REPORT

1973-74

GOVERNMENT OF INDIA
(BHARAT SARKAR)
MINISTRY OF STEEL AND MINES
(ISPAT AUR KHAN MANTRALAYA)
(DEPARTMENT OF STEEL)
(ISPAT VIBHAG)
NEW DELHI

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CORRIGENDA

to the Annual Report 1973-74 of the Ministry of Steel and Mines (Department of Steel)

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Page	Line	For	Read
19	13	5.60 million tonnes	5.63 million tonnes
48	3	stag	slag
89	11 (from bottom)	round	rounds
122	7 (from bottom)	Dammam	Dammam (Saudi Arabia)

CONTENTS

THE YEAR AT A GLANCE

The Office of the Iron and Steel Controller, Calcutta, and the Steel Authority of India Limited (incorporated on 24th January, 1973) with its following subsidiaries function under the administrative control of this Department:—

(i) Hindustan Steel Limited;

(ii) Bokaro Steel Limited;

(iii) Salem Steel Limited;

(iv) Hindustan Steelworks Construction Ltd.;

(v) Bharat Coking Coal Limited; and

(vi) National Mineral Development Corporation Ltd.

Besides, the Department also deals with matters relating to the following undertakings in which share holdings of the Government of India have been transferred to the Steel Authority of India Limited:—

(i) Mysore Iron & Steel Ltd.;

(ii) Bolani Ores (India) Ltd.;

(iii) Manganese Ore (India) Ltd.; and

(iv) Metal Scrap Trade Corporation Ltd.

Important data relating to the undertakings are given in the following table:—

Unit	Year of incorpo-ration	Capital expenditure up to 31-3-1973	Equity capital as on 31-3-1973	Govt. loans as on 31-3-1973	Comulative net profit (+)/loss(—) as on 31-3-1973	Cumulative depreciation as on 31-3-1973	Cumulative interest on Govt. loans as on 31-3-1973	No. of employees as on 31-3-1973
1	2	3	4	5	6	7	8	9
Hindustan Steel Ltd.	1954	Rs. 1250·12 crores	Rs. 610·85 crores	Rs. 409·68 crores	Rs. (—)250·88 crores	Rs. 614·03 crores	Rs. 245·09 crores	1,22,929
Bokaro Steel Ltd.	1964	754·82 crores	600 crores	193·40 crores	(—) 5·4518 crores*	8·80 crores	Nil (interest holiday given upto 31-3-1978)	22,938
National Mineral Development Corporation	1958	94·70 crores	76·04 crores	18·65 crores	(—, 13·82 crores	18·07 crores	†6·95 crores	5,669
Bharat Coking Coal Limited	1972	1·71 crores	1·0 crores	1·73 crores	(—) 3·85 crores	2·90 crores	—	1,28,207
Hindustan Steelworks Construction Ltd.	1964	8·16 crores	0·50 crores	2·25 crores	(+) 1·87 crores	2·09 crores	0·29 crores	19,125
Salem Steel Limited	1972	†6·72 lakhs	0·35 crores	Nil	Nil	2,348	Nil	

*Represents net loss after providing depreciation of Rs. 3·4558 crores.

†Includes penal interest of Rs. 11·2 lakhs and excludes interest in respect of loans allocated to Khetri Copper Project.

‡Does not include Rs. 111·71 lakhs spent on land acquisition, payment to consultants, preliminary works etc. for which

Some of the more important developments are given below:—

Progress on Bokaro Steel Plant

The first blast furnace complex which was commissioned on October 3, 1972, is performing well. Production from the furnace exceeded the daily rated capacity on several occasions. Qualitatively, the performance has been of a high order with only 1.65% of the total output being off-grade and average coke consumption being well below 744 kg per tonne envisaged in the Detailed Project Report. Up to the end of December, 1973, a total quantity of 8,17,075 tonnes of pig iron was produced.

The second coke oven battery which was commissioned on October 18, 1973, will help in meeting the full requirements of coke for the blast furnace complex.

Trial production of steel was started on December 27, 1973, from the first 100 tonne converter, the largest converter so far installed in the country.

The expansion of the plant to the second stage of 4 million tonne capacity is well under way with civil and structural engineering works already in progress.

Bokaro Steel Limited have commissioned MECON for the preparation of a Project report for expansion of the Plant to 4.75 million tonne capacity.

The techno-economic feasibility of expansion of the plant to about 10 million tonne capacity is also being studied.

Expansion of Bhilai Steel Plant

The Detailed Project Report for the expansion of Bhilai Steel Plant from 2.5 to 4.0 million ingot tonnes has been received from the Metallurgical & Engineering Consultants (India) Limited and it is presently under examination by the Steel Authority of India Limited. However, preliminary work on this major expansion which has been taken up in advance is in progress. The possibility of further expansion of the Plant beyond 4.0 million tonnes to about 7.0 million tonnes is currently under examination.

In the recent Indo-Soviet discussions, note has been taken of the possibility of Soviet assistance for the expansion of Bhilai beyond 4 million tonnes and of Bokaro upto 10 million tonnes.

Progress of production in the Plants of Hindustan Steel Limited

The total production from the integrated steel plants at Bhilai, Durgapur and Rourkela during the period April—December, 1973, came to about 2.8 million ingot tonnes and to about 2.0 million tonnes of saleable steel. The production during these months has fallen short of the target for this period. It is also apprehended that the total production in 1973-74 may be lower than that in 1972-73. This shortfall in production is principally due to shortage of power which has directly affected all the plants except Bhilai, and inadequate availability of coal, again largely due to power shortage, which has affected all the plants. It has been estimated that there was a loss of production of saleable steel of the order of 1.47 lakh tonnes from these plants during this period on account of power shortage and/or coal shortage resulting from power shortage at the coking coal collieries and washeries. Disturbed industrial relations also affected production at Durgapur and to some extent in Rourkela. The strike by the workers of the Cast House Section of the Blast Furnace Department of Durgapur Steel Plant during August—September, 1973 paralysed the operation of the entire plant for 25 days in August/September, 1973.

The operations of the steel plants had also to face very serious dislocation on account of dislocation in rail movement resulting from the strike by locomen in August 1973, the strike by a section of the staff in the Dhanbad Division from 30-11-73 and lastly from the agitation of locomen from 16th December, 1973. All the plants had to impose drastic cuts on production in keeping with the minimal in-flow of raw materials.

As against the current year's target of 4.55 million ingot tonnes, the production anticipated is about 3.77 million ingot tonnes. In terms of saleable steel, production likely to materialise in 1973-74 is estimated at 2.78 million tonnes as against the target of 3.438 million tonnes.

Production at the Alloy Steels Plant, Durgapur, was also affected by power shortage and it is estimated that the loss of production of saleable steel from this plant on this account was of the order of 6,600 tonnes. The industrial relations situation in the plant also continued to be far from satisfactory and was a contributory factor to lower production.

Concerted efforts, however, continue to be made to maintain production at as high a level as possible within the limitations imposed by the external factors mentioned above. As regards power shortage, the concerned State Governments and the DVC authorities have been specially requested to accord the highest priority for the supply of power to the Steel Plants, coking coal mines and coal washeries. Continuous liaison is being maintained with these agencies. As a long term measure, the installation of additional power generating capacity for the Bhilai Steel Plant has been approved in principle and the question of augmenting captive power capacity at Rourkela and Durgapur Steel Plants is under examination. The recommendations made by the Action Committee appointed by the Planning Commission which examined the working of the Rourkela and Bhilai Steel Plants, have been taken up for implementation.

Metallurgical Engineering Consultants (India) Limited

The Central Engineering & Design Bureau of Hindustan Steel Limited has been converted into a Company styled 'Metallurgical and Engineering Consultants (India) Limited'. The new company which is a fully owned subsidiary of the Steel Authority of India Limited was incorporated on 31-3-1973 with an authorised capital of Rs. 4 crores.

Take-over of Refractory Plant of Assam Sillimanite Limited

The management of the refractory plant belonging to M/s. Assam Sillimanite Limited, situated near Ramgarh in Bihar was taken over by Government for a period of 3 years under Section 18-AA of the Industries (Development & Regulation) Act, 1951, by a notification dated 2nd November, 1972. The management of the plant has been entrusted to Hindustan Steel Limited.

New Steel Plants

Salem Steel Limited, the Company set up for implementation of the Salem Steel Project, have commissioned M/s. M. N. Dastur & Co. (P) Ltd., Consulting Engineers, for the preparation of a Detailed Project Report for the Salem Steel Project and for the concurrent engineering of the first phase of the project which envisages the setting up of a Cold Rolling Mill Complex for manufacture of 30,000 to 35,000 tonnes of cold rolled stainless steel sheets/strips per year initially with imported hot rolled stock. The first phase of the project is expected to be completed by the end of the Fifth Plan.

The Steel Authority of India Limited are taking steps for the preparation of the Detailed Project Reports in respect of Visakhapatnam and Vijayanagar Steel Projects each of which would have an ultimate capacity of about 3 million tonnes of ingot/liquid steel. Meanwhile, work relating to the acquisition of lands required for these two projects and for the development of infrastructure facilities is in progress.

Revised Pricing Policy

A revised pricing policy was evolved for steel, and the Joint Plant Committee announced the new steel prices with effect from the 15th October, 1973. The revision in the steel pricing policy was aimed at: (a) mopping up surplus money from trade and industry for the benefit of the steel industry and its development and growth; and (b) using the price mechanism coupled with effective changes in the distribution pattern to curb consumption of steel in certain categories, thereby augmenting progressively steel supply in critical areas. In the revised policy, care has been taken to safeguard the interests of exporting units.

Steel Distribution Policy

The main recommendations made in the Report submitted by the Study Group appointed in November, 1972, to review the working of the existing distribution system have been accepted and are being implemented. This will cut down the time lag between indenting and allocations. Certain other recommendations made by the Study Group are being considered by Government.

Exclusion of the re-rolling industry, scrap based electric arc furnace units, and wire drawing industry from the purview of the liberalised industrial licensing policy.

A Notification was issued on 31st October, 1973, excluding the re-rolling industry from the purview of the liberalised industrial licensing policy making it obligatory for any re-rolling mill irrespective of the level of investment to obtain an industrial licence before it is set up. This decision has been taken in view of the large re-rolling capacity already set up and the substantial underutilisation of capacity due to shortage of billets and re-rollable scrap.

In view of the inadequate availability of ferrous scrap in the country and shortage of electric power, and the difficulty being experienced by the Metal Scrap Trade Corporation in importing scrap, at competitive prices, Government have decided to regulate the growth of electric furnace units. With effect from 31-10-1973, Industrial Licences would be necessary for setting up scrap based electric furnace units for production of ingots/billets irrespective of the level of investment.

Also, in view of the large capacity which has already been created, and the scarcity of wire rods for wire drawing, Government are not encouraging creation of new wire drawing capacity in the country. Accordingly, in the Notification issued on 31-10-1973 the wire drawing industry has been excluded from the purview of the Liberalised Licensing Policy.

National Metallurgists Day

The 11th Metallurgists Day was celebrated at Cochin on 14th November, 1973, when 6 distinguished metallurgists were honoured with cash awards of Rs. 3,000 each for their outstanding contributions in various fields of metallurgy.

FUNCTIONS AND ORGANISATIONAL SET-UP OF THE DEPARTMENT OF STEEL

The Department of Steel forms part of the Ministry of Steel and Mines and is responsible for: (a) coordinating the growth of the steel industry both in the public and the private sectors—including re-rolling mills, alloy steel and ferro-alloys industry; (b) implementation of the Iron and Steel (Control) Order, 1956; (c) formulation of policies in respect of the distribution and imports/exports of iron and steel; and (d) input industries relating to coking coal, iron ore, and manganese ore, required mainly by the steel industry. The subjects allocated to the Department are shown in Appendix I.

As mentioned in the chapter on 'Steel Authority of India Limited', the following companies viz., Hindustan Steel Limited, Bokaro Steel Limited, Salem Steel Limited, Hindustan Steelworks Construction Limited, Bharat Coking Coal Limited, and the National Mineral Development Corporation have now become fully owned subsidiaries of the Steel Authority of India Limited. In addition, the share holdings of the Government of India in Mysore Iron and Steel Limited, Metal Scrap Trade Corporation Limited, Bolani Ores Limited, and Manganese Ore (India) Limited have also been transferred to SAIL.

With the setting up of the Steel Authority of India Limited, some items of work hitherto dealt with in the Department of Steel, relating to steel and associated input industries have been transferred to SAIL and this has resulted in reduction of certain posts and consequent saving in expenditure.

The Chairman of the Steel Authority of India Ltd., is also the Secretary in the Department of Steel. The other Secretariat posts include one post of Additional Secretary, four posts of Joint Secretary, three posts of Director (including the post of Internal

Financial Adviser), four posts of Deputy Secretary and six posts of Under Secretary. In addition, there is a Technical Wing which was headed by a Chief Technical Adviser till the middle of December, 1973 when the post was abolished. At present, the Technical Wing comprises one Industrial Adviser, three Development Officers and two Assistant Development Officers posted in the Secretariat and one Industrial Adviser and two Development Officers attached to the office of the Iron and Steel Controller at Calcutta.

The Iron and Steel Controller is responsible for the implementation of the Iron and Steel (Control) Order, 1956, and for formulating proposals for import/export policies. As Chairman of the Joint Plant Committee, he supervises the receipt and planned distribution of indents for supply of steel to consumers. In this work, he is guided by the Steel Priority Committee, of which the Secretary in the Department of Steel is the Chairman. He also publishes a Quarterly bulletin captioned "Iron and Steel Control" which contains information regarding production of iron and steel items and other matters of interest to the traders and consumers of Iron and Steel.

There are six Regional Offices under the Iron and Steel Controller at New Delhi, Calcutta, Bombay, Madras, Hyderabad and Kanpur. These are small offices which are officer-oriented in their functioning. Their main functions are:

(i) To conduct inspections and take other necessary measures to ensure that the consumers who receive steel materials on a priority basis from Producers' Works and Stockyards do not misutilise them;

(ii) To ensure that the Producers' Stockyards strictly adhere to the procedure laid down by the JPC for issue of steel materials from the stockyards.

(iii) To exercise a check over the registered billet re-rollers to ensure that they follow the discipline laid down by

the Billet Re-rollers Committee with regard to the rolling programme and the allocations made by the Committee;

(iv) To ensure that the industrial units which are allowed import of raw materials etc. on the basis of essentiality certificates issued by the Iron and Steel Controller, utilise them for the purpose for which they have been imported; and

(v) To keep a watch over market trends and open market prices of steel materials.

The inspections carried out and the vigilance exercised by these offices have resulted in a decrease of abuses in the distribution and utilisation of steel during the present period of scarcity.

PROGRESSIVE USE OF HINDI

The Hindi Cell of the Department of Steel comprises one Hindi Officer, four translators, and two typists. Besides doing translation work, this Cell deals with the implementation of instructions issued by the Ministry of Home Affairs regarding progressive use of Hindi in the work of the Government of India, and the Hindi Teaching Scheme of the Ministry of Home Affairs.

Noting and Drafting in Hindi

80% of the noting and drafting in the Hindi Cell is done in Hindi. Hindi noting has also been introduced, as an experimental measure, in Administration Sections. Instructions have been issued to all the Sections to write short/routine notes in Hindi. The Officers have also been requested to record short notes in Hindi, so that it may serve as an encouragement to the staff working under them to use Hindi.

Progress of translation of statutory material

The Iron and Steel Control Order, 1956, as amended from time to time, has already been translated into Hindi and is under print.

Training of Government servants in Hindi/Hindi Typewriting/Hindi Stenography :

The position is as under:—

Total No. of employees (Class I, II & III)	201	
	Trained	Yet to be trained
Total No. of employees possessing requisite Hindi qualification.	120	
Total No. of employees who have passed Pragya examination	44	
	164	37
		27
No. of employees trained in Hindi Typewriting	2	21
No. of employees trained in Hindi Stenography	2	

Official Language Implementation Committee

An Official Language Implementation Committee set up in the Department periodically reviews the progress in the use of Hindi for official purposes in the Department, its attached/subordinate offices and Undertakings and decides on the measures to be taken to accelerate its use in Government work. The Regional Iron and Steel Controller, New Delhi, representatives of Steel Authority of India Limited, and Kendriya Sachivalaya Hindi Parishad are members of this Committee. A representative of the Ministry of Home Affairs is also invited to take part in the deliberations of this Committee. So far, 8 meetings of this Committee have been held.

PLANNING AND DEVELOPMENT

A noteworthy feature of the Fourth Plan period has been a steadily increasing demand for steel due to the rising tempo of development activities. According to an estimate made in 1968, the domestic demand for finished steel in 1969-70 was placed at 5.0 million tonnes and an export of 0.9 million tonnes was aimed at. The actual steel consumption in 1969-70 was 4.4 million tonnes. The estimated domestic demand for mild steel in 1973-74 is 5.8 million tonnes. Since creation of steel capacity in integrated steel plants involves a long gestation period, adequate quantities of steel could not be made available to meet the domestic demand and consequently, substantial imports of steel had to be made all through this period. In the current year, the problem has become acute for two reasons :

(i) Production in the steel plants was seriously affected due to power shortages which affected not only the collieries and washeries but also the production in rolling mills; and

(ii) There has been a general shortage of steel the world over, leading to high prices with little possibility of improvement in the near future. As a result, import of steel has beeen affected by both scarcity and high prices.

The solution to this lies in maximising the capacity utilisation in the existing plants, at the same time creating additional steel capacity to meet the growing demands.

During the last two years, a number of remedial measures have been taken to overcome the various shortcomings and impediments in the way of increased production in the existing steel plants. These include repairs to coke ovens, use of alternative fuels to supplement gas availability, oil firing in certain furnaces to augment fuel resources, improved maintenance aimed at better

equipment availability, speeding up of capital programmes needed to correct existing imbalances in production facilities and planned procurement of spares, refractories and other essential inputs. It is also essential to overcome the periodic shortages of power supply and voltage fluctuations and, to this end, it is proposed to set up large captive power generating facilities at Bhilai and Bokaro. Studies are under way to see whether such facilities need to be put up at the other steel plants also. Stress will be laid on the need to ensure regular supplies of basic raw materials in all studies during the Fifth Plan period. Also, the bottlenecks in the speedy movement of raw materials to, and of finished products from the steel plants have to be overcome speedily so that transportation does not become a constraint in the availability of steel to the economy. Specialist Groups are working on rationalising materials movement.

A target of 12 million ingot tonnes capacity in the integrated steel plants was set for the end of the Fourth Plan. On the basis of a mid-term evaluation, this target was revised to 11 million ingot tonnes. By the first year of the Fifth Plan, an installed capacity of only 10.6 million ingot tonnes would be achieved—8.9 million tonnes in the existing plants and 1.7 million tonnes in the 1st stage of Bokaro. Against an original provision of Rs. 1,053.32 crores for the Fourth Plan which was revised to Rs. 1,050.45 crores in the mid-term appraisal, the actual expenditure is likely to be Rs. 937.97 crores, representing approximately 85% of the original outlay, the bulk of which would be on Bokaro Steel Plant.

Bokaro, incidentally, is the major on-going scheme in the Fourth Plan. The Detailed Project Report, prepared by the Soviet consultants in 1965 and approved by Government in March, 1966, envisaged Bokaro as a 4 million tonne plant, of which the 1.7 million tonnes was an intermediate stage in the construction, termed as 'Stage-I'. Work on Stage-I commenced in October, 1967, and according to the original construction schedule, a period of 5½ years was provided for its completion. Due to several reasons, the schedule has had to be revised more than

once. Work on the first stage is now almost complete and production of steel ingots has started towards the end of this financial year.

Steel development in the Fifth Plan period

The Steering Group on Metallurgical Industries constituted by the Planning Commission set up *inter alia* a Task Force on Iron and Steel to formulate proposals for the Fifth Plan. The Task Force, in turn, set up the following Planning Groups for carrying out detailed studies:

(i) demand and availability projections;

(ii) infrastructure facilities;

(iii) raw materials;

(iv) R & D technology;

(v) strategy and location of steel capacity;

(vi) design and construction of steel plants; and

(vii) manpower and training.

From the studies of the Task Force and the projections made by the Planning Commission, it emerged that the steel development programme in the Fifth Five Year Plan should be drawn up in such a manner that about 10 million tonnes of saleable steel would be available by 1978-79, to meet the domestic demand.

The existing integrated steel plants have a total capacity of 8.9 million ingot tonnes of steel, equivalent to 6.5 million tonnes of finished steel per annum. The increased demand for steel by 1978-79 is proposed to be met through the expansion of Bhilai Steel Plant from its present capacity of 2.5 million ingot tonnes to 4 million ingot tonnes and by the expansion of Bokaro, on a continuing basis, to a capacity of 4.75 million ingot tonnes. In view of the infrastructure facilities already available at these

two sites and the considerable preparatory work already undertaken, it should be feasible to commission these expansion schemes before the end of 1978-79. Thereby, an additional ingot capacity of 6.25 million tonnes equivalent to 5.4 million tonnes of finished steel per year would become available.

Taking into account the production build up at Bhilai and Bokaro after the commissioning of the expansion schemes and the capacity utilisation possible in the other integrated plants, it is estimated that finished steel availability by 1978-79 would be about 8.8 million tonnes.

Taking advantage of the liberalised licensing policy introduced in February, 1970, a large number of electric arc furnaces have been set up all over the country for processing ferrous scrap into ingots and billets which form the feedstock for the rerolling industry. In view of the constraints in the availability of scrap, power and other essential inputs for this sector, it has been decided to regulate the growth of the industry in keeping with the availability of essential inputs and the liberalised licensing policy is not applicable to this industry from October 31, 1973. However, the existing arc furnaces units and those in the process of being set up are likely to contribute at least a million tonnes of bars and rods by the end of the Fifth Plan period.

Thus, the total overall indigenous availability of mild steel by 1978-79 would be about 9.8 million tonnes which would, more or less, meet the estimated domestic demand.

Alloy Steels

From the projections of demand and availability, a short-fall of about 0.45 million tonnes of alloy steel by 1980-81 is indicated. This shortfall is to be bridged through the expansion of the Alloy Steels Plant, Durgapur, and the Mysore Iron and Steel Limited, Bhadravati, and the implementation of the special steels project at Salem in Tamil Nadu. M/s. Mahindra Ugine Steel Co. have also been permitted to expand the capacity of their alloy steel plant from 36,000 tonnes to 60,000 tonnes per

year. M/s. Bihar Alloys Limited, Patratu, with a capacity of 40,000 tonnes are also likely to go into production by 1975.

There are a number of low alloy varieties of steel, such as, spring steel and free cutting steel which the major alloy steel producers find it uneconomical to produce. It is now proposed to allow electric arc furnaces units to manufacture these categories of alloy steels to meet the national requirements. This is subject to the condition that the electric arc furnace units interested in the production of medium and high carbon steel, spring steel and free cutting steel have the necessary facilities for quality control.

Schemes suggested for inclusion in the Steel Development Programme for the Fifth Five Year Plan

As briefly outlined above, the steel development programme in the Fifth Plan is centred round the expansion of the Bhilai Steel Plant from its present capacity of 2.5 million ingot tonnes to 4 million ingot tonnes and continuing the work at Bokaro to achieve a capacity of 4.75 million ingot tonnes. In addition, work would be continued on the three new steel plants at Visakhapatnam, Vijayanagar and Salem. Proposals are also under consideration for the expansion of the Jamshedpur works of Tata Iron and Steel Co. Ltd. from two million ingot tonnes to a capacity of about 4.5 million ingot tonnes. In the Indian Iron and Steel Co.'s Burnpur Works, a rehabilitation programme has been initiated to revamp the plant and equipment so that it can operate at the rated capacity of one million ingot tonnes.

The various schemes suggested for inclusion in the Fifth Five-Year Plan are as follows:

Continuing Schemes

(i) **Bhilai :** expansion to 4 million tonnes capacity, completion of the sixth blast furnace complex, mechanisation of Dalli Mines, a second sintering plant, an additional coke oven battery, technological improvements and township expansion.

(ii) **Durgapur :** Modifications and technological improvements, a new coke oven battery and township expansion.

(iii) **Rourkela :** Setting up of a cold rolled grain oriented (CRGO) silicon steel plant for meeting the domestic requirements of transformer grade electrical sheets, a spirally welded plant for production of large sized pipes, a special steels plant, technological improvements and township expansion.

(iv) **Alloy Steels Plant, Durgapur :** Expansion of the Alloy Steels Plant, technological improvements and balancing facilities.

(v) **Refractory Plant :** A refractory plant with a capacity of 110,000 tonnes is to be set up at Bhilai.

(vi) **MECON :** Expansion of the activities of Metallurgical and Engineering Consultants (India) Ltd., a new company formed by separating the erstwhile Central Engineering and Design Bureau from Hindustan Steel Ltd.

(vii) **Bokaro :** Continuing work on Bokaro Steel Plant to achieve a capacity of 4.75 million ingot tonnes by 1978-79.

(viii) **Salem Steel Plant :** The Salem steel plant is to be implemented in two stages. In the first stage, cold rolling and finishing facilities will be established for production of 30,000 to 35,000 tonnes of cold rolled stainless steel sheets and strips for which hot rolled stock would have to be imported for a few years. In the second stage, besides melting, refining, continuous casting and hot rolling, additional facilities would be installed for cold rolling. The first stage of the Salem Steel Project is expected to be completed by the end of the Fifth Five-Year Plan.

(ix) **Vijayanagar and Visakhapatnam Steel Plants :** These plants would be designed for an ultimate capacity of

about 3 million ingot tonnes each. Work on these two projects would be continued in the Fifth Plan.

(x) **Mysore Iron and Steel Ltd :** Setting up of a forge plant, provision of balancing facilities and a Wire Rod Mill.

(xi) **Seamless Tube Plant :** A seamless tube plant is to be set up in the public sector. The location and other details regarding the project are under examination of the Steel Authority of India Ltd.

New Schemes

(xii) **TISCO Expansion :** Tata Iron and Steel Co. have been authorised to engage M/s. Nippon Steel Corporation as consultants for the preparation of a detailed feasibility report for expansion of their Jamshedpur Works from 2 million ingot tonnes to about 4.5 million ingot tonnes. After the report is received, a view on the expansion scheme would be taken.

(xiii) **Ferro-Vanadium Project :** Ferro-vanadium provides the vanadium requirement of alloy steel melts. In view of the high cost of ferro-vanadium and the strategic value of the vanadium bearing alloy steels, it is desirable to aim at self-sufficiency in the matter of production of ferro-vanadium. The Industrial Development Corporation of Orissa Ltd. have formulated a scheme involving recovery of vanadium pentoxide from slag arising out of the smelting of iron ore. This project is proposed to be implemented in the Fifth Plan.

(xiv) **R & D Schemes :** The main thrust of the research and development programme will be on measures to improve the productivity of the iron and steelmaking units in the steel plants, benefication of raw materials and for improving the quality of refractories.

(xv) **Additional Steelmaking Capacity :** Feasibility studies are to be initiated for certain expansion schemes and also for new steelmaking capacity in a few greenfield locations. These studies would be made use of while

drawing up plans for steel development in the succeeding plan periods.

Coking Coal

The requirements of coking coal by 1978-79 are estimated as follows :

	(*in million tonnes*)
Prime	22·73
Medium	10·57

Out of the above, the captive collieries of TISCO and IISCO are expected to produce 3.70 million tonnes of raw prime and 0.80 million tonnes of medium coking coal. Out of the balance, Bharat Coking Coal Ltd. are to produce 13.90 million tonnes of prime and 5.60 million tonnes of medium coking coal. NCDC collieries are to produce 4.72 million tonnes of prime and 7.38 million tonnes of medium coking coal.

Bharat Coking Coal Limited

The additional production during the Fifth Plan from Bharat Coking Coal Ltd. would be about 8 million tonnes. This will be brought about by improved methods of mining such as solid blasting, mechanical handling facilities and rationalisation of rail loading facilities, in addition to modernisation and re-structuring of pits.

Almost the entire requirement of prime and medium coking coal used by the steel plants would have to be washed. The installed capacity in existing washeries for prime coking coal is 13.14 million tonnes and for medium coking coal 9.35 million tonnes. It is proposed to add additional washing capacity to the extent of 4 million tonnes for prime and 6 million tonnes for medium coking coal. Of this, Bharat Coking Coal Ltd. would undertake the establishment of washing capacity to the extent of

4 million tonnes for prime coking coal. The balance would be provided for by NCDC/CMA.

Iron Ore

The following schemes are included in the draft Fifth Five-Year Plan for iron ore development :

(i) completing modifications of Bailadila-14

(ii) expansion of Kiriburu

(iii) completion of Donimalai and Bailadila-5

(iv) development of Meghahataburu, Malangtoli, Bailadila-4 and Kumaraswamy deposits

(v) setting up of a pelletisation plant at Donimalai.

Certain feasibility studies would be initiated for new schemes with a view to utilising these for iron ore development in the succeeding plan periods. In addition to the above, provision has also been made for the Panna diamond project of NMDC and for the Iron Ore Board.

Manganese Ore

It is proposed to increase the output of manganese ore from 0.576 million tonnes in 1973-74 to 0.759 million tonnes in 1978-79. Proposals are also under consideration for production of electrolytic manganese metal.

The Fifth Five Year Plan has not so far been finalised. The approved Fourth Plan outlay for each unit under the control of the Ministry of Steel and Mines (Department of Steel), the actual expenditure during three years, expenditure during 1972-73 and the likely expenditure during 1973-74 are shown in the following statement :

STATEMENT

(Rs. in crores)

Serial No.	Undertaking	Fourth Plan outlay		Actuals for 1969-70 to 1971-72	Actuals for 1972-73	Original outlay 1973-74	Actual Expn. upto Dec. 73	Revised outlay for 1973-74	Total outlay for 4th Plan as now anticipated
		Original	As per mid-term appraisal						
1	2	3	4	5	6	7	8	9	10
1	Steel Authority of India Ltd.	Nil	Nil	Nil	0·54	1·00	0·14	0·50	1·04
2	Hindustan Steel Limited ..	253·22	238·02	53·08	32·40	65·03	27·24	48·07	133·55
3	Bokaro Steel Ltd.	680·00	773·99	448·89	140·91	115·00	79·93	106·00	695·80
4	Hindustan Steelworks Construction Ltd. ..	Nil	Nil	1·27	2·46	2·50	1·34	2·50	6·23
5	Salem Steel Ltd. .. Steel ..	—	—	—	1·17	2·00	1·96	3·00	8·83
6	(a) Visakhapatnam Project ..	110·00	44·50	1·37	0·06	1·50	0·15	1·50	
	(b) Vijayanagar Steel Project ..				0·23	1·50	0·42	1·50	
7	Metallurgical & Engineering Consultants (India) Ltd.	Nil	Nil	—	—	0·10	0·10	0·40	0·40

1	2	3	4	5	6	7	8	9	10
8	National Mineral Dev. Corporation . .	88·34	97·50	29·37	18·60	22·30	11·57	15·00	62·97
9	Bharat Coking Coal Limited	Nil	Nil	—	0·82	3·00	—	2·70	3·52
10	Metal Scrap Trade Corporation	Nil	Nil	—	0·16	—	—	—	0·16
11	Manganese Ore (I) Limited	0·30	Nil	—	—	—	—	—	—
12	Tenughat Dam Project .	8·50	8·50	12·06	1·40	1·00	0·58	1·00	14·46
13	Mahanadi Reservoir Project	Nil	Nil	—	—	1·00	—	0·50	0·50
14	Iron Ore Board	Nil	Nil	—	0·01	0·05	0·03	0·08	0·09
15	Sponge Iron Project . .	Nil	Nil	—	—	0·25	—	—	—
16	Mysore Iron & Steel Ltd. . .	8·90	11·90	9·90	0·05	1·00	0·10	0·47	10·42
	TOTAL . .	1,149·57	1,174·41	5,55·94	198·81	217·23	123·46	183·22	937·97

STEEL AUTHORITY OF INDIA LIMITED

The Steel Authority of India Limited (SAIL) was incorporated on 24th January, 1973, with its Registered Office in New Delhi and it has an authorised capital of Rs. 2,000 crores.

In pursuance of Government decision that the Company shall own all Government shares in public sector steel companies, the shares held by the President of India in the Companies listed below have been transferred to the Steel Authority of India Limited and their Memoranda and Articles of Association have been suitably amended :

(i) Hindustan Steel Limited;
(ii) Bokaro Steel Limited;
(iii) Salem Steel Limited;
(iv) Hindustan Steelworks Construction Limited;
(v) Bharat Coking Coal Limited; and
(vi) National Mineral Development Corporation Ltd.

The shares held by the President in Bolani Ores Limited, Metal Scrap Trade Corporation Limited, Indian Iron & Steel Co. Limited, Manganese Ore (India) Limited, and Mysore Iron and Steel Limited have also been transferred to the Steel Authority of India Limited.

The paid-up capital of the Company amounted to about Rs. 1,294.41 crores as on 31-3-1973 and to about Rs. 1,321.04 crores as on 31-12-1973. This includes an amount of Rs. 60 lakhs subscribed by Government during 1972-73 to enable SAIL to meet its preliminary expenses. An amount of Rs. 50 lakhs is likely to be released during 1973-74 on this account and for investment in steel and allied industries and for meeting certain other development expenditure.

The equity investment position in the various companies in which the Steel Authority of India Limited has acquired interest is indicated below :—

Name of the Company	As on March 31, 1973 (Rs.)	As on Dec. 31, 1973 (Rs.)
1. Hindustan Steel Ltd.	608,33,95,000	6,18,04,95,000
2. National Mineral Development Corporation Limited	69,99,97,000	82,04,00,000
3. Bharat Coking Coal Ltd.	85,01,000	1,60,01,000
4. Bokaro Steel Limited.	599,99,95,000	5,99,99,95,000
5. Hindustan Steelworks Construction Limited	49,95,000	49,95,000
6. Salem Steel Limited	4,95,000	1,44,95,000
7. Bolani Ores Limited	50,49,000	50,49,000
8. Metal Scrap Trade Corporation Limited	..	14,00,000
9. Indian Iron & Steel Co. Ltd.	46,000	48,000
10. Manganese Ore (India) Ltd.	36,62,000	36,62,000
11. Mysore Iron & Steel Ltd.	13,20,00,000	13,20,00,000
12. Metallurgical & Engineering Consultants (India) Ltd.	..	5,000
Total	12,93,81,35,000	13,17,85,45,000

Besides, an amount of Rs. 83,50,00,000 to Bokaro Steel Limited and an amount of Rs. 3,00,00,000 to NMDC have been advanced as loan up to December, 1973.

In pursuance of Government decision that the Steel Authority of India Limited will be given an annual grant of up to Rs. 40 lakhs for a period of 5 years to meet its running expenses, a sum of Rs. 4 lakhs was sanctioned during 1972-73. The actual working expenses came to Rs. 3,46,666. During 1973-74, an amount of Rs. 27 lakhs is likely to be made available on this account.

Public financial Institutions like the Life Insurance Corporation, Unit Trust of India, Industrial Development Bank of India, nationalised Banks, nationalised general insurance companies etc. are substantial share-holders in private sector companies in the field of iron and steel and associated input industries. In pursuance of the objectives of the Steel Authority of India Limited, arrangements have been made for the exercise by the Steel Authority of India Limited of the voting rights of the financial institutions in these companies so as to ensure that the operations, programmes and development of these companies are conducted in accordance with the National Plan.

One of the important functions of the Steel Authority of India Limited is to coordinate the activities of its subsidiaries and to review, control, guide and direct their performance with a view to securing optimum utilisation of all resources placed at their disposal. The Steel Authority of India Limited has been devoting its attention to this task. Unfortunately, serious difficulties have arisen on account of shortage of power, shortage of coal which is also largely due to power shortage, and in regard to transportation. These external factors have affected the working of some of the subsidiaries like Hindustan Steel Limited and Bharat Coking Coal Limited considerably during the current year. An account of the working of the subsidiaries of Steel Authority of India Limited is given elsewhere. As a long-term measure to tackle the problem of availability of power, SAIL is examining in detail the possibilities of providing captive power generation capacity in the Steel Plants and for the washeries.

The Steel Authority of India Limited has been delegated powers to approve programmes of capital expenditure not exceeding Rs. 10 crores in each case. Programmes costing more than Rs. 10 crores are to be referred to Government for examination by the Public Investment Board and for issue of sanction. In terms of these powers, the Company has sanctioned/recommended to Government for sanction a number of capital schemes included in the Fourth and Fifth Five Year Plans. Some of the important schemes are :

(i) Research and development project on experimental coal dust injection in Blast Furnace No. 3 at Bhilai, with the object of reducing consumption of metallurgical coal;

(ii) Scheme for expediting the commissioning of Meghahatu buru Iron Ore Project of National Mineral Developme Corporation Limited for supply of 1 million tonnes o lump ore and 3 million tonnes of fines to meet th requirement of Bokaro Steel Plant;

(iii) Additional facilities for the production of special ste plates at Rourkela;

(iv) Setting up a plant for the manufacture of spirally welded pipes at Rourkela;

(v) Slag granulation plant at Rourkela to produce 0.6 millio tonnes of granulated slag;

(vi) Installation of an additional coke oven battery of 3 ovens at Durgapur Steel Plant; and

(vii) Setting up of an iron ore pelletization plant at Donimalai

Detailed studies were undertaken by SAIL in close cooperatio with all the steel plants and the Joint Plant Committee for working out an improved system for outward movement of finished goods from the Plants. Several important decisions were taken including (a) mechanisation of materials handling in major stockyards; (b) outward movement from steel plants as far as possible, in full rakes or half rakes, thereby avoiding despatches in wagon loads (c) rationalisation of procedures for indenting and stockyard sales with a view to reducing procedural delays and to providing improved customer service.

The Steel Authority of India Limited also formulated proposals which formed the basis of the revised pricing policy for steel products introduced from the middle of October, 1973.

A Technical Research and Development Organisation has been established. The major development programmes which have been taken in hand relate to :—

(a) Formed coke;

(b) Coal Dust Injection;

(c) Improvement of Converter Refractories and Technical Refractories;

(d) Sponge iron; and

(e) Submerged Injection in Open Hearth and Bottom Blowing in L.D. Converters.

A technical team was sent by the Steel Authority of India Limited in September/October, 1973 to Europe, USA and Canada to study the submerged injection process in open hearth furnaces and bottom blowing in L.D. converters.

The following table indicates the total number of employees in the Company as on 31-12-1973 and the number of Scheduled Castes/Scheduled Tribes among them :

Classification of posts	Total No. of employees as on 31-12-73	No. of Scheduled Castes employees	No. of Scheduled Tribes employees
Class I	51	5	..
Class II			
Class III	37	2	..
Class IV (excluding Sweepers)	18	2	..
Class IV (Sweepers)	3	2	..
TOTAL	109	9	..

HINDUSTAN STEEL LIMITED

Investment

The authorised capital of the Company is Rs. 700 crores. The paid-up capital as on 31-3-1973 was Rs. 610.85 crores. With the incorporation of the Steel Authority of India Limited on 25th January, 1973, and in pursuance of Government decision that SAIL shall own all Government shares in public sector steel companies, Government shares worth Rs. 608,33,95,000 were transferred to SAIL during 1972-73. The remaining shares held by Government were transferred to SAIL during the current year, thereby making the Company a wholly-owned subsidiary of SAIL. Consequently, the Memorandum and Articles of Association of the Company have been suitably amended.

Long-term loans advanced by Government to the Company amounted to Rs. 416.70 crores as on March 31, 1972. The Company repaid an amount of Rs. 31.97 crores during 1972-73, thus bringing down the long-term Government loans to Rs. 384.73 crores as on March 31, 1973.

A short-term loan of Rs. 13.62 crores had been advanced to the Company in 1972-73 to enable it to finance capital expenditure on schemes other than new capital schemes and expansion of townships. As on March 31, 1973, the outstandings on account of short-term loans came to Rs. 24.953 crores.

During 1973-74, a sum of Rs. 9.54 crores has been subscribed by Government as equity capital of SAIL up to December, 1973, for financing the expenditure on new capital schemes for expansion of townships of the Company. It is expected that a further amount of Rs. 3.19 crores will be subscribed by Government by the end of the current financial year.

Loan repayments aggregating to Rs. 36.2 crores are expected from the Company during the year 1973-74.

Production

The following table indicates production in the various units of the company during the year 1972-73 and for the period April—December, 1973 :

(In thousand tonnes)

Plants/Units	Ingot Steel	Saleable Steel
Bhilai Steel Plant		
1972-73	2,108	1,746
April—December, 1973	1,443	1,281
Durgapur Steel Plant		
1972-73	723	477
April—December, 1973	598	260
Rourkela Steel Plant		
1972-73	1,177	765
April—December, 1973	785	515
Total : (Bhilai, Durgapur & Rourkela)		
1972-73	4,008	2,987
April—December, 1973	2,826	2,056
Alloy Steels Plant, Durgapur		
1972-73	60·6	32·1
April—December, 1973	43·6	25·7
Fertilizer Plant, Rourkela	*Calcium Ammonium Nitrate (25% N2)*	
1972-73	196	
April—December, 1973	134	

There was an all round improvement in production from all the units of the Company in 1972-73 over the production in 1971-72. The aggregate production of ingot steel as well as saleable steel from the three integrated steel plants in 1972-73 was the highest so far and represented an increase of 15% over the production in 1971-72. Expecting that the upward trend of production would continue in 1973-74, it was estimated in the beginning of the year that the aggregate production from the three integrated steel plants would be around 4.55 million tonnes of ingots and 3.44 million tonnes of saleable steel. Unfortunately, however, the production during the months April—December, 1973, has fallen short of the targets for this period, and it is apprehended that the total production in 1973-74 may be lower than in 1972-73. This shortfall in production is principally due to the shortage of power which has directly affected all the plants except Bhilai and to the inadequate availability of coal, again largely due to power shortage, which has affected all the plants. It has been estimated that there was a loss of production of saleable steel of the order of 1.47 lakh tonnes in the three main steel plants during this period on account of power shortage and/or coal shortage resulting from power shortage at the coking coal collieries and washeries. The loss of production of saleable steel from the Alloy Steels Plant, Durgapur, on this account is estimated at over 6,600 tonnes.

Disturbed industrial relations also affected production at Durgapur and to some extent in Rourkela. The strike by the workers of the cast house section of the blast furnace department of the Durgapur Steel Plant during August-September, 1973, paralysed the operation of the entire plant for 25 days. The industrial relations situation in the Alloy Steels Plant at Durgapur also continued to be unsatisfactory.

The operations of the steel plants also had to face very serious dislocation on account of disruption in rail movement resulting

from the strike by locomen in August, 1973, the strike by a section of the staff in the Dhanbad division from November 30, 1973 and lastly from the agitation of locomen from December 16, 1973. All the plants had to impose drastic cuts on production in keeping with the minimal in-flow of raw materials.

The main factor which affected production in the fertiliser plant at Rourkela was the shortage of power and lower supply of nitrogen and coke oven gas from the Rourkela Steel Plant.

As mentioned in last year's report, a number of remedial measures have been taken to overcome the various shortcomings and impediments standing in the way of higher production. These measures continue to be implemented and, within the limitations imposed by external factors, concerted efforts are being made to maintain production at as high a level as possible. As regards power shortage, the concerned State Governments and the authorities of the Damodar Valley Corporation have been specially requested to accord the highest priority for the supply of power to the steel plants, coking coal mines and coal washeries. Continuous liaison is being maintained with these agencies. As a long-term measure, the installation of additional power generating capacity for the Bhilai Steel Plant has been approved in principle. The question of augmentation of power capacity at Rourkela and Durgapur Steel Plants and for Bharat Coking Coal Limited is also under examination. The Action Committee appointed by the Planning Commission which examined the working of the Rourkela and Bhilai Steel Plants has recommended a number of measures for achieving near rated capacity levels of production. These recommendations have been taken up for implementation. The Committee has also taken up the examination of the Durgapur Steel Plant and the Alloy Steels Plant at Durgapur and the reports are expected to be received in the near future.

Despatches

The table below gives figures of despatches during the year 1972-73 and during the period April—December, 1973.

(Quantity in '000 tonnes)

Plants	Saleable Steel		Pig Iron	
	1972-73	April—Dec. '73	1972-73	April—Dec. '73
Bhilai	1,706	1,281·3	536	398·6
Durgapur	506	260·3	281	57·1
Rourkela	763	514·3	60	33·3
TOTAL	2,975	2,055·9	877	488·9
Alloy Steels Plant	32·9	28·2	..	..
	(Calcium Ammonium Nitrate)			
Fertilizer Plant, Rourkela	201	134·5		

Despatches have been adversely affected due to inadequate supply of wagons and railway restrictions.

Exports

The export earnings of HSL (including materials belonging to Bokaro Steel Limited) in terms of F.O.B. value during the period April to December, 1973, were 15.2 crores as against Rs. 17.5 crores during 1972-73 (including exports sale of Rs. 20 million of Bokaro products). The level of exports continued to be low mainly due to the rising domestic demand and the restrictions imposed on the export of certain categories of steel. The statement below gives comparative figures of exports of iron and steel materials during 1972-73 and for the period April to December, 1973.

(Quantity in thousand tonnes
Value : F. O. B. in crores)

Item	1972-73		April—December, 1973	
	Quantity	Value	Quantity	Value
1. Pig iron	401·6	13·03	366·7	12·98
2. Beams/Channels/Angles ..	39·9	3·76	—	—
3. Rails	4·4	0·32	15·7	1·88
4. Galvanised sheets	2·9	0·37	1·6	0·35
Total ..	448·8	17·48	384·0	15·21

Imports

To keep pace with the rising domestic demand and to make up for the shortfall in indigenous production, the Company continued arrangements for the bulk import of steel for small scale industries, export oriented engineering industries and other actual consumers. The Company also continued to operate the Steel Bank on Government account. From April to December, 1973, about 4.91 lakh tonnes of different steel materials had been imported.

Working Results

Higher production and higher despatches during 1972-73 improved the gross sales of the Company to Rs. 594.80 crores as compared to Rs. 444.92 crores in 1971-72. Consequently, the gross margin rose from Rs. 47.78 crores in 1971-72 to Rs. 65.97 crores in 1972-73. However, after making a provision for interest charges to the extent of Rs. 24.65 crores, a balance of only Rs. 41.32 crores was available to cover the incidence of depreciation amounting to Rs. 69.11 crores. The unabsorbed depreciation thus accounted for the year's loss of Rs. 27.797 crores. The working results of the various units of the Company in 1971-72

and 1972-73 and the cumulative results since inception are indicated below :

(Rs. in crores)

	1971-72	1972-73	Cumulative since inception
1. Bhilai Steel Plant	(—)4·298	(+)6·000	(—)13·288
2. Durgapur Steel Plant	(—)27·523	(—)25·722	(—)157·188
3. Rourkela Steel Plant	(—)6·887	(+)1·186	(—)27·697
4. Alloy Steels Plant	(—)5·235	(—)6·293	(—)36·239
5. Fertilizer Plant, Rourkela	(—)1·707	(—)2·116	(—)18·706
6. Coal Washeries	(+)1·171	(—)0·426	(+)3·038
7. Unrealised profit on inter-plant transfers	(—)0·367	(—)0·426	(—)0·808
TOTAL	(—)44·846	(—)27·797	(—)250·877

The higher production and additional income arising from selective price increases given in July and small increases in other categories and extras in December, 1972, should have normally resulted in a better financial performance. However, the advantages arising therefrom were more than neutralised on account of the impact of certain escalations in cost indicated below over which the Company had little or no control and which were not fully covered by price adjustments :

(Rs. in crores)

1. Raw materials, spares and consumables	11·26
2. Annual bonus including arrears of 1971-72	5·50
3. Transport subsidy including arrears in terms of wage agreements	2·13
4. Increase in wage bill other than annual bonus and transport subsidy	10·11
TOTAL	28·99

The position also could have been better if the utilisation of capacity in the Durgapur Steel Plant and the Alloy Steels Plant had been better; it was only 38% and 53% respectively in terms of saleable steel.

An average price increase of Rs. 75 per tonne of saleable steel was allowed in September, 1973. From mid-October, 1973, a revised pricing policy has been introduced. As a result therefore, it is expected that the working results of the Company will improve in 1973-74.

Industrial Relations

The industrial relations situation was generally satisfactory in the Bhilai Steel Plant. In all 37,401 man-hours were lost on account of labour troubles during the period April—December, 1973, and the value of production lost was Rs. 0.13 crores.

In the Rourkela Steel Plant, although the Joint Production Committees set up with a view to securing the cooperation of workers in increasing production and productivity have been functioning satisfactorily, they did not fully yield the desired results. During the period April—December, 1973, 44,387 man-hours were lost on account of labour troubles and the value of production lost was Rs. 7.56 crores.

On the whole, the industrial relations in the Durgapur Steel Plant and the Alloy Steels Plant, Durgapur, showed a perceptible improvement over the situation in 1972-73. The situation however, continued to be far from satisfactory. The strike by the workers of Cast House of the Blast Furnace Department of the Durgapur Steel Plant in August-September, 1973, paralysed the working of the entire Steel Plant for a period of 25 days. The incidents of sudden work stoppages, refusal to stay on overtime and to act on higher jobs continued in both the plants. During the period April—December, 1973, 1,79,779 man-hours were lost as a result of labour troubles in the Durgapur Steel Plant, the value of production lost being Rs. 5.66 crores. The man-hours lost in the Alloy

Steels Plant during the same period came to 75,114 and the value of production lost amounted to Rs. 6.95 crores.

Capital Schemes

The work on the implementation of new capital schemes included in the fourth five-year plan continued to make progress. The mechanisation of Dalli Mines which was expected to be completed by December, 1974, is likely to be delayed by 6 to 12 months, largely due to delay in the receipt of drawings and equipment. The detailed project report for the expansion of the Bhilai Steel Plant from 2.5 to 4.0 million ingot tonnes has been received and is presently under examination by the Steel Authority of India Limited. Preliminary work on this major expansion which had been taken in hand in advance is, however, proceeding apace. The possibility of further expansion of the plant beyond 4.0 million tonnes to about 7 million tonnes is currently under examination. The detailed project report for the refractory plant to be installed at Bhilai is also under examination by the Steel Authority of India Limited and the technical collaborators, M/s. Belpahar Refractories Limited. A investment decision is likely to be taken shortly. The plant is being planned to be ready to coincide with the expansion of the Bhilai steel plant to 4.0 million ingot tonnes. The work relating to the installation of the 8th coke oven battery in Bhilai is continuing and the project is expected to be completed by about the end of 1974.

At Rourkela Steel Plant, the installation of an additional half coke oven battery is likely to be completed by March, 1974. Investment decisions for the setting up of additional facilities for the production of special steel plates and a plant for the manufacture of spirally welded pipes are likely to be taken in the near future. The proposal to set up a slag granulation plant at Rourkela has been approved. The question of setting up a plant at Rourkela for the manufacture of cold-rolled grain oriented sheets is also under consideration.

The installation of an additional half-coke oven battery at Durgapur steel plant has been approved. This battery will be the first to be indigenously designed and engineered. The Metallurgical and Engineering Consultants (India) Ltd. will supply the know-how, design and detailed engineering and the Engineering Projects (India) Ltd. will procure and supply materials for and construct the battery which is expected to be commissioned in 1975.

The report of the group of experts who re-examined the question of the product-mix for the expansion of the Alloy Steels Plant, Durgapur, from its present capacity of 100,000 ingot tonnes to 300,000 tonnes of ingot steel has been received and is presently under examination by the Steel Authority of India Limited.

Central Engineering and Design Bureau of HSL

The Bureau has been constituted into a separate company under the name 'Metallurgical and Engineering Consultants (India) Limited'. The new company was incorporated on March 31, 1973, and is a subsidiary of SAIL.

Refractory Plant of Assam Sillimanite Limited

The management of the refractory plant belonging to M/s. Assam Sillimanite Limited and situated near Ramgarh in Bihar was taken over by Government for a period of three years under section 18-AA of the Industries (Development and Regulation) Act, 1951, by a notification dated November 2, 1972. The management of the plant has been entrusted to Hindustan Steel Limited.

Consequent on the formation of the Steel Authority of India Limited, the question of the restructuring of Hindustan Steel Limited is under examination.

In the context of the Directive issued to public undertakings in the matter of reservation of posts for Scheduled Castes and

Scheduled Tribes, the position as on January 1, 1974, was as under :

Classification of posts	Total no. of employees as on 1-1-1974	Number of scheduled caste employees	Number of scheduled tribe employees
Class-I	7,616	46	12
Class-II Class-III	76,843	3,215	2,417
Class-IV	42,308	9,155	6,175
Total	1,26,770	12,416	8,604

BOKARO STEEL LIMITED

General

Bokaro Steel Limited is the fourth integrated steel plant in the public sector. The work on the plant commenced in October, 1967. The plant is being constructed in two stages: an annual capacity of 1.7 million tonnes of ingots and an annual capacity of 4.0 million tonnes of ingots. Considerable amount of work on the 4.0 million tonnes stage is being taken up concurrently with the first stage of 1.7 million tonnes. It has already been decided to expand the capacity of Bokaro to 4.75 million ingot tonnes per year. The possibilities of its ultimate expansion to 10 million ingot tonnes per annum are being examined.

Finance

The initial estimate of capital cost of the first stage of the plant proper, sanctioned by Government in 1966, was Rs. 620 crores. The off-site facilities such as the township, mines and quarries, dam and canal were estimated to cost an additional Rs. 51 crores. A revised estimate of Rs. 708 crores for the plant proper was sanctioned in January, 1972. This revision became necessary because of the increase in the cost of indigenous equipment, escalation in wages and higher prices of construction materials. There was no increase in the cost of off-site facilities. The estimate has been further revised by the Company to Rs. 757 crores for the plant proper and Rs. 69 crores for off-site facilities. This revision of plant cost takes into account further increase in the prices of equipment, materials, wages, erection costs, engineering and supervision, and customs duty. The estimate for off-site facilities has gone up mainly because of increased provision for the township, provision for the Meralgram-Bhavnathpur railway line and increase in the cost of the canal. The revised estimate is under the consideration of Government.

For the second stage of the plant, i.e., the expansion from 1.7 to 4 million ingot tonnes, the Company had prepared an estimate of Rs. 513 crores. This estimate may undergo some change when the Detailed Project Report for the 5 Stand Cold Rolling Mill is received.

The authorised and paid-up capital of the Company as on 31-12-1973 was Rs. 600 crores. The total expenditure on the Project till the end of December, 1973 was Rs. 858.74 crores including Rs. 103.00 crores on Stage II expansion.

With the commissioning of the first Blast Furnace Complex in October 1972, the plant started production of pig iron, which is being exported also. Since the full range of products from the capitalised units does not materialise in the initial stages, the Company suffered a loss of Rs. 5.45 crores during 1972-73, after providing for depreciation to the extent of Rs. 3.46 crores.

Production

The First Blast Furnace Complex was commissioned on October 3, 1972 by the Prime Minister. Production during 1972-73 was 333,100 tonnes of hot metal from the Blast Furnaces and 308,000 tonnes of cold pig iron. The coke produced has been good in respect of ash content as well as strength; superfluxed sinter (from the one sinter band commissioned on 9-9-1972) has formed at times 100% of the charge in the blast furnace burden. The Blast Furnace attained near rated capacity level within five months of commissioning. Production and despatches during the current year (April—December 1973) are indicated in Appendix II. The high production rate attained in 1972-73 could not be maintained during the current year as there was shortage of coke. Though the second coke oven battery was lighted and was ready for operation in May 1973, it could be commissioned only on the 18th October, 1973 due to acute shortage of metallurgical coal. Coal consumption rate in the Blast Furnaces has been brought down to as low as 645 kg. per tonne of hot metal as against 744 kg. envisaged in the Project Report.

Construction

According to the construction schedule finalised by the Board of Directors of Bokaro Steel Limited in July 1969, erection work on the first stage should have been completed by the 30th June, 1973, while the commissioning of the different units was expected to take another six months. For various reasons such as delay in the supply of equipment and materials by indigenous manufacturers, failure of construction and fabrication contractors, shortage of steel and cement etc. the schedule could not be adhered to.

Early in 1973, an integrated schedule was drawn up by Bokaro Steel Limited for completion of construction of the 4 million tonne stage, in consultation with the main equipment suppliers. Opportunity was also taken to make a critical review of the schedule for the first stage.

A detailed assessment of the quantity and volume of work remaining to be done on the 1st May, 1973 was made and a coordinated construction schedule was drawn up by Bokaro Steel Limited covering all the stages up to the 4 million tonne stage. According to this schedule, the first stage of the plant (excluding the Cold Rolling Mill) is to be completed by the end of December, 1974 and the second stage (excluding the Cold Rolling Mill Complex) by the end of December, 1976. The Cold Rolling Mill in each stage is expected to be completed a year later.

Arrangements for procurement of most of the equipment required for the expansion stage have already been made. The supply of some items of equipment and design data from the USSR has also been tied up.

A Project Report for the expansion to 4.75 million tonnes is being prepared by the Metallurgical and Engineering Consultants India Limited (MECON). This report is expected to be available by May, 1974. Simultaneously, the possibility of expanding the capacity directly from 4 to 5.5 million tonnes is being examined.

According to the feasibility study earlier prepared, the 4.75 million tonne expansion is likely to cost Rs. 57 crores.

The first Blast Furnace Complex which includes, besides the furnace, one coke oven battery, one sinter band, mechanised raw materials handling system and related water, power, gas and repair facilities, is in operation since October, 1972. The first converter commenced trial production on 27th December, 1973. The entire work for the second converter is almost complete and trial production will start soon. The Slabbing Mill is likely to be commissioned during 1974. The Hot Strip Mill is expected to be completed by March, 1975.

The progress of work up to the end of December, 1973 on the first stage is indicated below:—

Item of work	Unit	Total Qty.	Upto 31st December, 1973		
			Target	Actuals	% progress on cumulative target
1	2	3	4	5	6
(a) *Civil Works*					
Excavation	mil. cbm	13·694	13·694	13·596	99·28
Concreting & RCC	—do—	1·962	1·962	1·900	95·88
Underground communications	'000 m	289·4	189·4	288·5	99·5
Controlled Fill (Cooling pond)	mil. cbm.	5·270	5·270	5·266	99·9
(b) *Structurals*—					
(i) *Receipts*—					
B.S.L.	'000 tonnes	57·3	57·3	54·4	94·5
HSCL	—do—	170·4	170·4	171·6	Over 100
HEC	—do—	28·8	28·8	27·5	95·6
USSR	—do—	16·5	16·5	16·0	97·3
TOTAL		273·0	273·0	269·5	98·8

1	2	3	4	5	6
(ii) *Erection*—					
BSL	'000t	86·0	86·0	73·2	83·5
HSCL	—do—	186·9	186·9	160·7	85·1
TOTAL		272·9	272·9	233·9	84·2
(c) *Equipment*—					
(i) *Despatches/Receipts*—					
USSR	'000t	103·7	103·7	102·5	98·9
HEC	—do—	72·2	72·2	65·2	89·4
MAMC	—do—	10·5	10·5	9·8	93·1
Other Public Sector Sources	—do—	9·4	9·4	7·1	75·8
Private Sector Sources	—do—	79·8	65·8	57·7	85·7
TOTAL		275·6	261·6	242·3	92·9
(ii) *Erection*—					
Mechanical	—do—	252·4	252·4	153·6	58·4
Electrical	—do—	36·6	36·6	18·6	48·3
TOTAL		289·0	289·0	172·2	57·3
(d) *Pipes*—					
USSR supply	'000t	20·2	20·2	12·6	62·6

According to the feasibility study earlier prepared, the 4.75 million tonne expansion is likely to cost Rs. 57 crores.

The first Blast Furnace Complex which includes, besides the furnace, one coke oven battery, one sinter band, mechanised raw materials handling system and related water, power, gas and repair facilities, is in operation since October, 1972. The first converter commenced trial production on 27th December, 1973. The entire work for the second converter is almost complete and trial production will start soon. The Slabbing Mill is likely to be commissioned during 1974. The Hot Strip Mill is expected to be completed by March, 1975.

The progress of work up to the end of December, 1973 on the first stage is indicated below:—

Item of work	Unit	Total Qty.	Upto 31st December, 1973		
			Target	Actuals	% progress on cumulative target
1	2	3	4	5	6
(a) *Civil Works*					
Excavation	mil. cbm	13·694	13·694	13·596	99·29
Concreting & RCC	—do—	1·962	1·962	1·900	96·88
Underground communications	'000 m	289·4	189·4	288·5	99·5
Controlled Fill (Cooling pond)	mil. cbm.	5·270	5·270	5·266	99·9
(b) *Structurals*—					
(i) *Receipts*—					
B.S.L.	'000 tonnes	57·3	57·3	54·4	94·5
HSCL	—do—	170·4	170·4	171·6	Over 100
HEC	—do—	28·8	28·8	27·5	95·6
USSR	—do—	16·5	16·5	16·0	97·3
TOTAL		273·0	273·0	269·5	98·8

1	2	3	4	5	6
(ii) *Erection*—					
BSL	'000t	86·0	86·0	73·2	83·5
HSCL	—do—	186·9	186·9	160·7	85·1
TOTAL		272·9	272·9	233·9	84·2
(c) *Equipment*—					
(i) *Despatches/Receipts*—					
USSR	'000t	103·7	103·7	102·5	98·9
HEC	—do—	72·2	72·2	65·2	89·4
MAMC	—do—	10·5	10·5	9·8	93·1
Other Public Sector Sources	—do—	9·4	9·4	7·1	75·8
Private Sector Sources	—do—	79·8	65·8	57·7	85·7
TOTAL		275·6	261·6	242·3	92·9
(ii) *Erection*—					
Mechanical	—do—	252·4	252·4	153·6	58·4
Electrical	—do—	36·6	36·6	18·6	48·3
TOTAL		289·0	289·0	172·2	57·3
(d) *Pipes*—					
USSR supply	'000t	20·2	20·2	12·6	62·6

1	2	3	4	5	6
(e) *Refractories*					
(i) *Receipt*					
Indigenous	'000t	129·9	129·9	110·2	83·6
Imported	—do—	81·3	81·3	69·6	85·6
TOTAL		211·2	211·2	179·8	85·6
(ii) *Erection*	'000t	183·6	183·6	113·6	60·1

There was a set-back in the progress of work during the current year mainly due to acute shortage of cement, a prolonged monsoon, lack of adequate resources—manpower and equipment—and of proper organisation at site on the part of contractors coupled with industrial relations problems in the form of lock-outs, strikes and shutdowns faced by some of them and non-receipt of fabricated structures in sequence and in time. Concentration of labour in the priority areas like the Steel Melting Shop and Coke Oven Battery No. 3 in order to expedite the progress on them and in the finishing works of certain units generally caused delays in the work in other areas. Additional constraints during the last couple of months were shortage of dissolved acetylene gas, repairs necessitated to defective equipment and strike by mobile equipment and crane operators, and shortage of re-inforcement bars.

Periodic reviews were made during the year to assess the progress of work and the performance of equipment suppliers and other contractors and all possible remedial steps were taken at the appropriate time. To tide over the shortage of cement, steel, industrial gases etc., special arrangements were made for maintaining supplies to Bokaro Steel Limited and their principal contractors.

The power shortage in the earlier part of the year impeded the progress of construction as well as the operation of

the plant. As the shortage is likely to continue, it has been decided to increase captive power generation in the steel plant by installing three additional generating sets of 110 MW each. Arrangements for installing these generators are being finalised by Bokaro Steel Limited with Bharat Heavy Electricals Limited.

The Progress of work up to the end of December, 1973 on expansion to 4 million tonne capacity is indicated below:

Item of Work	Unit	Total Quantity	Actual work done upto Dec. 31, 1973	%age progress on total
1	2	3	4	5
(a) *Civil Works*—				
Excavation	mill. cbm.	5·753	1·750	30·4
Concreting & RCC	—do.—	0·859	0·114	13·2
Underground Communications		50·00	..	..
Controlled Fill	'000 m	2·150	0·977	45·4
(b) *Structurals*—	mill. cbm.			
(i) *Receipts*—				
BSL	'000 t	35·9	3·4	9·5
HSCL	—do.—	55·2	0·4	0·7
HEC	—do.—	17·5	5·8	32·9
TOTAL		108·6	9·6	8·8
(ii) *Erection*	'000 t	108·6	0·8	0·7
(c) *Equipment*—				
(i) *Despatches/Receipts*—				
USSR	'000 t	22·9	1·8	7·7
HEC	—do.—	41·2	5·3	12·9
MAMC	—do.—	7·1	0·5	7·0
Other Public Sector sources	—do.—	19·4	..	..
Private Sector Sources	—do.—	5·1	0·5	10·0
TOTAL		95·7	8·1	8·4

1	2	3	4	5
(ii) *Erection*—				
Mechanical . . .	'000 t	168·5	..	..
Electrical . . .	—do.—	10·1	..	..
TOTAL .		178·6	..	..
(d) *Refractories*—				
(i) *Receipts*—				
Indigenous . . .	'000 t	72·6	..	..
Imported . . .	—do.—	..	..	..
TOTAL .		72·6	..	..
(ii) Erection . . .	'000 t	146·6	0·6	0·4

Raw Materials

The annual requirement of major raw materials for the steel plant is of the following order:—

(In million tonnes)

	Stage I (1·7 million tonnes)	Stage II (4 million tonnes)
1. Iron Ore-Lump	1·24	2·14
2. Iron Ore-Fines	2·93	6·80
3. Coking Coal	3·40	6·40
4. Lime-Stone-BF Grade	1·15	2·60
5. Lime Stone-SMS Grade	0·44	1·00
6. Dolomite	0·32	1·00

Lump ore is being supplied by the Kiriburu Mines. Fines are being obtained partly from Kiriburu and partly from the Barajamda area. The Detailed Project Report of Bokaro envisages Meghahatuburu as the source of iron ore for the 4 million tonne stage. Preliminary exploratory and survey work on this deposit has already been taken up and the mine is expected to be commissioned in 1978. Until requisite supplies from Meghahatuburu materialize, part of the requirements of iron ore fines will continue to be procured from Barajamda. In order to facilitate the movement of ore rakes from this area, it has been decided to construct a by-pass line at Rajkharswan. Work on this line is being taken up by the Railway authorities.

According to the initial planning, the plant was to work entirely on washed coking coals. Because of the shortage of washed coal, and the difficulties in movement, some proportion of raw coal from Jharia is also being used now. Arrangements have been made to move part of the requirement by road. It is also proposed to link the steel plant with the nearby Dugda washery by an aerial rope-way for movement of coal from the washery to the steel plant.

Blast Furnace grade lime stone is obtained from Bokaro Steel's captive quarry at Bhavanathpur. This quarry, when fully mechanised, will yield 2.9 million tonnes of crushed limestone per year. The surplus limestone will be supplied to Durgapur Steel Plant. Recently, Bokaro Steel Limited have obtained the lease of two adjacent deposits in the area and detailed prospecting work is being done on these deposits.

Steel Melting Shop Grade limestone will be obtained from Kuteshwar in Madhya Pradesh. Detailed prospecting work is being carried out in this area. For the present, apart from the raisings from Kuteshwar, some quantity is being purchased from private mines.

To meet the requirement of dolomite, Bokaro Steel Limited are developing a quarry at Tulsidamar in Bihar. Presently, small quantities are also being obtained from Madhya Pradesh and Bhutan.

Slag Granulation

At the 4 million tonne stage of the plant, there will be an annual arising of about 2.5 million tonnes of blast furnace slag. It is proposed to set up a slag granulation plant at Bokaro. The granulated slag is a raw material for cement manufacture. The capacity of this plant in terms of granulated slag would be about 2 million tonnes per year.

Industrial Relations

Industrial relations between the management and employees of Bokaro Steel Limited remained cordial for a major part of the year. There was labour trouble in November, 1973 when the operators and construction workers went on strike. With the assistance of the State Government, an amicable settlement was arrived at and normal work was resumed after this ten day strike. Before this, crane and other mobile equipment operators had also struck work for a few days towards the end of October, 1973.

A reward scheme has been introduced by the plant management with effect from November 1, 1973 for the workers on the operations side. A similar scheme for construction workers is under consideration of the Management.

The following table indicates the total number of employees in Bokaro Steel Limited as on 31-12-1973 and the number of Scheduled Castes/Scheduled Tribes among them:—

Classification of posts	Total No. of employees as on 31-12-1973	No. of	
		Scheduled Castes	Scheduled Tribes
Class I	1,971	13	18
Class II	1,684	24	27
Class III	16,337	861	430
Class IV (excluding Sweepers)	9,126	1,479	1,417
Class IV (Sweepers)	636	614	22
TOTAL	29,754	2,991	1,909

NEW STEEL PLANTS

Salem Steel Plant

The Special Steels Project at Salem (in Tamil Nadu) is being designed for the production of the following:—

Sheets and strips	Tonnes per year
Stainless steel	70,000
Electrical steel	75,000
Other special steels	50,000
TOTAL	1,95,000

The project which is estimated to cost about Rs. 340 crores is being implemented in two stages. In the first stage, facilities would be set up for the production of 30,000 to 35,000 tonnes of cold rolled stainless steel sheets and strips from purchased hot rolled coils followed by the second stage consisting of melting, refining, continuous casting, hot rolling and additional cold rolling facilities required for achieving the full product range indicated above.

A new company by the name of "Salem Steel Limited" was incorporated on 25-10-1972 with an authorised capital of Rs. 100 crores, having its Registered Office at Salem in Tamil Nadu. After the setting up of the Steel Authority of India Limited, Salem Steel Limited has become a wholly owned subsidiary of SAIL.

According to an agreement entered into by Salem Steel Limited, with M/s. M.N. Dastur & Co., Consulting Engineers, the Detailed Project Report is expected to be ready by the end of

1974. Concurrently, the consulting Engineers are also to carry out Detailed Engineering of the first phase of the Project which is expected to be commissioned by the end of the Fifth Plan.

M/s. Hindustan Steelworks Construction Limited who have been associated with the preliminary work at the steel plant site, have taken up the site preparation work which is progressing satisfactorily.

Out of an estimated 1,493 hectares of land required for the project, 1,012 hectares have already been acquired by 31-10-73.

Salem Steel Limited have already set up an office at Salem with a nucleus organisation. In consultation with the Government of Tamil Nadu, they are working out details for the provision of water and power supply and development of infrastructure facilities.

Visakhapatnam and Vijayanagar Steel Plants

In the initial concept, the Visakhapatnam Steel Project in Andhra Pradesh and the Vijayanagar Steel Project in Karnataka were to be designed for a capacity of about two million ingot tonnes each. The Metallurgical and Engineering Consultants (India) Limited (formerly CEDB of HSL) were commissioned to prepare the Feasibility Report in respect of Vijayanagar Steel Project, while M/s. M.N. Dastur & Co. were assigned the task of preparing such a Report in respect of the Visakhapatnam Steel Project. The Techno-economic Feasibility Reports prepared by the consulting Engineers during 1971-72 indicated that, on the basis of the steel prices prevailing at that time, there would be heavy recurring losses on the capital investment involved on these two projects. The Feasibility Reports were examined by Government and it was decided that a Study Group should go into the possibility of reducing both capital and operating costs.

The Study Group in its Report, recommended that a capacity of about three million ingot tonnes should be considered at each of the locations to obtain economies of scale and to make the

operations of these two plants viable. It had also recommended that while the Visakhapatnam Steel Plant may be designed for the production of sectional products, the Vijayanagar Steel Plant may be set up for the production of hot rolled coils and semis for sale.

On the basis of these recommendations, the following product-mix was arrived at for these two projects :

Particulars	Visakhapatnam	Vijayanagar	Total
	(million tonnes)		
Plant Capacity	3·09 (ingot steel)	3·35 (liquid steel)	
Product-mix			
	(in '000 tonnes)		
(a) Wire Rods			
(i) 5·5 to 10mm	800	..	800
(ii) 12 to 20 mm	400	..	400
(b) Light Merchant Products	500	..	500
(c) Medium Merchant Products	600	..	600
(d) Billets for sale	269·1	655	924·1
(e) Hot Rolled Strips	..	2,310	2,310
TOTAL	2,569·1	2,965	5,534·1

The capital cost of each of these projects is estimated at Rs. 854 crores. The Public Investment Board has endorsed the above proposals of the Department of Steel and the Steel Authority of India Limited have been asked to take steps for the preparation of Detailed Project Reports in respect of these two projects.

Meantime, land acquisition work is going on for the two projects. The Steel Authority of India Limited have appointed General Managers who, in consultation with the State Governments, are working out priorities for various preliminary items of work including the development of infrastructure facilities.

On present indications, these two projects are likely to be commissioned towards the end of the sixth Five Year Plan.

NATIONAL MINERAL DEVELOPMENT CORPORATION LIMITED

General

The National Mineral Development Corporation is in charge of the iron ore projects at Kiriburu, Bailadila Deposits 14 and 5 and Donimalai and the Diamond Mining Project at Panna. The Corporation is preparing feasibility reports on other projects also.

Finance

The authorised capital of the Corporation is Rs. 100 crores and the paid-up capital as on 31-12-1973 was Rs. 82.04 crores. The last instalment of the Japanese Yen Credit for the Bailadila Project—Deposit 14—was repaid during the year 1972-73.

The Company incurred a net loss of Rs. 112.10 lakhs during 1972-73 as against Rs. 350.03 lakhs in the previous year, bringing the cumulative loss to Rs. 13.82 crores.

Production and Despatches

Production and despatches during the period April—December, 1973 and the previous year are indicated in the annexed table (Appendix III).

The output of the Kiriburu Iron Ore Project fell slightly short of the target. The plant was shut down for erection and commissioning of two crushers from 2nd September, 1973. These were commissioned in December, 1973. In addition to supplying the iron ore requirements to Bokaro, 94,000 tonnes of surplus lump ore, not usable in the Bokaro Steel Plant, were exported to Japan during this period.

Production from Bailadila Deposit 14 was affected by equipment breakdowns, lower availability of dumpers and shovels and

some industrial relations problems. Despatches for shipments to Japan were slightly lower than the target for the year.

The output of diamonds from the Majhgawan and Ramkheria mines during the nine months from April to December, 1973 was 13,682 carats against the year's target of 18,000 carats. In view of the uneconomic working, aging equipment and difficulties in obtaining additional land for mining purposes, the closure of the Ramkheria mine is being considered.

Progress on Projects

The Kiriburu Modification and Expansion Scheme, estimated to cost Rs. 15.51 crores, has been behind schedule due to delays in the receipt of equipment. This, in turn, has resulted in an upward revision of the estimated cost by 25%. The project is expected to be completed by November, 1974.

The development of Bailadila Deposit No. 5 (estimated to cost Rs. 50.14 crores) for export of 4 million tonnes per year of sized ore to Japan, has been delayed due to late receipt of equipment and delays in the completion of civil works, including the down-hill tunnel for transport of ore to the railway loading point.

The Donimalai Iron Ore Project, estimated to cost Rs. 27.92 crores, is being developed for an annual production of 4 million tonnes of ore. The project is expected to be completed by August, 1975.

Projects under Planning

The Kudremukh Iron Ore Project, for the production of 7.5 million tonnes per year of concentrates from magnetite iron ore, was approved, in principle, by Government in November, 1972, subject to certain conditions, the most important being the securing, in advance, of a long-term contract for a minimum sale of 5 million tonnes of slurry per annum. Though, originally, in the detailed project report, it was envisaged that the export of the concentrates would be as pellet feed, the erstwhile partners

of this project (NMDC, three Japanese Trading Companies and the Marcona Corporation of USA) came to the conclusion in April, 1973 that it would not be possible to export the iron ore slurry. Thereafter, NMDC has been conducting studies as to the manner in which the Kudremukh deposits may be exploited.

Meghahatuburu Iron Ore Deposits are proposed to be exploited for meeting the requirements of Bokaro Steel Plant, since the production from Kiriburu will not be adequate. Investigations on the Meghahatuburu deposit are in progress.

Investment decision on the setting up of a Pelletisation Plant in the Donimalai area is likely to be taken shortly. An important consideration in this regard will be a long-term export contract for the pellets.

The expansion of Majhgawan Diamond Mine for stepping up the output to 43,200 carats per annum is being examined by Government.

Personnel

The total number of employees in the Corporation, as on 31-12-1973, is shown in the following table indicating separately those belonging to Scheduled Castes and Tribes :

	*Total No.	Number belonging to	
		Scheduled Castes	Scheduled Tribes
Class I	406	17	1
Class II	223	2	1
Class III	3,598	190	341
Class IV	1,837	282	562
Total	6,064	491	905

*Including trainees.

BHARAT COKING COAL LIMITED

General

The Central Government, through an Ordinance dated 16-10-1971, took over the management of 214 coking coal mines in the Jharia coalfield and adjacent areas. This step to nationalise coking coal mines became inevitable as the private owners were not exploiting the limited resources in a scientific manner and there was lack of forward planning, exploitation of labour and inadequate investment for development of mines. The management of these mines was entrusted to an "Organisation for the Management of Coking Coal Mines". The Bharat Coking Coal Limited was formed on 1st January, 1972 and was entrusted with the management of the Coking Coal Mines taken over in October, 1971, simultaneously dissolving the OMCCM. By the Coking Coal Mines (Nationalisation) Act, 1972, Government acquired the ownership of these mines with effect from 1-5-1972 and vested the same in BCCL in order to implement Government policy and to achieve the desired objectives of nationalisation. The main objectives are reorganising and restructuring the mines, as well as the coke oven plants, for the purpose of protecting, conserving and promoting scientific development of the resources of coking coal needed to meet the growing requirements of the iron and steel industry.

With the take-over of the non-coking coal mines by the Government on 31st January, 1973, the management of 184 non-coking coal mines in the Jharia coalfield was also entrusted to BCCL. The total number of mines owned and managed by BCCL is now 398. Some of the other establishments engaged in work of similar nature, transferred to BCCL in the larger interest of the development of the coal industry, include Coal Board, Ropeways D&E, the Central Coal Washeries of HSL and the Sudamdih and Monidhih Projects of NCDC.

BCCL became a wholly owned subsidiary of SAIL in March, 1973, in order that an integrated and balanced development of steel and its associated input industries could be achieved.

Finance

The authorised capital of the Company is Rs. 50.00 crores and the paid up capital as on 31-12-1973 was Rs. 4.75 crores.

During the year ended December 31, 1972, the Company suffered a loss of Rs. 2.57 crores after providing for Rs. 2.50 crores towards depreciation. The loss arose mainly because the expenditure on wages and fringe benefits rose sharply after nationalisation while prices increased only marginally.

Production and Despatches

Coal raisings, the output of hard and soft coke as also the despatches and the operation of the coal washeries during the period April—December, 1973 as against the target and the actuals during the year 1972-73 are indicated in the annexed table (Appendix IV).

Coal raisings during the current year were adversely affected by shortage of power, transportation difficulties, shortage of explosives and heavy rains in September and October, 1973. While the output of hard coke registered an upward trend, the production of soft coke suffered due to inadequate and irregular railway movement.

DVC, the main supplier of power to BCCL mines, imposed restrictions varying from 20% to 30% during April—July, 1973. The load shedding caused damage to the electrical equipment and rendered the working of the mines unsafe, due to frequent shutdown of ventilation system, particularly in gassy mines.

In regard to rail movement, the gap between demand and allotment of wagons on the one hand and between allotment and loading on the other have both increased during the current year, thus pushing up the wastage of transport capacity. Certain steps to rectify the position, such as placing the wagons at the proper siding, avoiding both the bunching of wagons falling in arrears and placing one day beyond the loading capacity of the Collieries and placing of damaged wagons at the siding for loading, have been suggested to the railway authorities.

The coalfields experienced one of the heaviest spells of rainfall in recent years on the 21st and 22nd September, 1973 and in the second week of October, 1973. In a few cases, the water pressure burst open the embankments and water started gushing into the mines in spite of the precautionary measures taken. At this time, when pumping was very essential, DVC imposed severe power restrictions for varying periods of time.

There has been a spate of inter-union clashes, some of them being fatal. In certain cases, large scale deputation of magistrates with armed force had to be arranged. Other problems such as misleading personnel records maintained by the erstwhile mine owners resulted in a large number of claims difficult to be substantiated as factual. In order to provide a forum for appeal, an Area level Screening Committee was formed with representatives of the management and the trade unions.

The performance of the washeries suffered mainly due to shortage of power and transportation problems. It is proposed to instal certain additional balancing equipment such as box wagon tipplers and vibrators to improve the wagon loading and the raw coal storage capacity for Dugda I. Stepping up of production is possible only if uninterrupted supply of raw coal is assured in addition to improvement in industrial relations.

Personnel

The total number of employees in BCCL as on 31-12-1973 is shown in the following table, indicating separately those belonging to Scheduled Castes and Scheduled Tribes:—

	Total	No. belonging to	
		S.C.	S.T.
Class I	930	22	1
Class II	350	4	5
Class III	29,190	7,242	2,396
Class IV (excluding Sweepers)	1,19,180	42,639	15,453
Class IV (Sweepers)	1,221	2,108	53
TOTAL	1,50,871	52,015	17,908

HINDUSTAN STEELWORKS CONSTRUCTION LIMITED

General

Hindustan Steelworks Construction Limited has taken up construction of Steel Plants and also works outside the Steel Sector. The Company is the principal Contractor for construction of the Bokaro Steel Plant. It has also been entrusted with the civil engineering works of Bhilai Steel Plant, site levelling and building construction works for Salem Steel Limited and site investigation for Visakhapatnam and Vijayanagar Steel Projects. Works outside the steel sector include jobs with M/s. BALCO at their Korba Plant, with N.M.D.C. for Bailadila Iron Ore Project, and the Second Hooghly Bridge approaches at Calcutta.

Finance

The authorised capital of the Company is Rs. 1 crore. Its paid-up capital as on 31st March, 1973 was Rs. 50 lakhs.

The net profit before tax for the year ended 31-3-1973 was Rs. 101 lakhs which, after provision for tax, amounted to Rs. 36 lakhs against the previous year's figures of Rs. 79 lakhs and Rs. 28 lakhs respectively. Reserves and surpluses accumulated up to 31-3-1973 amount to Rs. 1.99 crores. As in previous years, a dividend of 20% was declared for the year 1972-73. The Company's turnover during 1972-73 was Rs. 50.37 crores as compared to Rs. 40 crores in 1971-72.

Progress of works

Bokaro

At Bokaro, Hindustan Steelworks Construction Limited is doing the Civil Engineering work, fabrication and erection of structures, erection of equipment and refractory work.

Bhilai

At Bhilai, major works for the 2.5 million tonne stage relating to Dalli Mechanised Mine, Crushing Plant, Boridih Dam, 2nd Sintering Plant, 8th Coke Oven Battery, Tundula Bridge and miscellaneous works in the Plant are in progress. A beginning has been made in site levelling for the expansion from 2.5 to 4 million tonne capacity.

Durgapur

The Company has taken up Civil construction work in Durgapur Steel Plant for the refractory store shed, second slag bridge and the 5th Coke Oven Battery.

Salem Steel Project

Survey and site investigation works have been completed. A few labour hutments, store sheds, site office buildings etc. have also been built. Construction of Project Office buildings of Salem Steel Limited is progressing well.

Visakhapatnam and Vijayanagar Steel Projects

Survey and site investigation work is in progress.

Work outside the Steel Sector

Works in about twenty projects at an estimated cost of about Rs. 55.5 crores have been taken in hand, notable among these being the Smelter Complex for BALCO at Korba, Second Hooghly Bridge Approaches in Calcutta, Bailadila Iron Ore Deposit Project and New ITI Factory at Rae Bareili.

The following table indicates the total number of employees in Hindustan Steelworks Construction Limited as on 31-12-1973

and the number of Scheduled Castes/Scheduled Tribes am... them :

	Total No.	Number belonging to Scheduled Castes	Scheduled Tribes
Class I	762	7	
Class II	1,311	15	
Class III	1,471	83	
Class IV (excluding Sweepers)	288	40	
Class IV (Sweepers)	5	5	
TOTAL	3,837	150	

METALLURGICAL & ENGINEERING CONSULTANTS (INDIA) LIMITED

The Central Engineering and Design Bureau of Hindustan Steel Limited was established in 1959 with a view to developing an organisation in the country to utilize indigenous skills and talent so as to render technical consultancy and engineering services for the steel plants. It started functioning with 13 selected engineers and, over the years, has grown into a large organisation with over 700 engineers and more than 400 design assistants. In February, 1969, it signed an agreement with the United Engineering and Foundry Company of U.S.A., pioneers in the designing of rolling mill equipment, for technical know-how in this field. It also entered into a technical collaboration agreement with the Soviet Design Organisation, Gipromez, which provided for a considerable amount of design documentation and training facilities being made available to it. The Bureau had thus become the premier organisation in the country for consultancy and engineering services for the iron and steel industry.

Having regard to the substantial increase in its activities, the assignments it has undertaken outside Hindustan Steel Limited and its role in the context of the future expansion of the steel industry, Government decided that the Bureau should be constituted into a separate company. The new company styled "Metallurgical and Engineering Consultants (India) Limited" was incorporated on 31-3-1973 with an authorised capital of Rs. 4 crores. It is a fully owned subsidiary of Steel Authority of India Limited. The main object of the company is to provide consultancy and engineering services for the development of ferrous and non-ferrous metallurgical enterprises and allied industries.

The Company functions as technical adviser to the Department of Steel on matters connected with the iron and steel industry. Some of its major assignments are indicated below:

(a) the company is the principal consultant for the expansion of Bokaro Steel Plant from its first stage of 1.7

million to 4.0 million ingot tonnes. The Feasibility Report for further expansion of the Plant to 4.75 million ingot tonnes having been accepted, it has been entrusted with the preparation of a Detailed Project Report for the second stage expansion;

(b) it has prepared the Detailed Project Report for the expansion of the Bhilai Steel Plant from 2.5 to 4.0 million ingot tonnes and a Feasibility Report for further expansion of the plant to 7.2 million ingot tonnes;

(c) it is associated with a number of new capital schemes and schemes for additional facilities aimed at optimising production at the Steel Plants of Hindustan Steel Limited. It has also been entrusted with detailed engineering for the additional coke oven battery at Bhilai and one half-battery each at Rourkela and Durgapur;

(d) as consultant to Mysore Iron and Steel Ltd., MECON is making a Detailed Project Report for optimisation of production in this Plant. In addition, a Detailed Project Report has been prepared for a Forge Shop;

(e) it acts as prime Indian Consultant to Bharat Aluminium Co. Ltd., for detailed engineering, erection and commissioning work with regard to the Smelter and Fabrication Complex at Korba;

(f) it is preparing feasibility reports for a pelletization plant in the Bihar-Orissa area, for the setting up of sponge iron plants in Orissa and in Karnataka and for a pig iron/sponge iron complex at Bailadila;

(g) it is preparing a feasibility report for expansion of iron making facilities in the Burnpur works of the Indian Iron and Steel Co. Ltd.

(h) it has received orders for the design and supply of: (a) a cold rolling mill for M/s. Ahmedabad Advance Mills, Bombay; (b) roll pass and guide design for the existing

mill at the Defence Metallurgical Research Laboratory, Hyderabad; (c) inter-changeable mandrel for skin pass mill at Rourkela; (d) flying shear complete with electronics for double strand rolling mill at Durgapur and (e) a cold rolling mill for the Government of India Mint, Bombay.

The following table indicates the position as on 31-12-1973 in respect of employment of Scheduled Castes/Scheduled Tribes in the Company:—

Classification of posts	Total No. of employees as on 31-12-73	No. of Scheduled Castes employees	No. of Scheduled Tribes employees
Class I	..	..	..
Class II	972	..	1
Class III	23	..	24
Class IV (excluding Sweepers)	664	11	47
Class IV (Sweepers)	181	25	4
	18	12	76
TOTAL	1,858	48	

INDIAN IRON & STEEL CO. LTD.

The Indian Iron and Steel Company Limited owns, in addition to an integrated Steel Plant at Burnpur, an Iron Foundry at Kulti (which is also making spun pipes), captive collieries at Chasnalla, Jitpur and Ramnagore and Iron Ore Mines at Gua and Manoharpur. The company has also a Coal washery at Chasnalla and ropeway to transport coal from Jitpur to the Washery and from the Washery to Burnpur Works. The Company's Iron Ore Mine at Gua is mechanised. The Kulti Works consist of several units of foundries and the production is mainly Spun Pipes and iron and steel and non-ferrous castings. The Company has a subsidiary, namely, IISCO-Stanton Pipe and Foundry Company Limited at Ujjain which has been promoted in collaboration with British Steel Corporation (International) Limited. This Company produces cast iron spun pipes of various dimensions. The rated capacity of the Steel Plant of the Company is one million tonnes of ingot steel corresponding to 0.8 million tonnes of saleable steel.

The management of the Company was taken over by the Government of India with effect from the 14th July, 1972 for a period of two years. This was done with a view to arresting the precipitous fall in production of the steel plant at Burnpur, to tone up the management and increase the production by undertaking the necessary repairs and renovations. Government had reasons to believe that the decline in the production was mainly due to the ineffective and unresponsive management at the top which had neglected replacement, repair and maintenance programmes of the plant.

The day-to-day administration of the Company is in the charge of the Custodian appointed by Government. An Advisory Board has been constituted to assist the Custodian in the discharge of his duties.

On taking over the management of the Company, the technical health of the various units of plant and machinery was exa-

mined and a Plant Rehabilitation programme was drawn up. This programme, finalised after due scrutiny, envisages an expenditure of Rs. 43 crores to restore the capability of the steel plant to produce to the installed capacity by 1976. The entire amount will be borrowed as term loans from a consortium headed by the IDBI in which other public finance institutions and nationalised banks will participate. The scheme is already under implementation and, up to the 31st October, 1973, an expenditure of Rs. 10.14 crores had been incurred. The essential features of the plant rehabilitation programme are:—

(a) improvement of raw material handling facilities, particularly in relation to coal and iron ore;

(b) emergency and hot repairs of Nos. 7, 8 and 9 coke oven batteries and rebuilding of the No. 7 battery;

(c) building a new ladle house for blast furnaces;

(d) repairs of open hearth furnaces and converters;

(e) augmentation of steam generation capacity and, therefore, of power;

(f) rehabilitation of handling equipment like cranes, ground chargers in the steel melting shops and the rolling mills;

(g) modernising and fully rehabilitating rolling stock;

(h) providing for alternative stand-by facility for oil firing.

The actual production in the Steel Plant during the past few years has been as under:—

Year	Steel Ingots	Saleable Steel
	(In '000 tonnes)	
1970-71	627	523
1971-72	617	493
1972-73	431	351

During 1973-74, the target of production is 648,000 tonnes of steel ingots corresponding to 503,000 tonnes of saleable steel. Against this, the actual production during the period from April to December, 1973 amounted to 324,582 tonnes of ingots and 259,270 tonnes of saleable steel. The main constraints affecting production have been:—

(a) very poor state of repair of the cranes generally. A crash programme for re-conditioning of the cranes has been taken up; but the impact of this will not be felt for some more time as the total reconditioning programme covers 18 months;

(b) power shortages caused by the bad state of the company's own boilers and frequent power cuts by DVC particularly in the April/June period. During the period from April to December, 1973 about 16,000 tonnes of saleable steel production was lost due to power restrictions by DVC;

(c) the blooming mill was closed down for three weeks for planned repair in September, 1973;

(d) there was a sudden hearth breakout in the No. 3 blast furnace on 8-10-73 after it had been commissioned after relining in May, 1973. There was no production from this furnace till 7th November, 1973.

The production during the next two years on the basis of implementation of the Plant Rehabilitation Programme is estimated as under:—

Year	Steel Ingots	Saleable Steel
	(In '000 tonnes)	
1974-75	737	590
1975-76	982	756

Since the take over of the management of the Company by Government in July, 1972, the following steps have been taken to re-organize the administrative structure of the Company:—

(i) Proper grades and service conditions have been laid down for officers. No well defined system existed earlier.

(ii) Vacancies in several important positions have been filled up.

(iii) An integrated materials management organisation has been introduced with consultancy assistance from the Administrative Staff College of India, Hyderabad.

(iv) The personnel management Division has been strengthened. Regular training of management and supervisory personnel has been introduced.

(v) Security arrangements at the Burnpur Works have been reinforced with the appointment of an officer of the rank of Deputy Inspector General of Police as full-time Security Adviser to the Custodian.

(vi) A close budgetary control system has been introduced for both revenue and capital expenditure.

(vii) The management of the Captive Collieries is being strengthened by re-organisation along the lines recommended by the Court of Inquiry which was set up to investigate the explosion in the Jitpur Colliery in March, 1973.

MYSORE IRON AND STEEL LIMITED

The Mysore Iron and Steel Works, which was started in 1923 with a small Blast Furnace to produce about 24,500 tonnes of pig iron annually, was expanded from time to time and is now one of the main producers of alloy and special steels in the country. In addition, it also manufactures Ferro Silicon, Cement, Castings etc.

Mysore Iron and Steel Limited was incorporated under the Indian Companies Act, 1956, on the 1st April, 1962. It is a joint undertaking of the Government of Karnataka and the Government of India. Of the present paid-up capital of Rs. 33 crores of the Company, Rs. 19.8 crores (60%) is held by the Government of Karnataka and the balance of Rs. 13.2 crores (40%) is held by the Government of India through the Steel Authority of India Limited. All the shares of the company held in the name of the President of India, were transferred during the year to the Steel Authority of India Limited.

The present installed capacity of the Plant is as under:—

	(tonnes)
Steel Sections (Mild Steel)	38,400
Alloy and Special Steels	77,000
Pig Iron	2,00,200
Blast Furnace slag Cement	84,000
Grey Iron Castings	15,400
Steel Castings	5,400
Ferro Silicon	20,000
Ferro Manganese	2,640
Silico-Manganese ore	1,440
Ferro-Chrome	1,650
Cast Iron Spun Pipes	15,200
Cast Iron railway sleepers	12,000
Fireclay Refractory Bricks	9,600

The actual production during 1972-73 and during 1973-74 up to the end of December, 1973 and the targets for 1974-75 are as under:—

	Production		Target for 1974-75
	1972-73	1973-74 (Upto Dec. '73)	
			(In tonnes)
Mild Steel	55,744	32,360	50,200
Special Steels	47,447	36,635	65,000
Steel Ingots	1,46,942	1,16,209	1,65,050
Pig Iron	1,65,756	1,16,256	1,57,500
Ferro Silicon	11,520	7,605	17,010
Cement	98,700	70,028	1,00,000
Castings	13,200	1,600	14,500
Cast Iron Spun Pipes	8,863	7,351	10,000
Cast Iron Plate Sleepers	12,282	..	..
Refractories	8,797	7,912	9,300
Structures	2,498	1,514	3,000

The working results of the Company showed a substantial improvement during the year 1972-73. The Company made a profit of Rs. 71.17 lakhs as against the profit of Rs. 25.38 lakhs during 1971-72. The accumulated loss was reduced from Rs. 8.65 crores to Rs. 8.29 crores. The gross sales turn over during 1972-73 was about Rs. 33.19 crores as against Rs. 30.21 crores during 1971-72, an increase of 10% which is a new record.

The Company is working on a scheme for the installation of a Forge Plant in the Company's works to manufacture certain high speed and high value types of special steels. The scheme has been approved, in principle, by the Government of India and the method of financing the expenditure on this scheme is now under examination. A Detailed Project of the scheme has been prepared by the Metallurgical and Engineering Consultants (India) Limited. The total capital cost of the project is estimated at Rs. 12.9 crores.

The Company is working on a scheme for installation of cer-
tain balancing facilities to optimise production. The total capital
cost of this scheme is of the order of Rs. 11.15 crores. The proposal
is now under the consideration of Government.

The Company is also planning the establishment of a Wire
Rod Mill in the Works as a Fifth Plan Scheme. A Feasibility
Study will be prepared by the Metallurgical and Engineering Con-
sultants (India) Ltd. in this regard.

The Company has under consideration, the expansion of its
cement plant and also the construction of a new Gas Holder
along with repairs to the existing Plant.

During the year, production in the Company was adversely
affected due to power restrictions. The restriction was to the ex-
tent of 25% with effect from the 1st October, 1972. This was
reduced to 10% in July, 1973 but has again been increased to
20% from the 1st October, 1973. The production of Ferro-Silicon
and Pig Iron has been adversely affected. Production of Pig Iron
suffered a further set-back due to acute shortage of coke on
account of rail traffic dislocations.

STEEL INDUSTRY IN THE PRIVATE SECTOR

Tata Iron and Steel Co. Ltd.

The Tata Iron and Steel Company Limited owns, in addition to the integrated steel plant at Jamshedpur, captive Collieries at Sijua and Jamadoba and an Iron Ore mine at Noamundi. The Steel Plant at Jamshedpur is the oldest integrated steel plant in the country. The installed capacity of the plant is 2 million tonnes of steel ingots per annum equivalent to 1.5 million tonnes of saleable steel. The capacity was achieved as a result of introduction of modernisation and expansion programmes which were aided by the Government of India and the World Bank through loans. The Plant produces a variety of semi-finished and finished steel items like blooms, billets, tin bars, rails and heavy structurals, plates, sheets etc.

The production in the Plant during the past few years has been as under:—

	Steel Ingots (Figures in million tonnes)	Saleable Steel
Capacity 1971-72	2·000	1·500
1972-73	1·708	1·387
1973-74 (target)	1·690	1·458
Actual production from April, 1973 to Dec., 1973	1·930	1·500
	1·135	0·890

Saleable Steel output during the current year has been adversely affected by severe power cuts, shortage of coal and transportation difficulties. In view of the uncertainty regarding improvement in this regard, it is not possible to estimate with any degree of accuracy, the likely production during the current year. In so far as the supply of power is concerned, the Company is considering a

scheme for expansion of the captive power generation capacity by 40 MW.

As the Plant of the Company is rather old, it is necessary to undertake a continuous programme for replacement, repairs and modernisation in the Plant in order to maintain its rated capacity. The Company is at present implementing a number of capital schemes for this purpose. The programme of replacement and rehabilitation sanctioned by the Board in April, 1973 amounted to Rs. 95 crores in the five year period 1973-74 to 1977-78. The programme is being revised with a view to ensuring that all rehabilitation and modernisation schemes essential for sustaining plant capacity are implemented speedily and also to step up in-plant generation of power by providing certain balancing facilities in the power plant. The progress of some of the important projects is as under:—

(i) **Coke Oven Rebuilding Programme**

The Company has drawn up a phased programme of re-building of coke oven batteries. Under the programme, a new battery of fifty-four coke ovens was commissioned in March, 1973. Another scheme for the replacement of old Coke Oven Battery No. is under progress. On account of difficulties in procuring indigenous supplies of refractories, the progress on this has been somewhat delayed and the new battery which was to be commissioned in March, 1974, is now likely to be commissioned only in November, 1974. Two more batteries are proposed to be rebuilt during the next five-year period.

(ii) **Setting up of a new boiler house**

Ten old boilers installed in 1928—39 have been replaced by two modern high pressure boilers with a back pressure turbo generator of 12.5 MW capacity. The turbo generator has recently been commissioned.

(iii) **Colliery expansion project**

Further progress has been made in the installation of facilities at the collieries for increasing the production of clean coal by 0.5 million tonnes per annum.

Government have approved the proposal of TISCO for the preparation of a feasibility study by Nippon Steel Corporation of Japan with a view to determining how best to increase the capacity of the steel plant from its existing level of two million tonnes of ingots a year to 4 million tonnes or more, most economically and expeditiously. The feasibility study is expected to be available by the end of March, 1974.

Re-rolling Industry

The Steel Re-rolling Industry employing about 75,000 persons with an investment of about Rs. 80 crores has been contributing to the economy in the form of bars, rods, light sections, railway track materials, cold twisted ribbed bars, special sections for springs, gate channels and window sections, wire rods and coils, light structurals, and a variety of finished profiles. The products of the re-rollers meet the demand of a wide range of consumers.

Re-rolling mills are classified as 'Billet-based' or 'Scrap-based' depending upon the primary raw material which they process. The Technical Committee on 'Assessment of Re-rolling Capacity' appointed by Government had, in its report submitted in July 1966, assessed the annual capacity of billet re-rollers at 2.78 million tonnes, of scrap re-rollers at 0.73 million tonnes and of other units at 1.20 million tonnes, on two shift basis.

The extent of utilization of capacity in the re-rolling industry depends on demand for the various finished products and on availability of raw material viz. billets/ingots, as well as re-rollable scrap. The Billet Re-rollers Committee regulates the supply of billets to the Billet Re-rollers who are under their discipline regarding planning, distribution and pricing of the finished products.

Regarding distribution of Re-rollable scrap, by and large, 2/3rd of the re-rollable scrap arising from the main producers is allocated among the units borne on the approved lists with various Directorates of Industries in States, and 1/3rd is distributed among the other scrap re-rollers who are the members of Steel re-rolling

Mills Association. The dwindling per unit allocation among the units borne on the lists maintained by State Directors of Industries stems from the fact that while there has been hardly any increase in the availability of re-rollable scrap, the number of scrap re-rollers registered with the Directors of Industries in States had progressively increased year after year.

In view of the large existing re-rolling capacity, and the substantial under-utilisation of capacity, Government have not been encouraging creation of additional capacity. Government have, therefore, issued a Notification on 31-10-73, excluding the re-rolling industry from the purview of the liberalised industrial licensing policy and thus making it obligatory for any re-rolling mill, irrespective of the level of investment, to obtain an industrial licence before it is set up. The Steel Authority of India Limited are commissioning a technical survey to evaluate the present status of the re-rolling industry after assessing the unit-wise capacity, equipment installed, present product-mix and to suggest measures to optimise their production through diversification of their product range, effecting technological improvements, modernisation of their mills etc. and to gear up this industry to play a more meaningful role in the steel development programme of the country.

In order to augment supplies to feed the re-rolling industry, Government had permitted a large number of ferrous scrap based electric furnace units to be set up to manufacture ingots/billets. The manufacture of steel ingots/billets by electric furnaces was de-licensed in December, 1966. Subsequently, with the introduction of the liberalised licensing policy in February, 1970 electric arc furnace units with investment not exceeding rupees one crore each were outside the purview of industrial licensing, and only registration with the Iron and Steel Controller was necessary till 31st October, 1973. Many entrepreneurs took advantage of this scheme, and as a result, a large number of electric arc furnaces have gone on stream, increasing the availability of steel by recycling ferrous scrap. The total annual capacity of electric fur-

nace units including those which are under implementation as on 14-3-1974, is about 34.6 lakh tonnes as shown below: —

	Number of units	Annual Capacity (In tonnes)
(i) Units sanctioned under Iron & Steel (Control) Order.	3	10,500
(ii) Units licensed under the Industries (Development & Regulation) Act, 1951.	33	13,30,500
(iii) Units holding Letters of Intent	8	6,40,000
(iv) Units registered under the Liberalised Industrial Licensing Policy with Iron Steel Controller.	84	14,81,208
Total	128	34,62,208

The total liquid metal production from electric furnaces during 1972-73 was about one million tonnes. The production in 1973-74 is likely to go up to 1.2 million tonnes of liquid metal. The major constraints in the way of more effective utilisation of capacity in the electric arc furnaces industry are the inadequate availability of ferrous scrap in the country and shortage of electric power. Even though the current Import Policy permits import of 20% of the requirement of heavy melting scrap to Actual Users, the Metal Scrap Trade Corporation, the canalising agency, has been experiencing great difficulty in obtaining scrap at competitive prices in the international market. Under these circumstances, Government have decided to regulate the growth of this industry consistent with the availability of essential inputs, and it was, therefore, decided that with effect from 31st October, 1973, Industrial Licences would be necessary for setting up scrap based electric furnace units for production of ingot/billets irrespective of the level of investment. The applications of those entrepreneurs who had applied for registration before 31st October 1973 and had

taken effective steps would, however, be considered for gran
'COB' licences.

In view of the crucial role which these units can play in su
menting steel availability in the country, the development of th
scrap processing industry is receiving the attention of Governme
especially for import of necessary spares for their equipment, a
in encouraging entrepreneurs to set up scrap processing units. T
Metal Scrap Trade Corporation has been re-organised a
strengthened to play the role of an effective coordinating agenc
for augmenting collection and processing of scrap which consti
tutes the main feedstock for the electric furnace industry.

Pig iron and sponge iron

The licensed capacity in the private sector spread over 6 units
is 5,36,000 tonnes per annum. Government have recently extended
the validity of an Industrial Licence granted to a party for setting
up a pig iron plant in Gujarat, with an annual capacity of 300,000
tonnes.

Sponge iron, or alternatively metallised pellets, having an iron
content of over 90% is an excellent alternative raw material for
the electric furnace industry. In the context of shortage of ferrous
scrap, under-utilisation of electric steel making capacity, and the
need to utilise iron ore and non-coking coal available in sizeable
quantities in the country, Government are keen on developing
sponge iron capacity in the country based on both solid as well as
gaseous reductants. Government have issued Letters of Intent to
units aggregating to a capacity of about 1.1 million tonnes for
production of sponge iron. In view of the technological snags
considerable amount of developmental work has to be done and
is continuing in this field the world over. The progress of imple
mentation of the above Letter of Intent has, therefore, been very
slow.

A proposal received from the Andhra Pradesh Industrial Deve
lopment Corporation to set up a semi-commercial plant to manu
facture sponge iron is under consideration for UNDP assistance.

The Steel Authority of India Limited are also considering a proposal to set up a semi-commercial sponge iron unit near one of the integrated steelworks, in the country. MECON [Metallurgical and Engineering Consultants (India), Limited] have been commissioned to conduct feasibility studies for setting up two sponge iron units, one each in Karnataka and in Orissa.

Wire Drawing

There are at present 15 comparatively large units, licensed under the Industries (Development and Regulation) Act, engaged in the manufacture of different types of steel wires. Despite the stimulus given by the Liberalised Licensing Policy, the production by the wire drawing industry did not come up to the anticipated level due to power shortage and shortage of high carbon and other special categories of steel wire rods. By and large, the wire drawing industry in the country had accounted for a wide range of output of various types of wires within the above constraints. The overall production in 1972-73 of all categories of wires was estimated at 241,000 tonnes from the reporting units comprising 60,000 tonnes of high carbon wires, 143,500 tonnes of mild steel wires, 3,000 tonnes of alloy steel wires, the balance being medium carbon and other types of wires.

As against the projected total demand of 806,500 tonnes for various categories of wires such as mild steel, low carbon, high carbon and alloy steel wires by 1980, the capacity created in the organised sector comes to 12.37 lakh tonnes. In addition, it has been reported that there are about 400 wire drawing units in the small scale sector with an annual installed capacity of 800,000 tonnes. In view of the capacity which has already been created, and the scarcity of wire rods for wire drawing, Government are not encouraging the creation of new wire drawing capacity in the country and accordingly, a notification was issued on 31st October, 1973, excluding inter-alia the wire drawing industry from the purview of the Liberalised Licensing Policy. The manufacture of special and sophisticated types of wires would, however, be permitted on merits to the existing units by way of diversification within their overall licensed capacity.

Wire rods

While there is no preceptible shortage of mild steel wire rods, shortages were experienced in regard to high carbon and other special categories of wire rods. Bhilai Steel Plant and Mukand Iron and Steel Works are the two major producers of high carbon wire rods. While production of high carbon wire rods in Bhilai is limited, the production from Mukand Iron and Steel Works is likely to reach 90,000 tonnes with the commissioning of an additional furnace by them in 1974-75. Some additional capacity for high carbon wire rods has also been sanctioned recently.

Ferro Alloys

Ferro-alloys are crucial to the growth of the alloy and special steel industry. Adequate capacity has already been created/ sanctioned for ferro-manganese, ferro-silicon, ferro tungsten, ferro-chrome, ferro-molybdenum and ferro-vanadium. There has been no significant development by way of new units licensed or registered during the current year. As far as ferro-manganese is concerned, the production showed a slightly upward trend from 151,000 tonnes in 1971-72 to 157,000 tonnes in 1972-73. The production of ferro-silicon declined from 31,500 tonnes in 1971-72 to 24,000 tonnes in 1972-73. Ferro-chrome had suffered a set-back due to shut down of the ferro-chrome plant of the Ferro Alloys Corporation Limited. The production of ferro molybdenum, ferro-tungsten and ferro-vanadium was more or less at the previous year's levels. Being primarily dependent on imported concentrates for conversion to the appropriate grades of ferro-alloys, production from these units is more or less regulated by the Import Policy in force for the various types of imported concentrates.

Although the policy for 1972-73 allowed certain well-defined quantities for export in regard to ferro-manganese, ferro-silicon and ferro-chrome, the actual exports in respect of these were 75,120 tonnes of ferro-manganese, 2,025 tonnes of ferro-silicon and a very small quantity of ferro-chrome.

Alloy steels

The present installed capacity in the private sector is about 100,000 tonnes. Mahindra Ugine Steel Company Limited, Guest Keen Williams Limited, and Globe Steels have an installed capacity of 36,000 tonnes, 45,000 tonnes and 20,000 tonnes per year respectively. Additional capacity of about 40,000 tonnes per annum is being set up by M/s. Bihar Alloy Steels Limited at Patratu in Bihar. M/s. Mahindra Ugine Steel Company Limited have been permitted to expand their capacity from 36,000 to 60,000 tonnes per annum. Several electric furnace units are also licensed to manufacture silico-manganese spring steels, free cutting steel and other types of alloy steels. The overall production from the licensed units both in the private and public sector units covering all categories of alloy, tool and special steels touched the level of 3,28,000 tonnes in 1972-73 as against 265,000 tonnes in 1971-72.

Cold Rolled Strips

Cold rolled strips are essential for a large number of engineering industries, engaged in the manufacture of bicycle rims, hacksaw-blades, typewriters, automobile parts, transformer tubes etc. These strips have to be produced to close tolerance and rigid specifications in a variety of widths, thickness and tempers. As such, they are amenable for production in narrow strip mills of small capacity. The indigenous capacity sanctioned for the production of box strappings, bailing hoops and other special steel strips is adequate. The limitation in the production of cold-rolled strips arises from the scarcity of the basic raw materials i.e. skelp or hot rolled strips. To supplement indigenous availability, import of skelp/hot rolled strips is being allowed for these units and production is likely to pick up if the units which have been licensed to set up Cold Rolling Mills are commissioned. Some capacity for hardening and tempering of cold rolled strips has been created. The capacity created for Cold Rolled Strips under the Liberalised Licensing Policy and in the Licensed sector is approximately 51,000 tonnes and 235,000

tonnes spread over 3 registered and 20 licensed units respectively. The production of Cold Rolled Strips in 1972-73 was roughly 100,000 tonnes as compared to the production of 102,000 tonnes in 1971-72.

Tinplate

M/s. Tinplate Company of India Limited continued to be the major producer of tinplate in the private sector. With the implementation of their expansion scheme by 1975-76 taking their capacity from 70,000 tonnes to 160,000 tonnes, the additional capacity of 90,000 tonnes per annum being in the form of electrolytic tinplate and tin-free steel, it is hoped that substantial import substitution in regard to tinplate and tin will take place.

RAW MATERIALS

Iron Ore

Iron ore ranks second in terms of natural resources of India, next to coal. According to the Planning Group on Iron Ore for the Fifth Plan, the total reserves of iron ore in the country are of the order of 10,000 million tonnes, consisting of about 8,600 million tonnes of Haematite ore and 1,400 million tonnes of Magnetite ore. Resource-wise, India ranks seventh among the iron ore producing countries and production-wise, India ranks ninth among the countries, following USSR, USA, France, Australia, China, Canada, Sweden and Brazil in that order. While formulating export programmes, the requirements of iron ore within the country for steel making and the need for conservation of the critical raw materials are kept in view. Iron ore represents one of our largest foreign exchange earning commodities.

The expansion of the steel making capacity in the country and the constant endeavours to step up exports of iron ore have resulted in significant increase in production in the last two decades. From three million tonnes in 1950, the production of iron ore increased to 16.61 million tonnes in 1960, and to 34 million tonnes during 1972-73.

The Iron Ore Board was constituted as an autonomous organisation in 1973, mainly for the purpose of planning, development, regulation and conservation of iron ore resources in the country. It was registered as a society under the Societies Registration Act, 1860, on January 20, 1973. The main objects for which the Board has been established are :

(a) To act as an advisory body in respect of planning and development on all aspects of the development of iron ore deposits in the country;

(b) To ensure proper regulation, conservation and development of iron ore resources;

(c) To advise on such steps as may be necessary to promote export of iron ore consistent with resources and indigenous requirements of the iron and steel industry;

(d) To promote economic utilisation of iron ore resources inclusive of pelletisation of fines, blue dust and lower grades of iron ore;

(e) To ensure the coordination of infra-structure facilities for iron ore production and its utilisation in consultation with agencies like railways, ports, State Governments, export organisations and financing institutions;

(f) To promote equitable distribution of iron ore cargo for shipment from different ports in the interest of port economy and of employment;

(g) To study requirements of research and development for the iron ore sector as a whole.

The Board consists of a Chairman and nine members of which three are non-official members. The Board is assisted by senior technical officers in specialised fields like geology, metallurgy, economics, etc. The Board has already made a beginning by initiating action on the following studies :

(i) Study of proved reserves and other reserves both in quantity and quality of the iron ore;

(ii) Collection of data on utilisation of iron ore during the last five years for domestic purposes and for export indicating the sources, the quality, transportation, etc.;

(iii) Study of the existing facilities for testing iron ore in the country, adequacy of such facilities and further steps to strengthen these;

(iv) Study of the equipment requirements for iron ore mining facilities and methods of mining especially in the private sector so that deficiencies therein could be identified and quantified for taking remedial action.

The expenditure of the Board is met through grants by the Government of India.

Manganese Ore

At one time, India was the largest exporter of manganese ore in the world. Over many decades, high quality manganese ore has been exported in quantities much greater than what was being utilised within the country for production of ferro-manganese and steel. The position now is not satisfactory, because, with the increasing needs of the Indian Steel industry, the problem of availability of low phosphorus and high manganese ore is causing concern. The reserves of low manganese ore utilised in the making of pig iron are relatively better although some selectivity in export in respect of this grade also is called for. From the beginning of the financial year 1973-74, a policy of complete ban on export of high manganese ore and gradual reduction in the export of medium grade ore has been adopted. Since high manganese ore is mostly high phosphorus and medium grade ore is generally low phosphorus, conservation of both types in the interest of the Indian steel industry is considered to be essential. This policy has now been enforced for about a year.

The production of manganese ore during the calendar year 1972 was 1.6 million tonnes as against 1.8 million tonnes during 1971. During the ten months from January to October, 1973, production was 1.2 million tonnes. Exports were 1.2 million tonnes during 1971, 0.86 million tonnes during 1972 and 0.39 million tonnes during January to June, 1973.

A major part of the reserves of high manganese ore is concentrated in Bhandara District of Maharashtra and Balaghat District of Madhya Pradesh. The mines formerly belonging to a British company named Central Provinces Manganese Ore Company Limited, were vested in a joint sector company named Manganese Ore (India) Limited, in which 49% of the shares are held by C.P.M.O. Co. Ltd. and the remaining shares are held equally by the Central Government and the State Governments of Maharashtra and Madhya Pradesh. During the year

under review, the company was facing hardship on account of the suspension of export sales which were not compensated by increased sales to ferro-manganese units in the country.

Coking Coal

The Coal resources in the country are broadly divided into coking coal and non-coking coal on the basis of the use to which the coal is put. Coal which is suitable for preparation of metallurgical grade coke required for the iron and steel industry is classified as coking coal and coal which is not suitable for preparation of coke is known as non-coking coal. The total gross reserves of coal in the country are estimated at about 81,000 million tonnes by the Geological Survey of India. The coking coal reserves are, however, only about 11,400 million tonnes. After allowing for losses due to the coal locked up in barriers, mining and washing, the net reserves of coking coal that might be available for metallurgical purposes are estimated at only about 3,180 million tonnes in the prime and medium coking varieties. By current estimates, the coking coal reserves are not expected to last for more than fifty years.

Apart from the limited reserves of coking coal, the previous owners of the coking coal collieries had not been exploiting the mines in a rational manner. Government, therefore, took over the management of 214 coking coal mines in the East Bokaro, Jharia and Raniganj coalfields with effect from 17-10-1971, followed by nationalisation of those mines with effect from 1-5-1972. With these steps, the development of metallurgical coal has been brought fully within the public sector, except for the captive mines of private sector steel plants

Hard Coke and Soft Coke

Apart from ensuring the supply of coking coal to steel plants considerable attention was also devoted to meeting the needs of industries other than steel as well as of ordinary consumers for hard coke and soft coke. With increased industrial activity, the demand for hard coke from all sections of industry has gone

up substantially in recent years and measures for systematic planning and distribution had become unavoidable. In a period of heavy demand for the available railway transportation, the need was also felt for evolving a system of according priorities in the allocation of railway wagons among different classes of consumers of hard coke. A Joint Coke Allocation Committee on the lines of the Joint Plant Committee for steel was organised for systematic planning and distribution of hard coke, which was brought under statutory distribution control from July, 1973. The Committee has been meeting regularly and working out a programme for production and distribution in consultation with the producers, State Governments and railway authorities.

The demand for hard coke having grown enormously during the last six years, Government decided to set up a Technical Committee to make a proper All-India survey for the purpose of assessing the specific requirements of different classes of consumers. This would enable the systematic planning of production as well as utilisation of railway capacity. The Report of the Committee is expected by the end of March, 1974.

Transportation

In addition to the above steps, a high level Committee under the Chairmanship of Shri Subodh Hansda, Deputy Minister, was set up in August, 1973 to review, among other things, the problems of coal transportation and distribution, particularly to steel plants and industrial consumers. The Committee has been meeting as often as is necessary and the decisions taken have been implemented in conjunction with the Railway Board and the producing organisation. To examine specifically the problems of wagon utilisation in the steel plants, coal mines and washeries, a Committee under the Chairmanship of Shri Khandelwal, former Chairman of the Railway Board was set up in October, 1973. The Committee's report is expected by the end of March, 1974.

PRODUCTION, PRICES AND DISTRIBUTION

During the period from April, 1973 to December, 1973 t
production of steel ingots and saleable steel reached respectiv
81% and 79% of the target only.

Production

During the first six months of 1973-74, production was ad
siderably affected by shortage of power. This resulted in serious
curtailment of the operations of the coking coal mines and th
coal washeries, which in turn badly affected the availability
supplies of coal to the steel plants. Inadequate supply of ox
affected the availability of coking coal and coke oven gas (
rolling. Power shortage also directly affected the rolling of ste
in all the plants except Bhilai. To tide over the difficulty arisi
from power shortages, action was taken in consultation wit
the Ministry of Irrigation and Power, Damodar Valley Corpora
tion and the State Electricity Boards concerned to step up th
supply of power. In spite of these efforts, some loss in produc
tion could not be avoided. Serious consideration is also being
given to proposals to provide additional captive power plant
so that production at a high level can be maintained.

A statistical table showing the production of steel ingots an
saleable steel against the rated capacity and targets during th
period April—December, 1973 is annexed at Appendix V.

During the year under report, a new pricing policy was als
brought into effect. The earlier "Cheap Steel" policy had le
to excessive consumption of steel in some areas and added t
the demand for other scarce resources like cement, aluminium
etc. It has also resulted in some cases in undue benefit to middle
men, to the detriment of steel producers. A revised pricing
policy was, therefore, evolved for steel and the Joint Plant
Committee announced the new steel prices with effect from th

15th October, 1973. The highlights of the new policy are given below:—

(i) There is no change in the three main categories of plates, structurals and railway materials which are predominantly used by the State and Central Governments, public sector undertakings and basic industries;

(ii) The prices of other categories of steel have been increased by varying amounts;

(iii) The interests of exports of engineering goods are to be protected;

(iv) A system of retention prices for steel plants, is being worked out keeping in view cost, productivity and investment. While the entire sale proceeds will belong to the respective steel plants, the additional income above the retention prices is to be funded with the Steel Authority of India Ltd. and used by the plants for such purposes as may be decided by the SAIL in consultation with the Planning Commission.

A study of the open market prices before and after the price increase of the 15th October, 1973 in relation to JPC prices shows that the open market premium has, to a large extent, been absorbed by the increase in JPC prices announced for Tor steel, round, GP/GC Sheets etc. In the case of these items, the open market premium has come down considerably. However, in the case of structurals and plates, the open market prices have gone up to some extent.

Price equalisation for SSICs

A reference was made in the last year's report to a Study Group appointed in November, 1972 to review the working of the existing distribution system. The main recommendations made by the Study Group and shown in Appendix VI have already been accepted and are being implemented. The Study Group has also made some other recommendations which are

being considered by Government. An important recommen-
tion of the report of the Study Group relates to reducing t
'lead time' involved between the decision to acquire steel a
its actual despatch. In terms of the recommendations of t
Study Group, the indenting procedure has been revised and t
revised procedure has been given effect to from November,
1973. Under the new procedure, the JPC is to nominate
producers on behalf of the indentors after taking into acco
the comparative outstanding orders on and despatches by p
ducers. The indent form has also been suitably amended
that it can be used by the computer. The procedure for requ
tion for priority allocation has also been revised with eff
from the quarter January—March, 1974. Requisitions are n
to be sent directly to the JPC with copy to the sponsori
authorities instead of through the sponsoring authorities. How
ever some sponsoring authorities have since expressed vie
preferring the requisitions being routed through them. The
matter is under examination so far as such sponsoring autho
ties are concerned. The time-table for submission of requisi
for priority allocation has also been recast for the convenie
of the consumers.

The following important measures also deserve to be me
tioned, as these have an important bearing on the rationali
tion of the system of distribution:—

(a) As authorised under the existing procedure for distri
tion of steel materials from the producers' stockyard
the Regional Iron and Steel Controllers have be
making allocations of steel from the stockyards. The
are also operating matching steel reserves kept in so
selected stockyards. This new system has been work
ing satisfactorily by locally meeting small requirem
of Government Departments/public sector undertakings
priority projects.

(b) The Regional Iron and Steel Advisory Committ
(under the Chairmanship of the respective Region

Iron and Steel Controllers) which includes representatives of the concerned State Directorates of Industries, SSI Corporations and main producers' stockyards within the respective jurisdictions have been functioning effectively. The Regional Iron and Steel Advisory Committee sorts out problems relating to releases from stockyards and other problems relating to distribution of steel in the region as a whole.

(c) Regional "Core Project Committees" have also been set up, to meet their demands for steel speedily. Fifty core projects have been selected on the basis of their importance in the national economy. For each region, a Regional Core Project Committee has been set up with the Regional Iron and Steel Controller as the Chairman, and representatives from the main producers as Members and a JPC Officer as Convener. The Regional Core Project Committees are entrusted with the task of assessing the genuine requirements of these core projects within their jurisdictions and then of recommending priority allocations in favour of the core projects against specific sale orders which are pending with the main producers of steel. In other words, the Regional Iron and Steel Controllers as Chairmen of the respective Regional Core Projects Committees have now to function as the sponsoring authorities in respect of selected core projects within their respective jurisdictions.

It was reported to Government that there was considerable scope in economising the consumption of steel. Some of the possible methods for saving of steel are use of welded girder and scrap rails, rolling of parallel flanged beams and use of PVC/RCC pipes in water supply schemes, etc. A Committee was set up for making recommendations on the scope for effecting

economies in the consumption of Steel in the country. Its Report was received in January, 1974 and it is under examination.

Vigilance

The Regional offices of the Iron and Steel Controllers continue to keep a watch on the proper utilisation of allotted iron and steel materials. These Regional Offices carried out 1,262 inspections during the period from April, 1973 to the end of October, 1973. The table below shows the broad categories of inspections as compared with the cumulative total from the inception of the Regional Offices (i.e. from 1971 to the end of October, 1973) :

Inspection of	No. of inspections during the period	Cumulative total from inception of the Regional offices till the end of October, 1973
1. Stockyards	18	99
2. Billet Rerollers	38	161
3. Other units and actual consumers	1,206	3,139
TOTAL	1,262	3,399

Based on these inspections and checks, supplies of raw materials to as many as 297 units were suspended on the ground of misutilisation of steel and other irregularities. Eighty cases were referred to the concerned sponsoring authorities for appropriate departmental action. Fifteen new cases were referred to the CBI during the period under review. Eight parties have so far been debarred from receipt of iron and steel materials from any regulated source. This debarring action is a new feature in the scheme of penal action provided for under the recent amendment to the Iron and Steel (Control) Order, 1956.

A comparative statement of various types of penal action is given below :

Nature of action	No. of Units proceeded against during the period	Cumulative total from the inception of the Regional Offices till the end of October, 1973
1. Suspension	297	755
2. References to Sponsoring Authorities for disciplinary action	80	201
3. References to CBI/State Police for investigation and prosecution	15	80 to CBI 5 to State Police
4. Debarring Orders under clause 28-B	8	8

Of the cases referred to CBI, three (3) have ended in conviction and nine (9) are, at present, under trial.

The following statistical tables are also appended to the report at Appendices VII to XII.

Statistical tables about production

(a) Production of steel ingots from 1961-62 to 1973-74 (up to December, 1973).

(b) Production of saleable pig iron from 1963-64 to 1973-74 (up to December, 1973).

(c) Production of saleable steel by main producers from 1961-62 to 1973-74 (up to December, 1973).

(d) Production of tool, alloy and special steels from 1968-69 to 1973-74 (up to December, 1973).

(e) Production of finished steel (Producer-wise) from 1961-62 to 1973-74 (up to December, 1973).

(f) Production of finished steel (category-wise) from 1970-71 to 1973-74 (up to December, 1973).

IMPORTS AND EXPORTS OF IRON AND STEEL

I—Imports

Introduction

Imports of steel continued during the year in order to maintain industrial growth as domestic production was inadequate to meet the essential requirements.

In framing the import policy for steel and ferro-alloys, it has been the endeavour of Government to ensure that, whereas the industries do not suffer for want of these essential raw materials, there is also a concerted effort for maximisation of output from installed capacity in the country for production of steel and ferro-alloys.

With the rapid growth of industries in the country, there have been higher imports of Tool and alloy steel.

Imports during 1972-73 and 1973-74

During 1972-73, total value of licences issued for import of Iron and Steel and ferro-alloys items was Rs. 232.49 crores. The actual import in 1972-73 was, however, of the value of Rs. 220.11 crores of which Rs. 150.28 crores were for mild steel imports. This, however, included spill-overs from orderings against licences issued in previous years.

The value of import licences issued during April 1, 1973 to December 31, 1973 was Rs. 94.20 crores. This figure, however, excludes the value of steel imports allowed against composite licences issued under IDA. Actual imports during April to June, 1973 were 2,35,407 tonnes valued at Rs. 50.26 crores. Of this, mild steel accounted for 182,565 tonnes valued at Rs. 32.46 crores. These actual imports, are inclusive of import against valid licences issued in earlier years.

Agencies for imports

The import of steel is being effected by:

(i) actual users under the Actual Users' Import Policy;

(ii) registered exporters/their nominees/export houses under the Registered Exporters Import Policy; and

(iii) canalising agencies viz. Hindustan Steel Limited, Minerals and Metals Trading Corporation Limited, and Metal Scrap Trade Corporation.

In addition, bulk imports are made by HSL for the Steel Bank. Imports by canalising agencies are generally restricted to the canalised items. Sometimes, they are also required to import certain non-canalised items like sections, bars etc. required, in bulk, by Government Projects and Departments as well as private sector units.

Canalisation Scheme

The canalisation scheme during 1973-74 covered the following items of steel and ferro-alloys:—

IRON AND STEEL AND FERRO-ALLOYS ITEMS

Items	Canalised Agency
1. Ferro-Molybdenum	MMTC
2. Ferro-Tungsten	MMTC
3. Ferro-Vanadium	MMTC
4. Ferro-Phosphorus	MMTC
5. Ferro Selenium	MMTC
6. Ferro Cobalt.	MMTC
7. Ferro Nickel	MMTC
8. Ferro Aluminium and Silico Aluminium	MMTC
9. Ferro Silico Zirconium	MMTC

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Items	Canalised Agency
10. Ferro Boren (including stabilised Ferro Boron with Aluminium and Titanium like Grainal or Batsally)	MMTC
11. Ferro Columbium (Niobium)	MMTC
12. Ferro Chrome (containing 0·03% or less carbon or nitrogen bearing)	MMTC
13. Ferro Manganese (containing less than 0·05% carbon)	MMTC
14. Ferro Titanium (containing less than 1% Aluminium)	MMTC
15. Ferro alloys in powder form (except ferro-titanium) for welding industry only	MMTC
16. All mild steel, high carbon steel (other than stainless steel) wire rods in coils	HSL
17. All mild steel, high carbon steel semis, including ingots, blooms, slabs, billets and heavy rounds above 160mm	MMTC
18. Stainless steel sheets, plates and strips in cut length or in coils	MMTC
19. All electrical steel sheets, strips other than cold rolled grain oriented, whether in cut lengths or in coils	MMTC
20. Cold rolled grain oriented electrical steel sheets/strips, either in cut lengths or in coils	MMTC
21. All mild and special steel sheets, strips and skelp both hot rolled and cold rolled either in cut length or in coils, including defective sheets and sheet cuttings	HSL
22. All G. P. Sheets and strips either in cut lengths or in coils	HSL
23. All mild steel and special steel plates including ship building quality, boiler quality and chequered plates, whether in cut lengths or in coils	HSL
24. All prime tin plates including open top sanitary can quality	HSL
25. Tin plate waste/waste, tin plate secondaries	HSL
26. Heavy melting scrap	MSTC
27. Re-rollable scrap in the form of old ships for dismantling	MSTC

International Supply Position

From early 1973, the international steel market has been experiencing a trend of scarcity and spiraling prices. This is mainly due to growth in home demand in exporting countries. The recent fuel crisis has aggravated the situation.

HSL IMPORTS AS CANALISING AGENCY AND AS BULK IMPORTER FOR EXPORTERS OF ENGINEERING GOODS

Keeping in view the domestic demand pattern, availability within the country, imports in the past and, the international scarcity conditions HSL had gone in for anticipatory buying in steel for servicing release orders. They have planned orders for one million tonnes of canalised items. The value of these is estimated at about Rs. 200 crores.

HSL imports are generally from Rupee Payment area (RPA) and General Currency Area (GCA)—RPA countries are USSR, Poland, Bulgaria, Rumania, Hungary, Czechoslovakia and GDR. None of these countries except USSR has any substantial quantity to offer for export. Availability from West Europe or from UK is poor. Of the CGA countries, Japan, traditionally enjoys price advantage over others and freight rates from Japan to India are lower.

HSL made direct approaches to Japanese mills followed by the visit of a delegation from HSL led by Chairman, HSL. The Japanese mills have agreed to offer to HSL 75,000 tonnes for shipment during 1973-74 and 500,000 tonnes during March 1974—December, 1974. Contracts have been concluded for 210,000 tonnes of which 75,000 tonnes were to be shipped in January, 1974 the balance commencing from March, 1974.

Total ordering by HSL till mid-December, 1973 was to the extent of 595,100 tonnes for 1973-74. Against this and the quantities ordered in 1972-73, a total quantity of about 3,74,000 tonnes arrived during April to October, 1973 at c.i.f. value of about Rs. 66 crores. During the same period, HSL servicing of release orders/allocations added upto 3,78,000 tonnes.

Source-wise allocation and utilisation of foreign exchange by HSL has been as below: (as on 31-10-1973):

(Rs. in crores)

Source	Release in 1973-74	Utilisation	Balance	Remarks
GCA	99·43	86·10	12·03	
RPA	15·93	21·60*	0·33	*Includes Rs. 6·0 crores carry over from 1972-73
Yen Credit	8·76	7·80	0·96	
Swedish Credit	0·99	0·90	0·09	
TOTAL	125·11	116·40*	13·41	

Till 31-10-1973, HSL received release orders for Rs. 86.65 crores in 1973-74 and had a balance of Rs. 11.39 crores, on 1-4-1973. On 31-10-1973, they had release orders for Rs. 32.69 crores pending with them.

Imports by MMTC

Imports of steel by MMTC, as a canalising agency in 1973-74 (April—September, 1973) and foreign exchange allocation and utilisations by them were as below:—

Foreign exchange allocation and utilisation

(Rs. in crores)

Source	Release	Utilisation	Balance
GCA	12·00	12·00	Nil
RPA	5·00	..	5·00
Credit	0·54	0·54	Nil

The high prices for billets did not facilitate utilisation of Rupee exchange for import of billets.

Steel Bank

The Steel Bank caters to the emergent requirements of priority users on off-the-shelf basis for critical items of steel.

During April—October, 1973, HSL placed orders for 5,870 of boiler quality steel plates, 7,246 tonnes of channels, angles and joists, 698 tonnes of stainless steel sheets and plates, for the stock of the Steel Bank for supply 'off-the-shelf'.

Arrivals during April—November, 1973 against Steel Bank orders placed in April—October, 1973 and earlier were 11,175 tonnes of which 4,966 tonnes were sold to the various consumers. The Steel Bank expects further stock by March, 1974 as shown below :—

M.S. Sections	1,400 tonnes
Boiler quality plates	1,160 tonnes
Stainless steel sheets and plates ...	59 tonnes

Further ordering of 4,000 tonnes of Boiler quality plates, 1,000 tonnes of Stainless Steel Sheets and plates and 75 tonnes of stainless steel pipes and tubes is under consideration.

Metal Scrap Trade Corporation

The MSTC is now a subsidiary of SAIL. Import of Re-rollable Scrap in the form of old ships and Heavy melting Scrap is canalised through MSTC. Export of ferrous scrap is also canalised through MSTC.

During 1973-74 MSTC received release orders for Rs. 4.69 crores till the end of November, 1973. Due to the high prices of scrap abroad, it has not been possible to go in for import as the domestic scrap users find the price too high for them.

A statement showing import of various items of steel during 1971-72, 1972-73 and April—August, 1973 is given at Appendix XIII.

II—EXPORTS

Export of Mild Steel

With the increase in domestic demand, export of steel has now been reduced to the minimum required to retain market contacts developed in the past and for meeting some requirements of neighbouring countries.

The Export Policy includes items in three groups viz. (i) Freely exportable items subject to a ceiling limit; (ii) Exportable on merits; and (iii) Exports not allowed. The policy as formulated for 1973-74 for Iron and Steel, Ferro-alloys and Ferrous Scrap is given below:—

A. FREELY EXPORTABLE ITEMS SUBJECT TO CEILING LIMITS

Iron and Steel	*Ferro-Alloys*	*Ferrous Scrap*
Pig Iron (Basic and Foundry grade) Ingots billets Heavy and Medium (rolled Structurals—by main Producers) Rails G. C. Sheets Alloy Constructional steels. Electrical steel sheets (Dynamo Grade) Mild steel bars and rods including wire rods (other than those mentioned in schedule 'B' Appendix 41 of Import Trade Control Policy 1973-74) Cold twisted bars and light structurals rolled by re-rollers) M. S. Wires.	Ferro Manganese (other than Ferro Magnanese containing less than 0·05% Carbon) Ferro Manganese Slag Ferro-Silicon Ferro-chrome (Other than Ferro-chrome containing less than 0·03% carbon and Nitrogen bearing Ferro-Chrome/ Silico Chrome)	Cast iron Borings, Dr tinned Scrap Mill Scale scrap. Iron Skull scrap Broken/semi-broken ingot moulds. Bottom plate scrap

Iron and Steel	*Ferro-Alloys*	*Ferrous Scarp*
B. EXPORTABLE ON MERITS,		
All items other than those specified under A and C.	Others not specified for free export.	Mild steel turnings and borings in bulk/loose in bags/briquettes. No. 2 quality sheet cuttings and punchings loose/in bags/ hand bundles/hydraulically pressed bundles/strikers. No. 2A and No. 3 quality sheet cuttings and punchings in hand bundles/hydraulically pressed/bundles/bales. Steel skull scrap Tool and alloy steel scrap (containing alloying elements like tungsten, molybdenum, vanadium etc.) other than stainless steel scrap. Silicon sheet cuttings. Broken/discarded chilled rolls.
C. EXPORTS NOT ALLOWED		
Iron & Steel other than cast iron pipes & fittings. Slabs Blooms Plates Tinplate prime secondary Waste/waste. Chequred plates Skelp G. P. Sheets C.R. Sheets and coils Wheels and Tyres Axles Sleeper (Pressed) Steel wires other than M. S. Wires Wire rods other than mild steel wire rods.	..	Heavy melting scrap Stainless steel scrap. No. 1 quality sheet cuttings and punchings loose/in bags hand bundles/ hydraulically pressed bundles strikers Rejected castings scrap (other than cast iron scrap) Defective Slabs/Blooms Defective billets/billet scrap. Scrapped and unserviceable rails. Other rerollable scrap.

Total Exports of Iron and Steel during 1971-72, 1972-73 and in April—December, 1973 were as below:—

	Quantity (Thousand tonnes)	Value (Rs. crores)
1971-72	420·1	25·49
1972-73	477·5	19·68
1973-74	414·4	16·88
(April—December 1973)		

Export of Pig Iron

The export policy did not specify any ceiling limit for export of basic grade pig iron; for foundry grade a ceiling of 50,000 tonnes was provided. During April—December, 1973, HSL exported 390.8 thousand tonnes of pig iron valued at Rs. 13.8 crores and had pending contracts entered into for export of 493,000 tonnes of pig iron valued at Rs. 25.4 crores for exports during November, 1973 to September, 1974. However, during the year, due to power crisis and other production bottlenecks, a situation of shortage in pig iron availability for domestic needs developed. It was, therefore, decided that no fresh commitments for export of pig iron should be entered into, till the situation improved.

Category-wise exports of Iron and Steel during 1971-72, 1972-73 and 1973-74 are given in Appendix XV.

Export of Ferrous Scrap

Keeping in view the international shortage and need for better utilisation of available furnace capacities, the export policy was reviewed and in November, 1973, MSTC, which is the canalising agency for export of ferrous scrap, was advised to stop export of MSTB and Bundles and transfer of broken/semi-broken ingot moulds, Bottom Plate scrap and CI Boring

to merit list. Further, the ceiling for skull scrap was fixed at 12,000 tonnes and for silicon steel sheet cuttings, a ceiling of 1,000 tonnes for the present was specified subject to ensuring export of only those quantities which cannot be used within the country.

The following table gives the data on export of ferrous scrap during 1971-72, 1972-73 and 1973-74:—

Year	Quantity (Tonnes)	Value (Rs. crores)
1971-72	1,46,028	1·99
1972-73	78,538	1·28
1973-74 (April—August)	41,759	1·25

Category-wise export of iron and steel scrap during 1971-72, 1972-73 and 1973-74 is given in Appendix XVI.

Export of Ferro-Alloys

With the development of the ferro-alloy industry within the country, the categories available as surplus to the domestic requirements are permitted for export. The main items in the export list are ferro-manganese and ferro-manganese slag, ferro-chrome, silico-chrome and ferro-silicon.

Category-wise export data on Ferro-alloys during 1971-72, 1972-73 and 1973-74 (April—August) are given in Appendix XVII.

During the year, it has been the endeavour of Government to meet the requirements of exporters of finished products like Engineering Goods in preference to export of steel. In this context, export of steel and ferro-alloys has been restricted to the barest minimum. The Ministry of Commerce is operating the scheme through HSL for import and supply of imported steel to engineering goods exporters at JPC price/HSL Ruling Price plus 2 per cent.

APPENDIX I

LIST OF SUBJECTS ALLOCATED TO THE DEPARTMENT OF STEEL

1. Steel Plants in the public and private sectors, the re-rolling industry and ferro-alloys including all future development.
2. Development of iron ore mines in the public sector.
3. Development of other ore mines and coal washeries and mineral processing for the steel plants.
4. Production, distribution, prices, imports and exports of iron and steel and ferro-alloys.
5. Planning, development and control of, and assistance to all iron and steel industries.
6. Production, Supply, distribution and price of coking coal.
7. Production, Supply, pricing and distribution of iron ore, manganese ore, limestone, sillimanite, kyanite and other minerals and alloys used in the steel industry, excluding grant of mining leases or matters connected therewith.
8. The Steel Authority of India Limited and its subsidiaries.
9. Matters relating to the following undertakings, namely:—
   (1) The Mysore Iron and Steel Ltd.
   (2) The Bolani Ores (India) Ltd.
   (3) The Manganese Ore (India) Ltd.
   (4) The Metal Scrap Trade Corporation.

10. Other Public Sector Enterprises or undertakings falling under the subjects included in this list except such as are specifically allotted to any other Department.
11. All Attached or Subordinate Offices or other organisations concerned with any of the subjects specified in this list.

APPENDIX II

PRODUCTION AND DESPATCHES OF BOKARO STEEL LIMITED DURING 1973-74 (APRIL—DECEMBER)

(In '000 tonnes)

Serial No.	Particulars	Production (April—Dec. 1973)	Despatches (April—Dec. 1973)
1	Hot Metal	551·1	489·1
2	Saleable Pig Iron	509·5	

APPENDIX III

PRODUCTION AND DESPATCHES OF THE NATIONAL MINERAL DEVELOPMENT CORPORATION LIMITED DURING 1972-73 AND APRIL—DECEMBER, 1973

(In '000 tonnes)

Serial No.	Particulars	Performance	
		1972-73	1973-74 (April—Dec. 1973)
1.	*Production*		
	Bailadila-14	3,736	3,092·0
	Kiriburu	897	505·8
2.	*Despatches*		
	Bailadila-14	4,935	2,958·0
	Kiriburu	1,200	581·0
3.	*Export Shipment*		
	Bailadila-14	3,818	3,036·0
	Kiriburu	253	94·0

APPENDIX IV

PRODUCTION AND DESPATCHES OF BHARAT COKING COAL LTD. DURING 1972-73 AND 1973-74 (APRIL-DECEMBER)

(In '000 tonnes)

Serial No.	Particulars	Annual		Performance (April—December '73)	
		Actual 1972-73	Target 1973-74	Target	Actuals
1	*Production*				
	Coal Raisings				
	Coking Coal	10,134	10,512	7,927	6,8[illegible]
	Non-coking coal	2,550	7,782	5,870	4,4[illegible]
	Total	12,684	18,294	13,797	11,3[illegible]
	Hard Coke	1,217	1,523	N.A.	1,0[illegible]
	Soft Coke	237	N.A.	N.A.	[illegible]
2	*Despatches*				
	Coal (including internal consumption)	9,961	N.A.	N.A.	7,5[illegible]
	Hard Coke	1,201	N.A.	N.A.	1,0[illegible]
	Soft Coke	272	N.A.	N.A.	[illegible]
3	*Washeries*				
	Raw Coal Feed				
	Dugda I	821	1,320	990	6[illegible]
	Dugda II	1,170	1,560	1,170	81[illegible]
	Bhojudih	1,483	1,620	1,215	1,07[illegible]
	Patherdih	1,048	1,440	1,060	7[illegible]
	Total	4,522	5,940	4,455	3,26[illegible]
	Clean Coal Output—				
	Dugda I	610	1,020	765·0	44[illegible]
	Dugda II	779	968	726·0	51[illegible]
	Bhojudih	1,305	1,378	1,033·5	92[illegible]
	Patherdih	758	956	717·0	54[illegible]
	Total	3,452	4,322	3,241·5	2,49[illegible]

N.A.—*Not Available*

*Upto November, 1973.

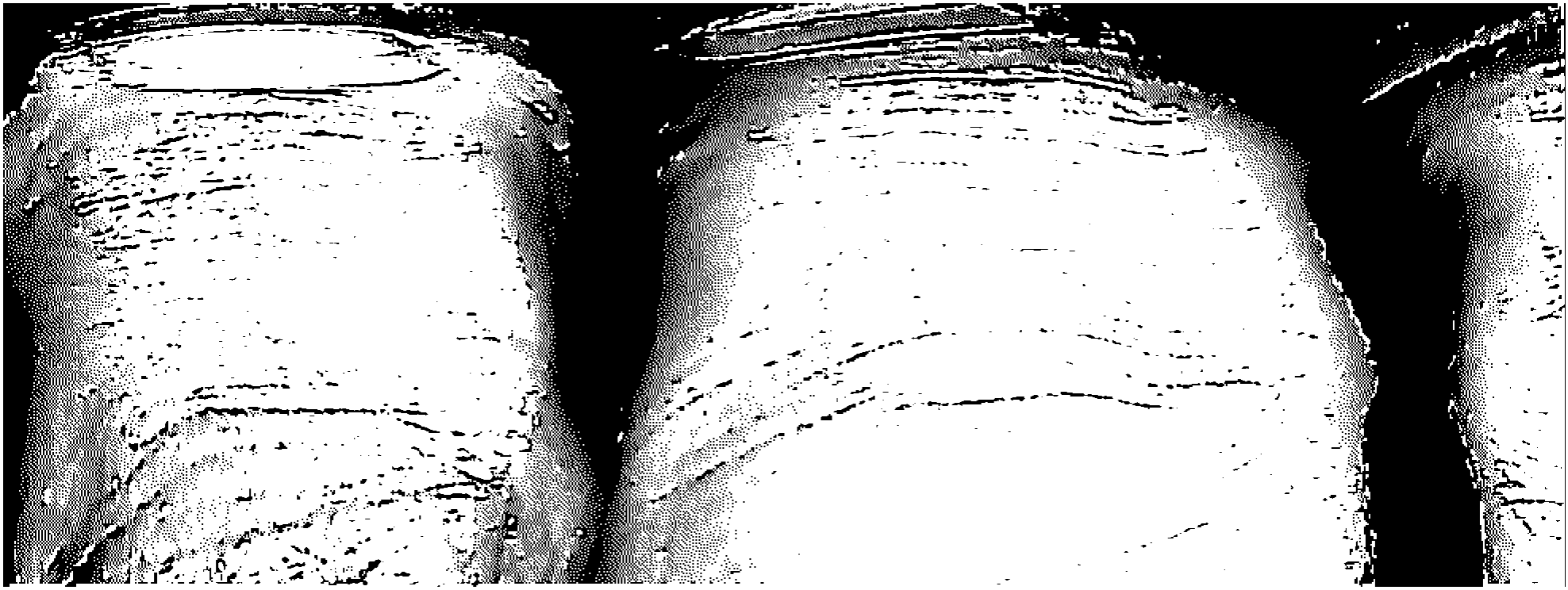
APPENDIX V

TARGETS, RATED CAPACITY AND PRODUCTION OF STEEL INGOTS AND SALEABLE STEEL DURING 1973-74 (APRIL- DECEMBER)

(In '000 tonnes)

Producers	Target April—Dec. 1973	Rated capacity April—Dec. 1973	Production April—Dec. 1973	Production as % target	Production as % rated capacity
Steel Ingots					
Bhilai	1,674	1,875	1,443·4	86	77
Durgapur	731	1,200	597·4	82	50
Rourkela	964	1,350	734·9	81	58
*BDR	3,369	4,425	2,825·7	84	64
TISCO	1,433·9	1,500	1,135·1	79	76
IISCO	483·3	750	324·5	67	43
GRAND TOTAL	5,286·2	6,675	4,285·3	81	64
Saleable Steel					
Bhilai	1,325	1,474	1,281·3	97	87
Durgapur	576	929	259·6	45	28
Rourkela	646·6	919	515·5	80	56
BDR	2,547·6	3,322	2,056·4	81	62
TISCO	1,119·7	1,125	890·0	80	79
IISCO	373·3	600	259·2	69	43
GRAND TOTAL	4,040·6	5,047	3,205·6	79	64

*BDR—Bhilai, Durgapur and Rourkela.



APPENDIX IV

PRODUCTION AND DESPATCHES OF BHARAT COKING COAL LTD. DURING 1972-73 AND 1973-74 (APRIL-DECEMBER)

(In '000 tonnes)

Serial No.	Particulars	Annual		Performance (April—December '73)	
		Actual 1972-73	Target 1973-74	Target	Actuals
1	*Production*				
	Coal Raisings				
	Coking Coal	10,134	10,512	7,927	
	Non-coking coal	2,550	7,782	5,870	
	Total	12,684	18,294	13,797	
	Hard Coke	1,217	1,523	N.A.	
	Soft Coke	237	N.A.	N.A.	
2	*Despatches*				
	Coal (including internal consumption)	9,961	N.A.	N.A.	
	Hard Coke	1,201	N.A.	N.A.	
	Soft Coke	272	N.A.	N.A.	
3	*Washeries*				
	Raw Coal Feed				
	Dugda I	821	1,320	990	
	Dugda II	1,170	1,560	1,170	
	Bhojudih	1,483	1,620	1,215	
	Patherdih	1,048	1,440	1,060	
	Total	4,522	5,940	4,455	
	Clean Coal Output—				
	Dugda I	610	1,020	765·0	
	Dugda II	779	968	726·0	
	Bhojudih	1,305	1,378	1,033·5	
	Patherdih	758	956	717·0	
	Total	3,452	4,322	3,241·5	

N.A.—*Not Available*

*Upto November, 1973.

APPENDIX V

TARGETS, RATED CAPACITY AND PRODUCTION OF STEEL INGOTS AND SALEABLE STEEL DURING 1973-74 (APRIL- DECEMBER)

(In '000 tonnes)

Producers	Target April—Dec. 1973	Rated capacity April—Dec. 1973	Production April—Dec. 1973	Production as % target	Production as % rated capacity
Steel Ingots					
Bhilai	1,674	1,875	1,443·4	86	77
Durgapur	731	1,200	597·4	82	50
Rourkela	964	1,350	784·9	81	58
*BDR	3,369	4,425	2,825·7	84	64
TISCO	1,433·9	1,500	1,135·1	79	76
IISCO	483·3	750	324·5	67	43
GRAND TOTAL	5,286·2	6,675	4,285·3	81	64
Saleable Steel					
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TISCO	1,119·7	1,125	890·0	80	79
IISCO	373·3	600	259·2	69	43
GRAND TOTAL	4,040·6	5,047	3,205·6	79	64

*BDR—Bhilai, Durgapur and Rourkela.

APPENDIX VI

RECOMMENDATIONS OF THE STUDY GROUP ON S... DISTRIBUTION SYSTEM WHICH HAVE BEEN ACC... ED BY GOVERNMENT AND ARE BEING IMPLEMEN...

Serial No.	Recommendation in brief	Authority to implement
1	Indent form to be rationalised by deletion of certain redundant Clauses and to be made computer oriented.	Joint Plant Committee.
2	Choice of the Producers in respect of each indent may be done on the basis of the relevant data by the computer.	*Do.*
3	Earnest Money exemption limits to be recouped quarterly.	*Do.*
4	Orders placed by exporters of engineering goods to be exempted from payment of Earnest Money.	*Do.*
5	Time for planning of indents to be reduced from two weeks to one week and for issue of Sale Orders from 41 days to 21 days.	Joint Plant Committee and ... Producers.
6	Priority requisitions to go direct to J.P.C., with copy to sponsoring authority.	Iron and Steel Controller, Joint Plant Committee.
7	Allocation work relating to compact group industries to be done by Main Producers as per guidelines by Iron and Steel Controller.	Iron and Steel Controller and Main Producers.
8	Quantities earmarked for Matching reserves to be linked to only those items which are infrequently rolled and are normally in critical supply.	Iron and Steel Controller.
9	The number of Priority Grouping for purposes of Stockyard distribution to be reduced from 7 to 3.	Iron and Steel Controller and Joint Plant Committee.
10	Specific percentages may be earmarked for each group of registered demand.	*Do.*
11	Release orders on Stockyards may be issued by Regional Iron and Steel Controller.	Iron and Steel Controller ... delegate powers suitably.

APPENDIX VI—*contd.*

1	2	3
12	The frequency of placement of wagons at Stockyard sidings to be on the basis of mutual consultation between Local Railway authorities and the stockyards.	These have been agreed to at an inter-departmental meeting with Railway Board. To be implemented by Railway Board.
13	Railways to post an Officer of suitable rank at the Stockyard sidings to decide about re-weighment of wagons where shortages are expected.	
14	Railways have to meet promptly the requests of stockyards for wagons for outward movement, particularly of long length material.	
15	A fairly broad based distribution can be achieved through canalising agencies *i.e.*, S.S.I. Corporations.	Already implemented.
16	It is necessary that the Corporations initiate steps to augment their financial resources and strengthen their organisational capability to do their work effectively.	DCSSI to issue suitable instructions.
17	A model system regarding placement of indents and efficient and equitable distribution of received materials through net-work of depots by S.S.I. Corporations has been proposed.	Efforts should be made to effectively work this system. To be reviewed after one year.
18	The materials meant for small scale industries but presently routed through Stockyards *e.g.*, defective sheets/plates and sheet cuttings-may be despatched to the S. S. I. Corporations directly.	Joint Plant Committee/Main Producers.
19	In order to provide for a continuous review of the working of Corporations, a Standing Committee under the Chairmanship of DCSSI has been suggested.	DCSSI
20	The appraisal through J.P.C. and Iron and Steel Control organisation in respect of performance of Main Producers against approved rolling and despatch programmes stipulated by J. P. C. need to be more effective. Periodical visits to Plants by appraisal officers and their close liaison with order departments of plants would be particularly beneficial.	Iron and Steel Controller and Joint Plant Committee.

APPENDIX VI—*concld.*

1	2	3
21	Although legal sanctions are adequate, it is essential that cases of misutilisation are properly detected, specifically investigated and vigorously prosecuted.	Iron and Steel Controller.
22	State Directors of Industries, D.G.S. & D. and other authorities should develop their enforcement apparatus and systems in order to avoid misuse of material received by their Constituents.	Iron & Steel Controller to issue suitable instructions and follow-up where necessary.
23	Sponsoring authorities should also look into the stocks held by consumers whose demands are sponsored by them from time to time and ensure that they do not hold unreasonably large inventories, thereby creating an artificial shortage in the country.	Iron and Steel Controller.
24	Sponsoring authorities should have close liaison with the Regional Iron and Steel Controllers and vice versa for exchange of information, co-ordination in carrying out inspections and in the follow-up action required to be taken.	Iron and Steel Controller.
25	Another opportunity may be given for conversion of old orders of the traders on the books of the producers. In this context the possibility of exemption from the two-year clause with regard to converted orders of traders may be considered by JPC.	Iron and Steel Controller and Joint Plant Committee.
26	With a view to make the distribution of B. R. C. material broad-based, another attempt should be made to select dealers from unrepresented districts.	Iron and Steel Controller and Billet Re-rollers Committee.

APPENDIX VII

PRODUCTION OF STEEL INGOTS

(In '000 Tonnes)

Year	*Bhilai*	*Durgapur*	*Rourkela*	*TISCO*	*IISCO*	*Total (1—6)*	*MTSL*	*Others*	*Grand Total*
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1961-62	*789*	*462*	*354*	*1,643*	*934*	*4,182*	*49*	*54*	*4,285*
1962-63	*1,060*	*731*	*700*	*1,799*	*1,002*	*5,292*	*46*	*57*	*5,395*
1963-64	*1,143*	*972*	*800*	*1,892*	*1,027*	*5,834*	*48*	*63*	*5,945*
1964-65	*1,131*	*1,006*	*979*	*1,956*	*950*	*6,022*	*47*	*69*	*6,138*
1965-66	*1,371*	*1,001*	*1,065*	*1,979*	*970*	*6,386*	*69*	*72*	*6,527*
1966-67	*1,852*	*754*	*943*	*2,001*	*897*	*6,447*	*75*	*75*	*6,597*
1967-68	*1,785*	*738*	*924*	*1,933*	*791*	*6,171*	*91*	*70*	*6,332*
1968-69	*1,735*	*823*	*1,162*	*1,816*	*777*	*6,313*	*120*	*73*	*6,506*
1969-70	*1,876*	*818*	*1,104*	*1,708*	*700*	*6,206*	*136*	*92*	*6,434*
1970-71	*1,940*	*634*	*1,038*	*1,715*	*627*	*5,954*	*91*	*94*	*6,139*
1971-72	*1,953*	*700*	*823*	*1,708*	*617*	*5,801*	*133*	*364*	*6,300*
1972-73	*2,108*	*723*	*1,177*	*1,690*	*431*	*6,129*	*155*	*696*	*6,980*
*1973-74** (Upto Dec. '73)	*1,445*	*598*	*785*	*1,135*	*325*	*4,286*	*114*	*560*	*4,960*

**Provisional*

Sources—(i) Statistics for Iron and Steel Industry in India (issued by HSL)
(ii) Iron and Steel Control Bulletin.

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APPENDIX VIII

PRODUCTION OF SALEABLE PIG IRON

(In '000 Tonnes)

Year	Bhilai	Durgapur	Rourkela	TISCO	IISCO	Total (1—5)	MISL	Bokaro	Others	GRAND TOTAL
	1	2	3	4	5	6	7	8	9	10
1963-64	407	418	98	0	203	1,132	..	..	31	1,163
1964-65	349	385	79	23	207	1,043	..	..	42	1,085
1965-66	509	336	68	18	219	1,150	..	..	26	1,176
1966-67	550	201	59	3	172	985	..	..	28	1,013
1967-68	656	278	64	1	197	1,196	..	..	22	1,218
1968-69	591	375	147	2	346	1,461	13	..	31	1,505
1969-70	649	376	113	1	322	1,461	4	..	74	1,539
1970-71	553	330	96	1	235	1,234	30	..	56	1,320
1971-72	476	269	127	2	211	1,085	54	..	91	1,230
1972-73	550	279	70	2	72	973	41	308	93	1,415
1973-74* (Upto Dec. '73)	399	55	33	3	91	581	33	521	65	1,208

*Provisional.

Sources:— (i) Iron and Steel Control Bulletin.
(ii) Statistics for Iron and Steel Industry in India (issued by HSL).
(iii) Plants concerned.

APPENDIX IX

PRODUCTION OF SALEABLE STEEL BY MAIN PRODUCERS

(In '000 Tonnes)

Year	Bhilai	Durgapur	Rourkela	TISCO	IISCO	Total
	1	2	3	4	5	6
1961-62	551	362	186	1,818	737	3,154
1962-63	803	486	421	1,413	795	3,918
1963-64	884	731	566	1,507	810	4,498
1964-65	916	721	689	1,568	755	4,649
1965-66	1,028	684	782	1,568	723	4,785
1966-67	1,328	550	683	1,568	709	4,838
1967-68	1,252	527	640	1,534	613	4,566
1968-69	1,344	500	773	1,465	640	4,722
1969-70	1,496	494	796	1,440	568	4,794
1970-71	1,549	413	683	1,375	523	4,543
1971-72	1,568	432	598	1,387	493	4,478
1972-73	1,744	477	765	1,456	351	4,793
1973-74 (Upto Dec. '73)	1,281	260	516	890	259	3,206

Sources:—(*i*) Statistics for Iron and Steel Industry in India—issued by HSL.
(*ii*) Plants concerned.
(*iii*) Iron and Steel Control Bulletin.

APPENDIX X

PRODUCTION OF TOOL, ALLOY AND SPECIAL STEELS

(In Tonnes)

Producers	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74* (Upto Dec. 1973)
1. Canara Workshops Ltd., Mysore.	1,834	2,163	3,801	2,834	2,090	1,620
2. Firth Sterling Steel Co. of India Ltd. Maharashtra.	135	533	921	985	944	1,384
3. Globe Motors (P) Ltd., New Delhi.	945	..	7,816	4,306	12,866	9,850
4. Guest Keen Williams Ltd., West Bengal.	31,022	24,619	29,686	35,095	38,000	28,668
5. Alloy Steels Project, Durgapur.	24,046	41,189	38,621	35,006	35,835	28,195
6. Hindustan Steel Ltd., (Bhilai, Rourkela and Durgarpur Steel Plants).	24,142	37,383	113,964	94,530	83,683	59,756
7. Indian Iron and Steel Co. West Bengal.	1,784	1,644	Nil	Nil	N.A.	N.A.
8. Lasco Steel Ltd., Madras	..	..	..	85	Nil	N.A.
9. Mahindra Ugine Steel Co. Ltd., Maharashtra.	17,968	19,679	28,174	32,561	28,391	21,054
0. Mysore Iron and Steel Ltd., Mysore.	16,318	46,362	48,527	52,052	45,275	36,090
11. Singh Engg. Works Ltd. (U.P.)	..	..	467	Nil	N.A.	N.A.
12. Tata Iron and Steel Co. Bihar.	64,157	66,926	**132,308	**1,73,698	**1,76,071	50,035
13. J.K. Iron and Steel Co. Ltd., Kanpur.	..	..	67	78	12	..
14. Krishna Steel Industries (P) Ltd., Bombay.	..	..	*Nil*	*Nil*	*Nil*	*Nil*
15. Mukand Iron and Steel Works Ltd., Bombay.	..	*19,318*	*5,241*	*2,939*	*3,848*	*3,644*
16. The National Iron and Steel Co. Ltd., Calcutta.	..	*1,225*	*657*	*159*	*269*	*728*
17. Textool Co. Ltd. Coimbatore	..	—	*63*	*395*	*398*	*422*
18. Himmat Steel Foundry (M.P.).	..	..		*1,769*	*Nil*	*Nill*
19. Upper India Steel, Punjab	..	..	..	*2,043*	*5,169*	*9,420*
	200,346	*261,061*	*4,10,918*	*4,38,535*	*4,32,851*	*250,866*

*Provisional.

**Inclusive of Saleable semis.

Sources :—(i) Statistics for Iron & Steel Industry in India (issued by H.S.L.)

(ii) I. & S. Control Bulletin.

(iii) Plants concerned.

APPENDIX XI

PRODUCTION OF FINISHED STEEL-PRODUCER-WISE

(In '000 Tonnes)

Year	Bhilai	Durgapur	Rourkela	TISCO	IISCO	Total (1—5)	MISL.	Others	Grand Total
	1	2	3	4	5	6	7	8	9
1961-62	*354*	*81*	*178*	*886*	*557*	2,056	39	844	2,939
1962-63	*555*	*234*	*427*	*977*	*632*	2,852	39	1,000	3,864
1963-64	*658*	*374*	*527*	*1,035*	*652*	3,246	41	1,009	4,296
1964-65	*654*	*493*	*626*	*1,108*	*637*	3,518	39	876	4,433
1965-66	*726*	*511*	*717*	*1,084*	*623*	3,661	49	800	4,510
1966-67	*722*	*391*	*638*	*1,002*	*576*	3,389	60	1,042	4,491
1967-68	690	342	602	1,002	451	3,087	70	896	4,053
1968-69	903	383	738	1,048	512	3,584	77	1,241	4,902
1969-70	1,134	395	758	1,002	460	3,749	40	1,259	5,048
1970-71	1,215	337	593	983	464	3,592	24	1,272	4,888
1971-72	1,030	337	561	1,002	449	3,379	44	1,538	4,961
1972-73	1,537	359	715	917	293	3,821	54	1,638	5,513
1973-74 (Upto Dec.'73)*	1,037	177	453	619	235	2,521	36	900	3,459

*Provisional.

Sources— Statistics for Iron and Steel Industry in India—issued by HSL,
(ii) Iron and Steel Control Bulletin.
(iii) Plants concerned.

APPENDIX XII

PRODUCTION OF FINISHED STEEL-CATEGORY-WISE

(Figures in '000 Tonnes)

Category	1970-71	1971-72	1972-73	1973-74* (upto Dec. 73)
A—Mild Steel				
Light and Medium Structurals	641·7	512·0	628·1	316·0
Heavy Structurals	238·3	192·9	207·1	103·0
(i) 1st Class Rails	243·7	259·7	269·2	158·0
(ii) 2nd Class Rails	145·4	109·6	53·5	44·0
Black Sheet (Cor)	5·5	6·4	3·9	3·0
Black Sheet (Plain)—	..	0·7	0·3	—
(i) Hot Rolled	212·4	219·1	194·1	126·0
(ii) Cold Rolled	85·2	96·1	96·2	62·0
C.P. Sheets	72·9	57·7	70·6	45·0
G.C. Sheets	117·2	108·9	92·9	62·0
Plates	271·4	274·9	310·3	167·0
Bars	1,055·7	1,153·8	1,391·7	1,025·0
Rods	517·6	502·8	708·6	464·0
Wires—	48·5	81·2	98·3	80·0
(i) Black	34·8	52·1	58·8	33·0
(ii) Galvd.	52·3	90·9	84·2	62·0
Hoops	6·6	8·2	8·2	6·0
Strips—	91·6	105·6	175·9	74·0
(i) Hot Rolled	100·1	102·5	100·5	89·0
Box Cold Rolled	6·7	5·1	3·0	2·0
Steel Strapping	58·8	67·7	55·9	35·0
Tinplate Blackplates	133·4	114·5	115·6	56·0
Wheel Sleepers	242·6	232·7	244·0	142·0
Special Tyres & Sections	37·5	32·0	30·4	20·0
Axles	57·5	75·4	79·2	32·0
Total Mild Steel	4,477·4	4,522·5	5,080·5	3,206·0
B. Total Alloy & Special Steel	410·9	438·5	432·9	251·0
Grand Total (A+B)	4,888·3	4,961·0	5,513·4	3,457·0

*Provisional

APPENDIX XIII

IMPORTS OF IRON AND STEEL

(Quantity in tonnes and value in Rs. lakhs)

Items	1971-72		1972-73		1973-74 April-August	
	Quantity	Value	Quantity	Value	Quantity	Value
Pig Iron, Sponge Iron, etc.	704	13	571	12	360	7
Ferro Alloys	7,436	2,85	1,618	73	134	15
Cast Iron	1,240	78	1,180	84	1,459	1,18
Mild Steel	10,86,399	1,68,30	9,64,096	1,50,28	3,24,639	61,37
High Carbon Steel	1,73, 803	33,03	1,96,457	31,10	42,071	8,27
Alloy Steels	87,736	33,99	58,837	31,48	34,118	15,79
Steel Castings and Forgings	6,394	3,96	6,271	4,76	2,929	2,87
Iron and Steel Scrap	18,427	1,75	8,053	80	13,085	1,33
TOTAL	13,82,139	2,44,79	12,27,083	2,20,11	4,18,795	91,03

Source—Trade Data derived from DGCIS monthly statistics of foreign trade of India.

APPENDIX XIV

CATEGORY-WISE EXPORTS OF IRON AND STEEL DURING 1971-72, 1972-73 AND 1973-74, WITH FOB VALUE

(Quantity in thousand tonnes and value in Rs. lakhs)

Category	1971-72		1972-73		1973-74 April to December	
	Quantity	Value	Quantity	Value	Quantity	Value
(1) Pig Iron	218·1	7,43·85	406·7	13,23·23	390·8	13,76·21
(2) Ingots	..	..	..	..	..	..
(3) Billets	..	..	..	..	..	..
(4) Rails	90·0	7,99·83	10·3	74·89	15·7	1,87·99
(5) Structurals	106·7	9,58·33	53·1	4,93·21	0·9	9·32
(6) Rounds/Rods	4·5	37·62	4·5	40·60	5·3	78·35
(7) G. C. Sheets	0·8	9·19	2·9	36·46	1·7	36·16
Total	420·1	25,48·82	477·5	19,68·39	414·4	16,88·03

Source—Steel Exporters' Association.

APPENDIX XV

STATEMENT SHOWING COUNTRY-WISE AND CATEGORY-WISE EXPORTS OF IRON AND STEEL, DURING 1972-73 AND 1973-74 (APRIL TO DECEMBER)

(In Tonnes)

Country	1972-73					1973-74 (April to December)				
	Rounds/ Rods	Structurals	Rails	Pig Iron	GC Sheets	Rounds/ Rods	Structurals	Rails	Pig Iron	GC Sheets
Bangladesh	..	..	..	..	2,899	..	..	..	..	1,652
Burma	..	..	5,938	..	..	..	..	..	..	..
Dammam	..	..	..	..	..	694	..	..	..	..
Dubai	..	..	..	..	..	198	..	..	..	..
Hongkong	..	645	..	..	..	..	..	..	..	..
Iran	1,198	7,371	..	..	..	2,891	599	..	..	..
Indonesia	1,484	3,561	..	..	..	..	..	..	..	..
Japan	..	..	..	1,74,629	..	..	..	..	142,941	..
Jeddah	..	..	..	..	..	289	..	..	..	..
Kenya	..	*775*	..	..	..	..	..	..	..	..
Korea	..	..	..	..	..	..	..	*15,747*	*6,025*	..
Kuwait	..	*40*	..	..	..	*1,242*	..	..	..	..
Malaysia	..	*59*	..	..	..	..	34	..	..	..
Phillippines	..	..	..	7,005	..	..	..	..	..	..
Sudan	358	169	..	..	..	..	..	..	..	..
Singapore	..	50	..	22,291	..	..	119	..	26,252	..
Thailand	..	479	..	..	..	..	170	..	..	..
Taiwan	..	..	..	6,906	..	..	..	..	..	..
U.S.S.R.	..	89,917	..	1,85,909	..	..	..	..	2,15,608	..
U.A.R.	1,479	..	4,400	..	..	..	..	..	..	..
Yugoslavia	..	..	..	9,975	..	..	..	..	..	..
Total	4,519	53,066	10,338	4,06,715	2,899	5,324	922	15,747	3,90,826	1,652

Total exports of 1972-73=4,77,537 tonnes.
Total Exports April 1973 to December, 1973=4,14,471 tonnes.
Source—Steel Exporters' Association.

APPENDIX XVI

EXPORT OF IRON AND STEEL SCRAP

	1971-72		1972-73		1973-74 (April-August)	
	Quantity tonnes	Value Rs. lakhs	Quantity Tonnes	Value Rs. lakh	Quantity Tonnes	Value Rs. lakhs
Iron and Steel Scrap for re-melting Re-forging						
Filling etc.	26,706	40·53	22,707	43·44	4,124	10·84
Wornout articles	..	..	..	..	..	..
Others	96,520	124·27	52,888	81·14	37,403	113·47
Sub-Total	123,226	164·80	75,595	1,24·58	41,527	124·31
Iron and Steel Scrap used as Prime Varieties						
Bars ends etc.	3,329	5·83	..	..	..	..
Sheet Cuttings (Uncoated)	9,336	19·78	..	..	..	..
Sheet Cuttings (Coated)	..	..	..	..	..	..
Other Remnants	10,137	9·09	2,943	3·51	232	0·70
Sub-Total	22,802	24·70	2,943	3·51	232	0·70
Grand Total	1,48,028	1,99·50	78,538	1,28·09	41,759	1,25·01

Source—DGCIS monthly statistics of Foreign Trade of India.

APPENDIX XVII

CATEGORY-WISE EXPORTS OF FERRO-ALLOYS

	1971-72		1972-73		1973-74 (April-August)	
	Quantity (Tonnes)	Value (Rs. lakhs)	Quantity (Tonnes)	Value (Rs. lakhs)	Quantity (Tonnes)	Value (Rs. lakhs)
Ferro Alloys						
Ferro-Manganese below 3% carbon	407	4·29	2,461	24·03	2,533	26·17
Ferro-Manganese over 3% carbon	17,300	1,90·64	72,669	6,30·99	12,900	1,30·69
Ferro Chrome	3,878	98·45	2	0·12	915	14·30
Ferro Silicon	..	..	2,025	15·39	..	..
Others	..	..	69	0·80	..	..
Total	21,585	2,93·38	77,226	6,71·33	15,448	1,71·16

Source—DGCIS monthly statistics of Foreign Trade of India.

M|S)93MofS&M—2700—29-3-74—GIPS