932, from Sir Horace Wilson to Sir George Rainy, K.C.S.I., K.C.I.E., India House, Aldwych, W. C. 2.

Sir,

I have to thank you for your letter of to-day's date on the subject of the tariff treatment to be accorded to galvanised sheets imported into India, and to confirm that the terms of the understanding which has been reached in this connection by our respective Governments are accurately set out in your letter.

COPY OF LETTER OF GUARANTEE.

WENHAM BROTHERS & Co., 25, Temple Row, Birmingham,
13th February, 1933.

To
The Tata Iron & Steel Co., Ltd.

AGREEMENT dated the 24th December 1932 and made between The Tata Iron & Steel Company Limited and the Oriental Steel Company Limited with reference to the sales of Galvanized Steel Sheets to be made in the United Kingdom and supplies of Indian Steel Bars to be converted into Galvanized Sheets.

Dear Sirs,

SHEET MAKERS' CONFERENCE.

We beg to inform you that we hold a sum of £10,000 (Ten-thousand pounds) as a fund to guarantee the due performance by the Oriental Steel Company Limited and the Members of the British Sheet Makers' Conference of the obligations undertaken by that Company by that Agreement and the services to be rendered by the said Members in accordance with that Agreement and we agree to hold the said sum upon trust that it may be applied in indemnifying you against any loss occasioned by default in such performance.

Pending any such applications the dividends on the fund will be paid to the persons by whom the fund has been provided.

Yours faithfully,

(Sd.) W. R. LYSAGHT.

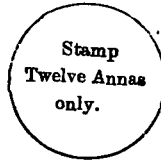
(Sd.) HENRY SUMMERS.

(Sd.) W. PETER RYLANDS.

(4) *Letter No. G-974/33, dated the 23rd September, 1933, from the Tata Iron and Steel Company, Limited.*

We are forwarding you by separate packet the undermentioned papers:—

- (c) 3 copies of the agreement, dated 27th July, 1928, between the Tata Iron and Steel Company and the Tinplates Co., of India, for the supply of tin bars.



THIS AGREEMENT made the twenty-seventh day of July, one thousand nine hundred and twenty-eight BETWEEN THE TATA IRON & STEEL COMPANY, LIMITED, a Joint Stock Company incorporated under the Indian Companies Act, 1882 and having its Registered Office at Bombay House, 24, Bruce Street, Bombay (hereinafter called "the Tata Company") of the first part, THE TINPLATE COMPANY OF INDIA, LIMITED, a Joint Stock Company incorporated under the Indian Companies Acts, 1913-1922 and having its Registered Office at Wallace House, Bankshall Street, Calcutta (hereinafter called "the Tinplate Company") of the second part and HUGH FITZHERBERT BATEMAN of Wallace House, Bankshall Street, Calcutta, East India Merchant and EDWIN LITTLEDIKE WATTS of Standard Buildings, Dalhousie Square, Calcutta, Solicitor (hereinafter called "the Trustees") of the third part WHEREAS (pursuant to an Agreement dated the twelfth day of February one thousand nine hundred and twenty between the Tata Company and the Burmah Oil Company, Limited, a Company incorporated in Scotland and having its Registered Office, at No. 175, West George Street, Glasgow) by a certain Agreement dated the nineteenth day of November one thousand nine hundred and twenty as revised and amended by a Supplemental Agreement dated the fourth day of November one thousand nine hundred and twenty-one both Agreements being made between the Tata Company of the one part and the Tinplate Company of the other part the Tata Company agreed (*inter alia*) to supply the Tinplate Company during the period of the said Agreements with certain quantities of Steel Sheet Bar as therein mentioned for the purpose of manufacture into tinplates at the prices and subject to the terms and conditions provided therein AND WHEREAS by an Agreement dated the twelfth day of July one thousand nine hundred and twenty-two and made between the Tata Company and the Tinplate Company and Supplemental to the hereinbefore in part recited Agreements of the nineteenth day of November one thousand nine hundred and twenty and the fourth day of November one thousand nine hundred and twenty-one after reciting that the Tinplate Company proposed to issue a series of first mortgage debentures and that it had been agreed that the benefit of the said Agreements of the nineteenth day of November One thousand nine hundred and twenty and the fourth day of November one thousand nine hundred and twenty-one should be secured to the Trustees for the time being for the holders of the said Debentures in manner therein provided it was agreed that all the benefits secured to the Tinplate Company by the said Agreements of the nineteenth day of November one thousand nine hundred and twenty and the fourth day of November one thousand nine hundred and twenty-one should be deemed to enure for the benefit of the Trustees for the said Debenture-holders and their assigns for the purpose of carrying on the business of the Tinplate Company subject to the due performance by the Trustees and their assigns of the obligations of the Tinplate Company under the said Agreements AND WHEREAS by an Indenture of Trust Deed dated the eleventh day of August one thousand nine hundred and twenty-two and made between the Tinplate Company of the one part and the Trustees of the other part the Tinplate Company as security for an issue of debentures to the extent of Rupees forty-nine lacs and ninety-five thousand charged and assigned to the Trustees the whole of its property and assets both present and future including its uncalled capital and also including (*inter alia*) the benefits and rights secured to the Tinplate Company under the hereinbefore recited Agreements of the nineteenth day of November one thousand nine hundred and twenty, the fourth day of November one thousand nine hundred and twenty-one and the twelfth day of July one thousand nine hundred and twenty-two AND WHEREAS by a further Indenture of Trust Deed dated the eighteenth day of Janu-

ary one thousand nine hundred and twenty-four and made between the Tinplate Company of the one part and the Trustees of the other part and expressed to be supplemental to the hereinbefore in part recited Indenture of the eleventh day of August one thousand nine hundred and twenty-two after reciting that it had been decided to raise a further sum of Rupees seventy-five lacs by the issue of Debentures ranking *pari passu* as well with each other as with the original Debentures secured as aforesaid and that the Trustees had consented to such further issue, it was thereby declared that the whole of the properties and assets of the Tinplate Company comprised in and covered by the said hereinbefore in part recited Indenture of Trust Deed should also stand charged with the repayment of the said sum of Rupees seventy-five lacs intended to be issued as well as the said sums secured by the said hereinbefore in part recited Indenture of Trust Deed AND WHEREAS the provisions of the said before recited Agreement of the nineteenth day of November one thousand nine hundred and twenty modified as aforesaid so far as the same related to the supply of and payment for Steel Sheet Bar are for the purposes hereof hereby agreed to have come into operation on the day of the first delivery of Steel Sheet Bar hereunder, viz., the ninth day of December one thousand nine hundred and twenty-two AND WHEREAS it was one of the terms of the said Agreements that for the purpose of arriving at the price to be paid by the Tinplate Company to the Tata Company for supplies of Steel Sheet Bar that all such Steel Sheet Bar was to be invoiced and paid for provisionally on certain bases therein set forth subject to subsequent adjustment and rectification and that by way of increase or reduction of the price of such Steel Sheet Bars periodical Statements were to be rendered of (1) the average prices per ton at which tinplates could have been purchased at the point therein laid down such prices being brought up to a price f.o.r. Shalimar, (2) the average cost per ton to the Tinplate Company f.o.r. Shalimar of the tinplates manufactured by the said Company and an account was to be made up of the difference between such average price and such average cost and adjustments made accordingly as set forth therein in detail AND WHEREAS disputes having arisen between the Tata Company and the Tinplate Company as to the manner in which the average cost per ton to the Tinplate Company f.o.r. Shalimar of the tinplates manufactured by it was to be calculated for the purpose of determining the price of Steel Sheet Bar supplied to the Tinplate Company by the Tata Company which said disputes are the subject matter of certain proceeding now pending in the High Court of Judicature in Bombay being Suit No. 3658 of 1925 AND WHEREAS certain further disputes with regard to non-delivery of Steel Sheet Bar under what has become known as the Tutwiler modification of the said Agreement of the nineteenth day of November one thousand nine hundred and twenty modified as aforesaid involving certain claims by the Tinplate Company against the Tata Company for damages for failure to deliver Steel Sheet Bar have been the subject matter of a reference to arbitration in respect of which the Award made by the Umpire in such proceedings is also the subject matter of certain proceedings, now pending in the High Court of Judicature in Bombay AND WHEREAS by an Agreement dated the twelfth day of February one thousand nine hundred and twenty-six and made between the Tata Company of the first part the Tinplate Company of the second part and the Trustees of the third part which Agreement was expressed to be supplemental to (*inter alia*) the said Agreement of the nineteenth day of November one thousand nine hundred and twenty and fourth day of November one thousand nine hundred and twenty-one it was agreed that the provisions of the aforesaid two agreements so far as they respectively related to the supply of and payment for Steel Sheet Bar should be suspended for the year one thousand nine hundred and twenty-six and that it lie thereof the provisions of the new reciting Agreement should have effect and thereby the Tata Company undertook to delivery and the Tinplate Company to take delivery during the period from the first day of January one thousand nine hundred and twenty-six for one year thereafter of the quantities of Steel Sheet Bar therein mentioned at the prices and subject to the conditions therein set forth but save as mentioned in the now reciting Agreement the provisions of the aforesaid two Agreements were to remain in full force and effect AND WHEREAS

an Agreement is to be executed simultaneously with this Agreement between the Burmah Oil Company, Limited, and the Tinplate Company whereby it is agreed between them that the Burmah Oil Company, Limited, shall take from the Tinplate Company its requirements of tinplates of such quality and dimensions as may be required by the Burmah Oil Company, Limited, to the extent to which the Tinplate Company can produce and deliver the same and the present Agreement is conditional on the agreement between the Burmah Oil Company, Limited, and the Tinplate Company being so executed AND WHEREAS it has now been agreed between the parties that as on and from the first day of January one thousand nine hundred and twenty-seven but saving and excepting anything done or purporting to have been done thereunder or any rights that may have accrued thereunder to either of the parties prior to such date the whole of the provisions of the said Agreements of the nineteenth day of November one thousand nine hundred and twenty and the fourth day of November one thousand nine hundred and twenty-one and the twelfth day of July one thousand nine hundred and twenty-two shall stand cancelled and that the above referred to disputes pending between the parties shall be compromised and adjusted as hereafter provided and that all future supplies of Steel Sheet Bar and all other rights and obligations of the parties dealt with by the said Agreements shall be regulated by the terms and conditions hereinafter mentioned AND WHEREAS it was one of the terms of such compromise and adjustment that this Agreement should enure for the benefit of the Trustees and the Trustees agree to the terms hereof as is evidenced by their joining in these presents NOW IT IS HEREBY AGREED between the parties as follows :—

1. As on and from the first day of January one thousand nine hundred and twenty-seven the said Agreements of the nineteenth day of November one thousand nine hundred and twenty and the fourth day of November one thousand nine hundred and twenty-one and the twelfth day of July one thousand nine hundred and twenty-two shall stand cancelled but saving and excepting anything done or purporting to have been done thereunder or any rights that may have accrued thereunder to either of the parties previous to such date.

2. In respect of the aforesaid disputes between the Tata Company and the Tinplate Company the Tata Company agree to pay the Tinplate Company and the Tinplate Company agree to accept from the Tata Company in full satisfaction of their claims in the before mentioned disputes the sum of Rs. 23½ lakhs and the Tinplate Company agree to pay to the Tata Company and the Tata Company agree to accept from the Tinplate Company the sum of Rs. 16,36,491-10-0 of which sum the Tinplate Company have withheld payment pending the settlement of such disputes. The Tata Company and the Tinplate Company agree that on these respective payments being made and on the execution of this agreement all legal proceedings now pending between them as aforesaid shall be withdrawn and each party shall bear its own costs thereof and it is further agreed that on the happening of these events the accounts between the two Companies as on the thirty-first day of December, one thousand nine hundred and twenty-five will be finally settled.

3. The Capital of the Tinplate Company shall be reorganised as soon as practicable after the execution hereof on the basis of a general scheme which has been agreed between the parties, a copy of which scheme is contained in the schedule hereto. The Tata Company undertake for their part to attend and vote in favour of the resolutions put before the shareholders at all meetings of shareholders of the Tinplate Company necessary to effect the said re-organisation and the Tinplate Company agree and undertake to procure the consent of the Burmah Oil Company and the Trustees to the said scheme and to arrange for the said Company being represented at the said meetings and voting in favour of the said resolutions.

4. This Agreement shall come and shall be deemed to have come into operation as on and from the first day of January, one thousand nine hundred and twenty-seven and shall continue for a period of twenty-one years thereafter.

5. Subject to the provisions of Clause 6 hereof as to deliveries hereunder during the period of this Agreement the Tata Company shall sell and deliver to the Tinplate Company and the Tinplate Company shall purchase and accept delivery from the Tata Company yearly and every year of the whole of the Tinplate Company's requirements of Steel Sheet Bar up to a maximum of sixty thousand tons per annum to be delivered as in Clause 6 hereof.

Provided always and it is expressly agreed and declared that notwithstanding anything herein being or appearing to be to the contrary, the Tinplate Company shall be at liberty at any time or times or from time to time to purchase such quantities of Steel Sheet Bar from any other sources whatsoever for experimental purposes not exceeding in the whole one hundred tons in any one year and also in any year to any extent for the purposes of its business when and if in such year it shall have already given firm orders to the Tata Company for the full annual quantity to which it is entitled hereunder,

6. Deliveries of such quantities (up to the maximum herein mentioned) of Steel Sheet Bar as the Tinplate Company may require from time to time shall be made weekly by the Tata Company. The Tinplate Company shall give the Tata Company not less than fourteen days' notice of each week's requirements of Steel Sheet Bar and the Tata Company shall deliver in accordance with these requirements provided always that the notified requirements shall not exceed one thousand five hundred tons in any one week.

7. In respect of all Steel Sheet Bar delivered as on and from the first day of January, one thousand nine hundred and twenty-seven the following provisions shall apply with regard to the price to be paid therefor, namely:—

For the ten years from the first day of January, one thousand nine hundred and twenty-seven or from that date up to the date when withdrawal or reduction may be enacted of the protection for tinplates manufactured in India secured by the Steel Industry (Protection) Act, 1927 or any extension or extensions thereof whichever period be the less the price to be paid for all Steel Sheet Bar delivered shall be Rupees eighty-three per ton f.o.r. the Tinplate Company's siding at Golmuri. Thereafter and for the residue of the period of this Agreement the price to be paid per ton for Steel Sheet Bar f.o.r. the Tinplate Company's siding at Golmuri shall be fixed quarterly and shall be the rupee equivalent of thirty-three per cent of the average sterling export price per ton (f.o.b. Bristol Channel ports) of Welsh kerosene oil tinplates bought during the same quarter by the Burmah Oil Company, Limited, the Anglo-Persian Oil Company, Limited and the Asiatic Petroleum Company, Limited, or any one or more of these Companies if all of them have not bought during the quarter of the standard sizes and gauges and qualities of the kerosene oil tinplates produced by the Tinplate Company. In the event of there being no purchases by any of the aforesaid three Companies during any such quarter such price shall be the rupee equivalent of thirty-three per cent of the average sterling export price per ton as before mentioned in respect of purchases by all or any of the aforesaid three Companies during the quarterly period immediately preceding such quarter.

Until such price for each quarter has been ascertained in the manner aforesaid the price for the last preceding quarter for which a price has been ascertained shall provisionally prevail and for the first of such quarterly periods the provisional price shall be Rs. 83 per ton. As soon as the quarterly price payable for deliveries during that quarter has been ascertained, the necessary adjustments of the provisional payments shall be made.

The average sterling export price per ton shall be arrived at by dividing the total actual cost of such purchases referred to in this clause (less any charges for tin lining and iron hooping) by the total nett tonnage purchased and the Burmah Oil Company, Limited, shall furnish certificates to the Tinplate Company showing the prices of such purchases if any made by themselves, the Anglo-Persian Oil Company, Limited, and the Asiatic Petroleum Company, Limited, during the quarterly period in question. For the purpose of converting the average sterling

export price per ton to be arrived at as aforesaid to the rupee equivalent to be paid to the Tata Company there shall be taken the average of the daily opening T. T. remittance rates of exchange quoted by the Hongkong and Shanghai Banking Corporation's Calcutta Branch, and by the National Bank of India, Ltd.'s Calcutta Branch, during the quarterly period for which payment is to be made to the Tata Company.

8. Except in the case of rejection of any lot of Steel Sheet Bar delivered the bill for every lot delivered shall be made out either on the basis of the flat rate of Rs. 83 per ton as aforesaid or on the basis of the provisional price then in force as herein provided and such bill shall be paid within 10 days of delivery and the amount of such bill shall bear interest at the rate of 6 per cent per annum from the expiry of such period of 10 days until payment. In the case of a bill or bills being made out on the basis of the provisional price then in force the necessary adjustments in respect of such bills shall be made out in the following manner:— viz., that as soon as the actual price payable for each lot of Steel Sheet Bar delivered has been ascertained a new bill in respect of the difference shall be made out by the Tata Company or the Tinplate Company as the case may be and the further amount so payable by the Tinplate Company or the amount repayable by the Tata Company as the case shall be so paid or repaid within 10 days of the delivery of such bill to the party liable therefor and the amount of such bill shall bear interest at the rate of 6 per cent per annum from the expiry of such period of 10 days until payment.

9. If at any time or times the Tinplate Company makes default in payment of the bills mentioned in Clause 8 hereof or any of them for a period of thirty days after delivery thereof, then from the expiration of such period of 30 days, the Tata Company shall be entitled to decline to deliver any further Steel Sheet Bar to the Tinplate Company until such time as the Tinplate Company shall have paid off all arrears of bills with interest due up to that time. This provision shall have no application to bills delivered in respect of Steel Sheet Bar which has been rejected until after the expiration of 30 days from receipt by the Tinplate Company of the decision of the Government Metallurgical Inspector where such decision is against the claim of the Tinplate Company to reject.

10. The Steel Sheet Bar to be delivered during the period of this agreement shall be suitable for the manufacture of tinplates. The bar shall, subject to a minimum specified footweight of 8 lbs. 4 oz. per foot, be of the footweights required by the Tinplate Company, with tolerances of 3 per cent up and 1½ per cent down and unless otherwise agreed between the General Managers of the Tinplate Company and the Tata Company shall be of the undernoted analysis:—

	Per cent.
Carbon	·10 — ·14
Silicon	·04 — ·07
Manganese	·30 — ·50
Sulphur	under ·05
Phosphorus	·03 — ·08

The Steel Sheet Bar to be delivered shall be 8 inches wide, with an allowance of ¼ inch in width either way.

In case any lot of Steel Sheet Bar delivered by the Tata Company shall not be of the quality and specification mentioned above the Tinplate Company shall be entitled to reject the same and if the Tata Company accepts the rejection the Tata Company shall deliver another lot of the quality and specification herein provided. If the Tata Company do not however accept such rejection within forty-eight hours after notice of rejection and dispute the claim of the Tinplate Company to reject the lot the question shall be referred to the decision of the Government Metallurgical Inspector at Jamshedpur whose decision shall be accepted

as final and binding upon both parties. In case the decision of the Government Metallurgical Inspector is against the Tata Company the Tata Company shall forthwith deliver another lot of the same quality and specification herein provided.

11. In the event of the Tata Company having Steel Sheet Bar during the period of this agreement whether of the quality provided for in this agreement or of any other quality in excess of the maximum quantity which the Tinplate Company can demand under this agreement and which the Tata Company do not require for their own use or purposes the Tata Company shall whenever and as far as possible offer the same to the Tinplate Company at such price as may be agreed upon between the parties.

12. No failure or omission to carry out or perform any of the covenants, obligations, stipulations or conditions herein contained shall give rise to any claim or be deemed to be a breach of this Agreement if such failure or omission shall arise from any of the aftermentioned causes all of which, when *de facto* operating to cause such failure or omission, shall be regarded as of the character of force *majeure* relieving both parties from any claim in respect of such failure or omission, namely :—The act of God or of enemies, restraints or restrictions of princes, Governments or peoples (including supervenient prohibitory legislation on the part of the Government of India or other competent authority having jurisdiction over the contracting parties in direct relation to the premises), wars, insurrections, strikes or comminations or lock-outs of workmen, riots or civil commotions, epidemics, cyclones, tornadoes, fire, earthquake, floods, destruction of works, failure or shortage of ships, railway wagons or other transport facilities or any other cause or accident of whatsoever nature whether or not *ejusdem generis* to the above specified causes not being caused by or arising from the neglect or default or wilful act of the contracting party in failure or default but so that a lock-out of workmen shall not be a wilful act within the meaning of this clause nor shall an accident to or breakdown of machinery or plant occasioned by the neglect or default of the staff or workmen of either of the parties hereto be deemed to be the neglect or default of the party provided always that in the event of a lock-out strike or breakdown of machinery or plant occasioned by the neglect or default of the staff or workmen occurring at the Tata Company's Works the Tinplate Company shall be at liberty while such lock-out strike or breakdown subsists to purchase and make provision for their requirements of Steel Sheet Bar from whatever source they may deem expedient.

13. It is expressly agreed and declared that the benefits of these presents shall be and are hereby secured to the Trustees for the time being for the holders of the said Debentures and all the benefits secured to the Tinplate Company hereunder shall enure for the benefit of the Trustees and their assigns and any Receiver or Receivers appointed by them for the purpose of carrying on the business of the Tinplate Company subject nevertheless to the due performance by the Trustees and their assigns and such Receiver or Receivers as aforesaid of the obligations of the Tinplate Company hereunder.

14. The Tata Company shall grant to the Tinplate Company the following rights :—

- (a) During the continuance of any leases granted by the Tata Company to the Tinplate Company such way leaves, for roadways, tramways, railways or aerial ropeways and such facilities for tramway sidings and railway sidings over other lands belonging to the Tata Company as may be reasonably necessary for the Tinplate Company's requirements from time to time to secure adequate entry to or egress or removal from the Tinplate Company's Factory of all men, materials and products required for or produced in the course of the Tinplate Company's business as may be necessary or reasonably sufficient for the proper and efficient conduct of the said business and on the footing that the Tata Company shall not be bound to grant any such rights, easements, facilities, or conveniences which would unduly interfere with the use or development of their other land and that the sites of

such rights, easements, facilities and conveniences shall be in every case selected by the Tata Company and that in respect of these rights, easements, facilities and conveniences the Tata Company shall only charge the Tinplate Company therefor (a) when the said rights, easements, facilities and conveniences are exclusive to the Tinplate Company the actual cost, or (b) when the rights, easements, facilities and conveniences are common to the Tinplate Company and to the Tata Company and/or other companies or persons only a fair proportion according to the extent to which the same may be expected to be used of the actual cost to the Tata Company of such portions of the Tata Company's land as may be used for the furnishing of said rights, easements, facilities and conveniences and of any cost incurred by the Tata Company in furnishing and maintaining the same.

- (b) Right, during the continuance of the said Leases, to be supplied by the Tata Company up to the points nearest to the Tata Company's system thereof of the area on which the said Tinplate Factory has been erected, with such water (both potable and commercial), electricity (for lighting and power), gas (for lighting and power) and drainage facilities as may be required by the Tinplate Company in connection with the operations of their Tinplate Factory and/or the health, comfort and well-being of their employees thereat, all at such charges or rates for same respectively as may be mutually agreed upon between the Tata Company and the Tinplate Company, and
- (c) Right, so far as the Tata Company are entitled to confer same on the Tinplate Company, to the advantage of any preferential railway or waterway freights, rates or privileges to which the Tata Company may from time to time be entitled for the benefit of their lessees or others deriving right from them as regards railway or waterway transport to and/or from Jamshedpur.

15. The Tinplate Company shall be taken bound and shall enter into covenants in usual form, to pay the cost or rateable proportion of cost of the portions of the Tata Company's land used for said rights, easements, facilities and conveniences and the said charges and rates for water, electricity, gas and drainage facilities.

16. Neither party will without the consent in writing of the other employ or engage in its service any employee, servant, workman or labourer in the service of the other party or in the service of any subsidiary company of the other party.

THE SCHEDULE.

Scheme of Re-organisation of the Capital and Accounts of the Tinplate Company referred to in Clause 3.

1. As per Clause 2 of the within agreement the debt appearing as due by the Tata Company to the Tinplate Company will be reduced to Rs. 23,25,000. The Tata Company at the same time forego interest on the amount of Rs. 16,36,491-10-0 withheld by the Tinplate Company, with the result that the nett amount due from the Tata Company to the Tinplate Company will be reduced to Rs. 6,88,508-6-0.

2. The book value of the Company's block account consisting of the Golmuri Works and Golmuri Town standing in the accounts at Rs. 1,36,60,139-7-3 on 31st December, 1925, will be written down to Rs. 1,01,43,833-0-0 the agreed depreciated replacement value as at 31st December 1925.

3. The balance of Preliminary Expenses will be written off.

4. As on and from the first day of January 1926 the Burmah Oil Company agree to give up the debenture and other interest shown as due to them, and also portions of the sums due to them as Debentures and Loans and as from the first day of January 1926 the only sum due to the B. O. C. will be a sum of

Rs. 1,17,57,494-6-2 due in respect of Debentures and Loans of which Rs. 1,00,05,000 will be in Debentures and Rs. 17,52,494-6-2 in Loans. Interest will be payable on this sum at 6 per cent per annum from the first day of January, 1926.

5. The result of the above operations will be that a sum at present not definitely ascertained will be shown at debit of Profit and Loss Account in the 1927 Balance Sheet which sum it is proposed should be wiped out either wholly or partially to a convenient figure to be agreed and share capital to a corresponding amount cancelled.

IN WITNESS WHEREOF the Tata Company and the Tinsplate Company have hereto affixed their respective common seals and the Trustees have affixed their respective hands and seals the day and year above written.

THE COMMON SEAL of the Tata Iron & Steel Co., Ltd., was hereto affixed in the presence of—

(Sd.) PHIROZE SETHNA, } *Directors.*
(Sd.) LALUBHAI SAMALDAS, }



Tata Sons, Ltd.,
Agents,

(Sd.) JEHANGIR R. D. TATA,
Director.

THE COMMON SEAL of the Tinsplate Company of India, Ltd., was hereto affixed in the presence of—

(Sd.) G. D. FORRESTER, } *Directors.*
(Sd.) H. F. BATEMAN, }



SIGNED, SEALED And DELIVERED by the said Hugh Fitzherbert Bateman in the presence of—

(Sd.) J. P. AINSCOUGH,
Mercantile Assistant,
4, Bankshall Street,
Calcutta.

(Sd.) H. F. BATEMAN.

SIGNED, SEALED and DELIVERED by the said Edwin Littledike Watts in the presence of—

(Sd.) J. P. AINSCOUGH,
Mercantile Assistant,
4, Bankshall Street,
Calcutta.

(Sd.) E. L. WATT

(5) Letter No. 474, dated 14th October, 1933, from the Secretary, Tariff Board, to the Tata Iron and Steel Company, Calcutta.

In paragraph 51 of your representation you have referred to the fact that the net expenditure on the Town is now included in the works costs. Please report the gross annual expenditure incurred on housing, electricity, water, roads, drainage, hospitals, schools and similar municipal services and other amenities and the net expenditure after crediting rents, fees and rates, and state how this is allocated to the various departments, and under what head it is shown in the cost sheets.

(6) Letter dated 18th October, 1933, from the Tata Iron and Steel Company.

With reference to your letter No. 474 of the 14th instant on the subject of expenditure in the Town of Jamshedpur, we wish to inform the Board that the Memoranda describing the more important aspects of the Town administration, which we have submitted or shall be submitting during the next few days, show the gross annual expenditures under various heads.

2. We suggest that the relation between expenditure and revenue arising from each item can most suitably be ascertained by a perusal of the Town Revenue Budget for 1933-34 of which we enclose a copy herewith for the Board's information. A summary of the gross expenditure, income and net expenditure under each of the main heads is shown on page 1 of the budget.

3. The net expenditure on the town is debited to the General Works Expense account, the total of which is distributed among the various departments as shown in the cost sheets of which you receive copies.

Enclosure.

TOWN BUDGET, 1933-34.

Summary of estimated expenditure and income under service heads, showing net expenditure of each service head and total estimated deficit.

Service Heads.	Gross Expenditure.	Income.	Nett Expenditure.
	Rs.	Rs.	Rs.
1. General Administration	1,20,545	6,100	1,14,445
2. Estate Management	2,94,065	7,40,240	Cr. 4,46,175
3. Water Works	1,38,325	20,250	1,18,075
4. Sewage and sewage disposal	1,23,305	55,800	67,505
5. Roads	81,060	1,000	80,060
6. Health and Conservancy	1,61,870	15,500	1,46,370
7. Hospital and Medical Relief	3,09,276	14,800	2,94,476
8. Public Safety	35,700	2,000	33,700
9. Gardens and roadside trees	12,770	..	12,770
10. Education	89,200	..	89,200
11. Markets and Slaughter Houses	30,130	1,13,000	Cr. 82,870
12. Veterinary	4,455	4,125	330
13. Hotel and Guest Houses	69,220	54,695	14,525
14. Welfare	25,080	..	25,080
15. Pounds	8,350	8,500	Cr. 150
16. Associated Companies contribution . . . . .	..	48,200	Cr. 48,200
Total	15,03,351	10,84,210	4,19,141

(7) Letter dated 3rd October, 1933, from the Tata Iron and Steel Company, Ltd., Calcutta.

In accordance with the request of the Board at our interview on the 18th ultimo we are forwarding herewith six copies of a formal agreement for the supply of billets to Messrs. Indian Steel and Wire Products, Tatanagar.

2. The Board may please note that this formal agreement is not yet concluded. If, however, there should be in the course of subsequent negotiations any material change we will inform the Board accordingly.

^a Enclosure.

Draft of the revised proposed agreement between the Tata Iron and Steel Company, Ltd., and Mr. Indra Singh for the supply of Billets to his works at Jamshedpur.

THIS AGREEMENT made the _____ day of _____ One thousand nine hundred and thirty-three BETWEEN THE TATA IRON & STEEL COMPANY LIMITED a Company incorporated under the Indian Companies Act and having its registered office at No. 24, Bruce Street, Fort, Bombay (hereinafter called "The Company" which expression shall unless excluded by or repugnant to the context include its assigns) of the one part and INDRA SINGH son of Kissen Singh Merchant at present residing at Jamshedpur in the Province of Bihar and Orissa carrying on business in the name and style of the Indian Steel & Wire Products at Tatanagar in the Province of Bihar and Orissa (hereinafter referred to as "the Purchaser") of the other part WHEREAS the Company manufactures at its Factory or Works at Jamshedpur in the Province of Bihar and Orissa iron and steel goods and materials including steel billets AND WHEREAS the Purchaser requires steel billets for the manufacture at his Works at Jamshedpur of steel wire and steel rounds below half inch in diameter NOW IT IS HEREBY AGREED as follows:—

1. This agreement shall remain in force for five years commencing from the 1st day of January 1934 or such earlier date as the Purchaser shall take the first delivery of steel billets under the terms of this agreement.

2. The Company will sell to the Purchaser such quantities of steel billets manufactured of the composition specified in the Schedule hereto of such size or sizes suitable for the manufacture of wire as may hereafter from time to time be mutually agreed upon and in such quantities as the Purchaser may from time to time order subject to a maximum of 30,000 tons of billets in every year (a year for the purpose of this clause being calculated from the date of commencement of this agreement as mentioned in clause 1 hereof) and shall deliver the said billets at the Purchaser's said Works. Provided always that the Company shall not be obliged to deliver to the Purchaser more than 3,000 tons of billets in any one calendar month.

3. Every order given by the Purchase shall be in writing and shall specify the date not being less than twenty-one days from the date on which the said order is given on which the said goods are to be delivered but such delivery shall be subject to the proviso in clause 2 hereof contained.

4. All invoices for billets to be supplied by the Company to the Purchaser will be prepared by the Company on the basis of actual weight of the material as disclosed by weighment at the Company's weigh-bridge at the Company's Works and such weighment shall be taken to be final and conclusive between the parties hereto.

5. The Purchaser shall pay for all billets which the Company may supply at the Purchaser's said Works at the rates following, namely:—

(a) For the first two years of the operation of this agreement, at the rate of Ra. 60 per ton and provided that if after 30th June 1933 the railway freight on the raw materials required by the Company for the manufacture of the said billets is increased then the said price of Rs. 60 per ton shall be increased so as to compensate the Company for the increase in such Railway freight above the amount of such freight before 1st July 1933.

(b) Thereafter, at the rate at which the Purchaser can obtain delivery at his said Works of billets of similar quality and description of Continental manufacture subject to a minimum of Rs. 70 per ton (provided import duty taken into account is 12½%) the import duty being assumed as fixed at 12½% for the purpose of calculating the price at which the Purchaser can obtain delivery of Continental billets at his Works.

6. The Purchaser shall pay to the Company the invoice price of the billets which may be supplied to him by the Company as aforesaid in cash in the following manner namely:—

- (a) During the first six months of the operation of this agreement, within one month from the date on which the said billets shall be delivered at the Purchaser's said Works and he shall pay interest at the rate of 6% per annum on such amount of the invoice price as shall be outstanding after the first 10 days from the date of invoice until payment, and
- (b) After the first 6 months of this agreement, all billets supplied shall be paid for in cash within 10 days of the date of invoice thereof and the Purchaser shall also pay interest at the aforesaid rate of 6% per annum on all sums outstanding after the said period of 10 days.
- (c) The provisions for payment of interest as aforesaid shall not prejudice the right of the Company to demand and enforce payment of the invoice price on due date.

7. The Purchaser will not be entitled to withhold payment of any Bills for the price of billets supplied on any account whatsoever and shall not claim to withhold such payment on the ground that any moneys are or may be due by the Company to the Purchaser either in connection with any other contract or business which the Company may have with the Purchaser apart from the supply of billets under this agreement or on the ground that any dispute or difference exists between the Company and the Purchaser regarding the quantity or quality of the billets supplied under this agreement or any other grounds whatsoever.

Should any dispute arise with regard to the quality and condition of the billets supplied hereunder the Purchaser shall nevertheless take delivery of the said billets as delivered and make due payment therefor as herein agreed.

8. The respective times hereinbefore stipulated for delivery of and payment for the said billets shall be deemed to be of the essence of the contract and the failure of the Purchaser to pay for any one or more of the bills or invoices for the price of any lot or quantity supplied in accordance with the foregoing stipulations shall entitle the Company to treat such failure as a repudiation of this contract by the Purchaser and to recover damages for the breach of contract.

9. If and whenever it shall be established that the Purchaser is entitled to any refund or reduction in the amount of the price which shall have been paid by the Purchaser to the Company or that the Company is entitled to any moneys in excess of the Invoiced amount or otherwise in respect of billets supplied by the Company to the Purchaser such differences shall be adjusted by the Company by issuing a credit note or a debit note as the case may be.

10. The Company will not be in any way liable for non-performance either in whole or in part of any contract or for any delay in performance thereof in consequence of any strike lock-out shortage of labour failure on the part of any Railway Company to supply sufficient wagons to carry essential raw materials to and finished products from the Works of the Company, fire, breakdown or accident to machinery, riots, war, insurrection or restraints imposed by Government Act of Legislature or other authority and by reason of any other cause of whatsoever nature beyond the control of the Company. In the event of the Company being unable to give due delivery of any order by reason of any of such causes as aforesaid the Purchaser shall have no claim or claims against the Company in respect of such omission to deliver. In the event of the determination of causes as aforesaid deliveries under this agreement shall be resumed within a reasonable time after such determination

and the Company shall be relieved of its obligation hereunder to comply with all orders of the Purchaser upto the stated maximum amount of 30,000 tons in the year. In the event of any such causes as are enumerated in this Clause coming into operation, the Company shall be the sole judge whether they are able to deliver any and if so what quantity of the said billets under any particular order or to what amount of the stated maximum amount of 30,000 tons during that year.

11. This agreement is subject to the following conditions :—

- (a) The Purchaser undertakes not to manufacture at his said Works any form of steel except rounds less than half inch in diameter and wire and wire products and the Purchaser shall not use the billets purchased from the Steel Company for any other purpose or re-sell them to any other party, nor shall he, except as hereinafter specifically provided, use for the manufacture of the aforesaid articles any material other than the billets provided by the Company under this agreement. For instance, the Purchaser shall not roll in his said Works iron or steel bars of the description known in the trade as flats, tees, squares and angles of any size whatsoever and shall also not roll in his said works round bars of iron or steel of half inch in diameter or of any other size above half inch in diameter ;
- (b) The Company shall not roll in its said Factory or Works round bars of any size less than half inch in diameter ;
- (c) While the Purchaser's annual requirements do not exceed 30,000 tons of billets which the Company agrees to supply, the Purchaser shall not purchase any steel billets of the nature or of similar nature to those to be supplied under this agreement from any other person firm or company during the continuance of this agreement but nothing herein shall prevent the Company from selling such steel billets to any other person firm or company ;
- (d) If the Purchaser's annual requirements exceed 30,000 tons of billets, the Purchaser shall give in writing the first refusal to the Company for the supply of additional billets at the contract price applicable to the supply of 30,000 tons of billets and only on the Company expressing in writing its inability to do so, will it be open for the Purchaser with the consent of the Company to purchase his additional requirements elsewhere, provided such consent shall not be unreasonably withheld by the Company.

Non-compliance by either party with the above mentioned conditions will entitle the other party to terminate this agreement and to recover damages for the breach of the contract.

12. All questions or differences whatsoever which may at any time hereafter arise between the parties hereto touching these presents or the operation or the subject matter thereof or arising out of or in relation thereto respectively and whether as to construction hereof or as to whether any cause has arisen for the determination of this agreement under the provisions in that behalf hereinbefore contained or as to the rights duties or liabilities of either party in connection with the premises including liability for damages or the amount thereof or otherwise shall be referred to two arbitrators in Calcutta one to be appointed by either party to the difference or to an Umpire to be appointed by the arbitrators in accordance with the provisions in that behalf contained in the Indian Arbitration Act 1899 or any subsisting statutory modification thereof it being agreed between the parties hereto that the provisions of the Indian Arbitration Act 1899 shall apply to such arbitration as if a suit relating to the subject matter submitted to arbitration could be instituted in the High Court of Judicature at Fort William in Bengal and the decision of the arbitrators or Umpire shall be deemed to be an award within the meaning of the Indian Arbitration Act 1899 and enforceable accordingly by the said High Court of Judicature at Fort William in Bengal.

The Schedule above referred to—

Specification of Steel to be used for the manufacture of billets.

Steel containing :—

- Carbon up to 0.13 per cent maximum.
- Manganese 0.30 to 0.55 per cent maximum.
- Silicon up to 0.08 per cent maximum.
- Sulphur up to 0.06 per cent maximum.
- Phosphorus up to 0.08 per cent maximum.

(8) *Letter dated 4th October, 1933 from the Tata Iron and Steel Company, Limited.*

We enclose herewith six copies of the forms* of each of the following agreement^d with Tata dealers for deferred rebates :—

	Original.	Latest Revision.
Upcountry and Madras	15-12-28/ 1-1-31	21-4-33
Calcutta	9-2-31	21-4-33
Bombay	1-1-32	21-4-33

(9) *Letter No. M-128, dated 6th November, 1933, from the Tata Iron and Steel Company, Calcutta.*

In continuations of our letter M-122 of the 4th instant we wish to point out that the revised agreements, dated 21st April, 1933, with the Tata dealers for deferred rebates are not actually in operation at present as questions have been raised by some of the dealers. The new agreements, however, are based on the same operating principles as the old agreements, the revision being intended to bring the form and wording into greater uniformity and to clear up uncertainties of intention which experience with the old agreements had shown to exist.

(10) *Letter No. 459, dated 11th October, 1933, from the Secretary, Tariff Board, to the Tata Iron and Steel Company, Calcutta.*

I am directed to request that the following information may be supplied to the Board with six spare copies at an early date not later than the 4th November, 1933.

(1) See statement 33 attached to the Company's representation. Please give percentages accounting for the total weight of ingots used for each mill during 1932-33 under the following heads :—

- (a) Yield of good steel (these will be as per statement 33).
 - (b) Heat waste.
 - (c) Crop ends (at blooming mill and finishing mill separately, if possible).
 - (d) Rolled steel rejected on examination for—
 - (1) physical defects, (2) metallurgical defects.
- (1) and (2) to be given separately, if possible.

(The sum of (a), (b), (c) and (d) should equal 100 per cent.) If possible please say what proportion of (d) was actually scrap for re-melting and what proportion was used or sold as defective material.

(2) *Paragraph 39 of representation* : Please state what reduction will be effected in the cost of (a) Open Hearth ingots and (b) Duplex ingots by the reduced rates per ton it is proposed to charge for furnace relining and ingot moulds.

* Not printed.

(11) *Letter dated 14th October, 1933, from the Tata Iron and Steel Company, Limited, Calcutta.*

With reference to your letter No. 459 of 11th instant we wish to inform the Board in reply to question 2 that the proposed reductions in the rates of provision for furnace re-lining and re-building funds and for moulds and stools will reduce the works costs of—

- (a) Open-hearth ingots by Rs. 0.65 per ton ; and
- (b) Duplex ingots by Rs. 1.38 per ton.

These reductions cover the total effects of the reductions which it is proposed to make not only in the provisions for the two departments named but also in the provisions for the coke-oven and blast furnace departments.

(12) *Letter dated 14th October, 1933, from the Tata Iron and Steel Company, Calcutta.*

We thank you for your letter No. 458, dated 10th October, 1933, forwarding copy of a letter received by the Board from the Hindusthan Construction Co., Ltd., regarding the proposed Howrah Bridge.

2. We shall be in a position to manufacture high tensile steel of the required tonnage to the satisfaction of the Port Commissioners, provided the specifications for the steel are not unduly restricted and provided sufficient time is given between the acceptance of the tenders and the dates of delivery. We would welcome the invitation of alternative tenders based on mild steel.

3. High tensile steel is at present imported into the country on payment of revenue duty only as alloy steel. It will be clearly necessary to impose a protective duty on this steel. In paragraph 109 of our representation we have made a proposal to this effect. Tenders for the Howrah Bridge may however be invited before the Government has time to consider the main recommendations of the Tariff Board regarding the iron and steel industry. In that case, tenderers will be placed in a position of uncertainty regarding the rate of duty at which high tensile steel will be imported into India for the Howrah Bridge. We have made a representation to the Government of India on this subject and beg to enclose a copy of it herewith.

Enclosure.

Copy of letter dated 14th October, 1933, from the Tata Iron and Steel Company, Limited, Calcutta, to the Secretary to the Government of India, Commerce Department Simla.

We have the honour to state that the Calcutta Port Trust, as representing the Howrah Bridge authorities, have, with the approval of the Government of Bengal, decided to reconstruct the Howrah Bridge. It is understood that tenders will be invited for a bridge made of high tensile steel. We intend to manufacture high tensile steel, if required for their bridge and for any other works in the future.

2. We understand, however, that such steel can now be imported on payment of the revenue duty only under Serial No. 102c (b) (1) (for bar and rod) and Serial No. 102e (for steel other than bars). If fabricated, it is not clear whether it will have to pay the protective duty under 102h or revenue duty only. Similarly, in the case of plates or sheets, fabricated or unfabricated, it is not clear whether protective duty under 103i will be levied or only revenue duty under 102e.

3. As we are in a position to manufacture high tensile steel and intend to do so if required for such purposes as the Howrah Bridge, it is requested that the imports of such steel may be admitted on payment of protective duty only. If protective duty is applicable to steel structures of the kinds mentioned in item 102h and to plates or sheets referred to in 1931, we shall be obliged if a ruling to this effect is given. In the case of other forms of such steel which would at present fall under Nos. 102c (b) (1) and 102e, it is requested that early steps may be taken to make such steel liable to protective duty. It appears that deletion of the word "alloy" from these two items will meet the purpose.

4. If Government decide to refer this proposal to the Tariff Board, we shall be obliged if the Board are requested to submit their recommendations thereon at an early date and in advance of their main recommendations regarding the iron and steel industry, as tenders for the Howrah Bridge may be invited within a short time and it is necessary for intending tenderers to be in a position to know exactly the duties leviable on the import of high tensile steel, fabricated as well as unfabricated.

(13) *Letter dated 17th October, 1933.*

In the course of our interview with the Board on the 16th ultimo it was pointed out that our figures for production per head in Statements 35 G and 35 J do not appear to be consistent with our claim that we are now using our labour more efficiently than in the past.

2. In both statements the early figures represent practically the first period of operation of the mills concerned, namely, the new 28-inch mill and the plate mill. Our system of recording labour statistics at that time was not as good as at present. To some extent labour was taken from a central pool and was not recorded as direct labour. As the organization of the mills settled down, however, those men who were found to be really necessary for the regular operation of the mill were definitely attached to it and increased the number of men recorded as directly employed in the mill. Similarly, when the mills were starting up, there were practically no stocks of finished material. The handling and loading of stocks was therefore a very simple matter and did not involve the employment of much labour.

3. In the case of each of these two mills, however, there have been developments which have been unfavourable from the point of view of output per head. In the early years the Rail Mill rolled only rails and even when rolling of structural sections commenced, the sections were of a comparatively heavy type. During the last two years, however, we found it necessary to commence the rolling of much lighter sections on this mill in order to keep it reasonably well employed in view of the falling off of rail orders. It was unavoidable that the output per head should fall while the mill was engaged on this work, many of the sections being unusually light for such a mill and by comparison with the average rails previously rolled. This work also involved the employment of relatively large numbers of men in finishing the sections, putting them properly into stock and ultimately despatching. Roll changing also unavoidably became much more frequent which necessarily affected the output.

4. Similarly, at the plate mill we found it necessary in 1931-32 to commence rolling $\frac{1}{4}$ inch plates on that mill. Prior to that time orders for this light material had been rolled on the sheet mill but the position had so developed that we could easily sell the whole of the possible output of thinner sheets, whereas the orders for plates had so declined that unless this relatively unsuitable material were transferred to the mill, it would have been very difficult to keep it operating on an economical basis. A further change at the plate mill was that during the last few years we have employed more labour than previously in sorting out the scrap and plate ends in order that we might be able to realise a better price on the sale of this material. This increase in the number of men is divided into the same production figure as otherwise in arriving at the production per head, and necessarily tends to lower it.

5. I trust that the above considerations will show you that even the two mills referred to do not form any real exception to the improvement of our output per head where the production of similar material is taken into account.

(14) *Letter dated 7th November, 1933 from the Tata Iron and Steel Company, Limited, Calcutta.*

We beg to invite attention to our letter No. A-2937/33, dated 14th October, 1933, with which we forwarded a copy of our letter to the Government of India on the subject of high tensile steel. We enclose herewith a copy of the reply of the Gov-

ernment of India dated 4th November, 1933, and request the Tariff Board kindly to consider our representation and make such recommendations as it deems fit.

2. Any reply received from the Central Board of Revenue regarding the points raised in paragraphs 2 and 3 of our representation to the Government of India will be communicated to the Board.

Enclosure.

Copy of letter No. 260-T, dated 4th November, 1933, from the Deputy Secretary to the Government of India, Department of Commerce, New Delhi, to the Tata Iron and Steel Company Limited, Calcutta.

IMPORT DUTY ON HIGH TENSILE STEEL.

With reference to your letter dated the 14th October, 1933, on the above subject, I am directed to refer you to the terms of Commerce Department, Resolution No. 260-T (8)/33, dated the 26th August, 1933, referring the Statutory Steel Enquiry to the Tariff Board, and to say that there appears no reason why you should not yourselves address the Tariff Board. I am accordingly to suggest that your representation on the subject may be addressed to the Board.

2. I am to add that your enquiry regarding the rates of duty on tensile steel has been passed on to the Central Board of Revenue for disposal, and all further communications on the subject should be addressed to them.

(15) *Letter dated 13th December, 1933, from the Tata Iron and Steel Company, Limited.*

In reply to a question raised by the President during the oral examination we wish to report that the best yield of slabs and blooms from ingots at the New Blooming Mill in any month was 89.0 per cent. obtained in September 1925. Yields of slightly over 90 per cent were reported in two of the first few months of the operation of the mill, but the outputs were then very small and the figures cannot be relied on as accurate.

(16) *Letter No. G. 302/34, dated 27th March 1934, from the Tata Iron & Steel Co., Ltd.*

We enclose herewith six copies of revised Tables XI, XII, XIII, XIV and XV after adjusting the final increased freight rates.

Enclosure.

TABLE XI (Revised).

Works cost under Final Railway Freights, January-June, 1933.

	Under old freights.	Under final freights.	Increase.
	Rs. per ton.	Rs. per ton.	Rs. per ton,
Pig Iron	18.6	20.2	1.6
Rails	64.8	67.7	2.9
Fishplates	93.2	96.7	3.5
Structural sections	65.9	68.8	2.9
Bars	65.1	68.0	2.9
Plates	70.0	73.1	3.1
Tin-bars and semis	49.2	51.7	2.5
Black sheets	95.8	99.3	3.5
Galvanized sheets	126.5	130.1	3.6
Sleepers	60.1	62.8	2.7

TABLE XII (Revised).

Future works costs under Final Railway Freights.

	Old freights (as Table III).	Final freights.	Increase.
	Rs. per ton.	Rs. per ton.	Rs. per ton.
Rails	56	58-5	2-5
Fishplates	80	83-0	3-0
Structural sections	60	62-5	2-5
Bars	60	62-5	2-5
Plates	62	65-0	3-0
Tin-bar and billets	46	48-0	2-0
Black sheets	86	89-0	3-0
Galvanized sheets	116	119-0	3-0
Sleepers	56	58-5	2-5

NOTE.—Owing to the increase in the freight rate the price for coal for the future costs will be Rs. 6-12 per ton instead of Rs. 5-12. This table has been prepared on this basis.

TABLE XIII.

Freight disadvantages under Final Railway Freights.

	Under old freights.		Under final freights.		Increase.
	Tested.	Untested.	Tested.	Untested.	
	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Structural sections	5	3	5-0	3-0	..
Bars	5	6	5-5	6-5	0-5
Plates	5	5	5-5	5-5	0-5
Semis . . . . .	..	12	..	12-6	0-6
Black sheets	5	2	5-4	2-4	0-4
Galvanized sheets . . . . .	..	5	..	5-5	0-5

TABLE XIV (Revised).

Revised prices to which imported steel must be brought.

	Under old freights.		Under final freights.	
	Tested.	Untested.	Tested.	Untested.
	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Rails	102	..	104.5	..
Fishplates	132	..	135.0	..
Structural sections	108.4	108.2	111.0	110.7
Bars	110.4	113.2	113.5	116.2
Plates	114.5	116.3	118.1	119.8
Billets . . . . .	..	82	..	84.6
Sheet bar . . . . .	..	82	..	84.6
Black sheets	143.2	142.0	146.7	145.5
Galvanized sheets . . . . .	..	185.1	..	188.7
Sleepers . . . . .	..	102	..	104.5

TABLE XV (Revised).

Revised duties absorbing surpluses.

	Under old freights.			Under final freights.		
	British.	Uniform.	Non-British.	British.	Uniform.	Non-British.
	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Rails . . . . .	..	17*	..	..	17*	..
Fishplates . . . . .	..	23*	..	..	23*	..
Structural sections	18*	33	36	18*	36	39
Bars	21	38	37	24	42	41
Plates	18*	21	32	18*	24	36
Semis . . . . .	..	25	..	..	28	..
Black sheets	31	46	46	34	50	50
Galvanized sheets . . . . .	..	42	..	..	46	..
Sleepers . . . . .	..	16	..	..	18	..

N. B.—* Or revenue duty, whichever is higher.

List of Memoranda submitted by the Tata Iron and Steel Company, Limited.

1. Administration of the Town of Jamshedpur.
2. Education at Jamshedpur.
3. Housing in Jamshedpur.
4. Public Health and Sanitation at Jamshedpur.
5. Sewage Disposal at Jamshedpur.
6. Water supply at Jamshedpur.
7. Hospitals and Medical Relief at Jamshedpur.
8. Tiso Farm at Jamshedpur.
9. Roads in Jamshedpur.
10. Welfare Activities in Jamshedpur.
11. Technical Education in Jamshedpur.
12. Expenditure in the Service Departments at Jamshedpur.
13. Use of surplus gas from glass furnaces and coke ovens.
14. Bonus schemes for non-covenanted employees at Jamshedpur.
15. Standardisation of wages at Jamshedpur.
16. Relation of estimated average output to capacity of plant.
17. Arrangements for sale of pig iron.
18. Company's selling organisation.
19. Sale of Indian pig iron in the United Kingdom under the Ottawa Agreement.
20. Arrangements connected with galvanised sheets under the Ottawa Agreement.
21. Proportion of capital expenditure incurred in India.
22. Changes in administrative organisation since 1926.
23. Working capital required for the production of steel since 1925-26.
24. Supposed error in Report of 1926 Enquiry.
25. Note on representation of the British National Federation of Iron and Steel Manufacturers.
26. Note on representation of the British Sheetmakers' Conference.
27. Profit on sale of high carbon bars in the Punjab in 1933.
28. Effect of increased output on incidence of standing charges in works costs.
29. Changes in rates of freights during period of agreement with the Bengal Nagpur Railway.
30. Note on the Supplementary Memorandum of the National Federation of Iron and Steel Manufacturers, dated 12th December 1933.
31. Value of Company's fixed assets and proportional expenditure incurred in India.
32. Changes in the price of steel in India.
33. Capital expenditure on open hearth plant.
34. Prices of Continental semis during 1933.
35. Effect of bringing non-protected plates within protected class.
36. Effect of bringing non-protected bars and rods within protected class.
37. Programme of capital expenditure.
38. Differences between actual and normal prices of British steel.
39. Probable output of sections if larger rail orders had been available.
40. Future reductions in cost due to capital expenditure.
41. Examples of special reductions of prices, 1932-33.
42. Evasion of protective duties on bars.
43. Past differences between nett realisations and import prices.
44. Proposal for co-operation between British and Indian steel industries.

45. Rate of allowance for depreciation.
46. Effect on works cost of variations in rail orders.
47. Assessment of alloy steels for Customs duty.
48. Credit for second class rails.
49. Proportions of capital expenditure incurred in India and abroad.
50. Expenditure in Jamshedpur Town on account of non-employees of the Company.
51. Number of covenanted employees on 1st January, 1934.
52. Possible transfer of rolling of sections from 28" to 22" mill.
53. Supply of billets to the Indian market.

MEMORANDUM I.

Administration of the Town of Jamshedpur.

The construction of the Iron and Steel Works was commenced in the year 1908. Concurrently therewith a small number of bungalows were constructed in the area immediately to the north of the Works for the accommodation of the Staff, and in the area to the south-east, quarters were erected for the coolies, artisans and the clerical staff. The Town was originally laid out to accommodate about 8,000 to 10,000 workmen, and was sufficient to supply the needs of the Steel Works as they were planned.

2. The total area of the land acquired in 1908-09 by the Steel Company through Government for the Works, housing, etc., was 3,564 acres at a cost of Rs. 46,332 or Rs. 13 per acre. In the Agreement under Section 41 of the Land Acquisition Act it was stated that the land was acquired for the purpose of the construction of the works of the Company and other works in connection with the Company's business or undertaking and it was stipulated that the Company should spend a sum of not less than Rs. 12 lakhs within a fixed period on the erection of suitable works for the conversion and manufacture of iron, steel and ferro-manganese. Government reserved to itself the right to resume any land not directly utilised for the purposes of the manufactory of the Company if it was required for purposes of revenue administration or for purposes connected with public health, safety or necessity. The Company was permitted to sell or assign its rights and interests in the land provided that it first offered the same to the Local Government at a price not exceeding the lowest amount which it would be willing to accept from third parties.

3. The Town was organised entirely as a department of the Works under the direct control of the General Manager in much the same way as a department actually inside the Works. There was a small Town Office controlled by one of the Assistant Engineers, who later on was designated Town Superintendent. This official administered the Town, managed the Bazaars, the roads, the buildings, the letting of houses and everything connected with the Town except sanitation and water. There was a separate section to control the sweepers, cleaning of drains and removal of refuse. The population of the Town, according to the Census of 1911, was 5,672 (3,380 males and 2,292 females).

4. In the year 1916 it was decided to extend the works so that they would be capable of producing nearly 350,000 tons of steel per annum. This decision made it necessary also to increase the accommodation for the employees, and the Company realised that it was essential to acquire more land in order to control the full development of the area. Insanitary bustees had grown up on the borders of the Company's land and it was obvious that unless controlled the Town would develop in a very unsatisfactory manner. Early in 1918 the Company took steps to obtain the advice of a number of people interested in social welfare work and of experts in various branches of municipal, sanitary and agricultural work. Dr. Harold Mann, a well-known social worker of Poona, together with Mr. A. V. Thakkar

of the Servants of India Society, visited Sakchi and after a complete investigation into the conditions then existing, submitted a very informative and valuable report on all aspects of the Town.

5. The Company also decided to acquire a large area of additional land and applied to the Local Government for the acquisition of 12,000 acres for the purpose of accommodating the extensions to the plant, for the subsidiary industries that were expected to be located nearby, for the housing of employees required in connection with these extensions and subsidiary industries, for a dairy and farm. It was also stated that one of the objects of the acquisition was to obtain full control over the sanitation of the adjacent land which if ill-kept would adversely affect the health of Sakchi town. The Local Government first sanctioned the acquisition of 7,200 acres and later on sanctioned the acquisition of a further area of 5,015 acres. The cost of acquisition of the first area was Rs. 12,71,878 and of the second area Rs. 2,14,496, or an average rate of Rs. 122 per acre. The large increase in the cost per acre as compared with the original acquisition was due partly to the rise in the value of land in the vicinity of the industrial town and partly to the large number of buildings which had been erected on the land, some by merchants and shopkeepers and some by workers unprovided with accommodation, in the Company's town.

6. The second agreement between the Company and the Secretary of State contains the same clause regarding resumption of land by Government as the original agreement of 1909, but the clause regarding sale or assignation of the Company's interest in the land was modified so as to provide that any land which the Company wished to sell shall be first offered to the Local Government at a price equal to the amount of compensation paid at the time of acquisition. This clause while preventing the Company from permanently alienating their interest in the land without the consent of the Local Government did not prevent the Company from granting leases of the land, and large areas have been so leased to various Companies for the erection of Works and construction of residences.

7. The Report prepared by Dr. Mann and the reports prepared by other experts were all submitted to a Committee of Social Welfare Experts of international renown who met in London from time to time. As a result of the advice so obtained, it was decided to create a separate Town Division, which was to be organised into two separate branches, one purely administrative and the other, executive. Two Government Officers were selected as the officials to control this new division, one, a member of the Indian Civil Service, being given charge of the administrative branch, and the other, a Sanitary Engineer of the Indian Engineering Service, being given charge of the executive branch.

The Administrative branch was divided into the following sections :—

(i) Estate Management—

(a) Land.

(b) Housing.

(ii) Markets and Bazaars.

(iii) Health.

(iv) Public Safety.

(v) Dairy Farm.

(vi) Garden and Trees.

(vii) Cattle pounds.

(viii) Excise.

(ix) Hotel and Rest Houses, Cloth and Grain Stores.

The Executive branch was divided into—

(i) Drawing Office.

(ii) Building Maintenance.

- (iii) Water Works—
 - (a) Head Works.
 - (b) Distribution.
- (iv) Sewerage and Sewage Disposal Works—
 - (a) Maintenance.
 - (b) Sewage Farm.
- (v) Roads and Town Electric Lighting.
- (vi) Town Laboratory.

8. In the year 1919, Lord Chelmsford, then Viceroy of India, visited the Town and in recognition of the courage and foresight of the original founder of the Steel Company, Mr. Jamshedji N. Tata, conferred upon the Town the name of "Jamshedpur," and the name of the railway station was shortly afterwards changed from Kalimati to Tatanagar.

9. It will therefore be seen that it is from the year 1919 that the Town of Jamshedpur really came into existence, for with the great extensions in the works which had just then been taken in hand, the operations of the Steel Company ceased to be of an experimental nature, and became recognised as the beginning of what was hoped to be the largest purely Industrial Town in India.

10. When the Company applied to the Government of Bihar and Orissa and the Government of India for the application of the Land Acquisition Act to a further area of 12,000 acres, both Governments began to realise that the rapid expansion of the Steel Works and the proposed establishment of the numerous subsidiary companies in the neighbourhood of the works would have the effect of developing the area into a large and populous industrial centre. The Government of Bihar and Orissa considered it desirable to be fully prepared for this development; to meet the needs of the industries concerned as well as of the attendant population, the Provincial Government, with the approval of the Government of India, appointed a Committee, consisting of four members of Government and one representative of the Steel Company, the President being the Hon'ble Mr. W. Maude, C.S.I., I.C.S., Member of the Executive Council, to examine the various problems and to submit recommendations regarding the future administration of the area. This Committee presented its Report in April, 1919, and their conclusions were based on the assumptions that there were then about 70,000 people in and around Jamshedpur who were directly or indirectly dependent on the works; that within the next five years this number might increase to as much as 250,000 and that ultimately it might become necessary to provide for the requirements of an industrial population along the Subarnarekha River amounting to more than half a million. The Committee recognised that the work which had already been done at Jamshedpur up to the time of their appointment had been satisfactory, but they considered it had not proceeded far enough and that it was already evident that a condition of things was growing up both on the acquired area and beyond its limits which would tend to become worse and which might ultimately seriously affect the prosperity of the industrial undertakings which were already established or would be established in the future. They considered that it would be difficult for private enterprise, especially in the form of limited liability companies, to make adequate provision for the creation of suitable surroundings to their works. Other interest would naturally grow up round the works and the Committee therefore came to the conclusion that it would be necessary to create a public body to administer Jamshedpur and the industrial area growing up around it.

11. The Committee recognised the fact that the establishment of an ordinary municipality would not be suitable to the peculiar conditions of Jamshedpur where a high rate of expenditure would be required to provide for the increased population which would accompany the industrial developments. They estimated that it would be necessary to spend over four crores of rupees to provide the necessary services and amenities for a town of the size to which Jamshedpur was expected

to grow. They therefore recommended the creation of a new administrative agency, to be called the Jamshedpur Board of Works, to take over the whole of the civic work hitherto undertaken by the Steel Company, and suggested that legislation for the constitution of such a body should be taken in hand without any delay. The proposed Board was, in the first instance, to consist of not more than eleven members and its Constitution was to be on the same lines as the Bombay City Municipality. The Committee further recommended that the proposed Board of Works should be made the responsible authority for the provision of housing in the new proposed district, an economic rent to be charged for the housing provided by the Board but such rent to be paid direct to the Board by the various Companies established in the area, it being left to the decision of the Companies whether they should recover it from their employees or allow them to live rent free. Another recommendation of the Committee was that the rates and taxes should be directly paid by the occupants so that they may have brought home to them the fact that they were contributing a share of the cost of providing the public amenities and conveniences. A further recommendation was to the effect that the proposed Board of Works should take over all the land in the area except that actually occupied by the Steel Company or the subsidiary Companies for their works or required by them for extensions to be undertaken in the near future. The Committee was also of the opinion that the Board should be authorised to undertake the establishment of dairy farms and demonstration gardens, and also to acquire the Dalma Hill, situated about six miles north of the Subarnarekha River, for the purpose of establishing a Sanatorium.

12. In addition to the usual sources of municipal income, it was proposed that the producing Companies should submit either to octroi duties on the raw materials brought into their works or to taxation based upon the value of their output. Borrowing powers were to be conferred upon the Board similar to those exercised by the Presidency Corporations, Improvement Trusts, Port Commissioners or Harbour Boards.

13. On the general control of the area, the Committee recommended the formation of a new district or sub-division, to be placed under the control of a Sub-Divisional Officer. They recommended that the headquarters of the new sub-division should be called Dhalbhum Sub-Division, and considered it desirable for the sub-divisional offices to be located near the town. They suggested that a convenient site would be found on the high land immediately south of the Kalimati Railway Station.

14. Government on receipt of this Report called for the comments of the Company thereon. After prolonged consideration, the Company informed Government that though they were prepared to agree in general with most of the recommendations of the Committee, they were not prepared to finance the operations of the Board of Works. Government have never even up to the present day, so far as can be ascertained, issued any Resolution upon the findings of the Committee, but it is understood that the financial problem was of such complexity and seemed likely to involve such large sums that neither the Government of Bihar and Orissa nor the Government of India were at that time or have since been prepared to undertake the liability therefor.

15. In 1921, it became clear that the forecast of the Jamshedpur Committee as to the future progress in growth of the Jamshedpur area had been over-optimistic and that it was extremely unlikely that the development of the area would proceed on anything like the scale and at the rate assumed by the Committee. The Census of that year showed the total population of the town as 57,360 (35,385 males and 21,975 females).

16. The Steel Company, realising the improbability of early action by Government, entered into negotiations with the various Associated Companies which had been established in the area, for the formation of a purely voluntary body which should take over the control of the town and be responsible for its administration. In 1923 an Agreement was entered into between the Steel Company and the several Associated Companies. In accordance with the terms of that

Agreement, a Governing Body of the Town of Jamshedpur was formed, consisting of (a) a Committee of Companies and (b) a Board of Works, to hold office for a period of three years from 1st April, 1923, unless previously superseded by some authority constituted by Government.

17. Clause I of the Agreement provided that the Constitution of the Governing Body and/or the whole system of co-operative municipal government therein agreed to should at the expiration of the said period of three years be reconsidered, and changed or completely abandoned at the option of and to the extent that it applied to all or any of the parties thereto as might be found necessary by experience during the said period.

18. The duties of the Committee of Companies were :—

- (i) to approve the budgets submitted by the Board of Works ;
- (ii) to appoint Auditors and consider their reports ;
- (iii) to give administrative approval to all projects estimated to cost over Rs. 5,000 and to accept tenders for works estimated to cost upwards of Rs. 1 lakh ;
- (iv) to sanction the creation of any post carrying over a salary of Rs. 300 per month ;
- (v) to appoint officers to posts carrying a salary of over Rs. 1,000 per month ;
- (vi) to decide any question referred to the Committee by the Board of Works.

The Committee consisted of one representative from each of the subscribing companies, the Chairman of the Committee being appointed by the Steel Company. The Secretarial work of the Committee was to be performed by the Chairman of the Board of Works.

19. The Board of Works consisted of six representatives of the Steel Company, three representatives of the Associated Companies, and two representatives of the public, one representative of the Steel Company to be appointed Chairman of the Board of Works. The duties of the Board of Works consisted of the administration of public health, sanitation, hospitals, fire protection, sewerage, water works, lighting, education, bazaars, slaughter-houses, farms, communications, general welfare work, and everything ordinarily administered by the Commissioners of a municipality.

20. The Revenue of the Board of Works was obtained from (a) all rents, fees and profits from enterprises under its control and (b) assessment on the subscribing companies. The Capital Expenditure was also to be contributed by the subscribing companies, the Board of Works to pay interest at 7½ per cent. on such expenditure and to create a Sinking Fund by paying every year a sum equivalent to one per cent. on the total amount of the Capital Expenditure each year.

21. The main difficulty in the working of the Board of Works and the Committee of Companies was that they possessed no statutory powers and, in view of the financial difficulties mentioned in paragraph 14, the Government of Bihar and Orissa were unable to take any legislative action to confer upon the administrative body statutory powers. As about this time the immediate post-war boom period had commenced to decline, it was recognised that the Report of the 1919 Committee would not be acted upon and it was evident that the progress of the area would be slow.

22. The Government, however, recognised the necessity of providing for the area a local governing body which would possess statutory powers, and in June, 1924, a Notification was issued under the powers conferred upon the Government by Section 389 of the Bihar and Orissa Municipal Act, 1922, creating the area of Jamshedpur a Notified Area and appointed a Committee of eleven members for administering the area. The first members of the Committee nominated by Government were the persons at that time forming the Board of Works.

23. Towards the end of 1925, the Tinplate Company of India, Ltd., intimated its unwillingness to agree to a renewal of the Board of Works Agreement and after a period of prolonged negotiations with the various Associated Companies, a revised

scheme of contributions by the Associated Companies to the expenditure to be incurred by the Steel Company on services of a municipal nature was agreed to. The effect of this scheme was to abandon the Board of Works, and the administration of the Town then devolved upon the Jamshedpur Notified Area Committee and the Town Division of the Steel Company. In the intervening period, the Town Division of the Steel Company had been reorganised, the separate divisions of administrative and executive branches being abolished, the control of the entire division being placed under an official designated Chief Town Engineer and Administrator.

24. For the first two years after its formation the Notified Area Committee did not possess any powers of taxation, but in July, 1926, the Government issued a Notification conferring upon the Committee most of the powers of taxation contained in the Municipal Act. The Committee have not levied any general holding tax, because of the fact that all the essential municipal services, such as water supply, drainage, sanitation, lighting, etc., are provided by the Steel Company. The Committee functions as the local statutory authority for the area and has put into operation bye-laws dealing with the control of markets, slaughter-houses, sanitation, traffic and roads, buildings, food adulteration and public vehicles plying for hire. Its revenue is derived from bullock-cart registration fees, registration fees on dogs, and the licensing of public vehicles and various trades. The Government also give grants to the Committee for the purpose of primary education and road maintenance.

25. In 1932, the Town Division of the Steel Company was again divided into two branches, administrative and engineering, controlled by an officer designated Chief Town Administrator, assisted by another officer designated Chief Town Engineer. The administration of the Town under the dual control of the Town Division of the Steel Company and the Jamshedpur Notified Area Committee is proceeding on smooth and progressive lines and the existing arrangements appear to be well suited to the peculiar circumstances of the proprietary town of Jamshedpur.

26. The Census of 1931 gives the following information regarding the then condition of the town :—

(i) Total population	83,738
(a) Males	51,137
(b) Females	32,601
(ii) Age groups :—	

	Total.	Males.	Females.
Under 5	10,388	5,249	5,089
5—10	7,327	4,004	3,323
10—15	6,421	3,594	2,827
15—20	9,220	4,992	4,228
20—30	25,045	16,233	8,812
30—40	14,917	10,775	4,142
40—50	6,313	4,062	2,251
50—60	2,654	1,500	1,154
Over 60	1,503	723	775

(iii) Literacy groups :—

	Total.	Literate.	Illiterate.	Literate in English.
(a) Males	51,137	13,116	38,021	6,376
(b) Females	32,801	3,039	29,562	859

MEMORANDUM 2.

Education (General) at Jamshedpur.

It was only natural that in the early days of the Steel Works, when the population was of a floating character, the main stable element being the labourers recruited locally, the question of primary education did not arise. In 1913, when a few of the employees had settled their families here, Mrs. K. M. Perin, wife of Mr. Perin, the Consulting Engineer to the Company, became interested in the welfare of the employees and it was due to her efforts that the Company erected a primary school in Southern Town to take care of the few children of the employees residing in the Company's quarters. This school was opened in 1915, and the teaching was conducted in Hindi and Bengali. A few persons interested in the welfare of the several communities also started small schools, but primary educational work remained on an unco-ordinated scale until 1918. In that year the Company opened a girls' primary school which was located in the old bowling alley at the Tisco Institute.

2. This was the position of affairs when the Company decided in 1919 to extend their welfare activities in all directions. Dr. Mann, the welfare expert consulted by the Company, gives the average attendance at the two Company's schools as being then about 230. He estimated the total number of children in the town of school-going age to be probably not far short of 10,000, though a proportion of them were the children of aboriginal people, who were not familiar with the idea of education. Making allowance for this and for those employees who did not reside on the Company's estate, he fixed the number of children for whom educational facilities ought to be provided at between 2,000 to 3,000.

3. The Company appointed a small committee to frame a programme for educational development. The first and major problem which the Committee had to meet was the extraordinary mixture of communities, castes and creeds to be found among the 18,000 employees. The primary education then being provided by the Company was imparted in Hindi and Bengali and demands were made for classes in English, Tamil, Telugu, Marathi, Punjabi, Urdu, etc. It was clearly impossible for the Company to accede to these demands, and it was decided to restrict the vernaculars to those already in use until such time as finances would allow others to be adopted. The Committee, comprised of officials and teachers, was made a permanent body for advising the Board of Directors on all primary educational matters, the control of the schools remaining under the General Manager.

4. A school which had in the interval been established as a Memorial to the late Mrs. K. M. Perin had by this time developed into a middle school, and it was decided to convert it into a high school, making the necessary additions to the school buildings for this purpose. A proper building for the girls' school was erected and opened in 1921, and the extensions to the high school were completed in 1923. The Company had agreed to conform to the Educational Code of the Province, and

therefore Government sanctioned grants-in-aid towards this building programme. Two primary schools were opened, one in "G" Town and one at Sakchi.

5. The private primary schools continued to increase and develop, and to send an ever-increasing number of pupils to the high school, necessitating the addition of an upper storey to that school in 1926. The residents who had previously to be persuaded to send their children were beginning to recognise the advantages of education and consequently the pressure on the existing primary schools was becoming very great. The Company, early in 1927 realising that the scheme of educational development sanctioned in 1919-20 was totally inadequate to meet the needs of the town, decided to reorganise the Schools Committee. The new Committee proceeded to frame a new scheme for the full control and development of primary and higher education in the town. It was considered essential that all the primary schools should be controlled by the Committee, so that unity in educational progress of the scholars could be obtained. The Head Master of the High School was appointed as Superintendent of Schools, and a part-time Secretary (not to be a member of the teaching staff) was also sanctioned.

6. A comprehensive building programme was formulated, which received the sanction of Government and the Board of Directors.

The new schools opened in 1928 were as follows:—

- Jamshedpur Middle English School.
- Sakchi Middle English School Extensions.
- Sakchi Upper Primary Girls' School.
- Kadma Primary School.
- Bistupur Urdu School.
- South Park Primary School.
- Susnigeria Primary School.
- Golmuri Primary School.
- Bhallubhasa Primary School.
- Sakchi Primary School.

The original Sakchi Primary School was enlarged and converted into a Middle School.

7. The Schools Committee investigated the position of the several communal and private primary schools and framed rules governing grants-in-aid to such schools, so facilitating the provision of education in those vernaculars which were not in use in the Company's schools.

8. As a result of the work of the Schools Committee since 1927, the educational facilities provided in Jamshedpur have now reached a comparatively high standard, the difficulty now being to keep pace with the demand for extra classes. A few months ago the Company converted the old Ramdas Bhatta building into a middle school.

9. Facilities for progress from one grade of school to a higher grade are now available for almost all the scholars and it is hoped within the next two or three years to provide sufficient classes in all grades of schools for all the scholars. When the scheme was commenced in 1927, there were about 2,100 scholars on the rolls; the number has since increased to over 5,000 and is still growing.

10. In the High School a special feature is made of instruction in Science. A laboratory has been provided, and practical classes are regularly held. At the present time there are 300 students in the science classes. The primary schools are co-educational, but separate middle schools for boys and girls are provided. Teaching is carried on in the four officially recognised Indian languages—Hindi, Urdu, Bengali and Oriya, though in two or three of the primary schools Telugu and Tamil are also taught. One small English primary school was opened in 1929.

11. From time to time the schools have been improved by additions, electrification, and the provision of fenced play-grounds. The capital cost of the schools up to 31st March, 1933, is as follows :—

Schools.	Steel Company's Contribution.	Government Grant.	Total Cost.
	Rs.	Rs.	Rs.
Mrs. K. M. Perin Memorial High School.	66,382	13,000	79,382
<i>Middle Schools.</i>			
Jamshedpur Girls	40,199	7,087	47,286
Jamshedpur Boys	22,811	24,314	47,125
Sakchi Boys	17,171	8,698	25,869
Jamshedpur New	59,122	..	59,122
<i>Upper Primary Schools.</i>			
Sakchi Girls	8,381	9,213	17,594
Kasidih	7,172	7,381	14,553
South Park	8,139	4,377	12,516
Golmuri	6,729	6,088	12,817
<i>Primary Schools.</i>			
Kadma	9,504	9,960	19,464
Ranikudar	2,184	2,314	4,498
Burma Mines	4,389	4,396	8,785
Bhallubhasa	2,018	2,217	4,235
Sonari	8,499	..	8,499
Sakchi	12,370	..	12,370
Jamshedpur	11,021	..	11,021
Sakchi Oriya	4,900	586	5,486
Jamshedpur English	2,484	2,682	5,166
Mohulbera	1,658	636	2,294
Bistupur	4,165	4,578	8,743
Kadma Night School	1,580	1,461	3,041
" L " Town	2,493	2,592	5,085
Total	3,03,371	1,11,580	4,14,951

12. The recurring expenditure compares as follows :—

Year.	Total Expenditure.	Receipts from		
		Steel Company.	Government.	Fees.
	Rs.	Rs.	Rs.	Rs.
1915-16	4,795	3,295	625	875
1919-20	40,500	34,139	2,954	3,407*
1923-24	78,710	56,948	12,480	9,282*
1926-27	80,748	55,014	15,500	10,234
1929-30	1,03,813	72,763	18,116	12,934
1932-33	1,19,037	76,564	18,027	24,446
1933-34	1,34,897	88,200	19,297	27,400†

* Includes Technical Night School.

† Estimated.

13. The number of pupils on the rolls and the number of teachers employed at the present date (October 1933) are as under :—

Grade of Schools.	No. of Schools.	No. of pupils on rolls.	No. of teachers employed.
High School	1	358	21
Middle English Schools for Boys	3	1,064	45
Middle English School for Girls	1	250	13
Upper Primary Schools for Boys	3	432	17
Upper Primary School for Girls	1	171	7
Lower Primary Schools for Boys and Girls	14	1,511	60
Night Adult Schools	5	343	16
Aided Primary Schools	14	912	30
Total	42	5,041	209

MEMORANDUM 3.

Housing in Jamshedpur.

Wherever men work they must live within easy reach of their workplace. Therefore, when the Steel Company commenced the construction of the Works in 1908 it had to make provision for the accommodation of its employees. For the first year or so of the construction of the Works, the staff had to live in tents. Building of bungalows and quarters was commenced in the year 1909, the first programme consisting of seven bungalows just north of the Works for the superior staff, about

100 medium type quarters in what is now known as Southern Town for the artisans and clerical staff and three or four blocks of one-room quarters in Bistupur for the low-paid labour. The cooly labour which at first could not be obtained from the neighbouring villages was imported from the outside areas and was housed in huts erected on sites in close proximity to the Works.

2. Additional bungalows and quarters were built every year, but they failed to keep pace with the rapid increase in the number of persons employed by the Company, with the consequence that a large collection of irregular, insanitary and unsightly huts began to grow up on the outskirts of the Company's acquired area. By the year 1919 there were about 6,000 huts in these bastees and they had become a standing menace not only to the health and sanitation of the area but also to its peace and order.

3. The Company recognized that in its plan for the extension of the Works it must make adequate provision for the control of a considerable area round the Works and for the adequate housing of its employees. It was primarily the necessity for the safeguarding of the health of the town which led to the decision to acquire an additional area of 12,000 acres. A further consideration was the undesirability of allowing the development of the area to proceed on haphazard lines, which would lead to a reproduction of the conditions of the older industrial towns and to an objectionable form of profiteering. Dr. Harold Mann in his report on "Social Welfare Work in Jamshedpur" stated that in July 1918 the Company had provided housing accommodation for only 16 per cent. of its permanent employees (excluding the cooly labour staff) and that possibly not more than 25 to 30 per cent. of the permanent employees were actually living in the Company's quarters. He pointed out that this meant excessive and unhealthy congestion in the houses then in existence and a large population living in most unsatisfactory conditions. He emphasised the primary necessity of more housing and stated that the shortage of houses was greatest among the lower-paid classes of artisans and clerks. He also emphasised the necessity for properly planning the newly acquired additional area.

4. In the report on "Town Planning" prepared by the newly appointed Chief Town Engineer, in November 1919, it was recommended that over the residential area there should not be an incidence of population greater than that resulting from 12 houses per acre. He also recommended that the various bastees round about the town should be gradually removed and the people re-housed in entirely new bastees constructed at suitable distance from the town. It was proposed that these new bastees should be laid out in what is known as the hexagonal planning system, which was designed by the well-known Austrian town-planner, Herr Rudolf Muller. A town plan was prepared giving a lay-out for accommodating approximately 70,000 persons, and providing for open spaces and playgrounds in Southern Town, Beldih and Sakchi. A large Race Course was proposed between Beldih and Sonari in the centre of which playgrounds were to be provided suitable for Polo, Football and other games. Shopping areas were also settled, the main area being at Bistupur on the Sakchi Boulevard and subsidiary areas in Dhatkidih, Sakchi and Kadma. Provision was also made for sites for places of worship and for cemeteries. This report on town planning was adopted by the Company and an extensive housing programme was sanctioned. Building operations were commenced simultaneously in Northern Town, Southern Town and Sakchi. At the same time the acquired bastees were demolished and the displaced population transferred to the Sonari, Kasidih and Mohulbera bastees. This new housing programme also necessitated heavy expenditure on Roads, Water Supply and Drainage.

5. At the same time, the Company, with a view to encouraging employees to provide their own houses, agreed to advance loans up to a total of Rs. 50,000 to those willing to take advantage of the scheme. Those who wished to erect huts were allowed an advance equal to three months' pay repayable within a maximum period of 18 months with interest at the rate of 3 per cent. per annum. To those who wished to construct pukka or kutch-pukka (brick in mud) buildings, the

Company gave loans on mortgage up to a maximum of two-thirds of the value of the building, repayment of the loan to be made within a maximum period of 5 years with interest at 3 per cent. per annum. In 1927, the Company increased the limit of loans to Rs. 75,000 and recently have increased the advance for huts to an amount equal to four months' wages and have agreed to construct the plinths free of cost. Steps have been taken by the issue of leaflets and other means to bring these facilities to the knowledge of every employee.

6. In or about the year 1933, owing to the depression in trade that was beginning to be felt, the Company had to revise its programme of expenditure on housing and the several town services and to restrict the works to be carried out to essential projects only. The period of quiescence lasted to the end of the year 1928 when as one of the terms of settlement of the strike which took place in that year, the Company allotted a sum of Rs. 36 lakhs for town capital expenditure—Rs. 21 lakhs for housing, 6 lakhs for water supply, 3 lakhs for sewerage and 6 lakhs for electrification. So far as housing is concerned, the scheme provided for—

100 H/6 type quarters of a rental value of Rs. 12 per month.	
500 L/2 " " " " " "	Rs. 9 " "
50 G/4 " " " " " "	Rs. 21 " "
80 M/2 " " " " " "	Rs. 4 " "

This programme with certain modifications was practically completed by April 1932.

7. The Company has recently sanctioned the provision of a further 100 units of two-room quarters at a cost of Rs. 1,20,000 and it has decided to spend about another Rs. 3 lakhs in the next financial year. This is exclusive of the necessary expenditure on Roads, Drainage and Water Supply.

8. The following statement shows the progressive growth in the number of quarters and bungalows provided:—

Years.	Rental Value Rs. 1 to 3.	Rental Value Rs. 4 to 16.	Rental Value Rs. 17-8 to 35.	Bungalows Rental Value.		
				Rs. 36 to 60.	Rs. 61 to 120.	Over Rs. 120.
1908-12 . . .	270	114	36	58	..	3
1912-15 . . .	653	24	60	36	3	..
	923	138	96	94	3	3
1915-18 . . .	24	62	4	20	5	..
	947	200	100	114	8	3
1918-21 . . .	904	878	34	57	40	3
	1,851	1,078	134	171	48	6
1921-24 . . .	75	694	..	3	1	3
	1,926	1,772	134	174	49	9
1924-27 . . .	168	278	..	..	..	..
	2,094	2,050	134	174	49	9
1927-30 . . .	160	460	34	..	..	1
	2,254	2,510	168	174	49	10
1930-33 . . .	12	218	6	..	..	..
	2,266	2,728	174	174	49	10
GRAND TOTAL	..	..	..	..	..	5,401

9. In addition to the houses provided by the Company, there are 50 privately-owned residences erected on leased land and 7,803 houses and huts erected on land let on monthly tenancy in the several bustees.

10. The total capital cost on residential buildings up to 31st March 1933 was Rs. 1,00,53,566. The Company in addition to this expenditure, has provided for the following additional buildings:—

	Rs.
Institutes	1,27,249
Shops outside Markets	1,15,445
Indian Rest House	6,360
Hotel	97,538

11. The expenditure on maintenance of buildings and the income from rent compare as follows:—

Years.	Income.	Expenditure.
1920-21	2,38,153	33,364
1921-22	2,98,718	1,03,869
1922-23	3,31,821	89,203
1923-24	3,24,780	91,064
1924-25	3,52,630	63,831
1925-26	3,61,291	1,33,158
1926-27	3,71,522	1,31,664
1927-28	3,74,624	1,60,058
1928-29	3,96,286	1,43,040
1929-30	4,25,075	1,28,985
1930-31	4,71,438	1,66,858
1931-32	5,08,796	1,27,701
1932-33	5,21,384	1,27,379

12. The relation of the excess of income over expenditure to the capital cost of the Company's houses is set out in Statement 38 of the Company's Representation. The figures in that statement show that, although there has recently been some improvement, the net return is still not sufficient to provide even 4 per cent. on the capital invested.

MEMORANDUM 4.

Public Health and Sanitation at Jamshedpur.

The Company from the beginning undertook the usual services of removal of house refuse and cleansing of drains, sweeping of roads, etc., and for this purpose had a small staff of sweepers under the general control of the Chief Medical Officer, assisted by a small staff of sanitary inspectors. With the growth of the town, this work also grew in importance and in 1918, a Health Officer with medical qualifications was appointed to control the service, which was then made a section of the Town Department, the Chief Medical Officer remaining responsible for advising upon health matters. With the gradual conversion of the pail-privies into flushing and washdown privies, that side of the work began to 'decrease' but this was offset by a large yearly increase in the amount of house refuse to be removed and the mileage of roads to be swept. In 1932, the Company appointed a fully qualified Medical Officer of Health, holding the English Diplomas of Public Health and Tropical Medicine, to take charge of all questions connected with Public Health and Sanitation.

2. The Jamshedpur Notified Area Committee has passed bye-laws dealing with the control of markets and shops for the sale of foodstuffs, the erection of buildings, the control of slaughter houses and also with many matters dealing with sanitation and public health in general. A scheme has recently been prepared and is under consideration for the re-organization of the entire Health Department and the Medical Officer of Health has been nominated a Member of the Jamshedpur Notified Area Committee, the Chairman of which has delegated to the Medical Officer of Health his powers under the sanitary sections of the Municipal Act. These measures will, it is hoped, succeed in raising the standard of preventive health measures which will in due course be reflected in the improvement of the general health of the population.

3. All refuse is now disposed of by tipping on waste lands. This tipping is controlled, *i.e.*, the refuse is not deposited on the land indiscriminately but certain fixed areas are filled to a certain depth and then covered with sweet earth. This procedure is followed until the whole of the tip is covered to a certain depth and then the method is repeated again until the whole of the tip has been completely covered to the prescribed depth. It is hoped that these tips will, after a few years settlement, become available as open spaces or parks.

4. The Health Department is also responsible for vaccination, and recently the Bengal Vaccination Act, 1888 has been extended to this area, making vaccination compulsory. The Medical Officer of Health is Vaccination Superintendent of the area and also of the Jugsalai Notified Area. Vaccination is carried out free at a series of vaccination stations throughout the area.

5. Early in the year 1929, the Company, taking advantage of the presence in India of Sir Malcolm Watson, M.D., LL.D., Principal of Malaria Control of the Ross Institute and Hospital for Tropical Diseases (Inc.) London, invited Sir Malcolm and his staff to visit Jamshedpur and the Ore Mines for the purpose of studying the methods of malarial control instituted by the Company. Sir Malcolm Watson paid two visits and, in March 1931, submitted a most valuable report upon the malarial conditions prevailing in Jamshedpur and the several ore mines. In accordance with his recommendation, the Company engaged Dr. R. Senior-White, Malarialogist of the Bengal-Nagpur Railway, to conduct a malarial survey and to make detailed recommendations. The Board sanctioned the sum of Rs. 32,000 to cover the cost of this investigation and the permanent works to be carried out in Jamshedpur and the mines. Malarial control, after the completion of the permanent works recommended by Dr. Senior-White, was entrusted to the Health Department and Sanitary Staff assisted by a man designated "Mosquito Hunter", who had been specially trained for the location of breeding places and identification of the species. As a result of the steps so taken Malaria has ceased to be the scourge that it was in the early days.

6. The first epidemic of which there is any record was a small-pox epidemic in the year 1917. An epidemic of Influenza occurred in the year 1918. The next two years were free from epidemics, but in the year 1921, both cholera and small-pox broke out in epidemic form. There was a further small-pox epidemic in 1925, and again in 1931. It will be noted there was a gradual lengthening of the intervals between the small-pox epidemics which proves that there has been steady improvement in the health and sanitation of the town. It should be particularly noted that there has been no outbreak of cholera since the year 1921.

7. The staff of the Health Department at present is as follows :—

- 1 Medical Officer of Health.
- 3 Head Sanitary Inspectors.
- 1 Medical Assistant in charge of Infectious Diseases Hospital,
- 5 Sanitary Supervisors.
- 26 Sanitary Inspectors.
- 1 Head Vaccinator.
- 3 Vaccinators.

- 38 Jamadars.
- 7 Artisans.
- 208 Men Sweepers.
- 296 Women Sweepers.
- 1 Mosquito Hunter.
- 12 Coolies.
- 20 Rejas.

Clerical and menial employees.

8. The Health Department is housed in what was formerly the old Dairy Farm. Up to the present very little Capital Expenditure has been incurred specially for the Health Department, all the bullocks, carts and other sanitary plant having been purchased out of Revenue. The annual recurring expenditure compares as under :—

Year.	Rs.
1920-21	1,12,685
1922-23	1,26,217
1925-26	1,39,798
1926-27	1,40,845
1929-30	1,48,464
1931-32	1,72,271
1932-33	1,63,215

MEMORANDUM 5.

Sewage disposal at Jamshedpur.

When the Steel Works and Town were first constructed, a simple method of sewage disposal was adopted. The first portion of the Works was built on rather high ground and the town was constructed on either side of the ridge. This necessitated the construction of two sets of main sewers, each connected with a septic tank, one on the northern side and one on the southern side of the town. The sewers from the Works were also connected to these septic tanks. There were originally no house connections, the house-service being given either by means of commodes or pail-privies. The sewage was removed by hand and dumped into pits connected with the sewers. The original septic tanks were of a simple kind and, though probably quite sufficient for the needs of the town in the early days, they soon ceased to be capable of dealing with the constantly increasing quantity of sewage.

2. In the year 1916, Colonel Clemesha was asked to advise the Steel Company on the best means of improving the sewage disposal system and he suggested investigating the possibilities of the activated sludge process. This recommendation was adopted and Dr. Gilbert Fowler of the Indian Institute of Science, Bangalore, was asked to conduct a series of experiments on the behaviour of sludge under Indian conditions and particularly the hot weather temperatures which prevailed in Jamshedpur. A Chemist was engaged by the Company to study the activated sludge process under Dr. Fowler and early in 1918, this official was sent to Jamshedpur to continue the experiments there. The detailed investigations proceeded until November 1918, when as a result of the advice tendered by the various experts, it was decided to construct an Activated Sludge Plant to take the place of one of the old septic tanks.

3. A Central Sump Well was constructed at a point on the North-east border of Northern Town, and a length of a rising main of about one mile connected the well with the Activated Sludge Plant which was constructed on the ridge at Kadma on the boundary of the Farm land, so enabling the effluent and sludge from the plant to be utilised on the farm. For the remainder of the town and the extensions of

the Works, separate septic tanks were constructed in various parts. At the same time, all new bungalows and all new latrines were constructed with flush-system privies, and a commencement was made for the conversion of all the existing houses and latrines from the hand-removal system to the flush-system. All these naturally threw a heavy burden on the Central Sump and the several septic tanks, and pollution of the river was found to be occurring at many points.

4. In the year 1926, a Simplex Surface Aeration Plant was constructed near to the Sump Well in order to take the extra sewage flowing from a portion of the Works and Northern Town, but it was soon found that this was inadequate to cope with the consistently increasing quantity of sewage due to the fairly rapid installation of flushing closets and washdown privies.

5. To overcome these difficulties, it was decided to construct two Pumping Stations, one at the northern end of the town on the bank of the Subarnarekha River, and one in Southern Town, on the bank of the Khorkai River. Main Sewers were constructed to convey sewage from the Works and town to these two pumping stations. Rising mains conveyed the sewage from the pumping stations to the high land at Kadma where a certain proportion of it was treated at the Activated Sludge Plant and the remainder passed direct on to the farm land. A main sewer was also constructed connecting the Sakchi portion of the town to the Northern Pumping station, leaving only the outlying areas and a portion of the Works to be served by septic tanks.

6. In the year 1932, a large settling tank was constructed adjacent to the Activated Sludge Plant. All the sewage from both the pumping stations is now being first taken through this tank, thus freeing the Activated Sludge Plant and the farm lands from the burden of dealing with heavy solids.

7. The following statistics will enable a very good idea to be formed of the amount of work done during the past 14 years in improving the sanitary condition of the town :—

1919—

- (i) 2 septic tanks, capable of dealing with 200,000 gallons per day.
- (ii) 5½ miles of sewers.
- (iii) 23½ miles of surface drain.
- (iv) 4 water closets.
- (v) 34 latrines—seating capacity 118.
- (vi) 9½ acres of land for sewage purification.
- (vii) Total population served—15,000.

1933—

- (i) 1 Activated Sludge Plant capable of dealing with 300,000 gallons per day. (This plant is now being extended.)
- (ii) 2 pumping stations.
- (iii) 3 modern type septic tanks.
- (iv) 1 settling tank of a total capacity of 138,000 gallons, capable of dealing with a flow of 4½ million gallons per day.
- (v) 7.1 miles of main sewers.
- (vi) 60.75 miles of branch sewers.
- (vii) 73.75 miles of surface drain.
- (viii) 440 water closets.
- (ix) 225 public latrines—seating capacity 1239, fitted with 229 automatic flushing cisterns.
- (x) 1,408 washdown privies.
- (xi) 1,042 hand-removal privies.
- (xii) 190 acres of land for sewage purification.
- (xiii) Total population served—42,000.

8. Following is the Capital Expenditure on the Sewerage and Sewage Disposal Works up to 31st March 1933 :—

	Rs.
Sewerage works and drains prior to 1914	2,50,961
Surface drains, Sewers and Latrines	11,23,148
Septic tanks, central sump, simplex plant and Activated Sludge Plant	1,02,695
Main Intercepting Sewers	5,10,198
Northern Pumping Station	4,47,455
Southern Pumping Station	2,18,379
Settling tank	29,846
Total	26,82,682

9. The following figures indicate the growth of the expenditure on maintenance :—

Year.	Sewage Disposal Works.	Sewers and Drains.
	Rs.	Rs.
1920-21	164	515
1921-22	6,269	3,237
1922-23	15,715	5,143
1925-26	21,288	9,220
1926-27	24,833	8,219
1927-28	29,218	16,701
1930-31	27,626	14,393
1932-33	39,484	15,238

MEMORANDUM 6.

Water supply to the Town of Jamshedpur.

One of the most important factors in the selection of the site for the Iron and Steel Works was the necessity for an adequate and regular supply of water, and it was the close proximity of the Subarnarekha and Khorkai rivers which, it is believed, finally decided the selection of the present site rather than a site near to Sini.

2. The Subarnarekha river has a flow of water all the year round, the only time it has given anxiety since the beginning of the Works in the year 1908, being the abnormally hot year of 1922. Even then there was still a small flow of water. The name Subarnarekha or thread of gold is probably derived from the presence of gold in the sand all along the river bed, though not in sufficiently large quantities to justify a commercial venture. Even to-day washing for gold is regularly carried on below the dam by villagers.

3. Water for both the Works and the Town is obtained from a pumping station situated about 2½ miles on the Subarnarekha below the junction with its tributary, the Khorkai. That site appears to have been selected because of the rocky nature of the river bed at that point, providing a sound foundation for the pump house and the weir, which advantage offset the fact that the natural drainage of the town would fall into the rivers above the intake. It is most probable that the original designers of the Works did not contemplate such a vast extension of the Town and Works as took place in the immediate post War years, though even

if they had been gifted with prescience beyond the ordinary it is to be doubted if they would have altered the site of the water intake.

4. From the beginning of the Works up to the year 1923, the whole of the water required was pumped direct into the Works. The water required for the boilers and for drinking purposes both inside the Works and in the Town was pumped from the Upper Cooling Tank on to slow sand filters. From the filters the water gravitated to the Power House, and was pumped from there by separate distribution systems to the Works and the Town.

5. The upper cooling tank is a large reservoir with a surface area of 57 acres and a capacity of about 200 million gallons. The water in this tank overflows into the lower cooling tank which has a surface area of 120 acres and a capacity of about 800 million gallons. These two tanks provide an ample reserve of water or works purposes in the event of a shortage of flow in the river.

6. The slow sand filters, being of a simple design, functioned adequately in the early years, except during the monsoon periods when the river water become turbid. Originally two filters, each 130 ft. by 50 ft. were constructed; a third was added in 1917 and a fourth in 1918. In the latter year the daily quantity of water pumped from the river to the upper cooling tank was about six million gallons. The quantity supplied to the Town was probably about one and a half million gallons daily.

7. It became evident in 1918 that the Works and Town were extending at a much more rapid rate than anticipated; this necessitated an enquiry into the best means of extending and improving the water supply so as to provide an ample supply of pure water the whole year round. A Laboratory was installed, and a Chemist engaged to conduct a chemical and bacteriological study of the river water before and after treatment in the slow sand filters. The result of this study proving that the water contained impurities in varying degrees particularly at times of the peak draw-off, scientific control of the slow sand filters was attempted, with a fair amount of success. Concurrently with this work, regular analysis of the river water was in progress and all drainage outfalls which carried more pollution than the natural self-purification of the river could deal with were treated or diverted. The analyses revealed that in the dry weather the river water was comparatively free from bacilli, but that in the monsoon period it was not very satisfactory, for in addition be being charged with bacilli the water contained large masses of coarse silt and an even greater quantity of finely divided silt. The filtration apparatus for dealing with water of such varying quality had to be of sufficient flexibility and eventually the proposals of the Paterson Engineering Company for their rapid filtration plant were accepted.

8. A sufficient area of land capable of accommodating tanks and plant of an ultimate capacity of 15 million gallons of water per day, was set aside in close proximity to the River Pump House, and in 1921 the first instalment of the scheme, of a capacity of 2½ million gallons per day, was taken in hand. The full scheme provided for 12 units, each unit to deal with 1¼ million gallons per day and consisting of a settling tank large enough to give six days settlement, a reaction tank and a pair of rapid mechanical gravity filters.

9. The two settling tanks were built side by side, each 500 ft. long by 250 ft. wide, and when filled to a depth of 10 ft. will hold about 7¼ million gallons. They are capable of being filled, in emergency to a depth of 14 ft. The water is drawn from these settling tanks through floating arms, which are about 2 ft. below the surface, so avoiding the surface rubbish and the bottom deposit. The water before entering the reaction tanks is treated with solutions of alumina-ferric and soda ash. After filtration, as a final safety measure, the water is chlorinated.

10. As the Water Works are situated on rather low-lying ground, the filtered water has to be pumped under pressure for the various parts of the town. For this purpose, a pumping station, which cost Rs. 1,32,000 was constructed in the year 1921-22. It was soon discovered that owing to the irregular draw-off at various times of the day, it was necessary to construct balancing reservoirs in various high places. The first such tower to be constructed was at Kadma. This was completed in the year 1921 at a cost of Rs. 40,007. The water was pumped to that

tower and distributed from there by gravitation. This was found so successful that it was decided to construct a very much larger tower to serve Northern Town and Southern Town. This tower known as the Central Tower, was erected on the high ground close to the Directors' Bungalow, at a cost of Rs. 1,64,436 and put into operation in the year 1923. From this tower, the whole of Northern and Southern Town are served by gravitation, except the higher part of the Southern Town where it was found necessary to instal a small booster pump. In 1927-28, owing to the growth of the town on the Sakchi side, an extension of the filter plant had to be undertaken. During the intervening period constant experimenting had been carried on with the result that it was found that by treating the water with alum in the settling tanks, it was not necessary to construct any additional storage or reaction tanks but only two up-to-date mechanical gravity filters. This extension cost just over Rs. 1 lakh. In the year 1929-30 a water tower to serve the Sakchi area of the town was constructed at a cost of Rs. 1,36,550. Also in the same year, certain additions were made at the Filter plant such as the construction of the aeration cascade fountain and improved channels for conveying the water from the settling tanks to the reaction tanks. As the development of the town proceeded it also became necessary to construct various distribution mains. A special reservoir was also constructed to serve the Main Hospital.

11. The following summary of Capital Expenditure gives some idea of the progress in the Water Supply system :—

	Rs.
Up to the year 1920 Distribution mains and wells	79,293
	Rs.
1920-21 Kadma Reservoir	40,007
	Distribution mains
	1,01,228

	1,41,235
1921-22 Filter House	1,44,918
	Settling Tanks and Filter Plant
	3,02,650
	Pumping Station
	1,31,906
	Distribution Mains, etc.
	28,921

	6,08,395
1922-23 Central Reservoir	1,64,436
	18" and 12" Rising Mains
	2,94,508
	Additional feeder from River Pump
	4,486
	Distribution mains
	10,832

	4,74,262
1923-24 Distributing Mains	76,534
1924-25 Filter Plant for Agrico Works	26,500
1926-27 and 28 Extensions to the filter plant	1,02,870
1928-29 Rising Mains to Kasidih	1,20,211
1929-30 Golmuri Valley Reservoir	57,002
	Distribution Mains
	2,970

	59,972
1930-31 Sakchi Water Tower	1,36,551
	North rising main
	1,11,221
	Additions to the filter plant
	99,943
	Fixing meters
	19,665
	Distribution Mains
	2,02,028

	5,69,408

	Rs.
1931-32 Distribution mains and sundry work	45,138
Total Capital Expenditure up to March 31, 1933	<u>23,03,618</u>
Expenditure on distribution mains out of revenue in 1923-26	<u>77,608</u>

12. The following figures indicate the growth of the expenditure on maintenance since the inauguration of the complete scheme of filtered-water supply.

	Filter Plant. Distribution.	
	Rs.	Rs.
1920-21	48,000	12,460
1922-23	47,472	29,980
1925-26	82,247	26,328
1928-29	1,02,110	54,985
1930-31	1,06,924	63,876
1932-33	64,725	39,480

13. Statistics relating to the water supply in the year 1933 :—

Public hydrants	150
Rotary boiler tanks with 4 outlets	80
Rotary boiler tanks with 2 outlets	301
Individual house connections.	1,499
Daily average consumption 1932	3.31 million gallons.
Hot weather average	3.53 " "
Maximum in any one day	3.64 " "
Minimum in any one day	3.07 " "
Total Population served	53,000
Consumption per head per day all year average	62.5 gallons.
Hot weather average	66.6 "
Peak month average	70.0 "

These figures represent what is practically a purely domestic consumption, for the water supply for industrial purposes is taken from the unfiltered water supply system. All the bungalows in Northern Town, public buildings, and all the quarters whose rental value is Rs. 11 and over, have individual connections. The Company's quarters of lower rent than Rs. 11 and most of the bastees are supplied with water through Rotary Boiler Tanks or public hydrants. There are 229 public latrines with flushing cisterns in the latter areas which alone consume approximately one million gallon of water per day. The whole of the supply to the Town is filtered. An exhaustive survey of the entire water supply has recently been made and steps are being taken to reduce waste by every possible means, but even if the most optimistic estimate of the saving is realised the Company will still have to provide in the hot weather at least 3 million gallons per day. Every year additional areas are being supplied with filtered water and it is possible that within the next 4 to 5 years the Company will have to provide water for an additional 20,000 people, which will mean an extra consumption of over 1½ million gallons per day. There is therefore very little doubt that in the near future the Company will have to incur further Capital Expenditure on increasing the capacity of the filtration and other plant at the Head Works and on extension of the distributing mains.

14. It may also be of interest to note the following figures as to rain-fall and temperature in Jamshedpur :—

Average yearly rainfall over past 24 years	52.21 inches.
Maximum yearly rainfall, 1917	79.40 „
Minimum yearly rainfall, 1915	30.96 „
Maximum rainfall in one month	35.00 „
Average Maximum temperature over past 12 years	113.0° F.
Highest Maximum recorded	122.0° F.
Lowest Maximum recorded	107.5° F.
Average Minimum temperature over past 12 years	44.5° F.
Lowest Minimum recorded	41.0° F.
Highest Minimum recorded	47.0° F.

MEMORANDUM 7.

Hospitals and Medical Relief at Jamshedpur.

During the constructional period of the Works a Camp Hospital of five beds was instituted ; it was first started in a temporary shed and later on removed to a kutcha thatched house in Sakchi Basti, where it remained for two years. There were one Medical Officer, one Compounder and one Indian Nurse as staff during this period. During the period in which this temporary hospital was in existence, 77 in-patients were admitted and 7,848 out-patients were treated.

2. In June 1910, the buildings in 'G' Road near to the Works Main Gate were converted into a Hospital. This new building gave accommodation for 11 beds and was placed under the control of a Chief Medical Officer with a staff of one Assistant Medical Officer, one Compounder and one Indian Nurse. The number of out-patients grew rapidly, necessitating increases in the staff, and straining the resources of the hospital, so that in 1916, the Hospital had to be extended so as to accommodate 16 in-patients and to be able to deal with a greater number of out-patients. A further extension was made in the year 1919, raising the number of beds to 40. Every year additions to the staff were necessary, but it became increasingly difficult to keep pace with the ever-growing demand on the hospital.

3. It was realised in 1920 that the Hospital accommodation was totally inadequate and that the medical staff were over-worked. This point was commented upon by the various persons who were consulted regarding the improvement of the town and one of the first duties of the then newly appointed Chief Town Engineer was to prepare a scheme for the erection of a new hospital. A complete project was prepared which embraced an Administrative building, General Ward building, Dispensary and Out-patients' Ward, Laboratories, Bath, Zender Treatment in X-Rays, Nurses' home, Maternity Ward, Private patients' Ward, 4 Contagious Wards, Isolation Pavilion, Operating Theatre, Kitchens, Laundry, etc. The total accommodation for the hospital so designed was for 300 beds. The Company while approving of the complete project, decided to proceed with it in sections and sanctioned the immediate construction of the Administrative block with Operating theatre and Laboratory, one General Ward block with accommodation for 68 beds and one Out-patient block combined with the Medical stores. This new Hospital was opened in the year 1923 with a largely augmented staff. In the year 1928 an additional block was added and one end of the existing block was converted so as to provide a special ward and two private rooms or cabins, the total beds being increased to 140.

4. In the year 1930, the Hospital sustained a great loss by the death of Dr. S. Chakravarti who had been the Chief Medical Officer since the creation of the post in 1910, and a Committee was formed to collect funds for a suitable memorial to his memory. Out of the funds so collected, a special X-Ray building was erected in the Hospital compound. The Company equipped the building with up-to-date X-Ray apparatus and it was opened for use in December 1932. It is pleasing to

note that in the short time during which the X-Ray treatment has been available very valuable work has been performed.

Outdoor Dispensaries.

5. About the year 1920 it was found necessary to open small outdoor dispensaries in various parts of the town. These were at first located in ordinary residential buildings. There were also one or two small first-aid stations inside the Works. These temporary outdoor dispensaries were soon found to be inadequate and the Company decided to erect, as funds could be spared, a series of up-to-date outdoor dispensaries. The first of such dispensaries was constructed in the Southern town in 1926, the second in Sakchi in 1927, the third in Tatangar (Burma Mines) in 1932, and the fourth in the Sonari Basti in the present year. The first-aid stations in the Works were also remodelled between the years 1923-1926 and are now fully capable of dealing with all but the most serious cases of accidents.

Infectious Diseases Hospital.

6. Segregation of infectious and contagious cases was found essential from the early years. A segregation shed with accommodation for 20 beds was erected at Susnigeria (Tatanagar). This shed was found to be situated too far away from the town and in the year 1923 a proper Infectious Diseases Hospital with quarters for medical assistants was erected on a site situated near the junction of the Golmuri and Kalimati roads. By an Arrangement with Government, the Steel Company has agreed to keep open and free from all residential buildings an area of 1,000 ft. radius around this hospital. This Hospital is now under the control of the Medical Officer of Health.

7. Though the hospital and dispensaries are primarily intended for treatment of the employees and members of their families, it has always been the practice to give treatment and/or medicine to every person who attended, the patients not being asked whether they are employees or non-employees. From 1930 onwards, however, records have been kept showing whether in-patients were employees or non-employees. Wives, parents and children are treated as employees. The figures for the last three years are as follows :—

	1930.	1931.	1932.
The total number of new admissions only .	3,928	4,356	4,020
Out of which :—			
Total number of admissions of the employees.	2,157	2,367	2,707
Total number of admissions of non-employees.	1,771	1,989	1,313
Average daily number of in-patients . .	133.17	135.36	126.30
Average number of non-employees treated during the year as in-patients.	45.09%	45.66%	32.66%

It is found impracticable to keep a similar record of the out-patients. But a test was made in September 1931 which gave the following figures :—

Dispensary at the Main Hospital.

Number of Company's employees	3,176
Number of non-employees	20,903
Total number of out-patients treated in the month . .	24,078

District Dispensaries and First-aid Stations.

Number of Company's employees	21,089
Number of non-employees	26,079
Total number of out-patients treated in the month . .	47,168

8. When the Special ward and the Cabins were constructed in 1928 small charges to cover the cost of special nurses were levied for treatment therein, but apart from this, all medical treatment and attendance were given free up to the end of January

1932. From February 1932, all out-patients are still treated free, but a small charge is levied on all non-employees for indoor treatment and for medicines prescribed by doctors on visits to their houses. Employees of the Associated Companies and their families have the same privileges as the Steel Company's employees, except that no concession is made in the rates for the special Ward and cabins.

9. The following are the statistics relating to treatment of patients in the Hospital and Outdoor Dispensaries :—

In-Patients.

Year.	No. of Beds.	No. of new admissions.	Average daily number under treatment.
1908	5	20	..
1909	5	57	..
1910	11	140	..
1911	11	143	..
1912	11	119	..
1913	11	124	..
1914	11	111	..
1915	11	150	..
1916	16	156	..
1917	16	294	..
1918	16	314	..
1919	40	436	12-63
1920	40	517	17-82
1921	40	789	31-26
1922	40	869	34-35
1923	68	1091	38-00
1924	68	1393	49-25
1925	68	1731	60-57
1926	68	1858	61-00
1927	68	1760	65-17
1928	140	2425	86-50
1929	140	3466	122-81
1930	140	3953	133-17
1931	140	4580	135-36
1932	140	4022	126-30

Out-Patients.

Year.	New cases.	Old cases	Total.
1908 } 1909 }	7,848	..	7,848
1910	July 1910 to December 1911 15,017	..	15,017
1911 . . . . .	..	..	..
1912	18,747	50,872	69,419
1913	25,287	73,299	98,586
1914	29,395	82,545	1,11,940
1915	35,568	95,804	1,31,372
1916	42,534	1,12,323	1,54,857
1917	44,811	1,21,288	1,66,099
1918	59,991	1,60,792	2,20,783
1919	72,291	1,94,401	2,66,692
1920	1,00,048	2,43,495	3,43,543
1921	1,42,166	3,30,182	4,72,348
1922	1,54,022	3,21,471	4,75,493
1923	1,64,587	3,35,028	4,99,615
1924	1,53,666	3,07,837	4,61,503
1925	1,64,939	3,15,127	4,80,066
1926	1,96,520	3,69,420	5,65,940
1927	2,06,879	3,76,695	5,83,574
1928	2,10,210	3,79,974	5,90,184
1929	2,40,976	4,42,099	6,83,075
1930	2,60,445	4,78,409	7,38,854
1931	2,65,040	4,99,033	7,64,073
1932	2,26,157	4,35,923	6,62,080

Operations.

Year.	Major.	Minor.	Total.
1915	21	1,748	1,769
1916	29	1,825	1,854
1917	36	1,777	1,813
1918	21	1,971	1,992
1919	56	2,001	2,057
1920	65	2,094	2,159
1921	78	2,495	2,573
1922	129	3,215	3,244
1923	126	3,318	3,444
1924	114	3,102	3,216
1925	152	3,871	4,023
1926	141	3,570	3,711
1927	121	2,690	2,811
1928	121	3,607	3,728
1929	156	7,148	7,304
1930	155	7,506	7,661
1931	181	6,692	6,873
1932	172	6,917	7,089

10. As a further indication of the rapid growth of the medical work undertaken by the Company the following figures as to the growth of the Medical and Nursing staff are given :—

Posts.	1908.	1910.	1915.	1920.	1923.	1927.	1930.	1933.
Chief Medical Officer . .	..	1	1	1	1	1	1	1
Deputy Chief Medical Officer.	..	..	..	1	1	1	1	1
Medical Officer . . .	1	..	..	1	1	1	1	1
Resident Medical Officer	..	..	..	..	1	1	1	1
Assistant Medical Officers	..	1	5	10	12	18	19	20
Lady Doctor . . . . .	..	..	..	..	..	1	1	1
Dentist . . . . .	..	..	..	..	..	..	..	1
Matron . . . . .	..	..	..	..	..	..	1	1
Anglo-Indian Nurses . .	..	..	..	2	2	2	3	3
Indian Nurses	1	1	1	1	2	2	12	12
Probationary Nurses . .	..	..	..	..	..	..	3	3
Compounders	1	1	3	12	21	27	28	30
X-Ray Operator . . . . .	..	..	..	..	..	..	..	1
Total	3	4	10	28	41	54	71	76

11. Capital expenditure on the existing Hospital buildings is as follows :—

	Rs.
1. New Hospital building, Administrative Block and 1st Main Ward	1,96,012
2. 2nd Main ward	99,300
3. Out-door Dispensary attached to Main Hospital	41,179
4. New Sakchi Dispensary	10,502
5. South Park Dispensary	11,539
6. Sonari Dispensary	5,550
7. Furma Mines Dispensary	9,132
8. X-Ray Equipment	16,310
9. Infectious Diseases Hospital	45,580
Total	4,35,104

12. The growth of the expenditure on staff, medicines, diet, etc., may be gathered from the following figures :—

Year.	Rs.
1914-15	19,366
1916-17	28,378
1918-19	62,000
1920-21	1,31,404
1922-23	1,70,353
1925-26	2,12,000
1927-28	2,18,960
1929-30	3,30,678
1932-33	2,62,137

MEMORANDUM 8.

Tisco Farm at Jamshedpur.

During the constructional period of the Works, it was naturally difficult to obtain milk and other milk products in adequate quantities and of a reasonable standard of purity. Arrangements had therefore to be made for the importation of these articles of foodstuffs from Khargpur and other distant places. About the year 1912, a private individual commenced to run a small dairy farm and to supply various articles of foodstuffs. The Company encouraged this venture by giving several acres of land on a short term lease. Though for a time the venture was successful, in 1918, owing to various causes, the farm went into liquidation and the Company took it over. The farm was then about 4 acres in extent and had a stock of about a dozen cows and buffaloes.

2. When the additional area of land was acquired by the Company in 1919, it was specifically mentioned in the Land Acquisition Agreement that one of the purposes for which the additional land was acquired was the establishment of an experimental agricultural farm, a portion of which it was proposed to utilize for the treatment of the sewage of the town. 807 acres in the north-west corner of the area, bounded on the north and west by the rivers Khorkai and Subarnarekha, were set aside for the farm purposes, but the actual area of land taken up in the beginning for cultivation was only 35 acres. It being obvious that it would be many years before the Company could undertake the departmental cultivation of the whole of this large area of land, the old inhabitants of Sonari and Ulyan villages were allowed to continue in possession of the lands and to cultivate them on payment of small annual rents. The total area so rented out was over 400 acres.

3. Several kutcha-pucca buildings were erected on the Company's farm land and during the first two or three years over Rs. 36,000 was spent on the purchase of additional farm cattle. Varying amounts were afterwards spent year by year in increasing the stock of cattle, and since the year 1927, a definite sum of Rs. 5,000 has been set aside every year for this purpose. Most of the fodder for the animals had to be purchased from outside, as the area under cultivation was insufficient to meet the farm requirements.

4. Shortly after the construction of the Activated Sludge Plant, it became possible to increase the acreage under cultivation, which, in the year 1926, was about 90 acres, of which 35 acres were treated with sewage. After the construction of the Southern Pumping Station in 1927, a further large area was utilized for the land treatment of the sewage, but no crop was raised on this land. In the year 1928, the cultivated irrigated area was extended to 120 acres, which enable the farm to become independent of outside supply for fodder.

5. In the year 1931, the Farm Superintendent went on a study tour to various European countries to gather information regarding the management and control of dairy farms in conjunction with sewage disposal works. On his return, he submitted a lengthy and valuable report, as a result of which the Company decided to remodel the farm and to extend its activities. A large cattle shed of the most modern design was erected and brought into use in the year 1932 for the accommodation of 82 milch cattle with calves, and a duplicate of this shed will be commenced in a few days for the accommodation of the remaining milch cattle and the draught bullocks. The cultivated irrigated area is being increased to 190 acres, and a herd of sheep has been purchased as an experiment in sheep rearing. Next year, the cultivated sewage irrigated area will be extended to 350 acres.

6. Following are the statistics relating to the Farm as it exists at present :—

	Acres.
(a) Area rented out	470
" under Farm cultivation	170
" Waste and forest land	162
	<hr/>
Total area	807
	<hr/>

(b) The area being cultivated by the Farm is divided as follows :—

	Acres.
Paddy	91.8
Jowar	31.5
Fallow	19.6
Maize	9.0
Sugarcane	3.2
Guinea grass	1.3
Plantains	2.0
*Vegetables	9.6
Flower garden	1.8
Total	169.8

Out of the 170 acres, at present 110 acres are irrigated with sewage.

(c) The present strength of cattle at the Farm is as follows :—

Cows	69
Buffaloes	39
Young stock	71
Bullocks	53
Bulls	4
Calves	66
Sheep	50
Total	352

(d) The milk yield at present varies from 450 lbs. to 500 lbs. per day.

	lbs.
Average daily yield per cow in milk	9
" " " buffalo in milk	10

Approximately half of the milch cattle are in milk in any one day.

7. The Capital Expenditure on the Farm up to 31st March, 1933, is as follows :—

	Rs.
Old farm buildings	11,536
Godown	6,588
New cattle shed	12,827
Old sheds, silage pits, office buildings, etc.	47,894
Fencing	3,607
Tractor, thrashing machine, etc.	13,326
Total	95,778

* 4 acres with growing crops, 5.6 acres to be planted for cold weather crops.

8. During the year 1932-33 the produce of the farm was as under :—

Milk	84,652 lbs.
Skimmed Milk	4,301 "
Cream	2,168 "
Butter	1,756 "
Ghee	299 "
Sugarcanes	37,033 Nos.
Vegetables	81,920 lbs.

NOTE.—The Hospitals consumed 54 per cent. of the milk and the rest was sold to private customers.

9. Following the comparison of expenditure and income since the year 1920 :—

Year.	Expenditure.	Income.
	Rs.	Rs.
1920-21	89,850	51,893
1921-22	1,42,093	84,667
1922-23	1,44,620	1,02,219
1923-24	84,589	82,000
1924-25	84,152	90,422
1925-26	91,376	86,273
1926-27	80,300	71,119
1927-28	86,282	79,177
1928-29	81,857	67,144
1929-30	70,831	73,259
1930-31	69,103	60,645
1931-32	59,548	58,250
1932-33	63,838	59,623
Total	11,48,439	9,66,691

10. In the year 1928-29, a beginning was made with a fruit orchard. There are 150 trees some of which have already commenced to bear fruits. This orchard will be extended within the next two or three years up to about 1,000 trees.

11. The Farm Superintendent is also responsible for the maintenance of public gardens and for the planting of trees along the streets and roads. This beautification of the town has always been considered an important aspect of the Town Planning Scheme for, without the trees along the streets, the town would have a very bare and dreary aspect. On this work the Company have spent the following amounts :—

Year.	Rs.
1920-21	30,800
1921-22	35,440
1922-23	35,440
1923-24	31,670
1924-25	16,985
1925-26	12,804
1926-27	10,069
1927-28	12,272
1928-29	17,083
1929-30	13,697
1930-31	10,830
1931-32	10,786
1932-33	6,991
Total	2,44,867

12. Apart from the trees on the Race Course, the Polo Grounds and the several Playgrounds, there are over 15,000 established Avenue trees on the streets and road-sides.

MEMORANDUM 9.

Roads in Jamshedpur.

The location of the Works was fixed on high ground about two miles from the Kalimati (now Tatanagar) railway station, and for a considerable period the only convenient means of transit between the railway station and the Works was by trolley on the Works siding. The cart track from the station was gradually made into something resembling a road, and then the Company provided a bullock-drawn tonga for visitors who had announced their intention of visiting the Works.

2. As building operations progressed, the Company laid out roads connecting the buildings with the Works and gradually converted the track to the station into a proper unmetalled road. A few horse tongas then appeared on the scene and plied between the town and the station. A road between the Works and the River Pumping Station was constructed quite early to facilitate inspection of the pipe line. Later on in 1916-17, the Company purchased two buses for conveyance of employees to and from the railway station.

3. In 1919 when the additional area of 1,200 acres was acquired, there was one main road leading from the Railway to the Works and Northern Town, known as Sakchi Boulevard, with a small network of minor roads branching off to serve Southern Town and another small network to serve Northern Town with the Pipe Line Road to the River Pumping Station in all 3 miles of main road and 12 miles of subsidiary roads.

4. One of the first tasks of the newly appointed Chief Town Engineer in 1919 was to prepare an exhaustive report on the town planning of, and the means of communication within, the enlarged area. Sakchi Boulevard ran north-west from the Railway station until it reached a point direct south of the town when it ran due north. It was recognised that this road must always form the main artery of communications, and the scheme of highways proposed in the report was based upon this fact. The subsidiary roads had up to 1919 been constructed on the rectangular plan, so popular in American cities, all roads running either due north and south or due east and west. In the town planning scheme, it was proposed that, generally speaking, all new road alignments should be based upon the contours of the ground always having regard, of course, to the efficient and rapid movement of traffic between important points.

5. In planning an area consideration is always given to the lines by which traffic approaches from the surrounding country, but in the planning of Jamshedpur this factor was of little importance, for the area is bounded on the south by the Railway, on the west and north by the rivers Khorkai and Subarnarekha and on the east by virgin jungle. The only road connecting Jamshedpur with the outer world was the road through Kalimati (now Tatanagar) to Chaibassa. But this lack of outside communications (which persists to the present day) has certain disadvantages for it restricts the movements of the people of Jamshedpur and at the same time renders it difficult for produce to be brought in from the surrounding country. The Maude Committee of 1919 in commenting upon this question, pointed out the necessity for a road down the Subarnarekha valley connecting Jamshedpur with Swaspur, Rakha and the east of the Dhalbhum Pargana. The Manbhum District Board had agreed to construct a road connecting Jamshedpur with Purulia and the Colliery area *via* Chandil. This road was later constructed but has fallen in disuse because the bridge over the Subarnarekha river recommended by the Committee has yet to be erected.

6. The new town plan provided for a road to be known as Outer Circle Road, to follow the rivers, so protecting their banks as the Works and the land reserved for extensions thereof, extend almost to the main line of the Bengal Nagpur Railway,

it was not possible to construct an east to west road except to the north of the Works. Here existing roads ran along the Works Northern boundary and it was proposed to improve and extend these roads so as to make one means of communication with the old Sakchi village. To the west of Sakchi Boulevard another road, to be known as Inner Circle Road, was planned to open up the Western area, rejoining the Sakchi Boulevard near the village of Beldih. From Beldih it was decided to improve the old Sakchi Highway as a second means of communication with the old Sakchi village. Several link roads were also proposed.

7. The Town Plan as outlined above was adopted and the existing road system of Jamshedpur is based thereon. All Highways have been planned for an eventual width of 100 feet though only 16 feet to 24 feet in the centres has been metalled. It was estimated that the cost of the main highways would be Rs. 7,80,000 and of the minor roads Rs. 4,00,000.

8. A portion of the Outer Circle Road, the whole of the Inner Circle Road and a number of connecting links and minor roads have been constructed and the old Sakchi Highway improved. In the future development of the town, the town plan will be adhered to in its main features. Originally all the highways and roads were unmetalled, now the former are not only metalled up to a width of 16 to 20 feet but are surface-dressed with bitumen emulsion and the more important roads have been similarly treated. The water-bound metalled and moorum roads are decreasing every year, with a consequent reduction in the dust nuisance and an improvement in traffic conditions.

9. The town plan did not deal with the eastern area, for in 1919 it was uncertain what other industries would be attracted to Jamshedpur. With the coming of the Tinpalte Company of India, Ltd., and several other firms in the years 1920-25, it became necessary to extend the highway system to the eastern side. The first important road to be constructed was the Golmuri Road, then Cable Road, and the Namdih Road at Burma Mines, forming another circular road in that area. Then in 1927 the Kalimati Road running from Sakchi to the Railway Station was constructed, following the eastern boundary of the Steel Works, with a series of subsidiary roads.

10. The only public road in Jamshedpur up to the year 1925 was the Sakchi Boulevard, for in the agreement with Government under the Land Acquisition Proceedings of 1909 the Company had agreed to that road being declared a public highway. The Singhbhum District Board was responsible for the maintenance of that road up to the year 1925, but the Steel Company has always borne the full expense of maintenance and improvement of the road.

11. In the year 1925, shortly after the constitution of Jamshedpur as a Notified Area, Government approached the Steel Company and as a result of their representations, all the main thoroughfares and the roads leading to Government Buildings were declared public highway vesting in the Notified Area Committee. This was, however, to some extent a legal formality, for as the Committee's sources of revenue are extremely limited, a large part of the cost of maintenance of the roads is still being borne by the Steel Company.

12. The following statistics summarise the progress on roads in the town and also show how the maintenance thereof is being met:—

1919.

(a) Capital cost up to 31st March 1919—

(i) Sakchi Boulevard	. . . . .	(Not capitalised.)
		Rs.
(ii) Subsidiary roads	. . . . .	50,220

(b) Length of Roads—

		Miles.
(i) Sakchi Boulevard	. . . . .	3
(ii) Subsidiary Roads	. . . . .	12

1933.

(a) Capital cost up to 31st March 1933—

	Rs.
(i) Public Roads	2,86,309
(ii) Private Roads	4,04,812
Total	6,91,121

(b) Length of Roads—

(i) Public Roads—

	Miles.
(a) Metalled Roads, surface-treated	13
(b) Metalled roads, water-bound	2
(c) Unmetalled roads	2

(ii) Private Roads—

(a) Metalled roads, surface-treated	6½
(b) Metalled roads, water-bound	9¼
(c) Unmetalled roads	50

NOTE.—The whole of the capital cost has been borne by the Steel Company.

Yearly Expenditure on Improvements and Maintenance.

Year.	Private Roads.	Public Roads.	
		By the Steel Co.	By the Jamshedpur Notified Area Committee.
	Rs.	Rs.	Rs.
1920-21	28,497	..	..
1921-22	78,872	..	..
1922-23	59,008	..	..
1923-24	63,882	..	..
1924-25	22,225	..	..
1925-26	49,924	14,534	*
1926-27	62,653	10,897	571
1927-28	51,410	32,476	..
1928-29	50,192	28,929	18,469
1929-30	66,186	22,951	5,000
1930-31	68,956	5,386	4,521
1931-32	51,852	14,036	6,622
1932-33	65,982	3,467	5,213

NOTE.—Up to the year 1931-32 (inclusive) the cost of the supervising staff was charged under Town Engineering General and as such the figures of these years are short by the establishment charges which amount to approximately Rs. 25,000 per year.

* Year in which certain roads were declared to be public roads.

MEMORANDUM 10.

Welfare Activities in Jamshedpur.

The welfare work carried on by the Tata Iron and Steel Company at Jamshedpur is in many respects very different from that of other industrial concerns. The Steel Company is not only an employer of labour but is also the landlord and provides municipal services. Its welfare activities, therefore, are naturally of a very much wider scope than those of other employers, as it has not only to look after the welfare of its employees on duty but also provides the welfare amenities which in the normal course would be provided by a Municipality.

Activities for the comfort and welfare of the employees have been carried on by the Steel Company ever since the Works were established but they were co-ordinated and put on an organised footing by the establishment of a Welfare Department in the year 1929.

1. *Safety and First-Aid.*—A Safety-first campaign for the prevention of accidents^s has been carried on for some years in the Steel Works. A General Safety Committee^o supervises the working of the Safety Department and also investigates cases of very serious or fatal accidents. Two well-equipped First-aid stations are provided inside the Works and doctors are in attendance at these stations all the 24 hours of the day. Each department is also provided with boxes with the necessary requisites for immediate first-aid treatment. Classes have also been held in first-aid treatment and courses of lectures given by one of the senior medical officers.

2. *Free Ice and Soda.*—The Company has its own plant for the manufacture of ice and sodawater and provides these articles free of charge to men engaged in specially arduous work.

3. *Women's Rest House.*—A Women's Rest House with a Matron and two assistants has been established at the Coke Ovens where women employees can have their food and wash and change their clothes; towel, soap, etc., are provided free. On an average about 14,000 women use this Rest House each month. Some women while on duty leave their babies here in charge of the Matron. Cradles have been provided for the use of these babies and on an average 14 such babies are taken care of daily.

4. *Maternity Benefit Scheme.*—(a) From January 1st, 1929, the Steel Company inaugurated a Scheme of Maternity Benefit for its female employees, the amount of benefit being equivalent to six weeks' wages.

(b) In connection with the above Scheme, Baby Shows have been organised annually since the year 1931, for babies of women workers who received the benefit under the Maternity Benefit Scheme. In the year 1931, there were 281 babies before the Judges and in 1932 the number rose to 494. Prizes for the Champion boy and Champion girl are given in addition to other prizes. Consolation prizes are also given to all other babies who enter the Show.

5. *Men's Wash House.*—A Men's Wash House has been provided at the Coke Ovens to enable the men working in the Coal dust to wash and clean themselves up immediately after going off duty.

6. *Record Picnics.*—In order to encourage its workmen, the Company sanctions picnics in recognition of any records in production set up by any of the production departments, the entire cost of such picnics being borne by the Company.

7. *Supply of boots, etc.*—Men engaged in hot jobs are supplied by the Company with specially made boots free of cost. They are also supplied with hand leathers, aprons, gloves and eye-preservers wherever necessary.

8. *Works Hotels.*—There are 8 hotels inside the Works where workmen on duty can get food and light refreshment. One unit of 4 hotels for Hindus, Mohammedans, Bengalis and Punjabis is in the West Plant and the other unit of our is in the East Plant. The quality of food is of a very high standard, as only the best materials available in the markets are used. The food is supplied at cost price without profit.

9. *Co-operative Credit Societies.*—There are at present 25 Credit Societies in Jamshedpur with a total share capital of Rs. 4,81,107. Instalments of loans given by the Societies to their members are collected by the Company from the men's salary and handed over to the Society concerned. With a view to co-ordinating the activities of the various Societies, a scheme for the formation of a Co-operative Central Bank is under consideration at the initiative of the Welfare Department.

10. *Compensation paid for injuries sustained in the Works.*—Compensation for injuries received in the Works is given by the Steel Company on a more generous scale than that provided for in the Workmen's Compensation Act. For temporary disablements incapacitating employees only for ten days and under, nothing is payable under the Act. Where disablements extend for more than 10 days the Act requires only half-monthly payments of Rs. 15 or, of a sum equal to one-quarter of the employees' monthly wages, whichever is less.

The Steel Company pays in cases of temporary disablements of whatever duration at the full rate of the employee's salary from the date of injury until he is declared fit to go back to work again or until he is declared to have suffered some permanent loss of earning capacity, in which case disability compensation according to the Act is paid to him; larger amounts are paid in certain cases. The annexure to this Memorandum shows the amounts of compensation paid by the Company compared with the amounts payable under the Act.

11. *Provident Fund.*—Since 1920, the Company has established a voluntary Provident Fund for uncovenanted employees drawing Rs. 15 a month and over or an equivalent daily rate. The number of members at present is 16,611.

The member of the Fund may contribute either 1/12th or 1/24th of the wages actually received by him during the year, which is deducted from his salary every month, and the Company contributes a sum equivalent to 1/12th of the wages actually received by him during the year. The whole of the sum is placed to the credit of the employee and bears interest at 6 per cent. per annum.

An option is given to employees drawing Rs. 75 a month and under or an equivalent daily wage to draw at the end of each completed year one half of the sum contributed by the Company in cash. Besides this, employees are allowed to take advances up to 50 per cent. of the sum contributed by them which is again recovered from their salary in easy monthly instalments.

The following amounts represent the Company's contributions to the Provident Fund :—

	Rs. Lakhs.
1927-28	6.2
1928-29	5.9
1929-30	8.3
1930-31	9.2
1931-32	9.7
1932-33	9.6

12. *Recreations.*—Besides the Tisco Institute, which has a well-equipped library, Billiard Tables and Tennis Courts, there is an Officers' Club and the Indian Association which were both helped in the initial stages by the Company. There are also several clubs built by private subscriptions and helped in certain matters by the Steel Company.

In addition there are several athletic clubs concentrating on athletic and physical culture. All these clubs are encouraged and helped by the Welfare Department with funds and other conveniences from time to time.

13. *Free Cinemas.*—With a view to providing some form of entertainment for the poorer workmen in the outlying bustis, free cinema shows were started in 1929. These are open-air shows the pictures being projected on to specially built brick walls. These free shows are given at four different centres regularly every week except during the rainy season. 427 shows have been held so far with an approximate attendance of 525,000 people. Special films explaining technical and

mechanical subjects are also procured and shown free to the workmen, apprentices and technical students.

14. *Sports and Games*.—Organised sports and games are run by the Jamshedpur Sporting Association, a body nominated by the General Manager of the Steel Company. This body which is very closely connected with the Welfare Department runs tournaments in football, hockey, cricket and tennis. Since 1930, a team of athletes representing the Steel Company has been sent each year by the Welfare Department to compete in the Bihar and Orissa Olympic Sports trials at Patna. Members of this team have done uniformly well at Patna.

15. *Inter-departmental Sports*.—To encourage sports among the workmen, inter-departmental Sports are annually held since 1929. A handsome Silver Challenge Cup kindly donated by the late Sir D. J. Tata is contested for annually and held by the unit scoring the highest number of points in these sports. These sports are very popular and very keen enthusiasm and healthy rivalry is evinced by all classes of the employees in the different departments of the Steel Company for winning the Championship and the Cup.

16. *Women's Sports*.—In connection with the Founder's Day Celebrations, an inter-departmental Sports meeting for the women employees is being organised since 1932. These sports are very successful and are keenly contested by the women workers.

17. *Wrestling*.—As wrestling is a pastime which appeals to a large body of workmen, proper training and organised wrestling tournaments are always encouraged. Inter-departmental wrestling tournaments are also promoted regularly every year, prizes being awarded to the various Winners and Runners-up.

18. *Children's Playgrounds*.—To provide facilities for children in various parts of the Town, children's playground equipment has been provided in all the Primary Schools—both Company's and Aided. Besides this, sets of equipment have been put up in different parts of the town and are looked after by the various Athletic Clubs.

Portable Weighing Machines have been provided in all the Primary Schools and Athletic Clubs and a system of cards has been introduced. Particulars about the weights, heights, etc., of the children are noted in these cards at definite intervals and proper records kept.

19. *Health and Industrial Exhibition*.—With a view to creating a genuine interest in matters of health among the public of Jamshedpur in general and the employees of the Steel Company in particular, Health and Industrial Exhibitions are organised annually. The first such Exhibition was held in March 1932 and was attended by about 60,000 people including about 20,000 ladies. The second Health Exhibition was held during Christmas week in 1932 on a larger scale and an industrial section was also added to it. Over a lakh of people including about 25,000 ladies visited this Exhibition. The charts, exhibits and models specially prepared by the Welfare Department comprising a variety of instructive and interesting subjects were arranged in 14 different sections, viz.:—

Social, Newer Hygiene, Maternity and Child Welfare, Food, Tuberculosis, Leprosy, Smoke Nuisance, Malaria and Small-pox, Cholera and Plague, Evils of Drink, Dental Hygiene, Co-operation and Agriculture, Safety First, Disinfection and contagious diseases.

A Sanitary Milk Production Stall set up by the Tisco Dairy Farm attracted a large number of interested visitors. Demonstrations are given in all the sections by specially trained volunteers who explain the charts and exhibits to the visitors in English, Hindi, Bengali and Urdu.

The Industrial section was very successful and a large number of well-known firms and manufacturers displayed varieties of indigenous products.

ANNEXURE TO MEMORANDUM 10.

Accident Compensation paid since commencement of Operation of Workmen's Compensation Act, July 1934.

Year.	Total Amount actually paid.				Total Amount payable under the Act.			
	Fatal Cases.	Per- manent Disable- ment.	Tem- porary Disable- ment.	Total.	Fatal Cases.	Per- manent Disable- ment.	Tem- porary Disable- ment.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
July 1924 to March 1925	9,506	..	15,347	24,853	7,748	..	2,477	10,225
April 1925 to March 1926	13,254	..	37,295	50,549	12,264	..	5,699	17,963
April 1926 to March 1927	21,038	..	37,035	58,073	20,244	..	5,019	25,263
April 1927 to March 1928	18,745	7,682	30,703	57,130	16,303	6,645	5,115	28,063
April 1928 to March 1929	29,200	1,04,665	16,638	1,50,503	25,992	42,012	4,501	72,505
April 1929 to March 1930	20,657	35,415	30,071	86,143	20,454	29,599	6,700	56,753
April 1930 to March 1931	12,187	27,355	31,234	71,276	12,187	26,979	6,465	45,631
April 1931 to March 1932	3,300	17,389	30,115	50,804	3,300	15,639	7,557	26,496
April 1932 to March 1933	18,552	12,638	23,918	55,108	16,602	9,178	4,241	30,021
Total	1,46,439	2,05,644	2,52,353	6,04,439	1,35,094	1,30,052	47,774	3,12,920

MEMORANDUM 11.

Technical Education in Jamshedpur.

Prior to the inception of the Jamshedpur Technical Institute in 1921, the vital problem of securing suitable technically trained Indians for the Tata Iron & Steel Company was very difficult. It was therefore decided to start a Technical Institute in Jamshedpur to enable educated Indians to qualify themselves for superior positions in the Works, as it would have been a short-sighted policy to encourage the manufacture of Steel in India without at the same time encouraging the training of Indians for the work.

2. The first batch of 24 students for the Jamshedpur Technical Institute commenced their training in November 1921. The minimum admission standard was I.Sc. with Physics, Chemistry and Mathematics. The students were drawn from the various provinces in India as follows :—

Bengal	5
Bihar and Orissa	10
Punjab	3
Madras	3
Sir Ratan Tata Trust	2
Rest of India	1
	24
Total	24

A similar number of students entered in subsequent years. By the end of 1932 the total number of admissions had reached nearly 250 of whom 104 had passed out successfully and had received contracted employment with the Company. Fuller details are given in Statements 40A and 40B of the Company's Representation.

3. The Institute gave an intensive training in Iron and Steel Metallurgy and allied subjects. The course extended over three years. During the first two years the students attended the Institute and the Works every alternate week, and in the third year they were given specialised training in one department only and spent the whole time in the Works. During the three years of their apprenticeship they were paid Rs. 60 per month. About half of the students entering passed the Institute theory course and showed sufficient aptitude for practical work in the plant to justify their acceptance for employment by the Steel Company on Rs. 7-13 a day, or Rs. 200 per month.

4. In January 1932 the Training Scheme mentioned above was modified in accordance with the plant requirements. Under the new scheme now in operation, the students must be graduates either in Science or in Engineering of a recognised Indian or Foreign University or College. A small number of admission is made every year according to the requirements of the Works. The men are divided into two classes "A" and "B." The "A" class men must have taken Honours degrees; in some cases they possess foreign Steel Works' experience. The "B" class men are ordinary graduates. It is expected that the former class will ultimately fill the positions of Superintendents and Assistant Superintendents and the latter those of Foremen in the producing departments of the Works. It should, however, be emphasised here that there is absolutely no bar to a "B" class man ultimately rising to as high a position as an "A" class man. The only difference lies in the initial salary on employment, which for the "B" class is to be somewhat lower than that for the "A" class.

5. The course of training is identical for both the classes and extends over a period of two years, of which 18 months are spent in general training in the various departments of the Works and the remaining six months in a specialised training in one particular department. One member of the staff spends his time chiefly in the Works and supervises and helps the students in their work. No lectures are given during the day, but 3 times a week they are required to attend evening lectures

on Metallurgical Processes, Works maintenance, Cost Accounting and Industrial Economy, etc., which are delivered by experienced officers of the Company, experts in their own subjects. These lectures are also open to other qualified employees provided accommodation is available. There are now 31 students on the roll 14 of whom are finishing their course under the old scheme and the rest have been recruited under the new schemes.

6. The students receive no stipend in the first year but are paid Rs. 75 ("A" Class) and Rs. 50 ("B" Class) per month in the second year. Special foreign-trained graduates who have also had substantial working experience in foreign works are paid Rs. 200 a month throughout the course. The whole scheme, however, is at present under consideration and a Sub-Committee has already been appointed to examine it carefully and modify it in the light of past experience and future requirements.

7. Since the establishment of the Institute, the Steel Company has borne 73 per cent. of the total capital expenditure of Rs. 2,48,000 together with 51 per cent. of the total recurring expenditure of Rs. 10,53,000, from the commencement in 1921 to March 1933, the balance having been contributed by some of the Provincial Governments and the Sir Ratan Tata Trust. During the year 1932-33, the Steel Company bore 93 per cent. of the total recurring expenditure of Rs. 74,300.

8. The Jamshedpur Technical Institute is the only one of its kind in India. Here students live and breathe the atmosphere of the work for which they are to be trained. They receive not only theoretical training but also practical experience, by actually coming in contact with men, machinery and materials. There are now 127 past students employed in the Works, 104 under contracts and 23 without. One of them has already been placed in charge of an important department and several others hold responsible positions. Some of the production departments such as the Open Hearth and some of the Rolling Mills are at present manned largely by Technical graduates who have successfully replaced foreign experts. It may therefore be stated that the Technical Institute has justified its existence.

9. When the necessary arrangements can be made, the Steel Company assists the further training of some of the ex-students of the Institute by sending them abroad to obtain further experience in other steel works. Up to the present, seven men have been sent, six to the United Kingdom and one to Germany, the men spending about 12 months closely studying operations in the works to which they are admitted. The men are assisted by a maintenance grant from the Company during these periods. For these admissions to other works the Company is indebted to the courtesy of the firms concerned and the possibility of making the necessary arrangements is obviously limited. The men are sent only after they have had a few years' working experience at Jamshedpur and are selected according to the management's estimate of their ability to profit by this very useful experience.

10. No less important, in its own sphere, than the work of the Technical Institute is the work which the Company is doing to promote the technical education and training of its future skilled workmen. This work has passed through various phases and an important advance was made by the establishment in January 1932 of the Apprentice School. Boys between the ages of 15 and 18 years who have passed the Middle English or a higher standard are admitted. The number of admissions was 50 in each of the years 1932 and 1933, but it will be raised to 75 in 1934. In the recruitment of these boys, preference is given to the sons of the Company's employees. There is keen competition for admission and the school has already become so popular that there has been a very large increase in the number of boys attending the ordinary schools, their parents hoping that they will ultimately qualify for admission to the Apprentice School.

11. The course of training in the Apprentice School comprise general education elementary science and mathematics and those branches of technology required in the Works. The course covers five years during the first four of which the apprentices spend four days a week in the shops of the Company obtaining manual skill and practical experience and two days a week attending day-time classes. During the fifth year, the apprentices spend the whole of their time in the works. The

works training of the apprentices is closely supervised during the whole of the period by a full-time member of the staff of the Superintendent of Training. The apprentices are paid at the rates of As. 10, As. 12, Re. 1, Rs. 1-6 and Rs. 1-12 per day in the successive years of their course. The whole cost of this scheme is borne by the Steel Company.

12. A small number of apprentices are still completing courses of training commenced under previous arrangements, but it is anticipated that the Apprentice School scheme, modified and developed from time to time as may be found necessary, will supersede other methods of dealing with the apprenticeship question. The Company however admits, and will probably continue to admit, from time to time a limited number of students from Engineering Colleges elsewhere in India who wish to obtain "vacation training" without pay. Admissions of this kind have to be closely restricted in accordance with the accommodation available in the shops.

13. In addition to the Technical Institute and the Apprentice School the Company also conducts a Technical Night School. About 70 per cent. of the recurring expenditure of Rs. 8,000 annually on this school is met by the Company, the balance being met by grants from Provincial Governments and from fees paid by the students. The school is open to all comers and is attended mainly by employees of the Company (or of other Companies in the district) who wish to improve their education and increase their knowledge and understanding of their work. The complete course extends over 6 years, the earlier part of the teaching being conducted in the vernacular and the later part in English. The main course is essentially in mechanical and electrical engineering, but the possibility of developing instruction in specialised branches is under consideration.

14. This survey of Technical Education in Jamshedpur justifies the Company's claim to have made a definite contribution to the progress of this kind of work in India. The Company has realised the importance of the work and has believed in its success, which belief it has backed by substantial expenditure. The men who have passed through its courses of training are playing an increasingly important part in the Indianisation of the technical operations of the Company and many of them are holding responsible positions. The Company's workmen and the students of its Technical Institute come from all parts of India and this feature of the Company's activities constitutes an important contribution to the benefit and welfare of the whole country.

MEMORANDUM 12.

Expenditure in the Service Departments at Jamshedpur.

Close attention has been given in recent years to the expenditure in the Service Departments. Suggestions for Improvement in these Departments have been carefully investigated and many have been adopted with beneficial results. The head of each of these departments receives a copy of his cost-sheet each month and he is subject to the same demand for increased efficiency as the heads of the producing departments. In some cases, e.g., the foundries, the cost-sheets have been subdivided so as to show more clearly the progress in respect of various kinds of work. The statistics generally are kept more fully and costs are correlated better with the work done by the calculation of costs per unit of work.

2. The progress in each department and the aggregate expenditure of the non-producing departments as a whole are shown on Annexure A, from which it will be seen that the total expenditure per ton of saleable steel has fallen from Rs. 35.6 in 1926-27 to Rs. 24.5 in 1932-33. Annexure B shows separately the expenditure on labour in these departments, Annexure C the expenditure on materials used in repairs and maintenance and Annexure D that on lubricants, tools and miscellaneous supplies. There have been large decreases in the two latter groups of expenditure, but no decrease in labour so far as the total under this head is concerned; but there has been a decrease in the cost per ton of saleable steel. The balance of the decrease

in the aggregate expenditure is due to decreases in the quantities or prices of what may be called process materials, such as coal for boilers and iron for castings.

3. The Company realises that the cost of steam has in the past been relatively high ; but the substantial nature of the progress already made is shown by the fact that the total expenditure above fuel at the main boiler plants (Nos. 1, 2 and 3) has been brought down from Rs. 9.0 lakhs in 1926-27 to Rs. 5.4 lakhs in 1932-33. When cleaned gas can be supplied to the boilers, the general efficiency of steam raising will be improved and the costs further reduced. The cost of electric power depends mainly on that of steam ; the total cost per unit has fallen from 2.9 pies in 1926-27 to 2.0 pies in 1932-33, this reduction having been assisted by a fall in the cost above steam as well as by the fall in the cost of steam itself.

4. Annexure E shows the expenditure on stores, etc. in the producing departments. The proportionate reduction of this type of expenditure in these departments has been similar to that in the service departments and has formed one of the important economies effected in recent years.

5. The figures in Annexures C, D and E cover the expenditure on electrical stores for the departments to which they relate. There have been substantial reductions in this expenditure in other departments also. The total expenditure in the shops was more than Rs. 1 lakh lower in 1932-33 than in 1926-27 ; although the expenditure cannot be correlated with statistics of work done, as this work is so multifarious and variable, the Company believes that the greater part of this reduction is due to increased efficiency. The " job-card " system has been introduced and, wherever possible, men are now paid on an " efficiency bonus " arrangement.

6. A system of advance budgeting for the stores requirements of each department has been tried, but it has not yet been found practicable to make it effective, owing to the many changes in the requirements. The store-keeping and purchasing departments have been brought into closer relation with the using departments and every effort is being made to reduce not only the consumption of stores but also the quantities held in stock. The former departmental stores have been brought under the control of the Chief Store-keeper and full records are kept of quantities in stock and average requirements.

ANNEXURE A TO MEMORANDUM 12.
Expenditure in Service Departments.

Department.	Units of work done.	1926-27.			1927-28.			1929-30.		
		Expenses Rs. lakhs.	Work done (units).	Cost per ton or per unit.	Expenses Rs. lakhs.	Work done (units).	Cost per ton or per unit.	Expenses Rs. lakhs.	Work done (units).	Cost per ton or per unit.
General Steam . . .	100,000 lbs. steam— Total.	..	..	..	..	..	..	..	..	..
Duplex Steam . . .	Saleable steel (000 tons).	36.16	374.2	9.7 Rs.	33.76	428.6	7.9 Rs.	31.98	411.9	7.7 Rs.
New Blooming Steam Mill	Duplex Ingots (000 tons).	.62	800.2	3.3 As.	.80	347.9	3.7 As.	.97	339.6	4.5 As.
Electric Power . . .	Mill output (000 tons)	1.38	391.7	..	1.18	449.5	..	1.43	441.1	..
Gas Producers— O. H. and Mills	Units generated (millions).	4.49	150.0	2.9 ps. unit.	4.75	160.2	2.5 ps. unit.	4.35	169.1	2.3 ps. unit.
Duplex . . .	O. H. and Old Bloom- ing Mill combined output (000 tons).	12.59	300.2	4.2 Rs.	12.00	313.1	3.8 Rs.	10.58	298.3	3.5 Rs.
N. B. M. . . .	Duplex Ingots (000 tons).	5.38	300.2	1.7 Rs.	4.92	347.9	1.3 Rs.	4.67	339.6	1.4 Rs.
Bar Mill . . .	Mill output (000 tons)	.87	391.7	3.6 As.	1.10	449.5	3.0 As.	1.51	441.1	5.5 As.
Yard Switching General and Duplex.	Bar Mill output (000 tons).	1.21	23.5	5.1 Rs.	.77	18.4	4.2 Rs.	.67	11.3	5.9 Rs.
Laboratories . . .	Wagons handled (thousands).	11.12	640.0	1.7 Rs. wagon.	12.66	782.0	1.6 Rs. wagon.	18.61	777.0	2.4 Rs. wagon.
New Calcining Plant . .	Determinations made (thousands).	1.72	227.5	12.1 As.	1.71	232.5	11.7 As.	1.77	187.8	15.1 As.
Ditto	Burnt Lime (000 tons)	..	24.2	27.6 Rs.	..	24.2	21.4 Rs.	..	21.8	22.9 Rs.
New Calcining Steam . .	Burnt Dolomite (000 tons).	7.01	1.5	43.9 Rs.	5.32	1.5	32.8 Rs.	4.54	0.1	39.2 Rs.
Old Calcining Plant . .	Production (000 tons)	..	Not separated.	..	..	Not separated.	0.08	21.0	5.9 As.	..
Ditto	Burnt Lime (000 tons)	..	7.8	23.7 Rs.	..	16.3	17.4 Rs.	..	11.2	23.5 Rs.
Refractories— Blast Furnaces	Burnt Dolomite (000 tons).	4.12	7.2	29.7 Rs.	5.05	10.5	21.5 Rs.	4.73	8.1	27.8 Rs.
	Pig Iron output (000 tons).	.58	644.8	1.4 As.	.63	374.9	1.6 As.	.62	761.9	1.3 As.

Department.	Units of work done.	1930-31			1931-32			1932-33		
		Expenses, Rs. lakhs.	Work done (units).	Cost per ton or per unit.	Expenses Rs. lakhs.	Work done (units).	Cost per ton or per unit.	Expenses Rs. lakhs.	Work done (units).	Cost per ton or per unit.
General Steam	100,000 lbs. Steam--	..	..	..	..	78,396	89-9 Rs.	..	62,874	88-8 Rs.
	Total Saleable Steel (000 tons).	33-18	433-7	7-6 Rs.	29-96	449-7	6-7 Rs.	29-12	427-0	5-4 Rs.
Duplex Steam	Duplex Ingots (000 tons).	95	880-7	4-0 As.	94	891-7	8-8 As.	1-28	404-1	4-9 As.
New Blooming Mill Steam.	Mill output (000 tons)	1-68	478-9	..	1-74	477-8	..	1-69	510-0	..
Electric Power	Units generated (millions).	4-46	168-6	2-8 ps. unit.	4-22	168-6	2-8 ps. unit.	3-82	173-8	2-0 ps. unit.
Gas Producers-- O. H. and Mills	O. H. and Old Blooming Mill combined output (000 tons).	10-72	298-6	3-6 Rs.	9-24	268-8	3-5 Rs.	6-20	161-8	3-2 Rs.
Duplex	Duplex Ingots (000 tons).	4-64	880-7	1-2 Rs.	4-47	891-7	1-2 Rs.	3-49	404-1	9 Rs.
N. B. M.	Mill output (000 tons)	2-28	478-9	7-6 As.	1-87	477-8	6-3 As.	3-06	510-0	9-6 As.
Bar Mill	Bar Mill output (000 tons).	73	14-0	5-2 Rs.	32	5-8	5-5 Rs.	52	10-6	4-9 Rs.
Yard Switching General and Duplex.	Wagons handled (thousands).	20-53	786-0	2-6 Rs. wagon.	15-19	835-0	1-8 Rs. wagon.	14-80	740-0	2-0 Rs. wagon.
Laboratories	Determinations made (thousands).	1-84	197-2	14-9 As.	1-80	201-0	14-3 As.	1-80	188-5	15-2 As.
New Calcining Plant	Burnt Lime (000 tons)	..	24-7	22-8 Rs.	..	20-5	19-8 Rs.	..	20-9	18-5 Rs.
Ditto	Burnt Dolomite (000 tons).	4-89	NH	..	3-50	NH	..	3-43	NH	..
New Calcining Steam	Production (000 tons)	09	84-7	5-8 As.	07	20-5	5-5 As.	04	20-9	3-1 As.
Old Calcining Plant	Burnt Lime (000 tons)	..	4-1	26-1 Rs.	..	2-0	21-1 Rs.	..	1-2	22-7 Rs.
Ditto	Burnt Dolomite (000 tons).	3-51	8-7	29-9 Rs.	2-61	7-8	28-2 Rs.	3-02	9-4	28-9 Rs.
Refractories-- Blast Furnaces	Pig Iron output (000 tons).	53	743-1	1-2 As.	54	847-3	1-0 As.	40	672-1	9 As.

ANNEXURE A TO MEMORANDUM 12—contd.
Expenditure in Service Departments—contd.

Department.	Units of work done.	1926-27.			1927-28.			1929-30.		
		Expenses Rs. lakhs.	Work done (units).	Cost per ton or per unit.	Expenses Rs. lakhs.	Work done (units).	Cost per ton or per unit.	Expenses Rs. lakhs.	Work done (units).	Cost per ton or per unit.
Refractories, Open Hearth.	Ingot output (000 tons).	4.92	230.2	2.2 Rs.	5.16	251.6	2.1 Rs.	4.40	241.8	1.8 Rs.
Refractories, Bess. & D. P.	Ditto	6.11	300.2	2.0 Rs.	5.79	347.9	1.6 Rs.	5.41	339.0	1.6 Rs.
Skull Crackers . . .	Scrap handled (000 tons).	1.16	68.9	1.7 Rs.	.92	67.9	1.4 Rs.	1.39	46.7	8.0 Rs.
Soda Water and Ice Plant.	Bottles (thousand doz.).	..	359.5	2.6 As. doz.	..	371.9	2.8 As. doz.	..	350.1	3.5 As. doz.
	Maunds (thousands)	.88	76.9	8.9 As. md.	.91	86.7	7.1 As. md.	1.04	77.2	8.5 As. md.
Water and Water Soften- ing.	....	1.44	..	..	1.50	..	..	1.51	..	..
Brick Department . . .	....	1.08	..	..	1.23	..	..	1.16	..	..
Sand and clay . . . . .	....	.44	..	..	.38	..	..	.32	..	..
Timber Yard . . . . .	....	Not separated.			Not separated.			Not separated.		
General Works Expense	....	14.00	..	..	14.93	..	..	18.74	..	..
Shops . . . . .	....	5.90	..	..	6.56	..	..	7.43	..	..
Automobile . . . . .	....	1.19	..	..	1.59	..	..	1.72	..	..
Foundry	Iron Castings (000 tons).	..	18.0	57.7 Rs.	..	19.4	58.0 Rs.	..	18.8	58.2 Rs.
	Steel Castings (000 tons).	17.70	2.7	97.2 Rs.	17.52	3.0	84.4 Rs.	17.07	2.6	86.9 Rs.
Gross Expenditure . . .	Total Saleable Steel (000 tons).	141.97	374.2	88.0 Rs.	141.14	428.6	82.9 Rs.	146.85	411.9	85.6 Rs.
<i>Credits—</i>										
Water . . . . .	....	1.15	..	..	1.29	..	..	1.09	..	..
Electric Power . . . . .	....	7.58	..	..	6.82	..	..	6.06	..	..
Net Expenditure	Total Saleable Steel (000 tons).	138.24	374.2	85.6 Rs.	133.03	428.6	81.0 Rs.	138.80	411.9	83.6 Rs.

Department.	Units of work done.	1930-31			1931-32			1932-33		
		Expenses Rs. lakhs.	Work done (units).	Cost per ton or per unit.	Expenses Rs. lakhs.	Work done (units).	Cost per ton or per unit.	Expenses Rs. lakhs.	Work done (units)	Cost per ton or per unit.
Refractories, Open Hearth.	Ingot output (000 tons).	4.24	243.9	1.7 Rs.	3.35	210.6	1.6 Rs.	2.98	186.6	1.6 Rs.
Refractories, Besse, & D. P.	Ditto	5.62	380.7	1.5 Rs.	5.15	391.7	1.3 Rs.	4.75	404.1	1.2 Rs.
Skull Crackers	Scrap handled (000 tons).	1.55	67.8	2.3 Rs.	1.54	76.5	2.0 Rs.	1.63	70.5	2.3 Rs.
Soda Water and Ice Plant.	Bottles (thousand doz.).	..	345.9	3.0 As. doz.	..	314.6	3.1 As. doz.	..	245.4	3.1 As. doz.
	Maunds (thousands)	.81	73.9	6.7 As. md.	.77	80.9	6.1 As. md.	.72	72.8	7.1 As. md.
Water and Water Soft- ening.	....	1.55	..	..	1.35	..	..	.97	..	..
Brick Department	....	1.31	..	..	1.01	..	..	.61	..	..
Sand and Clay	....	.25	..	..	.12	..	..	.13	..	..
Timber Yard	....	.18	..	..	.12	..	..	.11	..	..
General Works Expense	....	19.99	..	..	19.88	..	..	17.49	..	..
Shops	....	7.44	..	..	6.22	..	..	4.80	..	..
Automobile	....	1.10	..	..	.81	..	..	.82	..	..
Foundry	Iron Castings (000 tons).	..	26.1	48.9 Rs.	..	21.7	42.7 Rs.	..	13.9	44.3 Rs.
	Steel Castings (000 tons).	18.10	8.1	85.4 Rs.	13.63	3.3	86.4 Rs.	10.33	2.9	95.9 Rs.
Gross Expenditure	Total Saleable Steel (000 tons).	152.12	433.7	35.1 Rs.	130.42	449.7	29.0 Rs.	111.99	427.0	26.2 Rs.
Credits—	Water	.96	..	..	.85	..	..	.76	..	..
	Electric Power	7.06	..	..	6.15	..	..	6.58	..	..
Net Expenditure	Total Saleable Steel (000 tons).	144.10	433.7	33.2 Rs.	123.42	449.7	27.4 Rs.	104.65	427.0	24.5 Rs.

ANNEXURE B TO MEMORANDUM 12.

Labour Expenditure in Service Departments.

Departments.	1926-27.	1927-28.	1929-30.	1930-31.	1931-32.	1932-33.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
General Steam	8,96,166	8,60,250	8,92,728	3,72,988	3,42,398	2,70,018
Duplex Plant Steam	12,754	14,028	24,229	30,694	25,152	25,927
New Blooming Mill Steam	19,209	20,076	33,476	34,675	85,630	35,472
New Calcining Plant Steam . . . . .	..	..	3,585	3,315	2,374	2,428
Water	97,919	90,582	72,551	82,308	80,261	49,622
Electric Power	2,09,348	1,89,154	2,23,970	2,80,315	2,65,056	2,60,240
Gas Producer—						
Open Hearth and Mills	2,12,289	3,94,040	2,18,073	2,09,326	1,81,540	1,43,388
Duplex Plant	49,540	47,004	57,709	67,037	57,010	57,224
Bar Mill	24,746	15,437	15,828	16,792	7,797	14,552
New Blooming Mill	9,526	10,438	14,979	26,968	26,966	31,257
Yard Switching—						
General	5,22,150	5,53,812	8,02,795	9,07,214	7,53,348	7,09,416
Duplex Plant . . . . .	..	..	60,470	88,159	95,805	83,571
Laboratories	1,09,842	1,92,115	1,17,668	1,21,592	1,28,355	1,29,798
General Works Expense	9,24,100	9,45,527	12,60,498	11,27,821	10,17,753	9,74,096

Automobile	88,098	88,182	40,780	37,878	84,805	84,908
Shops	2,80,984	2,95,053	4,10,023	4,60,819	4,22,941	3,71,951
New Calcining Plant	71,994	59,937	56,493	58,641	56,823	48,379
Old Calcining Plant	91,522	81,598	1,07,299	97,608	79,067	69,262
Refractories--						
Open Hearth . . . . .	..	..	5,798	4,307	..	..
Bessemer	4,819	6,759	4,521	2,293	..	..
Duplex Plant . . . . .	..	..	..	..	..	..
Blast Furnaces . . . . .	..	..	..	..	..	..
Skull Crackers	85,916	68,621	1,05,020	97,944	1,04,560	1,02,376
Brick Department	88,200	84,849	69,812	81,735	61,642	49,458
Sand and Clay	81,008	22,568	22,272	12,084	5,486	6,090
Water Softening Plant . . . . .	..	..	4,969	6,498	6,863	7,322
Soda Water and Ice	80,561	80,261	32,470	31,102	31,956	31,945
Timber Yard	11,636	13,222	11,935	9,753	9,940	9,294
Foundries	3,64,685	3,56,897	3,70,886	3,43,074	3,02,215	2,72,265
Total	36,76,072	36,00,065	45,84,839	46,10,085	41,35,638	37,80,494

ANNEXURE C TO MEMORANDUM 12.

Expenditure to Stores, etc., consumed in Service Departments on Repairs and Maintenance Account.

Departments.	1926-27.	1927-28.	1929-30.	1930-31.	1931-32.	1932-33.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Steam Account--						
General Boilers	1,86,450	98,627	1,09,126	1,06,080	70,757	56,541
Duplex Plant Boilers	383	827	2,580	8,572	1,797	10,109
New Blooming Mill Boilers	40,221	7,640	3,772	18,085	4,878	6,789
New Calcining Plant Boilers . . . . .	..	..	846	688	217	10
Water Expense	11,792	20,570	15,871	17,986	9,508	3,697
Electric Power and Light	58,283	1,09,206	43,651	85,225	51,751	52,574
Gas Producers--						
Open Hearth and Mills	23,784	24,258	34,157	42,840	14,492	5,053
Duplex Plant	2,561	4,258	5,986	9,235	1,473	2,444
New Blooming Mill	829	2,521	825	1,334	2,529	1,787
Bar Mill	1,365	1,249	392	849	180	427
Yard Switching--						
General	1,06,693	2,11,385	3,56,413	4,14,833	78,157	57,440
Duplex Plant . . . . .	..	..	6,625	..	12,613	13,335
General Administration and General Works Expense . . . . .	..	..	..	..	..	..
Laboratories	7,505	3,272	3,269	3,206	2,122	2,652
Stable and Auto Expense	223	673	454	427	498	1,118
Shop Expense	81,942	87,442	85,065	48,958	25,358	29,126

Calcining Plant—						
Old	16,900	7,705	23,366	22,159	11,714	18,828
New	40,555	30,101	45,388	54,788	21,018	17,616
Skull Cracker	4,942	7,084	3,497	16,687	21,618	30,759
Brick Storage	542	13,905	2,409	782	479	142
Sand and Clay Line account	5,988	3,187	4,379	7,253	8,378	3,120
Water Softening Plant . . . . .	..	..	1,656	189	279	715
Soda Plant	1,472	655	389	285	838	87
Ice Plant	3,196	6,809	2,389	646	669	621
Silica Cement Grinding Mill	4,088	3,459	9,823	10,168	8,084	1,485
Timber Yard	254	949	618	2,834	259	278
Chrome Brick Kiln . . . . .	..	1,155	..	1,582	1,303	199
Foundry	62,342	46,259	30,015	39,706	23,346	22,235
Air Compressor . . . . .	..	..	..	..	..	649
Pig Casting Machine . . . . .	..	..	..	..	..	34,873
Total	6,87,395	6,88,141	7,42,396	8,60,847	3,69,505	3,74,659

ANNEXURE D TO MEMORANDUM 12.

Expenditure on Lubricants, Tools and miscellaneous supplies in Service Departments.

Departments.	1926-27.	1927-28.	1929-30.	1930-31.	1931-32.	1932-33.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Steam Account—						
General Boilers	88,400	60,288	62,747	61,213	47,602	32,213
Duplex Plant Boilers	784	661	2,229	4,220	4,063	5,475
New Blooming Mill Boilers	2,067	1,073	3,755	5,147	6,500	1,574
New Calcining Plant Boilers . . . . .	..	..	310	98	170	253
Water Expense	16,218	21,933	18,953	14,706	10,150	8,495
Electric Power and Light	70,272	67,295	42,052	30,718	27,877	16,609
Gas Producers—						
Open Hearth and Mills	11,346	17,945	17,699	12,323	10,346	12,063
Duplex Plant	5,866	6,340	7,223	10,660	6,712	10,220
New Blooming Mill	1,033	641	919	1,111	2,424	3,882
Bar Mill	1,573	855	473	692	259	823
Yard Switching—						
General	73,729	73,659	1,62,224	76,837	54,650	37,445
Duplex Plant	24,460	32,176	15,921	17,759

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General Administration and General Works Expense	1,19,311	1,18,220	1,68,803	1,30,649	1,15,512	89,410
Laboratories	44,047	45,452	80,353	32,712	21,930	21,882
Stable and Auto Expense	80,236	77,298	68,637	42,110	29,634	16,827
Shop Expense	1,19,761	1,38,551	1,36,013	78,642	49,634	51,925
Calcinig Plant--						
Old	7,327	10,201	13,507	7,928	6,968	12,410
New	6,786	6,131	8,477	8,559	5,074	3,598
Skull Cracker	20,150	12,988	21,279	28,803	12,885	12,733
Brick Storage	4,134	8,988	16,601	11,271	3,833	4,852
Sand and Clay Line Account	2,980	3,109	2,170	2,580	580	873
Water Softening Plant . . . . .	..	..	484	231	166	949
Soda Plant	35,441	43,022	53,695	38,929	35,353	26,621
Ice Plant	9,434	7,875	11,500	5,793	3,940	5,993
Silica Cement Grinding Mill	1,739	778	5,650	1,285	3,533	3,183
Timber Yard	2,017	1,584	635	140	166	103
Chrome Brick Kilm . . . . .	..	1,359	112	220	213	514
Foundry	1,40,529	1,45,202	1,45,159	1,28,042	93,763	75,867
Air Compressor . . . . .	..	..	..	..	775	1,643
Pig Casting Machine	5,262
Total	8,65,156	8,71,948	10,25,485	7,69,795	5,71,528	4,80,777

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ANNEXURE E.

Expenditure in Stores, etc., in Producing Departments.

	Materials in Repairs and Maintenance.	Lubricants, tools and supplies.	Refractories.	Total.
	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.
1926-27	23-1	14-6	11-6	49-3
1927-28	23-1	14-6	11-6	49-3
1929-30	25-5	17-8	10-5	53-8
1930-31	23-9	13-8	10-4	48-1
1931-32	13-3	9-3	9-3	31-9
1932-33	12-0	7-7	8-3	28-0

MEMORANDUM 13.

Use of Surplus Gas from Blast Furnaces and Coke Ovens.

(a) BLAST FURNACE GAS.

This gas is still, as in 1926, used only in the blast furnace stoves and in boilers. The consumption in the stoves is directly connected with the operation of the furnaces and the production of iron; only that amount of gas which is available for use elsewhere, *i.e.* (in the Company's present circumstances) at boilers can be properly called surplus gas. The introduction of more efficient burners at the stoves has somewhat increased the percentage of gas which is surplus. Annexure A shows that in 1926, the quantity of surplus gas used in boilers was nearly 6,000 million cubic feet per month, the quantity of steam raised from it being about 260 million lbs.; whereas in 1933 the quantity utilised is about 6,240 million cubic feet and the steam raised about 400 million lbs. Moreover, the steam raised in the Thompson boilers in No. 3 boiler-house in 1933 is at a higher temperature and pressure than in the same boiler-house in 1926 or in No. 1 boiler-house in either year. If allowance is made for the extra heat (about 10 per cent.) contained in this steam of higher pressure, it will be seen that the gas is now being used about 50 per cent. more effectively now than in 1926.

2. It should be noted that owing to the difficulty of measuring large volumes of moist uncleaned gas, accuracy is not claimed for the figures of gas volume; but the figures for the quantities of steam made are reasonably accurate and those for the quantities of coal consumed may be taken as reliable. In 1926, the production of 590 million lbs. of steam required 22,800 tons of coal *plus* the gas available, whereas in 1933 the production of 670 million lbs. of steam (of higher average heat content) requires only 17,900 tons of coal *plus* the greater part, but not the whole, of the gas available with the current production of iron.

3. The main factor in this improvement has been the replacement of the old boilers in No. 3 boiler-house by more efficient boilers; the new boilers are also of higher capacity and it has been possible, even for the higher production of steam, to close down the inefficient coal-fired boilers in No. 1 boiler-house. Improvements in the gas-fired boilers in No. 1 boiler-house have also contributed to the increase in the over-all efficiency of the boiler plant as a whole.

4. When the gas-cleaning plant which has been ordered is installed, it is expected that substantially less gas will be required at the stoves; the proportion of the total make which will be surplus will be increased and this surplus will be burned more efficiently than is possible with the present dirty gas. The use of clean gas will also raise the output capacity of No. 3 boiler plant. By these means, a further substantial reduction in the consumption of coal for steam raising should be possible, unless the quantity of steam required rises to a marked extent.

(b) COKE OVEN GAS.

5. The quantity of coke produced in 1926-27 was practically the same as in recent months and there has been no important change in the quality of the coal or in the amount of gas required to heat the ovens themselves. The volume of surplus gas available is therefore practically the same in both periods at an average of about 600,000 cubic feet per hour. Of this, only about 470,000 cubic feet was used in 1926-27, the balance being wasted due to leakage in the mains and the batteries and due to stoppage of consumption at week ends. The amount used has now been increased to about 580,000 cubic feet per hour by

- (a) regularising the consumption, thus avoiding high pressure in the mains;
- (b) alterations at the booster, thus avoiding high pressure at the batteries; and
- (c) fuller utilisation at week-ends by re-arrangement of the working of some of the mills.

6. Annexure B shows the average monthly consumption of gas and other fuels in 1926-27 in the consuming departments and Annexure C shows corresponding recent figures for 1933. As meters have now been installed at all points of consumption, the figures for 1933 may be taken as accurate within industrial limits, while those for 1926-27 are less accurate in their allocation to different departments, but the total is reasonably reliable. In order to bring the figures on to a common basis, it may be taken that hot steel (ingots and blooms) requires only about half the amount of heat required by cold steel (billets, slabs and sheet-bar). The results may be summarised as follows:—

	Tons steel (cold) heated per month.	Tons, limestone calcined per month.	Gas used for other purposes million c. ft. per month.
1926-27	24,600	<i>Nil</i>	43.2
1933	31,800	1,700	91.0

7. As the amount of gas used for heating steel in 1926-27 was about 292 million cubic feet and in 1933 was 298 million cubic feet, the gas used for heating steel was utilised over 25 per cent. more effectively in 1933 than in 1926-27. This is largely due to the more careful use of the gas as a result of the installation of meters and of better supervision. In addition to this increase in the amount of steel heated, about 1,700 tons of limestone were calcined in 1933 and more than twice as much gas was utilised for other miscellaneous purposes as in 1926-27.

8. The nature of the changes which have led to the better utilisation of coke oven gas has been indicated in paragraphs 5 and 7. It is anticipated that the more uniform mixing of the coal which will result from the installation of the new mixing bunkers will lead to a more regular supply of gas and a more regular consumption at the ovens themselves and thus to a slight increase in the available surplus and in the efficiency and regularity with which the surplus can be utilised. When a new battery of ovens is built, a higher percentage of the gas produced should be available as surplus, and if blast furnace gas is used for heating these ovens a large increase in the amount of surplus coke-oven gas should be possible.

ANNEXURE A TO MEMORANDUM 13.

Use of Blast Furnace Gas.

(Monthly average quantities.)

Boiler-house.	Make of Steam (million lbs.).		Fuel Consumption.		No. of boilers in operation.	
	Coal-fired.	Gas-fired.	Coal.	Gas.	Coal.	Gas.
			Tons.	Million c. ft.		
1926-27—						
No. 1 . .	80	120	6,200	3,080	10	11
No. 2 . .	250	..	16,600	..	6	..
No. 3 . .	..	140	..	2,870	..	17
Total .	330	260	22,800	5,950	..	..
1933—						
No. 1 . .	..	160	..	2,810	..	16
No. 2 . .	270	..	17,900	..	6.5	..
No. 3—						
J. T. .	..	220	..	3,000	..	8
B. W. .	..	20	..	430	..	1.5
Total .	270	400	17,900	6,240	..	..

ANNEXURE B TO MEMORANDUM 13.

Consumption of Coal, Coke-Oven Gas, Tar and Fuel Oil, 1926-1927.

(Monthly Average quantities.)

	Production.	Consumption.				Tonnage heated with			
		Coal.	Coke-Oven Gas.	Tar.	Fuel Oil.	Coal	Coke-Oven Gas.	Tar.	Fuel Oil.
		Tons.	Million c. ft.	Tons.	Tons.				
New Blooming Mill	37,500	1,000	123	..	..	12,500	25,000	..	..
New Rail Mill	14,000	..	78	300	44	..	10,300	3,200	500
Merchant Mill	6,750	..	76	52	..	..	6,380	370	..
Plate Mill	2,250	..	14	236	192	..	630	860	760
Duplex Plant (Mixers, Ladle and Bottom House).	29,000*	..	32	258	..	..	..	..	..
New Calcining Plant	1,000	..	..	225	173	..	..	535	465
Laboratory, Foundry, Open Hearth (West Plant).	..	..	11	95	..	..	..	..	..
Total	61,500	1,000	334	1,166	409	12,500	42,310	4,965	1,725

* Not included in total.

ANNEXURE C TO MEMORANDUM 13.

Consumption of Coal, Coke-Oven Gas, Tar and Fuel Oil, 1933.

	Production.	Consumption.				Tonnage heated with			
		Coal.	Coke-Oven Gas.	Tar.	Fuel Oil.	Coal.	Coke-Oven Gas.	Tar.	Fuel Oil.
	Tons.	Tons.	Million c. ft.	Tons.	Tons.				
New Blooming Mill	58,248	4,700	57.0	..	..	48,800	9,448	..	..
New Rail Mill	13,642	..	61.0	35	..	..	13,220	622	..
Sheet-bar and Billet Mill	4,930	..	24.0	15	..	..	4,684	246	..
Merchant Mill	11,269	..	46.4	5	..	..	11,189	80	..
Plate Mill	4,242	..	78.0	3	..	..	4,200	42	..
New Sheet Mill	2,447	..	25.0	..	..	..	2,447	..	..
Old Bar Mill	1,220	354	7.0	..	..	920	300	..	..
New Calcining Plant	2,007	..	36.6	85	..	..	1,700	307	..
Duplex Plant	47,685*	..	45.0	77	..	..	..	..	..
(Laboratory, Foundry, Shop, etc.), West Plant.	..	..	38.0	..	..	..	..	..	..
Brick Kiln . . . . .	..	..	8.0	..	..	..	..	..	..
Total	98,205	5,054	426.0	220	..	49,720	47,188	1,297	..

* Not included in total.

MEMORANDUM 14.

Bonus Schemes for Non-Covenanted Employees at Jamshedpur.

The principal bonus, which is known as the "General Production Bonus", was brought into operation in October 1928. It aimed at a total payment to the men employed of Rs. 83,333 in a month in which the total quantity of saleable steel produced was 40,000 tons, with a larger amount for a production above 40,000 tons and a smaller amount on a sliding scale for a production below 40,000 tons; but no bonus is payable if the production falls below 30,000 tons.

2. This scheme applies to all the non-covenanted monthly-paid employees in the Work other than clerical staff and those on rates of pay over Rs. 10 per day or Rs. 300 per month. The men to whom the bonus is applicable were divided into 12 wage groups and rates of bonus payment per man were fixed for each group for each 1,000 tons of output. In the fixing of the rates, regard was paid to the number of men then employed in each pay group. The rates are shown in Annexure A to this Memorandum. The rates were fixed on the principle that the lower-paid men would receive a higher percentage addition to their earnings than the higher-paid, although the latter received larger actual amounts. The number of men now entitled to receive bonus on these scales is nearly 16,000. The total bonus earned in the period April to September 1933 was nearly 10 per cent. of the total pay of the men entitled to this bonus.

3. In certain departments a departmental bonus is given to men working in certain posts. The amount of the bonus depends on the output of the department or of the furnace or mill on which the man works. In some departments only the higher-paid men draw the departmental bonus, but in others it is paid to a large proportion of the employees of the department. Annexure B shows the number of men in the producing departments drawing this type of bonus and the average bonus payment for each department during the period April 1933 to August 1933. This type of bonus has been paid to certain non-covenanted men in the Open Hearth Department since 1917 and was introduced in the other departments at various times between 1926 and 1930.

4. Similarly in some of the service departments a departmental bonus is paid to men working in certain posts. The payment depends on the quick or efficient handling of work, such as the transfer of hot ingots to the soaking-pits and the turn-round of Railway Company's wagons or on the amount of material handled, such as the quantity of steel despatched from a mill and the quantity of scrap handled at the skull-cracker. These bonus schemes were introduced at various dates between 1927 and 1931. The numbers of men affected and the amounts paid are shown in Annexure C. An illustration of the working of the "efficiency bonus" scheme in the structural shops is given in Annexure D.

5. The figures in Annexures B and C show that a total of over 2,900 non-covenanted men are receiving bonus departmentally in addition to the "general production bonus" and that at recent rates of output the average departmental bonus thus paid is about Rs. 17 per month per man.

6. None of the above schemes of bonus and none of the figures in the annexures apply to the covenanted employees. Nor do they apply to the weekly-paid (casual) labour. This latter class of employee has for many years been given an attendance bonus in the form of two days' extra pay for any month in which he (or she) was not absent more than one working day or one day's extra pay if he (or she) was absent for only two working days.

ANNEXURE A TO MEMORANDUM 14.

Rates (rupees per month) of payment of "general production bonus" to each wage group.

Production of saleable steel.	Percentage of basis payment.	0-8-0 to 6-10-0.	Over 0-10-0 to 0-12-0.	Over 0-12-0 to 0-14-0.	Over 0-14-0 to 1-0-0.	Over 1-0-0 to 1-4-0.	Over 1-4-0 to 1-8-0.	Over 1-8-0 to 2-0-0.	Over 2-0-0 to 2-8-0.	Over 2-8-0 to 3-8-0.	Over 3-8-0 to 5-0-0.	Over 5-0-0 to 7-8-0.	Over 7-8-0 to 10-0-0.
Tons.	Per cent.												
50,000	150	6 0 0	6 6 0	6 12 0	7 2 0	7 8 0	7 14 0	8 4 0	9 0 0	9 12 0	10 8 0	11 4 0	12 0 0
49,000	145	5 12 0	6 2 9	6 8 6	6 14 8	7 4 0	7 9 9	7 15 6	8 11 8	9 6 9	10 2 6	10 14 0	11 9 4
48,000	140	5 9 6	5 15 8	6 4 9	6 10 6	7 0 0	7 5 6	7 11 0	8 6 8	9 1 6	9 12 9	10 8 0	11 3 4
47,000	135	5 6 8	5 12 0	6 1 8	6 6 6	6 12 0	7 1 6	7 6 9	8 1 6	8 12 6	9 7 3	10 2 0	10 12 4
46,000	130	5 3 0	5 8 6	5 13 6	6 2 9	6 8 0	6 13 8	7 2 8	7 12 9	8 7 8	9 1 6	9 12 0	10 6 0
45,000	125	4 15 9	5 5 0	5 10 0	5 15 0	6 4 0	6 9 0	6 14 0	7 8 0	8 2 0	8 12 0	9 6 0	10 0 0
44,000	120	4 12 6	5 1 9	5 6 6	5 11 8	6 0 0	6 4 9	6 9 6	7 8 8	7 12 9	8 6 6	9 1 0	9 9 0
43,000	115	4 9 8	4 14 8	5 2 9	5 7 6	5 12 0	6 0 6	6 5 8	6 14 6	7 7 6	8 0 9	8 10 0	9 2 6
42,000	110	4 6 8	4 10 9	4 15 8	5 8 6	5 8 0	5 12 6	6 0 9	6 9 6	7 2 6	7 11 8	8 4 0	8 12 6
41,000	105	4 3 0	4 7 8	4 11 6	4 15 9	5 4 0	5 8 8	5 12 6	6 4 9	6 13 8	7 5 6	7 14 0	8 6 0
40,000	100	4 0 0	4 4 0	4 8 0	4 12 0	5 0 0	5 4 0	5 8 0	6 0 0	6 8 0	7 0 0	7 8 0	8 0 0
39,000	91	8 10 8	8 13 9	4 1 6	4 5 8	4 8 9	4 12 8	5 0 0	5 7 8	5 14 9	6 6 0	6 13 8	7 4 6
38,000	82	8 4 6	8 7 6	8 11 0	8 14 8	4 1 6	4 5 0	4 8 8	4 14 9	5 5 8	5 11 9	6 2 8	6 9 0
37,000	73	2 14 9	8 1 6	8 4 6	8 7 6	8 10 8	8 13 0	4 0 8	4 6 0	4 12 0	5 1 9	5 7 6	5 13 6
36,000	64	2 9 0	2 11 8	2 14 0	3 0 6	3 8 8	3 5 9	3 8 8	8 13 8	4 2 9	4 7 6	4 12 9	5 2 0
35,000	55	2 8 8	2 5 8	2 7 6	2 9 9	2 12 0	2 14 8	3 0 6	3 4 9	3 9 8	8 13 6	4 2 0	4 6 6
34,000	46	1 13 6	1 15 8	2 1 0	2 8 0	2 4 9	2 6 9	2 8 6	2 12 0	3 0 0	3 8 6	3 7 0	3 11 0
33,000	37	1 7 9	1 9 0	1 10 6	1 12 0	1 13 6	1 15 0	2 0 6	2 8 8	2 6 9	2 9 6	2 12 8	2 15 6
32,000	28	1 2 0	1 8 0	1 4 8	1 5 8	1 6 8	1 7 6	1 8 9	1 10 9	1 15 8	1 15 8	2 1 6	2 4 0
31,000	19	0 12 8	0 12 9	0 13 9	0 14 8	0 15 0	0 15 0	1 0 9	1 2 0	1 4 0	1 5 8	1 6 9	1 8 6
30,000	10	0 6 6	0 6 9	0 7 8	0 7 6	0 8 0	0 8 6	0 8 9	0 9 6	0 10 6	0 11 8	0 12 0	0 13 0
Percentage addition to wages.	For 40,000 tons	26-7 to 21-3	21-6 to 18-9	19-2 to 17-1	17-5 to 15-8	16-2 to 13-8	13-8 to 11-6	12-1 to 9-2	9-8 to 8-0	8-6 to 6-2	6-6 to 4-7	4-8 to 3-8	3-5 to 2-8
	For 50,000 tons	40 to 32	32-4 to 28-8	28-8 to 25-7	26-2 to 23-7	24-2 to 20-0	20-7 to 17-4	18-1 to 13-8	14-8 to 12-0	12-8 to 9-8	9-8 to 7-0	7-2 to 5-0	5-2 to 4-2

ANNEXURE B TO MEMORANDUM 14.

Bonus paid to Non-Covenanted men in Producing Departments.

Department.	No. of men earning bonus, October 1933.	Average monthly amount of bonus for whole department, April 1933/August 1933.
		Rs. thousands
Blast Furnaces	11	.7*
Open Hearth	23	5.5*
Duplex	13	5.7*
East Mills	320	5.5
Merchant Mill	35	1.5
Sheet Mill	535	12.5
Plate Mill	282	1.1
Sleeper Press	67	.1
Total	1,286	32.6

N. B.—The above figures are additional to "General Production Bonus".

* These figures do not include the bonus paid to traffic crews shown in Annexure C.

ANNEXURE C TO MEMORANDUM 14.

Bonus paid to Non-Covenanted men in Service Departments.

	No. of men earning bonus, October 1933.	Total bonus earned in Department, September 1933.
		Rs.
Traffic Crew—		
Duplex Ingots	24	178
Open Hearth Ingots	30	550
Blast Furnaces	59	199
Traffic Department, Demurrage	570	6,924
Loco, Mechanical	50	3,180
Electrical Department, Crane Drivers	225	
Shipping Department—		
New	141	1,312
Old	107	2,538
Merchant Mill	152	108
Scrap and Salvage	8	547
Shops	250	
Total	1,616	15,536

N. B.—The above figures are additional to "General Production Bonus".

ANNEXURE D TO MEMORANDUM 14.

Example of working of "Efficiency Bonus" system.

Actual Cost of Labour and Operation Timings for columns for 36'-0" Dia. Dust Catcher : Drawing No. 47627 WE No. 31020 : C/A-NW/97-c, C. No. 451.

Operation.	Amount allowed.	Time allowed.	Time taken.	Percentage time saved.	Amount.	Bonus.
	Rs. A. P.	Hours.	Hours.		Rs. A. P.	Rs. A. P.
Marking . . .	82 0 0	128	114½	10	71 0 0	3 11 0
Shearing . . .	17 0 0	32	18½	41	13 12 0	3 0 0
Pl. Shearing . . .	33 0 0	48	66½	..	42 0 0	..
Punching . . .	21 14 0	40	30	25	13 12 0	1 13 0
Sawing . . .	12 0 0	48	34	29	9 1 0	1 6 0
Drilling . . .	103 8 0	368	224½	39	60 8 0	10 6 0
Bending . . .	38 0 0	32	40½	..	49 5 9	..
Assembling . . .	240 0 0	384	294½	23	157 8 0	19 0 0
Reaming . . .	102 0 0	136	207½	..	127 14 3	..
Rivetting . . .	181 4 0	200	222	..	194 4 6	..
Gas Cutting . . .	42 0 0	96	47½	45	15 10 0	3 11 0
Painting . . .	15 0 0	..	..	..	..	..
Total . . .	887 10 0	..	..	..	754 6 6	42 15 0

Total Weight	33 tons.
	Rs. A. P.
Total Actual Cost of Labour	797 5 6
Actual Cost per Cwt.	1 3 4
Estimated Cost per Cwt.	1 5 0

MEMORANDUM 15.

Standardisation of Wages.

Prior to 1928 no well defined system of standard wages throughout the Works had been prescribed, although in some departments standard wages for certain classes of employees had been fixed within the previous few years. The absence of a properly co-ordinated scheme of wages throughout the Works resulted in very different rates of pay being given to individuals doing either identical work or work of similar responsibility and difficulty. The system of standard wages for each kind of post was aimed at removing these discrepancies.

2. A few examples will illustrate the previous position and the action taken.

- (a) Filers were employed in five different departments at wages ranging from 9 to 14 annas a day, with many intermediate rates. In 1928 the rates were limited to three, the pay being 12 annas, 14 annas and Re. 1 according to the kind of steel, etc., to be filed; one of these rates is definitely allocated to each post.

- (b) Drivers of over-head cranes carrying hot metal in the Duplex Department were being paid individual rates varying from 12 annas to Re. 1-7-3 per day. It was decided that a proper rate for this work would be Re. 1-12 per day and all drivers were put on this rate. Similarly, a rate was fixed for the driving of each crane in the Works, the various rates being related to the nature and responsibility of the work.
- (c) Fitters were being paid on more than 30 different rates ranging from Re. 1-8 to Rs. 3 per day. A much smaller number of rates, falling within these limits, was fixed in 1928, each rate being allocated to a definite number of posts in each department employing fitters.
- (d) Mistries were being paid on a large number of individual rates varying from Re. 1-12 to Rs. 5 per day and from Rs. 80 to Rs. 135 per month. These were co-ordinated into five rates only, of Rs. 3, 3-8, 4, 4-8 and 5 per day, each rate being applicable to a definite number of posts in each department.

3. For some kinds of work the rates paid to individuals were reasonably uniform, but were considered too low by comparison with rates paid for other somewhat similar work in other departments. The rates were therefore raised. For example, boiler firemen were being paid 14 annas and Re. 1 per day, but their rates were raised to Re. 1-4 and Re. 1-8.

4. At the same time as standard rates were introduced, standard numbers of men were prescribed for each class of post in each department. The standard forces are revised from time to time as additional equipment is introduced or as existing equipment goes out of use or a department is closed.

5. The standard force for each kind of work was almost without exception smaller than the number of men engaged on the work prior to 1928. The surplus men were retained as "relief gangs" on their previous rates of pay. All other men were brought on to the roll of the standard force for a particular kind of work. A workman who was previously drawing lower pay than that prescribed under the new arrangement immediately began to draw the new standard pay. A man who was drawing higher pay than the standard for the classified post continued to draw the excess over the standard, as a personal allowance. As far as possible, these men have been brought solely onto standard rates as transfers or promotions have been practicable since 1928 but there are still nearly 300 men drawing higher pay than the standards for their posts. As vacancies occurred in the standard force men were transferred from the "relief gangs" wherever possible; they are in all cases brought in on the standard rate of pay. In this way the "relief gangs" have now been practically absorbed.

6. As an outcome of the strike of 1928 all men who did not receive increments of pay as a result of the operation of the new standard rates received special increments of 1 or 2 annas per day. Many of these increments have since been absorbed by transfers or promotions to better paid posts.

7. The rates of pay of practically all the clerical and time-keeping staff and also of assistant foremen and most of the foremen were similarly standardised in 1928 or early 1929. Many of the posts were put on short-range incremental scales. The numbers of the posts were also standardised. Discrepancies between existing numbers or rates of pay and the new standards were dealt with in similar ways to those described above.

MEMORANDUM 16.

Relation of Estimated Average Output to Capacity of Plant.

The capacity of the Company's rolling mills depends very largely on the weight per foot of length of the product to be rolled or, for plates and sheets, on the weight per square foot of product. In this memorandum, therefore, it is assumed that

the average weight per foot (or per square foot) of products to be rolled in the next few years will be similar to that prevailing during the last two years, as there is not sufficient reason for assuming that there will be any substantial change in the average weight of the various kinds of steel required by the Indian market.

2. *22-inch Mill.*—Recent experience has shown that when this mill is rolling 6,000 to 7,000 tons of rail monthly it cannot be counted on to produce more than a similar quantity of the structural sections now in demand in India. Many of these sections are of very light weight for such a mill; yet the demand for heavier sections has been so small that it has been necessary to roll these smaller sections in order to keep the mill working fully and to reduce the average costs of all its products. The number of different sections and therefore of roll-changes, is also large, which again militates against high output. Although, therefore, the capacity of the mill, if it were rolling heavy rails only or heavy rails together with a moderate number of sizes of really heavy sections would be over 250,000 tons of product per annum, it cannot be taken at more than 160,000 tons if the rail orders average 80,000 tons and the balance of the output has to be spread over a large number of sections, many of which are light. The estimated output submitted to the Board in Table I of the Company's Representation represents the full capacity of this mill in the circumstances now prevailing.

3. *Old Bar Mills.*—The quantity of fishplates required for 80,000 tons of rails would be about 3,000 tons. When these fish-plates have to be rolled, it is economical to roll on the same mill about 2,000 tons of very light structural sections and about 5,000 tons of bars of sizes for which the orders are not large enough to justify rolling on the Merchant Mill or of sizes which are too heavy for that mill. It would not be economical in present circumstances to raise the output of the old bar mill appreciably over 10,000 tons. It may therefore be taken that the estimate assumes that this mill will work to its full economical capacity.

4. *Merchant Mill.*—It will be seen from the above figures that the estimate leaves 25,000 tons of sections and 75,000 tons of bars have to be rolled on the Merchant Mill—a total of 110,000 tons. During the last three years the average annual output has been 106,000 tons, that of the highest individual year (1931-32) having been 113,000 tons. The Company considers that an output of 110,000 tons as an average of several years represents the full capacity of this mill and compares very favourably with the outputs obtained from similar mills in other countries when a large range of sections, many of which are comparatively light, has to be rolled.

5. *Sheet Mills.*—The estimate assumes maximum output of the Mills as they will be from time to time under the programme of development. This part of the estimate has been discussed in some detail in paragraph 36 of the representation.

6. *Sleeper Plant.*—The estimated output of sleepers has been based on the probable demand; the Company regrets that it cannot find justification for anticipating that the average demand will equal more than about half the capacity of the Company's Sleeper Plant.

7. *Plate Mill.*—The estimated output of plates is higher than the total Indian consumption of plates of all sizes and thicknesses in either of the years 1931-32 and 1932-33. It represents about 70 per cent of the capacity of the mill to produce plates of the average size and thickness for which orders have been obtainable during the last two years.

8. *Tinbar and Billets.*—The estimated output of tinbar and billets for sale involves a total production including the material required for the other forms of saleable steel included in the estimate, of over 360,000 tons on the Sheet-bar and Billet Mill. The practical limit of capacity of this mill for the variety of sections which have to be rolled is probably nearly 450,000 tons. It may be taken that the estimate assumes the operation of this mill at an average rate of fully 80 per cent its capacity.

9. *Blooming Mill.*—The quantity of blooms and slabs required for the materials covered by the estimate in Table I of the Representation is about 630,000 tons

annually. This requirement is close to the maximum capacity of the blooming mill with its present equipment, while the present range of products has to be rolled. When the proposed 22-inch mill is installed, no small blooms will be required and the capacity of the blooming mill could be taken as 700,000 tons. The rate of operation required for the programme would then be about 90 per cent of capacity. If the necessity arose, it would be possible to instal additional equipment which would raise the capacity to about 800,000 tons of product annually.

10. *Ingots, etc.*—The quantity of ingots required for the programme is about 720,000 tons annually. This may be taken as representing between 80 and 85 per cent of the present capacity for producing ingots. The pig iron requirement for the programme would leave a substantial margin of capacity either unutilised or available for making pig iron for sale. The capacity of the Company's coke-ovens is at present not quite sufficient to produce all the coke which would be required for the programme, but the proposed construction of new ovens would enable the Company to produce all the necessary coke, including that required for the manufacture of a reasonable surplus of pig iron for sale.

MEMORANDUM 17.

Arrangements for sale of Pig Iron.

It is agreed between the Northern producers and the Mysore Iron Works that in the Bombay Presidency (exclusive of Sind), in Hyderabad and in Madras Presidency (up to Bezwada) and in the Indian States enclosed in the above areas, all sales of pig iron shall be diverted to the Mysore Iron Works up to a maximum of 7,000 tons in one year. All sales in other parts of India, and in the Southern area above 7,000 tons are to be diverted to the Northern producers. The control is effected by differential quotations, the difference being Rs. 4 per ton for iron as delivered at the buyer's nearest railway station.

2. The arrangement with Mysore applies to foundry iron only, as basic iron is not made by Mysore. It is also subject to four months' notice by either party. There is no arrangement between Mysore and the Northern producers about the export business.

3. The principle underlying the arrangement for sales in India by the Northern producers is that the sales not allotted to Mysore shall be divided equally between the Tata Iron and Steel Company on the one hand and the Bengal and Indian Iron Companies on the other hand. (As the Bengal Company is not at present producing iron, this group will be referred to as the Indian Company.) This division has been in force for several years and there is no proposal for a change from either side. For sales to the Indian Stores Department and the Railways, this equal division is effected by mutual control of the quotations which are usually identical. The remainder of the sales are made to the larger engineering firms and to the smaller indigenous foundries, the requirements of these two groups being usually approximately equal. The sales to the engineering firms are allotted to the Indian Company and those to the smaller foundries to the Tata Company, as the demand from the latter is almost entirely for basic iron, which grade is more conveniently supplied by the Tata Company than other grades. This iron is sold at a much lower price than the other grades, but the Company is prepared to supply to the smaller foundries (at the same price as the basic) suitable iron for specific purposes, if a genuine demand arises and it is clear that basic iron cannot satisfactorily be used. In effect, the price of basic iron is not controlled except by the Tata Company itself. Supplies of iron by any member of the producers' group to its recognised subsidiaries do not come within the purview of the arrangement.

4. The main export market is Japan. Up to the end of December 1933, the Tata Company and the Indian Company have equal allocations of this business, but it has recently been agreed that from January 1934, the respective shares shall be in the ratio of 2:3. Sales to China are added to those to Japan for the purpose

of this allocation. The sales to China and Japan are effected by relatively few transactions covering large quantities and prices are fixed by mutual consultation on each important enquiry. Each party may sell either basic or foundry iron or both.

5. Sales to the United States of America are at present allocated to the Tata Company and the Indian Company in the ratio of 2:1, but here again it has been found convenient in practice that the Tata Company should confine itself generally to basic iron and the Indian Company generally to foundry iron and it has recently been agreed that this should be the accepted basis of division from January 1934.

6. The existing arrangement for the sale of Indian pig iron in the United Kingdom and the division of the agreed market between the producers in India are described in Memorandum 19.

7. The remainder of the export market is at present allocated to the Tata Company and the Indian Company in the ratio of 3:1, but, as in the case of the United States of America market, in practice the Tata Company sells basic and the Indian Company foundry iron; and from January 1934 this will be the recognised allocation.

8. There is no attempt to control the volume of output by any Indian producer, except in so far as control might result from the operation of the above quotas. But it is recognised that no producer is to be debarred, by the operation of the allocations, from producing and selling if the other producer is not able to meet the demand accruing to him under his allocation.

9. The impression appears to exist in some quarters that the Company charges such high prices for its iron in India that the development of the Indian foundry industry is impeded. This is a serious misapprehension of the true position and is not supported by the facts. In Supplementary Statement 24 the Company has shown that its average realisations on sales in India for the last three years have been under Rs. 30 per ton. At no time during that period could imported iron have been landed in Calcutta for as low a price as Rs. 50. It is and has been the policy of the Company to make iron of the kind which it mainly produces available to the small foundries at a very moderate price and not to take advantage of the relatively high price which imported iron would cost if it were imported into India. The Company believes that this policy has succeeded in stabilising the small foundry industry in India.

10. The charge has been brought against the Company that it sells iron for export at lower prices than in India. In the present depressed condition of the world market this is true, although a reference to Supplementary Statement 24 will show that as recently as 1930-31 the average realisations on sales in India was slightly lower than those on iron exported. The price which the Company can obtain in foreign countries is controlled by world competition, and the Company must either sell at those prices or abandon the export business. During recent years there have been occasions when the price of iron in the overseas market has been so low as to be definitely unprofitable and the Company has temporarily withdrawn from the market. It is not within the control of the Indian pig iron producers to raise prices abroad. The only step which could be taken to equalise the realisations from Indian sales with those from export sales would be to reduce prices in India still further. It will, however, be seen from column 5 of Statement 18 of the Company's representation that during the last two years the Company has made small losses on its total sales of iron. Any further reduction of Indian prices would result, not in a reduction of profits on the total business, but in an increase of existing losses.

11. The Indian demand for pig iron for purposes other than steel manufacture is definitely not large enough to make economical production possible. The supply of iron to the local market must be and is supported by the output required for steel-making and by the manufacture for export, which, by so very greatly increasing the scale of operations, enable low costs to be achieved. The small indigenous foundries are obtaining the benefit of the existence of the other and larger branches

of the business and are in the belief of the Company obtaining iron, if they are situated reasonably near to the works of the Indian producers, as cheaply as, if not more cheaply than, small foundries in any country in the world.

MEMORANDUM 18.

Selling Organisation of the Tata Iron & Steel Co., Ltd.

The organisation for the sale of all the manufactures of the Company consists of a Head Sales Office in Calcutta and branch offices at Bombay, Lahore, Cawnpore, Nagpur, Secunderabad and Madras. The sale in foreign countries is conducted either direct with the customers or through the trade agents appointed by the Company. Under the Agents, the Sales Manager at Calcutta controls the policy and administration of the entire sales organisation. The nature of the work done by the branch offices is not the same in all cases. The Madras office is organised to make direct sales to the dealers of untested material. The Lahore office negotiates business for supply of material direct with the Railways and Government Offices and also looks after the working of the Merchant Houses for the sale of untested material to the bazaars in the Punjab and the United Provinces. The Bombay Office conducts sales through Merchant Houses for the distribution of steel material in the Bombay Presidency. Cawnpore and Secunderabad offices look after the despatch of material from the stockyards but conduct no direct sales. In addition, all the branch offices carry out the necessary inspection of material, investigate dealers' complaints and generally report on the condition of the market.

2. The sales of the Steel Company may be divided into three classes :—

- (i) Sales for export,
- (ii) Sales to Government, Railways and engineering firms,
- and (iii) Sales to dealers.

Sales for export consist mainly of pig iron, semi-finished steel and scrap. Sales of pig iron and semi-finished steel for export are made through agents either in India or in the countries of export. In the case of the sheet-bars sent to the United Kingdom under the Ottawa Agreement, the exports are made in accordance with the terms of the Agreement between the Steel Company and the British sheet-makers. Scrap is almost entirely exported to Japan through three or four recognised firms trading with Japan.

3. Sales to Government, Railways and engineering firms are confined mainly to tested material and are made direct to the consumers. Certain recognised engineering firms are, however, accepted as stockists who buy tested material in large quantities and keep it in their yards for sale in small lots. The price quoted to such engineering firms for materials for stock is lower than the prevailing price, to enable them to meet the stockyard expenses and leave a small margin for profit.

4. The rest of the sales, which are mainly of untested material, are made to the bazaar and are distributed to a large number of dealers direct or through merchant houses or agents. In the earlier years of the Company the greater part of its products were taken by the Railways and engineering firms and the sales arrangements at the time were, therefore, of a comparatively simple nature. With the increase in the tonnage produced by the Company and the progressive diminution in recent years of rail orders, the proportion of the Company's total output sold as tested material to the Railways and engineering firms has been considerably reduced and a very large proportion of the Company's products has to be disposed of in the bazaar in untested quality. It is the sale of these products which gives rise to difficulties and takes up the greater part of the time of the Sales Department. As will be seen from the later portion of this note, the methods of sale of untested material are not uniform but vary not only from area to area but also within the same area. They have been evolved as a result of experience and are such as to suit the different conditions in the different parts of the country. The object is to sell the Company's

products on the best possible terms without causing hardship or injustice to the consumers. The encouragement of subsidiary industries relying upon Indian steel has always been kept in mind. The methods of sale described below may undergo further alteration if conditions alter and further experience shows the advisability of changes in any direction.

5. As stated before, the sales to the bazaar or the general market are made to the dealers direct or through the merchant houses or agents. A dealer may be defined as a person who owns a shop or a godown where iron and steel materials are kept for disposal to the actual consumers. Before 1931, the greater part of the sales to the dealers were made through agents who had virtually a monopoly for the sale of the Company's products in certain specified areas. Dealers' orders were booked either through the agents or direct but the latter received a fixed commission on all orders booked by the Company from their areas. In the majority of cases, they did not even take the *del credere* risk. This system was modified in 1931 by the institution of merchant houses, in the first place, in the freight-advantage areas of the United Provinces and the Punjab. There were five merchant houses for these areas who purchased their requirements forward, for distribution in the areas, outright from the Company at their own risks and undertook the distribution through the dealers in such areas. The merchant houses were remunerated by a system of deferred commission varying with the proportion of the total tonnages booked by them in the course of a year. With experience, this system has been modified with the result that the merchant houses do not make large forward contracts any longer but all bookings of dealers in their areas are made through them and they are remunerated by deferred commissions on the total tonnages of the various kinds of materials booked by them, according to an agreed system. All credit risks are undertaken by the merchant houses. In Calcutta and Bombay certain materials are sold outright to merchant houses who are responsible for their subsequent distribution to the dealers, but such merchant houses are not remunerated by a system of deferred commissions. The prices quoted to them are Rs. 3 per ton below the prices to the dealers, to compensate them for the expenses of distribution and the undertaking of the *del credere* risk.

6. In certain other areas such as Sind, Rajputana, Kashmir, Central Provinces, Hyderabad State and Burma, sole selling agents, who are paid commissions on the tonnages booked in those areas, are still retained. Most of these are backward or outlying areas which require development. Although this resembles the old area agency system existing before 1931, the agents take the *del credere* risk.

7. In the Madras Presidency and Bihar and for certain materials in Calcutta and Bombay, direct sales are made to dealers.

8. The various methods of sale in the different provinces of the country are briefly explained below. In the United Provinces and the Punjab the merchant house system explained in paragraph 5 prevails. Sales are conducted jointly by five merchant houses who are paid deferred commissions on a sliding scale in accordance with the gross bi-monthly tonnages of the different materials booked by them. The Steel Company issues price-lists for the materials from time to time and the merchant houses are to be guided by those prices in their sales to the dealers. The competition between the five merchant houses, which is very effective, prevents the raising of prices to the dealers. In the event of a combination of the merchant houses to increase prices unduly to the dealers, the Company is in a position to counteract the move by direct sales from their stockyards in the area, but such a contingency has never arisen hitherto. The branch sales office at Lahore supervises the conduct of business by the merchant houses and keeps in touch with the bazaar dealers to remedy any complaints which may arise. In this area the Lahore office also conducts direct sales to Railways, Military and other Government Departments. The inspection of material is carried out by the staff maintained for this purpose at the Lahore and Cawnpore offices. Stockyards are maintained near Lahore, in Jullunder, Cawnpore and Meerut. This territory being a freight-advantage area, it is necessary for the Company to maintain a thorough sales organisation, so that the largest possible sales are effected.

9. Sales for the Bombay Presidency and some of the adjoining Native States are conducted by the Bombay Sales Office through a number of merchants and distributors. The sale of bars, structural sections and plates is conducted through merchant houses who are required to book contracts for a definite tonnage for delivery during a specified period. The contracts are booked at about Rs. 3 per ton below the list prices at which the materials are sold by the merchants to the dealers, the Rs. 3 being the remuneration of the merchants for the expenses and risks of distribution. The sale of galvanized sheets and black sheets is made direct to dealers, subject of course to the minimum of a wagon load and also to a small variation of prices in accordance with the size of the tonnage.

10. Sales in Calcutta for Bengal and Assam are carried out by the Head Sales Office through merchant houses and also direct to dealers. Merchant Mill material is sold through two merchant houses who make outright forward contracts and undertake the expenditure and risks of distribution on terms similar to those for merchant houses in Bombay. Structural sections are similarly distributed through one merchant house. Galvanized sheets are sold direct, but such direct sales are not made unless a minimum tonnage, which may vary in accordance with the prevailing business conditions, is booked. Black sheets and plates are sold direct in any quantity up to a wagonload.

11. For Bihar all sales are made direct to dealers by the Head Sales Offices in Calcutta.

12. For Sind, Rajputana, Kashmir, Central Provinces, Hyderabad State, and Burma, sales of all materials are made through sole selling agents who are paid a fixed commission on the tonnages booked for the expenses of distribution, canvassing, *del credere* risk, etc.

13. During the last year, an experiment in making direct sales to dealers has been tried for the Madras Presidency and has proved successful. *Del credere* risks are covered by the appointment of a guarantee broker who is paid a commission of As. 12 per ton.

14. The prices of the Steel Company for all untested materials are based on import prices and are fixed in competition with the prices quoted by the Continental Works. Cables are received by the Head Sales Office from London giving the average market prices quoted by the various trade journals. A special market reporter retained by the Steel Company in London also sends a weekly report giving his opinion on the trend of prices. After taking these reports and the prevailing local conditions as regards stocks, etc., into account, prices are fixed by the Sales Manager, in consultation with the Agents whenever necessary. Price-lists are issued from time to time and are supplied to all merchants and dealers. The principle observed in fixing prices is that at the ports the materials of the Steel Company will be available to dealers at their shops or godowns at or a little below the prices at which Continental materials are similarly available. In the markets where the Company has a freight advantage, the prices to the dealers are decreased by Rs. 3 below the prices at which material can be delivered in those markets from the nearest ports. This difference is maintained in order to prevent Continental material or even the Steel Company's materials from being sent from the ports to the freight-advantage areas, thereby depriving the Company of the freight advantage which has hitherto been substantial, particularly in areas like the United Provinces and the Punjab.

15. Although this is the main principle observed in the fixing of prices, variations have to be made frequently in order to meet the prevailing business conditions. Continental prices are generally for forward delivery some months ahead. Merchants and dealers are unwilling to follow a paper rise in Continental prices unless there is a likelihood of the upward trend of the market being maintained for some length of time. When Continental prices are put up as a result of the establishment of a cartel, there are always certain parties who stand out of the cartel and are prepared to underquote prices. Apart from these considerations, the Steel Company makes supplies of steel at concession rates to the various growing industries which in many instances mean a substantial sacrifice of the Steel Company's profits.

16. In the case of tested materials, prices are fixed in competition with the prices prevailing in England for British standard materials. These prices have remained steady for a long time. It is open to any user of tested material to purchase his requirements direct from the Company, but in practice the business in Calcutta is mainly confined to four engineering firms, who stock quantities of this material for distribution. In such cases a substantial reduction, as compared with British standard prices, is made to pay for stocking charges, etc. In the case of large orders, such as for bridges, competition from outside firms is so severe that the ordinary quoted prices cannot be adhered to and the Steel Company has to quote much lower prices to enable the business to be kept in the country. When quotations are required for tested steel for works in outlying parts of the country where the Company has a freight disadvantage, *e.g.*, Madras, the material, though supplied to engineering firms in Calcutta, has to be quoted to them so as to enable them to compete with British fabricated material which can be delivered at the site of works from the nearest port. That is, the freight disadvantage has to be borne by the Steel Company. For wagon orders, it has been the policy of the Company to quote a price for tested material which is much below the proper price in order to assist the wagon building industry. Similar concessions are being made to all growing industries as, for instance, in the case of the tank plates.

17. The sulphate of ammonia produced by the Steel Company is sold through the British Sulphate of Ammonia Federation. The question of the Indian producers arriving at an independent selling arrangement is now under consideration.

18. The sale of pig iron is conducted in co-operation with other pig iron producing companies. The Steel Company is, however, mainly interested in the production of basic iron for which it has maintained a very low selling price for a long time past. Such iron has been found suitable by foundries for their purposes. The current prices for such iron are Rs. 28 per ton for machine cast and Rs. 29 for sand cast.

19. For higher grades of foundry iron, prices are fixed in consultation with the other companies, but the quantity of foundry iron of higher grades sold by the Steel Company is small as compared with the quantity sold by the other companies, being mainly surplus to the foundry requirements of the Steel Company itself.

20. The Steel Company maintains stockyards in or near the following towns:—

Bombay
Calcutta
Nagpur
Lahore
Cawnpore
Jullunder
Madras
Meerut
Secunderabad
Vizianagram
and Bangalore.

The stockyards at Meerut and Bangalore will be closed down in the near future. It has, however, been decided to open new stockyards at Hathras and Sabarmati. These stockyards are established partly for the purpose of enabling the Company to take advantage of the special freights for full wagonloads in connection with the supply to small buyers near the stockyards who cannot take full wagonloads and partly to take advantage of special station-to-station rates at freights lower than those prevailing from Tatanagr to intermediate stations. From these centres, the material is re-distributed in small lots.

21. The Steel Company formerly maintained depots in a number of small towns; these have now been closed with the exception of the depot in Ranchi. These

depots were for the purpose of supplying material on consignment account to large merchants.

22. The prices at which the materials are sold from the stockyards and from the remaining depot are regulated by the Head Sales Office and the Company reserves the right to sell from them direct to dealers. These arrangements, in conjunction with the issue of price lists to dealers as well as to merchants, serve as a check on the exaction of unduly high prices by intermediaries. As such, they are not in favour with some of the merchants and dealers in the Company's materials, but the Company considers them necessary in the interests of the consumers.

23. In order to maintain closer touch with the large number of dealers in iron and steel throughout the country, the Steel Company devised a scheme whereby a special rebate was allowed on the purchases of each particular dealer, provided he confined his business to the Steel Company for the sections rolled by the Company. Permission may however be obtained from the Company by any of the dealers for buying material manufactured by the Steel Company, imported or otherwise. The Steel Company has given such permission freely whenever it has not been able to meet the demand. The dealers are at liberty to deal in any articles not manufactured by the Steel Company. The rebate granted to the dealers under this scheme is Rs. 2 per ton and it is paid at the end of 12 months from the date it is earned. That this is not an insignificant concession will be seen from the facts that the total amount accrued as Tata dealers' rebate on orders booked during 1932-33 came to over Rs. 2,27,000, and that there is very keen competition among dealers throughout the country to be enrolled as Tata dealers under the scheme. It is partly as a result of this scheme that the Steel Company has been enabled to increase the manufacture and sale of untested material to the extent to which it has done during the last two or three years, to make up for the fall in demand for tested material. The Steel Company has always considered it its duty to protect the interests of the dealers. The dealers are encouraged to come into direct touch with the officers of the Sales Department and to place before them any grievances they may have or any proposals they may desire to make in regard to the distribution arrangements. These representations are always taken into account whenever any new arrangements for the distribution of steel in the various centres are made. This contact between the Steel Company and the dealers in the country through the rebate scheme has proved most beneficial both to the dealers and the Steel Company.

24. The arrangement for the sale of such scrap and defective material as is exported out of the country (which consists mainly of heavy melting scrap) has been described in paragraph 2. With regard to such scrap as is used in the country a system of sales by means of tenders from customers throughout the country has been established. The Company gives concession rates and maintains a continuous supply of material to a large number of industries which depend upon the use of cheap scrap for their raw material. This has resulted in the establishment of several industries like bucket and trunk making in a flourishing condition and has practically driven out of the market imported articles of the kind now manufactured in the country.

MEMORANDUM 19.

Sale of Indian Pig Iron in the United Kingdom under the Ottawa Agreement.

At the Ottawa Conference of 1932 it was agreed between the Delegations of the British Government and the Indian Government that Indian pig iron and steel would be allowed to enter the United Kingdom free of duty if a satisfactory arrangement were made about the tariff treatment of galvanized sheets imported into India, the whole arrangement being subject to a proviso that each Government remained at liberty to take appropriate measures to prevent sales at unfair prices by the manufacturers in the other country. A few months previously, a duty at the rate of 33½ per cent. had been instituted for pig iron entering the United Kingdom from countries outside the Empire. By the autumn of 1932 this duty had effectively

excluded foreign iron from the United Kingdom market and it therefore appeared both to the British and to the Indian producers of pig iron that it might be practicable to arrange for some regulation of the supply of iron to the United Kingdom market.

2. Negotiations between both groups of producers ultimately led to the following arrangements which took effect from 1st November 1932. The sales of foundry iron in the United Kingdom by all makers were to be so regulated as to allow 30,000 tons of Indian iron of these grades to be put on the United Kingdom market per year. As it was further arranged between the Tata Iron and Steel Company and the other Indian producers that this iron should be supplied by these other Companies and that the sales of Indian basic iron (which will be referred to in the next paragraph) would be reserved for the Tata Company, this Memorandum does not deal further with the supply of foundry iron.

3. For basic iron, the arrangement was based on the volume of purchases by the "free market" in the United Kingdom, i.e., by consuming firms from financially separate firms. The free market thus excludes supplies from blast furnaces to steel works belonging to the same Company even if in a different district. It was agreed that India would be allowed to supply 22½ per cent. of the requirements of this free market, subject to a minimum of 70,000 tons per year. The quota and the minimum quantity were fixed for the first 18 months, with power to either group to give six months' notice, at or after the end of the first 12 months, that it wished to negotiate for a change in the quota or minimum or to terminate the arrangement.

4. It was further agreed that all producers, both British and Indian should quote the same prices for basic pig iron delivered at the consumers' works in each of the several price areas into which the United Kingdom was divided for the purpose of the arrangement. If it became necessary to take any specific action to ensure compliance either with the quota or the minimum it would be necessary either to introduce a temporary price difference or for one group to stand off the market temporarily. During the first year of the arrangement, no such contingency has arisen.

5. No substantial complications have arisen during the first year of the working of this arrangement. The sales up to the 30th September 1933 (i.e., to the end of the first 11 months), together with the corresponding sales for the 12 months 1st November 1931 to 31st October 1932 for comparison are shown below :—

	Standard Basic only.		All grades.	
	1st Nov. 1931 to 31st Oct. 1932.	1st Nov. 1932 to 30th Sept. 1933.	1st Nov. 1931 to 31st Oct. 1932.	1st Nov. 1932 to 30th Sept. 1933.
Tonnage booked	47,717	66,200	62,812	68,825
Average net price f.o.r. Tata-nagar.	Rs. 20.1	Rs. 20.3	Rs. 19.7	Rs. 20.3

The net price is arrived at after debiting all rail and sea freights, insurance, port dues, etc., and commission to the Company's agents in England.

6. The average works cost of basic pig iron during the above period, including the cost of operating and maintaining the casting-machine, net loss by scrap, cost of putting into and taking out of stock and of transporting to Tatanagar station and less the excess provisions in costs was approximately as follows :—

	Rs. per ton.
November 1931 to October 1932	21.3
November 1932 to September 1933	19.6

It will also be realised that the manufacture of iron for sale, by increasing the quantity over which many of the general items of expense are spread, reduces the cost of the iron made for the Company's own consumption. Thus the benefit to the Company arising from the sale of iron is somewhat greater than the difference between the costs shown earlier in this paragraph and the net receipts.

7. As far as can be ascertained at the time of preparation of this Memorandum, the sale of iron during the 12 months commencing 1st November 1932 will be very slightly above the stipulated percentage of the free market for basic iron in the United Kingdom and will comply with the minimum agreed to. The quantity sold is also higher than that for the previous 12 months. The increase in the net price to the Company has been very small, but it is reasonable to presume that if the agreement had not been made, the continuance of competition would have led to a further fall in prices or smaller sales at the average price which was actually obtained. The net profit per ton on the works costs was about Rs. 0.7, but a higher figure would result if the benefit due to the cost of production of other iron were brought into account.

MEMORANDUM 20.

Conversion of Indian Sheet-bar into Galvanized Sheet in the United Kingdom under Arrangement resulting from Ottawa Agreement.

The arrangement is based on the recommendation of the Indian Delegation to Ottawa, which was subsequently ratified by the Indian Legislature. With effect from 1st January 1933, the duty on galvanized sheets entering India has been Rs. 83 per ton if the sheets are of non-British origin, Rs. 53 if the sheets are rolled in the United Kingdom from non-Indian bars and Rs. 30 if rolled there from Indian bars. In order to make effective use of the reduction of the duty for sheets rolled from Indian bars, the Company entered into an agreement, of which copies have been supplied to the Tariff Board, with the Oriental Steel Co., Ltd., of London, representing the British producers of galvanized sheets. The agreement provides that the British manufacturers are to use Indian steel as far as possible for the manufacture of galvanized sheets for India, subject to a monthly maximum, and the tonnage of sheets exported to India from Great Britain is to be regulated according to the Company's estimate of the Indian demand. Within certain limits laid down by the Ottawa Delegation and approved by the Legislature, the prices of sheets made from Indian bars are to be regulated by the Company and those of purely British Sheets by mutual agreement between the Company and the British sheet-makers, subject to a specified minimum. The agreement terminates on March 31st, 1934, in order that the Board may have free scope to deal with protection on galvanized sheet manufacture in such way as it considers best. It has recently been proposed that, if the period of the operation of the existing duties is prolonged, the period of this agreement will be correspondingly prolonged.

2. The Company began to despatch bar to the United Kingdom under this agreement in December 1932. The first sales of sheets made from these bars came into the Company's accounts in March; and by the end of August the Company had been credited with the receipts from sheets corresponding with just over 7,600 tons of bars. These transactions showed an average profit of Rs. 10.5 per ton of bars, when the works costs of the bars were adjusted as shown in paragraph 42 of the Company's Representation. Owing to the recent reduction in the works cost of bars it is anticipated that, on the total quantity of 36,000 tons of bars already sent or to be sent to the United Kingdom for conversion into sheets for arrival in India before the end of March 1934, the average profit on the above basis will be about Rs. 11.5 per ton of bars.

3. The above quantity of bars will be produced within a period of less than 12 months. This additional output has contributed to the reduction of costs of all other steel; to that extent, the benefit to the Company from the arrangement is

greater than the direct profit of Rs. 11.5 per ton of bar. It would be difficult to make a close estimate of the amount of this benefit, but even if regard is paid only to the share which this steel bears of the "General Works Expense" (the total expenditure against which has not been increased as a consequence of this output) it is found that the net extra cost to the Company is less by about Rs. 2.5 per ton than the cost sheet figures taken into the calculations in the previous paragraph. The works profit to the Company on these bars should thus be at least Rs. 14 per ton.

4. Against this, however, must be set the cost of interest on the capital locked up in bars in transit to England in storage there and in process of manufacture. During the first nine months of the operation of the account, the total interest charge was equivalent to about Rs. 26,000; if this is borne only by the 7,600 tons of bars converted and finally accounted for during the period, the charge is equivalent to Rs. 3.4 per ton. Over a longer period, the average charge would be lower, but it is not assumed to be less than Rs. 3 per ton for the whole period up to March 1934.

5. It is therefore estimated that for the period ending March 1934 the profit to the Company on the supply of bars should be at least Rs. 11 per ton on 36,000 tons, i.e., a total of Rs. 4 lakhs. This, however, is not net profit, for the introduction of the new arrangement led to a serious disturbance of the market for galvanized sheets in India. In September 1932 it began to be anticipated by dealers in India that duties would be reduced and buyers, in the Calcutta market in particular, began to hold off the market; this naturally depressed prices. It was essential that the Company should dispose of the largest possible proportion of its output as it was produced and sales had to be made at the lower prices or at the previous prices subject to a fall clause. Although the arrangement itself as concluded between the Company and the British producers was such as to prevent even purely British sheets from being sold below the agreed basis of Rs. 215 per ton landed at Indian ports (subject to increase if the price of spelter rose, as in fact it did) the control of prices could not be applied to the large quantity of sheets previously sold to Indian buyers but not actually delivered in India or cleared from bond prior to 1st January 1933.

6. For these reasons the introduction of the new arrangement unavoidably led to a loss to the Company due to the reduction of prices. This effect was felt for a period of about six months; it was mitigated to some extent by a subsidiary arrangement which the Company was able to make in respect of about one-third of the sheets previously sold for the Indian market by British producers. The aggregate effect cannot be estimated precisely, but a scrutiny of the quantities sold and of the prices indicates that the net loss to the Company due to this disturbance of the market and to the factor referred to in paragraph 10 (so far as it operated up to the end of March 1933) may have been as much as Rs. 1½ to Rs. 1½ lakhs.

7. On the whole, therefore, the arrangement cannot be estimated to have benefited the Company by more than Rs. 2½ lakhs if it terminates in March 1934. If, however, the arrangement continues until September 1934, the Company expects, as far as can be foreseen at present, to be able to supply a further 15,000 to 20,000 tons of bars. The average works cost will be lower than the average for the 36,000 tons already sent or arranged to be sent and it is estimated that the total works profit will be about Rs. 15.5 per ton on this additional quantity. The incidence of interest charges should be somewhat less per ton for the additional quantity and the net profit will probably be nearly Rs. 13 per ton. It may be estimated that, if the arrangement continues for further six months, the additional benefit to the Company will be between Rs. 2 and 2½ lakhs, according to the quantity of bars which it is found possible to despatch. This would bring the total profit to about Rs. 4½ or 5 lakhs.

8. The above estimates are made on the assumption that the freight rates paid by the Company for raw materials brought into the Works and products despatched remain as they were prior to 30th June 1933. If, however, the rates now under discussion are enforced with effect from that date, the Company's expenditure

on all bars despatched from July onwards will be much higher than has been assumed in the above calculations and the benefit of the arrangement to the Company will be correspondingly reduced. The extra expenditure on this account would be practically Rs. 1 lakh for the quantity of bars required if the arrangement terminates in March and Rs. 2 lakhs if the arrangement continues until September. Thus, if the proposed higher freight rates are levied, the net benefit to the Company of the arrangement would be only about Rs. 1½ lakhs if it terminated in March and about Rs. 2½ lakhs if it terminated in September 1934.

9. The effect on the market of the reduction of duties which has been referred to in paragraph 5 above affords a definite illustration of the contention put forward by the Company in paragraph 110 of its Representation that it is important to avoid large reductions of duty at a single stage. It has also been necessary, in the formation of estimates of the quantity of bar which can be supplied under this arrangement, to take into account the probable temporary reduction of buying by the market for a short period before the present duties terminate, if it appears to the market that a substantial reduction of the duty is probable.

10. The calculations in the previous paragraphs do not take into account an important fact, namely, that in accordance with paragraph 82 (3) of the Report of the Indian Delegation to the Ottawa Conference the basic landed price at ports was fixed at Rs. 215 per ton, subject to a rise in the price of spelter (paragraph 84 of the Report), whereas actually the basic price prevailing during the first half of 1932 was about Rs. 8 per ton higher and it is quite possible that prices might have risen still further during the latter part of 1932 owing to the accentuated weakness of the sterling exchange during the period. The effect of this reduction of the base price up to March 1933 is included with that due to the disturbance of the market in the estimated loss of Rs. 1½ to Rs. 1½ lakhs set out at the end of paragraph 6. The effect will, however, apply to the Company's output of sheets at Jamshedpur for the remaining period of the agreement. This output up to the end of March 1934 is estimated at about 65,000 tons. Even assuming the reduction in the basic price at no higher figure than Rs. 5 per ton, the estimated loss to the Company on this account would be Rs. 3-25 lakhs. If the agreement is extended for a further period of six months, the further loss on the same basis would be Rs. 75,000 to Rs. 1,00,000. As against this, however, the countervailing factor of the increased stability of the market resulting from the arrangement has to be set off. This, among other factors, has enabled the Company to obtain net realisations which are closer to the import prices than were possible in the preceding year. It is not possible to say with any degree of precision to what extent this factor has counter-balanced the disadvantage to the Company caused by the lowering of the basic price.

11. On a general review of the agreement it may be stated that it has been found somewhat difficult to work in practice and has not fully come up to expectations in several respects. It was anticipated that the entire Indian demand would be met from sheets made at Jamshedpur and sheets rolled in the United Kingdom from our bars up to a maximum of 7,000 tons per month. Actually however, the despatch of bars to the United Kingdom will average about 2,500 tons per month for the period ending 31st March 1934 and a substantial part of the Indian demand has been met by sheets made from British bars. Over 6,000 tons of foreign sheets, mainly Belgian, have also been imported into India so far during the period of the agreement. Not only has it not been possible for the United Kingdom to take Indian bars for the rolling of sheets thinner than 26 gauge, but even for 24 and 26 gauges it has not been found possible to utilise Indian bars for all the requirements of the British manufacturers. This, combined with the fact that a large quantity of purely British sheets was imported in anticipation of the Agreement and during the first three months of the Agreement before sheets made from Indian bars could arrive in India, was resulted in a substantial reduction in the tonnage of Indian bars despatched under the Agreement. It was also anticipated that the Company would have full control over the distribution of sheets made in Jamshedpur as well as those made in the United Kingdom from our bars and thus be able to ensure the

best realisations with the least freight disadvantage to the Company. It has not, however, been found possible in practice to control satisfactorily the distribution of sheets made in the United Kingdom from our bars. It may be concluded that the Agreement has resulted in the financial benefit summarised in paragraph 7 above, provided that the hypothetical factor of the reduction in the basic price is not taken into account, and that freight rates are not raised (paragraph 9).

MEMORANDUM 21.

Proportion of Capital Expenditure incurred in India.

In paragraph 64 of the Report of the 1926 Enquiry, the Board set out the method by which it estimated the then value of the Company's fixed assets (excluding collieries). The Board sub-divided the total valuation of Rs. 15 crores, which had been made in 1923, into two groups, namely, expenditure in India and other expenditure, the latter being referred to as "the price of machinery and steel." In the opinion of the Company the Board correctly assumed that expenditure in India was "little affected by foreign prices and need not be written down." The remaining expenditure was, however, written down by 20 per cent. of the rupee value on account of the rise in the exchange value of the rupee between 1923 and 1926 and of the fall in the sterling price of steelworks machinery.

2. The result of such a method of revaluation will obviously be greatly affected by the proportion which each of the two groups of expenditure bears to the whole. In 1926 the Board assumed that of the total of Rs. 15 crores, only Rs. 3 crores represented expenditure in India and the remaining Rs. 12 crores represented external expenditure which was subject to a writing down of 20 per cent. The Company has now submitted, in paragraph 54 of its 1933 Representation, that instead of only one-fifth of the total block value being regarded as local expenditure, two-fifths should be so regarded. On this basis, the 1923 valuation should have been taken as containing Rs. 6 crores for expenditure in India which need not be written down and Rs. 9 crores as external expenditure subject to a writing down of 20 per cent. by 1926. The result of the Board's revaluation in 1926 would then have been a total block value of Rs. 13.2 crores instead of only 12.5 crores.

3. The figures in the Annexure to this Memorandum show, for each year from 1926-27 to 1932-33, the expenditure on block account at the Jamshedpur Works sub-divided into expenditure in India and expenditure on imported materials. It will be seen that of a total expenditure of over Rs. 2½ crores in the Works alone, slightly over half has been incurred in India and slightly less than half represents the c.i.f. price of material imported either direct by the Company or through agents in India of foreign suppliers.

4. It has not been found practicable to make a similar analysis of the block expenditure from the foundation of the Company, but it is probable that the ratio of local expenditure to the total was at least as high in the early years as in the last seven years, during which there has been no expenditure on the acquisition of land and during which capital expenditure on levelling of sites, railway tracks, etc. has been proportionately less than in the earlier stages of development of the Works. It will also be realised that capital expenditure outside the Works (on the Town, Ore Mines, etc.) is to an even greater extent of a local nature than that in the Works.

5. It would therefore be justifiable for the Company to contend that appreciably more than half of its block expenditure has been incurred in India. It may be that some small porportion of this expenditure represents the cost of materials used or supplied by contractors which were imported or of which the prices fluctuated more or less with the prices of imported materials. There is, however, little room to doubt that the Company's submission that two-fifths of its total block represents expenditure in India is rather an under-estimate than an over-estimate.

ANNEXURE TO MEMORANDUM 21.

New Capital Expenditure in Jamshedpur Works.

Year.	Total Capital Expenditure.	C.I.F. Price of materials, etc. imported direct or through Agents.	Difference being expenditure in India.	Percentage of imports to total.	Percentage of expenditure in India to total.
	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.		
1926-27 . . .	20.4	4.4	16.0	21.4	78.6
1927-28 . . .	34.4	12.2	22.2	35.5	64.5
1928-29 . . .	82.4	53.4	29.0	64.8	35.2
1929-30 . . .	34.1	16.5	17.6	48.5	51.5
1930-31 . . .	20.3	13.1	7.2	64.3	35.7
1931-32 . . .	22.9	8.0	14.9	34.8	65.2
1932-33 . . .	44.1	15.0	29.1	33.9	66.1
Total . . .	253.6	122.6	136.0	47.4	52.6

MEMORANDUM 22.

Changes in Administrative Organisation.

Until the death of Mr. R. D. Tata in the autumn of 1926 the Company was administered from the Head Office, under the supervision of the Board of Directors, by him with the help of another director of the Agents' firm. After Mr. Tata's death, the present Chairman of the Steel Company and of the Agents' firm took a more active part in the administration of the Company, and since the end of 1929 he has exercised the functions formerly exercised by Mr. R. D. Tata. In 1930 a Chief Technical Adviser was added to the Head Office organisation (by transfer from Jamshedpur) and early in 1931, when one of the active directors of the Agents' firm retired, his place in the controlling organisation at the Head Office was filled by another director. There has been no subsequent change. The organisation at the Head Office is thus similar to that existing in 1926 except that a Technical Adviser has been added.

2. During recent years the difficulty of adequately controlling the affairs of the Company from Bombay only became increasingly clear. In 1931, therefore, the Agents' firm established an office in Calcutta in charge of a director of the firm who was specially appointed for this work and who devotes his whole time to the business of the Steel Company. The Agents are now in a position to maintain much closer contact than was previously possible with the Jamshedpur Works, the Sales Department, the ore mines, collieries, etc. and also with the Company's most important business connections. The director in Calcutta makes frequent visits to the Works and to Bombay and, as occasion arises, representatives of the Agents' firm visit the Works and Calcutta. All parts of the Company's activities are thus closely linked by frequent direct contact within the Agents' organisation and between that organisation and the heads of the various branches of the Company's work on the one side and the Company's external connections on the other side.

3. There has been no essential change since 1926 in the nature of the central organisation at the Works itself. As has been pointed out in paragraph 115 of the Company's Representation, new technical departments have been established and the activities of others extended; and the works' organization has been improved by the setting up of internal committees to scrutinise efficiency and economy. In

1929, the Company's collieries, which had previously been administered by a firm of Managing Agents, were brought under the direct control and administration of the Company.

4. During the last two years the control of the administration of the Town has been substantially re-organised. In 1926 the control was exercised by a Chief Town Engineer and Administrator under the direct supervision of the General Manager. The new organisation closely resembles that of a large municipality; the principal officer (designated Chief Town Administrator) exercises functions similar to those of the Chief Executive Officer of a municipality, supervising and co-ordinating the departments responsible for Town engineering, medical work, public health, markets, lands and estates, etc. The Town Department is under the control of the Agents' Office, Calcutta, in close co-ordination with the General Manager on all matters affecting the Company's employees living in the Town. The capital and revenue budgets of the Town have been re-modelled on lines similar to those of large municipalities.

5. The present organisation of the Sales Department is fully described in Memorandum 18. In 1926 the headquarters of the Department was in Jamshedpur, but in 1928 it was removed to Calcutta in order that closer contact might be maintained with the chief markets; this had become essential in consequence of rapid increase in the quantity of material which had to be sold to consumers other than the Railways. The Department is organised in sections dealing with particular products or groups of products. The branch offices referred to in Memorandum 18 have been set up at intervals since 1929 and the stockyards at intervals since 1927. The stockyards were at first managed by other firms, under the control of the Company, but, except at two of the yards, the management is now exercised directly by the Company's Sales Department. The very large increase in the number of sales transactions has necessitated an increase in the staff of the Head Sales Office from about 40 in 1926 to nearly 100 at present. The direct contact between the Department and its customers has steadily increased, partly as a result of more touring by the principal officers of the Department and partly by the establishment of the branch offices in various parts of India.

6. In 1926 the Company's purchases of stores, etc. were made by the Accounts Department in Jamshedpur and of engineering equipment by the Works Engineering Department. In the following year, however, a separate Purchasing Department was re-established which now makes all purchases on behalf of the Company, not only for Jamshedpur but also for the ore-mines and the collieries. The headquarters of the Department is at Jamshedpur and increasingly close contact is maintained with the Store-keeping Department and with the heads of the departments in which the stores, etc. are used. All requisitions for stores have to be passed by the Retrenchment Committee before purchases can be made and an improved system of records has been set up to avoid the holding of excessive stocks. Practically all purchases are now made on the competitive tender system. The working of the Purchasing Department is actually supervised by the Agents' Office in Calcutta.

MEMORANDUM 23.

Working Capital.

The figures in the Annexure to this Memorandum indicate as closely as is practicable the working capital actually employed by the Company during the last eight years in connection with the production of steel. As far as possible, the finance required for the surplus pig iron made each year has been eliminated from the figures.

2. The figures for the stocks of raw materials and products at Jamshedpur represent the average monthly stocks at cost price or at works cost. Stocks of pig iron and of materials required for the make of surplus iron have been excluded; a small reduction has also been made from the cost of steel in stock on account of excess provisions in costs.

3. Against the other four heads of capital required and against "liabilities of the Company", the figures represent the position at 31st March each year, except that for 1932-33 the value for sheet-bar sent to the United Kingdom for re-rolling, the despatch of which commenced only in January 1933, has been averaged over the whole year. The value of the stocks of steel held elsewhere than Jamshedpur has been taken at works cost *plus* freight paid, less a small reduction for excess provision in work cost.

4. The value of stores and spares has been taken at cost and the total reduced by the proportion of works expenditure, on surplus iron to total works expenditure, in order that the figure shown may represent the cost of stores, etc. required for the manufacture of steel. With the same object the amount of the debts owing to the Company, etc. has been slightly reduced and the remaining amount of the debts only has been reduced by one-quarter in order that the figure shown may as nearly as practicable correspond only to the cost *plus* freight on the material. The liabilities of the Company have been reduced by an adjustment of the liabilities for goods supplied, wages, etc. on account of surplus iron.

5. Over the whole period, the working capital calculated in the way indicated above in use has represented the cost of six months' output of steel. The Company's request in paragraph 61 of its Representation, that the allowance for interest on working capital should be made on this basis, is thus shown to be supported by the actual results of the last eight years.

ANNEXURE TO MEMORANDUM 23.

Working Capital for production of Steel (Rs. lakhs).

	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.
Stocks of raw material and products at Jamshedpur.	60.4	61.9	63.2	51.9	56.6	77.0	80.0	72.0
Stocks of steel held elsewhere than Jamshedpur.	4.2	5.8	9.4	18.4	25.0	26.9	31.5	29.5
Stocks of raw materials at Ore Mines.	2.1	1.8	0.9	0.9	1.1	1.4	1.3	1.3
Stocks of stores and spares at Jamshedpur and Ore Mines.	111.6	111.0	99.6	94.8	90.0	83.5	70.6	76.6
Debts owing to Company, advances, cash, etc.	89.7	98.5	93.7	67.4	64.0	80.8	56.6	61.9
Total	268.0	279.0	266.8	233.4	236.7	269.6	240.0	241.3
Liabilities of Company	109.6	107.0	130.4	86.1	80.5	66.2	61.5	52.8
Net Total	158.4	172.0	136.4	147.3	156.2	203.4	178.5	188.5
Cost of year's output of saleable steel on cost-sheet basis.	868	338	370	255	384	390	346	311
Output of saleable steel (tons thousands).	320	374	429	276	409	431	450	427

MEMORANDUM 24.

Supposed Error in Report of 1926 Enquiry.

In paragraph 78 of its Representation, the Company called attention to what appeared to be an accidental error in Table XVII of the 1926 Report, where the adjusted landed price (without duty) of Continental structural sections was stated as Rs. 86, although Table XVI shows the c.i.f. price of Continental beams as Rs. 77 and Rs. 6 was taken as representing landing charges, the total thus being Rs. 83.

2. It seems possible that a figure higher than Rs. 83 was used on the ground that the lighter Continental sections (mainly angles and tees) are sold on the same basis as bars, of which the landed price without duty in 1926 was taken as Rs. 90. There is no definite indication to this effect in the Report, but it may be presumed that this was done and that the proportion of beams to the total of sections was taken as four-sevenths, although paragraph 57 indicates that the proportion was two-thirds, which would give an average price of Rs. 85.

3. In its present Representation, the Company has, as is shown in paragraph 74, taken the price of medium and heavy sections as the basis of its calculations. A reference to Statement 6 will show that, although during the first half of 1933 the c.i.f. price of bars and light sections was about Rs. 3.5 above that of heavier sections, the average difference during the four years 1929-30 to 1932-33 was only about Rs. 1.4. This smaller difference is regarded as more representative of the circumstances with which the Company will have to deal. On this basis, an adjustment for the price of the lighter sections, forming about one-third of the whole, would have involved less than Re. 0.5 per ton. On the basis of the difference existing during the first half of 1933 the adjustment would have been Rs. 1.2 per ton.

MEMORANDUM 25.

Note on Representation of the (BRITISH) National Federation of Iron and Steel Manufacturers.

In paragraph 5 the Federation states that "United Kingdom prices throughout the whole period have been higher than those estimated by the Board"; and in paragraph 8 the Federation states its views about the prices of British steel during the past few years. These prices are higher than those set out by the Company in Statement 5. The Company is, however, still of the opinion that the prices in Statement 5 represent the terms on which actual business was done or could have been done during the years in question and that the prices quoted by the Federation do not correctly represent the conditions of actual business.

2. The prices stated by the Company are arrived at after a careful comparison of reports from the Company's London connections with the information supplied to the Company by buyers in India of tested steel whether British or Indian. The Company believes that statements recently submitted to the Board by merchant firms in India also show that the c.i.f. prices of British steel are lower than those referred to by the Federation. While it is believed that with certain modifications the Federation's prices correctly reflect the nominal quotations of the price controlling associations in the United Kingdom, the Company wishes to point out that certain firms in the United Kingdom are not members of these Associations, that the controlled prices do not necessarily apply to purchases of large quantities and that there is some elasticity in the quotation of prices for export.

3. The Federation in its paragraph 9 calls the attention of the Board to the question of extras. It is correct that the figures in the Company's Statement 5 do not include any allowance for extras on sections and bars. The Company's figures for plates and black sheets are however the prices believed to be prevailing for material of the definite thicknesses indicated in the Statement. It is also the opinion of the Company that extras are not invariably charged in export business from the United Kingdom. It may further be pointed out that the net realisations for tested steel as set out in Statements 27 and 29 of the Company's Representation include the receipts from extras where it has been possible for the Company to charge these extras. There is therefore no omission under this head in the Company's presentation of its case. If the effect of extras actually charged were eliminated from the figures in Statements 27 and 29 in order to show the net realisations for basis material only, the difference not accounted for would be somewhat increased and the Company would therefore have had to ask for some extra allowances than those referred to in paragraph 93 under this head while setting off against

this the small average receipts on account of extras. Such a calculation would merely complicate the presentation of the case without having any effect on the final result and would moreover be difficult, since the Company frequently finds it necessary for the mutual convenience of the fabricating firms in India and itself to quote a flat rate for all the material required for a bridge, for example, rather than to quote the basis rates *plus* the various extras.

4. Paragraph 6 of the Federation's representation suggests that the Federation is under the impression that the Company is using the fact that no new Works is established as "an argument for increased protection". The Company wishes to emphasise,—what will already be clear to the Board—that the Company's request is for decreased rather than for increased protection although it does consider that continued protection is necessary and that the desirability in the country's interests of the extension of the steel industry when practicable is a sound argument for the continuance of the protection.

5. The reference by the Federation in its paragraph 10 to the falling off in orders for rails in connection with the change in the proportion of tested to untested steel has apparently been made under a misapprehension. Paragraph 17 and Statements 14 and 16 of the Company's representation should make it clear that the changes of this kind which are dealt with concern only sections, bars, plates and black sheets.

6. The Federation submits in paragraph 12 that "the losses of the Tata Company have been over-estimated." The Company cannot accept this statement; but in the absence of the reasons for which it has been advanced, it is not in a position to controvert it except by a reference to the analyses of the losses already set out in Chapter III of the Company's Representation.

7. The Company has in its representation shown that some protection, even though relatively small, is still required by the Indian industry against British competition. It cannot therefore accept the suggestion of the Federation made in Paragraph 14 and elsewhere that Iron and Steel products of United Kingdom manufacture should be granted free entry into India nor does this seem to the Company to be a necessary corollary of free entry of Indian iron and steel into the United Kingdom since the present scheme of protection already differentiates substantially between the duties applicable to steel of United Kingdom origin and steel of other origin.

8. In paragraph 18 of its representation and elsewhere the Federation refers to desirability of co-operation between the Indian and United Kingdom producers possibly governed by geographical considerations. In the absence of detailed proposals the Company is not in a position to comment definitely on these suggestions and must confine itself for the present to pointing out that so long as the total demand for tested steel in India is as low as at present, it would be very difficult to arrange any such scheme which would be effective in practice and yet would not militate against the interests of the Indian industry which must necessarily be the prime consideration of any such proposals.

9. In its four appendices to the representation the Federation has made detailed proposals about changes in the Tariff Schedule. In so far as these changes aim at the admission entirely free of duty of all kinds of iron and steel at present protected, the Company is unable to agree to these proposals. The Company is not primarily concerned with the question of free entry or the rate of duty on kinds of steel which are not protected or for which protection in the future has not been asked but even though the Company might benefit by the removal of some of the duties it would not consider itself justified in supporting a request for the removal of non-protective duties as an accompaniment to the present re-examination of protection.

10. The possible effect of some of the proposed removals of duty, such as that on steel railway coaches and that on tubular poles, could be examined more competently by the Indian engineering firms than by the Company. Some of the proposals, for example that in connection with item 102(c) (Appendix 4A) are not in accordance with the Company's own suggestions for revisions of the Tariff Schedule. In these cases the Company adheres to the views which it has already formulated

and requests the Tariff Board not to adopt the suggestion of the Federation. To the extent to which the separate classifications requested in Appendix 4 (c) are required in order to give effect to entry free of duty the Company definitely opposes the proposals which bring such articles as under-frames, pick axes, etc. which are already made in India, within the category of articles on which the duty should be removed.

11. The Company wishes to express its recognition of the courtesy of the Federation in forwarding copies of the Representation on which these comments have been based.

MEMORANDUM 26.

Note on Representation of the (British) Sheet Makers' Conference.

One of the main proposals of the Conference is that the duty on galvanized sheets should be substantially reduced in the interests of the consumer and of the development of the market in India. The Company's Representation has shown that the Indian industry expects so to develop that a reduction of the duties on both black and galvanized sheets can safely be made. The suggestion by the Conference that the duties on non-British sheets should be left at their present high levels is not consistent with a claim to safeguard the interests of the consumer.

2. In paragraph 5 of its Representation the Conference expresses the view that the method by which the Company arrived at the c.i.f. prices of galvanized sheets which should be taken into account for calculating the duty required was arbitrary; and the Conference appears to have assumed that the price of black sheets was ascertained in the same way. The Company gave in paragraph 75 of its Representation the reasons for the adoption of the method in question for galvanized sheets and still considers that the method was reasonable. The prices given by the Company for black sheets were the actual prices prevailing in the first six months of 1933, so far as they could be ascertained. For comparison with the Company's prices, the Conference gives prices not only for the first six months of 1933 but also for subsequent dates; these subsequent prices are not relevant to the main argument of the Company on the matter of prices and would, in the Company's view, form an unsatisfactory basis for the consideration of the amount of protection likely to be required over a period of several years.

3. The comparison instituted by the Conference between the prices of black sheets as it states them and those stated by the Company is erroneous in that the Conference's prices are for 24 gauge sheets whereas those given by the Company are for sheets of 14 to 18 gauge, these being the normal gauges of black sheets required by the Indian market and produced in India. The Company's information indicates that the difference between the prices of British and Continental black sheets of 14 to 18 gauge was such larger than is stated by the Conference in its paragraph 6 for 24 gauge sheets.

4. The Conference contends in paragraph 7 that a duty of Rs. 15 per ton on British galvanized sheets would be sufficient to furnish adequate protection to the Indian industry. This figure is arrived at by assuming that the f.o.b. price of British sheets is £11-5-0 a level to which the Conference price has been brought only from September 20, 1933 and which the Company considers is too high, in view of its experience in recent years, to be taken as a reasonable basis for ascertaining the amount of protection required. If any period other than that suggested by the Company is to be taken as the basis of ascertainment of prices of imported materials it should be such a period as properly reflects the low level of prices prevailing during the last two or three years. The Company wishes to urge that it would be misleading and dangerous to select a period of relatively high prices only, since such prices may well prove to be only temporary.

5. The Conference further states that imported sheets must pay higher freights to inland destinations than those produced by the Company. This statement is relevant only if the freights referred to are those payable from Indian ports to destinations, but if this is intended the Company does not agree that the statement will be correct when the Company has to distribute from its Works the quantity of sheets provided for in its production programme. The Company has stated in paragraph 90 of its Representation that it expects to be at a disadvantage, so far as freights in India are concerned, of Rs. 5 per ton for galvanized sheets and Rs. 2 per ton for black sheets.

6. The Company submits that the reference by the Conference in paragraph 10 of its representation to the ratio of the allowance for overheads and profit to works costs could not be relevant to the consideration of the Company's case unless it were accompanied by reasoned argument. The manner in which the Company's claim for overhead and profit is arrived at is set out fully in Chapter V of the Company's representation and the Company is of opinion that a careful study of that Chapter and of the relevant figures in other paragraphs of the representation and in the 1926 Report of the Board would enable the Conference to resolve its difficulty in reconciling the figures with those of 1926.

7. In paragraph 8 of its representation the Conference suggests that differential duties as between British and non-British materials should be levied on both black and galvanized sheets, and in the following paragraph the Conference indicates that co-operation between the Indian producers and the Conference could be arranged which would "safeguard the Indian markets from unreasonable competition and secure the interests of the consumer." The suggestion of differential duties involves questions of policy which it is not the function of the Company to decide. The Company, however, wishes to emphasise that no system of duties or other arrangements would meet the requirements of the Indian industry if they did not definitely ensure that it would obtain average net realisations from all its sales equal to its fair selling price. Nor would any arrangement be acceptable which did not leave the Indian industry entirely free to expand to whatever extent might be commercially practicable from time to time.

MEMORANDUM 27.

Profit on Sale of High-Carbon Bars in the Punjab, 1933.

During the first half of 1933 the Company's dealers in the Punjab urged the Company to supply them with materials which they could sell at prices which would enable them to remain in active business in view of the very keen competition which they were experiencing from products re-rolled from scrap in small mills in the Punjab. This competition had been such as to affect seriously the sales of the Company's ordinary products in certain parts of that province and there was a definite prospect that the Company's dealers might be put out of business.

2. In order to maintain its dealers and to retain a connection with the market in the area affected, the Company decided to sell in that area bars rolled from ingots which had been produced for the manufacture of rails but which did not strictly comply in every detail with the requirements of the rail specification.

3. If these ingots had not been rolled into bars and the bars sold at the low prices which alone could be obtained for such material the Company would have found it necessary to re-melt the ingots, for which they would have obtained only a scrap value of approximately Rs. 19 per ton. The Company was therefore justified, when studying the financial results of the proposed transaction, in debiting these ingots to its mills at Rs. 19 per ton. The calculations set out in the annexure to this memorandum show that on this basis the net works cost to the Company of the bars produced from these ingots was under Rs. 36 per ton. The sales were made at prices which gave the Company net realisations f. o. r. Tatanagar of a little over Rs. 68 per ton. The transaction thus gave the Company a net works profit of over Rs. 32 per ton of bars.

4. It will thus be seen that the allegation that the Company met this competition by selling at a loss is entirely unjustified. On the contrary the Company made a substantial profit from the transaction. The Company's competitors in the area in question produce bars at relatively low costs by utilising a cheap material, namely, scrap, which is locally available. Similarly, the Company was able to produce on a perfectly fair competitive basis specially cheap bars of similar quality to that sold by its competitors by utilising material which but for this application would have had to be used as scrap. The Company submits therefore that the transaction was entirely sound and not in any way open to the objections put forward by its competitors.

ANNEXURE TO MEMORANDUM 27.

Calculation of Profit on high-carbon bars.

	Rs. per ton.
1. Average value for re-melting purposes of high-carbon ingots	19
2. Average cost of producing ingots April-July 1933	36.28
3. Saving by utilising high-carbon ingots instead of re-melting	17.28
4. Yield of bars from ingots April-July 1933	74.6 per cent.
5. Saving per ton bars : $17.28 \times 100/74.6$	= 23.16
	Rs. per ton.
6. Average cost of Merchant Mill bars April-June 1933 based on full cost of ingots Rs.	63.58
Less reductions as per paragraph 42 of the Representation Rs.	4.8
Net cost of bars based on full cost of ingots	58.78
7. Net works cost of high-carbon bars on basis of re-melting value of ingots: item 6 minus item 5	35.62
8. Average net realisations f.o.r. Tatanagar on sale of high-carbon bars in Punjab April to July 1933	68.18
9. Works profit per ton of bars sold: item 8 minus item 7	32.56

MEMORANDUM 28.

Effect of Increased Output on Incidence of standing charges in Works Costs.

In the period January to June, 1933, the production of saleable steel was at the rate of 466,000 tons. The future average production estimated by the Company (paragraph 33 of the Representation) is 530,000 tons—an increase of nearly 14 per cent. It is not estimated that this increase will involve any substantial addition to the expenditure on account of standing charges which form part of the works costs, except that, as is pointed out in paragraph 51, the cost of the Sales Department must be provided for, as this is not included in the overhead charges dealt with in Chapter VI.

2. The standing charges are covered, in the Company's costing system, by the cost sheet for "general works expenses". During the first half of 1933 the expenditure under this head was at the rate of Rs. 18½ lakhs per year. For the consideration of the future position, a sum of Rs. 4 lakhs must be added on account of Sales Department expenditure bringing the future total to Rs. 22½ lakhs. The incidence of standing charges will therefore be a little higher than that shown in the cost sheets for the first half of 1933. The annexure to this memorandum shows

the figures for each department and for each class of product, those for the first half of 1933 being as allocated in the cost sheets for that period and those for the future programme being allocated to the various departments in the same proportions as in October 1933, when the total production of saleable steel was at approximately the same rate as is estimated for the future.

3. It will be seen that the standing charges will remain at approximately the same levels as those taken into the costs of the first half of 1933. This is due to the necessity of bringing in the expenditure on the Sales Department.

ANNEXURE TO MEMORANDUM 28.

Incidence of General Works Expense in Costs.

(The figures below are progressive, i.e., they include incidence attaching to products brought in from previous departments as well as to the department itself.)

	Cost Sheets, January-June 1933.	Estimated for future programme.	Increase (+) or De- crease (-).
	Rs. per ton.	Rs. per ton.	Rs. per ton.
<i>A.—By departments.</i>			
Pig Iron	·45	·40	—·05
Open Hearth Ingots	1·85	2·22	+·37
Duplex Plant Ingots	1·47	1·35	—·12
New Blooming Mill	2·05	2·08	+·03
Sheet-bar and Billet Mill	2·46	2·56	+·10
New Rail Mill	3·57	3·49	—·08
Bar Mill	5·24	6·27	+1·03
Merchant Mill	3·61	3·82	+·21
Plate Mill	4·15	4·54	+·39
Black Sheets	5·73	3·29	—·44
Galvanized Plain Sheets	6·14	5·65	—·49
Galvanized Corrugated Sheets	6·26	5·75	—·51
Sleepers	3·11	3·11	Nil.
<i>B.—By products.</i>			
Rails	3·57	3·49	—·08
Fish-plates	5·24	6·27	+1·03
Structural Sections	3·64	3·63	—0·01
Bars	3·61	3·97	+0·36
Plates	4·15	4·54	+·39
Black Sheets	5·73	3·29	—·44
Galvanized Sheets	6·24	5·73	—·51
Sleepers	3·11	3·11	Nil.
Tin-bars	2·46	2·56	+·10
Other Semis	2·45	2·56	+·11

MEMORANDUM 29.

Changes in rates of freights during the period of Agreement with Bengal Nagpur Railway

In accordance with the provision in the 25-year agreement, under which the outward freights on finished products were to be at the lowest rates charged at the beginning of the agreement or such lower rates as might subsequently come into force, the rate on Sulphate of Ammonia, which had previously been $\frac{1}{8}$ th pie per maund-mile was reduced from 1st August 1928 to $\frac{1}{10}$ th pie. This was in consequence of a recommendation by the Royal Commission on Agriculture.

2. The Agreement of 1909 provided that $\frac{1}{10}$ th pie per maund per mile (with a minimum of 50 miles) would be charged for all raw materials, whereas a supplementary agreement of 16th December 1920 for iron ore from Sulaipat and Badam-

pahar required that the rate should be $\frac{1}{12}$ th pie per maund per mile, the minimum distance to be 43 miles.

3. According to the Agreement of 1909, the materials required for construction were charged at $\frac{1}{15}$ th pie per maund per mile, but the materials required for extensions were carried at $\frac{1}{10}$ th pie per maund per mile from 1st January 1917 to 30th June 1933 (with a gap from 1st January 1924 to 31st March 1927).

4. Fluorspar was charged at $\frac{1}{15}$ th pie per maund per mile from 1st April 1919 only. Prior to that date it had not been accepted by the B. N. Ry. as a raw material.

5. Certain changes in relation to terminal charges, etc., were made from time to time. For example :—

- (a) *Kidderpore Dock Terminal*.—The rate at the beginning of the agreement was $1\frac{1}{2}$ pies per maund payable to Port Commissioners. Out of this, one pie was recovered from the Company and the balance $\frac{1}{2}$ pie was paid by the Railway up to 15th January 1920 ; from 16th January 1920 the full charge was recovered from the Company.
- (b) *Ramkristapur Charges*.—Haulage charge of 2 pies per maund payable to E. I. Ry. was not recovered up to 15th January 1920 but from 16th January 1920 it was recovered from the Company.
- (c) *Distance for coal*.—Payment was based on the initial average distance of 117 miles from Jharriah coalfields although the actual distance was reduced about 10 years ago owing to the opening of new chord lines.

MEMORANDUM 30.

Note on the Supplementary Memorandum of the National Federation of Iron and Steel Manufacturers of 12th December 1933.

The Company agrees with the views of the Federation that any further scheme of protection should be judged by the encouragement it gives to the further development of Indian industries as well as by the effect on the existing industries and that the protection should give such security as will lead to the erection of new steelworks and the development of secondary industries using iron and steel products. It is, however, important that the scheme should not aim at the development of the secondary industries in such a way as in any degree to hamper the growth of the existing or future steel-producing industry itself.

2. The Company does not consider, as appears to be held by the Federation, that the parts of the industry which it has already taken up are necessarily the most profitable parts, since other branches of the industry can under like circumstances presumably be made as profitable as those on which the Steel Company has already embarked. The record of the first 10 years shows that the steel industry in India has been far from being adequately profitable. What is required now is such protection as will make the existing industry profitable. If such circumstances can be created the Company believes that other branches of the industry can similarly be made profitable and that the prospect of the erection of new steelworks in India need not be regarded as very remote if the general condition of the trade in the country so revives as to lead to a reasonably large demand for other products or to an excess of demand for the products already being made in India. If it can be correctly said that the Company has taken up the more profitable part of the industry it is only in so far as it has equipped itself for the manufacture of those products for which the demand in India is the largest. This is the natural course of initiation and growth of a new industry but it does not in any degree follow that the manufacture of other products for which there is a sufficient demand will not be equally profitable as India has now the benefit of the pioneering undertaken by the Company and of the general experience in steel manufacture which has been gained during the last 20 years.

3. The Company cannot see how the proposals made by the Federation in paragraphs 7 and 8 are necessarily consequential on the views expressed by the Federation in the previous paragraphs. In so far, however, as paragraphs 7 and 8 indicate a method, namely, Complementary Agreements which the Federation advances as consistent with the best interests of India, the Company wishes to make it clear that if any method could be devised by which co-operation could be ensured between the British industry and the Indian industry to the advantage of India and to the interests of the Indian industry both as it exists now and as it may develop in the future, it would be explore the possibilities. As subsequently shown the methods advocated at present by the Federation do not appear to be consistent with the interests of the industry or of the country.

4. In dealing with the question of security from unfair competition in paragraph 10 it expresses its preference for the method embodied in the Sheet agreement between the Indian and British industries over those suggested by the Company in paragraphs 112 and 113 of its representation. The Company does not consider that it would be practicable to apply to the large range of products covered by the industry as a whole and for a period of seven years the method which was devised in 1932 for a single product, namely, galvanized sheets, and for a period of less than two years. This method envisages the application of sanctions by Government in certain contingencies and is in the Company's opinion of too rigid a nature to be applicable to a large range of products and over a long period. The Company submits that the fundamental principle of safeguarding both the consumer and the producer is adequately covered by its proposals for an annual examination of prices and such revision of duties as may appear to be necessary on the results of such examination. Within the limits of such duties, however, the Indian industry should be free to produce and sell by ordinary commercial methods.

5. In paragraph 11 the Federation supports the right of the consumer to obtain his requirements at economic prices. The Company submits that its own requests in its representation are fully in accordance with this view and that the prices which it wishes to see established in India as a result of any new scheme of protection are no more than economic prices consistent with the sound development of the industry in India but the Company contends that any arrangement which would give the Indian industry less than the fair selling prices would seriously injure the industry and would not be in the real interests of the country.

6. The Federation assures the Board in its paragraph 12 that the British industry is able and willing to meet the whole requirements of India in untested as well as tested steel and its general proposals appear to be based on the assumption that untested steel from the United Kingdom should be put on the Indian market to the extent to which it is not from time to time being produced in India. This brings the whole proposals for differentiation of duties on to a new footing. The existing scheme bases the differentiation essential on quality and on the desirability in India's interests of keeping the prices of tested steel within reasonable limits. If, however, British manufacturers are to be specially assisted to put untested steel on the Indian market at specially favourable rates of duty, the differentiation would then be purely one of preferential treatment for steel from one source of supply rather than from other sources. The Federation's proposals would not be practicable unless British untested steel were enabled to enter India at a much lower duty than non-British. There is nothing in the Federation's proposals to indicate that it contemplates a higher duty on British untested material than on British tested. If, however, British untested steel could be sold in India at lower prices than tested, it would be vital to the interests of the Indian industry that such steel should be imported only under a rigid arrangement for so controlling the prices that the Indian industry would be able to secure the fair selling price for the untested steel which it makes. The question of the effect on Government revenue of any change in the source of supply of untested steel otherwise subject to higher duties would be for the consideration of the Board and Government rather than for the Indian industry. The Company must, however, oppose this proposal unless it is clear that its position will be satisfactorily safeguarded and it wishes to point

that there might be special difficulties in making adequate arrangements to control the sales of untested steel which is used in such large quantities. Some of these difficulties might arise in India itself in view of the possibility of development of the re-rolling industry in India which would presumably be producing mainly untested bars and small sections. The Company would not be in a position to guarantee the entry of such re-rollers into a price arrangement or their compliance with such an arrangement, yet such entry and compliance would be essential to the proper working of any such arrangement.

7. The request of the Federation that British imports of iron and steel for what it terms "Capital Goods" should be granted entry free of duty would reduce the prices of part, at any rate, of the Company's output below the fair selling prices. The Company must therefore oppose this proposal. The existing scheme of protection by differential duties was intended by the Board to make the prices of tested steel in India lower than they would otherwise have been so as to enable the kind of steel required for capital goods to be obtained at reasonable prices. If the Board is satisfied with the experience of the last seven years in this direction, it will no doubt give weight to this factor in deciding whether or not to continue the system of differential duties but the Company is of opinion that no further special assistance for capital goods is required than is involved in that system. It also appears to the Company that there would be substantial administrative difficulties in differentiating for customs purposes between steel to be used for capital goods and steel of similar kinds to be used for more general consumption.

8. The Company would wish to join the Federation in emphasising the great value of the stability of prices in developing consumption. Its own representation aims at the establishment of arrangements which will tend to stabilise prices and it trusts that its requests on these points will be accepted by the Board, by the Government and by the Legislature.

9. The Federation in paragraph 16 criticises the system of calculating duties based on an average fair selling price. The Company finds it difficult to understand the essential nature of the Federation's criticism. The latter appears to assume that there is a substantial difference between the cost of producing tested steel and that of producing untested steel. This suggestion appears to be based on theoretical considerations rather than a study of the circumstances in which the Company actually operates. In practice such difference as exists is too small for definite calculation but the Company estimates that the difference is under Rs. 2 per ton and is probably about Re. 1. The Company does not agree that the system of calculating duties in itself raises the imported price of some unspecified untested products to a higher price than corresponding tested products. The figures given in the Company's statements do not show that this has happened and even if this had happened, it would not follow that it would be due to this system of calculating duties. Moreover, the Federation's apparent objection to higher prices for untested steel than for tested is not consistent with its own request in paragraph 13 that steel for capital goods (which is in effect tested steel) should enter free of duty while other steel should be subject to duties. The Company also does not agree that the present system of ascertaining the necessary duties "tends to obscure the real position and leaves the consumer without any guarantee that the sales policy of the Tata Company will be framed to meet the needs of the country rather than the convenience of the Company itself". Nor does the Company think that any other method of arriving at differential duties would produce more favourable results in this direction. The sales policy of the Company is, and must necessarily be, framed to meet the needs of the country as expressed in the market demand.

10. The Company submits that paragraphs 104 to 107 of its representation makes it clear that the suggestion in Federation's paragraph 17 that the Company is asking for excessive duties is not based on a complete understanding of the Company's case or of the scheme of protection as a whole. The Company has itself suggested that any surplus which may arise in connection with a particular product should be utilised to reduce the protection required for other products.

11. In paragraphs 18 and 20 the Federation suggests that separate costs should be ascertained for tested and untested steel and suggests that for economical operation it is necessary to have "a certain balance" between tested and untested material. As has already been shown the Company's costs for tested and untested steel are not appreciably different. Therefore the arguments in these paragraphs falls to the ground. The proportion of untested steel required by the Indian market is more than high enough to obviate any such difficulties as the Federation suggests.

12. The Federation's suggestion in paragraph 19 that there is an inducement for the Company to develop the sale of one product or quality rather than another in a manner contrary to the requirements of India has no basis in fact. The Company's great difficulty has been to obtain a sufficient aggregate of orders of both qualities to keep its plant in satisfactory operation. The Company aims to the best of its capacity at meeting the requirements of India and would merely stultify itself and prejudice its own financial results if it attempted to work in any way contrary to those requirements.

13. The Company has studied with interest the figures given in the Federation's paragraph 21 and its comments in the three succeeding paragraphs. The Company is aware that its yield of saleable material from ingots is still subject to improvement and has already informed the Board to this effect. The Company regrets that the figures in its Statement 33 have been presented in such a way as apparently to leave them open to some misconception. The purpose of the figures (as is shown in paragraph 117) was merely to indicate one of the directions in which efficiency has been improved, for which purpose the figures are correct. For the purpose of comparison with practice elsewhere, however, it would have been necessary to show a figure for plates obtained by multiplying the yield of plates from slabs by the yield of slabs from ingots instead of by the yield of blooming mill products from ingots. This was not done because of the uncertainty of the earlier figures for yields of blooms and slabs separately at the blooming mill. The true yield of plates from ingots is probably about 5 per cent. below that shown for British practice. It may be added that the Company has never been in a position to select "the most suitable specifications and sizes in tested material;" it has had—and this even more in connection with plates than other materials—to book all the orders available for sizes which were within the physical capacity of its mill.

14. In connection with ingot costs, the Federation in paragraph 25 states the difference between open hearth and duplex ingots as Rs. 8·8. This is incorrect. The correct difference is shown in Statement 2 (A) as Rs. 4·9 for the corresponding period. It is also not correct to assume that the whole of the open hearth ingot output is used for tested material. The Federation's remarks also imply that open hearth steel is necessarily more expensive than duplex steel. While there is in the circumstances of the Company's two plants (one being old and relatively poorly equipped and the other being new and very well equipped) the difference shown in Statement 2 (A), this is not fundamental to the method of manufacture. This point has been already examined by the Board and the Company has expressed its view that in plants equally well-equipped, open hearth ingots might be produced as cheaply as duplex ingots.

15. The Federation's paragraph 26 raises an important question. It is correct that the Company's selling prices have been fixed in relation to import prices rather than to the costs of production, but the Company is unable to understand in what sense its policy has been described as opportunist. The selling policy has followed the same lines as that of practically all industries in all countries. It is practical universal experience that the prices charged by one producer must follow the prices of his competitor. In the case of the Company these competing prices are the import prices of steel whether from Great Britain or from the Continent. The Company has already been criticised for not adhering more closely to import prices. When import prices fall, as they have in fact fallen, the Company is unable to sell unless it correspondingly reduces its own prices. It would be inequitable to suggest that its prices should not also follow a rise in import prices unless the Company

were fully safeguarded against the effect of a fall in prices, which safeguard has not in practice been provided. The statistics submitted by the Company in its representation amply prove that the consumer has not paid in any recent year nearly the fair selling prices established by the Board in 1926, with the exception of tested sections and plates which have formed only a small percentage of the total sales and in respect of which the differences have been only small.

16. The Federation refers in paragraph 27 to the encouragement already given by the Company to the establishment of other industries but goes on to say that something much more definite is required. It is not clear what the Federation has in mind in this connection. The Company considers that it has taken its full share of the task of promoting the growth of steel-using industries.

17. In paragraphs 29 to 31 the Federation sets out the nature of the relations between the re-rolling industries and the steel-producing industries in the United Kingdom. In so far as an important feature of these relations is the delivery to re-rollers at uniform prices throughout the country, the Company submits that Indian conditions are radically different owing to the much greater expenditure on freights which would be required to deliver semi-finished products from the steel-makers' works to re-rolling mills in many parts of India. Moreover, the re-rolling industry in India has not reached a stage of development and organization at which it could be counted on in the near future to observe effectively minimum prices for the sale of its products. The Company does not consider that India should necessarily follow the same lines of organisation as appeared to have been found suitable in the United Kingdom.

18. The Federation then proceeds to discuss the question of co-operation between the British and Indian steel industries. The Company has made no proposals on this subject. It would appear to be incumbent on any non-Indian organisation to put forward suggestions for the consideration of the Indian industry and of the interests in India which might be concerned. The Company has already indicated its willingness to examine any suggestion for co-operation which may suitably provide for the interests of the country and of the Indian steel industry. It wishes however to make it clear that it does not regard the suggestions of the Federation in their present form as suitable.

19. The Company considers that the Federation's principle stated in paragraph 34 (a) must be the fundamental basis of any scheme of co-operation. It should however be extended to make it clear that this would apply to the future output as it may develop as well as to the present output. It must also be added that the Indian industry must be enabled to obtain such prices as would enable it to realise the fair selling prices if the circumstances of the market allow these prices to be reached. The following remarks on the other points contained in the Federation's proposals are subject to the unqualified acceptance of this main principle. The Federation's suggestion in 34 (b) is not entirely clear. If it means that prices are to be regulated according to the duties imposed from time to time with the object of providing a fair selling price for the Indian industry, the Company agrees. But if it means that the Company must necessarily reduce its prices if its costs fall, it cannot agree to be bound by the proposed condition since the Company would not be able to increase its prices if its costs rose owing to some such influence as rises in the prices of materials which the Company must purchase.

20. The Company will examine the suitability of the Federation's proposals in paragraph 34 (c) about minimum basis prices both for Indian and British steel, but it cannot at present commit itself on this subject, nor does it appear to be necessary that prices should be dealt with precisely in the way suggested. The essential requirements would appear to be that prices would be fixed in agreement by both parties from time to time in such a way as would give effect to the principles enunciated in 34 (a) and 34 (b) as modified by the Company's remarks stated above. Any arrangement about specified minimum prices would not be effective unless non-British competition were practically eliminated. For this purpose it would be necessary for the Federation to arrive at some arrangement with the Government of India which would have this effect. The Company considers that any

scheme of co-operation must take much the same form as ordinary commercial arrangements for price fixing and that it must be open to either party to terminate the arrangement subject to reasonable notice if it is found not to be working satisfactorily. The Company does not accept the suggestion which is also contained in 34 (c) that prices delivered to consumers should necessarily be the same in freight advantage areas as in freight disadvantage areas.

21. The Federation's proposals in 34 (d) do not appear to the Company to be the only method of giving effect to the underlying principles of 34 (a) and 34 (b) and the Company at present prefers to leave this question open. The nature of the most suitable arrangement for giving effect to the underlying principles could probably be elucidated more satisfactorily at a later stage if negotiations for a scheme of co-operation were taken up.

22. In paragraph 34 (e) the Federation lays down the manner in which the Company's output of steel should be apportioned between various rolled products. The Company wishes to make it entirely clear that it cannot accept any such restrictions. The Company's opinion is that any attempt to direct the Industry's output into specified channels would not be desirable except in so far as the direction arises automatically from the nature of the protective scheme laid down by the Indian Legislature. The industry should subject itself to purely Indian interests and be free to develop to such an extent and such directions as it may find best suited to its circumstances and to the conditions of the market from time to time. If any such restrictions were applied, the result would be that the Company would probably not be able to earn the surplus anticipated and it would be necessary that the general scale of duties, including particularly the duty on semis, would have to be greatly raised in order to ensure that the Company would be in a position to realise the full intended benefits of the protective scheme as a whole.

23. It appears to the Company that the Federation has, in the preparation of its suggestions, paid undue weight to types of arrangement which may be suitable in the United Kingdom but are not necessarily suitable in India. The Company can only reiterate that any scheme of co-operation must be such as is considered generally desirable by the Board in the interests of India and must impose no restrictions whatever on the development of the Indian industry and must definitely assist in ensuring that the Indian industry will be able to secure the fair selling prices laid down by the Board. The Company is not in a position to state whether the proposals now made by the Federation could be so modified as to comply with the requirements stated.

24. The Board will realise that the proposals now made by the Federation imply a new basis for the differentiation of duties between British and non-British steel. The basis has changed to one of preference from that adopted by the Board in 1926 solely in the interests of India. The extension by India of the principle of preference to the kinds of steel in question should definitely be accompanied by reciprocal arrangements under which India would not only continue to have free entry for its iron and steel into the United Kingdom market but would also be guaranteed the possibility of making such arrangements with the marketing organizations functioning in the United Kingdom as would enable India effectively to obtain a suitable share of the business in that market. A system of substantial price rebates has for a considerable period been an important feature in many branches of the British steel market. These rebates have during recent months been extended to the British pig iron market. Unless India is assured of its position in the British pig iron market, the rebate system may nullify the right of entry of Indian pig iron, free of duty, and thus prevent effect being given to the understanding arrived at between the respective Governments. Notice has already been given by the Pig Iron Association in the United Kingdom to terminate the agreement between the British and Indian producers with the object of throwing open for reconsideration the share of the market which was allotted to the Indian industry at the end of 1932. The introduction of the rebate system naturally weakens the position of the Indian producers in future negotiations and the Company considers that its interests would not be satisfactorily protected if the British

industry were given an important preferential advantage in the Indian market over non-British industry unless at the same time adequate steps were taken to ensure not only the continuance of the freedom from duties to Indian iron and steel entering the United Kingdom but also the possibility of effective utilisation by the Indian industry of that freedom from duty. In view, therefore, of the new basis on which differentiation, if granted at all, for British steel may stand, the Company urges that the Government of India should have power to terminate any preferential arrangement if the British industry at any time fails to provide that India can effectively obtain a suitable share of the market for pig iron and steel in the United Kingdom.

MEMORANDUM 31.

Value of Company's Fixed Assets and Proportion of Expenditure incurred in India.

In Chapter VI of its Representation the Company has shown that on the basis of previous valuations by the Board of the Company's fixed assets the present value should not be taken at less than Rs. 12½ crores. This excludes the Collieries but includes water supply, town, ore mines, etc. This is equivalent to Rs. 140 or Rs. 150 per ton of annual ingot capacity according as that capacity is taken as 900,000 or 840,000 tons. The Company is informed on adequate authority that the cost of similar block in the United States would be between 60 and 70 dollars per ton of annual ingot capacity, i.e., between Rs. 167 and Rs. 194 at an exchange of Rs. 2-78 per dollar. These American figures exclude the capital cost of water supply, town, ore mines, etc. Although it may be assumed that much of the plant and machinery could be bought in other countries at less than American prices, all imported material, etc., would be subject to charges for sea-freights and to Indian Customs duties. Moreover, the value of the items not included in the American figures but included in the Company's estimate of not less than Rs. 12½ crores is substantial. These figures, therefore, support the Company's opinion (paragraph 60) that an assessment of Rs. 12½ crores would be an under-valuation.

2. The Company has reason to believe that an average taken from six of the largest British plants gives an average incidence of over head charges and profit of Rs. 29-5 per ton of finished steel capacity, the rates of depreciation, of interest on working capital (cost of 6 months' output) and of profit on value of the plant being the same as those taken in Chapter VI of the Company's Representation. The corresponding figure put forward by the Company for its estimated actual output of 530,000 tons is Rs. 37-5 per ton. It is understood that the valuations of the British plants have been taken as at the latest assessment by the British income-tax authorities for the calculation of depreciation. As the British plants are on the average distinctly older than the Company's plant, an assessment on more modern plant, such as the Company possesses, would have given a higher valuation and consequently have involved a higher incidence of overhead charges and profit per ton. It is further understood that three of the six British plants do not include coke-ovens and only two of them include sheetmills. An average of plants as complete as that at Jamshedpur would therefore have given a distinctly higher result on this score. And none of the British figures include the capital cost of a town, water-works, etc., and few, if any, include the value of ore-mines, etc. The Company therefore submits that its claim for allowance for overheads and profit is not in the least degree excessive in comparison with what would be required elsewhere and that the proposed valuation of the plant, town, ore-mines, etc., is definitely moderate.

3. In accordance with the request of the Board, Annexures A and B are attached to this Memorandum showing (in revision of those attached to Memorandum 21) the capital expenditure for the last seven years on the Works, town, ore-mines, etc.

(but not collieries), respectively combined and separately. The figures show that, of a total capital expenditure of nearly Rs. 3,30 lakhs about 60 per cent. was spent in India and 40 per cent. on materials imported direct. The value of Indian steel material included in these figures was about Rs. 34 lakhs. The inclusion of the figures of expenditure for the town and ore-mines makes it even clearer than does a consideration of the works expenditure alone that the Company's submission (paragraph 54 of the Representation) that two-fifths of its total block represents expenditure in India is an under-estimate rather than an over-estimate.

ANNEXURE "A" TO MEMORANDUM 31.

New Capital Expenditure on Works, Town and Ore Mines and Quarries.

Year.	Total Capital Expenditure.	C.i.f. prices of materials etc., imported direct or through Agents.	Difference being expenditure in India.	Percentage of imports to total.	Percentage of expenditure in India to total.	Value of steel material.*
	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.			Rs. lakhs.
1926-27 . . .	27.1	5.5	21.6	20.3	79.7	2.6
1927-28 . . .	48.7	14.2	34.5	29.2	70.8	6.0
1928-29 . . .	90.1	54.1	36.0	60.0	40.0	6.7
1929-30 . . .	49.8	16.9	32.9	34.0	66.0	7.1
1930-31 . . .	36.0	14.3	21.7	39.7	60.3	4.8
1931-32 . . .	29.2	8.0	21.2	27.4	72.6	2.6
1932-33 . . .	48.6	15.4	33.2	31.7	68.3	4.1
TOTAL . . .	3,29.5	1,28.4	2,01.1	39.0	61.0	33.9

ANNEXURE "B" TO MEMORANDUM 31.

New Capital Expenditure on Works, Mines and Town separately.

	Total Capital Expenditure.	C.i.f. prices of materials, etc., imported direct or through Agents.	Difference being expenditure in India.	Percentage of imports to total.	Percentage of expenditure in India to total.	Value of steel material.
	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.			Rs. lakhs.
			1926-27.			
Works . . .	20.4	4.4	16.0	21.4	78.6	2.5
Mines . . .	3.4	1.1	2.3	33.1	66.9	..
Town . . .	3.3	..	3.3	..	100.0	..
	27.1	5.5	21.6	20.3	79.7	2.6
			1927-28.			
Works . . .	34.4	12.2	22.2	35.5	64.5	5.6
Mines . . .	8.7	2.0	6.7	22.7	77.3	..
Town . . .	5.6	..	5.6	..	100.0	..
	48.7	14.2	34.5	29.2	70.8	6.0

* Included in Indian expenditure.

ANNEXURE "B" TO MEMORANDUM 31—contd.

New Capital Expenditure on Works, Mines and Town separately—contd.

	Total Capital Expenditure.	C.i.f. prices of materials, etc., imported direct or through Agents.	Difference being expenditure in India.	Percentage of imports to total.	Percentage of expenditure in India to total.	Value of steel material.
	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.			Rs. lakhs.
<i>1928-29.</i>						
Works . . .	82.4	53.4	29.0	64.8	35.2	6.5
Mines . . .	1.6	.3	1.3	20.2	79.8	..
Town . . .	6.1	.4	5.7	6.6	93.4	.2
<i>1929-30.</i>						
	90.1	54.1	36.0	60.0	40.0	6.7
<i>1929-30.</i>						
Works . . .	34.1	16.5	17.6	48.5	51.5	6.8
Mines . . .	1.1	.1	1.0	10.6	89.4	..
Town . . .	14.6	.3	14.3	2.0	98.0	.3
<i>1930-31.</i>						
	49.8	16.9	32.9	34.0	66.0	7.1
<i>1930-31.</i>						
Works . . .	20.3	13.1	7.2	64.3	35.7	4.7
Mines . . .	2.9	1.2	1.7	42.3	57.7	..
Town . . .	12.8	..	12.8	..	100.0	.1
<i>1931-32.</i>						
	36.0	14.3	21.7	39.7	60.3	4.8
<i>1931-32.</i>						
Works . . .	22.9	8.0	14.9	34.8	65.2	2.5
Mines . . .	.6	..	.6	..	100.0	..
Town . . .	5.7	..	5.7	..	100.0	.1
<i>1932-33.</i>						
	29.2	8.0	21.2	27.4	72.6	2.6
<i>1932-33.</i>						
Works . . .	44.1	15.0	29.1	33.0	66.1	4.0
Mines . . .	1.3	..	1.3	..	100.0	..
Town . . .	3.2	.4	2.8	12.5	87.5	.1
	48.6	15.4	33.2	31.7	68.3	4.1

MEMORANDUM 32.

Changes in average price of steel in India.

The average price in India of protected kinds of steel in 1927-28 may be taken as Rs. 156.6 per ton. This is calculated by applying to the quantities of each kind of steel consumed in India in 1927-28, as set out in Statement 4 of the Company's Representation, the prices shown as average realisations in Statement 11 of

the Company's Representation. The corresponding average price for 1932-33 was Rs. 130.5. This figure is calculated on the 1927-28 quantities of each kind of steel, but at the 1932-33 prices in Statement 11. The average fall in price is thus Rs. 26.1 or 16.7 per cent.

2. It has been suggested that the reduction in consumption may be connected with the difference between the percentage falls in the price of steel and in the prices of other commodities; and that the galvanized sheet trade is particularly susceptible to this influence. The relevant figures are set out in Annexure A to this Memorandum, the price of raw jute being given as that of the staple commodity in what is normally the main consuming area (Eastern Bengal) for galvanized sheets. It should be borne in mind that since 1929 a considerable proportion of the Indian market has been supplied with Indian sheets at prices somewhat below those shown. While it is evident that the reduction in the consumption in the last three years has been influenced by the abnormally low prices of jute, there was no definite relation during the preceding six years between the price of jute and the consumption of sheets. In fact, the consumption was highest in a year (1927-28) when the price of jute was at its lowest during those six years and the ratio between the price of sheets and that of jute was the second highest of that period. It may be doubted whether any reduction of the price of sheets within practicable limits will have any great effect on the consumption of sheets in the jute area until the price of that commodity rises.

3. Annexure B gives corresponding information about the prices and consumption in India of steel bars of common quality such as mainly find their ultimate purchasers among small buyers in the villages. The Calcutta price index numbers for cereal food grains are shown along with the figures for bars. The connection between the prices of steel and of the staple commodity on the one hand and the consumption of steel on the other hand is still less definite than in the case of galvanized sheets.

4. The reductions in the index numbers of the prices of several other groups of articles are set out in Annexure C, from which it will be seen that there has been a greater fall in the price of raw agricultural products than in those of other articles. This phenomenon has been observed throughout the world generally and is not confined to India or, within India, to the relative prices of steel, as a particular class of manufactured article, and of staple agricultural products.

ANNEXURE A TO MEMORANDUM 32.

Prices of Galvanized Sheet and Raw Jute.

	Prices of imported* sheets landed Indian Ports.	Quantity sheets consumed.	Raw jute price index number.†
	Rs. per ton.	Tons (thousands).	
1924-25	295	205	102
1925-26	281	294	154
1926-27	283	288	120
1927-28	238	338	93
1928-29	227	335	100
1929-30	221	272	95
1930-31	208	167	63
1931-32	219	115	49
1932-33	226	115	45

* 24-gauge galvanized, corrugated: means between British and Continental.

† July, 1914=100: the figures given are for calendar years, the first being for 1924.

ANNEXURE B TO MEMORANDUM 32.

Prices of common Steel Bars and Cereal Food Grains in India.

	Prices* of imported bars landed Indian Ports.	Quantity* . bars consumed.	Cereal price index number.†
	Rs. per ton.	Tons (thousands).	
1924-25	140·6	191	121
1925-26	128·0	158	135
1926-27	125·1	174	139
1927-28	120·6	200	139
1928-29	133·1	157	133
1929-30	126·5	193	125
1930-31	111·8	122	100
1931-32	104·3	138	78
1932-33	106·9	135	68

* The prices are those at which Continental (*i.e.*, ordinary bazaar quality) bars could be landed, inclusive of duty : the quantities are the imports of non-British bars *plus* the Company's sales of untested bars.

† Index numbers of Calcutta wholesale prices : July 1914=100.

ANNEXURE C TO MEMORANDUM 32.

Index Numbers of Wholesale Prices in Calcutta.

	1927.	1932.	Percentage decrease.
Cereals	139	68	51·1
Pulses	155	92	40·6
Mustard oil	116	61	47·4
Raw jute	93	45	51·6
Raw Cotton	167	92	44·9
Sugar	171	146	14·6
Teakwood	148	130	10·9
Manufactured jute	146	75	49·3
Manufactured cotton	159	119	25·1
Other textiles	126	67	46·8
Metals	131	106	19·1
Other raw and manufactured articles	151	95	37·1

N.B.—All numbers are on the basis : July 1914=100. The above figures are extracted from the issue of the *Indian Trade Journal*, December 14, 1933, page 869.

MEMORANDUM 33.

Capital Expenditure on Open Hearth Plant.

The capital expenditure on the Open Hearth Plant at March, 1926, stood at Rs. 55½ lakhs as shown in Supplementary Statement 24, submitted by the Company during the 1926 Enquiry (Vol. II, page 203). The expenditure had been brought to Rs. 65½ lakhs by March, 1933. The main additions in the interval were on account of new gas-producers, stockyard at the western end of the plant, a new charging crane and the enlargement of furnaces.

MEMORANDUM 34.

Continental Prices 1933 Prices for semis and differentiation for United Kingdom and other markets.

The following extract from the "Continental Iron and Steel Trade Reports" of 5th July 1933 marks the introduction of a system of differential export prices from the Continent :—

"A change has taken place in the politics of prices with the regard to the British market. The Cartel has *lowered* the prices of plates $\frac{1}{4}$ " to $\frac{1}{8}$ " by 6s. and of universal flats by 4s. 6d. on British orders against production of a certificate that these orders are for consumption in the United Kingdom and not for exports."

2. The actual quotations for the above date were set out as follows :—

	Gold.		For the United Kingdom.	
	£.	s. d.	£.	s. d.
Steel bars	3	0 0	(base)	..
Joists, Stand. section	2	15 0	„	..
Joists, British „	2	16 6	„	..
Angles	3	0 0	„	..
Plates $\frac{1}{4}$ "	3	18 6	„	3 12 6
Chequered Plates $\frac{1}{4}$ "	4	3 6	„	3 17 6
Plates $\frac{3}{16}$ "	4	1 0	„	3 15 0
Chequered $\frac{3}{16}$ " Plates	4	6 0	„	4 0 0
Plates 4 mm.	4	3 6	„	3 17 6
Chequered Plates 4 mm.	4	11 0	„	4 5 0
Plates $\frac{1}{2}$ "	4	6 0	„	4 0 0
Universal Flats	3	17 6	„	3 12 6

3. At about the same time differential export prices began to be quoted for sheet bar to the United Kingdom on the one hand and other markets on the other hand :—

	F.O.B. Prices of Sheet Bars.	
	For the United Kingdom.	For other markets.
	Gold.	Gold.
	£. s. d.	£. s. d.
July to October 1933	2 0 0	2 8 0

More recently there appears also to have been some differentiation of the United Kingdom price for different markets in that country.

4. Later the differentiation was extended to other products as shown in the following table extract from the Metal Bulletin, dated 14th November, 1933 :—

Continental Prices (Gold f.o.b.)

	For the	For other
	United Kingdom.	Export.
	£. s. d.	£. s. d.
Billets 2" . . . . .	..	2 7 0
Sheet bars 20 lb. minimum . . . . .	..	2 8 0
Wire rods	7 2 6*	4 10 0
No. 3 iron bars basis	2 15 0	2 16 0
Mild Steel	2 15 0	3 2 6
Joists, P. A. 24-28 tensile . . . . .	..	2 19 0
Joists, P. A. 28-32 ,,	2 19 0	3 1 6
Plates 3/16" and 5 mm.	3 10 0	4 3 6
Plates ¼" up.	3 10 0	4 1 0
Sheets ⅜"	3 12 6	4 8 6
Hoops and strips, basis	3 15 0	3 17 6
Angles, basis	3 0 0	3 2 6

5. The following figures show the prices of Continental billets and sheet bar o.i.f. Indian ports *plus* landing charges. The conversions of prices in gold pounds or other gold currencies to sterling are made at the rates specified by the Cartel from time to time : conversion from sterling to rupees at Rs. 1=1s. 6d.

1933.	Billets	Sheet bar
	c.i.f. <i>plus</i> landing charges.	c.i.f. <i>plus</i> landing charges.
	Rs. per ton.	Rs. per ton.
January	54·4	54·7
February	54·4	55·3
March	55·1	55·5
April	57·7	58·2
May	60·1	60·8
June	60·6	61·6
July	59·6	61·4
August	61·1	62·5
September	60·9	62·8
October	62·1	62·6
November	63·6	64·7

* Sterling delivered.

6. A list of Continental prices for various markets issued in November is reproduced as an Annexure to this Memorandum. It will be seen that the prices for India are the lowest quoted, those to most other countries being higher. It is believed that since the preparation of this list, the prices have been raised by 2s. 6d. (gold) except for Scandinavia.

7. The Company submits that the above information clearly indicates that it is now the policy of the Cartel to quote such prices for each market as it thinks will best suit its purpose; and that no assurance can be entertained that prices for India will not be specially adjusted to maintain keen competition with the Indian product if the Cartel thinks it advisable so to adjust them.

ANNEXURE TO MEMORANDUM 34.

Gold Prices (f.o.b.) quoted by Continental Steel Cartel.

	Continental.		
	Bars.	Sections.	Plates.
	£. s. d.	£ s. d.	£. s. d.
Canary Islands	3 2 6	2 17 6	4 1 0
Egypt	3 2 6	2 17 6	3 18 6
East Africa	3 2 6	2 17 6	4 1 0
West Africa	3 2 6	2 17 6	4 1 0
Ethiopia	3 2 6	2 17 6	4 1 0
Mauritius	3 2 6	2 17 6	4 1 0
Portuguese Africa	3 2 6	2 17 6	4 1 0
Fernando Po	3 5 0	3 0 0	4 3 6
Nigeria	3 5 0	3 0 0	4 1 0
Cameroons	3 2 6	2 17 6	4 1 0
Argentina	3 2 6	2 17 6	3 18 6
Brazil	3 2 6	2 17 6	4 1 0
Chili	3 5 0	2 17 6	4 1 0
Uruguay	3 2 6	2 17 6	4 1 0
Venezuela	3 5 9	3 1 3	4 4 9
Mexico	3 2 6	2 17 6	3 18 6
Guiana (Dutch and British)	3 5 0	3 0 0	4 1 0
Haiti	3 7 6	3 2 6	4 8 6
Dominica	3 7 6	3 2 6	4 8 6
Antilles	3 7 6	3 2 6	4 8 6
Porto Rico	3 7 6	3 2 6	4 8 6
Turkey in Asia	3 2 6	2 17 6	4 1 0
Syria	3 2 6	2 17 6	4 1 0
Palestine	3 2 6	2 17 6	3 18 6
Esthonia	3 2 6	2 17 6	3 18 6
Lettland	3 2 6	2 17 6	3 18 6
Lithuania	3 2 6	2 17 6	3 18 6
Finland	3 0 0	2 17 6	3 18 6
Iceland	3 2 6	2 17 6	4 1 0
Spain	3 2 6	2 17 6	3 18 6
Portugal and Colonies	3 7 6	3 2 6	3 18 6
Azores	3 7 6	3 2 6	3 18 6
Turkey	3 2 6	2 17 6	4 1 0
Bulgaria	3 7 6	3 2 6	3 18 6
Greece	3 2 6	2 17 6	4 1 0
Island of Cos.	3 7 6	3 2 6	4 6 0
China	3 0 0	2 15 0	3 18 6
India	3 0 0	2 15 0	3 18 6
Canada	3 5 0	..	3 18 6

MEMORANDUM 35.

Effect of bringing non-protected plates within protected class.

No figures are available for the imports of non-protected plates only. In 1932-33, however, the total import of non-protected plates and sheets together was only 237 tons. Of these it is probable that the majority were boiler plates, which, as far as can be ascertained, are imported mainly from the United Kingdom. The Company believes that the c.i.f. price of these plates during the last six months has been £9-5-0. They are, however, dutiable under a tariff valuation of Rs. 240 per ton at the rate of 10 per cent. if British and 20 per cent. if non-British, the amounts of duty thus being Rs. 24 and Rs. 48 per ton respectively. The Company's proposals in Table XV are that the duty on plates should be Rs. 31 if uniform and Rs. 18 and Rs. 42 for British and non-British respectively, if differential duties are applied. It will be clear that the proposal to bring all plates within the scope of the protective duties will have no appreciable effect either on the consumer or on Government revenue.

MEMORANDUM 36.

Effect of bringing non-protected bars and rods within protected class.

The classes of bars and rods at present non-protected cover many different types and qualities. They are not susceptible of detailed analysis on information available to the Company. Annexure A to this Memorandum, however, shows the quantities imported during the first nine months of 1933 divided according to origin. It also shows separately the average value (without duty) of the imports from the United Kingdom and from other countries. The figures are arrived at by deducting from the total imports of bars shown in the Sea-borne Trade Returns the imports of protected material published in the Indian Trade Journal (*e.g.* November 16, 1933, p. 556).

2. It will be seen that on the basis of the declared values, the present rates of non-protective duty are equivalent on the average to about Rs. 16·7 per ton on British bars of these classes and to about Rs. 15·9 per ton on non-British bars. If these bars are brought within the protective duties at the rates shown in Table X of the Company's Representation the increase of duty would be Rs. 4·3 for British bars and Rs. 21·1 for non-British bars.

3. The rate of importation is equivalent to about 4,000 ton of British bars and 28,000 tons of non-British bars per year. The extra burdens on the consumers would thus be about Rs. 17,000 in connection with the British bars and Rs. 5·9 lakhs in connection with non-British. Government revenues would presumably be increased to the same extent if these products were not in future made in India and if the increase in price did not materially affect the consumption.

4. So far as British bars at present non-protected are concerned, the effect of the proposal to bring all bars within the protected class would be very small. The non-British bars, however, would have to bear a substantial extra burden. The declared value of these bars, without duty, has, during the period dealt with, averaged under Rs. 80 per ton, which indicates that such the greater part of this material is of common quality and of kinds the manufacture of which is now commencing in India and for which protection will be required. The Company believes that probably three-quarters of this material consists of small rounds and squares and that some of the balance is wire-rod. The manufacture of these products in India requires protection. The Company believes that it would be impracticable to differentiate by tariff definition between these materials and the very small quantity of other material at present comprised in the non-protected class. Moreover, some of this other material is of relatively high value and is now subject to duties not much if at all lower than that proposed. The Company submits, therefore, that its proposal to bring all bar and rod within the protected class is necessary for

the further development of the industry in India and would not impose any undue burden on the country.

5. The C. I. F. prices of small rounds and squares of common quality on the basis of an assortment of sizes from 3/16 to 7/17 inch are given in Annexure B.

ANNEXURE "A" TO MEMORANDUM 36.

Imports and Values of Non-protected Bars and Rods.

1933.	Total.	British.		Non -British.	
		Quantity.	Value landed without duty.	Quantity.	Value landed without duty.
	Tons.	Tons.	Rs. per ton.	Tons.	Rs. per ton.
January	2,922	198	146·5	2,724	77·1
February	1,607	309	142·4	1,298	73·2
March	1,557	466	135·2	1,091	65·1
April	2,052	414	164·2	1,638	80·0
May	3,257	401	134·6	2,856	74·2
June	2,885	364	175·8	2,521	78·1
July	3,447	294	275·5	3,153	79·6
August	2,986	261	172·4	2,725	97·6
September	3,278	263	182·5	3,015	80·6
Total	23,991	2,970	167·0	21,021	79·7
Present rate of duty.		10 per cent.		20 per cent.	
Amount of duty on above value (Rs. per ton.)	..	..	16·7	..	15·9

ANNEXURE "B" TO MEMORANDUM 36.

Prices (c. i. f. Indian Port) of continental rounds and squares $\frac{3}{16}$ to $\frac{7}{16}$ inch.

1933.	£. s. d.
January	5 2 6
February	5 2 6
March	5 2 6
April	5 12 6
May	5 12 6
June	5 15 0
July	5 15 0
August	6 15 0
September	6 10 0
October	6 7 6
November	6 7 6
Early December	6 2 6

MEMORANDUM 37.

Programme of Capital Expenditure.

In Statement 19 attached to the Representation the Company has set out its probable programme of capital expenditure for the next seven years. The Board is aware that it is not practicable at the present time to lay down a rigid time programme in accordance with which each of these items will be undertaken. The following notes may, however, be of use as indicating the probable way in which the programme will be dealt with during the first half of the seven year period. If the necessary finance is not available by way of allocations from profits to the depreciation fund, the programme will obviously have to be substantially altered. It is also possible that changes in market requirements or in the technical necessities of the works may necessitate some change even in this provisional forecast for the first three or four years.

2. The Company trusts that it will be in a position to give effect to the further development of the Town as indicated in item 1 within the first half of the seven year period. This expenditure is required for the better housing of its workmen and for the development of the services connected with public health etc.

3. It is hoped that the second new unit of Sheet Mills will be completed by the end of 1934 or early 1935 and also that the first battery of new coke ovens together with the by-product plant will be ordered during 1934 and the second battery about two years later. The Benzol Plant referred to in item 5 will probably be ordered at such a time as to enable it to go into operation shortly after the first new battery of coke ovens if the further investigations of the profitability of this plant indicate favourable results.

4. The completion of the gas cleaning plant (item 16) is expected during 1934 and it is probable that the major part of the expenditure against items 17 and 18 will be completed during the first half of the period under consideration. The Company will, if possible, re-built its laboratories (item 19) within the next two or three years, and the steel foundry (item 24) will probably be equipped within the same period.

5. Sanction has already been given for the expenditure of the greater part of the allocation under item 8 for the Ore Mines and it is anticipated that the whole of the sum will be required within the first two or three years. It is also probable that the expenditure under item 11 for boiler and power plant and under item 22 for an annealing furnace for the Plate Mill will fall within the first half of the period. Expenditure against items 12 (Machine shops), 14 and 15 (Rolling Stock and Railway Track) and 20 (Weigh-bridges) will be undertaken at approximately steady annual rates totalling Rs. 5 or 6 lakhs per year.

6. The items referred to above would absorb practically half of the total expenditure contemplated in the seven year period. The Company realises that some of the remaining items may, as matters develop, establish as good a claim to priority as some of those already indicated and the Company will re-consider these questions of priority carefully from time to time with the object of dealing with the programme in the way best calculated to add to the efficiency of the Company's operations.

MEMORANDUM 38.

Differences between actual and nominal prices of British Steel.

In paragraph 8 of its Representation to the Board, the National Federation of Iron and Steel Makers has stated that the prices of British steel are and have been higher than those stated by the Company. The following examples will show that the British prices fixed by the respective Associations are not uniformly observed. The Company submits that the lowest prices available to a buyer are those which control such a market as that in India, and that the prices given in the Company's

Statement 5 are in no way an under-statement of the British prices prevailing from time to time.

A. In a trade circular issued by Messrs. John Batt & Co., London, 30th June 1932, the following prices were quoted for British steel for delivery c.i.f. Indian port :—

	Quoted Price.	Company's Statement 5, 1932-33.	Federation Statement.
	£ s. d.	£ s. d.	£ s. d.
Bars	7 0 0	7 0 3	7 12 6
Joists	8 5 0	8 5 1	8 7 6
Plates $\frac{3}{8}$ inch	8 17 6	..	8 15 0
„ $\frac{7}{16}$ inch . . . . .	..	8 9 2	..
„ $\frac{1}{2}$ inch	8 12 6	..	..

B. The Indian Trade Journal for 14th April, 1932, page 94, reported the following purchase. Tested bars 1 and 1- $\frac{1}{2}$ inch to be supplied by United Steel Companies (India) Ltd., at Rs. 123-12 per ton delivered North Western Railway Stores, Karachi, on a rate contract for six months, the cost of stocking, re-handling and delivery from importer's store to Railway store to be borne by the importer. Even if these extra charges are ignored, the price is equivalent to £6-12-6 c.i.f., against the Federation's statement of the price as £7-12-6. This price of £6-12-6 is lower than that stated by the Company (£7-0-3) as the average price of British bars for 1932-33.

C. The Indian Trade Journal for 7th July 1932, page 29, reported a purchase of 4 tons of tested plates 8 ft. by 4 ft. \times $\frac{3}{8}$ inch at Rs. 117-5 for delivery at Parel, Bombay. The price is equivalent to about Rs. 115-5 landed at the wharf and to £6-10-8 c.i.f. The Federation states the price of this thickness of plate at £8-15-0. The price of £6-10-8 is much lower than the price given by the Company for British plates in 1932-33 even when account is taken of the normal extra for 3/16 inch plates over the $\frac{3}{8}$ inch base.

D. The Indian Trade Journal for 14th July 1932, page 120, reported a purchase of 37 tons of 24" \times 7 $\frac{1}{2}$ " \times 90 lb. beams at Rs. 141-9 f.o.r. Karachi. The standard British extra for this size is £1 per ton; the price is thus equal to a basis of Rs. 128-6 landed, or £7-13-2 c.i.f., which is much lower than the Federation's stated price and even than the price of £8-5-1 stated by the Company as the average for 1932-33.

E. The Company has reason to believe that consignments of British steel entered India during September, October and November 1932 invoiced at the following prices :—

- (i) Plates 7/16 and $\frac{1}{2}$ inch : £7-10-0 c.i.f.
- (ii) Bars $\frac{3}{8}$ inch round : £7-2-0 c.i.f.
- (iii) Flats of these sizes, one of which should carry an extra of 10 shillings at an overall price of £7-5-0.

F. The Indian Trade Journal for 15th 1933, page 730, reported a purchase of 71 tons of mild steel flats from United Steel Companies (India) Ltd. at Rs. 131-4-0 delivered Sulkea; the price is equivalent to £7-4-0 c.i.f., as compared with the Federation's stated minimum price of £7-12-6.

G. In November 1933, on an inquiry in London for light angles and flats (tested) for India, five of the largest British makers quoted the Association prices for the angles, but quoted four different prices for the flats, the difference between the highest and the lowest being £1-10-0. Four other British firms quoted; their prices for the flats varied within the range indicated for the other firms, but their prices for the angles varied from 17s. 6d. to 22s. 6d. below the Association price.

MEMORANDUM 39.

Probable output of sections if larger rail orders had been available.

In paragraph 25 of its Representation the Company stated that if it had received orders for the full quantity of rails anticipated it might, during 1930-31 and 1931-32 have had to reduce its output of structural sections by about 30,000 tons.

2. In accordance with a request from the Board, the Annexure to this Memorandum shows the actual production of rails and sections on each of the 28-inch mill from 1930-31 onwards and a probable distribution of production of these article if full rail orders had been available at a rate of 195,000 tons per year.

3. As was pointed out in paragraph 25, it would have been necessary to keep the old 28-inch mill in operation, unless in the interval a 22-inch mill has been installed. This would probably have been done, as the Company's finances would have been greatly strengthened by the larger production of rails.

4. It will be realised that any allocation of output between the two mills in question can only be provisional, but no reasonable doubt can be entertained of the possibility of obtaining the indicated outputs on each of the mills in the years in question. In no year would the old mill have been required to work at nearly as high a rate as obtained in 1923-24, when the total output was 93,000 tons. The new mill would, on this probable programme, have been required in 1930-31 to produce only 7,000 tons more than the actual output of 1927-28; and the rate of increase of output in subsequent years would have been well within the capacity of the mill if it were fully occupied on suitable orders. Even the programme for 1933-34 requires a monthly average output of only 18,750 tons, whereas, six years ago (October 1927 to January 1928) the average output for four consecutive months was over 18,000 tons. In the interval the capacity of the 28-inch mill has been increased by the installation of the 35-inch roughing mill.

5. The Company submits that it is fully justified in claiming that "at the most the reduction of the output of sections would not have been more than about 30,000 tons".

ANNEXURE TO MEMORANDUM 39.

Production on 28-inch Mills.

(Tons thousands).

	New Mill.		Old Mill.		Total.	
	Rails.	Sections.	Rails.	Sections.	Rails.	Sections.
A.—Actuals.*						
1930-31 . . .	109·6	18·6	2·1	34·0	111·7	52·6
1931-32 . . .	44·9	37·4	1·9	39·3	46·8	76·7
1932-33 . . .	36·7	65·0	1·0	2·6	37·7	67·6
1933-34.† . .	32·6	97·2	..	..	32·6	97·2
Total . . .	223·8	218·2	5·0	75·9	228·8	294·1
B.—Probable Programme.						
1930-31 . . .	160	15	35	25	195	40
1931-32 . . .	180	20	15	40	195	60
1932-33 . . .	195	20	..	47	195	67
1933-34 . . .	195	30	..	67	195	97
Total . . .	730	85	50	179	780	264

* The figures do not include the very small output of blooms and billets for sale from these mills.

† Outputs for first half of year multiplied by 2.

MEMORANDUM 40.

Future reductions in costs due to Capital Expenditure.

In the first paragraph of the "Notes on Statement 19" which accompanied its Representation the Company has given a general classification of the items of capital expenditure set out in Statement 19.

2. Items 1 and 2 (totalling Rs. 40 lakhs) aim at making good the deficiency in housing, etc., in the Town and providing additional water which may be necessary. They will have no direct effect on the costs, and in so far as it may be expected that the provision of better conditions for its employees will be conducive to better and more efficient work by them, it will be shown later that the estimated reduction of costs will require more efficient labour. Moreover, the more highly mechanised types of plant now being brought into use (e.g. in the sheet mills) require the attention of more efficient and intelligent types of workmen.

3. So far as the additional producing units (items 3 to 7) are concerned, one of the two additional units of sheet mills may be expected to come into operation at an early date, but the second will probably not affect the production or costs before about the last of the seven years; its capital cost will, therefore, not be appreciably reflected in the average works costs. It is still doubtful whether, owing to general trade conditions among other causes, items 4 to 7 (totalling Rs. 80 lakhs) will come into operation in time to have much influence on the average works costs during the seven years. Item 8 is required mainly for the development of new manganese ore areas which will replace the areas in the Central Provinces now practically exhausted. When this development is complete there will, however, be a small reduction in costs due to the shorter rail-haul.

4. Items 9 to 15 are essentially required for the replacement of equipment now becoming obsolete, and only to a small extent for the provision of additional capacity. The anticipated expenditure on these items totals, Rs. 270 lakhs, i.e., almost, half of the whole programme. Only a small proportion of this can be regarded as likely to bring about reductions of costs on the scale required for items which aim essentially at improvement of efficiency.

5. Items 16 to 18 and, to a considerable extent, item 21 are required for fuel economy. These total Rs. 54 lakhs and it will be shown later that the economy assumed in paragraph 47 of the Company's Representation will give an ample return on this expenditure.

6. The remaining items total Rs. 55 lakhs and are of a somewhat miscellaneous nature, but it is anticipated that each will contribute towards the improvement in the efficiency of the operations and either directly or indirectly to the reduction in future costs.

7. The extent of the economies which the Company has undertaken to make can conveniently be ascertained in the following way. Table II of the Representation shows the works costs (on the standard basis) for the first half of 1933 and Table III the estimated average costs of the next seven years. If the reduction of cost of each product is multiplied by the estimated production shown in Table I, it will be seen that the Company has set itself the task of producing this total output at an average cost of Rs. 23½ lakhs per year less than the cost on the basis of the efficiency of the first half of 1933. In addition to this, the future costs cover the expenditure (Rs. 4 lakhs) of the Sales Department. The real improvement of efficiency is therefore Rs. 27½ lakhs on the average. This involved the assumption that in the seventh year the costs for the given programme of output will be about Rs. 55 lakhs less than those of 1933 for the same programme.

8. This Rs. 55 lakhs is the measure of the improvement of efficiency at which the Company is aiming. The Company submits that it is thereby undertaking a task which will not be solved automatically by the capital expenditure proposed, but will require persistent effort in every other direction which can assist the efficiency.

9. The Company has shown that it expects to reduce its average coal consumption to 2.6 tons per ton of saleable steel. As was pointed out in the oral evidence, this involves an ultimate consumption of 2.27 tons, as against a consumption of 2.93 tons in the first half of 1933 for the output shown in the future programme. The ultimate reduction is thus $\frac{2}{3}$ ton coal per ton of steel, which, with coal at Rs. 5-12 per ton and applied to 530,000 tons of steel, means an ultimate saving of about Rs. 20 lakhs per year. This will be brought about largely by the capital expenditure specifically referred to above and partly by the construction of new coke-ovens and to a less extent by new boiler and power plant.

10. The ultimate saving other than on fuel is thus seen to be about Rs. 35 lakhs. The capital expenditure which will bear directly on this cannot be demarcated by any hard and fast line, but in view of the large amounts required for replacement purposes for the Town and for fuel economy itself it can hardly be assessed at more than Rs. 2 crores; and even of this, an appreciable part will not be completed in time to produce any definite effect on the costs by the beginning of the seventh year.

11. The Company submits that, if the anticipated economies are to be obtained, not only will capital expenditure on the scale shown be required but, in addition, economies resulting from the steadily increasing efficiency of the Company's staff and employees will be essential. Substantial economies must be effected not only in fuel, but also in the consumption of ores, fluxes, etc. (mainly by improved yields) and in the consumption of stores and supplies and the expenditure on labour per ton of product.

MEMORANDUM 41.

Examples of Special Reductions of prices, 1932-33.

A.—TESTED STEEL.

In 1932-33 nearly 1,600 tons of tested sections, bars and plates were sold direct to the Railways at an average reduction of about Rs. 10 per ton. These special prices were necessitated by two considerations. It was found that on the competitive tenders to the Railways, British steel was offered at prices somewhat lower than the usual market quotations. Moreover, material supplied direct to Railways is carried at Railway material rates whether from Tatanagar in the case of Indian steel or from the nearest port to destination in the case of imported steel. The Company has thus a smaller freight advantage or a larger freight disadvantage in connection with such sales than in connection with supplies to ordinary purchasers at the same destinations.

2. The Company finds it necessary to market a substantial part of its tested steel through Engineering Houses who maintain stocks for supply in small lots to the ultimate purchasers. In order to ensure that as far as possible this business is confined to the Company's steel rather than to imported steel, it is necessary to offer the Engineering firms who conduct this business a sufficient reduction from the normal price to cover their expenses of extra handling and of locking up the necessary capital. In 1932-33 about 8,000 tons were thus supplied at a reduction of Rs. 10 from the ordinary market rate.

3. The Company found that the prices of tested bars and of $\frac{1}{2}$ -inch plates were not controlled by the Steel Makers' Association in the United Kingdom. It is believed that firms which are not members of the Association have an important influence on this business. The Company therefore found it necessary during 1932-33 to make an average reduction of about Rs. 3 per ton on 7,000 tons of tested steel sold against this competition.

4. Special reductions have always been made by the Company to assist the Wagon and Bridge building industries in India. These reductions have been made either in the base prices or in the extras or more commonly in both. The extent

of the reduction is determined in each individual case by the keenness of foreign competition and the relative distances between the situation of the Bridge, the nearest port and the works in India where the steel materials have to be fabricated. In the year 1932-33 about 5,050 tons of tested steel were sold to wagon builders and nearly 5,900 tons to Bridge builders at an average reduction of between Rs. 6 and Rs. 7 per ton. It was similarly found necessary during 1932-33 to supply nearly 900 tons of tested bars for the manufacture of dogspikes in India at a reduction of Rs. 25 per ton below the ordinary prices of tested bars in order to enable the Indian makers of dogspikes to compete with the importers of foreign dogspikes.

B.—UNTESTED STEEL.

5. Fabricated transmission towers for electric power lines can be imported at non-protective rates of duty as parts of an electric power supply system. It is therefore not possible for the Company to obtain for steel supplied for the manufacture of such transmission towers in India the normal prices of such steel based on the protective duties. In 1932-33 about 800 tons of untested steel were sold for this purpose at an average reduction of Rs. 20 per ton.

6. In the year 1932-33 about 2,500 tons of untested steel were sold at an average reduction of Rs. 3 per ton for the manufacture of such articles as coal tubs, small barges, etc., in connection with which it was found necessary to make some concession in order either to stimulate the demand or to meet competition in the finished article.

7. In order to encourage the further development of the manufacture of steel furniture and office equipment in India, the Steel Company supplied about 500 tons of material consisting mainly of plates and black sheets at prices about Rs. 10 per ton below the ordinary market price for these materials.

8. In order to enable a demand for untested dogspikes to be met by Indian manufacture about 500 tons of untested bars were sold at a price about Rs. 20 per ton below the ordinary price of bars.

9. During 1932-33 there was a substantial demand in India for the equipment of Sugar Mills. It was found that the steel work necessary for the support, etc., of the machinery could be imported under non-protective duty applicable to machinery. It was therefore necessary to make concessions in the price of rolled steel in order to keep this work within India as far as possible. About 5,000 tons of such steel, mostly sections and plates, were sold at an average reduction of about Rs. 5 per ton.

10. In order to encourage the development of the manufacture of steel pipes in India, 500 tons of untested plates were sold to the Indian Hume Pipe Co. at a special concession in price of Rs. 20 per ton from the normal prices of untested plates.

C.—GENERAL.

11. The Company submits that the above examples indicate that in order both to assist the development of other industries in India and to obtain the largest possible market for its own products, it is necessary for the Company to enter into many transactions in which it is not possible to obtain for its rolled steel the full price which would be indicated merely by a consideration of the c.i.f. prices of imported steel at the time plus the landing charges and duty. The Company had the strongest possible incentive in the trading conditions of 1932-33 to keep these special concessions to the minimum consistent with the continuance of other Indian industries and with its own maximum output; and it trusts that the examples given will be sufficient to prove that no scheme of protection will be adequate which does not allow for the necessity of making concessions in prices in such circumstances as those indicated above. The Company submits therefore that the allowances asked for in paragraph 93 of its representation to provide for a margin between the net realised prices and the nominal quotations of imported steel should be granted.

MEMORANDUM 42.

Evasion of Protective Duties on Bars.

In paragraph 108 of its Representation the Company submitted that the protective duties should be made applicable to all iron or steel bar or rod of whatever quality, composition, size or shape. One of the reasons for this request was that the application of non-protective duties to certain kinds of bars has led to attempts to defeat the purpose of the protective duties. An instance of this kind has recently been brought to the notice of the Company by one of its merchants who reports that octagonal bars are being imported into Karachi at a considerably increased rate during the past two or three months and that these bars are being freely used for reinforcing concrete in place of ordinary round or square bars.

2. Under the present specification of bars for purposes of duty, Octagons are not subject to the protective duties. The substitution of these bars for rounds or squares is therefore defeating the object of the protective duties. The octagonal bars in question are of such a size as to replace rounds or squares over half inch which come within the scope of the protective duties. The Company therefore urges that this recent experience provides an additional example of the necessity of the change asked for by the Company in its Representation.

MEMORANDUM 43.

Past Differences between Net Realisations and Import Prices.

Comparisons between the figures in Statement 7 appended to the Company's Representation and those in Statement 9 show the extent to which the Company's net realisations for various kinds of tested steel fell short, between 1927-28 and 1932-33, of the prices of corresponding imported steel landed at Indian ports, after provision for landing charges and duties. Statements 8 and 10 furnish the material for a similar comparison in respect of untested steel. The following notes explain the circumstances in which abnormal differences between the realisations and the import prices occurred in the cases to which the Board called attention.

2. In 1931-32 the difference in respect of tested bars was much greater than in previous years or than in 1932-33. The reason was that out of a total sale of almost 15,000 tons of tested bars in 1931-32, nearly 6,000 tons were for tie bars, which were sold at a reduction of about Rs. 25 per ton from the standard price of tested bars. The necessity for this reduction arose from the fact that the specification to which these bars were supplied was such as to bring re-rolled bars and Continental bars into effective competition. Although the bars were properly classified as tested, since they had to comply with a test, they were sold not in competition with ordinary tested bars complying with a British Standard Specification, but more nearly in competition with Continental bars. There was practically no sale of such bars in previous years or in 1932-33. This unusual sale is sufficient to account for the excessive difference between realisations and nominal import prices in 1931-32.

3. It will be realized that the differences between the figures in Statements 7 and 9 or 8 and 10 include freight disadvantages and also some of the charges due to the type of deductions from selling prices which are set out in detail in Statement 28 in respect of 1932-33. The influence of these factors has varied to some extent, but it is hardly practicable after an interval of some years to analyse the past records in the detail in which recent and current records are being kept. Statement 17, however, shows that the freight advantage on bars fell by Rs. 3 per ton between 1927-28 and 1928-29 and the disadvantage on plates increased by Rs. 2 in the same period and to a still further extent in subsequent years. Although these figures cannot now be stated separately for tested and untested material, it may safely be assumed that the changes for the untested material were similar to those for both kinds of material together.

4. In 1928-29 the difference for untested bars was much greater than in 1927-28 and in subsequent years. In 1928-29, as a result of the strike, practically the whole of the stock of bars was sold, including many which had been in stock for a long time and had become defective in various ways. The sales of defective and non-standard bars in that year were 15 per cent. of the total, as against 8 per cent. in the previous year, the quantity being slightly more than doubled. As a result of the increased quantity sold, the average prices of non-standard and defective bars fell by Rs. 12 per ton. The greater part of the sales of ordinary untested bars in 1928-29 was made in the first half of the year, when the average import prices were more than Rs. 5 below those of the second half of the year. These sales were made either before the strike commenced or before it was realised that the strike would last so long or have so great an effect on the production of the first few months after the strike. The average price for the year as given in Statement 8 is higher than the average weighted according to the quantity of sales from time to time.

5. In the case of tested plates, the difference rose in 1928-29 by comparison^a with 1927-28. A large part of the tested plates sold in 1928-29 were for the Bally Bridge, for which a uniform price of Rs. 125 per ton was quoted as against the import price shown in Statement 7 of Rs. 110.3 per ton for $\frac{3}{8}$ inch plates. The difference between the nominal import price and the realisations for tested plates has been similarly high in subsequent years when orders have been obtained for material for large bridges. In 1928-29, moreover, it was found that the facilities in the plate mill for shearing plates to exact sizes were inadequate to cope with the requirements and it was necessary to send substantial quantities of plates to engineering firms to be sheared; this involved extra handling and shearing expenses, which reduced the net realisations. This applied also to some extent to untested plates dealt with in the next paragraph.

6. A foot-note to Statement 10 points out that the realisations on untested plates in 1928-29 and 1929-30 were depressed by the sale of large quantities of non-standard plates. The position is shown in the following figures:—

	Orders Booked for Untested Plates.					
	1927-28.		1928-29.		1929-30.	
	Tons.	Rs. per ton.	Tons.	Rs. per ton.	Tons.	Rs. per ton.
Ordinary	4,277	127	9,496	121	4,162	125
Defective and non-standard .	1,547	79	2,543	57	4,075	60
Total	5,824	115	12,039	108	8,137	92
Land prices, Continental plates, Statement 8.	..	136	..	138	..	137

The market was not able to absorb the rapid increase in the quantity of non-standard and defective plates without marked fall in the net realisations. In 1929-30 in particular, the proportion of these to the total was so high as to bring down the average realisation on all untested plates very greatly. In 1928-29 the realisations on ordinary untested plates (*i.e.*, apart from defective and non-standard) fell substantially because of the very great increase in the quantity sold, the tonnage being more than doubled. This was the first year in which a large quantity of untested plates was put on the market. This involved great freight disadvantages and made it necessary to reduce prices in order to obtain the business in

new areas. The relatively better net realisations in years subsequent to 1929-30 show that the sacrifice made to establish a footing in new markets was only temporary and was justified by the subsequent development of the Company's business in untested plates throughout India.

7. The Company submits that the above examination of cases selected by the Board shows that the apparent anomalies in the sales results are explicable on reasonable grounds and that the Company's realisations have been as close to the nominal import prices as can be expected when regard is paid to the varying, and frequently difficult, circumstances in which the Company has been working. It is again urged that the necessity of frequently breaking new ground and of obtaining so very large a share of the Indian market as the Company has obtained, has made it impossible that the net realisations should be uniformly near to the nominal prices of imported materials. The above notes show that special circumstances have frequently existed in the past. The Company's experience shows that more or less similar special considerations will almost invariably affect its business in the future and that in spite of strenuous endeavours to obtain the maximum realisations, the net realisations will always fall short of those anticipated on the basis of nominal quotations for imported materials and on the assumption that all sales can follow uniform lines which can be laid down in advance of the circumstances. The Company suggests that, if the realisations of other industries in India or of the steel industries in other countries were analysed, in the unusually close detail in which its results have been analysed, it would be found that the Company would not come unfavourably out of the comparison.

MEMORANDUM 44.

Proposals for Co-operation between British and Indian Steel Industries.

In its supplementary memorandum dated 12th December 1933, the National Federation of Iron and Steel Makers put forward proposals for co-operation between the British and Indian steel industries for supplying the requirements of the Indian market. These proposals were considered on 2nd January 1934 by the Board of the Tata Iron & Steel Co., Ltd., in the light of the oral evidence given by the representative of the Federation in support of the proposals.

2. At the same time the Board of the Company considered the situation which had arisen from the notice to terminate the arrangement between the British and Indian makers of pig iron for regulating the supply of iron to the United Kingdom market. This notice had been given by the British makers in order to provide for consideration of the possibilities of the future in the light of the experience gained by the operation of the arrangement, but no further communication had been received in the interval.

3. The Board of the Company resolved that no further action should be taken with regard to the notice received from the pig iron makers pending further communication from them, that the question of pig iron was an integral part of the arrangements arrived at under the Ottawa Agreement, that, therefore, it should not be treated apart from the question of steel and that as regards the question of steel Mr. Dalal should make it clear to the Tariff Board that what the Company requested was adequate protection against all imports by means of differential duties on the same lines as had hitherto been followed by the Tariff Board and accepted by Government. Any differentiation in duties other than that based on differences in the quality of materials would mean preference. Any question of preference would be primarily for the Government of India to consider on receipt of the report of the Tariff Board. The Company could enter into negotiations on the subject of minimum prices only after learning the measure of protection to be accorded to it on the lines mentioned above and the views of the Government of India on the proposals of the Tariff Board and the representations of the various interests concerned.

MEMORANDUM 45.

Rate of Allowance for Depreciation.

In the course of the oral examination in November 1933, the Company was asked to consider the practicability of the fixing of a shorter period for the future protection than that which had been asked for by the Company, if the allocation for depreciation were raised from the present rate of 6½ per cent. on the Board's valuation of the Company's fixed assets (other than collieries) to some higher figure, the allowance for profit being correspondingly reduced.

2. The object of the suggestion appeared to be that the Company might be able, from the increased depreciation allowance, to finance the programme for further development of its Works in a shorter time and thus reduce the period during which protection would be required.

3. The programme set out by the Company in Statement 19 attached to its Representation is estimated to require about Rs. 554 lakhs. If the programme extended over 7 years, as contemplated by the Company, the average annual rate of expenditure would be Rs. 79 lakhs. If, however, the period were reduced to, say, 5 years, the average annual rate of expenditure would be about Rs. 110 lakhs. In the light of its past experience the Company is of opinion that it would be inadvisable to undertake alterations and extensions of its plant at this high rate over several years, in view of the great disturbance to operation of the existing plant which occurs when alterations on a large scale are in progress.

4. It is further to be borne in mind that completion of the development within 5 years would not enable the average costs during that period to be reduced to the same extent as they would be during seven years if the development extended over the longer period. There would be a greater portion of the new plant and equipment which would not come into effective use until the end, or very near the end, of the period and would therefore not appreciably affect the average costs. Moreover, as has been pointed out in Memorandum 40, an important part of the economies anticipated by the Company in its estimates depends upon the increasing efficiency of the Company's staff and employees, apart from the benefits to be obtained by the installation of new plant. It cannot be expected that this efficiency will increase to the same extent in a shorter period as in the seven years proposed by the Company.

5. The Board of the Company has considered the suggestion which was made during the examination and, having in mind the factors indicated above, has resolved that the Company should adhere to its original proposals as regards the period of protection and the rates of provision for depreciation and interest.

MEMORANDUM 46.

Effect on Works Costs of variations in Rail Orders.

The Company has been asked to estimate the probable effect on works costs of annual rail orders averaging 50,000, 120,000 and 150,000 tons respectively as compared with the Company's estimate (shown in Table I of the Representation of 80,000 tons.

2. The question is complicated by the fact that variations in the output of rails would cause variations in the output of medium and heavy structural sections which are now rolled on the same mill as rails. In this respect the present position is very different from that existing at the time of the inquiry by the Board which led to its "Report on Steel Rail" dated 3rd January 1931. At the end of 1930 the rail mill was not equipped to roll more than a small quantity of sections, whereas all the medium and heavy sections produced by the Company are now rolled on this mill. For this reason, the effect of the variation in the quantity of sections rolled must be considered along with that of rails.

3. The Company estimates that, for the specified quantities of rails, the output of the new 28-inch mill would be approximately as follows:—

—	Rails.	Sections.	Average monthly total output.
	Tons per year.	Tons per year.	Tons.
A.	50,000	90,000	11,700
B	80,000	80,000	13,300
C	120,000	60,000	15,000
D	150,000	50,000	16,700

4. Item B above represents the output assumed by the Company in its Representation. The outputs of sections shown against C and D could be obtained only if the rolling of lighter sections were considerably reduced and if the demand for the heavier sections were sufficient to absorb the balance of the output.

5. Item C would apparently leave a possible market for 30,000 tons of sections unfilled and item D 40,000 tons. These quantities could be rolled, if at all, only on the old 28-inch mill. This mill has never been operated on as low an output as 30,000 tons; experience during the last few years has shown that an annual output of about 40,000 tons is the lowest at which the mill can be expected to operate economically. The re-starting of this mill would therefore probably not be undertaken, except in case D. If there were a reasonable certainty of continuance of these circumstances, it would probably be found advisable to undertake the erection of a 22-inch mill for the rolling of 40,000 tons of medium sections. This is so hypothetical that the further examination of the question proceeds on the assumption that in case D, 40,000 tons of medium sections might be rolled on the old 28-inch mill.

6. The estimated total outputs of all steel would be as follows, item B being identical with that shown in Table I of the Company's Representation.

Estimated Average Annual Outputs (Tons).

—	A.	B.	C.	D.
Rails	50,000	80,000	120,000	150,000
Fishplates	2,000	3,000	4,000	6,000
Structural Sections	127,000	117,000	97,000	127,000
Bars	80,000	80,000	80,000	80,000
Plates	35,000	35,000	35,000	35,000
Tinbar and Billets	90,000	90,000	90,000	90,000
Black Sheets	25,000	25,000	25,000	25,000
Galvanized Sheets	90,000	90,000	90,000	90,000
Sleepers	10,000	10,000	10,000	10,000
Total	509,000	530,000	551,000	613,000

7. The changes in the total quantity of steel to be made would affect the costs not only through the changes in the 28-inch mill itself but also to some extent through the effect of changes in the quantities of prior products (blooms, ingots, etc.) to be made and in the incidence of the works standing expenses ("general works expense"). The costs on the new 28-inch mill are estimated to be as shown below :—

Works costs on new 28-inch mill.

	Rails only.	Sections only.	Rails and Sections combined.
	Rs. per ton.	Rs. per ton.	Rs. per ton.
A	57	59.7	58.7
B	56	59	57.5
C	55	58.5	56.2
D	53.2	56.2	54.0

8. The average costs of structural sections would be affected by the changes in the proportions rolled on the various mills and by the changes in the costs on the other mills (merchant mill and old bar mill) as well as those on the new 28-inch mill. In addition, in case D the old 28-inch mill would be required. In 1927-28 when the outputs on the old and new 28-inch mills were reasonably near those now assumed the average cost on the old mill was over Rs. 31 per ton higher than that on the new mill. It is estimated therefore that the cost of sections produced on this mill would be about Rs. 84 per ton, *i.e.*, about Rs. 28 higher than the cost of sections on the new mill.

9. The changes in the estimated works costs shown in Table III of the Representation have been calculated. The results are set out in the Annexure to this Memorandum which also shows the effect of the changes in output on the allocations for overheads and profit and thus on the fair selling prices *f.o.r.* works. For the sake of comparison the allocations have been made on the same basis as was used in the Company's Representation. The figures in the Annexure are therefore comparable with those in Table V of the Representation; item B of the Annexure reproduces the figures of Table V.

10. It will be seen that a reduction of the rail orders to a yearly average of 50,000 tons would increase the fair selling prices of the various kinds of rolled steel by amounts varying between Rs. 1.7 and Rs. 2.6 per ton. An increase in the rail orders from 80,000 to 120,000 tons would, owing to the consequent reduction in the output of sections, reduce the fair selling prices only by amounts varying between Rs. 1.9 and Rs. 2.4. If, however, the rail orders averaged 150,000 tons and at the same time 40,000 tons of sections were rolled on the old mill, the fair selling price of sections would rise by nearly Re. 1 per ton, but the corresponding prices of other forms of saleable steel would be reduced by amounts varying between Rs. 6.6 and Rs. 7.9 per ton from those shown in Table V of the Company's Representation. The effect on the works costs and fair selling prices if the rail orders averaged 100,000 tons would be about half of that shown for rail orders of 120,000 tons.

ANNEXURE TO MEMORANDUM 46.

	A.			B.			C.			D.		
	Tons.			Tons.			Tons.			Tons.		
Rails	50,000			80,000			120,000			150,000		
Total Saleable Steel	509,000			530,000			551,000			613,000		
	Works Costs.	Overhead and Profit.	Fair Selling Price.	Works Costs.	Overhead and Profit.	Fair Selling Price.	Works Costs.	Overhead and Profit.	Fair Selling Price.	Works Costs.	Overhead and Profit.	Fair Selling Price.
	Rs. per ton	Rs. per ton	Rs. per ton	Rs. per ton	Rs. per ton	Rs. per ton	Rs. per ton	Rs. per ton	Rs. per ton	Rs. per ton	Rs. per ton	Rs. per ton
Rails	57	39-6	98-6	56	38	94	55	36-6	91-6	53-2	32-9	86-1
Fishplates	80-5	45-6	126-1	80	44	124	79-5	42-6	122-1	78-5	38-9	117-4
Structural Sections	60-2	38-5	98-7	60	37	97	59-3	35-5	94-8	66-0	31-9	97-9
Bars	60-5	38-5	99-0	60	37	97	59-5	35-6	95-1	58-5	31-9	90-4
Plates	62-6	40-6	103-2	62	39	101	61-4	37-5	98-9	60-4	33-9	94-3
Tinbar and Billets	46-5	25-5	72-0	46	24	70	45-5	22-6	68-1	44-5	18-9	63-4
Black Sheets	86-6	44-6	131-2	86	43	129	85-4	41-6	127-0	84-4	37-9	122-3
Galvanized Sheets	116-6	51-6	168-2	116	50	166	115-4	48-5	163-9	114-4	44-9	159-3
Slippers	56-5	37-5	94-0	56	36	92	55-5	34-6	90-1	54-5	30-9	85-4

MEMORANDUM 47.

Assessment of Alloy Steels for Customs Duty.

The following correspondence of which copies are enclosed shows the manner in which alloy steel bars, sections, plates and sheets and fabrications of such materials would be assessed for Customs duty under the existing Tariff Schedule, so far as the position can at present be elucidated.

Annexure A.—First three paragraphs of letter No. A. 2936 of 14th October 1933 from the Tata Iron & Steel Co., Ltd., Calcutta, to the Secretary to the Government of India, Commerce Department.

Annexure B.—Paragraph 2 of letter No. 260-T of 4th November 1933 from the Commerce Department, Government of India, to The Tata Iron & Steel Co., Ltd.

Annexure C.—Letter D. A. Dis. No. 1066-Cus.I/33 of 24th November 1933 from Central Board of Revenue, to The Tata Iron & Steel Co., Ltd.

Annexure D.—Letter M. 181 of 4th December 1933 from The Tata Iron & Steel Co., Ltd., to the Collector of Customs, Calcutta.

Annexure E.—First three paragraphs of letter No. M. 230 of 22nd December 1933 from The Tata Iron & Steel Co., Ltd., to the Collector of Customs, Calcutta.

Annexure F.—First paragraph of letter No. 6960 of 13th January 1934 from the Collector of Customs, Calcutta, to The Tata Iron & Steel Co., Ltd.

2. It appears that alloy steel in the form of fabricated structures (as defined in Tariff Schedule item 102*h*) and of fabricated plates, sheets, angle, tee, beam, channel, zed, trough and piling would be dutiable at the same rates as non-alloy steel in the same forms, i.e., essentially at protective rates.

3. On the other hand, unfabricated plates, sheets, angles and tees would apparently not fall within the scope of the protective duties. There is some doubt about the assessment of unfabricated beams, channels, zeds, trough and piling sections.

ANNEXURE A TO MEMORANDUM 47.

First three paragraphs of letter No. A. 2936 of 14th October 1933, from The Tata Iron & Steel Co., Ltd., to the Secretary to the Government of India, Commerce Department.

We have the honour to state that the Calcutta Port Trust, as representing the Howrah Bridge Authorities, have, with the approval of the Government of Bengal, decided to reconstruct the Howrah Bridge. It is understood that tenders will be invited for a bridge made of high tensile steel. We intend to manufacture high tensile steel, if required for this bridge and for any other works in the future.

2. We understand, however, that such steel can now be imported on payment of the revenue duty only under Serial No. 102*c* (b)(i) (for bar and rod) and Serial No. 102*e* (for steel other than bars). If fabricated, it is not clear whether it will have to pay the protective duty under 102*h* or revenue duty only. Similarly, in the case of plates or sheets, fabricated or unfabricated, it is not clear whether protective duty under 103*i* will be levied or only the revenue duty under 102*e*.

3. As we are in a position to manufacture high tensile steel and intend to do so if required for such purposes as the Howrah Bridge, it is requested that the imports of such steel may be admitted on payment of protective duty only. If protective duty is applicable to steel structures of the kinds mentioned in item 102*h* and to plates or sheets referred to in 103*i*, we shall be obliged if a ruling to this effect is given. In the case of other forms of such steel which would at present fall under Nos. 102*c* (b)(i) and 102*e*, it is requested that early steps may be taken to make such steel liable to protective duty. It appears that deletion of the word "alloy" from these two items will meet the purpose.

* * * * *

ANNEXURE B TO MEMORANDUM 47.

Paragraph 2 of letter No. 260-T of 4th November 1933, from the Commerce Department, Government of India, to The Tata Iron & Steel Co., Ltd.

IMPORT DUTY ON HIGH TENSILE STEEL.

* * * * *

2. I am to add that your enquiry regarding the rates of duty on tensile steel has been passed on to the Central Board of Revenue for disposal, and all further communications on the subject should be addressed to them.

ANNEXURE C TO MEMORANDUM 47.

Letter D. A. Dis. No. 1066-Cus. I/33 of 24th November 1933, from the Central Board of Revenue, to The Tata Iron & Steel Co., Ltd.

HIGH TENSILE STEEL—ASSESSMENT OF—GOVERNMENT OF INDIA, DEPARTMENT OF COMMERCE, LETTER NO. 260-T, DATED THE 4TH NOVEMBER, 1933.

I am directed to refer to the correspondence ending with the letter quoted above, and to suggest that on the question of assessment of tensile steel materials, you should consult the Collector of Customs, Calcutta, as his appraisers can give the matter expert examination after seeing drawings and specifications.

ANNEXURE D TO MEMORANDUM 47.

Letter M. 181 of 4th December 1933, from The Tata Iron & Steel Co., Ltd., to The Collector of Customs, Calcutta.

We enclose herewith copy of the first three paragraphs of our letter No. A-2936/33 of 14th October 1933 to the Secretary to the Government of India in the Commerce Department on the subject of the rate of duty applicable to high tensile alloy steel which may be imported in various forms, fabricated or unfabricated.

2. We also enclose copy of paragraph 2 of the letter No. 260-T of 4th ultimo from the Commerce Department and of letter No. D. A. Dis. No. 1066-Cus.I/33 of 24th ultimo from the Secretary, Central Board of Revenue.

3. We shall be glad if you will allow the undersigned to call on you to discuss the position at some convenient time.

ANNEXURE E TO MEMORANDUM 47.

First three paragraphs of letter M. 230 of 22nd December 1933, from The Tata Iron & Steel Co., Ltd., to the Collector of Customs, Calcutta.

ASSESSMENT OF HIGH TENSILE ALLOY STEEL.

In accordance with your letter No. 6413 of the 20th instant, the above subject was discussed with you by the writer at your office this morning. We have the honour to submit the following record of the opinions which you were good enough to express and to request that you will kindly confirm or correct them where necessary.

2. You held that steel structures fabricated partially or wholly as defined in Serial No. 102h even if made of alloy steel would be assessable at the rates shown against item 102h; also that fabricated plates or sheets even if of alloy steel would be assessable under No. 103i(a) and that fabricated material of alloy steel of the kind described in Serial No. 102b would be assessable at the rates shown against that item.

3. So far, however, as unfabricated steel was concerned, it was clear that bars would be assessable under 102c (b)(i), that alloy steel, angle and tee would be assessable under 102e and that alloy steel plates and sheets would be assessable under 102e. There was some doubt in your mind about unfabricated beam, channel, zed, trough and piling which, if of alloy steel, might possibly be assessable under 102b but might be assessable under 102e.

* * * * *

ANNEXURE F TO MEMORANDUM 47.

First paragraph of letter No. 6960 of 13th January 1934, from the Collector of Customs, Calcutta, to The Tata Iron & Steel Co., Ltd.

ASSESSMENT OF ALLOY STEEL.

I have the honour to refer to your letter No. M. 230, dated the 22nd ultimo and to confirm that it correctly records the opinions expressed at the meeting.

MEMORANDUM 48.

Credit for Second-Class Rails.

The Company regrets that the credit for second-class rails was not referred to in connection with the calculation of the figure against rails in the 3rd column of Table II (page 18) of its Representation. The figures in that column represent the additional credit on account of scrap itself. Defective material, other than second-class rails, has been taken into account in Statement 28.

2. As was explained by the Company's representatives during oral examination, only a small proportion of the second-class rails produced can be sold as such in India. In more industrialised countries there is normally an outlet for all second-class rails at reasonable prices. In India, however, the demand is small, except in times of unusual industrial activity. The Railways normally utilise their own worn rails for sidings, etc. In conditions such as those prevailing during the last few years there has been very little extension of Railway sidings. Nor has there been an appreciable demand for second-class rails for industrial sidings or for tracks inside large works.

3. The main outlet for second-class rails in India in recent years has been for their use as poles for electric distribution systems, telephone systems, street lighting, etc. The rate of extension of this kind of work has been relatively low. It will also be realised that owing to their limited lengths, rails can be used for these purposes only to a limited extent. In many circumstances, the relatively high weight of rails per foot of length renders them uneconomical as compared with alternative forms of support.

4. For the reasons given above, the Company was able in 1932-33 to despatch against sales only 673 tons of second-class rails out of about 4,000 tons produced. The average net realisations were Rs. 85.4 per ton, i.e., about Rs. 64 above the credit taken in the cost sheets. This gives an additional credit of nearly Rs. 1.2 per ton of good rails (nearly 36,700 tons) produced in 1932-33.

5. There is, however, no reason to believe that, if the rail orders increased, the sales of second-class rails would correspondingly increase. During the first half (April to September) of 1933-34, although the production of rails was nearly at the same rate as in 1932-33 and the total demand for rails for the year slightly greater than in the previous year, the despatches of second-class rails were only 230 tons. This was in spite of a reduction in the prices, the average realisations having fallen to Rs. 64.4. On this basis the additional credit for second-class rails for the first half of 1933-34 above the credit given in the costs during the period would be only about Re. 0.6 per ton of good rails. Unless, therefore, the rate of consumption and the price of second-class rails increased substantially, the additional credit on this account to the cost of good rails, if produced at the rate of 80,000 tons per year, would be under Re. 0.3 per ton of good rails on the basis of the first half of 1933-34 and about Re. 0.5 per ton on the basis of 1932-33.

MEMORANDUM 49.

Proportions of Capital Expenditure incurred in India and abroad.

In amplification of paragraph 3 of Memorandum 31 and Annexure A to that Memorandum, in which the Company's capital expenditure on block other than collieries during the years 1926-27 to 1932-33 (both inclusive) was set out, the Company has now analysed its capital expenditure in the six years 1920-21 to 1925-26 so as to ascertain the proportions of the total expenditure which were incurred in India and abroad respectively during that period also. The results are shown in the Annexure to this Memorandum.

2. The period covered by the figures in the Annexure is thus 13 years and the total expenditure analysed is Rs. 14.3 crores, which constitutes 65 per cent. of the Company's total block expenditure (other than on collieries) from the commencement in 1907 until 31st March 1933. Of this amount of over Rs. 14 crores, nearly 52 per cent. has been spent in India and a little over 48 per cent. on imported plant, machinery, equipment, etc. The Company submits that the result of this analysis of the expenditure amply supports its contention that at least two-fifths of its total gross block represents expenditure in India.

3. It may be noted that even in the six years (1920 to 1926) immediately prior to the 1926 Enquiry held by the Board only 51 per cent. of the Company's total capital expenditure of Rs. 11 crores was incurred on imported articles.

4. The Board will realise the difficulty of analysing the figures for capital expenditure in years now long past, as the accounts were not kept in a way specially designed to facilitate such an analysis. It is therefore hardly practicable within the time available to carry the analysis back to years prior to 1920-21. The proportion of the total expenditure from 1907 onwards which is already covered by the present analysis is, in the Company's opinion, sufficient for the purpose. A general consideration, however, of the nature of the earlier expenditure, which covered the acquisition of the land, the greater part of the building of the Town, the levelling of the Works site, the installation of the main system of railway tracks etc., indicates that the proportion of the expenditure which was incurred in India between 1907 and 1920 was probably at least as high as it has been in subsequent years.

ANNEXURE TO MEMORANDUM 49.

Capital Expenditure on Works, Town, Ore Mines and Quarries.

Year.	Total Capital Expenditure.	C.i.f. prices of materials, etc., imported direct or through agents.	Difference being expenditure in India.	Percentage of imports to total.	Percentage of expenditure in India to total.
	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.		
1926-27 to 1932-33*	329.5	128.4	201.1	39.0	61.0
1925-26	14.3	N/A	14.3	N/A	100.0
1924-25	9.7	4.6	5.1	47.4	52.6
1923-24	120.9	70.3	50.6	58.1	41.9
1922-23	241.5	145.5	96.0	60.2	39.8
1921-22	380.6	156.0	224.6	41.0	59.0
1920-21	333.4	185.7	147.7	55.7	44.3
Total 13 years 1920 to 1933	14,29.9	690.5	739.4	48.3	51.7

* Totals from Annexure A to Memorandum 31.

MEMORANDUM 50.

Expenditure in Jamshedpur Town on account of non-employees of the Company.

The Company has been asked to ascertain the proportions of its capital expenditure on the town and of its annual expenditure against revenue which may properly be ascribed to the presence in Jamshedpur of residents other than employees of the Company or their dependants.

2. It will be realised that a town so large as Jamshedpur cannot meet the needs of the Company's employees without the presence of a substantial number of tradesmen, shop-keepers and other persons; and that since no local governing body has existed which can provide the elementary municipal services such as roads, water-supply and drainage, it has been unavoidable that the Company should make such provision for the necessary non-employees along with those which it has made for its own employees.

3. Definitely authoritative figures for the classification of the residents of Jamshedpur are not available, but the figures for the various circles obtained during the census of 1931, carefully surveyed in the light of the knowledge of the Company's Town officers, indicate that the population of Jamshedpur may be classified in the following way, the figures being probably correct within a margin of 10 per cent.

Jamshedpur Proper—	Inhabitants.
Company's employees and dependants	58,000
Others	14,000
 Eastern Area—	
Employees of Associated Companies and their dependants	9,000
Others	3,000
Total	84,000

4. As the Associated Companies make their own provision for town services within their areas, this Memorandum is concerned only with what is described above as "Jamshedpur Proper", in which there are estimated to be 14,000 residents other than the Company's employees or their dependants. The effect of the presence of these 14,000 persons, firstly on the Company's capital expenditure and secondly on its annual expenditure and town revenue is examined below.

5. Much the largest item (about Rs. 120 lakhs) in the Company's town capital expenditure is on residential, administrative and other buildings. Less than 1 per cent. of the total expenditure under this head is for buildings occupied by non-employees of the Company. As rent is received for these few buildings, the Company is not, in respect of housing and buildings, carrying any burden on account of non-employees. It is not necessary, therefore, to take into further account the expenditure, either capital or annual, in respect of housing, etc.

6. Of the total capital expenditure of about Rs. 7 lakhs on roads, the greater part has been incurred on the construction of the metalled and tarred main roads providing the general lines of communication throughout the area. The presence of non-employees in the Town has not affected the necessity for or the cost of construction of these roads. Even of the minor roads, the provision in the areas mainly occupied by non-employees has been on a smaller scale than in other areas. The capital cost of road construction which can be attributed to non-employees cannot be assessed at more than Rs. 50,000.

7. The Company's filtered water supply is provided for only about 6,300 non-employees (including dependants). It cannot be held that these have affected the sizes of the water-towers, rising mains or pumping plant; and it is by no means

certain that, in the absence of such consumers, the number of filter units would have been less than at present, namely six. If, however, one filter unit and a proportion of the distribution system from the towers be attributed to non-employees the capital expenditure may be taken as about Rs. 1 lakh.

8. Approximately 6,000 of the 42,000 persons served by the sewerage and sewage disposal system are non-employees. In view of the necessity in any circumstances of providing for future expansion when such systems are constructed it is doubtful whether any reduction would have been made in the expenditure if the systems had only had to serve the 36,000 employees and dependants instead of a total of 42,000. The Company does not consider that more than Rs. 1 lakh of capital expenditure could be attributed to non-employees under this head.

9. The supply of electricity to individual consumers in the town, both employees and non-employees, is self-supporting, even though the charges to employees, who form the greater number of the consumers, are less than to non-employees. There is, therefore, no burden on the Company in this respect either as regards capital or revenue expenditure and this item need not be brought into further account. Street lighting is maintained at present only on the more central portions of the main roads and on certain roads between the Works and certain areas occupied by the Company's employees. No expenditure on street lighting can be attributed to the residence in the town of non-employees.

10. The Company has not incurred appreciable capital expenditure of any other nature which can be attributed to non-employees. It will be seen that if the completely self-supporting items are excluded, the Company's capital expenditure on account of non-employees may be about Rs. 2½ lakhs. The capital charges on this sum, if interest be taken at 6 per cent. and depreciation approximately at the rates allowed for income-tax purposes (nil on roads and 4 per cent. on water and sewage works) amount to about Rs. 23,000 annually.

11. So far as annual expenditure on services of a municipal nature is concerned, the Company's expenditure (exclusive of general administration) exceeds its revenue in respect of these items by about Rs. 5·2 lakhs. Of this excess of expenditure over revenue it is estimated that about Rs. 1·2 lakh is attributable to non-employees, the main item in this excess being that due to hospital and dispensary services. Against this, however, should be set excess receipts from non-employee residents (i.e., other than Associated Companies) over their share of expenditure on account of land rents, etc.; this is estimated at Rs. 60,000 yearly. In addition, the revenue from markets, which is entirely obtained from non-residents, exceeds the expenditure by Rs. 95,000.

12. The Company's general administration of municipal services and also of other services in or connected with the town exceeded the receipts credited to general administration by about Rs. 1·1 lakh. If this were allocated to employees and non-employees in proportion to their numbers (including dependants) the share due to non-employees would be about Rs. 21,000 annually.

13. The above figures, which are based on 1932-33 revenue and expenditure and on capital expenditure to the end of March 1933, may be summarised as follows:—

Income and Expenditure on account of Non-employees.

Income.	Rs.	Expenditure.	Rs.
Net land rents	60,000	Capital charges	23,000
Net Market revenue	95,000	Municipal services	1,20,000
		General Administration	21,000
	<hr/>		<hr/>
Total	. 1,55,000	Total	. 1,64,000
	<hr/>		<hr/>

14. Owing to the impossibility of allocating much of the capital expenditure and some of the annual expenditure with precision, the Company submits the above figures only as reasonable approximations. It contends however that this examination of the subject is such as to show that the Company does not bear any appreciable financial burden owing to the residence in its town of a considerable number of non-employees. Such criticisms as have been made on this account appear to have overlooked the fact that the Company receives a net income from these non-employees as shown in paragraph 13 and also income under several other heads which goes to reduce the net cost of the services furnished by the Company.

MEMORANDUM 51.

Number of Covenanted Employees on 1st January, 1934.

In paragraph 130 of its Representation the Company reported that on 1st April 1933 the number of covenanted employees at Jamshedpur was only 70. The allocation of these employees between the various departments was shown in Statement 41.

2. By 1st January 1934 the number of covenanted employees on the pay-rolls at Jamshedpur, Calcutta and the Ore Mines had fallen to 64. On that date, no covenanted employees were employed in any of the following departments:—Prospecting, Order, Merchant Mill, Rolling Mills West, Plate Mill, Electrical Engineering, Pattern Shop, Sales and Technical Institute. For many years, no covenanted men have been employed in the Accounts and Purchasing Departments (hence the omission of these departments from the list in Statement 41); this position still continues. In addition to the above the Open Hearth Department is under the control of an Indian Superintendent, although three covenanted employees are still attached to it; and the Rolling Mills East are now entirely staffed by Indians under an Indian Superintendent, one of the two covenanted men shown in Statement 41 as working there having left since 1st April 1933 and the other belonging more properly to the Roll-Turning Department.

MEMORANDUM 52.

Possible transfer of rolling of sections from 28-inch to 22-inch Mill.

The following notes are submitted to the Board in reply to a request for information about the possibility of transferring to the projected 22-inch mill the rolling of some of the sections now produced on the 28-inch mill. The Board will realise that, as the 22-inch mill has not yet been designed in detail, estimates of the limiting sizes which will be rolled on that mill, when installed, must be to some extent provisional. The following paragraphs are, however, based on the Company's present anticipations of the division of the rolling programme between the two mills.

2. It is anticipated that sections of the following sizes could more suitably be rolled on a 22-inch mill than on the 28-inch mill on which they are now being rolled. Equal angles, 6-inch by 6-inch and lighter; unequal angles, 7-inch by 3½-inch and lighter; buff angles, 7-inch by 3½-inch; beams, 8-inch by 4-inch and lighter; channels, 9-inch by 3-inch and lighter; flats, 8-inch by 1-inch and lighter; and rounds and squares, 6-inch diameter or side and lighter.

3. The Annexure to this Memorandum sets out the total orders for structural sections, etc., for the 28-inch mill for the calendar years 1932 and 1933 and also the probable distribution of these orders if a 22-inch mill had been available. It will be seen that approximately two-thirds of the sections ordered were of sizes more suitable for a 22-inch than for a 28-inch mill. The quantity remaining for the 28-inch mill would, however, during 1932 and 1933 have been only between about 1,800 and 2,600 tons per month. These quantities of heavy sections, in conjunction with the rail orders for these years, would have been quite inadequate to keep the 28-inch mill reasonably busy and indeed they would be inadequate for that purpose even if the rail orders were on the basis of considerably over 80,000 tons per year.

4. It is evident that the installation of a 22-inch mill would be premature until there were reasonable grounds for anticipating a steady demand for much larger orders for heavy sections than are obtainable at present and/or much larger orders for rails than 80,000 tons per year. The Company does not consider that such grounds exist at present and submits that it would not be sound for the Board to take into account any effects which might result from the operation of such a mill during the next few years.

5. The Company does not lose sight of the desirability of examining the potentialities of a smaller mill than 22-inch. If a new mill were installed, however, it would be expected to deal satisfactorily with the requirements of the next 15 or 20 years and not only with those of the immediate future. Should the demand for steel in India grow as substantially as is hoped, a smaller mill than 22-inch might in 8 or 10 years be found to be hardly up to requirements. The question admittedly requires, and will be given, careful consideration.

6. If an 18-inch mill, for example, were erected, it would probably be given the rolling of equal angles, 4-inch by 4-inch and lighter; unequal angles, 6-inch by 3-inch and lighter; standard beams, 5-inch by 3-inch and lighter; light weight beams, 6-inch by 3-inch and lighter; channels, 5-inch by 2½-inch and lighter; flats, 6-inch and narrower; and rounds and squares, 4-inch diameter or side and lighter.

7. Such an 18-inch mill would have taken about 1 850 tons per month of the structural orders for the 28-inch mill in 1932 and about 2,200 tons per month of those for 1933, i.e., slightly under one-third of the total in each period. Even with this smaller transfer, the quantity left to be rolled on the 28-inch mill would not have been sufficient to keep it fully occupied even in conjunction with rail orders at the rate of 80,000 tons a year. Nor would the tonnage to be transferred be sufficient, even in conjunction with the rolling of the material now produced on the old bar mills (which would also be transferred), to keep an 18-inch mill fully occupied. A few sections beyond those rolled at present might be added to the programme of a new intermediate mill, but the quantities would not be large and they would in any event be smaller for an 18-inch mill than for a 22-inch mill.

8. In the circumstances of 1932 and 1933, it would not have been economically sound for the Company to have operated an intermediate mill, whether 18-inch or 22-inch, in addition to its 28-inch mill. The installation of such a mill will be justifiable only when there are distinct prospects of a practically permanent return of the demand for rails and heavy sections to the levels reached prior to 1929. For this reason the Company does not at present anticipate that such a mill will be brought into operation during the first half of the suggested seven-year period of protection, nor can it indicate any definite subsequent date for such an installation, although the matter is and will remain before the Company for action as soon as improved trading circumstances justify it. It will also be realised that as an intermediate mill could be effectively used only when the demand for rails and heavy structural sections is large, the question of the availability of supply of ingots, blooms, etc., for such a mill at times when the other mills are working to capacity must be kept carefully in mind.

ANNEXURE TO MEMORANDUM 52.

*Monthly average orders booked for sections to be rolled on 28-inch Mill.**

	CALENDAR YEAR 1932.			CALENDAR YEAR 1933.		
	Total.	Transferable to 22-inch Mill.	Remaining for 28-inch Mill.	Total.	Transferable to 22-inch Mill.	Remaining for 28-inch Mill.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Angles	340	330	10	740	730	10
Beams—						
Standard	2,590	1,400	1,190	3,440	1,700	1,740
Light weight	2,570	2,090	480	2,340	1,880	460
Channels	200	120	80	540	130	410
Flats	50	50	<i>Nil</i>	160	160	<i>Nil</i>
Rounds and Squares	30	30	<i>Nil</i>	40	40	<i>Nil</i>
Total	5,780	4,020	1,760	7,260	4,640	2,620
Percentage	100	69.5	30.5	100	63.9	36.1

MEMORANDUM 53.

Supply of Billets to the Indian Market.

In the course of the oral examination, the Company, at the instance of the Board, accepted the principle that billets should be supplied to Indian re-rollers at prices which would yield to the Company only its fair selling price not f.o.r. Tatanagar if the billets were to be used for the manufacture of products which did not compete with the products of the Company's own finishing mills.

2. The Company will give full effect to this undertaking about the price of billets to be used under the condition stated above. It should, however, be realised that the undertaking which the Company was asked to give did not cover any specific quantity of billets nor constitute an obligation on the Company to supply billets against all possible demands.

3. The Company has no reason at present to anticipate that the demand for billets under this undertaking will exceed the possibility of supply. In that event no complication will arise. It is, however, desirable that the Board should be informed of the Company's views about the position which would arise in the improbable event of the demand for billets being substantially greater than is expected.

4. The Company is already under definite obligations to supply specified quantities of semis to the Tinplate Company of India and to Messrs. Indian Steel Wire Products. The Company must treat as its next obligation the supply of steel to its own finishing mills up to the maximum extent required by the demands of the Indian market. Under the present arrangement, the requirements of the Eagle Rolling Mills are on essentially the same footing as those of the mills at Jamshedpur.

5. As the Board is aware, the requirements of semis for the mills referred to in the preceding paragraph fluctuate from time to time. For example, during the first quarter of 1933-34 the output of the Sheet Bar and Billet Mill was little over

* The figures for 1932 include small quantity of bookings for the old 28-inch mill, which was closed down in May 1932, since that date the rolling of practically all the sections formerly produced in the old mill has been undertaken by the new 28-inch mill.

70 per cent. of the capacity, but it promises during the last quarter of the year to be practically 100 per cent. ; it will, however, probably fall to a lower figure during the subsequent quarter. The Company trusts that the Board will realise that in these circumstances there are narrow limits within which the Company can safely undertake additional supplies of semis as and when the buyers may wish to take delivery. Much would depend on the ability and willingness of the consumers of semis to forecast their demands and arrange to take delivery at such times as would be found practicable when all the demands were correlated. The Company would, in its desire to implement the understanding given to the Board and to achieve the maximum sales of steel, whether semis or finished, naturally do its best to effect supplies. But it submits that it cannot be expected to add indefinitely to binding obligations in that direction, although it does not anticipate that difficulties will arise in connection with such demands as can at present be foreseen.

List of Supplementary Statements submitted by the Tata Iron and Steel Company.

- 1 (A). Works Costs : Averages arranged by Departments.
- 1 (B). Works Costs : Averages arranged by products.
- 2 (A). Works Costs : Averages by Departments adjusted to uniform prices of coal and spelter.
- 2 (B). Works Costs : Averages arranged by products : adjusted to uniform prices of coal and spelter.
- 3 (A). Outputs : Arranged by Departments.
- 3 (B). Outputs : Arranged by products.
4. C.i.f. prices of British materials per ton.
5. C.i.f. prices of Continental materials per ton.
6. Average prices per ton of British steel landed at Indian ports.
7. Average prices per ton of Continental steel landed at Indian ports.
8. Average realisations per ton on tested materials despatched.
9. Average realisations per ton on untested materials despatched.
10. Average realisations per ton of tested and untested materials together.
11. Percentage of orders booked in tested and untested materials.
12. Consumption of fuel per ton of saleable steel.
13. Cost of labour per ton of products : Arranged by departments.
14. Cost above nett metal.
15. Value to the Tatas of the protection granted on rolled steel.
16. Additional Revenue accrued to Government from protective duties on rolled steel (excluding Government stores).
17. Average prices per ton of British steel landed at Indian ports.
18. Average prices per ton of Continental steel landed at Indian ports.
19. Freight to destinations from nearest Indian ports and from Tatanagar.
20. Freight rates charged by B. N. Railway prior to 30th June 1933 and from 1st July 1933.
21. Freight expenditure on old and new rates for 12 months ending 31st January, 1933.
22. Freight expenditure on old and new rates for 530,000 tons of saleable steel.
23. Purchase, production, consumption, etc. of coke.
24. Sale of pig iron.
25. Scrap : Sale and nett realisations.
26. Pig iron : Quantity sold and despatched by Tata Iron and Steel Company, Bengal Iron Company and Indian Iron and Steel Company.
27. Maximum and Minimum market values of Tata Iron and Steel Company's shares.
28. Employment of labour.
- 29-A. Funds for re-building and relining of furnaces, for ingot moulds and for annealing boxes.
- 29-B. Funds for rolls at various mills.
30. Average price of spelter.

31. Gross consumption of spelter per ton of galvanised sheets.
32. Coal: Quantity consumed and prices.
33. Yield of products from ingots 1932-33.
34. Quantities of various kinds of steel rejected by the Metallurgical Inspector.
35. Salaries and Bonuses of covenanted employees in the Operation Departments.
36. Nationalities, salaries, etc. of covenanted employees newly engaged since 1st April, 1926, and the qualifications of those still employed in the Operation Departments on the 1st September 1933.
37. Capital expenditure April 1926 to March 1933.
38. Bad debts written off.
39. Sales and values of certain classes of steel 1932-33.
40. Orders booked in 1932-33 in respect of which deferred rebates accrued.
41. Works costs distributed under main heads of expenditure.
42. Average price realised per ton of saleable steel for each year from 1923-24.
43. Requirement of products of sheet bar and billet mill for output shown in Table XXIX of 1926 Report.
44. Analysis of the price of coal charged in the Company's cost sheets.
45. Net consumption of spelter per ton of galvanised sheets.
46. Adjustment of prices for specified causes.
47. Adjustment of prices—Difference not accounted for.
48. Estimated cost of gas cleaning plant.
49. Admission of 'A' class students to Jamshedpur Technical Institute.
50. Effect of surcharge on coal freights.
51. Expenditure on freights on steel to India destinations.
52. Price of imported galvanised sheets in 1932 and 1933.
53. Orders for 115 lbs. and chromium steel rails.
54. Value of stores purchased.
55. Prices and quantities of galvanised sheets imported from Japan.
56. Export of semis to the United Kingdom and Japan.
57. Proportion of untested material sold to up-country destinations.
58. Highest and lowest Railway freight rates on steel from Tatanagar.
59. Expenditure on labour, January to June 1933.

SUPPLEMENTARY STATEMENT 1 (A).

[Continuation of Statement 1 (A).]

Works Costs: Averages Arranged by Departments.

	July 1933. August 1933.	
	Per ton.	Per ton.
	Rs.	Rs.
Pig Iron	18.4	18.5
Open Hearth Ingots	37.8	38.2
Duplex Plant Ingots	33.9	33.8
Average all Ingots	35.2	35.2
New Blooming Mill	40.5	41.0
New 28-inch Mill	59.4	64.2
Old Bar Mills	81.3	80.7
Merchant Mill	61.5	61.2
Plate Mill	67.1	67.2
Sheet-bar and Billet Mill	45.9	47.1
Black Sheets	90.4	89.3
Galvanised Plain Sheets	120.0	119.6
Galvanized Corrugated Sheets	121.7	121.9
Sleepers	"	"
All Saleable Steel: Average	65.7	67.8

SUPPLEMENTARY STATEMENT 1(B).

[Continuation of Statement 1 (B).]

Works Costs : Averages arranged by Provinces.

	July 1933. August 1933.	
	Per ton.	Per ton.
	Rs.	Rs.
Rails	59.4	64.2
Fishplates	81.3	80.7
Structural Sections	61.7	65.4
Bars	63.6	62.2
Plates	67.1	67.2
Black Sheets	90.4	89.3
Galvanized Sheets	121.3	121.0
Sleepers . . . . .	..	..
Tin-bars	45.9	47.1
Other Semis	45.8	46.7

SUPPLEMENTARY STATEMENT 2 (A).

[Continuation of Statement 2 (A).]

Works Costs : Averages by Departments adjusted to Uniform Prices of Coal and Speller.

	July 1933. August 1933.	
	Per ton.	Per ton.
	Rs.	Rs.
Pig Iron	20.4	20.5
Open Hearth Ingots	39.0	39.4
Duplex Plant Ingots	35.9	35.8
Average all Ingots	36.0	35.2
New Blooming Mill	42.5	43.0
New 28-inch Mill	62.4	67.2
Old Bar Mills	84.0	83.4
Merchant Mill	64.2	63.9
Plate Mill	70.1	70.2
Sheet-bar and Billet Mill	49.1	49.3
Black Sheets	93.7	92.6
Galvanized Plain Sheets	122.8	123.3
Galvanized Corrugated Sheets	124.5	124.6
Sleepers . . . . .	..	..

SUPPLEMENTARY STATEMENT 2 (B).

[Continuation of Statement 2 (B).]

Works Costs : Averages arranged by Products : Adjusted to Uniform Prices of Coal and Spelter.

	July 1933.	August 1933.
	Per ton.	Per ton.
	Ra.	Ra.
Rails	62·4	67·2
Fish-plates	84·0	83·4
Structural Sections	64·1	68·4
Bars	66·4	64·9
Plates	70·1	70·2
Black Sheets	93·7	92·6
Galvanized Sheets	124·1	123·7
Sleepers . . . . .	..	..
Tin-bars	48·1	49·3
Other Semis	48·0	48·9

SUPPLEMENTARY STATEMENT 3 (A).

[Continuation of Statement 3 (A).]

Outputs: Arranged by Departments. (Thousands of tons.)

	July 1933.	August 1933.
Pig Iron	74·8	74·4
Open Hearth Ingots	23·1	19·3
Duplex Plant Ingots	47·7	42·1
Old Blooming Mill . . . . .	..	..
New Blooming Mill	58·0	51·4
Old 28-inch Mill . . . . .	..	..
New 28-inch Mill	13·1	10·1
Old Bar Mills	1·2	1·1
Merchant Mill	11·3	10·5
Plate Mill	4·2	4·5
Sheet-bar and Billet Mill	32·3	30·3
Black Sheets	6·4	6·8
Galvanized Plain Sheets	5·3	5·4
Galvanized Corrugated Sheets	4·1	3·2
Sleepers . . . . .	..	..
Total Saleable Steel	47·8	44·4

SUPPLEMENTARY STATEMENT 3 (B).

[Continuation of Statement 3 (B).]

Output: Arranged by Products. (Thousands of tons).

	July 1933.	August 1933.
Rails	6	4
Fish-plates . . . . .	..	..
Structural Sections	16	6
Bars	4	11
Plates	4	5
Black Sheets	2	2
Galvanized Sheets	5	5
Sleepers . . . . .	..	..
Tin-bars	4	6
Other Semis	7	5
Total	<u>48</u>	<u>44</u>

SUPPLEMENTARY STATEMENT 4.

(Continuation of Statement 5.)

C.i.f. prices of British Materials per ton.

	July 1933.		August 1933.	
	£	s. d.	£	s. d.
Structural Sections	8	5 0	8	5 0
Bars	7	0 0	7	0 0
Plates, $\frac{3}{8}$ inch	8	7 6	8	7 6
Black Sheets, 14/18 gauge	8	15 0	8	15 0
Galvanized Corrugated Sheets, 24 gauge	12	7 6	12	7 6

SUPPLEMENTARY STATEMENT 5.

(Continuation of Statement 6.)

C.i.f. prices of Continental Materials per ton.

	July 1933.		August 1933.	
	£	s. d.	£	s. d.
Structural Sections	5	1 6	5	5 0
Bars	5	2 6	5	6 6
Plates, $\frac{3}{16}$ inch	6	7 0	6	15 0
Black Sheets, 14/18 gauge	7	6 0	7	7 8
Galvanized Corrugated Sheets, 24 gauge . . . . .	..	..	..	..

SUPPLEMENTARY STATEMENT 6.

(Continuation of Statement 7.)

Average prices per ton of British Steel landed at Indian Ports.

	July 1933. August 1933.	
	Rs.	Rs.
Structural Sections	136-3	136-3
Bars	128-4	128-4
Plates, $\frac{3}{8}$ inch	139-2	139-2
Black Sheets, 14/18 gauge	163-0	163-0
Galvanized Corrugated Sheets, 24 gauge	220-5	220-5

SUPPLEMENTARY STATEMENT 7.

(Continuation of Statement 8.)

Average prices per ton of Continental Steel landed at Indian ports.

	July 1933. August 1933.	
	Rs.	Rs.
Structural Sections	107-8	110-1
Bars	117-2	119-9
Plates, $\frac{3}{8}$ inch	132-6	137-9
Black Sheets, 14/18 gauge	173-7	174-8
Galvanized Corrugated Sheets, 24 gauge . . . . .	..	..

SUPPLEMENTARY STATEMENT 8.

(Continuation of Statement 9.)

Average Realisations per ton on Tested Materials despatched.

	January to June, 1933.	
	Rs.	
Structural Sections—		
Light		127-9
Heavy		121-6
Average		122-9
Bars		120-4
Plates		123-7
Black Sheets		143-9
Galvanized Sheets	See	Supplemen- tary State- ment 9.

SUPPLEMENTARY STATEMENT 9.

(Continuation of Statement 10.)

Average Realisations per ton on Untested Materials despatched.

	January to June 1933.
	Rs.
Structural Sections—	
Light	96.9
Heavy	89.4
Average	91.8
Bars	94.8
Plates	106.7
Black Sheets	154.3
Galvanized Sheets—	
Plain	219.6
Corrugated	205.8
Average	208.1

SUPPLEMENTARY STATEMENT 10.

(Continuation of Statement 11.)

Average Realisations per ton of Tested and Untested Materials together.

	January to June 1933.
	Rs.
Structural Sections—	
Light	101.3
Heavy	96.2
Average	97.7
Bars	97.1
Plates	114.8
Black Sheets	153.2
Galvanized Sheets—	
Plain	219.6
Corrugated	205.8
Average	208.1
Total Sales debits not allocated to individual products	Nil

SUPPLEMENTARY STATEMENT 11.

(Continuation of Statement 14.)

Percentage of Orders Booked. Tested and Untested Materials.

	January to June 1933.		July 1933.		August 1933.	
	Tested.	Untested.	Tested.	Untested.	Tested.	Untested.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Structural Sections.	21.1	78.9	9.0	91.0	12.5	87.5
Bars	17.9	82.1	9.9	90.1	35.7	64.3
Plates	57.9	42.1	44.6	55.4	52.4	47.6
Black Sheets	27.9	72.1	2.1	97.9	5.9	94.1

SUPPLEMENTARY STATEMENT 12.

(Continuation of Statement 26.)

Consumption of Fuel per ton of Saleable Steel.

	Tons.
April, 1933	2.86
May, 1933	2.89
June, 1933	2.97
July, 1933	2.68

SUPPLEMENTARY STATEMENT 13.

(Continuation of Statement 34.)

Cost of Labour per ton of Products. Arranged by Departments.

	July 1933.	August 1933.
	Per ton.	Per ton.
	Rs.	Rs.
Pig Iron	0.8	0.8
Ingots Open Hearth	3.0	3.3
Ingots Duplex	1.8	2.0
New Blooming Mill	0.6	0.6
New 28-inch Mill	5.3	6.8
Old Bar Mills	11.5	12.5
Merchant Mill	3.9	4.0
Plate Mill	6.6	6.3
Sheet-bar and Billet Mill	0.7	0.8
Black Sheets	18.4	17.3
Galvanized Plain Sheets	3.9	3.9
Galvanized Corrugated Sheets	1.0	1.4
Sleepers . . . . .	..	..

SUPPLEMENTARY STATEMENT 14.

(Continuation of Statement 36.)

Cost above Net Metal.

	July 1933.	August 1933.
	Per ton.	Per ton.
	Rs.	Rs.
Pig Iron	2.7	2.7
Ingots Open Hearth	18.1	19.3
Ingots Duplex	12.4	12.3
New Blooming Mill	2.7	3.0
New 28-inch Mill	13.9	16.9
Old Bar Mills	30.1	31.2
Merchant Mill	10.9	11.0
Plate Mill	19.3	19.1
Sheet-bar and Billet Mill	3.8	4.0
Black Sheets	36.3	35.1
Galvanized Plain Sheets	13.3	13.9
Galvanized Corrugated Sheets	1.6	2.2
Sleepers . . . . .	..	..

SUPPLEMENTARY STATEMENT 15.

Value to the Tata Iron & Co., Ltd., of the protection granted on rolled steel.

	Rs. lakhs.	Remarks.
1924-25	83.9	Including Bounty of 65.3 lakhs.
1925-26	107.1	Including Bounty of 70.9 lakhs.
1926-27	119.5	Including Bounty of 72.6 lakhs.
1927-28	40.3	
1928-29	20.0	
1929-30	48.1	
1930-31	58.0	
1931-32	84.2	
1932-33	94.0	
Total	655.1	

NOTE.—The above figures are obtained by multiplying the production by the difference between the protective duties and the duties as they would have been on a revenue (i.e., non-protective) basis.

SUPPLEMENTARY STATEMENT 16.

Additional revenue accrued to Government from protective duties on rolled steel (excluding Government Stores)

	Rs. lakhs.
1924-25	55.0
1925-26	83.6
1926-27	81.3
1927-28	136.4
1928-29	117.5
1929-30	93.7
1930-31	75.3
1931-32	67.2
1932-33	63.2
Total	773.2

NOTE.—The bounties paid to the Steel Co. in the first three years are deducted. The above figures are obtained by multiplying the imports of protected materials by the difference between the protective duties and the duties as they would have been on a revenue (i.e., non-protective) basis.

SUPPLEMENTARY STATEMENT 17.

(Expansion of Statement 7.)

Average prices per ton of British Steel landed at Indian ports.

Year.	Structural Sections.			Bars.			Plates $\frac{1}{2}$ inch.			Black Sheets 14/18G.			Galvanized C. Sheets 24G.		
	C.i.f. Price.	Duty and landing charges.	Total.	C.i.f. Price.	Duty and landing charges.	Total.	C.i.f. Price.	Duty and landing charges.	Total.	C.i.f. Price.	Duty and landing charges.	Total.	C.i.f. Price.	Duty and landing charges.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
July 1924 to March 1925	128-6	32-7	161-3	132-6	42-7	175-3	139-9	32-7	172-6	117-2	32-7	149-9	247-1	47-7	294-8
1925-26	107-0	32-7	139-7	121-3	42-7	164-0	118-7	32-7	151-4	155-3	32-7	188-0	233-0	47-7	280-7
1926-27	98-3	32-7	131-0	113-1	42-7	155-8	109-8	32-7	142-5	139-1	32-7	171-8	235-2	47-7	282-9
1927-28	116-8	21-7	138-5	120-0	28-7	148-7	121-1	22-7	143-8	145-1	37-7	182-8	205-7	32-7	238-4
1928-29	110-9	21-7	132-6	112-4	28-7	141-1	117-6	28-7	140-3	137-6	37-7	175-3	196-7	32-7	229-4
1929-30	111-6	21-7	132-3	115-5	28-7	144-2	118-0	22-7	140-7	132-0	37-7	169-7	190-0	32-7	222-7
1930-31	112-5	21-7	134-2	104-5	28-7	133-2	118-4	22-7	141-1	126-5	37-7	164-2	167-6	42-0	209-6
1931-32	111-2	24-1	135-3	99-4	32-0	131-4	116-5	25-3	141-8	122-9	42-2	165-1	140-6	78-1	218-7
1932-33	109-2	20-5	136-4	93-8	35-3	129-1	112-6	27-7	140-3	117-0	46-5	163-5	150-3	78-7	229-0

* April to September.

SUPPLEMENTARY STATEMENT 18.

(Expansion of Statement 8.)

Average prices per ton of Continental Steel landed at Indian ports.

Year.	Structural Sections.			Bars.			Plates, $\frac{1}{2}$ inch.			Black Sheets 14/18G.			Galvanized C. Sheets 24G.		
	C.i.f. Price.	Duty and landing charges.	Total.	C.i.f. Price.	Duty and landing charges.	Total.	C.i.f. Price.	Duty and landing charges.	Total.	C.i.f. Price.	Duty and landing charges.	Total.	C.i.f. Price.	Duty and landing charges.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
July 1924 to March 1925	95.7	32.7	128.4	97.9	42.7	140.6	110.5	38.7	149.2	Not available.			Not available.		
1925-26	81.2	32.7	113.9	85.3	42.7	128.0	95.3	32.7	128.0				Ditto.		
1926-27	81.0	32.7	114.3	82.4	42.7	125.1	90.0	38.7	128.3				Ditto.		
1927-28	78.9	32.7	111.6	80.9	39.7	120.6	97.1	38.7	135.8	101.1	61.7	162.8			Ditto.
1928-29	82.0	32.7	114.7	93.4	39.7	133.1	99.4	38.7	138.1	103.2	61.7	164.9	192.8	32.7	225.5
1929-30	84.2	32.7	116.9	86.8	39.7	126.5	98.2	38.7	136.9	100.6	61.7	162.3	186.5	32.7	219.2
1930-31	71.2	32.7	103.9	72.1	39.7	111.8	83.8	38.7	122.5	87.2	61.7	148.9	164.2	42.0	206.2
1931-32	60.4	36.5	96.9	59.9	44.4	104.3	70.3	43.2	113.5	83.5	69.1	152.6	142.4	78.1	220.5
1932-33	56.0	40.3	96.0	57.9	49.0	106.9	67.1	47.7	114.8	84.8	76.5	161.3	137.2	86.2	223.4*

* April to September.

SUPPLEMENTARY STATEMENT 19.

' Freight to Destinations from nearest Indian Ports and from Tatanagar.*

NOTE.—The figures in column 2 show the freights from the nearest ports to the destinations named. The figures in column 3 represent the freights from Tatanagar to the various destinations under the freight agreement which expired 30th June 1933. The figures in column 4 showing the differences between those in columns 2 and 3 represent the freight advantages or dis-advantages.

The figures for freights from Tatanagar to destinations are the arithmetical means of the freights for beams and channels and for other forms of steel.

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Abbottabad	65 8	55 4	10 4	Karachi.
Abohar	41 4	32 0	9 4	Do.
Abu Road	14 0	28 0	14 12	Bhavnagar.
Adoni	20 0	35 12	15 12	Madras.
Agarpara Siding	1 12	6 4	—4 8	Calcutta.
Agra City	45 0	17 0	28 0	Howrah.
Ahmadgarh	48 12	27 0	21 12	Karachi.
Ahmadnagar	14 12	36 0	—21 4	Bombay.
Ahmedabad Asarva	8 0	24 12	—16 12	Bhavnagar.
Ait	43 12	23 0	20 12	Bombay.
Ajitwal	47 0	28 0	19 0	Karachi.
Ajmer	25 4	23 8	1 12	Bhavnagar.
Ajodhya	33 12	18 4	15 8	Howrah.
Akalgarh	46 0	38 0	8 0	Karachi.
Akaltara	27 0	5 4	21 12	Shalimar.
Akanapet	32 0	33 4	—1 4	Bombay.
Akbarpur	31 12	23 0	8 12	Howrah.
Akola	23 4	18 4	5 0	Bombay.
Aligarh	48 4	17 0	31 4	Howrah.
Allahabad	31 12	17 0	14 12	Do.
Alwar	36 0	20 4	15 12	Bhavnagar.
Ambala Cantonment	49 0	22 4	26 12	Karachi.
Ambur	8 4	24 4	—16 0	Madras.
Amda Junction	13 0	1 0	12 0	Shalimar.
Amla	34 4	15 4	19 0	Bombay.
Amraoti	26 12	15 8	11 4	Do.
Amritsar	47 12	31 0	16 12	Karachi.
Anakapalle	29 8	10 12	18 4	Madras.
Anand	11 4	23 8	—12 4	Bhavnagar.
Anantapur	18 0	33 8	15 8	Madras.
Andul	2 12	2 12	Nil.	Shalimar.
Anjangaon	28 12	20 4	8 8	Bombay.
Ankleswar	13 4	21 12	—8 8	Do.
Arefwala	38 4	38 0	0 4	Karachi.
Arrah	23 4	11 8	11 12	Howrah.
Arvi	32 0	15 8	16 8	Bombay.
Asansol	9 0	2 4	6 12	Howrah.
Asifabad Road	32 0	19 12	12 4	Madras.
Aurangabad	16 4	29 8	—13 4	Bombay.
Amalner	19 4	26 8	—7 4	Do.
Armenian Ghat . . . . .	..	6 0	—6 0	—

* The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

Freight to Destinations from nearest Indian Ports and from Tatanagar—contd.*

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Azamgarh	32 8	14 4	18 4	Howrah.
Arsikere	21 4	35 0	—13 12	Madras.
Abdul Hakim	36 8	42 12	—6 4	Karachi.
Akodia	32 4	26 8	5 12	Bombay.
Arkonam	4 12	20 8	—15 12	Madras.
Akora Khattak	54 4	47 12	6 8	Karachi.
Arewahan	33 12	42 8	—8 12	Do.
Begamabad	49 8	18 12	30 12	Howrah.
Barhni	36 12	16 8	20 4	Do.
Biawan	41 12	21 8	20 4	Do.
Bihta	22 4	10 12	11 8	Do.
Badami Bagh	46 0	33 0	13 0	Karachi.
Badampahar	14 12	1 0	13 12	Shalimar.
Baddowal	48 8	26 8	22 0	Karachi.
Badnera	26 4	15 4	11 0	Bombay.
Badshapur	30 0	16 8	13 8	Howrah.
Bahauddin	47 8	39 12	7 12	Karachi.
Bahawalpur East	31 12	41 12	—10 0	Do.
Bahawalpur West	31 4	42 12	—11 8	Do.
Bahraich	40 8	20 8	20 0	Howrah.
Bahram Ghat	39 0	30 4	8 12	Do.
Baidyanathdham	13 4	7 12	5 8	Do.
Bairagnia	27 8	10 12	16 12	Do.
Bekshan Khan	35 8	37 12	—2 4	Karachi.
Balaghat	40 4	7 8	32 12	Bombay.
Balajan	21 4	24 0	—2 12	Calcutta.
Balamau	40 8	16 8	24 0	Howrah.
Balasore	10 12	3 0	7 12	Shalimar.
Balawali	54 8	18 12	35 12	Howrah.
Balimora	30 4	34 8	—4 4	Calcutta.
Ballabgarh	49 0	20 12	28 4	Bombay.
Balia	28 8	12 8	16 0	Howrah.
Bally	1 12	4 4	—2 8	Do.
Bamra	19 12	2 12	17 0	Shalimar.
Banbassa	50 0	21 8	28 8	Howrah.
Banda (G. I. P.)	39 0	18 8	20 8	Bombay.
Banga	50 8	28 4	22 4	Karachi.
Bangalore City	15 0	21 8	—6 8	Madras.
Bankaghat	20 12	13 4	7 8	Howrah.
Bankura	10 12	2 8	8 4	Shalimar.
Bannu	55 12	59 12	—4 0	Karachi.
Bansabati	2 12	5 8	—2 12	Howrah.
Barabanki	37 8	28 8	9 0	Do.
Bandikui	42 8	24 0	18 8	Bombay.
Baraduar	28 12	4 12	24 0	Vizagapatam.
Budge Budge	2 4	5 8	—3 4	Calcutta.
Barkakana	15 12	1 12	14 0	Shalimar.
Bhadreswaghat	2 4	4 12	—2 8	Howrah.
Bhera	47 12	41 8	6 4	Karachi.
Birmitrapur	18 8	2 4	16 4	Shalimar.

*The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

Freight to Destinations from nearest Indian Ports and from Tatanagar *—contd.

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Burnpore	9 0	1 12	7 4	Shalimar.
Barrackpore	2 4	6 0	—3 12	Calcutta.
Balotra	23 12	42 8	—18 12	Karachi.
Bhogpur Sirwal	49 12	29 0	20 12	Do.
Barmer	20 4	46 4	—26 0	Do.
Balrampur	39 4	18 12	20 8	Howrah.
Bobbili	34 8	7 12	26 12	Shalimar.
Bhabua Road	24 4	4 12	19 8	Howrah.
Baramati	15 8	42 4	—26 12	Bombay.
Bara Jamda	16 8	1 12	14 12	Shalimar.
Rarakar	9 12	4 0	5 12	Howrah.
Baran	37 12	26 8	11 4	Bombay.
Barso	50 0	19 4	30 12	Karachi.
Bareilly	46 8	16 8	30 0	Howrah.
Barhaj Bazar	31 4	13 12	17 8	Do.
Barog	60 0	30 4	29 12	Karachi.
Barisal	12 0	15 4	—3 4	Calcutta.
Barnala	46 4	27 0	19 4	Karachi.
Baroda	12 8	23 8	11 0	Bhavnagar.
Rarsi Town	18 8	45 4	—26 12	Bombay.
Basti	34 0	16 0	28 0	Howrah.
Basirpur	41 4	35 0	6 4	Karachi.
Basoda	36 4	19 8	16 12	Bombay.
Batala	49 4	32 8	16 12	Karachi.
Beas	49 8	29 8	20 0	Do.
Bercha	29 8	27 8	2 0	Bombay.
Beawar	23 0	24 8	—1 8	Bhavnagar.
Begumpur	1 12	4 8	—2 12	Howrah.
Begusarai	21 4	15 0	6 4	Do.
Belapur	14 8	33 8	—19 0	Bombay.
Belagula	20 12	27 12	—7 0	Madras.
Belgaum	23 4	37 4	—14 0	Bombay.
Bellary	20 0	35 12	—15 12	Madras.
Belpahar	22 0	3 8	18 8	Shalimar.
Benares Cantt.	26 12	13 8	13 4	Howrah.
Berhampur (B. N. R.)	12 12	5 8	7 4	Vizagapatam.
Bettiah	29 0	22 12	6 4	Howrah.
Betul (G. I. P.)	33 4	16 0	17 4	Bombay.
Bezwada	17 12	16 4	1 8	Madras.
Bhadravati	25 0	37 4	—12 4	Do.
Bhaga	11 4	2 4	9 0	Shalimar.
Bhagalpur	17 0	14 0	3 0	Howrah.
Bhandara Road	35 8	7 4	28 4	Bombay.
Bhaptiahi	26 8	20 4	6 4	Howrah.
Bharatpur	42 0	20 12	21 4	Bombay.
Bharwa Sumarpur	41 8	21 12	19 12	Howrah.
Bhatapara	24 8	4 8	20 0	Vizagapatam.
Basul Junction	51 12	46 12	5 0	Karachi.
Bhalwal	44 12	42 0	2 12	Do.
Bahrianwala	45 8	34 4	11 4	Do.

* The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

Freight to Destinations from nearest Indian Ports and from Tutanagar*—contd.

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tutanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Butari	49 0	29 12	19 4	Karachi.
Bhind	51 0	25 12	25 4	Bombay.
Baheri	49 4	19 8	29 12	Howrah.
Bauria	3 0	2 4	0 12	Shalimar.
Bhatinda	43 12	29 4	14 8	Karachi.
Bhatni	26 0	13 4	12 12	Howrah.
Bhaun	55 12	45 0	10 12	Karachi.
Bhavnagar Para . . . . .	..	19 8	-19 8	
Bhawalnagar	37 12	35 8	2 4	Karachi.
Bhilla Hithar	44 4	32 4	12 0	Do.
Bhiwani	39 4	23 8	15 12	Bhavnagar.
Bhojudih	11 8	2 0	9 8	Shahmar.
Bhongir	29 8	28 12	0 12	Madras.
Bhopai	32 12	22 12	10 0	Bombay.
Bhuchchu	44 8	28 8	16 0	Karachi.
Bhusaval	18 4	23 8	-5 4	Bombay.
Bhilsa	34 12	20 12	14 0	Do.
Biharshariff	21 12	13 12	8 0	Howrah.
Bijapur	11 4	47 4	-36 0	Bhavnagar.
Bijnor	54 8	18 8	36 0	Howrah.
Bikanir	34 0	38 8	-4 8	Bhavnagar.
Bilaspur	26 0	5 8	20 8	Vizagapatam.
Bina	38 0	17 12	20 4	Bombay.
Bindiki Road	37 4	17 0	20 4	Howrah.
Birsingpur	34 12	6 0	28 12	Vizagapatam.
Birur	22 12	38 8	-15 12	Madras.
Bisalpur	47 0	26 0	21 0	Howrah.
Bindhyachal	28 12	17 0	11 12	Do.
Bogra	14 8	17 4	-2 12	Calcutta.
Bolepur	7 0	7 8	-0 8	Howrah..
Bombay . . . . .	..	15 4	-15 4	
Bona Kala	21 0	24 12	-3 12	Madras.
Bowringpet	12 4	28 0	-15 12	Do.
Brahmapuri	38 4	8 0	30 4	Bombay.
Bridgmangunj	34 12	13 12	21 0	Howrah.
Broach	13 12	21 12	-8 0	Bombay.
Budaun	48 12	19 0	29 12	Howrah.
Buddomalhi	48 0	34 6	13 8	Karachi.
Budhlada	45 4	26 12	18 8	Do.
Bukhtiarpur	19 8	11 0	8 8	Howrah.
Bulluana	43 4	29 12	13 8	Karachi.
Bulandshahr	48 4	17 0	31 4	Howrah.
Bodli	17 0	48 8	-26 8	Bhavnagar.
Bhawani Mandi	33 0	28 8	4 8	Bombay.
Burhwal Junction	38 8	16 0	22 8	Howrah.
Ballygunge . . . . .	..	5 12	-5 12	
Barnagar	28 8	32 0	-3 8	Bombay.
Bhattu	47 0	28 12	18 4	Do.
Babhnan	36 0	17 0	19 0	Howrah.
Bulsar	10 0	38 4	-28 4	Bombay.

* The figures for freights from Tutanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

Freight to Destinations from nearest Indian Ports and from Tatanagar *—contd.

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Bundki	53 0	18 8	34 8	Karachi.
Burdwan	5 0	7 4	—2 4	Howrah.
Burhanpur (G. I. P.)	20 4	25 8	—5 4	Bombay.
Burhar	32 8	5 12	26 12	Vizagapatam.
Burewala	36 12	39 8	—2 12	Karachi.
Buxar	25 12	13 8	12 4	Howrah.
Chaklala	54 0	43 4	10 12	Karachi.
Chakdaha	3 8	6 4	—2 12	Calcutta.
Chak Datar Singh	38 12	37 8	1 4	Karachi.
Chhina	49 12	37 0	12 12	Do.
Chund	40 8	45 0	—4 8	Do.
Chanderuagore	2 8	5 0	—2 8	Howrah.
Chitorgah	28 0	26 12	1 4	Bhavnagar.
Calicut . . . . .	..	27 8	—27 8	
Campbellpur	53 0	46 12	6 4	Karachi.
Cannanore	23 4	38 4	—15 0	Madras.
Cawnpore	38 12	17 0	21 12	Howrah.
Chah-Nur-Mohammad	40 0	36 8	3 8	Karachi.
Chaibassa	13 12	1 0	12 12	Shalimar.
Chakradharpur	13 12	1 0	12 12	Do.
Chakulia	9 0	1 0	8 0	Do.
Chak Abdulla	36 8	36 12	—0 4	Karachi.
Chak Jhunra	42 4	37 8	4 12	Do.
Chakia	26 0	19 12	6 4	Howrah.
Chakwal	55 4	44 12	10 8	Karachi.
Chalisgaon	14 0	27 12	—13 12	Bombay.
Chaman	38 0	74 4	—36 4	Karachi.
Champa	26 12	5 0	21 12	Shalimar.
Chanda (G. I. P.)	34 4	16 4	18 0	Bombay.
Chanda-Fort (B. N. R.)	30 12	9 4	21 8	Shalimar.
Chandausi	49 0	17 0	32 0	Howrah.
Chandpur Bhat	8 4	15 4	—7 0	Calcutta.
Chandil	12 12	1 0	11 12	Shalimar.
Chandpur Sian	53 4	44 4	9 0	Howrah.
Chandur (G. I. P.)	27 8	14 4	13 4	Bombay.
Chandan Chowki	47 12	23 12	24 0	Howrah.
Changamanga	43 4	34 0	9 4	Karachi.
Chargbat	16 4	15 8	0 12	Howrah.
Charkhi Dadri	47 4	23 12	23 8	Bombay.
Champatia	29 8	12 12	16 12	Howrah.
Coonor	27 12	42 12	—15 0	Madras.
Captainganj	33 0	14 12	18 4	Howrah.
Chandod	16 0	34 4	—18 4	Bhavnagar.
Chak Amru	51 0	38 12	12 4	Karachi.
Chengail	3 0	2 8	0 8	Shalimar.
Chhab	49 12	48 8	1 4	Karachi.
Chauri Chaura	31 12	14 0	17 12	Howrah.
Chaurashi	10 12	1 12	9 0	Shalimar.
Chawinda	49 12	35 4	14 8	Karachi.
Chheharta	47 8	31 0	16 8	Do.

* The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

Freight to Destinations from nearest Indian Ports and from Tatanagar *—contd.

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. • Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Chhindwara (B. N. R.).	38 12	9 4	29 8	Bombay.
Chicacole Road	7 4	6 12	0 8	Vizagapatam.
Chichawatni Road	38 4	39 0	-0 12	Karachi.
Chichoki Millian Junction.	45 12	34 4	11 8	Do.
Chilbile	31 12	16 8	15 4	Howrah.
Chiniot	43 4	38 8	4 12	Karachi.
Chirala	14 4	16 4	-2 0	Madras.
Chitrakut	36 12	16 4	20 8	Bombay.
Chittagong . . . . .	..	16 4	-16 4	
Chittoor	7 12	23 8	-15 12	Madras.
Chuharkana	44 12	35 0	9 12	Karachi.
Chunar	27 4	15 0	12 4	Howrah.
Chupra	26 0	9 4	16 12	Do.
Churu	37 0	32 4	4 12	Bhavnagar.
Coconada	19 0	15 4	3 12	Shalimar.
Coimbatore	18 8	27 8	-9 0	Madras.
Comilla	13 4	18 8	-5 4	Calcutta.
Cuddapah	11 4	27 0	-15 12	Madras.
Cuddalore	8 4	26 4	-18 0	Madras Beach.
Cuttaek	17 4	5 0	12 4	Shalimar.
Dacca Str. Ghat	9 0	14 4	-5 4	Calcutta.
Dahod	21 12	37 8	-15 12	Bombay.
Dalsing Sarai	21 8	15 4	6 4	Howrah.
Damoh	43 8	12 12	30 12	Bombay.
Darjeeling	47 0	49 4	-2 4	Calcutta.
Darwaha Motibagh	30 0	21 8	8 8	Bombay.
Darya Khan	42 12	48 12	-6 0	Karachi.
Daronda	27 8	10 12	16 12	Howrah.
Daryapur	35 0	26 0	9 0	Do.
Dasuya	50 12	30 4	20 8	Karachi.
Datia	44 8	24 8	20 0	Bombay.
Dehra Dun	53 0	23 0	30 0	Karachi.
Dehri-on-Sone	21 12	10 8	11 4	Howrah.
Delhi	39 4	17 0	22 4	Bhavnagar.
Deranwab	29 8	43 12	-14 4	Karachi.
Dera Ghazi Khan	43 8	53 4	-9 12	Do.
Dera Ismail Khan	54 12	52 4	2 8	Do.
Dhamangaon	28 0	13 12	14 4	Bombay.
Dhampur	52 0	18 12	33 4	Howrah.
Dhamtari	25 0	6 4	18 12	Vizagapatam.
Dhanbad	11 4	4 8	6 12	Howrah.
Dharampore	55 0	29 4	25 12	Karachi.
Dharur	28 12	34 0	-5 4	Bombay.
Dhariwal	50 0	33 4	16 12	Karachi.
Dharwar	24 0	44 4	-20 4	Bombay.
Dholpur	49 12	20 12	29 0	Do.
Dhudial	54 8	44 0	10 8	Karachi.
Dhulkot	51 12	22 12	29 0	Do.
Dhuri Junction	47 8	25 12	21 12	Do.

* The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

Freight to Destinations from nearest Indian Ports and from Tatanagar*—contd.

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Dibai	51 4	42 0	9 4	Howrah.
Dighaghat	21 8	6 8	15 0	Do.
Dighori	34 0	8 0	26 0	Bombay.
Dildarnagar	27 0	14 8	12 8	Howrah.
Dinanagar	51 0	34 4	16 12	Karachi.
Dinapur	21 8	6 8	15 0	Howrah.
Dindigul	14 8	32 8	—18 0	Madras Beach.
Dhond	11 12	39 0	—27 4	Bombay.
Dongargarh	25 12	6 0	19 12	Vizagapatam.
Doraha	40 12	25 4	24 8	Karachi .
Dornakal	22 12	26 8	—3 12	Madras.
Drug	34 4	5 8	28 12	Shalimar.
Dubrajpur	9 4	5 8	3 12	Howrah.
Dudwa	47 4	23 8	23 12	Do.
Dumraon	25 0	12 12	12 4	Do.
Dalawali	49 0	36 0	13 0	Karachi.
Dakor	15 12	23 0	—7 4	Bhavnagar.
Dinga	48 8	38 8	10 0	Karachi.
Daulatala	53 12	42 12	11 0	Do.
Daurala	50 0	20 4	29 12	Do.
Deesa	13 0	46 4	—33 4	Bhavnagar.
Dhanu	45 4	35 8	9 12	Karachi.
Deoband	43 12	20 4	23 8	Bhavnagar.
Durbhanga	23 12	17 8	6 4	Howrah.
Durgai	57 4	51 0	6 4	Karachi.
Durgapore	7 8	4 12	2 12	Howrah.
Dhulia	16 0	29 12	—13 12	Bombay.
Dera Bab Nanak	49 12	32 12	17 0	Karachi.
Dibrugarh	40 12	28 0	12 12	Calcutta.
Davanagere	27 0	42 12	—15 12	Madras.
Dinajpur	17 8	19 12	—2 4	Calcutta.
Dhond	11 12	39 0	—27 4	Bombay.
Dhuniwala	42 0	34 12	7 4	Karachi.
Ellichpur	30 4	21 12	8 8	Bombay.
Ellore	19 12	13 0	6 12	Madras.
Eminabad	47 12	35 0	12 12	Karachi.
Erinpura Road	17 0	37 8	—20 8	Bhavnagar.
Erode Junction	15 8	30 12	—15 4	Madras Beach.
Etwah	44 0	17 0	27 0	Howrah.
Fakiragram	22 12	25 8	—2 12	Calcutta.
Faridkot	45 8	31 4	14 4	Karachi.
Faridpur	11 0	13 12	—2 12	Calcutta.
Farrukhabad	50 0	17 0	33 0	Howrah.
Fatehganj	53 4	16 8	36 12	Karachi.
Fatehgarh	44 12	19 4	25 8	Bombay.
Fatehjang	53 4	45 8	7 12	Karachi.
Fatehpur	36 0	17 0	19 0	Howrah.
Fazilka Junction	43 4	33 12	9 8	Karachi.
Ferozepur Cantonment	44 4	30 8	13 12	Do.
Ferozeshah	45 0	29 12	15 4	Do.

* The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

Freight to Destinations from nearest Indian Ports and from Tatanagar *—contd.

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Fort Abbas	41 8	39 0	2 8	Karachi.
French Rocks	19 12	26 12	-7 0	Madras.
Futwah	20 8	13 4	7 4	Howrah.
Fyzabad	33 0	16 8	16 8	Do.
Fort Gloster	3 0	2 12	0 4	Shalimar.
Fategarh Churian	49 0	32 0	17 0	Karachi.
Feroza	27 4	46 8	-19 4	Do.
Faina	17 12	39 8	21 12	Bhavnagar.
Gadag	25 8	41 4	-15 12	Madras.
Gadarvada	33 12	15 8	18 4	Bombay.
Gaddarbaha	42 12	30 4	12 8	Karachi.
Gadwal	25 8	34 4	-8 12	Madras.
Gajroula	51 12	43 0	8 12	Howrah.
Gambar	40 8	36 8	4 0	Karachi.
Gauda Singwalla	44 12	31 4	13 8	Madras.
Garhwa Road	24 4	13 0	11 4	Howrah.
Garoth	32 0	33 8	-1 8	Bombay.
Gaya	18 8	9 8	9 0	Howrah.
Gazipore City	27 8	12 8	15 0	Do.
Ghatsila	10 0	1 0	9 0	Shalimar.
Ghaziabad	48 4	17 0	31 4	Howrah.
Giridih	13 8	7 4	6 4	Do.
Godhra	14 0	22 4	-8 0	Bhavnagar.
Gojra	39 12	40 0	-0 4	Karachi.
Gola Gokaren Nath	44 12	23 12	21 0	Howrah.
Gonda	37 12	19 4	18 8	Do.
Gondal	10 12	30 4	-19 8	Bhavnagar.
Gondia	38 4	6 12	31 8	Shalimar.
Goniana	44 8	29 12	14 12	Karachi.
Gorakhpore	32 12	14 12	18 0	Howrah.
Goraya	49 12	27 0	22 12	Karachi.
Gosainganj	32 8	16 8	16 0	Howrah.
Gua	17 0	1 12	15 4	Shalimar.
Gudlavalleru	19 12	21 12	-2 0	Madras.
Gudiyattam	7 8	23 4	-15 12	Do.
Gujarkhan	52 4	41 12	10 8	Karachi.
Gujranwala	48 8	35 8	13 0	Do.
Gopalpur	10 0	13 0	-3 0	Calcutta.
Gagan	53 0	45 12	7 4	Karachi.
Guler	62 8	45 8	17 0	Do.
Ghakkhar	48 0	35 12	12 4	Do.
Giddalur	25 0	30 12	-5 12	Madras.
Gurare	19 8	10 0	9 8	Howrah.
Gangapur City	37 4	19 12	17 8	Bhavnagar.
Ghazighat	36 12	36 12		Karachi.
Gujrat	47 12	37 4	10 8	Do.
Gulbarga	22 12	39 4	-16 8	Bombay.
Guna	41 8	22 4	19 4	Do.
Guntur	17 8	24 4	-6 12	Madras.
Gurdaspur	50 8	33 12	16 12	Karachi.

* The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

*Freight to Destinations from nearest Indian Ports and from Tatanagar *—contd.*

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Gurgaon	47 0	20 8	26 8	Bombay.
Guruharsahi	43 0	32 0	11 0	Karachi.
Gwalior	29 4	22 12	6 8	Bombay.
Gagoo	37 4	38 12	—1 8	Karachi.
Gambila Serai	53 12	55 0	—1 4	Do.
Gatti	42 0	37 12	4 4	Do.
Gharyala	45 12	32 12	13 0	Do.
Gauhati	42 8	41 8	1 0	Calcutta.
Gumda	36 0	8 4	27 12	Shalimar.
Gauhati Bazarghat	27 8	30 4	—2 12	Calcutta.
Hafizabad	45 4	38 8	6 12	Karachi.
Hajipur	23 12	8 12	15 0	Howrah.
Haldibari	19 8	22 4	—2 12	Calcutta.
Haldwani	52 0	22 8	29 8	Howrah.
Haludpukur	12 4	1 0	11 4	Shalimar.
Hamirpur Road	41 8	20 12	20 12	Bombay.
Hansi	46 4	26 8	19 12	Do.
Hapur	48 4	17 0	31 4	Howrah.
Harda (G. I. P.)	26 8	22 8	4 0	Bombay.
Hardoi	41 8	16 8	25 0	Howrah.
Hardwar	50 8	18 8	32 0	Karachi.
Hariah	47 0	40 0	7 0	Do.
Haridaspur	15 12	4 8	11 4	Howrah.
Haripur Hazare	56 0	46 0	10 0	Karachi.
Harinagar	30 12	24 4	6 8	Howrah.
Harpalpur	43 0	22 8	21 8	Bombay.
Harrawala	54 0	22 8	31 8	Karachi.
Harsud	24 12	24 8	0 4	Bombay.
Hasan Abdul	54 4	45 4	9 0	Karachi.
Hasilpur	34 12	38 8	—3 12	Do.
Hatha Road (B. N. R.)	39 8	7 8	32 0	Shalimar.
Hathras Killah	45 0	17 0	28 0	Howrah.
Havellian	57 0	47 0	10 0	Do.
Hazaribagh Road	14 0	5 4	8 12	Do.
Himgir	22 8	3 8	19 0	Shalimar.
Hindupur	18 8	33 8	—15 0	Madras.
Hinganghat (G. I. P.)	31 0	13 8	17 8	Bombay.
Hingoli	26 12	40 0	—13 4	Do.
Hirasingh	42 0	34 4	7 12	Karachi.
Hirdagarh	36 4	17 4	19 0	Bombay.
Hissar	44 0	28 12	15 4	Karachi.
Hoshangabad (G. I. P.)	30 0	20 8	9 8	Bombay.
Hoshiarpur	50 4	29 8	20 8	Karachi.
Hospet	22 8	38 4	—15 12	Madras.
Hotgi	19 4	46 8	—27 4	Bombay.
Howbagh Jubulpore	38 8	9 0	29 8	Do.
Hubli	24 8	43 8	—19 0	Madras.
Hyderabad (Deccan)	31 12	27 8	4 4	Do.
Hyderabad (Sind)	7 8	25 0	—17 8	Karachi.
Hardorawal	39 4	32 4	7 0	Do.

* The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

Freight to Destinations from nearest Indian Ports and from Tatanagar *—contd.

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Harisankar Road	38 4	6 8	31 12	Shalimar.
Hole Narsipur	23 8	30 12	—7 4	Madras.
Husainiwala	44 8	30 12	13 12	Karachi.
Hargaon	42 12	21 8	21 4	Howrah.
Hetampur	49 0	21 4	27 12	Bombay.
Harunabad	39 8	37 0	2 8	Karachi.
Harnai	31 0	67 8	—36 8	Do.
Harappa Road	39 0	38 8	0 8	Do.
Hanumangarh	45 4	33 12	11 8	Bhavnagar.
Ichchhapuram	11 12	5 12	6 0	Vizagapatam.
Ichhapur	3 12	5 12	2 0	Howrah.
Indore	25 0	32 8	—7 8	Bombay.
Isri	13 0	4 4	8 12	Howrah.
Itarsi	29 8	19 12	9 12	Bombay.
Itky	17 0	2 12	14 4	Shalimar.
Itwari	32 12	7 12	25 0	Bombay.
Izatnagar	47 0	17 12	19 4	Howrah.
Ishurdi	9 8	12 8	—3 0	Calcutta.
Isa Khel	50 8	51 12	—1 4	Karachi.
Jabli	57 0	28 0	29 0	Do.
Jadcharla	28 12	30 8	—1 12	Madras.
Jagadhri	50 12	20 4	30 8	Karachi.
Jagraon	47 8	27 8	20 0	Do.
Jaijon Doaba	52 0	30 0	22 0	Do.
Jaintipura	49 0	32 4	16 12	Do.
Jaipur	30 4	21 4	9 0	Bhavnagar.
Jaithari	31 4	5 8	25 12	Vizagapatam.
Jaitu	44 12	30 4	14 8	Karachi.
Jakhal	45 12	25 12	20 0	Do.
Jallo	46 8	32 8	14 0	Do.
Jalgaon	17 4	24 4	—7 0	Bombay.
Jallalabad	42 4	32 12	9 8	Karachi.
Jalpaiguri	20 4	22 8	—2 4	Calcutta.
Jalna	18 8	31 12	—13 4	Bombay.
Jamalpur	18 8	12 0	6 8	Howrah.
Jammu Tawai	50 8	37 8	13 0	Karachi.
Jamuraia	8 12	4 4	4 8	Howrah.
Janakpur Road	25 8	19 4	6 4	Do.
Jand	50 12	47 12	3 0	Karachi.
Jangaon	28 4	27 4	1 0	Madras.
Japla	23 4	11 12	11 8	Howrah.
Jaranwala	43 0	37 0	6 0	Karachi.
Jaunpur	28 12	16 8	12 4	Howrah.
Jawalapur	52 4	18 8	33 12	Karachi.
Jaynagar	26 4	20 0	6 4	Howrah.
Jhalda	13 12	1 8	12 4	Shalimar.
Jhang City	40 0	43 4	—3 4	Karachi.
Jhang Maghiana via Khaniwal Station.	39 8	43 4	—3 12	Do.
Jhansi	43 8	23 8	20 0	Bombay.

* The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

*Freight to Destinations from nearest Indian Ports and from Tatanagar *—contd.*

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Jharsuguda	21 4	3 4	18 0	Shalimar.
Jhelum	49 12	39 0	10 12	Karachi.
Jherriah	11 8	5 0	6 8	Howrah.
Jhunjhuna	35 0	31 12	3 4	Bhavnagar.
Jind City	46 12	23 4	23 8	Karachi.
Jodhpur	23 12	31 4	-7 8	Bhavnagar.
Jogindarnagar	76 0	59 8	16 8	Karachi.
Joychandi Pahar	10 12	1 12	9 0	Shalimar.
Jubbulpore	38 8	12 0	26 8	Bombay.
Julana	46 12	22 4	24 8	Karachi.
Jullunder City	48 12	28 4	20 8	Do.
Jumna Bridge	47 4	17 0	30 4	Howrah.
Jutogh	67 4	37 4	30 0	Karachi.
Jamrud	57 0	50 8	6 8	Do.
Janiwala	39 4	40 8	-1 4	Do.
Jessore	5 8	9 8	-4 0	Calcutta.
Jandiala	48 8	30 0	18 8	Karachi.
Jahania	34 0	42 12	-8 12	Do.
Jamkechatta	46 8	37 8	9 0	Do.
Kadamtala	1 8	12 0	-10 8	Howrah.
Kaimganj	46 0	19 12	26 4	Bombay.
Kaithal	45 0	27 0	28 0	Bhavnagar.
Kalipahari	8 12	3 12	5 0	Howrah.
Kalka	53 12	24 4	29 8	Karachi.
Kalpi	42 4	21 8	20 12	Bombay.
Kalyan	4 0	15 4	-11 4	Do.
Kamalia	39 0	40 12	-1 12	Karachi.
Kamaredi	31 0	34 4	-3 4	Bombay.
Kamasamudram	12 0	27 12	-15 12	Madras.
Kamptee	34 0	7 12	26 4	Bombay.
Kauriala Ghat	49 0	25 0	24 0	Howrah.
Kanda Ghat	62 8	32 12	29 12	Karachi.
Kankaria	20 12	24 12	-4 0	Bombay.
Kangra	65 12	48 12	17 0	Karachi.
Kotlakpat	45 4	33 4	12 0	Do.
Kachakut	36 0	40 12	-4 12	Do.
Kamoke	47 12	34 12	13 0	Do.
Kharian	49 0	38 4	10 12	Do.
Kila Raipur	49 0	26 8	22 8	Do.
Kissan	41 8	35 8	6 0	Do.
Khasa	47 4	31 4	16 0	Do.
Kot Amir Shah	44 4	45 0	-0 12	Do.
Kot Mela Ram	36 0	42 4	-6 4	Do.
Kot Najit Ullah	55 12	45 8	10 4	Do.
Kahror Pakka	33 0	43 0	-10 0	Do.
Koilpatti	18 12	33 8	-14 12	Madras.
Kanganpur	42 8	33 12	8 12	Karachi.
Kapurthala	48 0	29 0	19 0	Do.
Kapilas Road	16 12	5 0	11 12	Shalimar.
Karachi . . . . .	..	15 0	-15 0	..

* The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

Freight to Destinations from nearest Indian Ports and from Tatanagar *—contd.

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton, Rs. A.	Per ton, Rs. A.	Per ton, Rs. A.	
Karaikudi	20 8	35 12	—15 4	Madras.
Karanja	27 12	10 4	8 8	Bombay.
Karad	16 4	29 4	—13 0	Do.
Karnal	50 12	22 12	28 0	Karachi.
Kartarpun	49 4	29 12	20 8	Do.
Karur	14 4	32 4	—18 0	Madras.
Karwi	36 8	16 0	20 8	Bombay.
Kasba	18 12	17 8	1 4	Calcutta.
Kasganj	49 0	20 12	28 4	Bombay.
Kashi	26 8	13 8	13 0	Howrah.
Kasauli	65 8	36 0	29 8	Karachi.
Kasur	44 12	31 8	13 4	Do.
Kathgodam	52 4	22 12	29 8	Howrah.
Kathia Ghat	64 8	34 12	29 12	Karachi.
Kathu-nangal	48 8	31 12	16 12	Do.
Katihar	17 8	20 4	—2 12	Calcutta.
Katni Murwara	38 0	7 0	31 0	Vizagapatam.
Katol	35 0	11 12	23 4	Bombay.
Katpadi	6 8	22 4	—15 12	Madras.
Katrasgarh	11 12	5 0	6 12	Howrah.
Katwa	6 8	9 0	—2 8	Do.
Kavali	10 0	16 4	—6 4	Madras.
Kavutram	19 12	22 0	—2 4	Do.
Kazipet	26 8	25 8	1 0	Do.
Khalilabad	34 0	15 4	18 12	Howrah.
Khamgaon	22 0	20 8	1 8	Bombay.
Khammameth	22 0	25 12	—3 12	Madras.
Khandwa	22 12	26 4	—3 8	Bombay.
Khanewal Junction	37 4	41 12	—4 8	Karachi.
Khanna Junction	50 8	24 8	26 0	Do.
Kharida	6 12	1 12	5 0	Shalimar.
Kharsia	25 0	4 4	20 12	Do.
Khatema	49 12	20 12	29 0	Howrah.
Khekra	49 8	18 12	30 12	Do.
Khem Kora	45 4	32 4	13 0	Karachi.
Kharagpur	6 8	1 8	5 0	Shalimar.
Kairon	46 8	32 4	14 4	Karachi.
Kanjwani	40 8	39 4	1 4	Do.
Kund	44 4	23 0	21 4	Bombay.
Khada	34 8	15 8	19 0	Howrah.
Kotra	45 4	24 8	20 12	Bombay.
Kuthkunjani	31 4	13 0	18 4	Howrah.
Kerli	35 8	22 4	13 4	Bhavnagar.
Khewra	47 8	41 8	6 0	Karachi.
Khudian Khas	43 12	32 8	11 4	Do.
Khulna	4 8	7 0	—2 8	Calcutta.
Khurai	38 12	17 0	21 12	Bombay.
Khurda Road	19 0	5 8	13 8	Shalimar.
Khurja City	48 4	17 0	31 4	Howrah.
Khushub	49 0	44 4	4 12	Karachi.

* The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

Freight to Destinations from nearest Indian Ports and from Tatanagar *—contd.

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Kichha	49 8	19 8	30 0	Howrah.
Kila Sobha Singh	49 12	34 4	15 8	Karachi.
Kirloskarwadi	17 8	30 12	—13 4	Bombay.
Kishanganj	20 12	19 12	1 0	Calcutta.
Kodarma	15 12	7 0	8 12	Howrah.
Kohat Cantonment	53 0	50 4	2 12	Karachi.
Kolhapur	20 8	33 12	—11 4	Bombay.
Koparia	23 4	17 4	6 0	Howrah.
Kot Fatteh	44 0	28 12	15 4	Karachi.
Kot Kapura	45 4	30 12	14 8	Do.
Kotah	25 12	29 0	6 12	Bombay.
Kotdwara	54 4	18 12	35 8	Howrah.
Kot Radha Kishn	43 12	33 4	10 8	Karachi.
Kossi-Kalan	48 12	22 4	26 8	Howrah.
Kottavalasa	32 4	7 12	24 8	Madras.
Kul Mokul	43 0	33 4	9 12	Karachi.
Kulpahar	42 0	21 4	20 12	Bombay.
Kulti	9 8	3 12	5 12	Howrah.
Kumardubi	10 0	4 0	6 0	Do.
Kumbakonam	11 8	29 8	—18 0	Madras Beach.
Kunch	45 0	23 12	21 4	Bombay.
Kushtia	7 8	20 8	—13 0	Calcutta.
Kumardubi	10 0	3 4	6 12	Bombay.
Kurduwadi	15 8	43 0	—27 8	Do.
Kurnool Town	23 4	38 4	—15 0	Madras.
Kusunda	11 4	4 12	6 8	Howrah.
Kumarhatti	59 8	29 12	29 12	Karachi.
Kapadvanj	13 4	45 8	—32 4	Bhavnagar.
Kishangarh	26 4	23 0	3 4	Do.
Kuchman Road	29 8	22 8	7 0	Do.
Khatanti	42 8	20 12	21 12	Do.
Kunraghat	32 0	26 0	6 0	Howrah.
Kosamba	13 0	37 0	—24 0	Bombay.
Keymore Siding	42 0	10 0	32 0	Do.
Kuldiha	14 4	1 0	13 4	Shalimar.
Kanhan	34 0	7 12	26 4	Bombay.
Lahore	45 12	33 0	12 12	Karachi.
Lakhimpur Keri	43 8	22 8	21 0	Howrah.
Lal Musa	48 8	37 12	10 12	Karachi.
Lalitpur	40 4	20 0	20 4	Bombay.
Lalkua	50 4	20 4	30 0	Howrah.
Landi Khana	66 4	60 0	6 4	Karachi.
Latur	23 8	50 0	—26 8	Bombay.
Lawrencepur	53 8	46 0	7 8	Karachi.
Lilla	48 8	42 4	6 4	Do.
Lillooah Sorting Yard	1 12	4 4	—2 8	Howrah.
Lodhikhera	35 12	8 12	27 0	Bombay.
Lodran	32 0	43 4	—11 4	Karachi.
Lohardaga (B. N. R.)	18 12	3 4	15 8	Shalimar.
Lohian Khas	46 12	29 0	17 12	Karachi.

* The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

Freight to Destinations from nearest Indian Ports and from Tatanagar *—contd.

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Loyabad	11 0	2 4	8 12	Shalimar.
Luckeesarai	16 12	10 8	6 4	Howrah.
Lucknow	38 0	16 8	21 8	Do.
Ludhiana	49 0	26 0	23 0	Karachi.
Lyallpur	41 12	38 8	3 4	Do.
Lakheri	33 4	21 12	11 8	Bhavnagar.
Landikotal	64 8	58 0	6 8	Karachi.
Luni	26 12	39 8	-12 12	Do.
Lunavada	16 12	42 12	26 0	Bhavnagar.
Leiah	39 4	48 12	-9 8	Karachi.
Laki Marwat	52 8	53 12	-1 4	Do.
Macleodgunj Road	41 8	33 12	7 12	Do.
Madanpur	3 0	5 12	-2 12	Calcutta.
Madhosingh	29 8	20 0	9 8	Howrah.
Madhubani	25 0	19 0	6 0	Do.
Madras . . . . .	..	16 4	-16 4	..
Madura	15 0	25 0	-10 0	Madras Beach.
Maharajganj	27 12	10 12	17 0	Howrah.
Mahbubnagar	28 0	31 8	-3 8	Madras.
Mahoba	41 0	20 8	20 8	Howrah.
Mahmudabad (Oudh)	41 0	20 12	20 4	Do.
Mailani	45 8	24 8	21 0	Do.
Mailsi	34 4	41 12	-7 8	Karachi.
Makhu	45 12	30 0	15 12	Do.
Do.	45 12	20 12	16 0	Do.
Malakwal	46 8	40 8	6 0	Do.
Malerkotla	48 0	26 8	21 8	Do.
Malkapur (G. I. P.)	20 0	21 8	-1 8	Bombay.
Malkera	11 4	2 8	8 12	Shalimar.
Malout	42 4	31 0	11 4	Karachi.
Mandasa Road	10 8	6 0	4 8	Vizagapatam.
Mandi Dabwali	44 8	31 12	12 12	Karachi.
Mandsaur	30 0	36 8	6 8	Bombay.
Mandla Fort (B. N. R.)	43 4	8 8	34 12	Shalimar.
Mandra	52 12	42 0	10 12	Karachi.
Manendragarh	36 12	9 0	27 12	Shalimar.
Mangalore	24 8	39 12	-15 4	Madras.
Manikpur	35 8	14 12	20 12	Howrah.
Manmad	11 4	30 4	-19 0	Bombay.
Manzai	58 12	58 8	0 4	Karachi.
Mardan	55 12	49 4	6 8	Do.
Marh Balochan	43 8	36 12	6 12	Do.
Marhowrah	26 12	9 12	17 0	Howrah.
Mari Indus	48 0	47 12	0 4	Karachi.
Mariahu	29 4	16 0	13 4	Howrah.
Masulipatam	20 12	22 12	-2 0	Madras.
Mau Junction	31 0	13 4	17 12	Howrah.
Meerut City	45 0	17 0	28 0	Karachi.
Mettur	30 4	45 0	-14 12	Madras.
Mansa	44 12	27 0	17 12	Karachi.

*The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

Freight to Destinations from nearest Indian Ports and from Tatanagar *—contd.

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Maddur	18 4	25 8	—7 4	Madras.
Miraj	18 8	32 0	—13 8	Bombay.
Miranpur Katra	45 0	16 4	28 12	Howrah.
Mihijam	9 8	4 0	5 8	Do.
Munderwa	34 4	15 4	19 0	Do.
Mahudha	10 4	44 0	—33 12	Bhavnagar.
Motipur	25 4	19 4	6 0	Howrah.
Mansurwali	46 12	37 0	9 12	Karachi.
Malsian Shahkot	47 8	28 0	19 8	Do.
Markapur Road	22 12	28 8	—5 12	Madras.
Mona	45 12	41 4	4 8	Karachi.
Mansurpur	51 4	21 4	30 0	Do.
Maur	44 8	27 12	16 12	Do.
Malsar	16 0	42 0	—26 0	Bhavnagar.
Molisar	29 12	32 12	—4 0	Karachi.
Maholi	43 8	16 8	27 0	Howrah.
Mahidpur Road	29 0	32 12	—3 12	Bombay.
Malda	14 4	17 0	—2 12	Calcutta.
Man Ranipur	43 12	23 4	20 8	Bombay.
Mahesana	9 12	47 0	—37 4	Bhavnagar.
Makhdampur Pahoran	36 0	42 4	—6 4	Karachi.
Miyagam	10 4	44 0	—33 12	Bhavnagar.
Meturdam	16 12	30 4	—13 8	Madras.
Mhow	26 0	31 8	—5 8	Bombay.
Mian Channun	37 0	40 0	—3 0	Karachi.
Mianwali	46 4	46 4	..	Do.
Minchinabad	39 0	34 4	4 12	Do.
Miran Saheb	50 0	37 0	13 0	Do.
Mirzapur	28 8	15 0	13 8	Howrah.
Modhupur	12 0	6 0	6 0	Do.
Moga Tahsil	46 4	28 8	17 12	-Karachi.
Moghalpura	46 0	32 12	13 4	Do.
Moghalsarai	26 0	12 12	13 4	Howrah.
Mokameh Ghat	18 0	11 12	6 4	Do.
Monghyr	18 12	12 8	6 4	Do.
Montgomery	39 10	37 8	2 2	Karachi.
Moradabad	47 0	17 0	30 0	Howrah.
Motihari	27 4	21 0	6 4	Do.
Mukerian	51 8	30 12	20 12	Karachi.
Muktsar	47 0	33 4	13 12	Bombay.
Mullanpur	48 0	26 12	21 4	Karachi.
Multapi	35 0	14 4	20 12	Bombay.
Multan Cantonment	35 4	43 12	—8 8	Karachi.
Mungaili	39 0	39 0	..	Bombay.
Murtajapur (G. I. P.)	24 12	36 12	—12 0	Do.
Muttra	46 4	20 4	26 0	Do.
Muzaffarnagar	46 0	21 8	24 8	Karachi.
Muzaffarpur	24 4	9 12	14 8	Howrah.
Mymensingh	14 4	20 0	—5 12	Calcutta.
Mysore	20 4	27 8	—7 4	Madras.

*The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

Freight to Destinations from nearest Indian Ports and from Tatanagar *—contd.

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Morar Road	47 4	27 0	20 4	Bombay.
Morar Cantonment	47 4	22 4	25 0	Do.
Marwar Junction.	20 0	26 0	-6 0	Bhavnagar.
Merta Road	31 12	35 0	-3 4	Karachi.
Mamu Kanjan	39 12	40 0	-0 4	Do.
Miani	47 0	41 0	6 0	Karachi.
Morena	48 8	21 12	26 12	Bombay.
Mitha Lak	42 4	42 12	-0 8	Karachi.
Majhowlia	28 8	22 8	6 0	Howrah.
Majitha	48 8	31 8	17 0	Karachi.
Mangwal	61 8	44 8	17 0	Do.
Maonda	41 12	25 4	16 8	Bombay.
Mankiale	53 4	42 8	10 12	Karachi.
Mettupalayan	21 8	36 12	-15 4	Madras.
Midnapur	7 0	1 12	5 4	Shalimar.
Maihar	39 8	11 0	28 8	Bombay.
Madukarai	18 12	35 0	-16 4	Madras.
Manpur Nagaria	50 8	21 4	29 4	Howrah.
Morinda	49 4	15 8	33 12	Bhavnagar.
Muzaffargarh	35 4	35 4	..	Karachi.
Marwarpali	21 12	19 4	2 8	Bhavnagar.
Nabha	48 8	24 12	23 12	Karachi.
Nadiad	10 12	23 12	-13 0	Bhavnagar.
Naghbir	37 8	8 0	29 8	Bombay.
Nagina	52 12	18 12	34 0	Howrah.
Nagpur	32 12	7 12	25 0	Bombay.
Naihati	2 0	5 8	-3 8	Howrah.
Naila	27 4	5 0	22 4	Shalimar.
Naini	31 8	17 0	14 8	Howrah.
Najibabad	53 0	18 12	34 4	Do.
Nakodar	48 0	27 12	20 4	Karachi.
Nalgonda (O. A.).	38 0	40 4	-2 4	Madras.
Nalhati	9 12	7 12	2 0	Howrah.
Nanded (N. G. S.)	25 0	38 4	-13 4	Bombay.
Nandgaon	12 4	29 4	-17 0	Do.
Nandura	21 4	20 8	0 12	Do.
Nankana Saheb	44 4	35 12	8 8	Karachi.
Nanpara	41 12	21 0	20 12	Howrah.
Narasaraopet	19 4	24 12	-5 8	Madras.
Narayanganj Ghat	14 0	15 4	-1 4	Calcutta.
Narela	48 8	19 12	28 12	Karachi.
Narnaul	34 12	24 0	10 12	Bhavnagar.
Narowal	49 0	33 12	15 4	Karachi.
Narsingpur	35 4	14 12	20 8	Bombay.
Narwana	46 4	24 4	22 0	Karachi.
Nasik Road	8 12	21 12	-13 0	Bombay.
Nasirabad	26 0	23 12	2 4	Bhavnagar.
Nasrula	50 0	29 4	20 12	Karachi.
Naugachia	25 0	18 12	6 4	Howrah.
Nawabganj (Gonda)	38 0	19 4	18 12	Do.

*The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

Freight to Destinations from nearest Indian Ports and from Tatanagar*—contd.

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Nawashahr Doaba	50 12	28 12	22 0	Karachi.
Nazira	31 12	32 0	—0 4	Calcutta.
Neemuch	24 4	38 4	—14 0	Bhavnagar.
Nellimarla	5 0	7 0	—2 0	Vizagapatam.
Nellore	8 4	16 4	—8 0	Madras.
Nidadavolu	22 8	17 4	5 4	Do.
Nimbahera	32 12	39 8	—6 12	Bombay.
Nizamabad	29 0	41 0	—12 0	Do.
Noamundi	16 0	1 8	14 8	Shalimar.
Nalbari	25 4	30 8	—5 4	Calcutta.
Naurang Serai	54 8	55 12	—1 4	Karachi.
Narang	47 8	34 8	13 0	Do.
Nurpur Road	54 12	37 12	17 0	Do.
Narkatiagang	30 4	24 4	6 0	Howrah.
Navsari	11 4	36 12	—25 8	Bombay.
Nowshera	54 12	48 8	6 4	Karachi.
Nurmahal	48 8	27 0	21 8	Do.
Nuzvid	19 4	20 8	—1 4	Madras.
Nurkot	50 4	34 0	16 4	Karachi.
Nimasarai	14 8	17 12	—3 4	Calcutta.
Neral	5 8	39 4	—33 12	Bombay.
Nandyal	23 8	33 4	—9 12	Madras.
Narasari	11 8	36 12	—25 4	Bombay.
Nazira	33 4	32 8	0 12	Calcutta.
Nawalgarh	33 8	23 8	10 0	Bhavnagar.
Okara	41 4	36 0	5 4	Karachi.
Ondal	8 0	4 0	4 0	Howrah.
Ongole	12 8	16 4	—3 12	Madras.
Oorgaum	13 8	28 8	—15 0	Do.
Orai	43 8	22 12	20 12	Howrah.
Pachora	15 8	26 0	—10 8	Bombay.
Padrauna	31 4	13 8	17 12	Howrah.
Pakpattan	39 8	36 12	2 12	Karachi.
Pakki	41 12	31 8	10 4	Do.
Palghat	15 8	35 0	—19 8	Madras.
Pandaveswar	8 12	4 12	4 0	Howrah.
Pandhurna	36 8	13 4	23 4	Bombay.
Panipat	50 4	22 0	28 4	Karachi.
Panjkosi	40 12	32 8	8 4	Do.
Parasia (B. N. R.)	37 8	9 12	27 12	Bombay.
Parbad	11 4	2 4	9 0	Shalimar.
Parbhani	22 12	36 0	—13 4	Bombay.
Parlakimidi	11 0	9 4	1 12	Vizagapatam.
Palanpur (Punjab)	70 12	53 12	17 0	Kzrachi.
Pettad	11 8	42 12	—31 4	Bhavnagar.
Palanpur	12 0	39 0	—27 0	Do.
Patan	11 4	48 8	—37 4	Do.
Parbatipur	16 0	19 0	—3 0	Calcutta.
Partabgarh (Oudh)	31 4	16 8	14 12	Howrah.
Pasrur	50 0	34 12	15 4	Karachi.

*The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

Freight to Destinations from nearest Indian Ports and from Tatanagar *—contd.

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Paterhi	26 4	9 8	16 12	Howrah.
Pathankot	51 12	35 0	16 12	Karachi.
Pathardihi (E. I. R.)	11 12	5 4	6 8	Howrah.
Patiala	49 8	23 12	25 12	Karachi.
Patna	15 0	10 0	5 0	Howrah.
Patti	46 4	32 8	13 12	Karachi.
Pattoki	42 12	34 4	8 8	Do.
Paulaha	48 0	23 12	24 4	Howrah.
Pauni Road	36 8	8 8	28 0	Bombay.
Pedapalli	29 4	22 12	6 8	Madras.
Pendra Road	29 12	5 0	24 12	Vizagapatam.
Peshawar Cantonment	56 4	50 4	6 0	Karachi.
Phagwara	49 8	27 4	22 4	Do.
Pharenda (B. & N. W. R.)	34 0	13 12	20 4	Howrah.
Phepna	28 12	12 12	16 0	Do.
Phillaur	49 0	26 8	22 8	Karachi.
Phillibhit	48 4	19 8	28 12	Howrah.
Phulzarwan	45 8	41 8	4 0	Karachi.
Pindwara	29 8	42 0	-12 8	Bombay.
Pipariya	31 12	17 4	14 8	Do.
Pollachi	15 0	36 12	-21 12	Madras.
Pondicherry . . . . .	..	26 0	-26 0	..
Poona	8 12	22 0	-13 4	Bombay.
Proddatur	18 4	34 0	-15 12	Madras.
Pudukkottai	13 4	34 8	-21 4	Do.
Pulgaon	28 12	13 4	15 8	Bombay.
Puranpur	47 0	20 8	26 8	Howrah.
Purna	23 12	37 0	-13 4	Bombay.
Purnea	18 8	21 4	-2 12	Howrah.
Purulia	11 8	1 4	10 4	Shalimar.
Piplia	30 0	37 4	-7 4	Bombay.
Palia	27 4	22 0	5 4	Do.
Puri	20 12	4 8	16 4	Shalimar.
Piper City	26 4	37 8	-11 4	Bombay.
Pabbi	55 12	22 0	33 12	Karachi.
Ponduru	30 8	7 0	23 8	Shalimar.
Pindsultani Road	51 12	47 0	4 12	Karachi.
Pind Dadan Khan	47 4	41 0	6 4	Do.
Premnagar	44 4	32 12	11 8	Do.
Prachi Road	37 0	62 8	-25 8	Bombay.
Phulera	28 8	22 4	6 4	Bhavnagar.
Quetta	32 12	69 12	-37 0	Karachi.
Quila Sheikpura	45 8	34 8	11 0	Do.
Quadian Mughlan	50 0	23 8	26 8	Do.
Raganul	40 8	20 0	20 8	Bombay.
Rahon	51 0	29 0	22 0	Karachi.
Rai Bareli	35 0	16 8	18 8	Howrah.
Raichur	22 8	38 4	-15 12	Madras.
Raigarh	23 12	4 0	19 12	Shalimar.

*The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

Freight to Destinations from nearest Indian Ports and from Tatanagar *—contd.

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Raipur	22 0	5 0	17 0	Vizagapatam.
Rairangpur	13 12	1 0	12 12	Shalimar.
Raiwind	44 8	32 8	12 0	Karachi.
Rajahmundry	23 4	16 8	6 12	Shalimar.
Rajali	39 4	8 12	30 8	Bombay.
Raja-ka-Shaspur	49 12	17 0	32 12	Howrah.
Rajgangpur	18 8	2 4	16 4	Shalimar.
Rajgarh	43 8	25 0	18 8	Bombay.
Rajghat Narora	51 0	17 0	34 0	Howrah.
Rajim	24 4	6 0	18 4	Vizagapatam.
Rajkot	28 8	53 12	-25 4	Bombay.
Rajmehal	13 4	11 4	2 0	Howrah.
Rajnagar	25 8	19 4	6 4	Do.
Rajnandgaon	24 8	5 12	18 12	Vizagapatam.
Rajpura	50 8	23 4	27 4	Karachi.
Ramkistopore . . . . .	..	3 12	-3 12	Shalimar.
Ramnagar	53 8	23 8	30 0	Howrah.
Rampore Haut	9 4	7 8	1 12	Do.
Rampura Phul	45 4	28 4	17 0	Karachi.
Rampur	48 12	17 0	31 12	Howrah.
Ramtek	35 0	7 12	27 4	Bombay.
Ranaghat	3 12	6 8	-2 12	Calcutta.
Ranchi	16 4	2 8	13 12	Shalimar.
Raniganj	8 4	3 12	4 8	Howrah.
Ranipat	6 4	22 0	-15 12	Madras.
Ramganj Mandi	28 4	24 0	4 4	Bhavnagar.
Raiganj	19 8	18 0	1 8	Calcutta.
Rajapalaiyan	13 12	33 8	-19 12	Madras.
Ranbirsinghpura	49 12	36 8	13 4	Karachi.
Raghunathpur	24 8	12 4	12 4	Howrah.
Rajakasahaspur	49 12	17 8	32 4	Do.
Raruli	11 0	10 0	1 0	Calcutta.
Rasra	29 8	12 12	16 12	Howrah.
Rawalpindi	54 4	43 12	10 8	Karachi.
Raxaul	29 0	23 0	6 0	Howrah.
Reengug	30 12	22 4	8 8	Bhavnagar.
Rewari	36 4	22 8	13 12	Do.
Risalpur Cantonment	55 4	49 0	6 4	Karachi.
Rishra Sidings	1 12	4 8	-2 12	Howrah.
Rohri	18 8	54 12	-36 4	Karachi.
Rohtak	47 4	23 4	24 0	Do.
Rohtas	24 4	13 12	10 8	Howrah.
Roorkee	50 12	18 12	32 0	Do.
Rupar	54 0	26 8	27 8	Karachi.
Rutlam	24 0	33 12	-9 12	Bombay.
Renala Khurd	41 12	35 4	6 8	Karachi.
Riazabad	36 0	42 4	-6 4	Do.
Rohanakalan	51 8	20 12	30 12	Do.
Rustam Sargana	38 12	33 4	5 8	Do.
Rajpipla	18 0	30 8	12 8	Bhavnagar.

*The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

Freight to Destinations from nearest Indian Ports and from Tatanagar *—contd.

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Rangpur	18 0	20 12	—2 12	Calcutta.
Sabarmati	8 12	34 12	—26 0	
Sadarnagar	32 0	24 4	7 12	Howrah.
Safidon	48 12	32 12	16 0	Karachi.
Sahajahanpur	44 0	26 8	17 8	Howrah.
Saharanpur	47 0	28 12	18 4	Karachi.
Sahdol	33 4	15 12	17 8	Vizagapatam.
Sakti (B. N. R.)	25 12	14 8	11 4	Shalimar.
Salem	12 12	38 12	—26 0	Madras.
Salimpur	30 8	23 8	7 0	Howrah.
Salogra	61 8	41 12	19 12	Karachi.
Salur	7 8	18 0	10 8	Vizagapatam.
Samalkha	50 0	31 4	18 12	Karachi.
Samalkot	25 0	24 8	0 8	Shalimar.
Samasata	33 0	52 4	—19 4	Karachi.
Siva Kashi	18 8	33 4	—14 12	Madras.
Shivpuri	34 0	27 0	7 0	Bombay.
Shah Jewana	41 4	46 0	—4 12	Karachi.
Sheikhupur	49 0	19 4	29 12	Howrah.
Sagauli	28 0	22 0	6 0	Do.
Sakhoti Tanda	50 8	20 8	30 0	Karachi.
Sawai Madhopur	27 0	25 0	2 0	Bhavnagar.
Shri Madhopur	31 0	22 4	8 12	Do.
Sojat Road	20 12	25 8	—4 12	Do.
Sodepur	1 12	6 0	—4 4	Calcutta.
Singarayakonda	11 8	16 8	—5 0	Madras.
Shahpur Patoree	22 8	16 8	6 0	Howrah.
Sasamusa	29 12	11 12	18 0	Do.
Samastipur	22 8	16 4	6 4	Do.
Sambalpur	23 0	3 12	19 4	Shalimar.
Sambrial	48 4	36 12	11 8	Karachi.
Sambhu	50 12	23 0	27 12	Do.
Sanahwal	49 8	25 4	24 4	Do.
Sangali	18 12	32 0	—13 4	Bombay.
Sanganer	39 12	27 0	12 12	Do.
Sangla Hill	43 4	36 12	6 8	Karachi.
Sangrur	48 0	26 4	21 12	Do.
Sankaridrug	13 8	30 0	—16 8	Madras.
Santhia	8 4	6 12	1 8	Howrah.
Saoner (B. N. R.)	35 0	8 8	26 8	Bombay.
Sargodha	43 12	40 12	3 0	Karachi.
Sarna	51 8	44 12	6 12	Do.
Sarsaul	38 0	17 0	21 0	Howrah.
Satara Road	14 0	27 0	—13 0	Bombay.
Satur	15 4	34 0	—18 12	Madras.
Saugor	40 12	15 0	25 12	Bombay.
Savan	28 4	11 4	17 0	Howrah.
Sealdah . . . . .	..	5 4	—5 4	..
Secunderabad	31 4	23 0	8 4	Madras.
Sehore Cantonment (G. I P.).	34 4	21 12	12 8	Bombay.

*The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

*Freight to Destinations from nearest Indian Ports and from Tatanagar *—contd.*

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Seohara	51 12	18 8	33 4	Howrah.
Seohara (Bijnor)	51 12	18 12	33 0	Do.
Seoni	41 4	8 12	32 8	Bombay.
Serajganj Bazar	8 0	14 4	-6 4	Calcutta.
Shahabad	23 12	38 8	-14 12	Bombay.
Shahdara	46 4	33 4	13 0	Karachi.
Shahebgunge	14 4	11 8	2 12	Howrah.
Shahgai	60 12	54 8	6 4	Karachi.
Shahganj	30 0	16 8	13 8	Howrah.
Shahgarh	47 8	26 4	21 4	Do.
Shahpur City	45 4	42 8	2 12	Karachi.
Shalimar . . . . .	..	3 0	-3 0	..
Shamli	50 12	20 0	30 12	Calcutta.
Shankarpalli	30 0	32 4	-2 4	Bombay.
Shegaon	22 0	19 8	2 8	Do.
Sheikhpura	17 12	11 8	6 4	Howrah.
Sultanganj	18 0	13 0	5 0	..
Sylhet	24 8	21 8	3 0	Howrah.
Sarak	15 8	3 4	12 4	Do.
Shimoga Town	25 12	41 0	-15 4	Madras.
Santragachi	2 12	2 12	..	Shalimar.
Sidhpur	11 0	46 8	-35 8	Bhavnagar.
Sitalpore	24 12	18 12	6 0	Howrah.
Sikhanwala	43 4	34 12	8 8	Karachi.
Shersheh	34 8	44 4	-9 12	Do.
Shikohabad	46 0	17 0	29 0	Howrah.
Shiupur	26 12	16 8	10 4	Do.
Shivrajpur	15 12	43 8	-27 12	Bhavnagar.
Shoghi	65 4	35 8	29 12	Karachi.
Sholapur	18 8	43 0	-24 8	Bombay.
Shohratgunj	36 0	16 4	19 12	Howrah.
Shorkot Road	37 8	42 4	-4 12	Karachi.
Shujabad	33 12	45 0	-11 4	Do.
Sialkot Junction	49 0	36 0	13 0	Do.
Sihala	53 12	43 0	10 12	Do.
Siliguri	21 12	24 8	-2 12	Sealdah.
Sillanwali	42 8	40 8	2 0	Karachi.
Simla	68 0	38 8	29 8	Do.
Sindewahi	39 0	8 8	30 8	Bombay.
Singhjani	19 0	21 12	-2 12	Calcutta.
Sirhind	51 0	23 12	27 4	Karachi.
Sirsa	47 12	30 4	17 8	Bombay.
Sisawa Bazar	34 0	13 12	20 4	Howrah.
Sitamari	26 4	20 0	6 4	Do.
Sitapur City	41 8	20 4	21 4	Do.
Sitarampur	9 4	3 12	5 8	Do.
Sohagpur (G. I. P.)	31 0	19 0	12 0	Bombay.
Sohawa	51 12	41 0	10 12	Karachi.
Solon	60 8	31 0	29 8	Do.
Solon Brewery	61 4	31 8	29 12	Do.

*The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

Freight to Destinations from nearest Indian Ports and from Tutunagar *—contd.

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Sonder	40 4	7 8	32 12	Shalimar.
Sonepat	49 0	20 4	28 12	Karachi.
Sonepore	24 0	8 8	15 8	Howrah.
Sonwars	57 12	28 0	29 12	Karachi.
Sriganganagar	48 4	36 0	12 4	Do.
Sukheke	44 0	37 4	6 12	Do.
Sukkur	18 12	55 0	-36 4	Do.
Sultanpur	33 0	23 12	9 4	Howrah.
Sultanpur Lodi	47 0	29 0	18 0	Karachi.
Summerhill	67 8	37 12	29 12	Do.
Sunum	48 8	27 0	21 8	Do.
Surat	11 8	21 4	-9 12	Bombay.
Sutna	38 4	12 4	26 0	Howrah.
Sonusa	14 8	1 0	13 8	Shalimar.
Sukho	53 4	42 8	10 12	Karachi.
Sarai Alamgir	49 12	38 12	11 0	Do.
Sitra Shahdadkot	20 8	60 8	-40 0	Do.
Sambal Hatim Sarai	50 12	17 0	33 12	Howrah.
Saidpur	17 4	20 4	-3 0	Calcutta.
Sarem	28 8	29 12	-1 4	Madras.
Sakhoti Tanda	42 4	22 0	20 4	Bhavnagar.
Tadepallygudam	21 8	18 0	3 8	Madras.
Tadpatri	15 4	31 0	-15 12	Do.
Tahsildeoria	26 12	13 12	13 0	Howrah.
Talwandi	45 8	29 8	16 0	Karachi.
Tandlianwala	41 4	38 12	2 8	Do.
Tanakpur	50 8	21 8	29 0	Howrah.
Tandaurmar	50 4	29 12	20 8	Karachi.
Tandur	27 4	35 0	-7 12	Bombay.
Tanjore	12 4	30 4	-18 0	Madras Beach.
Tank	56 12	56 12	..	Karachi.
Tapa	45 8	27 8	18 0	Do.
Taradevi	66 8	36 8	30 0	Do.
Tarn Taran	47 0	31 12	15 4	Do.
Taxila	54 12	45 0	9 12	Do.
Tahsil Sharkar Garh	50 8	34 8	16 0	Do.
Tempa	37 0	8 0	29 0	Bombay.
Tenali	16 8	16 4	0 4	Madras.
Thal	56 12	53 12	3 0	Karachi.
Theni	15 4	41 0	-25 12	Madras.
Tilaiya	19 12	10 8	9 4	Howrah.
Tilda	23 8	4 12	18 12	Vizagapatam.
Tindharia	32 0	34 12	-2 12	Sealdah.
Tinnevelly	16 0	34 12	-18 12	Madras Beach.
Tiruvannamalai	8 12	25 12	-17 0	Madras.
Tittagarh	1 12	6 0	-4 4	Sealdah.
Toba Tek Singh	38 12	41 4	-2 8	Karachi.
Tohana	45 12	25 4	20 8	Do.
Taranga Hill	11 12	49 0	-37 4	Bhavnagar.
Timba Road	13 4	41 0	-27 12	Do.

* The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—contd.

Freight to Destinations from nearest Indian Ports and from Tatanagar*—contd.

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Toposi	8 8	4 8	4 0	Howrah.
Trichinopoly	12 0	30 4	—18 4	Madras.
Trichur	16 8	36 12	20 4	Do.
Tukneri	40 12	20 8	20 4	Bombay.
Tumsar Road	36 4	7 0	29 4	Do.
Tuni	27 0	13 0	14 0	Madras.
Tumsar Town	37 0	8 12	28 4	Bombay.
Tuticorin	16 8	34 12	—18 4	Madras Beach.
Titalagarh	40 8	7 0	33 8	Shalimar.
Tihu	25 12	29 12	—4 0	Calcutta.
Tinsukia	33 0	33 12	—0 12	Do.
Tanakallu	13 12	29 8	—15 12	Madras.
Takhti Bhai	56 4	49 12	6 8	Karachi.
Tapri	45 0	19 8	25 8	Bhavnagar.
Udaipur	35 12	45 12	—10 0	Do.
Ujjain	30 0	29 12	0 4	Bombay.
Ukhra	8 8	4 8	4 0	Howrah.
Ultadanga . . . . .	..	5 8	—5 8	Calcutta.
Umrer (B N R)	35 8	8 8	27 0	Bombay.
Umri	26 8	39 0	—12 8	Do.
Unao	38 0	16 4	21 12	Howrah.
Uskabazar	35 0	15 12	19 4	Do.
Usman Khattar	55 0	45 0	10 0	Karachi.
Unjha	10 12	46 10	—35 14	Bhavnagar.
Usmanwala	43 4	32 12	10 8	Karachi.
Valtoha	45 8	32 8	13 0	Do.
Vaniyambodi	9 0	24 12	—15 12	Madras.
Vellore Cantonment	7 12	23 0	—15 4	Do.
Venkatnagar	30 8	5 4	25 4	Vizagapatam.
Verka	48 0	31 4	16 12	Karachi.
Vihari	35 8	40 12	—5 4	Do.
Vikarabad	28 12	33 4	—4 8	Bombay.
Vishnupur	9 12	2 0	7 12	Shalimar.
Vizagapatam . . . . .	..	8 0	—8 0	
Vizianagram	4 12	7 8	—2 12	Vizagapatam.
Vriddachalam	9 12	28 0	—18 4	Madras.
Virudhunagar	18 4	33 0	—14 14	Do.
Vadnagar	11 0	48 4	—37 4	Bhavnagar.
Vina	10 4	44 0	—33 12	Do.
Wadhwan	22 12	49 4	—26 8	Bombay.
Waltair	30 12	8 0	22 12	Madras.
Wan Radharam	42 4	35 12	7 8	Karachi.
Warangal	26 0	25 12	0 4	Madras.
Waraseoni (B. N. R.)	40 12	7 8	33 4	Shalimar.
Warburton	44 8	35 5	9 4	Karachi.
Wardha	29 12	12 4	17 8	Bombay.
Warora	32 8	14 8	18 0	Do.
Waryan	38 8	42 12	—4 4	Karachi.
Wasawewala	40 8	35 8	5 0	Do.
Waghoria	15 4	32 4	—17 0	Bhavnagar.

* The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 19—*conold.**Freight to Destinations from nearest Indian Ports and from Tatanagar*—conold.*

Col. 1. Destination.	Col. 2. Freight from nearest port.	Col. 3. Freight from Tatanagar.	Col. 4. Difference.	Col. 5. Nearest port.
	Per ton. Rs. A.	Per ton. Rs. A.	Per ton. Rs. A.	
Warea	38 8	18 0	20 8	Bombay.
Wazirabad	47 4	46 12	0 8	Karachi.
Wun	33 8	25 8	8 0	Bombay.
Wagrod	12 0	49 8	-37 8	Bhavnagar.
Yellamanchili	28 8	21 12	6 12	Madras.
Yeotmal	32 4	33 12	-1 8	Bombay.
Yerraguntla	12 12	38 8	-25 12	Madras.
Yusafwala	40 0	35 12	4 4	Karachi.
Yesvantpur Junction	15 4	23 4	-8 0	Madras.
Zankhvav	18 12	39 8	-20 12	Bhavnagar.

* The figures for freights from Tatanagar are those prevailing up to 30th June 1933.

SUPPLEMENTARY STATEMENT 20.

Freight Rates charged by B. N. R. prior to 30th June 1933 and proposed to be charged with effect from 1st July 1933.

Commodity.	Old Rates Pies per maund mile.	Proposed new rates. Pies per maund mile.
A. Inward Traffic.		
1. Iron Ore—		
Gurumahisani	066	12 + 2p. siding. + 3p. terminal.
Noamundi	066 + 2p. siding	12 + 2p. siding.
Badampahar	088 + 3p. terminal	12 + 3p. terminal.
Kuldha	088 + 3p. terminal + 1p. siding.	12 + 3p. terminal. + 1p. siding.
2. Manganese—		
Balaghaj	066 + 1/3p. siding + 3p. transhipment.	10 + 1p. siding. + 3p. transhipment.
Saongi	066 + 2p. siding + 3p. transhipment.	10 + 2p. siding. + 3p. transhipment.
3. Limestone and Dolomite—		
Birmitrapur	066 + 1p. siding	12 + 1p. siding.
Baraduar	066	12.
4. Fluorspar—		
Jetty and Kidderpore Docks	066 + 4p. terminal + 6p. ferry.	12 + 4p. terminal. + 6p. ferry.
5. Chrome Ore	066	12.
6. Coal and Coke—		
(a) B. N. R. Siding	066 + 2 as. per ton terminal	165 + 4 as. per ton.
(b) E. I. R. Siding	066 + 4 as. per ton terminal	165 + 4 as. per ton.

* Over the branch line for a distance of 18 miles Re. 0-6-0 per ton was levied.

SUPPLEMENTARY STATEMENT 20—contd.

Freight Rates charged by B. N. R. prior to 30th June 1933 and proposed to be charged with effect from 1st July 1933—contd.

Commodity.	Old Rates. Pies per maund mile.	Proposed new rates. Pies per maund mile.
B. Outward Traffic.		
(a) Finished Products (excluding Beams and Channels) less than 300 miles.	.10 . . . . .	.166 up to 299 miles. .12 300 to 499 miles. .10 500 miles and over.
(b) Beams and Channels (less than 300 miles).	.166 . . . . .	.166.
(c) Coal Tar . . . . .	.166 . . . . .	.166 up to 299 miles. .12 300 to 499 miles .10 500 miles and over.
(d) Sulphate of Ammonia . . . . .	.166* . . . . .	.10.
(e) Sulphuric Acid . . . . .	.166 . . . . .	.88 + 8p. terminal.
(f) Finished Products and Bye-Products to K. P. Docks for shipment:—		
(i) Pig Iron and Sheet-bar	.066 + 4p. terminal + 6p. ferry.	.12 + 4p. terminal. + 6p. ferry.
(ii) Other finished products and coal tar	.066 + 4p. terminal + 6p. ferry . . . . .	.186 + 4p. terminal. + 6p. ferry.
(iii) Sulphate of Ammonia	.066 + 4p. terminal + 6p. ferry.	.10 + 4p. terminal. + 6p. ferry.
(iv) Ferro Manganese . . . . .	.066 + 4p. terminal + 6p. ferry.	.12 + 4p. terminal. + 6p. ferry.

* From 1-8-1928 the rate was .10 pie per maund per mile.

REVISED SUPPLEMENTARY STATEMENT 20 (REVISED MARCH 1934).

Freight rates charged by B. N. R. prior to 30th June 1933 and revised new rates to be charged with effect from 1st July 1933, as proposed by the Railway Board.

Commodity.	Old Rates. Pies per maund mls.		Final Rates. Pies per maund mile	
	Carrying Charges.	Extra Charges.	Carrying Charges.	Extra Charges.
A.—Inward Traffic.				
1. Iron Ore—				
Gorumahisani . . . . .	.066	..	.12 less 25%	2p. Siding. + 3p. Terminal.
Noamundi . . . . .	.066	2p. Siding	.12 ,, ,,	2p. Siding.
Badampahar . . . . .	.083	3p. Terminal	.12 ,, ,,	3p. Terminal.
Kuldha . . . . .	.083	3p. Terminal + 1p. Siding.	.12 ,, ,,	3p. Terminal. + 1p. Siding.
2. Manganese—				
Balsghat . . . . .	.066	1/3p. Siding + 3p. Transhipment.	.10 ,, ,,	1p. Siding. + 3p. Transhipment.
Saongi . . . . .	.066	2p. Siding + 3p. Transhipment.	.10 ,, ,,	2p. Siding. + 3p. Transhipment.

REVISED SUPPLEMENTARY STATEMENT 20 (REVISED MARCH 1934)—
contd.

Freight rates charged by B. N. R. prior to 30th June 1933 and revised new rates to be charged with effect from 1st July 1933, as proposed by the Railway Board—contd.

Commodity.	Old Rates. Pies per maund mile.		Final Rates. Pies per maund mile.	
	Carrying Charges.	Extra Charges.	Carrying Charges.	Extra Charges.
3. Limestone and Dolomite—				
Bhimitrapur	·066*	1p. Siding	·12 less 25%	1p. Siding.
Baraduar	·066	..	·12 " "	..
4. Fluorspar—				
Jetty and Kidderpore Docks.	·066	4p. Terminal + 6p. Ferry.	·12 " "	4p. Terminal. + 6p. Ferry.
5. Chrome Ore	·066	..	·12 " "	..
6. Coal and Coke—				
(a) B. N. R. Sidings	·066	2 as. per ton Terminal.	·165 + 15% surcharge. Less 25% rebate	4 as. per ton Terminal. + 15% surcharge less 25% on surcharge.
(b) E. I. R. Sidings .	·066	4 as. per ton Terminal.	·165 + 15% surcharge. Less 25% rebate.	4 as. per ton Terminal. + 15% surcharge less 25% on surcharge.
B.—Outward Traffic.				
(a) Finished Products (excluding Beams and Channels less than 300 miles).	·10	..	·166 up to 299 miles. ·12 300 to 499 miles. ·10 500 miles and over less 25%.	..
(b) Beams and Channels (less than 300 miles).	·106	..	·166 up to 299 miles. ·12 300 to 499 miles. ·10 500 miles and over less 25%.	..
(c) Coal-Tar	·166	..	·166 up to 299 miles. ·12 300 to 499 miles. ·10 500 miles and over less 25%.	..
(d) Sulphate of Ammonia	†166	..	·10 less 25%	..
(e) Sulphuric Acid	·166	..	·83 less 25%	8 p. Terminal.
(f) Finished products and bye-products to K. P. Docks for shipment:—				
(i) Pig Iron and Sheet Bar.	·066	4p. Terminal + 6p. Ferry.	·12 less 25%	4p. Terminal. + 6p. Ferry.
(ii) Other finished products and coal tar.	·066	Do.	·166 less 25%	Do.
(iii) Sulphate of Ammonia.	·066	Do.	·10 less 25%	Do.
(iv) Ferro Manganese	·066	Do.	·42 less 25%	Do.

* Over the Branch Line for a distance of 13 miles Rs. 0-8-0 per ton was levied.
† From 1-8-1928 the rate was ·10 pie per maund per mile.

SUPPLEMENTARY STATEMENT 21.

Freight Expenditure on Old and New Rates for 12 months ending January 31st, 1932

(Tons and Rupees thousands.)

	Tons.	Old Rates.		Proposed New rates.		Difference.
		Total rate* per ton.	Total payment.	Total rate* per ton.	Total payment.	
		Rs. A. P.	Bs.	Rs. A. P.	Bs.		Bs.
A.—Raw Materials.						
(1) Iron Ore—						
Gurumahisani . . .	337.3	0 7 6½	159.4	1 6 8	477.8	318.4
Noamundi . . .	382.5	1 0 3½	389.5	1 8 11	595.7	206.2
Badampahar . . .	268.5	1 1 4	290.9	1 6 9	381.8	90.9
Kuldha . . .	132.1	1 1 8	145.9	1 6 8	187.2	41.3
(2) Manganese Ore . . .	13.9	5 4 1	73.2	7 11 1½	107.2	34.0
(3) Limestone and Dolomite—						
Birmitrapur . . .	294.2	1 10 1½	480.3	2 2 0	625.1	144.8
Baraduar . . .	37.4	2 5 8	88.1	4 4 1	159.2	71.1
(4) Fluorspar . . .	0.5	2 14 1½	1.5	3 15 6	2.0	0.5
(5) Chrome Ore . . .	2.4	0 7 6½	1.1	0 11 4	1.7	0.6
(6) Coal and Coke—						
B. N. B. Sidings . . .	1,199.4	1 4 0	1,498.5	2 11 1½†	3,233.9	1,735.4
E. I. B. Sidings . . .	275.4	1 5 8½	883.2	2 11 0†	740.2	357.0
Total Raw Materials . . .	..	..	3,511.6	..	6,511.8	3,000.2†
B.—Products.						
(a) To Kidderpore Docks for shipment—						
(i) Pig Iron and Sheet-Bar. ^a	110.5	2 14 1½	321.2	3 15 6	442.5	121.3
(ii) Other products . . .	59.4	2 14 1½	171.1	5 1 8	303.1	132.0
(b) (i) Beams and Channels below 300 miles.	44.9	3 4 9½	148.0	3 4 9½	148.0	Nil.
1) Beams and Channels above 300 miles and all other products to all destinations.	272.0	4 7 1½	1,209.4	6 9 0†	1,735.3	575.9
Total for Products . . .	..	..	1,849.7	..	2,678.9	829.2
GRAND TOTAL . . .	..	..	5,361.3	..	9,190.7	3,829.4

* Including terminals and siding charges.

† Not including the 15 per cent surcharge on coal.

REVISED SUPPLEMENTARY STATEMENT 21 (REVISED MARCH, 1934).

Freight Expenditure on Old and New Rates for 12 months ending January 31st, 1933.

(Tons and Rupees thousands.)

	Tons.	Old Rates.		Final Rates.		Difference. Rs.
		Total rate* per ton.	Total payment.	Total rate* per ton.	Total payment.	
		Rs. A. P.	Rs.	Rs. A. P.	Rs.	
A.—Raw Materials.						
(1) Iron Ore—						
Gurumahisani	337.3	0 7 6½	159.4	1 3 10	418.1	258.7
Noamundi	382.5	1 0 3½	389.5	1 3 10	474.2	84.7
Badampahar	268.5	1 1 4	290.9	1 2 9	314.7	23.8
Kuldiha	132.1	1 1 8	145.9	1 3 3	159.0	13.1
(2) Manganese Ore	13.9	5 4 1	73.2	5 13 3½	81.2	8.0
(3) Limestone and Dolomite—						
Birmitrapur	294.2	1 10 1½	480.3	1 10 1	479.6	—7
Baraduar	37.4	2 5 8	88.1	3 3 1	119.4	31.3
(4) Fluorspar	0.5	2 14 1½	1.5	3 5 3½	1.7	.2
(5) Chrome Ore	2.4	0 7 6½	1.1	0 8 6	1.2	.1
(6) Coal and Coke—						
B. N. B. Sidings	1,190.4	1 4 0	1,498.5	2 6 2½	2,865.2†	1,366.7
B. I. B. Sidings	275.4	1 5 8½	383.2	2 6 1	655.6†	272.4
Total Raw Materials . . . . .	..	..	3511.6	..	5,569.9	2,058.3
B.—Products.						
(a) To Kidderpore Docks for shipment—						
(1) Pig Iron and Sheet Bars	110.5	2 14 1½	321.2	3 5 3½	367.7	46.5
(II) Other products	59.4	2 14 1½	171.1	4 2 11	248.3	77.2
(b) (I) Beams and Channels below 300 miles	44.9	3 4 9½	143.0	2 7 7½	111.0	—37.0
(II) Beams and Channels above 300 miles and all other products to all destinations	272.0	4 7 1½	1,209.4	4 15 11½	1,358.6	149.2
Total for Products . . . . .	..	..	1,849.7	..	2,085.6	235.9
GRAND TOTAL . . . . .	..	..	5,361.3	..	7,655.5	2,994.2

* Including terminal and siding charges.

† Including the 15 per cent. surcharge on coal.

SUPPLEMENTARY STATEMENT 22.

Freight Expenditure on Old and New Rates for 530,000 tons of Saleable Steel.

(Tons and Rupees thousands.)

	Tons.	Old Rates.		New Rates.		Difference.
		Total rate* per ton.	Total payment.	Total rate* per ton.	Total payment.	
		Rs. A. P.	Rs.	Rs. A. P.	Rs.	
<i>I.—Steel only, not including provision for surplus Pig Iron.</i>						
<i>A.—Raw Materials.</i>						
Iron Ore	1,800-0	0 14 1	1,144-3	1 7 5½	1,906-0	761-7
Manganese Ore	28-0	5 4 1	147-1	7 11 1½	215-5	68-4
Limestone and Dolomite	390-0	1 11 5	668-3	2 5 10	922-2	253-9
Fluorspar	0-7	2 14 1½	2-0	3 15 6	2-8	0-8
Chrome Ore	1-6	0 7 6½	0-8	0 11 4	1-1	0-3
Coal	1,378-0	1 4 5	1,758-4	2 11 1½†	3,771-2	2,012-8†
Total Raw Materials for Saleable Steel only.	..	..	3,720-9	..	6,818-8	3,097-9
<i>B.—Despatch of Saleable Steel only.</i>						
Inland	265,000	4 7 1½	1,178-4	6 9 0½	1,755-5	577-1
For shipment	25,000	2 14 1½	72-0	5 1 8	127-6	55-6
Beams and Channels below 300 miles.	50,000	3 4 9½	165-0	3 4 9½	165-0	NW.
Total materials for des- patch of steel only.	..	..	1,415-4	..	2,048-1	632-7
<i>II.—Extra for 20,000 tons surplus Pig Iron.</i>						
Raw Materials . . . . .	..	..	38-8	..	70-1	31-3
Despatch: India	10,000	3 0 0	30-0	5 0 0	50-0	20-0
Export	10,000	2 14 1½	28-5	3 15 6	39-7	11-2
Total . . . . .	..	..	58-5	..	89-7	31-2
<i>III.—Extra for 120,000 tons surplus Pig Iron.</i>						
Raw Materials . . . . .	..	..	465-6	..	841-2	375-6
Despatch: India	10,000	3 0 0	30-0	5 0 0	50-0	20-0
Export	110,000	2 14 1½	817-0	3 15 6	436-6	110-6
Total . . . . .	..	..	847-0	..	486-6	139-6

* Including terminals and siding charges.

† Not including the 15 per cent. surcharge on coals.

REVISED SUPPLEMENTARY STATEMENT 22 (REVISED MARCH, 1934).

Freight Expenditure on Old and New rates for 530,000 tons of Saleable Steel.

(Tons and Rupees thousands.)

	Tons.	Old Rates.		Final Rates.		Difference.
		Total rate* per ton.	Total payment.	Total rate* per ton.	Total payment.	
		Rs. A. P.	Rs.	Rs. A. P.	Rs.	

I.—Steel only, not including provision for surplus Pig Iron.

A.—Raw Materials.						
Iron Ore	1,300-0	0 14 1	1,144-3	1 3 6	1,584-3	440-0
Manganese Ore	23-0	5 4 1	147-1	5 13 3½	183-2	16-1
Limestone and Dolomite	390-0	1 11 5	668-3	1 12 10½	702-8	34-5
Fluorspar	0-7	2 14 1½	2-0	3 5 3½	2-3	0-3
Chrome Ore	1-6	0 7 0½	0-8	0 8 6	0-8	..
Coal	1,378-0	1 4 5	1,758-4	2 6 2	3,287-1½	1,528-7
Total raw materials for saleable steel only.	..	..	3,720-0	..	5,740-5	2,019-6
B.—Despatch of Saleable Steel only.						
Inland	265,000	4 7 1½	1,178-4	4 15 11½	1,323-6	145-2
For shipment	25,000	2 14 1½	72-0	4 2 11	104-6	32-6
Beams and Channels below 300 miles.	50,000	3 4 0½	165-0	2 7 7½	123-7	-41-3
Total materials for despatch (steel only).	..	..	1,415-4	..	1,551-9	139-05

II.—Extra for 20,000 tons surplus Pig Iron.

Raw Materials . . . . .	..	..	77-6	..	119-3	41-7
Despatch—India	10,000	3 0 0	30-0	3 12 0	37-5	7-5
Export	10,000	2 14 1½	28-5	3 5 3½	33-2	4-7
Total . . . . .	..	..	58-5	..	70-7	12-2

III.—Extra for 120,000 tons surplus Pig Iron.

Raw Materials . . . . .	..	..	465-8	..	715-8	250-2
Despatch—India	10,000	3 0 0	30-0	3 12 0	37-5	7-5
Export	110,000	2 14 1½	317-0	3 5 3½	365-2	48-2
Total . . . . .	..	..	347-0	..	402-7	55-7

* Including terminals and siding charges.

† Including the 15 per cent. surcharge on Coe's.

SUPPLEMENTARY STATEMENT 23.

Purchase, Production, Consumption, etc., of Coke.

Year.	Quantity of purchased coke received.	Production at Jamshedpur.	Total quantity available.	Total consumption.	Price of purchased Coke.	Net Works Cost of coke at Jamshedpur.
	Tons lakhs.	Tons lakhs.	Tons lakhs.	Tons lakhs.	Rs. per ton.	Rs. per ton.
1925-26 . . .	..	6.9	6.9	7.2	..	11.8
1926-27 . . .	0.8	7.2	8.0	7.6	11.3	9.9
1927-28 . . .	0.3	7.4	7.7	7.9	10.8	9.0
1928-29 . . .	0.6	5.7	6.3	6.0	10.1	9.3
1929-30 . . .	0.9	7.2	8.1	8.6	10.6	9.2
1930-31 . . .	1.8	6.7	8.5	8.4	10.5	9.5
1931-32 . . .	2.5	7.1	9.6	9.3	10.5	9.1
1932-33 . . .	0.7	6.8	7.5	7.4	10.8	8.2
January to June 1933.	0.3	3.5	3.8	3.9	10.3	7.8

NOTE.—The quantity of coke purchased from year to year has been varied so as to keep the quantity available as close as practicable to the quantity consumed. The consumption has depended mainly on the output of pig iron.

SUPPLEMENTARY STATEMENT 24.

Pig Iron : Quantities despatched on sale and net realisations f.o.r. Tatanagar.

Year.	Quantity.			Average realisation.		
	India.	Export.	Total.	India.	Export.	Average.
	Tons thousands.	Tons thousands.	Tons thousands.	Rs. per ton.	Rs. per ton.	Rs. per ton.
1925-26 . . .	32.4	116.4	148.8	47.1	35.7	38.3
1926-27 . . .	26.9	126.7	153.6	50.2	38.3	40.4
1927-28 . . .	18.9	83.3	102.2	50.2	39.7	41.6
1928-29 . . .	27.1	87.8	114.9	47.0	37.0	39.4
1929-30 . . .	26.6	116.7	143.3	46.4	34.8	36.9
1930-31 . . .	27.1	88.0	115.1	29.5	29.7	29.6
1931-32 . . .	29.8	144.2	174.0	28.2	21.5	22.7
1932-33 . . .	18.9	84.7	103.6	30.6	19.7	21.7
January to June 1933.	5.2	74.0	80.1	23.7	17.9	18.0

SUPPLEMENTARY STATEMENT 25.

Scrap : Quantities despatched on sale and net realisations f.o.r. Tatanagar,

(a) Combined totals and averages,

	Total Quantity.	Average realisation.
	Tons thousands.	Rs. per ton.
1925-26	12.8	37.0
1926-27	31.4	30.2
1927-28	34.4	26.9
1928-29	44.7	30.0
1929-30	53.8	30.9
1930-31	45.9	34.6
1931-32	59.0	22.3
1932-33	53.2	31.5
January to June 1933.. . . .	30.3	33.8

(b) Classified according to kinds of Scrap.

	Quantity.				Average realisation.			
	1930-31.	1931-32.	1932-33.	Jan. to June 1933.	1930-31.	1931-32.	1932-33.	Jan. to June 1933.
	Tons thousands.	Tons thousands.	Tons thousands.	Tons thousands.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Blooming Mill	0.2	27.5	27.4	17.9	38.3	15.5	21.5	23.6
Sheet-bar and Billet	9.7	1.9	5.1	1.2	29.0	22.8	31.1	37.9
Rail Mill	8.6	8.5	1.6	0.1	43.0	18.8	23.4	26.8
Bar and Merchant Mills	2.9	2.7	2.8	0.7	66.8	69.7	68.6	70.1
Plate Mill	7.6	6.7	5.9	4.0	45.0	31.8	49.0	51.4
Sheet Mill	10.2	9.8	9.9	6.8	26.0	25.6	40.2	50.0
Miscellaneous	11.7	1.9	0.5	0.6	29.3	18.1	24.0	17.1

SUPPLEMENTARY STATEMENT 25—contd.

Scrap.

(c) Classified according to destination.

	QUANTITY.				AVERAGE REALISATION.			
	For consumption in India.		For Export.		For consumption in India.		For Export.	
	1932-33.	Jan. to June 1933.	1932-33.	Jan. to June 1933.	1932-33.	Jan. to June 1933.	1932-33.	Jan. to June 1933.
	Tons thousands.	Tons thousands.	Tons thousands.	Tons thousands.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Blooming Mill	1.0	..	26.4	17.9	24.7	..	21.4	23.6
Sheet-bar and Billet Mill	2.2	1.0	2.9	0.2	35.1	39.3	27.9	31.1
Roll Mill	0.9	0.1	0.7	..	27.8	26.8	17.4	..
Bar and Merchant Mills .	2.8	0.7	..	..	68.6	70.1	..	..
Plate Mill	5.1	3.3	0.8	0.7	52.9	56.6	22.1	25.6
Sheet Mill	9.9	5.8	..	..	40.2	..	50.0	..
Miscellaneous Scrap . . . . .	..	0.1	0.5	0.5	..	22.5	24.0	16.4

NOTE.—We are unable to supply similar figures for years prior to 1932-33.

SUPPLEMENTARY STATEMENT 26.

Pig Iron : Total quantities sold and despatched by Tata Iron & Steel Co., Ltd., Bengal Iron Co. and Indian Iron & Steel Co.

NOTE.—These figures do not include the sales and despatches of the Mysore Iron Works.

	Sales. Tons thousands.	Despatches. Tons thousands.
1926-27	95.4*	57.3*
1927-28	47.2*	87.3*
1928-29	92.0	87.3
1929-30	43.1	40.5
1930-31	27.6	35.2
1931-32	31.2	25.9
1932-33	18.4	25.9
January to June 1933	15.3	9.8

* Sales and despatches to Associated Companies of the pig iron makers are not included in the above statement except that the figures for 1926-27 and 1927-28 include the sales and despatches by the Tata Iron and Steel Company to an Associated Company.

SUPPLEMENTARY STATEMENT 27.

Maximum and Minimum Market Values of the Tata Iron and Steel Company's Shares.

	1927. Jan.-Dec.	1928. Jan.-Dec.	1929. Jan.-Dec.	1930. Jan.-Dec.	1931. Jan.-Dec.	1932. Jan.-Dec.	1933. Jan.-Sep.
	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.
1st Preference— Maximum	144 0	144 0	141 8	140 0	122 8	136 14	162 8
Minimum	125 0	134 0	125 0	122 8	108 8	108 12	136 14
2nd Preference— Maximum	94 12	98 8	87 0	77 0	52 8	68 4	107 8
Minimum	76 12	84 8	69 0	42 8	34 0	36 8	66 4
Ordinary— Maximum	92 0	89 8	83 4	55 10	31 0	36 0	57 8
Minimum	45 0	59 8	46 12	21 6	16 6	18 0	35 0
Deferred— Maximum	340 0	326 4	310 0	327 8	345 0	367 8	232 8
Minimum	130 0	198 12	145 0	241 4	258 12	157 8	131 4

SUPPLEMENTARY STATEMENT 28A.

Numbers of Men employed 1932-33 (Average Daily Attendance).

Total number of men shown in statements 35 (A) to 35 (M)	6,808
Coke Ovens (Direct Labour)	951
Indirect Labour* including contract labour	2,018
Total for productive departments	9,777
Sulphuric Acid and bye-products at coke ovens	161
Open Hearth Gas Producers, Calcining Plant and Relining	524
Duplex Plant Gas Producers, New Calcining Plant, Relining, Traffic and Boilers	367
Bar Mill Gas Producers	23
New Mills Gas Producers and Boilers	138
Roll Turning	89
Metallurgical Department	194
Foundries, Pattern Shop and Timber Yard	640
Brick Department	596
Main Stores, Soda and Ice Plants	358
Traffic Department	872
Loco Crane	152
Scrap and Salvage Department	163
Floating Labour and Labour Department	658
Engineering and Drawing	65
General Office including Accounts, Sales, Works, Hotel, Works Guard, etc.	1,036
Shops	1,476
Boiler and Power House	429
Motor Shed	37
Pig Casting, Pig Iron Yard and Blast Furnace Relining	358
Total for non-productive departments	8,336
GRAND TOTAL	18,113

* Labour attached to the Departments for repairs or maintenance, for unloading materials, etc.

SUPPLEMENTARY STATEMENT 28B.

Numbers of Men employed August 1933 (Average Daily Attendance)

(a) Productive Departments.

Department.	Indirect Labour.					Total.
	Direct Labour.	Shops.	Loco. and Loco. Crane Repair.	Brick Pattern Carriage and Wagon, etc.	Contract and Labour Department Labour.	
Blast Furnace	529	106	18	147	304	1,104
Open Hearth	595	61	2	60	32	750
Duplex Plant (including Converters).	704	132	..	172	37	1,045
New Blooming Mill	867	88	8	18	10	491
New 28-inch Mill	1,288	84	7	47	3	1,429
Bar Mills	255	20	4	11	4	294
Merchant Mill	881	25	11	20	6	943
Plate Mill	427	71	..	21	3	522
Sheet-bar and Billet Mill	303	39	..	9	30	380
Sheet Mill	1,751	105	..	83	30	1,969
Total	7,099	731	50	588	460	8,927
Coke Ovens	921	38	3	55	531	1,548
Total for productive Departments.	..	..	..	..	..	10,475

(b) Non-productive Departments.

Sulphuric Acid and Bye-Products at Coke Ovens	156
Open Hearth Gas Producers, Calcining Plant and Relining	453
Duplex Plant Gas Producers, New Calcining Plant, Relining, Traffic and Boilers	356
Bar Mill Gas Producers	19
New Mills Gas Producers and Boilers	150
Roll Turning	90
Metallurgical Department	198
Foundries, Pattern Shops and Timber Yard	644
Brick Department	873
Main Stores, Soda and Ice Plants	360
Traffic Department	714
Loco. Crane	81
Scrap and Salvage Department	174
Floating Labour and Labour Department	621
Engineering and Drawing	59
General Offices including Accounts, Sales, Works, Hotel, Works Guards, etc.	1,088
Shops	1,624
Boiler and Power House	411
Motor Shed	36
Pig Casting Machine, Pig Iron Yard and Blast Furnace Relining	244
Total	8,351

SUPPLEMENTARY STATEMENT 29A.

Funds for re-building and re-lining of furnaces, for ingot moulds and for annealing boxes.

	Coke Ovens.		Blast Furnaces.		Open Hearth.		Duplex Plant.		Ingot moulds and stools.		Annealing Boxes and trays.	
	Rate of provision per ton.	Rate of expenses per ton.	Rate of provision per ton.	Rate of expenses per ton.	Rate of provision per ton.	Rate of expenses per ton.	Rate of provision per ton.	Rate of expenses per ton.	Rate of provision per ton.	Rate of expenses per ton.	Rate of provision per ton.	Rate of expenses per ton.
	Rs.	As.	As.	As.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1926-27	2	1-1	6	7-2	5-0	5-2	3-0	1-4	1-2	1-0	..	..
1927-28	2	0-2	7	10-2	5-5	5-3	2-0	1-7	1-2	0-9	..	..
1928-29	2	Nominal	8	3-2	5-0	5-4	2-0	2-4	1-1	1-3	..	..
1929-30	2	1-3	10	16-0	5-1	5-9	2-2	2-5	1-2	1-0	3-0	5-0
1930-31	2	0-3	12	15-0	5-5	4-8	2-5	1-9	1-2	1-3	3-0	0-9
1931-32	2	N ²	12	2-3	5-5	4-4	2-5	1-9	1-2	0-6	3-0	0-3
1932-33	2	0-3	12	3-4	5-5	5-5	2-5	1-4	1-2	0-4	3-0	1-6
1933-34	2	..	12	..	5-5	..	2-5	..	1-2	..	3-0	..
1934-35 (Proposed)	1	..	8	..	5-5	..	2-0	..	0-7	..	2-0	..
Accumulated balance on 1st April 1933.	Rs. lakhs.	3-2	0-0	..	1-7	..	0-8	..	N ²	..	N ²	..

N.B.—The excess provisions in the funds were from time to time taken, as to the greater part, to the credit of the profit and loss accounts; the remainders of the excesses were kept as balances of the funds for re-building and relining Ovens and Furnaces or were utilised in writing down the values of stocks of Ingot Moulds, Annealing Boxes and Rolls.

SUPPLEMENTARY STATEMENT 29B.

Funds for Rolls at various Mills.

	Bloom- ing Mill.*	Sheet-bar and Billet Mill.	Old 28-inch Mill.	New 28-inch Mill.	Old Bar Mill.	Mer- chant Mill.	Plate Mill.†	Sheet Mill.	Over-all rate of provision per ton of saleable steel.	Over-all rate of expense per ton of saleable steel.
	Rate of provision per ton.	Rate of provision per ton.	Rate of provision per ton.	Rate of provision per ton.	Rate of provision per ton.	Rate of provision per ton.	Rate of provision per ton.	Rate of provision per ton.		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1926-27	2	2.2	2.2	2.2	3.2	3.2	2.2	6.0	3.6	2.4
1927-28	2	2.2	2.2	2.2	3.2	3.2	2.2	6.0	3.6	2.1
1928-29	2	2.2	2.2	2.2	3.2	3.2	2.2	6.0	3.8	3.1
1929-30	2	2.2	2.2	2.2	3.2	3.2	2.2	6.0	4.0	2.5
1930-31	2	2.0	2.0	3.0	3.0	3.0	2.0	4.0	3.9	2.5
1931-32	2	2.0	2.0	3.0	3.0	3.0	2.0	4.0	3.8	2.7
1932-33	2	2.0	2.0	3.0	3.0	3.0	2.0	4.0	4.0	1.7
1933-34	2	2.0	..	3.0	3.0	3.0	2.0	4.0	..	..
1934-35 (Proposed)	2	1.2	..	2.0	2.0	2.0	1.2	3.0	..	..
Accumulated amount on 1st April 1933.	..	..	..	..	..	..	..	..		NW.

N.B.—See note on Supplementary Statement 29A.

* The method of dealing with the expenditure on sacking-pit repairs by means of a provision in costs was introduced only in April 1933. The rate of the provision is 6-annas per ton of blooms and slabs. The average expenditure during the first 5 months has been found to be only 3-1 annas per ton. It has been decided to revert from April next to the system of dealing with this expenditure by debiting each month the actual cost of the work done during the month.

† The provision for tilting tables in the plate mill costs was instituted with the objects of meeting the cost of replacing the tilting tables originally installed by stronger and more efficient tables. The cost was Rs. 1.96 lakhs. Provision at the rate of Rs. 2 per ton of plates from April 1930 onwards left only Rs. 22,000 (approximately) to be provided from 1st April 1933. This fund has been closed with effect from the end of August.

SUPPLEMENTARY STATEMENT 30.

Average Price of Spelter.

	Price at which charged in costs.	Railway freight charges, etc.	Equivalent c.i.f. prices of figures in Column 1.
	Rs. per ton.	Rs. per ton.	Rs per ton.
1925-26	649.3	90.1*	559.2
1926-27	638.7	90.1*	548.6
1927-28	531.7	15.1	516.6
1928-29	387.1	15.2	371.9
1929-30	419.3	14.4	404.9
1930-31	337.3	14.9	322.4
1931-32	237.8	14.7	223.1
1932-33	223.3	14.8	208.5
January to June 1933	235.8	14.8	221.0

*Including import duty: the duty was removed with effect from 1st April 1927.

SUPPLEMENTARY STATEMENT 31.

Consumption (gross) of Spelter per ton of Galvanized Sheets.

	Lbs. per ton gross.
1925-26	341
1926-27	312
1927-28	295
1928-29	331
1929-30	327
1930-31	310
1931-32	279
1932-33	251
January to June 1933	224

NOTE.—The above figures show gross consumption. There is a small recovery of Zinc in the form of dross which is sold, the realisations being credited as deduction of the cost of producing galvanized sheets.

SUPPLEMENTARY STATEMENT 32.

*Coal: Quantities consumed and prices.**(a) Quantities consumed (all kinds).*

	From Company's Collieries.	From other sources.	Total.
	Tons in lakhs.	Tons in lakhs.	Tons in lakhs.
1925-26	3.9	11.3	15.2
1926-27	3.6	12.0	15.6
1927-28	3.2	12.9	16.1
1928-29	4.0	8.7	12.7
1929-30	4.0	11.8	15.8
1930-31	4.5	11.0	15.5
1931-32	4.0	10.7	14.7
1932-33	2.5	11.1	13.5

SUPPLEMENTARY STATEMENT 32—*contd.*

(b) Cost of coal debited in cost sheets.

	*From Company's Collieries.	*From other Sources.	*Average over all.	†Railway Board's price for 1st class Jharia.
(i) <i>Coking and Boiler Coal.</i>	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
1925-26	6.6	9.0	8.2	10.0
1926-27	5.8	7.2	6.8	6.3
1927-28	5.7	6.1	6.0	5.4
1928-29	5.5	5.8	5.6	5.3
1929-30	5.0	5.4	5.3	5.2
1930-31	4.8	5.7	5.4	5.6
1931-32	4.8	5.8	5.5	5.5
1932-33	4.9	5.3	5.2	5.1
				Railway Board's Price for Dishergarh.
(ii) <i>Gas Producer Coal.</i>	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
1925-26	7.5	10.5	10.1	..
1926-27 . . . . .	..	8.2	8.2	..
1927-28 . . . . .	..	8.2	8.2	..
1928-29 . . . . .	..	8.0	8.0	6.8
1929-30 . . . . .	..	6.6	6.6	6.3
1930-31 . . . . .	..	6.8	6.8	7.0
1931-32 . . . . .	..	7.1	7.1	6.9
1932-33 . . . . .	..	6.2	6.2	6.0

* The price of coal debited in the Company's cost sheets includes not only the price f.o.r. Collieries and the freight to Tatanagar but also a portion of the Coal Department expenditure (for supervision, inspection, etc.) and in addition the cost of putting some of the coal into stock and taking it out again at Jamshedpur.

† The figures given are the average Railway Board prices f.o.r. colliery plus the average freight from Jherria collieries to Tatanagar.

SUPPLEMENTARY STATEMENT 33.

Yield of Products from Ingots 1932-33.

Col. 1. Mill.	Col. 2. Yield of Saleable material from ingots.	Col. 3. Heat Waste.	Col. 4. Crop ends, etc.		Col. 6. Rejections for physical defects.	Col. 7. Rejections for Metallur- gical defects.
			at Blooming Mill.	at subse- quent stages.		
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Sheet-bar and Billet	80.6	3.4	10.4	5.6	2.8	0.1
New 28-inch	71.2	4.7	10.4	13.7*	0.6	0.8
Merchant	73.3	5.5	10.4	10.8	1.4	0.2
Plate	69.1	4.5	10.4	16.0	0.7	0.5
Sheet	65.8	4.7	10.4	19.1	..	..

Notes.—(a) The totals of columns 2, 3, 4 and 5 equal 106 per cent.

(b) The figures in columns 6 and 7 are calculated on the weights of the ingots; they do not include second class rails.

(c) The figures in columns 2 and 4 are based on the overall average yield of blooms and slabs at the blooming mill; similarly a uniform overall average yield of sheet-bar and billets from blooms has been taken.

(d) Practically the whole of the material shown as "rejections" in columns 6 and 7 was sold as non-standard, defective or untested material and is thus counted as product and is included in column 2.

* Including 8.1 per cent. (in terms of ingots) of second-class rails.

† Including cobbles and all other forms of scrap and material not counted as saleable mill product.

SUPPLEMENTARY STATEMENT 34-A.

Rejections of steel by Government Metallurgical Inspector as percentages of quantities tested.

Year.	Bars.*			Structural Sections.†			Plates.			Black Sheets.			Total.		
	Ton-nage sub-mitted.	Ton-nage rejec-ted.	Per-centage rejec-ted.	Ton-nage sub-mitted.	Ton-nage rejec-ted.	Per-centage rejec-ted.	Ton-nage sub-mitted.	Ton-nage rejec-ted.	Per-centage rejec-ted.	Ton-nage sub-mitted.	Ton-nage rejec-ted.	Per-centage rejec-ted.	Ton-nage sub-mitted.	Ton-nage rejec-ted.	Per-centage rejec-ted.
1925-26 . .	17,140	1,554	9-07	33,464	508	1-51	16,208	385	2-07	2,351	20	0-85	69,163	2,415	3-49
1926-27 . .	37,117	252	0-68	42,974	297	0-69	23,984	424	1-77	2,627	NH	0-00	1,06,702	973	0-91
1927-28 . .	38,418	434	1-13	41,539	693	1-67	19,914	306	3-04	4,224	NH	0-00	1,04,095	1,739	1-66
1928-29 . .	15,505	525	3-39	15,944	138	0-87	13,136	359	6-54	2,615	NH	0-00	47,200	1,522	3-22
1929-30 . .	37,070	1,164	3-14	34,829	574	1-65	25,187	784	3-15	1,470	NH	0-00	98,556	2,532	2-57
1930-31 . .	36,406	751	2-06	45,329	1,904	4-15	27,694	373	3-15	1,281	NH	0-00	1,11,410	3,533	3-17
1931-32 . .	64,118	503	0-78	32,164	975	3-03	11,485	93	0-84	801	NH	0-00	1,08,671	1,574	1-45
1932-33 . .	42,953	424	0-99	22,231	879	3-95	12,436	194	1-56	261	NH	0-00	77,881	1,497	1-92

* Bars comprise Rounds, Plates, Squares, Octagons, Tie-bars, Bars for sleepers and Bearing-Plates, Blooms, Billets, Horn Checks and Piling Bar.
 † Structural sections comprise Joists, Channels, Angles and Tees.

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SUPPLEMENTARY STATEMENT 34-B.

Rejections of steel by Government Metallurgical Inspector as percentages of total quantities produced.

	Bars.	Structural Section.	Plates.	Black Sheets.	Total.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
1925-26 . . .	2.5	1.1	1.5	0.1	1.6
1926-27 . . .	0.4	0.6	1.6	..	0.6
1927-28 . . .	0.6	1.3	2.3	..	1.0
1928-29 . . .	1.1	0.4	4.0	..	1.2
1929-30 . . .	1.4	0.9	2.5	..	1.2
1930-31 . . .	0.8	2.3	2.5	..	1.4
1931-32 . . .	0.3	1.0	0.4	..	0.4
1932-33 . . .	0.4	0.9	0.7	..	0.5

NOTE.—(a) Practically the whole of the rejected material is available for sale as non-standard or untested material.

(b) See also foot-note to Supplementary Statement 34-A.

SUPPLEMENTARY STATEMENT 35.

Salaries, etc., of Covenanted Staff of Operation Departments and of some posts where Indianized.

1st June 1926.				1st September 1933.							Remarks.
Designation.	Covenanted.			Designation.	Covenanted.			Indian.			
	No.	Salary.	Bonus.		No.	Salary.	Bonus.	No.	Salary.	Bonus.	
		Rs.	Rs.		Rs.	Rs.		Rs.	Rs.		
<i>General Offices.</i>											
General Manager . . .	1	7,500	..	General Manager . . .	1	6,750	..	..	..
Assistant Manager . . .	1	5,000	..	Assistant to General Manager.	1	1,980	..	..	..
Personal Assistant to General Manager.	1	1,150	..	....	..	..	..	..	..	Post abolished.
Superintendent, Order De- partment.	1	1,500	..	Superintendent, Order Department.	1	665	..	Indianized.
Chief Works Engineer . .	1	1,650	..	Chief Works Engineer . .	1	2,115	..	..	..
Chief Draftsman . . .	1	1,000	..	Chief Draftsman . . .	1	1,125	..	..	..
General Superintendent . .	1	4,000	..	General Superintendent	1	3,562-8	..	Indianized.
Chief Metallurgist . . .	1	1,250	..	Chief Metallurgist . . .	1	1,500	..	..	..
General Master Mechanic.	1	1,750	..	Assistant General Super- intendent (Mechanical).	1	2,700		New post filled by promotion of General Master Mechanic.
Power Engineer . . .	1	1,600	..	Power Engineer . . .	1	1,500	..	..	..
Assistant General Mas- ter Mechanic.	1	1,584	..	Assistant General Mas- ter Mechanic.	1	1,575	..	..	..
Superintendent of Shops . .	1	1,440	..	Superintendent of Shops	1	1,425		
Foreman Mill Wright . . .	1	1,000	Post abolished.	

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SUPPLEMENTARY STATEMENT 35—contd.

Salaries, etc., of Covenanted Staff of Operation Departments and of some posts where Indianized—contd.

1st June 1926.				1st September 1933.							Remarks.
Designation.	Covenanted.			Designation.	Covenanted.			Indian.			
	No.	Salary.	Bonus.		No.	Salary.	Bonus.	No.	Salary.	Bonus.	
		Rs.	Rs.			Rs.	Rs.		Rs.	Rs.	
Assistant Mill Wright	1	750	..	....	..	..	..	..	..	..	Post abolished
Foreman, Machine Shops	1	990	..	Foreman, Machine Shops	..	..	..	1	490	..	Indianized.
Mechanical Foreman	1	845	..	....	..	..	..	..	..	..	Post abolished.
Superintendent of Foundry.	1	1,350	..	Superintendent of Foundry.	1	1,326	..	..	..	..
Assistant Superintendent of Foundry.	1	900	..	....	..	..	..	..	..	..	Post abolished.
Master Pattern Maker	1	900	..	Master Pattern Maker	1	1,089	..	..	..	..	Taken on additional duties of Assistant Superintendent of Foundry.
Superintendent, Traffic	1	1,250	..	Superintendent, Traffic	1	1,350	200	..	..	..
Superintendent, Brick	1	1,182-9	1,080	Superintendent, Brick	1	1,080	1,000	..	..	..
Chief Store Keeper	1	800	..	Chief Store Keeper	1	850	..	..	..	..
	..	..	..	Assistant General Superintendent, S. M.	1	3,150	..	..	..	..	New post filled by transfer and promotion of Open Hearth Superintendent.
	..	..	..	Assistant General Superintendent (Metallurgical).	1	1,125	750	..	..	..	New post filled by transfer of Assistant Superintendent, Open Hearth Department.

.....	..	..	..	Superintendent of General Construction.	1	1,480	..	..	..	..	New post, but filled by old employee re-designated.
.....	..	..	..	Assistant Power Engineer	1	1,200	..	..	..	..	New post.
.....	..	..	..	Lubrication Engineer	1	1,500	..	..	..	..	Ditto.
.....	..	..	..	Fuel Engineer	1	1,700	..	..	..	..	Ditto.
<i>Coke Ovens.</i>	..	..	..	Superintendent, Coke Ovens.	1	1,500	..	..	..	..	Additional appointment.
<i>Blast Furnace.</i>											
Superintendent	1	1,500	1,250	Superintendent	1	1,350	1,500	..	..	..
Assistant Superintendent	1	1,250	1,000	Assistant Superintendent	1	1,125	1,250	..	..	..
General Foreman	6	926	1,509	General Foreman	1	926	925	..	..	..
Assistant Foreman	1	750	1,057	Ditto	1	787	925	..	..	..
Ditto	1	545	852	Foreman	..	..	..	8	295	77	
.....	..	..	..	Ditto	..	..	..	1	240	30	
.....	..	..	..	Ditto	..	..	..	2	270	38	
Traffic Manager	1	1,000	614	Superintendent, Scrap	1	850	525	..	..	..	Post re-designated as Scrap and Salvage put under him.
<i>Open Hearth.</i>											
Superintendent	1	1,250	750	Superintendent	..	..	..	1	1,350	400	Indianized.
Assistant Superintendent	1	1,150	1,470	Consultant	1	1,350	900	..	..	..	Was a former Assistant Superintendent, Open Hearth, now concentrating on training Indians.

SUPPLEMENTARY STATEMENT 35—contd.

Salaries, etc., of Covenanted Staff of Operation Departments and of some posts where Indianized—contd.

1st June 1926.				1st September 1933.						Remarks.	
Designation.	Covenanted.			Designation.	Covenanted.			Indian.			
	No.	Salary.	Bonus.		No.	Salary.	Bonus.	No.	Salary.		Bonus.
		Rs.	Rs.			Rs.	Rs.		Rs.		
Shift Foremen . . .	3	1,015	1,470	Shift Foremen . . .	2	1,015	690	..	..	..	Indianized.
Sample passers . . .	3	905	1,470	Supervisors	2	400	300		Ditto.
1st Melters . . .	12	720	1,038	1st Melter . . .	..	..	..	11	300	300	Ditto.
2nd Melters . . .	6	540	770	2nd Melters . . .	..	..	..	6	270	..	Ditto.
Brick Foreman . . .	1	850	770	....	..	..	..	..	..	..	Abolished.
<i>Duplex plant.</i>											
Superintendent . . .	1	1,875	890	Superintendent . . .	1	1,800	1,856	..	..	..	New post.
Assistant Superintendent.	1	1,250	750	Assistant Superintendent	1	1,275	1,000	..	..	..
Night Superintendent . . .	..	..	..	Night Superintendent . . .	1	1,275	900	..	..	..
<i>Duplex Bessemer.</i>											
General Foreman . . .	1	1,000	1,142	General Foreman . . .	1	780	830	..	..	..	Indianized.
Shift Foremen . . .	3	780	990	Shift Foremen . . .	2	663	880	1	300	420	
Steel Blowers . . .	3	720	918	Steel Blowers . . .	..	..	..	1	420	603	Ditto.
								2	330	350	Ditto.

<i>Duplex Furnaces.</i>												
General Foreman	1	1,150	1,682	General Foreman	1	1,000	1,260	..	..	..
Shift Foremen	3	1,015	1,682	Shift Foremen	{ 1	1,015	980	}	1	400	721	Indianized.
					{ 1	875	980					
					{ 2	720	808					
1st Melters	6	720	1,206	1st Melters	{ 1	612	808		1	420	885	Ditto.
2nd Melter	1	540	890	2nd Melters	..	..	..		2	330	250	Ditto.
<i>Rolling Mills (West).</i>												
Superintendent	1	1,000	1,000	....	..	..	..	..	..	..	..	Post abolished. Mills closed.
Assistant Superintendent.	1	855	350	....	..	..	..	..	..	..	..	Ditto.
General Foreman	1	680	200	....	..	..	..	..	..	..	..	Ditto.
Head Rollers	2	854	300	....	..	..	..	..	..	..	..	Ditto.
Re-Heaters	1	598	200	....	..	..	..	..	..	..	..	Ditto.
<i>Roll Turning Shop.</i>												
Master Roll Turner	1	1,350	..	Master Roll Turner	1	1,305	..	..	..	..	..
Shop Foremen	2	732	..	Shop Foreman	{ 1	695	268	}	..	..	..
					{ 1	659	268					
Roll Turners	16	682	..	Roll Turners.	1	682	..	..	15	180	..	Indianized.
.....	...	..	..	Assistant to Master Roll Turner.	..	..	..	..	1	332-8	..	Ditto.
<i>Bar Mill.</i>												
Foreman	1	900	..	Foreman	..	..	..	..	1	400	..	Indianized.

SUPPLEMENTARY STATEMENT 35—contd.

Salaries, etc., of Covenanted Staff, Operation Departments and of some posts where Indianized—contd.

1st June 1926.				1st September 1933.						Remarks.		
Designation.	Covenanted.			Designation.	Covenanted.			Indian.				
	No.	Salary.	Bonus.		No.	Salary.	Bonus.	No.	Salary.		Bonus.	
		Rs.	Rs.			Rs.	Rs.		Rs.		Rs.	
<i>Rolling Mills (East).</i>												
Superintendent . . .	1	1,500	1,000	Superintendent . . .	..	..	..	1	1,250	250	Indianized,
Assistant Superintendent.	1	1,250	500	.....	..	..	..	..	..	..	Post unfilled.
Mill Foremen . . .	3	850	629	Mill Foremen . . .	..	..	..	} 1	450	150	Indianized.
Re-heaters . . .	2	600	400	Re-heaters		1	350	75	Ditto.
Spare Mill Hand . . .	1	450	350	Spare Mill Hand		1	250	75	Ditto.
Roller (Sheetbar and billet Mill).	1	1,560	..	Roller . . .	..	..	..	2	210	60	Ditto.
Assistant Roller (Sheetbar and billet Mill).	1	1,092	..	Spare Mill Hand . . .	..	..	..	1	500	..	Now working without contract.
Foreman (New Rail Mill).	1	1,025	685	Roller . . .	..	..	..	1	400	150	Indianized.
Rollers . . .	2	750	685	Assistant Roller . . .	..	..	..	1	300	110	Ditto.
Assistant Rollers . . .	2	500	446	Foreman . . .	..	..	..	1	450	400	Ditto.
General Foremen . . .	2	682	200	Rollers . . .	..	..	..	} 1	450	140	Ditto.
Foreman (New Finishing)	1	603	300	Assistant Roller		1	300	50	One post abolished.
				General Foreman . . .	..	..	..	1	415	..	Ditto.
				General Foreman . . .	1	597	300	..	..	..	Same post re-designated but now looks after sleeper plant also.

<i>Merchant Mill.</i>											
Superintendent	1	1,500	982	Superintendent	1	..	..	1	665	375	Indianized.
Head Rollers	2	900	766	Rollers . . . . .	..	..	..	{ 1	350	60	Ditto.
								{ 1	300	60	Ditto.
<i>Sheet Mill.</i>											
Superintendent	1	2,500	802	Superintendent	1	1,800	1,000	..	..	..
Assistant Superintendent	1	1,750	750	Assistant Superintendent	1	1,300	950	..	..	..
General Foreman	1	1,300	450	Hot Mill Superintendent	1	1,300	1,264	..	..	..	Post re-designated.
Shift Foremen and Rollers	15	1,300	457	Foremen	{ 7	1,170	1,264	..	..	..	Salaries being reduced, as contracts expire, to Rs. 900 and bonus also reduced from 1st October 1933 to Rs. 1,000 on 6,000 tons 24 Gauge sheets.
					{ 1	900	1,264	..	..	..
.....	..	..	..	Rollers . . . . .	..	..	..	{ 3	200	100	
								{ 4	150	50	
Dippers	3	910	320	Dippers . . . . .	..	..	..	3	405	95	Indianized.
Pickler	1	880	316	Pickler . . . . .	..	..	..	1	75	45	Ditto.
.....	..	..	..	General Foreman, Cold Rolling and Annealing.	1	1,000	500	..	..	..
.....	..	..	..	Galvanising Foreman . . . . .	..	..	..	..	..	..	A covenanted employee on salary Rs. 800 and bonus approximately Rs. 800 will join at the end of October. Post temporarily vacant owing to death of former employee.
<i>Plate Mill.</i>											
1st Roller	1	750	150	1st Roller . . . . .	..	..	..	1	300	50	Indianized.
Assistant Roller	1	550	150	Assistant Roller . . . . .	..	..	..	1	200	30	Ditto.

NOTE.—The bonus figures for 1926 are based on a full month's work at the average rate of production for the year 1926-27; those for 1933 are similarly based on the average rate of production during the five months April to August 1933.

SUPPLEMENTAR

Covenanted Employees new

Designation at the time of employment.	Nationality.	Date of employment.	Rate of salary on employment.	Bonus at the time of employment.	Particulars of the dated prior	
					Date of discharge.	Rate of salary at the time of discharge.
Assistant Superintendent of Foundry.	Englishman ✓	26th April 1926.	Rs. 900	Rs. ..	24th Aug. 1931.	Rs. 855
Superintendent, O. H. . . .	Ditto ✓	10th April 1926.	1,250	500	3rd April 1928.	1,500
✓ General Foreman, Blast Furnaces.	American ✓	31st Dec. 1926.	926	1,121	1st Sept. 1933.	926
Blower, D. P.	Englishman ✓	10th Jan. 1927.	720	460	27th Dec. 1929.	720
Ditto	Ditto ✓	10th Jan. 1927.	720	460	..	..
Ditto	Ditto ✓	9th Mar. 1927.	720	460	8th Mar. 1930.	720
2nd Melter, O. H.	Ditto ✓	20th Mar. 1927.	540	793	..	..
Ditto	Ditto ✓	20th Mar. 1927.	540	793	28th Mar. 1933.	720
1st Melter	Ditto ✓	12th June 1927.	720	1,101	2nd Sept. 1931.	720
✓ Superintendent, Mills, East	American ✓	15th May 1927.	1,500	1,250	19th Sept. 1933.	1,350
Assistant Power Engineer	Englishman ✓	26th Sept. 1927.	1,200	..	..	..
✓ Superintendent, D. P. . . .	American . . .	3rd July 1927.	2,000	1,223	..	..
✓ Superintendent, M. M. . . .	Ditto	10th July 1927.	2,000	1,000	13th July 1933.	1,800
✓ Roller, S. M.	Ditto	1st Aug. 1927.	1,300	658	..	..
✓ Ditto	Ditto	2nd Aug. 1927.	1,300	658	..	..
✓ Ditto	Ditto	12th Aug. 1927.	1,300	658	..	..
✓ Ditto	Ditto	12th Aug. 1927.	1,300	658	..	..
Assistant General Manager	Englishman ✓	23rd Sept. 1927.	6,000	..	..	..
✓ Fuel Engineer	German	14th Dec. 1927.	2,500	..	22nd Oct. 1930.	2,50
✓ Roller, S. M.	American	16th Oct. 1927.	1,300	666	..	..
✓ Ditto	Ditto	12th Dec. 1927.	1,300	454	..	..
✓ Galvanising Foreman	Ditto	19th Dec. 1927.	1,300	454	1st April 1931.	1,30

STATEMENT 36-A.
engaged since 1st April 1926.

whose services termi- 1st October 1933.		Particulars of those in service on 1st October 1933.					Remarks.
Rate of Bonus at the time of discharge.	Period of employment.	Present designation.	Date of expiry of the existing agreement.	Period of engagement from commencement of service to date of expiry of present agreement.	Present rate of salary.	Present rate of bonus.	
Rs.	Yrs. mos.			Yrs. mos.	Rs.	Rs.	
..	5 4	..	..	..	..	..	Terminated.
1,000	8 0	..	..	..	..	..	Ditto.
690	6 9	..	..	..	..	..	Ditto.
891	2 11	..	..	..	..	..	Ditto.
..	..	Shift Foreman	9th Jan. 1935.	8 0	780	830	
1,010	3 0	..	..	..	..	..	Terminated.
..	..	Shift Foreman	22nd Sept. 1936.	9 6	875	1,127	
728	6 0	..	..	..	..	..	Has been promoted to 1st Melter.
741	4 3	..	..	..	..	..	Terminated.
1,250	6 4	..	..	..	..	..	Ditto.
..	..	Assistant Power Engineer.	23rd Feb. 1934.	6 5	1,200	..	
..	..	Superintendent, D. P.	8th Nov. 1933.	6 4	1,800	1,956	
1,000	6 0	..	..	..	..	..	Terminated.
..	..	Foreman, S. M.	28th Jan. 1934.	6 5	1,170	1,264	
..	..	Ditto	1st Aug. 1935.	8 0	1,170	1,264	
..	..	Ditto	7th Jan. 1934.	6 5	1,170	1,264	
..	..	Ditto	15th Jan. 1934.	6 5	1,170	1,264	
..	..	..	..	..	..	..	Transferred to Bombay.
..	2 10	..	..	..	..	..	Terminated.
..	..	Foreman, S. M.	15th Oct. 1933.	6 0	1,170	1,264	See remarks above on Sheet Mill Foremen.
..	..	Hot Mill Superintendent.	2nd June 1934.	6 6	1,300	1,264	
672	3 4	..	..	..	..	..	Terminated.

SUPPLEMENTARY
Covenanted Employees newly

Designation at the time of employment.	Nationality.	Date of employment.	Rate of salary on employment.	Bonus at the time of employment.	Particulars of those dated prior to	
					Date of discharge.	Rate of salary at the time of discharge.
Canadian: 1 Yugo-Slav 1						
Total: 216						
			Rs.	Rs.		Rs.
✓ Superintendent, Plate Mill	America	25th Nov. 1927.	1,500	1,000	15th Mar. 1932.	1,350
✓ Foreman, Brick Department	Ditto	25th Nov. 1927.	850	945	..	..
✓ Chief Electrical Engineer	Ditto	25th Nov. 1927.	2,250	..	31st Dec. 1930.	2,475
2nd Melter	Englishman ✓	20th April 1928.	540	521	7th Sept. 1930.	720
Ditto	Ditto ✓	20th April 1928.	540	521	1st Oct. 1931.	720
Assistant G. M. M.	Canadian	2nd Sept. 1928.	1,750	..	..	..
✓ 1st Foreman.	American	2nd Sept. 1928.	750	538	..	..
✓ Assistant Superintendent, Sheet Mill.	Ditto	6th May 1928.	1,300	700	..	..
✓ Foreman, East Plant Mills	Ditto	25th June 1928.	900	800	30th Dec. 1930.	900
✓ 1st Melter	Englishman ✓	11th Mar. 1929.	720	822	1st Sept. 1931.	720
✓ Ditto	American ✓	24th Mar. 1929.	720	556	23rd Aug. 1933.	720
Shift Foreman	Englishman ✓	1st May 1929.	1,015	1,272	8th Nov. 1932.	1,015
1st Melter	Ditto ✓	10th June 1929.	720	675	25th May 1930.	720
✓ Shift Foreman	American	6th Jan. 1930.	780	1,277	26th June 1931.	780
✓ Night Superintendent, Duplex Plant.	Ditto	27th Jan. 1930.	1,500	1,000	..	..
✓ Blower, D. P.	Ditto	27th Jan. 1930.	720	1,140	16th Aug. 1932.	720
✓ Lubrication Engineer	Ditto	1st May 1930.	1,750	..	..	..
✓ Foreman, S. M.	Ditto	6th Aug. 1930.	1,300	1,100	5th Aug. 1933.	1,170
Foreman, N. R. M.	Englishman ✓	1st Feb. 1931.	850	717	8th Nov. 1932.	850
Galvanizing Foreman	Ditto ✓	13th Mar. 1932.	1,000	500	8th Mar. 1933.	1,000
Superintendent, Coke Ovens	German ✓	1st April 1932.	1,500	..	..	..
Foreman, Cold Rolling and Annealing.	Englishman ✓	21st Aug. 1932.	1,000	500	..	..
Foreman, S. M.	Ditto ✓	18th Dec. 1932.	1,000	500	9th June 1933.	1,000
Fuel Expert	Yugo-Slav	21st Oct. 1932.	1,700	..	..	..

STATEMENT 36-A—contd.

engaged since 1st April 1926—contd.

whose services term- 1st October 1933.		Particulars of those in service on 1st October 1933.					Remarks.
Rate of Bonus at the time of discharge	Period of employ- ment.	Present designa- tion.	Date of expiry of the existing Agreement.	Period of engagement from com- mencement of service to date of expiry of present agreement.	Present rate of salary.	Present rate of bonus.	
Rs.	Yrs. mos.			Yrs. mos.	Rs.	Rs.	
✓ 1,000	4 4	..	..	..	..	..	Terminated.
✓ ..	..	Superintendent, Brick Depart- ment.	14th May 1934.	6 6	1,280	1,000	
✓ ..	3 1	..	..	..	..	..	Terminated.
580	2 5	..	..	..	..	..	Has been promoted to 1st Melter.
741	3 6	..	..	..	..	..	Ditto.
..	..	Assistant G. M. M.	1st Sept. 1934.	6 0	1,575	..	
✓ ..	..	General Foreman.	1st Sept. 1934.	6 0	926	925	
✓ ..	..	Assistant Superin- tendent, Sheet Mill.	23rd April 1935.	7 0	1,300	950	
✓ 800	2 6	..	..	..	..	..	Terminated.
617	2 6	..	..	..	..	..	Ditto.
✓ 890	4 5	..	..	..	..	..	Ditto.
750	3 6	..	..	..	..	..	Ditto.
720	1 0	..	..	..	..	..	Ditto.
✓ 685	1 5	..	..	..	..	..	Ditto.
✓ ..	..	Night Superinten- dent, Duplex Plant.	26th Jan. 1936.	6 0	1,275	900	
✓ 637	2 7	..	..	..	..	..	Terminated.
✓ ..	..	Lubrication Engr- neer.	30th April 1936.	6 0	1,500	..	
✓ 1,003	3 0	..	..	..	..	..	Terminated.
951	1 9	..	..	..	..	..	Ditto.
500	1 0	..	..	..	..	..	Ditto.
..	..	Superintendent, Coke Ovens.	31st Mar. 1935.	3 0	1,500	..	
..	..	General Foreman, S. M.	20th Aug. 1935.	3 0	1,000	500	
500	0 6	..	..	..	..	..	Died
..	..	Fuel Expert	20th Oct. 1937.	5 0	1,700	..	

SUPPLEMENTARY STATEMENT 36-B.

Qualifications of Covenanted Employees newly engaged after April 1st, 1926, and in service in Operation Departments on 1st September 1933.

J. Lewis.—Has been right through Bessemer Acid shops starting as sample boy, and has been blowing since October 1931. Has blown Rail, Soft and Mild Steel.

R. A. M. Wright.—Worked as a Bench Chemist and Weighman. Eleven years experience in melting shop. Worked up from First Helper to First Hand on both Acid and Basic Open Hearth Furnaces.

E. A. Thomas.—Served apprenticeship with the Brush Electrical Engineering Co., Loughborough. Worked as Assistant Engineer for 20 months with the Midland Tramways, Smethwick, Assistant Shift Engineer and Senior Switchman for 2½ years at the Birmingham Electric Supply, Summer Lane Generating Station, Senior Charge Engineer for 8 years at the Cleveland and Durham Electric Power Co., Grangetown and Assistant Chief Electrical Engineer for 7½ years at the Cargo Fleet Iron & Steel Co., Middlesbrough.

T. H. Clifford.—Worked as Civil Engineer on the construction of harbour, buildings, and railroad tracks for 3½ years with Lackawanna Steel Co., Civil Engineer in charge of the construction of Open Hearth buildings and furnaces for one year, Assistant Superintendent of mason department for 8 years on the construction and re-building of Coke Ovens, Blast Furnaces and Open Hearth Furnaces, etc. and later as Superintendent of Duplex Plant for 10 years at the Gary Works of the Illinois Steel Co.

D. S. McKnight.—Worked as a Helper Heater for a year, Matcher for 3 years, Doubler for 2 years and Catcher for 2 years at Leechburgh A. M. Tinplate Co., Rougher for 4 years at Burger Manufacturing Co., and Roller for 5 years at Youngstown Steel Co., and Thomas Sheet Mills.

G. W. Bell.—Worked as a Matcher, Doubler and Catcher in Sheet Mills of the U. S. Steel Co., for 3 years. Catcher and Rougher for 3½ years, and then Roller for 2½ years.

L. O. Chinn.—Worked as a Doubler and Matcher for 3 years, Catcher for 1 year, Rougher 3½ years and Roller for 3½ years at Bethlehem Steel Co.

L. Mort.—Started to work in Follansbee in 1906, 16 years experience as a Roller, of which 10 years at Bethlehem Steel Co., and some years at Sparrows Point.

George Keirns.—Worked as Catcher helper, Catcher and Rougher at Pope Tinplate, Ohio, and at McKnight for 6 years from 1911 to 1917, afterwards worked as Doubler, Matcher, Roller helper and Rougher in various plants up to 1920. Roller at Eastern Rolling Mill, Balto, Ind. 56-inch Mill and at Sparrows Point Ind. 31 to 36-inch mills and Thomas Sheet Mills, Niles, Ohio, during 1920-24. Turn Foreman, Thomas plant for 2 years, again as a Roller in 1927 at South Division Central Alloy, Canton, Ohio.

J. D. Price.—Worked as Catcher for 6 years at Tin and Sheet Mill of the Carshan Tinplate Co., Canton, Ohio, and American Sheet Tinplate Co., and Whittaker, Glassner Co., Wheeling W. C. O. as Roller and Rougher for 12 years (Tin and Sheet) with the Wheeling, Baldwin, Canadian Trumbull and Bethlehem Steel Companies and foreman for one year (Tinplate) with the Bethlehem Steel Co., Sparrows Point (Ind.), U. S. A.

N. J. Haley.—Worked in the Mason department of F. N. Steel Co., at Cary Works from April 1917 until May 1927. Held position as Mason Foreman, Coke Ovens, Blast Furnaces, Open Hearths, Soaking Pits and Rolling Mills.

R. M. Burgess.—Served as apprentice with Robb Engineering Co., Ltd., Amherst, Canada, from 1901 to 1903. Spent one year in Electric and Garage shops 1905 to 1906. Worked in the Repair Department of Robb Engineering and 4 years as Assistant Foreman from 1906 to 1918. Held charge of Pumping Plant, Amherst Corporation, 1918 to 1919. Worked as Machine Shop Foreman and Assistant General

Master Mechanic at the Tata Iron and Steel Works, Jamshedpur, from 1919 to 1925. Master Mechanic with Hydro-Electric Power Commission of Ontario from 1925 to 1927 and Inspector of Boilers with the Government of Ontario, Canada, 1927 to 1928.

H. V. Merten.—Worked as a Blower for 4 years with the Inland Steel Co., General Foreman with the Tata Iron and Steel Co., Jamshedpur for 5 years, as Efficiency man with Illinois Steel Co., for 6 months and Assistant Superintendent, Blast Furnaces Youngstown Steel & Tube Co., for 1½ years.

A. S. Hackman.—12 years in the Sheet Mills of the Bethlehem Steel Co., Maryland, as Assistant Weigh Master, Material Chaser, Order Clerk, Bar Department, Cold Rolls, Shear Foreman, Hot Mill Shift Foreman.

Howard Steele.—Worked as First Helper and Melter for 6 years from 1904 to 1910 with the Dominion Iron & Steel Co., Sydney, Nova Scotia. Afterwards as Melter from 1911 to 1925 with the Bethlehem Steel Co., Lackawanna Steel Co., and Foreman of Open Hearth and Bessemer departments with Jones & Loughlin from 1926 to 1929 Aliquippa.

E. J. Harrington.—Worked as Master Mechanic of Rail Mill, Plate Mills and Locomotive Cranes for 9 years, 1914 to 1923 and Lubricating Engineer with Bethlehem Steel Co., and Standard Oil Co., from 1923 to April 1930.

A. G. Keerl.—Worked in the Machine shop of the Illinois Steel Company, Gary Works for four years. Worked on the erection of the Battery of Coke Ovens in the South Japan (Nagasaki) Mitsui Mining Company and later for Yokohama Gas Company. Worked for seven years with Lehigh Coal and Navigation Company in Waheb Chunk as Assistant Foreman. Worked under Dr. Koppers direct and had charge of the Hansa Plant during the guarantee test run. Started the Constantine Plant for the Krupp Coke Plant and Bye Product Plant in 1930. Built a 40-Oven battery with Bye Product and Benzol, Korlig Ludwig.

R. W. Lucas.—Worked at the Grovesend Steel & Tinplate Co., as a Superintendent of Cold Rolling, Tinplates for 10 years and Superintendent of Cold Rolling Sheet Department for 12 years.

Hermann Klinar.—(Oberschlesische Eisenindustrie A. G. Gleiwitz, Fuel Economy department at Julienhutte). Assistant in fuel economy department and representative of departmental chief. Stahlwerk Becker A.-G., Wilsch, Manager of fuel economy department of works Reinholdhutte, from 15th June 1925 to 1st November 1925 then Manager of the Common Works and fuel economy department of the whole works, from 1st November 1925 to till closing of the works on 15th June 1932 under Chief General Director Dr. Ing. W. Cilender from 15th June 1925 to 1st October 1928, General Direktor K. Leussing from 1st October 1928 to 1st April 1930. Direktor Dr. Ing. Otto Wilms from 1st April 1930 to 15th April 1932. Technical University Aachen Metallurgical Institute 1st August 1930 to 15th April 1932. Studying for Doctor with Diploma 25th July 1932.

SUPPLEMENTARY STATEMENT 37.

Capital Expenditure April 1926 to March 1933.

A.—MAIN HEADS OF EXPENDITURE.

	Rs. lakhs.
Town buildings, sanitary and water works, electricity, etc.	51
Ore-mines and quarries	20
Collieries	14
Jamshedpur Works	265
Total	350

B.—MAIN ITEMS OF EXPENDITURE IN JAMSHEDPUR WORKS.

	Rs. lakhs.
(1) Blast Furnaces—	
Two 65,000 and two 115,000 cubic feet Blowers	18·8
Burners for hot-blast stoves	4·3
Enlargement of furnace " D "	5·3
Remodelling of furnace " E "	11·0
Total	39·4
(2) Duplex Plant—	
Third converter and tilting furnace	10·4
Four gas producers	2·7
Auxiliary Equipment	5·0
Special rolling stock	4·7
Total	22·8
(3) New Blooming, Rail and Structural Mills—	
	Rs. lakhs.
Soaking-pits 7, 8 and 9	9·5
Two re-heating furnaces	4·9
New 35-inch roughing mill	21·2
Structural finishing equipment	7·5
Spare armature for blooming mill	3·9
Total	47·0
(4) Sheetbar and Billet Mill—	
7,500 H. P. motor, etc.	6·3
(5) Plate Mill—	
Extension of warehouse, etc.	3·4
(6) Sheet Mills—	
New Unit No. 1	27·3
Galvanizing plant extensions	3·5
Total	30·8
(7) Traffic—	
Rolling stock	23·7
Locomotives and loco-cranes	7·4
Total	31·1
(8) Steam and Power Supply—	
Ten Thompson boilers	28·6
18,000 K. W. generator	9·0
Total	37·6

B.—MAIN ITEMS OF EXPENDITURE IN JAMSHEDPUR WORKS.—*contd.*

(9) Water Supply—

	Rs. lakhs.
Spray cooling system	5.5
GRAND TOTAL*	223.9

* This total accounts for about 85 per cent. of the total new expenditure in the Works during the seven-year period.

SUPPLEMENTARY STATEMENT 38.

Bad Debts Written off.

Year.	Rs.
1925-26	<i>Nil.</i>
1926-27	<i>Nil.</i>
1927-28	1,82,233
1928-29	4,094
1929-30	4,08,983
1930-31	35,254
1931-32	9,841
1932-33	2,637

NOTE.—The practice of showing additions and subtractions from the previous year's balance of Provision and Reserve Account in the printed Balance Sheets was first adopted in the accounts for 1928-29. In previous years only the net balance as on 31st March was shown.

SUPPLEMENTARY STATEMENT 39.

Sales and Values of certain classes of steel 1932-33.

	Orders Booked.		Total values. (Net realizations).	
	Tested.	Untested.	Tested.	Untested.
	Tons (thousands).	Tons (thousands).	Rs. in lakhs.	Rs. in lakhs.
Structural Sections—				
Light	3.3	30.9	4.2	27.9
Heavy	11.5	54.0	13.9	48.3
Total	14.8	84.9	18.1	76.2
Bars	6.4	78.0	7.4	71.4
Plates	11.3	17.1	14.3	17.4
Black Sheets	0.1	11.7	0.1	17.6
Galvanized Sheets—				
Plain . . . . .	..	9.7	..	21.3
Corrugated . . . . .	..	32.4	..	66.5
Total . . . . .	..	42.1	..	87.8

N.B.—Separate records of sales to agents, merchants and dealers are not maintained. As is indicated in Memorandum 18, there is no substantial question of principle in the classification as between agents and merchants. It is estimated that the direct sales to dealers are less than 5 per cent. of the total sales of untested materials.

SUPPLEMENTARY STATEMENT 40.

Orders booked in 1932-33 in respect of which deferred rebates accrued.

	Tons (thousands).
Structural Sections—	
Light	17.2
Heavy	30.3
Total	47.5
Bars	27.6
Plates	7.7
Black Sheets	7.0
Galvanized Sheets—	
Plain	7.3
Corrugated	16.2
Total	23.5
GRAND TOTAL	113.3

N.B.—Separate records are not maintained of values of orders in respect of which deferred rebates may accrue, as the rebate is fixed at a uniform rate (Rs. 2) per ton.

SUPPLEMENTARY STATEMENT 41.

Works costs distributed under main heads of expenditure.

	Ores, Fluxes, etc.	Fuel.	Labour.	Stores. Supplies and mis- cellaneous expenses.	Total.
	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Ralls—					
1926-27	12.3	18.2	26.2	20.9	77.6
January to June 1933	9.6	15.0	24.7	17.8	67.1
Fishplates—					
1926-27	10.8	32.7	49.7	27.3	120.5
January to June 1933	9.6	19.2	44.2	23.4	96.4

SUPPLEMENTARY STATEMENT 41—contd.

Works costs distributed under main heads of expenditure—contd.

	Ores, Fluxes, etc.	Fuel.	Labour.	Stores, Supplies and mis- cellaneous expenses.	Total.
	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Structural Sections—					
1926-27	11.8	25.8	26.8	40.4	104.8
January to June 1933	9.3	14.9	25.1	18.7	68.0
Bars—					
1926-27	12.3	22.2	37.3	25.9	97.7
January to June 1933	9.5	14.5	23.8	16.7	64.5
Plates—					
1926-27	13.6	26.2	38.9	26.2	99.9
January to June 1933	9.9	16.1	26.1	20.9	73.0
Black sheets—					
1926-27	13.7	23.5	76.0	44.6	157.8
January to June 1933	10.3	18.0	48.8	26.9	99.0
Galvanized Sheets—					
1926-27	11.7	22.4	91.4	63.2	208.7
January to June 1933	9.4	17.4	47.9	55.0	129.7
Tin Bars—					
1926-27	11.7	16.1	20.7	18.2	66.7
January to June 1933	8.9	12.9	14.3	15.2	51.3
Other Semis.—					
1926-27	11.4	27.9	42.1	26.5	107.9
January to June 1933	8.9	12.9	14.2	15.1	51.1
Sleepers—					
1926-27	17.7	26.3	45.5	31.6	121.1
January to June 1933	8.7	13.7	23.3	16.5	62.2

N.B.—(1) The cost of coal has been adjusted to Rs. 5.12 per ton and of spelter to Rs. 235 per ton for each period.

(2) The cost of the net expenditure on the Town and of the Sales Department is included in the figures for each period.

(3) Apart from the addition indicated in note (2), the totals agree with those of statement 2 (B) of the Representation.

(4) As regards expenditure dealt with by provisions in the cost sheets, the actual expenditure on labour has been extracted and included under that head; the expenditure on such minerals as dolomite has also been extracted and included under "Ores, fluxes, etc."; the balances of the provisions have been included under "stores, etc."

SUPPLEMENTARY STATEMENT 42.

Selling Prices of Steel : Overall Annual Averages.

	Rs. per ton net f.o.r. Tatanagar.
1923-24	140-7
1924-25	134-6
1925-26	130-8
1926-27	128-2
1927-28	118-7
1928-29	115-5
1929-30	119-4
1930-31	121-0
1931-32	106-0
1932-33	106-6
January to June 1933	113-4

N.B.—(1) Receipts from bounties in the three years 1924-27 are not included.

(2) For the years 1923-24 to 1925-26 the price of tinbar has been taken into the calculations as adjusted in the final settlement.

(3) The extra price received for rails in 1930-31 and 1931-32 (*cf.* para. 15 of the Company's Representation) has been taken into the calculations.

(4) No allowance has been made for bad debts in the above figures.

(5) Sheet-bar sent to the United Kingdom from January 1933 onwards under the arrangement resulting from the Ottawa agreement is not included in the calculations.

(6) The figures are based on the quantities despatched in each period and the net realisations after covering miscellaneous sales debits.

SUPPLEMENTARY STATEMENT 43.

Requirement of products of sheet-bar and billet mill for output shown in Table XXIX of 1926 Report.

	Tons.
Tinbar	60,000
Billets for bars, fishplates and light sections	153,600
Sheet-bar for sheets	71,600
Sleeper-bar for Sleepers	32,400
Total	317,600

The above figures are calculated on the average yields obtained in 1932-33.

SUPPLEMENTARY STATEMENT 4

(a) Price of coking and boiler coal as charged in the Company's cost sheets for 1932-33.

	Rs. per ton. ³
Average price f.o.r. Collieries	3-85
Railway freight including terminal charges	1-31
Inspection and supervision charges	0-06
Putting into stock at Jamshedpur and miscellaneous charges	0-03
Total cost sheet price	5-25

(b) Average prices of coal charged in cost sheets for the period January to October 1933.

	Rs. per ton.
Coking and boiler coal	4 14 10
Gas coal	5 8 0

SUPPLEMENTARY STATEMENT 45.

Net consumption of spelter and price of Zinc dross, etc.

	Zinc Dross.		Flux Skimmings.		Gross Spelter per ton of galvanized sheets.	Net Spelter per ton after deducting spelter in dross and skimmings.
	Credit in Cost sheets.		Credit in Cost sheets.			
	Lbs. per ton sheets.	Price per ton Dross.	Lbs. per ton sheets.	Price per Skimmings.		
		Rs.		Rs.	Lbs.	Lbs.
1929-30	44	258-0	19	30-4	327	277-9
1930-31	47	177-3	19	28-7	310	258-2
1931-32	40	111-4	21	30-0	279	232-5
1932-33	25	110-0	17	5-0	251	220-0
Jan.-June 1933	24	110-0	16	5-0	224	184-4

N.B.—The zinc contents assumed above are :

(a) Dross—90 per cent.

(b) Skimmings—50 per cent.

SUPPLEMENTARY STATEMENT 46.

Adjustment of Prices for Specified Causes.

	1932-33 Quantities.	Actuals.		Allowances asked for (Para. 80).	
		1932-33 Average.	Totals.	Average.	Totals.
A. Tested—					
Sections	14-8	3-2	0-47	3-1	0-46
Bars	6-4	8-6	0-23	2-9	0-19
Plates	11-3	1-4	0-16	3-2	0-86
Black Sheets	0-1	..	..	3-9	..
B. Untested—					
Sections	84-9	4-1	3-48	4-0	3-40
Bars	78-0	3-4	2-65	4-0	3-12
Plates	17-1	3-4	0-56	4-3	0-74
Black Sheets	11-7	7-4	0-87	5-6	0-66
Galvanized Sheets	42-1	5-6	2-36	7-2	3-03
C. Total	266-4	4-1	10-80	4-5	11-96

N. B.—The increase is due to the effect of the extension of the deferred rebate system (Para. 87).

SUPPLEMENTARY STATEMENT 47.

*Adjustment of Prices. Difference not accounted for.**

	1932-33 Actual Difference per ton.						Allowances asked for Tested and Untested together.		
	Tested.			Untested.			Quantity.	Average.	Total.
	Quantity.	Average.	Total.	Quantity.	Average.	Total.			
	Tons (thousands).	Per ton. Rs.	Rs. in lakhs.	Tons (thousands).	Per ton. Rs.	Rs. in lakhs.	Tons (thousands).	Per ton. Rs.	Rs. in lakhs.
Sections . . .	17.9	6.9	1.23	99.1	2.8	2.77	117	4	4.68
Bars . . .	7.4	4.1	0.30	72.6	6.9	5.01	80	6	4.80
Plates . . .	14.1	6.5	0.92	20.9	5.9	1.23	35	6	2.10
Black Sheets . .	0.2	..	..	24.8	7.7	1.91	25	6	1.60
Galvanized Sheets .	..	..	..	90.0	18.0	16.20	90	8	7.20
Total .	39.6	6.2	2.45	307.4	8.8	27.12	347	5.8	20.28

N. B.—The above total amounts and over-all averages are based on the quantities shown in the future programme (paragraph 33 of Representation) allocated between tested and untested in the proportions actually occurring in 1932-33.

* Compare statements 29 and 30 and paragraphs 91-93 of Representation.

SUPPLEMENTARY STATEMENT 48.

Estimated Cost of Gas Cleaning Plant.

	Rs. in lakhs.
Material imported, etc.	8.9
Expenditure in India on fabricated steel, freights, customs duties, foundations, mains, dust-catchers, valves, etc., and erection	13.6
Total	22.5

SUPPLEMENTARY STATEMENT 49.

Admissions of "A" class students to Jamshedpur Technical Institute.

	A-1.	A-2.
1932	Nil	3
1933	2	3

N. B.—Students in Class A-1 have first class degrees of Indian Universities. Those in class A-2 have similar degrees of foreign Universities or corresponding foreign qualifications.

SUPPLEMENTARY STATEMENT 50.

Effect of Surcharge on Coal Freights.

Since the Company's Representation to the Tariff Board was submitted the Company has been informed that the new coal freights will be subject to the surcharge of 15 per cent. This will raise the increases in the costs shown in the last column of Table XI (page 43) by the following further amounts and lead to the following approximate total increases in costs, in place of those shown in the last column of Table XII (page 44).

	Further increase in costs.	Total approximate increase in costs.
	Per ton.	Per ton.
	Rs.	Rs.
Pig Iron	0.7	4
Rails	0.9	7
Fishplates	1.2	8
Structural Sections	1.0	7
Bars	1.2	7
Plates	1.3	8
Tin-bars and semis	1.0	6
Black Sheets	1.5	9
Galvanized Sheets	1.3	9
Sleepers	1.1	7

SUPPLEMENTARY STATEMENT 51.

Expenditure on Freights on Steel from Tatanagar to destinations in India, 1932-33.

• Quantity despatched	tons	306,858
Total expenditure on freights	Rs.	47,06,584
Average expenditure per ton	„	15.33

N. B.—1. The above quantity includes all the despatches during 1932-33 except—

- (a) Rails, fishplates and sleepers sold to Railways on f.o.r. Tatanagar basis, the Railways bearing freight.
- (b) Bar supplied to Tinplate Co. of India, Ltd.
- (c) Billets to Kumardhubi.

The quantity includes however the despatches of bar, etc. from Kumardhubi.

2. The expenditure includes port dues, handling charges, sea-freight, etc. on material despatched partly by rail and partly by coastal shipping to destinations in India. It also includes freights on material re-despatched from stockyards to final destinations, and the freights on finished products from Kumardhubi.

3. Neither the quantity nor the expenditure includes pig iron, whether for India or for export, or steel for export.

SUPPLEMENTARY STATEMENT 52.

*Prices c.i.f. Indian Port of corrugated galvanized sheets, 24-gauge.**A.—January to August 1932.*

1932.	British.		Belgian.	
	£	s. d.	£	s. d.
January	10	5 0	10	5 3
February	10	7 6	10	12 2
March	10	3 0	10	6 3
April	10	5 0	10	5 7
May	10	5 0	10	8 1
June	10	5 0	10	4 0
July	10	5 0	10	5 0
August	10	5 0	10	5 0
<i>Average</i>	10	5 0	10	6 5

Adjusted for increase in price of spelter January to June 1933 over January to August, 1932

10 8 3

10 9 8

Rupee equivalent* with addition of landing charges

141.6

142.5

B.—January to November 1933—Belgian only.

1933.	£	s.	d.
January	10	19	1
February	10	18	2
March	10	12	6
April	10	0	7
May	10	3	10
June	11	2	6
July	11	10	0
August	11	11	3
September	11	15	3
October	12	2	6
November	12	0	9

* Re. 1=1s. 6d.

SUPPLEMENTARY STATEMENT 53.

Orders for and prices of 115-lb. and Chromium Steel Rails.

	1930-31.		1931-32.		1932-33.		1933-34.*	
	Quantity.	Price.	Quantity.	Price.	Quantity.	Price.	Quantity.	Price.
	Tons.	Per ton. Rs.	Tons.	Per ton. Rs.	Tons.	Per ton. Rs.	Tons.	Per ton. Rs.
115-lb. excluding Chromium	11,814	130	16,365	130	10,843	120	9,215	120
115-lb. Chromium . . . . .	..	..	300	160	300	150	300	150
Other Chromium	585	160	1,240	160	213	142	195	140
All 115-lb.	11,814	130	16,665	130.5	11,143	120.8	9,515	121.0
All Chromium	585	160	1,540	160	513	146.6	495	146.1
All rails including 115-lb. and Chromium.	95,600	1,29.6	80,800	128.2	36,500	113.5	39,200	113.9

N. B.—It is not expected that 115-lb. rails will permanently form any substantial proportion of the total requirements of rails.

* Up to 25th November 1933. No further orders anticipated against 1933-34 requirements.

SUPPLEMENTARY STATEMENT 54

Value of Purchased Stores received.

Against Orders placed.	1931-32.	1932-33.
	Rs. in lakhs.	Rs. in lakhs.
In India	36.2	39.7
Abroad	29.2	27.9

N. B.—1. The above figures include stores purchased on Town Revenue account but exclude stores for—

- (a) capital purposes, subject to very small modifications; and
 (b) collieries, ore mines and Agrico.

2. The value of stores consumed during the above years was higher than the value of the purchases due to the utilization of stores from stock and to the use of articles classified as stores which were manufactured by the Company.

SUPPLEMENTARY STATEMENT 55.

Galvanized Sheets: Prices and quantities imported from Japan.

1933.	Imports from Japan.	Prices of Japanese Sheets landed in India.	
		30 Gauge Plain.	30 Gauge Corrugated.
	Tons.	Per ton. Rs.	Per ton. Rs.
January	<i>Nil</i>	..	..
February	<i>Nil</i>	..	..
March	<i>Nil</i>	297.5	..
April	64	284.4	..
May	112	262.5	250
June	148	256	273
July	211	256	273
August	148	256	273
September	508	256	273
October	348	256	273
November . . . . .	..	264.5	273
Corresponding price of imported 30-gauge sheets on basis of Company's agreement with Oriental Company and standard British extras . . . . .	..	286	283

N. B.—1. According to the number of Japanese sheets offered per ton, the material is actually thinner than the 30-gauge by which it is described. The comparative standard price should therefore be higher than shown.

2. The Company believes that business has actually been transacted at the above prices and that a factor in the large difference between Japanese prices and other import prices is competition among Japanese makers.

SUPPLEMENTARY STATEMENT 56.

Export of semis from India to United Kingdom and Japan.

	Dates of orders.	Quantities.	Prices.	First and last dates of despatch.
A.—United Kingdom. (N.B.—Exceeding sheet-bar despatched under Ottawa arrangement.)				
		Tons.	(c.i.f.) £ s. d.	
(i) Tinbar and Sheet-bar.	14th Dec. 1931 to 21st Mar. 1932.	6,300	3 16 6 to 4 0 3	January and May 1932.
(ii) Billets	21st Dec. 1931 15th Feb. 1933 and 2nd Mar. 1933.	250 84	4 0 0 5 0 0	January 1932. February and March 1933.
	Total to U. K.	6,634		
B. Japan.				
		Tons.	(f. o. b. Calcutta). Rs. A. P.	
(i) Sheet-bar	1st Apr. 1932	2,200	41 8 0	April and May 1932.
	11th May 1932	400	48 0 0	May 1932.
	4th Oct. 1932	2,000	48 0 0	November 1932.
	7th Nov. 1932	500	60 0 0	December 1932.
	21st Jan. 1933	1,500	55 0 0	February 1933.
	2nd May 1933	100	55 0 0	May 1933.
	24th May 1933	100	63 0 0	June 1933.
	15th July 1933	4,000	57 0 0	August and September 1933.
	5th Oct. 1933	500	57 0 0	November 1933.
	18th Oct. 1933	500	57 0 0	November 1933
(ii) Billets	24th Nov. 1931	2,000	41 11 6*	December 1931.
	22nd Dec. 1931	2,000	43 0 0	January and March 1932.
	23rd Dec. 1931	500	40 11 6*	January 1932.
	28th Jan. 1932	600	42 11 6*	February and April 1932.
	28th Mar. 1932	300	42 0 0	March 1932.
	1st Apr. 1932	1,800	42 0 0	April and May 1932.
	18th Apr. 1932	200	41 8 0	April 1932.
	29th Apr. 1932	500	48 0 0	November 1932.
	30th Apr. 1932	1,500	41 8 0	May and November 1932.
	4th Oct. 1932	100	48 0 0	November 1932.
	2nd Mar. 1933	450	55 0 0	March 1933.
	6th Mar. 1933	150	55 0 0	March 1933.
Total sheet-bar and billets to Japan . . . .	..	21,900		

* F.o.r. Kidderpore Docks.

SUPPLEMENTARY STATEMENT 57.

Sales of Untested Material to Up-country Destinations to which lower base prices apply.*

	Orders booked for Up-country.	Total orders booked for all destinations.	Percentage.
	Tons (thousands).	Tons (thousands).	
1931-32	75.8	209.0	36.3
1932-33	78.1	233.8	33.4

N. B.—1. As the average reduction from the base price is usually Rs. 3. per ton and in some cases Rs. 4, the effect of the reduction spread over the whole sales is a little over Re. 1 per ton.

2. For the purpose of the above Statement, up-country destinations are taken as including those to which the freights from Tatanagar are less than those from Tatanagar to the nearest ports, as well as destinations to which the Company has a freight advantage as usual defined.

* See end of paragraph 91 of Company's Representation.

SUPPLEMENTARY STATEMENT 58.

Highest and lowest Railway freight rates on steel from Tatanagar.

Railway.	Pies per maund per mile.	
	Highest.	Lowest.
East Indian	0.39	0.142
B., B. & C. I.	0.247	0.198
Nizam's State	0.323	0.296
G. I. P.	0.333	0.100
M. & S. M.	0.390	0.122
Eastern Bengal	0.219	0.125*
Assam-Bengal	0.161†	0.161†
Bengal-Nagpur.	Old rate.	Rate instituted, 1st July 1933.
Beams and Channels	0.166	0.166
Other steel	0.100	0.166 (up to 299 miles.)
Class rates.	Maximum.	Minimum.
Class 2	0.42	0.10

N. B.—1. All rates are for steel in direct transit from Tatanagar to specified destinations or to specified transfer stations on the railway in question to some other railway. The rates apply to the section of the journey which occurs on the Railway indicated.

2. Except where otherwise shown, the rates are for wagon loads only.

3. In the preparation of the figures, account has been taken only of destinations to which traffic has actually been sent during the last two or three years.

* For sheets only to Dacca; otherwise lowest rate 0.153.

† Small lots.

SUPPLEMENTARY STATEMENT 59.

Expenditure on Labour, January to June 1933.

A.—*Actual Expenditure, Jamshedpur Staff.

	January to June 1933. Rs. in lakhs.
Covenanted Employees—	
Wages	4.71
Overtime Allowance . . . . .	..
Leave Pay	0.40
Bonus	2.29
Contingent Fund	0.34
Total for Covenanted Employees	7.74
Monthly-Paid Employees—	
Wages	39.98
Overtime Allowance	0.10
Leave Pay	2.70
Departmental Bonus	2.48
General Bonus	3.29
Company's contribution to Provident Fund and interest	4.28
Accident and death compensation	0.27
Total for Monthly-paid	53.10
Weekly-paid Employees—	
Wages	3.23
Accident and death compensation . . . . .	..
Total for Weekly-paid	3.23
Contract Labour—	
Wages	1.11
Accident and death compensation . . . . .	..
Total for Contract Labour	1.11
GRAND TOTAL	65.18

* These figures are prepared on the same basis as those in Statement 21 submitted with the Representation; they are subject to the remarks in the foot-notes to Statement 21.

B.—*Labour Cost per ton of Saleable Steel.

	January to June 1933. Per ton. Rs.
Covenanted Employees	3.3
Monthly-paid Employees	22.3
Weekly-paid Employees	1.3
Contractors' Labour	0.3
Total	27.2

* These figures are prepared on the same basis as those in Statement 22 submitted with the Representation; they are subject to the remarks in the foot-note to Statement 22.

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