GOVERNMENT
OF INDIA

ANNUAL REPORT
1991-92

MINISTRY OF STEEL

Report 1991-92
Ministry of Steel

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REPORT

1991-92

MINISTRY OF STEEL

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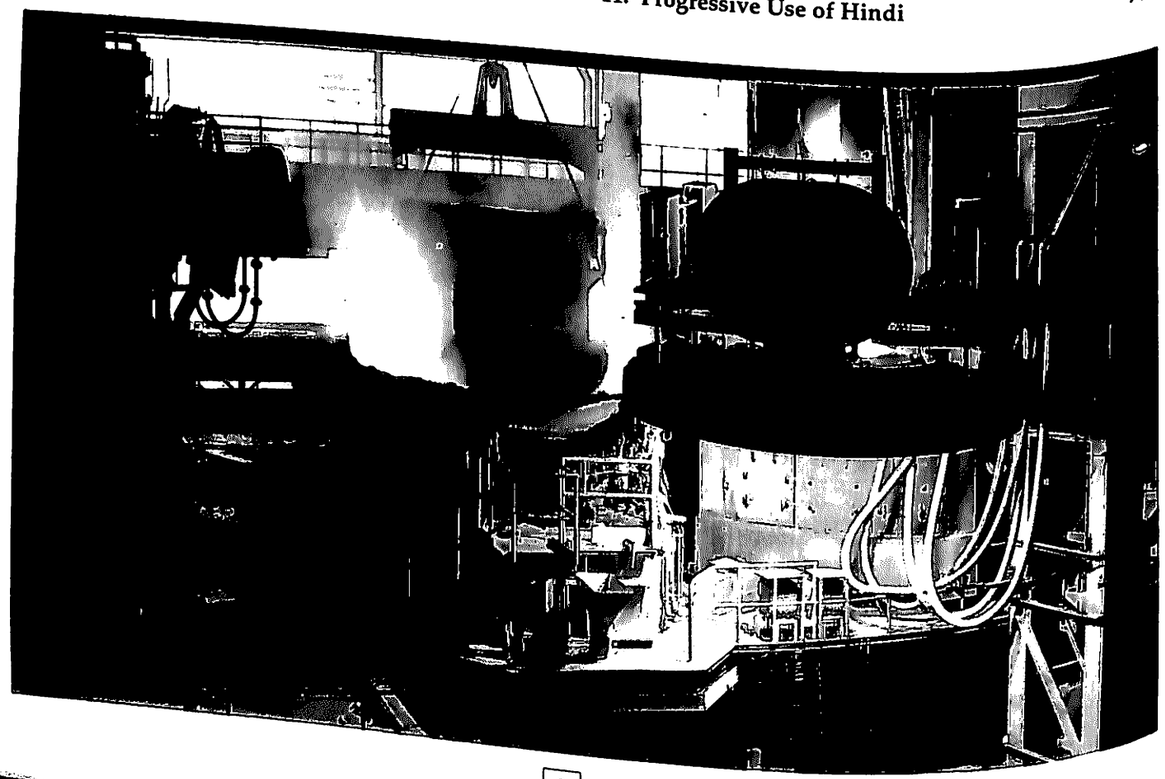


Year's Highlights

- Production of steel no more the preserve of public sector.
- Iron & Steel industry completely exempted from provisions of compulsory licensing.
- Automatic foreign equity participation upto 51% in the sectors of pig iron, sponge iron and ferro alloys.
- Price and distribution deregulation of iron and steel with effect from 16.1.1992.
- Steel Authority of India Ltd. to produce about 7.95 million tonnes of saleable steal - an 8% growth over 1990-91.
- 5% Reduction in energy consumption compared to 1990-91 in SAIL.
- 88% Crude Steel capacity utilisation in SAIL compared to 80% in 1990-91.
- Turnover of over Rs. 9000 crores in SAIL
- SAIL's Gross margin to exceed (provisionally) Rs. 1200 crores.
- SAIL's Salem Steel Plant sanctioned installation of Hot Rolling Facilities.
- IISCO Modernisation Scheme cleared by Public Investment Board.
- Stage I of Vishakhapatnam completed.
- VSP creates record in steel sector by commissioning three units of stage II viz coke oven Battery No. 3, Blast Furnace No. 2 and M. M&S. Mill on March 28, 1992.
- Yeleru Canal Scheme completed in June, 1991. Water supply to VSP assured on sustained basis.
- Production of Hot Metal was 6044 tonnes on March 8, 1992 against 4660 tonnes average daily rated capacity, achieving 125% capacity utilisation of Blast Furnace No. 1 of VSP.
- Trial export of Wire Rod to Japan and Sri Lanka by VSP.
- The coke rate is 568 Kg per tonne of hot metal against D.P.R. norm of 627 Kg at VSP during February 1992.
- VSP achieves yield of 97% in the Billet Mill for Bloom to Billet and 94.1% from Billet to Wire Rod.
- Record export turnover of Rs. 229 crores achieved by KIOCL
- NMDC earned profits of Rs.48.10 crores after wiping out the cumulative losses. Paid a maiden dividend of Rs.5.17 crores to Central Government.
- Ferro Scrap Nigam Limited (FSNL) set to cross 9 lakh tonnes of production of scrap during the year.

The Year at a Glance

CHAPTER-I

1. Production of Steel

Production of saleable steel in the five integrated steel plants of Steel Authority of India Ltd. (SAIL) during the year 1991-92 is expected to be about 7.95 million tonnes, representing an increase of 8% over the production in 1990-91. Production by Visakhapatnam Steel Plant was at 1.2 million tonnes of hot metal.

TISCO is expected to produce 2.05 million tonnes of saleable steel in 1991-92, as against 1.94 million tonnes in 1990-91.

Production of saleable steel by the secondary producers is expected to be lower at 3.5 million tonnes, against 3.86 million tonnes in 1990-91.

Total production of saleable steel in 1991-92 is thus expected at about 14.15 million tonnes, as compared to 13.19 million tonnes in 1990-91, representing an increase of 7.3%.

1.2 Demand and Availability of Steel

Total demand for finished steel in 1991-92 is estimated at 16.35 million tonnes. Against this, the domestic availability in the year is estimated at 14.55 million tonnes, leaving a gap of 1.8 million tonnes. In the case of pig iron, the domestic availability is estimated at 1.44 million tonnes, against an estimated demand of 1.92 million tonnes. In view of constraints in availability of foreign exchange, these gaps are unlikely to be met fully through imports. It is expected that import of finished steel in 1991-92 may be upto one million tonnes and of pig iron upto 1.5 lakh tonnes.

1.3 Performance of SAIL

Production of saleable steel in the five integrated steel plants of SAIL for 1991-92 (upto January, 1992) was 6.55 million tonnes representing an increase of 11% over the production during the corresponding period in 1990-91. Production of crude steel was 7.96 million tonnes representing an 11% increase over the production achieved during the corresponding period in 1990-91.

1.4 Major Construction Projects

(a) SAIL Projects

i) Construction work on the modernisation of Durgapur Steel Plant is in full swing and the project is expected to be completed by March, 1993.

ii) The modernisation scheme for the Rourkela Steel Plant was approved in December 1989 and is presently under progress. This project is scheduled to be completed by April, 1995.

(b) Visakhapatnam Steel Project

The project management continued its efforts to achieve new milestones in the completion and commissioning of the units under Stage-I. The notable achievement was the actual fulfillment of the projected commencing schedules of major units of Stage-I and State-II. During the year under report Coke Oven Battery No.2 and Bar Mill of the Light a Medium Merchant Mill - the two last units of Stage-I - were commissioned during October, 1991. With the commissioning of Coke Oven Battery No.2 full coking coal requirements of Blast Furnace No. 1 are assured. Sinter Plant No.2, a unit of Stage-II, was commissioned in December, 1991. On March 28, 1992 Coke Oven Battery 3 was lighted while Blast Furnace 2 & MMSM were commissioned. Availability of water for VSP was causing

concern because of delay in completion of the Yeleru Canal Scheme. This scheme was completed on 30.6.91 and water reached VSP reservoir on 9.7.91.

1.5 Electric arc Furnace Industry

At present there are 175 commissioned electric arc furnace units having a total capacity of about 6.8 million tonnes per annum.

Production of ingots/concast billets by EAF units, which are reporting their production to the office of the Development Commissioner for Iron & Steel, during the last three years and for April-Sept., 1991 is given below:-

Category	(in '000 tonnes) 1988-89	1989-90	1990-91	1991-92 April to Sept.91 (P)
Mild Steel	2058.5	2041.8	2363.0	740.2
Medium/High Carbon Steel	485.5	394.0	371.6	121.2
Alloy Steel	502.2	533.6	598.8	221.6
Stainlesss Steel	127.7	153.5	176.0	70.4
Total Reported	3173.9	3122.9	3509.4	1153.4

The above figures do not include production of steel by casting units registered with DGTD.

1.6 Sponge Iron Sector

Sponge iron is a metallic product produced by direct reduction of high grade iron ore or pellets into the solid state. Also known as direct reduced iron (DRI) or Hot Briquetted Iron (HBI), it contains a large percentage of metallic iron. This is a partial substitute for steel melting scrap used by the secondary steel sector. The indigenous availability of metal scrap is very low. Steel scrap abroad is becoming scarce on account of technological advancement in steel production as a result of which imports are becoming more and more costly. Moreover, most of the imported steel scrap has to be bought in hard currency. Production of sponge iron is, therefore, being encouraged by the Government in order to conserve free foreign exchange.

It is expected that production will be 50 to 60 lakh tonnes by the end of 1996-97. The installed capacity of sponge iron units till 1988-89 was only 3.3 lakh tonnes. This increased to 14 lakh tonnes in 1990-91. The total sponge iron production this year is likely to touch 10 Lakh tonnes against last year's production of 8.3 lakh tonnes.

The performance of sponge iron units that are already commissioned is given below:-

(In lakh tonnes)

Name of the Unit	Location	Installed capacity	Production during 1990-91	Production during 1991-92 (April-November).
1	2	3	4	5
A Coal Based				
1) Songe Iron India Ltd.	Kothagudem, Distt. Khamman, A.P..	0.6	0.47	0.30
2) Orissa Sponge Iron Ltd.	Nayagarh, Distt. Keonjhar Orissa.	1.5*	0.80	0.64
3) IPITATA Sponge Iron Ltd.	Distt. Keonjhar Orissa.	1.2	0.62	0.54
4) Bihar Sponge Iron Ltd.	Chandil, Distt. Singhbhum, Bihar.	1.2	1.12	0.85
5) Sunflag Iron & Steel Co. Ltd.	Bhandara, Maharashtra	1.5	0.79	0.56
Sub-total (Coal-based)		6.0	3.80	2.89
B Gas-based				
6) Essar Gujarat, Ltd.	Hazira, Distt. Surat, Gujarat.	8.0	4.50	4.97
Total (A+B)		14.0	8.30	7.86

*derated to 1.0 lakh tonnes.

1.7 Pig Iron Industry

(i) The Engineering Industry is a major consumer of pig iron. Production has, however, not been increasing appreciably to cater to the internal demand. The major producers of pig iron have been the Integrated Steel Plants, which can divert only part of their hot metal production as pig iron for sale. The demand for pig iron is expected to increase substantially in the coming years. Government is, therefore, keen to increase its production in the secondary sector. Though pig iron production had been delicensed earlier, it is only now that some private entrepreneurs have indicated interest in establishing production facilities. Financial Institutions are now extending assistance to such units and have sanctioned assistance to six units with a total capacity of 6.85 lakh TPA.

(ii) Production of pig iron requires coke as a raw material. Availability of indigenous coke has however, also been limited. Government is therefore, keen to develop merchant coke oven batteries in the secondary sector to overcome the shortage. It is expected that the secondary sector will come forward in this area since production of coke has been delicensed under the New Industrial Policy announced in July 1991.

1.8 Iron Ore Exports

During the year 1990-91, the Country exported around 32 million tons of Iron Ore valued at Rs. 1050 crores. During 1991-92 (till Oct.'91), the exports of Iron Ore were of the order of around 15 M.T. valued at Rs. 728 crores. A major portion of the exports has been from the two undertakings of the Ministry of Steel, namely National Mineral Development Corporation Ltd. (NMDC) and Kudremukh Iron Ore Company Ltd. (KIOCL).

1.9 Export of other Minerals

In respect of other minerals the Government policy has been in the direction of substituting value added products like ferro alloys in place of raw ores and promoting greater utilisation of the lower grade ores through beneficiation and other means. In keeping with this policy ceilings were fixed on exports of manganese and other ores.

5-Strand Tandem Mill at Bokaro Steel Plant

1.10 Steel Consumers' Council

The Steel Consumers Council was established in January, 1986 under the Chairmanship of Minister for Steel and Mines (now Minister for Steel) to provide a forum for interaction between Government and various sections of steel consumers. The Council has been reconstituted on 31st October, 1991 with a fresh tenure of two years.

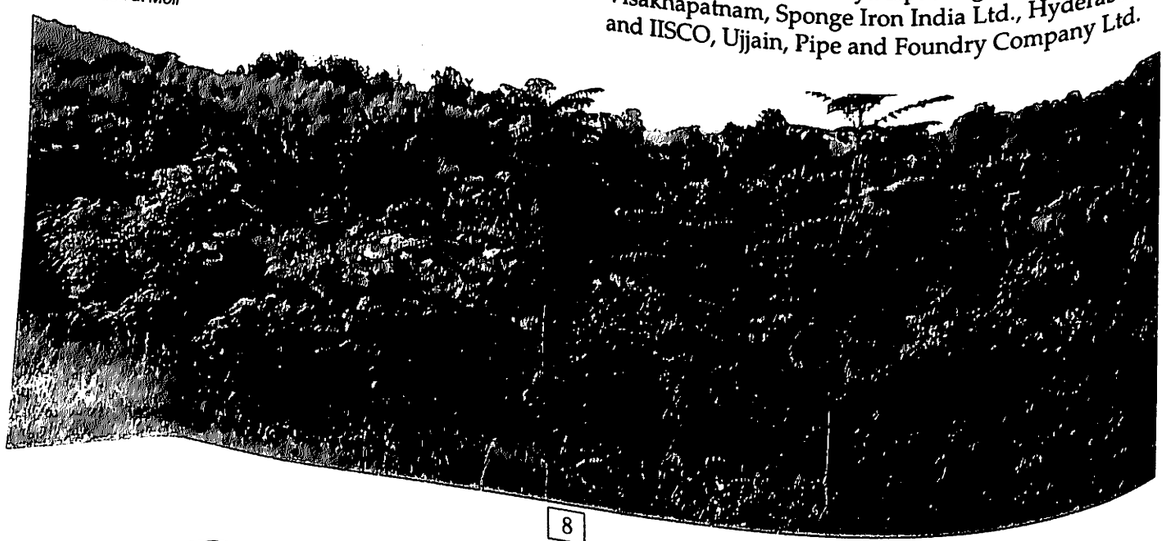
1.11 Management Information System

The computerised M.I.S. introduced in the Ministry of Steel with the assistance of National Informatics Centre (NIC) is functional in the areas of Administration, Public Enterprise Management, Personnel Management, Project Monitoring, Data Bank for Secondary Producers and Financial Accounting and Budgeting. The Computer Centre in the Ministry is equipped with the latest hardware with appropriate linkages with the NIC Super Computer and its Electronic Mail Package. Terminals have been provided to senior officers and also to some Sections requiring the facility for interactive usage with the MIS. Training Programmes for the staff for computer usage are also organised by NIC from time to time.

1.12 Environmental Protection

Every project taken up for implementation by the undertakings of the Ministry of Steel has a full and complete environmental management plan as an integral part of the project programme, duly cleared by the concerned Departments and Government agencies at various levels.

Afforestation at Moil



1.13 Welfare of Schedule Castes and Scheduled Tribes and welfare of Minorities

During the year under report, special recruitment drive for filling up the backlog vacancies in respect of SC/ST in PSUs under administrative control of the Ministry was undertaken. In accordance with the Government Instruction, special recruitment drives exclusively for SC/ST candidates were undertaken and more than 500 persons were recruited in SAIL plants and units through these efforts.

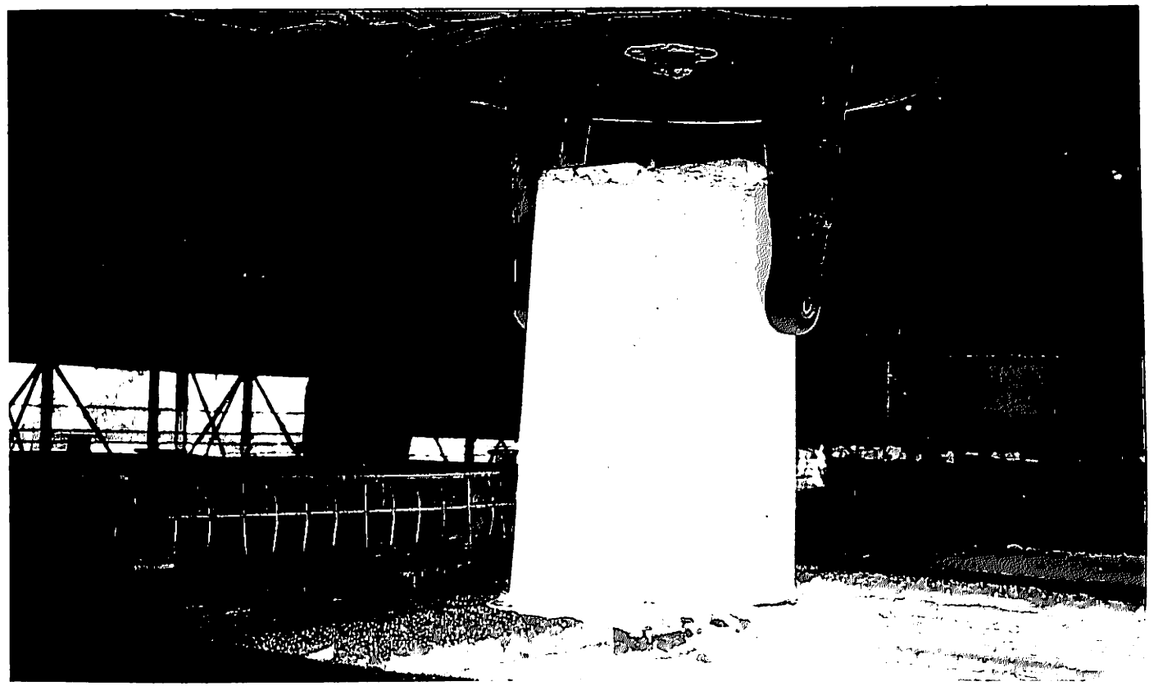
The Centenary Celebrations of Dr. B.R. Ambedkar, are continuing till 14th April, 1992. In view of the special importance being attached to Centenary Celebrations of Dr. B.R. Ambedkar, the PSUs have identified various programmes/schemes for implementation aiming at the uplift of these communities.

1.14 Implementation of Official Language Policy

The progressive use of Hindi in the Ministry, its attached and subordinate offices and public undertakings has been actively encouraged and a Hindi week was organised in the Ministry in the month of September, 1991. During the year the Committee of Parliament on Official Language, inspected the position of progressive use of Hindi in the Ferro Scrap Nigam Limited, Bhilai, Bhilai Steel Plant, Bhilai and Rashtriya Ispat Nigam Ltd., Visakhapatnam, Sponge Iron India Ltd., Hyderabad and IISCO, Ujjain, Pipe and Foundry Company Ltd.

A Perspective view

CHAPTER-II



Steel is perhaps the most basic material required for industrialisation and plays a crucial role in the Country's economic development. In India, Steel production began more than a century ago. Our country is well endowed with natural resources required for a healthy and vigorous iron and steel industry. Apart from recoverable iron ore reserves of almost 12 billion tonnes, we also have vast reserves of coking coal, manganese ore, limestone and dolomite.

Some of the major steel plants in the country, Tata Iron and Steel Company Ltd. (TISCO), India Iron and Steel Co. (IISCO) and Visvesvarya Iron and Steel Co. Ltd. (now a subsidiary of SAIL) were set up in the pre-Independence period. Immediately after Independence investment in the steel sector was prioritised by the setting up of three 1 MT steel plants, at Bhilai, Rourkela and Durgapur. The Indian Steel Industry made rapid strides in the 2nd and 3rd five year plans when capacity for crude steel increased from 1.5 MT to 8.9 MT. However, the pace slowed down in the 70s and 80s during which there was long period of stagnation in investment for plant upgradation and modernisation. In the last decade, production of steel has been falling short of the domestic demand necessitating imports to fill the gap. As a result, the per capita consumption is as low as 20 Kgs. per person while in neighbouring China it is 64 Kg per person. In some of the developed countries it varies from 600 Kgs. to 700 Kgs per person.

As stated earlier, India has most of the raw materials and technical expertise for steel production. In our efforts to augment steel production we have tried to match production to meet domestic demand. The estimation of future demand unfortunately has been based on historical consumption figures to basic industrial raw materials which do not reflect the actual or potential demand but a constrained demand which is the consequence of low domestic production and controlled imports. Our national economy has reached a stage of diversification and sophistication and the demand for steel, provided it is made available at reasonable prices and is of an acceptable quality, is likely to grow at a much faster rate than before.

Another significant feature has been the almost total absence of public investment in steel for export purposes. Like many developing countries, our exports were directed in favour of primary products and mineral resources. A perusal of global statistics revealed that about 100 million tonnes of steel is internationally traded and steel manufacturing countries have exported around 25% of their production even during recessionary periods. This shows that there is considerable potential for India to export iron and steel provided we are competitive in cost and quality.

Demand and Production

The 8th Five Year Plan has been extended by two years, i.e. terminating in 1996-97. The revised demand and domestic availability of finished steel and pig iron is as follows:

(in million tonnes)

Financial Year	Total Projected demand	Estimated production		
		Main Producers	Secondary Producers	Total
I. Finished Steel:				
1991-92 (Est.)	16.35	8.28	6.27	14.55
1996-97 (Projected)	25.00	13.06	11.03	24.09
II. Pig Iron:				
1991-92 (Est.)	1.92	1.34	0.10	1.44
1996-97 (Projected)	3.03	2.13	1.00	3.13

Sources of finished steel

Plant-wise break up of the above production levels are as follows:

(in '000 tonnes)

SAIL Plants	Finished Steel		Pig Iron	
	1991-92	1996-97	1991-92	1996-97
BSP	2190	2535	140	470
DSP	547	743	86	211
RSP	1058	1562	40	66
Bokaro	2559	3532	140	551
IISCO	317	354	384	357
TOTAL:	6671	8726	790	1655
VSP	395	2165	550	475
TISCO	1214	2167	—	—
Main Porducers	8280	13058	1340	2130
Secondary Producers	6267	11034	100	1000
Total:	14547	24092	1440	3130

Actual production of finished steel in 1989-90 and 1990-91 has been as follows:

(in '000 tonnes)

SAIL Plants:	1989-90	1990-91
BSP	1989	2061
DSP	518	549
RSP	1090	1058
Bokaro	2197	2331
IISCO	269	245
Total SAIL:	6063	6244
VSP	—	20
TISCO	932	930
Total Main Producers	6995	7194
Secondary Producers	6001	6337
Total	12996	13531

The modernisation and expansion programme of the main producers, coupled with the delicensing and deregulation measures taken by the Government would result in improved efficiency, product quality and international competitiveness. It will also provide the requisite environment for the creation of new capacities in the private sector for meeting the increasing requirements of the future.

Raw Materials

Iron Ore

1. Total reserves and distribution

The recoverable reserves of Iron Ore, i.e. haematite and magnetite are placed at 10267 and 1709 million tons respectively, distributed over five zones in the country. The grade-wise distribution of haemetite ores in different states is given in the table below:-

(in million tonnes)

S. No.	Zone/State	High grade ore (Fe 65%)	Medium grade ore (Fe 62-65%)	Low grade ore (Below 62% Fe)	Unclassified	Others	Blue Dust/ black iron	Total
1.	Zone A							
	Bihar	—	1660.43	1111.96	310.86	—	—	3083.75
	Orissa	82.39	1440.54	728.80	342.01	—	8.60	2602.34
	Total	82.39	3100.97	1840.76	652.80	—	8.60	5685.59
2.	Zone B							
	Madhya Pradesh	629.45	410.14	689.73	394.46	0.44	62.00	2186.22
	Maharashtra	0.20	31.43	30.07	119.85	—	—	181.55
	Total	629.65	441.57	719.80	514.31	0.44	62.00	2367.77
3.	Zone C							
	Karnataka	186.00	441.11	59.68	200.45	0.58	0.55*	898.17
4.	Zone D							
	Goa region	0.43	139.45	1058.27	89.04	—	4.56*	1291.75
5.	Zone E							
	Andhra Pradesh	2.19	3.37	7.83	2.55	—	—	15.94
	Rajasthan	—	0.21	6.32	1.29	—	—	7.81
	Total	2.19	3.58	14.15	3.84	—	—	23.78
	Grand Total	900.46	4126.68	3702.66	1460.51	1.02	70.60 5.11*	10267.44

Note: * Indicates black iron, which is iron ore with 10% manganese. Karnataka possesses about 90% of total magnesite reserves of the country.

2. Production of iron ore

Production of iron ore in the country is through a combinafion of large mechanised mines in the public sector and several smaller mines operated on manual or semi-manual basis, in the private sector.

These can be broadly grouped under three categories.

a) Captive mines, owned and operated by individual steel plants, mainly for their own use;

b) Public Sector mechanised mines, owned and operated by central and state Govt. undertakings for export and internal consumption of steel plants, and;

c) Smaller mines, owned and operated by private parties, mainly by manual and semi-mechanised methods of mining for export and internal consumption.

3 Production and Despatches-1991

The production of iron ore during 1991 is estimated at 57.6 million tonnes which is approximately 8% higher than last year. Goa continues to be the leading producer of iron ore and reported production of 13 million tonnes during 1990. Production from other principal producing States was Madhya Pradesh - 11.8 million tonnes, Karnataka - 12.4 million tonnes, Bihar 8.4 million tonnes and Orissa - 7.96 million tonnes. Production from Goa and Karnataka is almost all exported while

mines in Madhya Pradesh, Bihar and Orissa cater to the needs of Steel plants in that region and also for exports. The estimated despatches of iron ore during 1991 were 24.7 million tonnes for internal consumption and 32 million tonnes for exports. The domestic consumption of iron ore shows a substantial growth and this is expected to further increase in view of growth in steel making capacity and setting up of a number of sponge iron plants in the country.

4. Manganese Ore

Reserves

Reserves of manganese ore as per latest inventory are estimated at 154 million tonnes. These are located in Karnataka, Orissa, Madhya Pradesh, Maharashtra, Goa, Andhra Pradesh, Bihar and Gujarat.

Out of the total reserves of 154 million tonnes, the reserves of various grades are as follows:

(in million tonnes)

Grades	Qty.
Ferro Manganese grade	25
Blast Furnace Grade	54
Battery grade	0.7
Medium grade (35 to 46% Mn)	44
Mixed Grades	24

Production, despatches & Exports

The main users of manganese ore are the steel plants and the ferro alloy industry. Production and despatches of manganese ore during last three years was as under:

(in lakh tonnes)

	Production	Despatches internal Consumption	Exports	Total
1989	13.85	11.36	2.02	13.38
1990	13.93	11.42	2.04	13.46
1991	13.85	11.28	2.04	13.32

The policy of the Govt. is to conserve high grade ores for the domestic industry while emphasizing the need for export of value added items.

5. Chromite

Reserves

According to the latest assessment the total mineable reserves of chromite ore are estimated at 126 million tonnes. The major share (96%) are located in Orissa. The reserves of different grades are as follows:-

(in million tonnes)

Grades	Qty.
Ferro chrome/chemical grade	53
Charge chrome grade	38
Beneficiable grade	28
Refractory grade	4

Production & Despatches

The production and despatches of chromite during the last three years was a follows:-

(lakh tonnes)

	Production	Despatches Internal consumption	Exports	Total
1989	10.04	5.34	3.69	9.03
1990	9.59	4.89	2.91	7.80
1991	9.58	4.30	3.69	7.99

In view of limited reserves, care has been taken to regulate the export of the basic ore. As a part of this effort Govt. has been encouraging exports of value added products such as ferro chrome/charge chrome. Emphasis has also been placed on beneficiation and upgradation of low grade ores. A plant for 1 lakh tonnes for beneficiation has already been commissioned and another plant of the same capacity is in the final stages of implementation.

6. Lime Stone

Reserves

Lime Stone reserves are found in almost all parts of the country. However, availability of limestone required for steel making purposes is limited. The reserves of lime stone as per the latest inventory are estimated at 69,354 million tonnes. Principal limestone bearing States are Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Gujarat, Meghalaya and Himachal Pradesh. The break-up of different grades of ore is as follows:

Grade	Qty. (in million tonnes)
Cement grade	47,068
Blast furnace grade	5,083
Chemical grade	4,310
SMS grade	3,101
SMS & BF mixed grade	1,568
Unclassified grade	7,307

Production

Estimated production of limestone during 1991 was 71 million tonnes. Madhya Pradesh is the leading producer of limestone in the country. Bulk of the limestone produced is consumed in the manufacture of cement. The production of limestone suitable for iron and steel industry during 1990 was 3.63 million tonnes.

7. Dolomite

Dolomite is used by the iron and steel industry as refractory material and also as a flux. The total reserves as per latest inventory are estimated at 4,608 million tonnes. The break-up of different grades is as under:

(in million tonnes)

Grade	Qty.
Blast furnace	106
SMS grade	269
Refractory grade	90

Majority of the reserves are unclassified. Dolomite reserves are mainly located in Madhya Pradesh, Gujarat, Orissa, Arunachal Pradesh and Karnataka.

8. Coking Coal

8.1 Indian coking coals have a high ash content mainly because of the sedimentary nature of their origin. The total measurable reserves of coking coal are estimated to be 6630 million tonnes.

8.2 During 1990-91, the consumption of coking coal in SAIL steel plants (including IISCO), TISCO and VSP was as under:

(million tonnes)

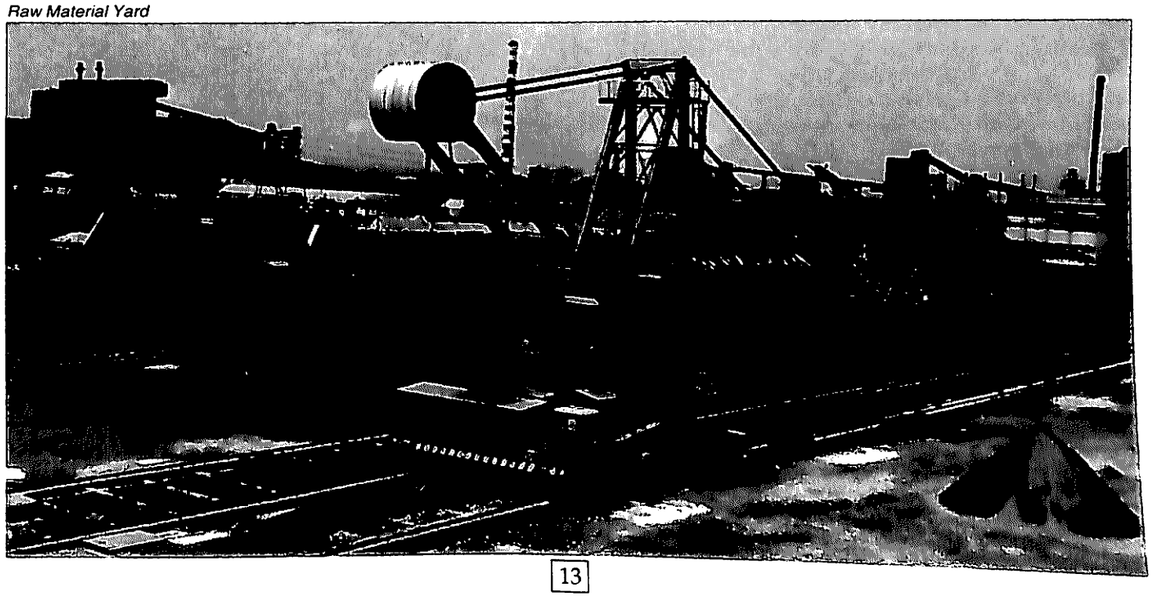
	SAIL	TISCO	VSP
Captive Mines	0.85	1.83	—
Other domestic sources	7.43	0.05	0.51
Imports	4.25	0.66	0.50
Total	12.53	2.54	1.01

The estimated consumption during 1991-92 by these plants is as under:

(Million tonnes)

	SAIL	TISCO	VSP
Captive Mines	1.10	1.78	—
Other domestic sources	8.20	0.89	0.50
Imports	4.20	0.65	1.20
Total	13.50	2.52	1.70

Raw Material Yard



9. Non-Coking Coal

During the year 1990-91 SAIL steel plants (including IISCO) consumed 3.9 MT of non-coking coal procured from domestic sources. The likely consumption in 1991-92 is 4.5 MT.

During 1990-91 TISCO procured 1.3 MT of non-coking coal from captive mines and indigenous sources.

Expected consumption during 1991-92 is 1.5 MT.

10. Refractories

10.1 Refractories are the primary material used in the industrial sector in the internal lining of industrial furnaces. 70 to 80% of the refractories are used in the iron and steel sector and the remaining in non-ferrous, cement, glass, ceramics industries etc. Refractory industry at present is a delicensed industry. There are about 71 units with an installed capacity of 17.2 lakhs MTPA.

10.2 Since the major consumer of refractories is the iron and steel sector, modern trends in iron and steel making technologies have affected the refractory industry. The adoption of large size blast furnaces & basic oxygen furnaces in place of open hearth furnaces, secondary refining and continuous casting etc. have not only reduced the consumption of refractories, but have also led to a major change in the demand pattern towards more specialised refractories. These trends have led to the emergence of excess capacity in the refractory industry, which is estimated to be almost 50% of installed capacity. It is only now that the domestic refractory industry is beginning to respond to the changed situation. The domestic production of various categories of refractories during the last 3 years has been as under:

(in tonnes)

Category	1988-89	1989-90	1990-91
Fireclay	195800	222940	226560
High Alumina	189055	162430	178270
Silica	67000	37000	46650
Basic	193060	209116	196862
Special Refractories	3606	4380	5168

The industry has been able to meet the overall demand from the consumers except for some high technology items which have had to be imported. The industry is now going in for technological upgradation. Few large units have entered into foreign collaborations for import of technology for manufacture of specialised refractories. Till the time indigenous capability is developed, the imports of specialised refractories will continue. The imports of various categories of refractories during the last three years has been as follows:

(Rs. In crores)

Year	Value
1988-89	11.40
1989-90	6.93
1990-91	22.30

10.3 Special Refractories

The raw materials required for manufacture of specialised refractories are basically high quality sintered magnesia (including sea water magnesia), sintered/tabular alumina and sintered mullite. These raw materials are not available indigenously and are being imported. It is estimated that the cost of imports of high quality sintered magnesia averaging approximately Rs. 150 crores during the last 3 years will, on account of devaluation, go upto approx. Rs. 220 crores during current year. During 1990-91, 2300 tonnes of sintered alumina and sintered mullite were imported at an estimated cost of approx. Rs.11 crores. Efforts are being made to develop indigenous capability for manufacture of the refractory raw materials.

10.4 The industry is also gearing itself to export. Certain varieties of refractories like chemical bonded basic bricks, direct bonded basic bricks, slide gate plates and electrocast refractories are being exported. The value of exports during the last three years has been as follows:

Year	Value(Rs. in crores)
1988-89	1.63
1989-90	3.40
1990-91	5.78

It is expected that exports during the year 1991-92 would be over Rs. 10 crores.

Distribution and Availability

The table below gives the availability of iron and steel in the domestic market during 1990-91 and estimated availability during 1991-92.

(000 tonnes)

	Item	Finished Steel 1990-91 (Provisional)	Finished Steel 1991-92 (Estimated)	Pig Iron 1990-91 (Provisional)	Pig Iron 1991-92 (Estimated)
1.	Production:				
	(a) Main Producers	7194	8371	1393	1340
	(b) Secondary Producers.	6337	6267	102	100
2.	Imports	1243	900	189	150
3.	Total (1 + 2)	14774	15538	1684	1590
4.	Exports	310	350	—	—
5.	Inter Plant transfers.	66	91	—	—
6.	Net Availability (3 — 4 — 5)	14398	15097	1684	1590

2. Pricing and Distribution of Iron and Steel

2.1 As part of the liberalisation package, Government on 16th January, 1992, abolished the price and distribution regulation of the Joint Plant Committee (J.P.C.) which has been in existence since 1964. The requirements of Defence, Railways, small scale industries sector, exporters of engineering goods and the North Eastern Region will, however, continue to be met on priority, at prices that may be announced by the producers from time to time. The Development Commissioner for Iron and Steel will oversee compliance of this arrangement, with the assistance of the JPC.

2.2 The Development Commissioner for Iron and steel will continue to make allocations of pig iron to the designated consumers and the main producers will supply the material on the basis of such allocations. In the case of steel items, allocations by the Development Commissioner for Iron & Steel will continue to be made in respect of Small Scale Industries Corporations. Small scale units which are drawing their materials directly from the main producers will continue to do so. The Development Commissioner will also continue to issue Release Orders for supplies to exporters of engineering goods, and make annual supply plans for the North Eastern Region. The requirements of Defence and Railways will be met by the main producers directly, in terms of the past procedures.

2.3 Considering the special problems in meeting the requirements of consumers in the North-Eastern Region, special efforts as hitherto will continue to be made to ensure that adequate and timely supplies are made to the region by regular coordination between the producers and the railways.

2.4 The levies on account of the Steel Development Fund (SDF), Engineering Goods Export Assistance Fund (EGEAF) and the JPC cess will continue to be added by the main producers (excluding IISCO) to their ex-works prices and remitted to the JPC. The SDF levy is payable on steel materials, ranging from Rs. 350.00 to Rs.500.00 per tonne on different categories. The EGEAF levy is Rs. 113.00 per tonne on pig iron and Rs. 300.00 per tonne on steel items.

2.5 In replacement of the Freight Equalisation Scheme, the main producers i.e. SAIL, VSP and TISCO will henceforth be fixing ex-stockyard prices on the basis of actual freights or the freight elements as existed prior to deregulation till these are revised, whichever is less. In doing so, the freight disadvantage to the States/areas located nearer the steel plants of the main producers has been removed. Simultaneously, the advantage of lower freight under the Freight Equalisation Scheme to the distant States/areas has been protected. The extra cost on this account will be borne by the main producers.

2.6 The pricing mechanism of the Joint Plant Committee (JPC) continued to operate until the deregulation on 16.1.1992. During this period of the year 1991-92, two price adjustments were announced by the JPC. The first adjustment of 25th July, 1991, was on account of the special excise duty, by Rs.15.00

per tonne on pig iron and an average of Rs.36.00 per tonne on steel. The second price adjustment of 1st September, 1991, was on account of increase in outward railway freight, by Rs.60.00 per tonne on pig iron and Rs.90.00 per tonne on steel. The equalised freight element in the JPC price was thus raised to Rs.645 per tonne in the case of pig iron and Rs.956 per tonne in the case of steel.

2.7 Open market prices vis-a-vis the stockyard prices of certain important categories of iron and steel continued to be monitored in the Ministry through Development Commissioner for Iron and Steel and it's regional offices.

3. Distribution Network

The main producers have been selling their products through a network of Departmental Stockyards, Consignment Agencies, Extension Counters and Conversion Agents, the details of which are as under:

	Stockyard	Consignment Agency	Extension Counter	Conversion Agent
SAIL	45	8	3	98
VSP	3	15	—	28
IISCO	1	5	—	—
TISCO	11	23	—	65

4. Import and Export of Iron & Steel

4.1 The general policy for import and export of iron and steel materials, ferro alloys and ferrous scrap is decided by Ministry of Commerce in consultation with the Ministry of Steel. Under the liberalised trade policy, the requisite changes have also been made in the policies thereof.

4.2 During the year 1991-92, MMTC continued to the canalising agency for import of major items of iron and steel materials. Some items were, however, shifted from the canalised list to the list for supplementary licensing, for imports under Exim Scrip. After the liberalisation of export-import policy in July, 1991, direct imports through the supplementary licensing became eligible only to the small scale sector units. Others were required to import their requirements under Exim Scrip provision in the import policy. Certain items of steel were shifted from the OGL list for imports under the Exim Scrip route. Exim Scrip route has now been dispensed with in the 1992-93 Budget proposals and imports are freely allowed against foreign exchange to be purchased at market prices through the authorised sources.

4.3 The Development Commissioner for Iron & Steel continued to be the designated authority for clearing requests for import from indigenous angle, both for canalised imports as well as for supplementary licensing imports. A close watch has been maintained by the Development Commissioner for Iron & Steel as well as the Ministry of Steel on the domestic availability of steel. In keeping with the national priority on the scarce foreign exchange, imports have been permitted mainly of semi-processed/intermediate products which are required for downstream processing within the country. This will result in relatively lower imports during the year.

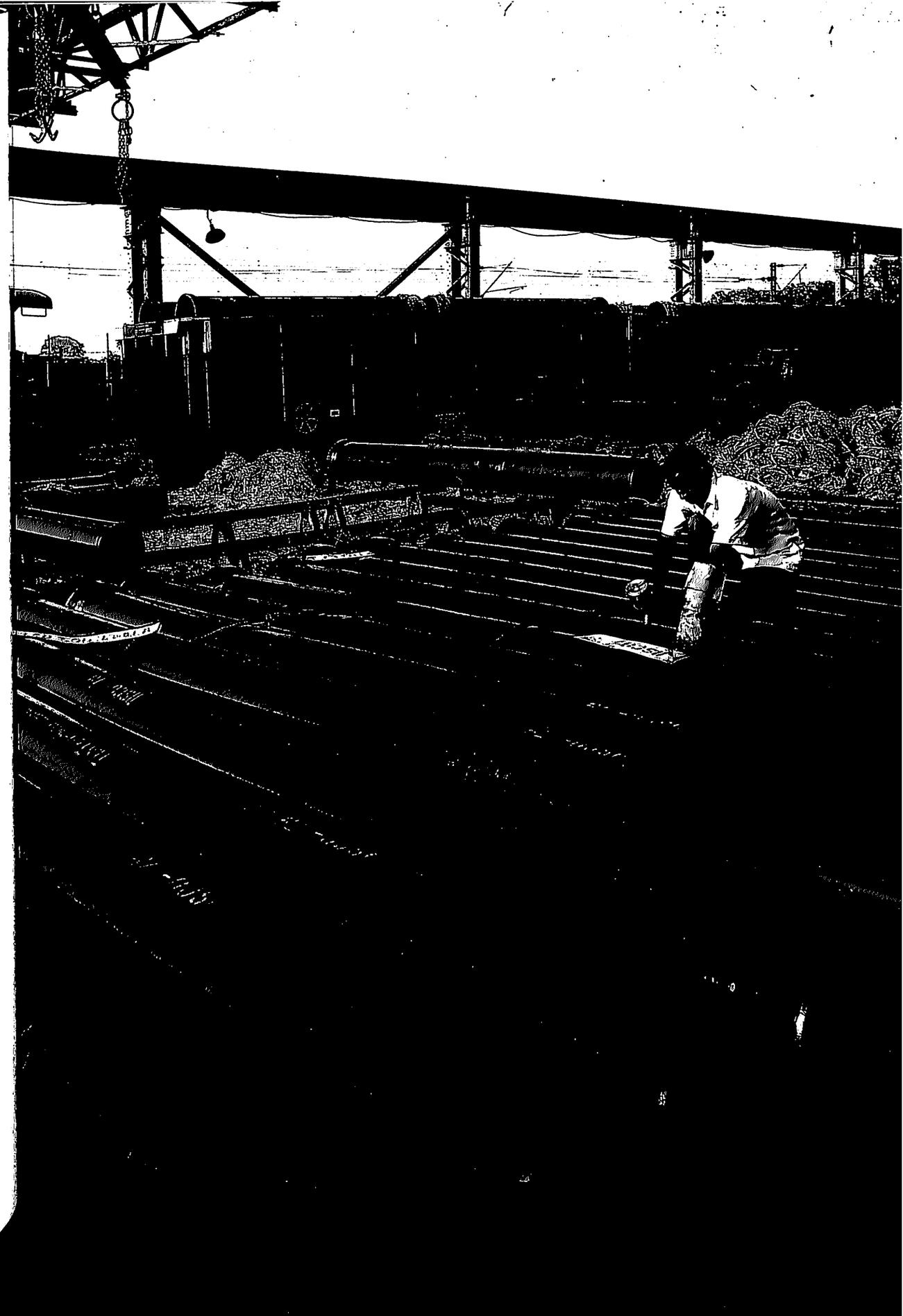
4.4 Imports have also been constrained by relatively higher landed costs, due to high import duties. In order to supplement domestic availability through imports, in the event of deregulation, import duties on basic steel materials have been reduced on steel melting scrap to 10% from 35% on pig iron to 35% from 55% and billets and HR coils to 45% from 65%.

4.5 As part of import substitution efforts, the requirements of exporters of engineering goods continued to be met from domestic production on priority basis, to the maximum extent possible. However, due to inadequate domestic availability of certain items, the exporters of engineering goods were required to meet their balance requirements through imports, including under duty free Advance Licensing Scheme, duty free REP, etc.

4.6 Export of steel has been given a thrust in line with the general export policy for earning the valuable foreign exchange and to expose the steel sector to the international environment. During the year 1990-91, 3.1 lakh tonnes of finished steel, valued at Rs. 181 crores were exported by the main producers. During the current year, exports are likely to be of the order of 3.5 lakh tonnes valued at Rs. 250 crores approximately.

5. Functions of DCI&S

The Office of Development Commissioner for Iron & Steel (DCI&S) as well as its Regional Offices continued to perform their advisory, developmental



and regulatory functions during the year. With the deregulation of distribution and prices of iron and steel, the major functions of the DCI&S and it's regional offices would be as follows:

a) Collection, processing and dissemination of basic information relating to the iron and steel industry and to act as data bank of the Ministry of Steel;

b) Monitoring of regional price and supply trends and suggesting to the Ministry remedial measures for correcting the imbalances, if any;

c) Clearances in respect of import and export of iron and steel materials and their monitoring;;

d) Advise on matters relating to import and export policies of iron and steel;

e) Management of distribution of iron and steel materials to the newly designated priority sector such as Defence, Railways, SSICs, exporters of engineering goods and the North-Eastern States;

f) Allocation of iron and steel materials to the Small Scale Industries Corporations;

g) Allocations of material to remote areas like North Eastern States, Andaman & Nicobar Islands, Lakshadeep Islands;

h) Assistance to the exporters of engineering goods through priority allocations and monitoring thereof;

i) Operation of the Engineering Goods Export Assistance Fund and the Steel Development Fund:

j) Rendering assistance to the EAF Units and the secondary sector, by way of capacity assessment, procurement of indigenous/ imported raw materials and import substitution measures, aiming at the overall development of the sector;

k) Interface between the Government and different consumer groups; to facilitate consumer-producer interaction;

l) Matters relating to export of steel to Nepal and Bhutan.

m) Coordination for movement of raw materials to steel plants;

n) Vigilance functions to prevent misuse of steel obtained from regulated sources.

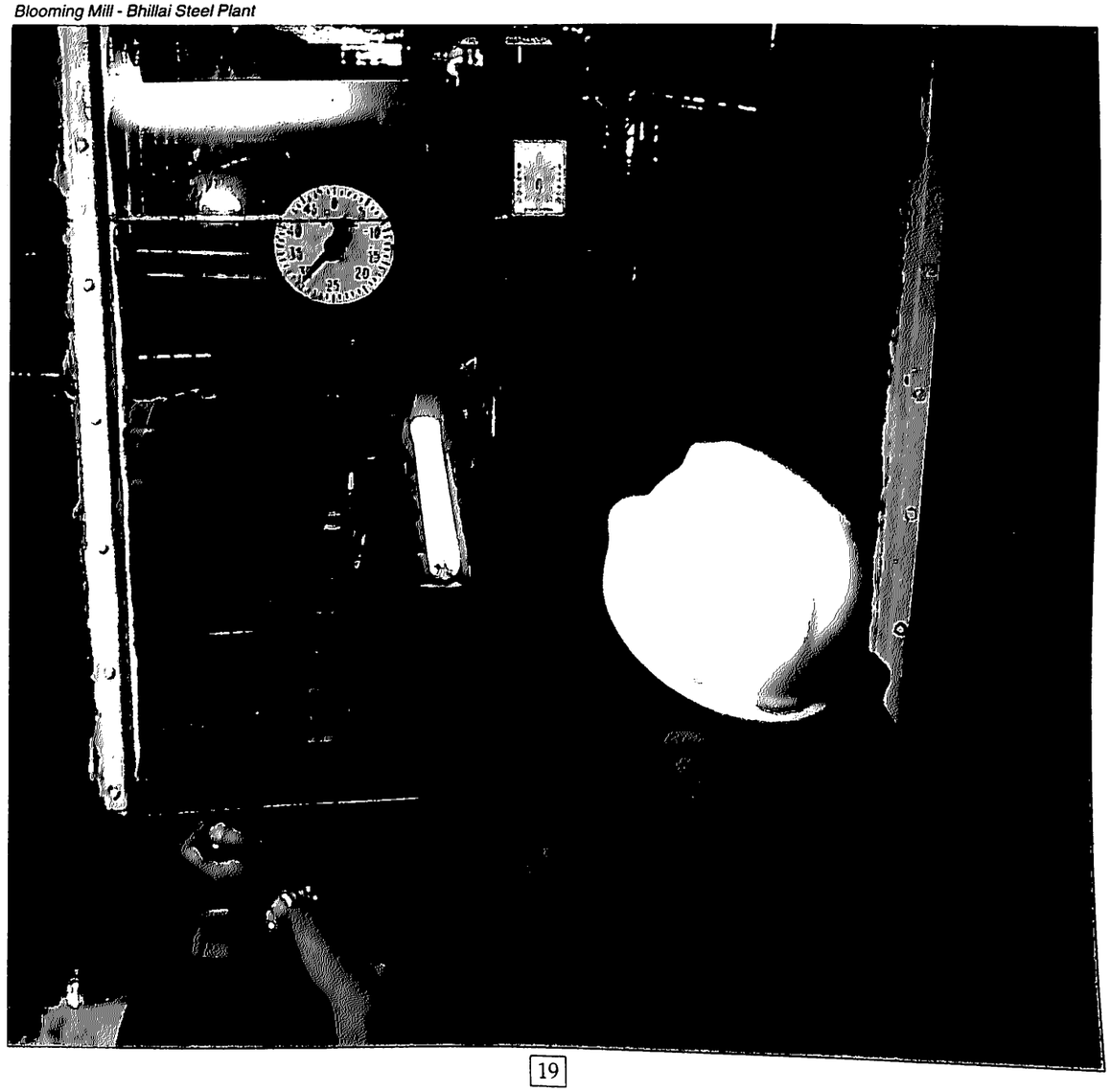
Public Sector

CHAPTER-V

The Public Sector has been assigned a very important role in the economic development of the country. It was conceived by the planners to attain the commanding heights of Indian economy and this has been amply proved in its size and strength in the steel sector. Over the years, the public sector has increased its areas of activity and today encompasses virtually all segments of steel industry in the country.

Although under the New Industrial Policy announced by Government in July 1991, steel industry has been removed from the purview of the compulsory licensing and private sector is now free to set up steel plants, subject to certain locational restrictions, the public sector will continue to play a major role in this sector.

Blooming Mill - Bhillai Steel Plant



Steel Authority of India Limited

1. General

Steel Authority of India Limited (SAIL) is a company registered under the Companies Act, 1956 and is a wholly owned enterprise of the Government of India. It operates and manages five integrated steel plants at Bhilai (Madhya Pradesh), Bokaro (Bihar), Durgapur (West Bengal) Rourkela (Orissa) and Burnpur (West Bengal), a plant of the Indian Iron and steel Company Limited, a wholly owned subsidiary of SAIL. The SAIL has also four special and alloy steels and ferro-alloys units at Durgapur (West Bengal), Salem (Tamilnadu), Chandrapur (Maharashtra) and Bhadravati (Karnataka). The plants at Chandrapur and Bhadravati belong to the Maharashtra Elektrosmelt Limited and Vivesvarya Iron & Steel Limited respectively which are also subsidiaries of SAIL. Besides, SAIL has three central units located at Ranchi, the Research and Development Centre for Iron and Steel (RDCIS) the Centre for Engineering and Technology (CET) and the Management Training Institute (MTI). The IISCO-Ujjain Pipe and Foundry Company Limited, a subsidiary of IISCO, produce cast Iron Spun Pipes at its works at Ujjain (Madhya Pradesh). The marketing of products of SAIL plants is done through the Central Marketing Organisation (CMO), Calcutta which has a country-wide distribution net-work.

2. SAIL (Excluding Subsidiaries)

2.1 Finance

The authorised capital of SAIL is Rs. 5,000 crores. The paid up capital of the company was Rs. 3,985.89 crores as on 31st March, 1991 including Rs. 4.38 crores as share money pending allotment.

2.2 During the year the Company repaid loans to the Government and to steel Development Fund to the tune of Rs. 191 crores. The outstanding loans at the end of the year 1990-91 stood at Rs. 478.28 crores from Government of India and Rs. 2,855.71 crores from the Steel Development Fund as against Rs. 392.03 crores and Rs. 2,467.58 crores respectively as on 31st March, 1990.

The cash expenditure of Rs. 1346.66 crores (inclusive of interest) on various capital schemes during the year was financed from internal resources, drawls from Steel Development Fund and other borrowings. To finance foreign exchange component of these capital schemes, SAIL arrenged External Commercial Borrowings (ECB) of DM 43.61 million and US $ 3 million for Durgapur modernisation and 0.2 billion Yen for Salem's Z-Mill. Further, SAIL also contracted DM 33.25 million from Finnish Export Credit for Durgapur Modernisation.

The Company also mobilised deposits from the public to the tune of Rs. 451 crores during 1990-91 despite stiff competition in the capital market. The net deposits (i.s. net of payments and renewals) increased to Rs. 1054.91 cro-res from a level of Rs. 846.78 crores as on 31st March, 1990 registering an increase of about 25 per cent.

2.3 Turnover and Profit

The Company recorded its highest ever turnover of Rs. 8184.10 crores during the year registering an increase of 10% over the previous year. The profit before tax for the year was Rs. 248.26 crores after providing interest and depreciation of Rs. 961.97 crores.

2.4 Capital Expenditure

The overall expenditures on various capital schemes during the year at Rs. 1346.66 crores was the highest eve. A sum of Rs. 295.33 crores was spent on continuing schemes, Rs. 584.06 crores on modernisation and other new schemes to Rs. 444.06 on additions & modifications and replacement schemes and Rs. 23.21 crores on township, research and development and feasibility studies.

3. Production Performance

3.1 The Hot Metal, Crude Steel and Saleable Steel production at the Integrated steel plants at Bhilai, Durgapur, Rourkela and Bokaro registered a growth of 1.1.%, 6.4% and 4.6% respectively over the previous year. The capacity utilisation for Crude Steel and Saleable Steel increased by 4% to reach a level of 79% and 83.6% respectively. Also saleable steel production at Alloy and Special Steel plants at Durgapur and Salem registered an impressive growth of 7.7% and 31.5% respectively over previous year.

3.2 The main constraints of production were delay in recommissioning of BF No. 2, poor health of BF No. 4 at Durgapur which was overdue for capital repairs and inadequate, irregular and inconsistent supplies of metallurgical coal affecting particularly the productivity of sensitive large furnaces at Bokaro coupled with severe problems of power supply from DVC.

3.3 Higher production of value added steel products particularly micro alloy semis and rounds; 90 UTSARails; Galvanised Sheets; CR Coils/Sheets and Plates contributed significantly to the improved Gross Margin. The improvement in volume and product-mix was supported by increased utilisation of captive facilities and overall reduction in specific energy consumption.

3.4 Energy Conservation

The continuing emphasis on various energy conservation measures reduced the energy consumption further by about 2.2% over the previous year.

3.5 Equipment Performance

The maintenance of assets continued to receive close attention by elaborate planning and execution of capital repairs and preventive maintenance programmes resulting in satisfactory equipment availability and also production of quality special grade products.

3.6 Import Substitution

The import substitution efforts continued during the year, which resulted in indigenisation of about 731 items valued at Rs. 18 crores.

3.7 Ancillary Industry

The Development of small scale ancilliary units received due encouragement. There are more than 2000 small scale and ancilliary units supplying spares and stores items to the Steel Plants on a regular basis. Purchases from there units during the year amounted to Rs. 106 crores.

3.8 Captive Mines

The production of raw materials from captive mines was 19.150 million tonnes during the year and the purchased material was to the tune of 3.940 million tonnes during the year. The total receipt of material at the different plants was 57.550 million tonnes including imported coal.

3.9 Captive Power Generation

The captive power generation during the year was 7 per cent higher than that during the previous year.

3.10 Environment Management

The thrust on Environment Management at plants and mines was maintained during the year. A number of recommendations made by Australian Consultants M/s.-BHPEI-Kinhill have been implemented resulting in improvements A major scheme for on-main charging in Fuel Coke Oven batteries at RSP, DSP and BSL has been taken up under a World Bank Scheme and is scheduled to be completed by 1993.

4. Marketing Performance

4.1 The Company supplied 6.08 million tonnes of mild steel and 0.48 million tonnes of pig iron to the domestic market during the year. With continued emphasis on fulfilling demands of Small Scale Sector, supplies of Mild Steel to State Small Industries Corporations etc. were increased by 34% compared to the supplies made during the previous year.

4.2 The year also witnessed the highest ever sales of the products of Alloy Steels Plant at Durgapur at 7.5 thousand tonnes. The domestic sales of Stainless Steel from Salem Steel Plant was 35.2 thousand tonnes registering an increase of 31 per cent over the previous year.

4.3 The Company exported plants to USA, Japan and Europe amounting to Rs. 110 crores during the year. In addition, Stainless Steel valued at approximately Rs.15 crores was also exported. SAIL's plates were accepted well in the International Market.

4.4 The Company continued further expansion of its distribution net-work with opening of extension counters at Bhopal and Jodhpur during the year. Emphasis on upgrading and modernising stockyards was also given.

5. Capital Schemes

5.1 Bhilai Steel Plant

The commissioning of the additional unit i.e. Vacuum Arc Degassing unit marked the completion of 4 MT stage of BSP.

5.2 Durgapur Steel Plant

The work on the Ren-ovation and Technological Upgradation for (Modernisation) project of DSP is in progress. The Basic Engineering for most of the turnkey packages have been completed and civil works are in an advanced stage of completion.

5.3 Bokaro Steel Plant

With the commissioning of continuous Annealing Line, the last unit of Cold Rolling Mill Complex, the 4 MT stage of Bokaro Steel Plant has been completed.

5.4 Rourkela Steel Plant

The works relating to Phase-I packages of Rourkela Steel Plant modernisation were in progress. Orders for 11 main indigenous packages under Phase-II were finalised during the year. The remaining 4 indigenous packages and 5 global packages were under evaluation (and orders are expected to be placed shortly).

5.5 Salem Steel Plant

The phase-II expansion of SSB comprising of installation of second Sendzimir Mill and associated facilities have been completed ahead of scheduled completion date of September, 1991.

6. Corporate Planning

6.1 The exercise for SAIL Corporate Plan upto 2005 A.D. was initiated during the year. The main thrust in this exercise has been given towards maximization of internal resources generation which encompasses the optimum utilization of the capacities, improvement in quality of products, cost reduction, improved customer interaction and marketing operation and thrust on exports.

7. Research, Development and Design Activities

7.1 The efforts of SAIL's Research and Development Centre for Iron & Steel (RDCIS) have resulted in improving the quality and productivity indices in different plants. With the efforts of RDCIS imported technologies have been successfully adopted and absorbed in the SAIL plants viz. the Partial Briquetting of Coal Charge (PBCC) technology has been assimilated at Bhilai and ISID technology for desulphurisation has been evaluated at Bokaro and Bhilai, RDCIS is also engaged in basic research activities in frontier areas like the direct casting of thin strips.

8. In-House Engineering & Technology Services

8.1 The Centre for Engineering and Technology (CET), the in-house Design and Consultancy Organisation of SAIL provided the complete design and engineering services for setting up of a 530 M3 Blast Furnace at VISL, Bhadravati. It handled the modernisation of B.F. No.6 of Bhilai Steel Plant and carried out complete design and engineering for successful implementation of PLC in burden charging in B.F. No.2 of Bokaro Steel Plant. Also with CET's efforts the Ceremic Welding Technology of Fosbel, U.K. has been introduced in coke ovens at Bokaro and ESTS (Hoogoven)s) Stove technology for higher blast temperature has been introduced in two stoves of B.F. No. 6 at Bhilai.

9. Inter-Plant Standardisation (IPSS)

During the year 1990-91, 20 additional Standards were formulated bringing publication of total cumulative IPSS standards to 415.

10. Human Resources Management

10.1 The thrust on better utilisation of human resources and improvement in work practices continued. In this pursuit to improve work-culture, productivity, various measures were adopted and number of workshops in the plants were organised during the year.

10.2 Manpower Strength

The total manpower of the Company as on 31st March, 1991 was 1,92,364 comprising 18,911 executives and 1,73,453 non-executives as against the position on 31st March, 1990 which was 1,94,915 comprising of 18,319 executives and 1,76,596 non-executives.

the works manpower productivity was 77 ingot tonnes per man year registering an increase of more than 8% over the last year. 3000 employees, after giving proper training, were re-deployed during the year as against 2051 during the last year.

10.3 Training

The Company continued to put special emphasis on training and 89,392 employees were trained under various programmes as against 74,565 during the last year.

10.4 Work Culture and Employees Welfare

Steps like the reduction in shift change-over delays, redeployment of manpower and flexibility in

I.G. Hospital - Rourkela

the working system were further strengthened during the year. There were also concerted attempts at improving the administration of both statutory as well as other welfare facilities. The grievances handling system was further strengthened by emphasising more on informal means and on direct contacts. Considerable efforts were made to improve participation of employees and get them more involved in the over all functioning of the Company. Meetings at regular intervals were held with various trade unions and officers' associations both at the plant and corporate levels on the issues relating to production and productivity. The Company also extended the mediclaim benefits to the retired employees and their spouses as a social security measure.

10.5 Safety

Considerable efforts were taken to further strengthen the safety and occupation health. Special measures were taken in the area of safety for contactual workers. Various training programmes towards safety awareness and techniques were organised.

10.6 Scheduled Castes and Scheduled Tribes

Scheduled Caste and Scheduled Tribe employees constituted 12.62% and 9.75% of the total manpower respectively. Intake of SC and ST candidate was 33.15% of the total recruitment during the year 1990. The share of SC/ST employees in promotions was 15.77%. In accordance with Government instructions, special recruitment drives exclusively for SC/ST candidates were undertaken and more than 500 persons were recruited in SAIL plants and units through these efforts.

10.7 Industrial Relations

Industrial relations during the year were generally peaceful and productive.

10.8 Official Language

For implementing the Official Language Policy of the Government an effective scheme was launched centrally from Corporate office for imparting training in Hindi to non-Hindi knowing employees. 1,915

employees have been trained in Hindi under this scheme. The Company was awarded a Trophy by the Ministry of Steel for doing good work in Official Language Implementation.

10.9 Peripheral Development

On peripheral development activities like Drinking Water, Education, Road & Bridges, Medical and Community Centres etc. in the prescribed area of the steel townships, a sum of Rs. 1.14 crores was spent during the year 1990-91.

10.10 National Awards

Shri M.M. Singh Saini of Captive Power Plant, Rourkela Steel Plant was awarded "Shram Bhushan" Award for the year 1990 by the Prime Minister. In addition five employees also received "Vishwakarma National Award' for the year 1988 and 1989 during the year.

Subsidiaries

1.1 The Indian & Steel Company Limited

The Indian Iron and Steel Company Limited (IISCO), owns and operates an integrated steel plant as Burnpur, captive iron ore mines at Gua and Monoharpur, captive collieries at Chasnala, Jitput and Ramnagore, a coal washery at Chasnala and a large foundry complex at Kulti. The management of IISCO was taken over by the Government of India on the 14th July, 1972. Shares held by the private parties were acquired by the Central Government on 17th July, 1976. the shares held by the public financial institutions etc., were also purchased by Central Government and subsequently all these shares were became a wholly owned subsidiary of SAIL on 30th March, 1979.

As a part of the physical restructuring of IISCO the management of Kulti works and also the collieries and ore mines of the company were taken over by SAIL in January, 1990 in terms of the Power of Attorney executed by IISCO.

1.2 Production Performance

The highest yearly records since Government take-over were created for the production and despatches of Pig Iron. Also, annual performance plan targets for ovens pushing and Hot Metal production were surpassed. Rolling of structural, special sections and Heavy Rails also set-up new annual records, Major techno-economic parameters showed improvements as compared to last year.

At Kulti, the Foundry Complex produced 49 thousand tonnes of Castings. However, Spun Pipe Units continued to be affected on account of paucity of orders. For the first time during the year one set of large Bell and Hopper for Bhilai Steel Plant was successfully cast at pit side of Steel Plant was successfully cast at pit side of Steel Melting Shop in Burnpur.

Coal raisings from three Captive Collieries totalled 574 thousand tonnes and production of clean coal from Chasnala Washery was 479 thousand tonnes.

Production of lump ore from Gua and Chiria Ore Mines was 922 thousand tonnes.

1.3 Capital Schemes

A new 600 tonnes/day Pig Casting Machine was commissioned in March, 1991. The rebuilding of No. 9 Coke Oven Battery and By-Product Plant was completed and the Battery operation was inaugurated during April, 1991.

The updated and the supplementary Modernisation proposal for Burnpur Works, with production capacity of 2.15 Million Tonne Crude Steel per annum in two phases with the first phase having an estimated Capital Cost of Rs. 6520 crores has been cleared by the public investment board to be placed before the Govt. for approval.

Projects for Ore Screeing Plant for improvement of Ore feed to Blast Furnaces, Replacement of water supply system at Riverside Water Works and Augmencation of Electric supply for Burnpur Township are under implementation.

Te underground mine development work of Coal raising at Chasnalla Upper Seam Development is continuing. Production has started and first longwall face is expected to function by June, 1992.

The proposal for appointment of Messers. MONTAN Consulting GmbH for detailed engineering works for the West Section of the Chasnalla Deep Mines has been approved Meanwhile, cleaning, re-supporting and rehabilitation of old galleries are in progress.

1.4 Financial Performance

The turnover of the Company in 1990-91 at Rs. 489.91 crores was higher by 4 per cent over the previous year. The nat loss for the year was Rs.133.55 crores as compared to Rs. 138.08 crores during 1989-90. The lower loss was due to improved product-mix and better techno-economics after absorbing escalation in input prices.

The authorised share capital of the company including the preference shares is Rs. 550 crores. The paid up share capital at the year end was Rs. 386.28 crores (including share-money pending allotment of Rs. 4.34 crores). SAIL provided Rs. 4.34 crores as equity funds and Rs. 128.16 crores as loans for Capital Expenditure and working capital needs of IISCO.

1.5 Sales and Marketing

Pig Iron sale of 211 thousand tonnes registered an increase of 43 per cent over previous year. However, there was a marginal drop in saleable steel turnover. Sales of Cast Iron Spun Pipes were affected adversely due to paucity of funds with major customers and competition from cheaper substitutes available in the market. Sale of castings to sister plants of SAIL improved by about 39 per cent over previous year.

1.6 Human Resource & Management

Industrial Relations situation remained generally peaceful during the year. Emphasis continued to be laid on improvement of the quality of training, multi-skill training, modernisation training, technical literacy training etc. 1,975 executives and 5,232 non-executives were trained in various fields during the year.

Scheduled Caste and Scheduled Tribe employees constituted 16.5 per cent and 21 per cent respectively of the total number of employees. Intake of SC and ST candidates was 34.5 per cent and 20.7 per cent respectively of the total recruitment during calender year, 1990.

The thrust on safety continued during the year through seminars, drama competitions, training programmes and display of posters etc. at conspicious places.

The Company continued to pursue vigorously the implementation of the Official Language Policy of the Government. The Company won the Shield for maximum work done in Hindi during 1989-90 in the 'C' Region.

2. IISCO Ujjain Pipe & Foundry Company Limited

2.1 IISCO-Ujjain Pipe & Foundry Company Limited (IISCO-Ujjain) is a wholly owned subsidiary of the Indian Iron & Steel Company Limited, which in turn is a subsidiary of Steel Authority of India Limited. IISCO-Ujjain manufactures Cast Iron Spun Pipes in the range of 80mm to 350mm dia sizes in its works at Ujjain.

2.2 Production Performance

IISCO-Ujjain produced about 36 thousand tonnes of Cast Iron Spun Pipes during the year registering a growth of 2.75 per cent over the previous year. During the year stress was laid on production of pipes in smaller sizes of 80mm and 100mm.

2.3 Financial Performance

During the year turnover of the Company at Rs. 30.64 crores, improved by 14.6 per cent over previous year. Net profit for the year was Rs. 9.62 lakhs. The authorised capital is Rs. 4 crores of which paid-up capital is Rs.3 crores. The Company incurred an expenditure of Rs. 8.86 lakhs during the year on various capital schemes.

2.4 Sales Marketing

The recession in the Cast Iron Spun Pipes demand in the country continued. The order booking during the year was 34.2 thousand tonnes against 36 thousand tonnes during the previous year. However, the sales despatches increased from 33.8 thousand tonnes in 1989-90 to 36 thousand tonnes in 1990-91.

2.5 Industrial Relations

The Industrial Relations situation in the Company remained congenial and peaceful during the year.

2.6 Use of Hindi

The Company continued to make good progress in regard to use of Hindi in official work.

Maharashtra Elektrosmelt Limited

3.1 Background

Maharasthra Elektrosmelt Limited is a subsidiary of SAIL, situated in Chandrapur, Maharashtra and is a major producer of Ferro Manganese and Silico Manganese. It is also diversifying into other ferro alloys.

3.2 Financial Performance

The Company achieved the highest turnover of Rs. 89.72 crores during 1990-91. It recorded the highest net profit of Rs. 2.19 crores after providing for arrears of depreciation and prior-period adjustments. The authorised capital of MEL is Rs. 10 crores. The subscribed and paid-up capital is Rs. 4.99 crores. SAIL holds about 96% of the paid-up capital.

3.3 Production Performance

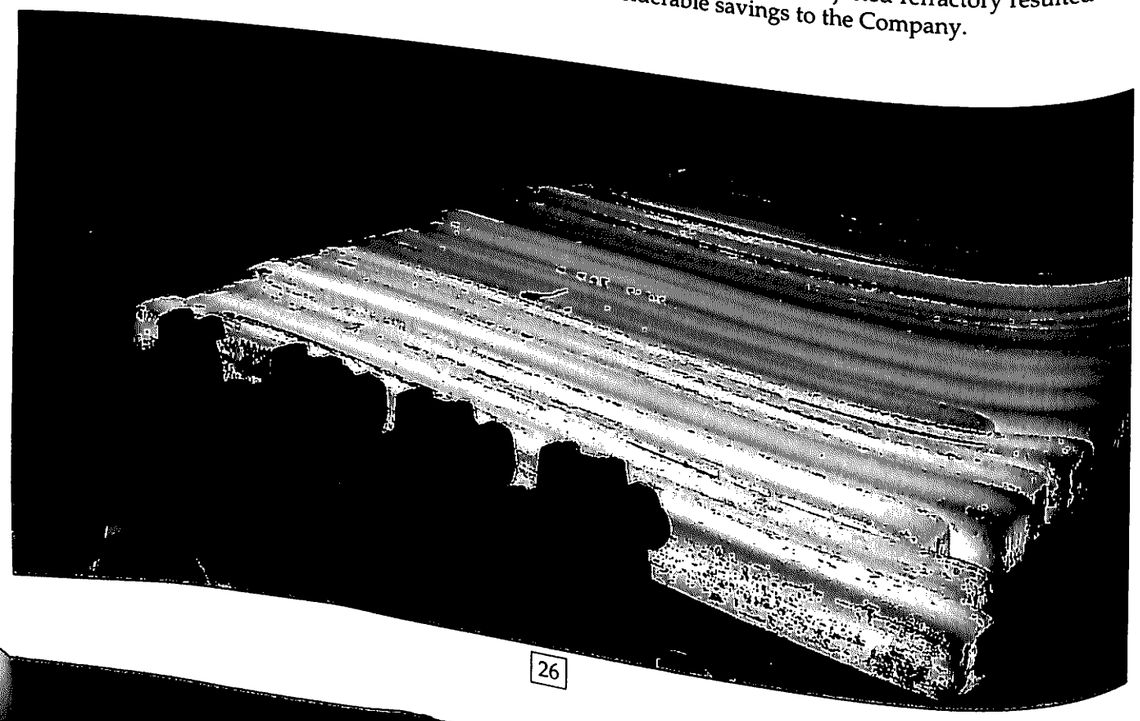
During the year, stress was laid on the higher production of value added products specially Medium Carbon Ferro Manganese. For the first time in India large scale production of medium carbon ferro manganese through the Bottom Blown Convertor partly using the existing steel facility was commenced. The overall production of Ferro Alloys during the year was 81 thousand tonnes and sales 76.5 thousand tonnes. The Company continued to give great importance to conserve energy. Use of internally generated furnace gas in lime calcination and ladles in place of costly furnace oil was stepped up.

3.4 Research & Development

The unit of High pressure sintering of manganese ore was successfully commissioned in July '91 in the form of commercial unit capable of producing 100 tonnes a day fluxed manganese ore sinter for the first time in the country and possibly also in the World.

3.5 Technology Absorption, Adaptation & Innovation

MVA furnace for commercial production of medium carbon ferro manganese was successfully erected and commissioned. This furnace can produce other value added special ferro alloys. Conversion of high carbon ferro manganese fines into lumps was undertaken through this Furnace Innovative lining of rejected slag pots with rejected refractory resulted in considerable savings to the Company.



Raw material conveyer system at VISL

Visvesvaraya Iron & Steel Limited

4.1 Visvesvaraya Iron & Steel Limited, situated in Bhadravati, Karnataka is a subsidiary of Steel Authority of India Limited. It is a major producer of Special & Alloy Steels, Mild Steel and Ferro Alloys.

4.2 Financial Performance

The authorised capital of the Company as on 31st March, 1991 was Rs. 100 crores, of which subscribed and paid up capital was Rs. 81.92 crores. Out of the paid up capital 60 per cent is held by SAIL and the balance 40 per cent by the Government of Karnataka.

For the second consecutive year, after SAIL's takeover in August, 1989, the Company has been able to avoid cash loss. The Company registered a record sales turnover of Rs. 152 crores registering an increase of 17 per cent over the previous year. The year ended with a marginal loss of about Rs. 1.30 crores, after providing for depreciation and interest of Rs. 7.24 crores and absoring an additional burden of about Rs. 6 crores on account of steep rise in power tariff.

4.3 Production Performance

Production of 74 thousand tonnes of Saleable Steel, of which 58 thousand tonnes was Alloy & Special Steels, registered a growth of 14 per cent over the previous year. Similarly, Ferro Silicon Production at 15 thousand tonnes, increased by 32 per cent over last year. After a lapse of 4-5 years production of Stainless Steel flats and High Speed Steel was resumed.

4.4 Capital Schemes

A sum of Rs. 6.31 crores was spent during the year on the on-going capital schemes. Central Government accorded sanction for installation of 530 Cu.M. Blast Furnace at estimated cost of Rs. 49.35 crores. The work is progressing satisfactorily. SAIL's inhouse Centre for Engineering & Technology (CET) has provided all the design and engineering services for it.

4.5 Marketing

Despite stiff competition in Alloy and Special Steels market and significant drop in orders from Defence, sale of Alloy & Special Steels at 57.5

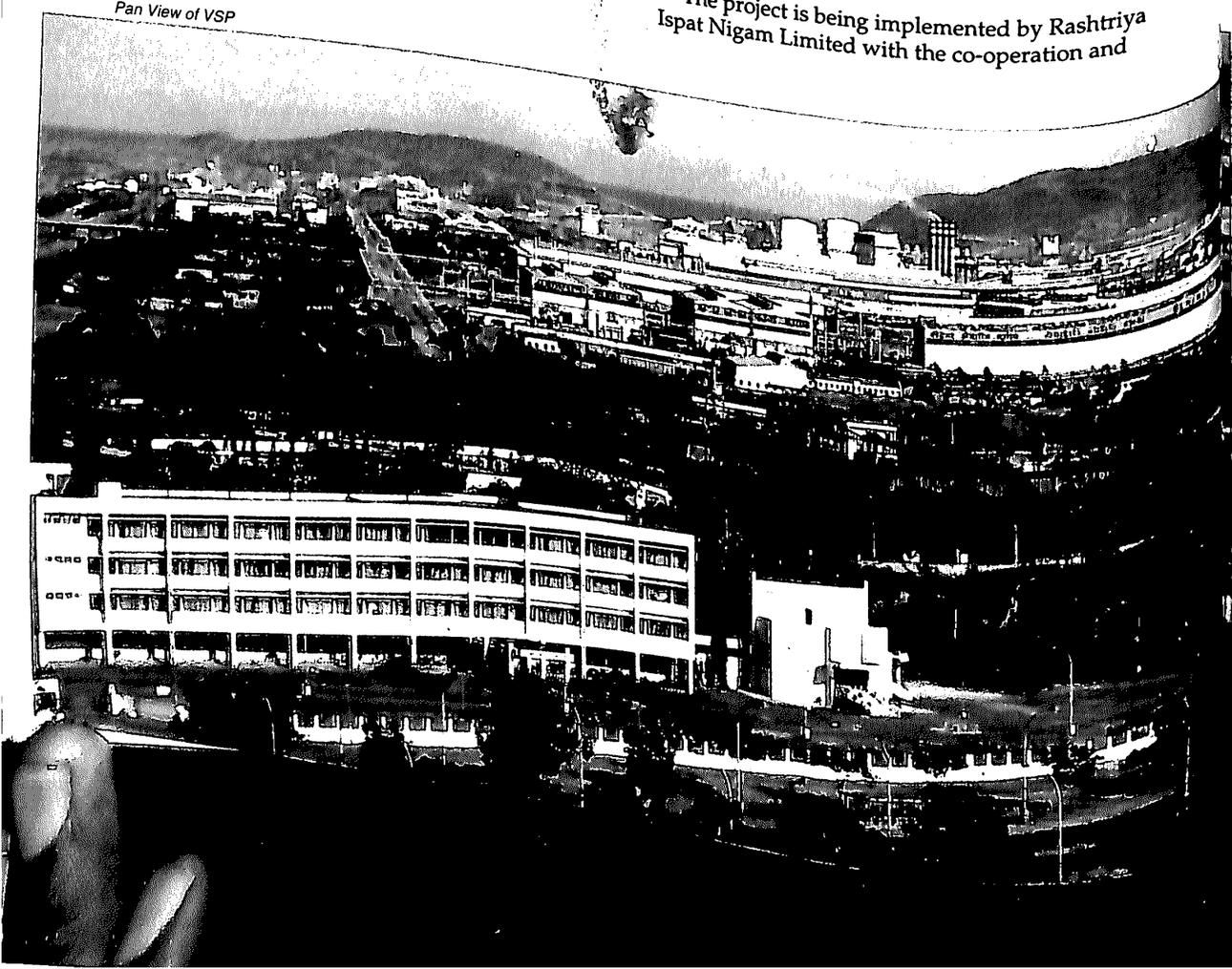
thousand tonnes registered an increase of 8.6 per cent over the previous year. Though the Gulf crisis had caused severe constraints in road despatches due to diesel shortage, total sales turnover was the highest ever.

In order to streamline marketing of alloy and special steel products, integrated marketing approach was introduced from October, 1990 in partnership with ASP, Durgapur. Also SAIL Stockyards at Bombay, Delhi, Calcutta and Madras commenced sale of VISL products.

4.6 Human Resource Management Review

Emphasis continued to be laid on better utilisation of human resources and improvement in work culture. Overall industrial relations continued to be satisfactory. About 1798 non-executives and 399 executives were trained in different areas of skill development. During the year 402 employees were trained and redeployed. Percentage of Scheduled Castes and Scheduled Tribes to total employment was 12.1 and 0.8 respectively.

Pan View of VSP



Rashtriya Ispat Nigam Limited (Visakhapatnam Steel Project - VSP)

Background:

Setting up of an Integrated Steel Plant at Viskhapatnam in Andhra Pradesh with an annual capacity of 3.4 million tonnes of Crude steel per annum was approved by Central Government in June, 1979 at an estimated cost of Rs. 2256 crores. This is the first shore based Integrated Steel Plant being set up in India. The location is advantageous as part of its coking coal requirement can be met through imports. Export of steel would also be facilitated. Being a major producer of quality steel, the project when completed will contribute to accelerated development of Andhra Pradesh and also in the removal of regional imbalance, thereby contributing to the balanced growth of the Southern Region.

The project is being implemented by Rashtriya Ispat Nigam Limited with the co-operation and assistance from the Government of USSR and to this effect an agreement was signed between India and the USSR on 12.6-1979. Total credit of 390 million roubles from USSR was earmarked for VSP.

2. Project Profile

The plant is designed to adopt some of the most modern technologies, which include:

- Selective crushing of coal.
- 7 metre tall coke ovens.
- Dry quenching of coke with auxiliary power generation facilities.
- On ground blending of sinter base.
- 3200 M^3 Blast Furnace.
- Conveyor charging and bell-less top charging for Blast Furnace.
- Torpedo Ladle for Steel Melt Shop in addition to Coventional Mixer.
- Cast house slag granulation for Blast Furnace
- 100% Continuous Casting of Liquid Steel.
- Gas Expansion turbine for power generation utilising Blast Furnace gas top pressure.
- Hot Metal Desulphurisation.
- Extensive treatment facilities for effluents for ensuring proper environmental protection.
- Computerisation for process control.
- Sophisticated high speed and high production rolling mills.

3. Revision of Project Concept and Cost

Based on Detailed Comprehensive Project Report prepared by M/s M.N. Dastur & Co. Limited, Principal Consultants to the Project and in consulation with the Soviets, the cost estimates of the project were approved by Government at Rs. 3897.28 crores (base 4th Qtr. 1981 prices) in July, 1982.

Due to constraints in the fund availability affecting the pace of construction, a review of the project in May, 1984 revealed that it would suffer serious

slippages in the completion schedule and also that the cost of the project would escalate steeply. As a result of the review, the Government approved a Revised Rationalised Concept under which the capacity of the liquid steel (crude steel) was reduced to 3 million tonnes from 3.4 million tonnes, and certain assets envisaged in the original concept were curtailed. The approved cost in June 1988, as per rationalised concept, was Rs. 6849.70 crores (base 4th Qtr. 1987 prices). The cost of the project has increased for various reasons, including delay in supplies from USSR, impact of devaluation of rupee and other levies imposed from year to year. The cost estimate of Rs. 8349 crores (3rd quarter, 1991 prices) as projected by VSP management are under examination.

4. Progress of Construction and Commissioning

The Project is being implemented in two stages of 1.5 million tonnes capacity of crude steel each. All the Units under Stage-I comprising one Blast Furnace, two Coke Oven Batteries, one Sinter Plant, two converters alongwith four Continuous Casting machines in the Steel Melting Shop, Wire Rod Mill and Light and Medium Merchant Mill have been completed and commissioned. These units are in the process of stabilisation.

Continuous Casting Machine No.4 and Sinter Plant No.2 of Stage-II were commissioned on 13th September, 1991 and 16th December, 1991 respectively. Blast Furnace No. 2 and Medium Merchant Structural Mill the other two major units were commissioned on 28.3.92. Coke Oven Battery No.3 was also lighted on 29.3.92. The project is scheduled to be completed and commissioned by later half of 1992.

Blast Furnace No. 1 was commissioned on 29th March, 1990, the production of pig iron commenced and the despatch of pig iron was commenced on 12.4.1990. Pig iron produced in Visakhapatnam Steel Plant has been accepted to be of very high quality.

Steel Production commenced on 6th September, 1990 i.e. within 5 months of the commissioning of Blast Furnace.

The unique feature of the Converter and 100% Continuous Casting route is that the entire liquid steel produced in the Converter is cast in the form of blooms. This was done successfully in VSP for the first time in India, resulting in simultaneous commissioning of two independent major shops viz. Steel Melt Shop and Continuous Casting Shop.

Production of Finished Products started on 21.11.1991 with the commissioning of Wire Rod Mill. The products from this Mill are of international standards.

The construction of VSP was affected due to some slippages on the part of various construction/supply agencies. These have, however, been overcome by vigorous follow up and suitable measures including innovative steps taken to replace some of Soviet equipments by Indian supplies.

5. Progress of External Infrastructural Facilities

5.1 Water:

The water requirement of VSP is being met by Government of Andhra Pradesh from Yeleru Water Supply Scheme. The scheme was completed on 30-6-1991 and water started flowing into VSP's reservoir from 9-7-1991. The water supply to the steel plant is now fully assured.

5.2 Power:

The total power requirement of VSP at 3.00 MT capacity is 288 MW. APSEB has to supply 150 MVA power and the balance power requirement is to be met by VSP's own generation. VSP is examining the possibility of setting up capacity for 135 MV captive power in addition to existing Captive Power Plant generating presently of around 100 - 120 MW of power to ensure uninterrupted supply.

5.3 Railways:

The facilities for movement of raw materials for the Stage-I have almost been completed by the Railways. The facilities for movement of raw materials on completion of 3 million tonne capacity of VSP are being taken up by the Railways.

6. Budget and Expenditure

6.1 Budget Provision:

The approved plan outlay for 1991-92 was Rs. 752 crores. An amount of Rs. 398.93 crores was provided

as budgetary support. A sum of Rs. 9.46 crores is available to the Project from Suppliers/Buyer's credit and the balance of Rs. 343.61 crores was to be arranged by way of inter-corporate loans. The inter-corporate loans of Rs. 350 crores were tied up with LIC (Rs. 150 crores), UTI (Rs. 150 crores) and IDBI Rs. 50 crores.

6.2 Expenditure:

The actual expenditure during April, 1991 to January, 1992 was Rs. 612 crores and the cumulative expenditure on the Project till end of January, 1992 was Rs. 7289 crores.

7. Production:

Production during 1990-91 and 1991-92 was as follows:-

(in '000 tonnes)

Item	During 1990-91	During 1991-92			
		Annual Target	April 1991 - January, 1992		
			Target	Actual	% achievement
1. Hot Metal	684	1370	1100	958	87.1
2. Crude Steel	112	880	680	440	64.7
3. Saleable Steel	137	779	571	349	61.1
4. Pig Iron	521	500	425	497	116.9

The production of crude steel during the period April, 1991 to January, 1992 has been below the targets because the units under Stage-I commissioned sequentially during the year, are still in the process of stabilisation.

The Blast Furnace No. 1 produced 6049 tonnes of Hot Metal on March 8, 1992 against its rated capacity of 4660 tonnes per day. Thus, achieving an utilisation capacity of 125%. With the production of 5.21 lakh tonnes of pig iron during 1990-91 and further quantity of 4.97 lakh tonnes till January, 1992, the country's dependence on imports for this item has been considerably reduced.

In the techno-economic performance, Visakhapatnam Steel Plant has shown remarkable achievement in the following areas:-

(a) Coke Quality :

The Blast Furnace coke quality has shown an improvement in its strength by achieving average 81.2% Micum in M-40 size against the norm of 75% Micum and similarly in M-10 size it achieved average of 7.54% Micum against norm of 9.0% Micum till end of December, 1991.

(b) Coke Rate:

The coke rate in May, 1991 was 639.8 Kg. per one tonne of hot metal against the DPR norm of 627 Kg. per one tonne of hot metal. By end of January, 1992, the plant have brought down the coke rate to 568 Kg. per one tonne of hot metal, which is far below the DPR norm of 627 Kg. per one tonne.

(c) Yield in the Mills:-

In the Billet Mill (i.e. from bloom to billet) the plant achieved an average yield of 96.9% till end of December, 1991 against the norm of 97%. In the Wire Rod Mill (i.e. from billet to wire rod) the average yield till end of December, 1991 was 94.1% against the norms of 96%. In the first year of production the yield normally remains around 90-92%.

(d) Reduction in Oil Consumption:-

The oil consumption in the power plant in Visakhapatnam Steel Plant has been considerably brought down from the budgeted average of 4.38 litres per tonne of steam to average 1.56 litres till end of December, 1991. This has become possible by optimum utilisation of internally generated excess coke oven and blast furnace gases and by undertaking some modification in reduction of oil consumption.

(e) Coal Consumption in Power Plant:-

The coal consumption per tonne of steam in the power plant has been brought down from the budgeted norm of 165 Kg. per tonne of steam to 154.8 Kg. per tonne of steam till end of January, 1992.

8. Raw Materials

8.1 Iron Ore:

VSP's requirement of iron Ore is being met by National Mineral Development Corporation from Bailadila Mines.

8.2 Coking Coal

As per the design, the coking coal blend for VSP should contain 20% of imported Prime Coking Coal

35% of indigenous Prime Coking Coal and 45% of indigenous Medium Coking Coal. The indigenous Prime Coking Coal is to be supplied from Pootki and Bhalgora washeries when these become operational. For the present requirement of Prime Coking Coal is being met through imports.

8.3 Boiler Coal

VSP is linked to Anantha Mines in Orissa. Till these mines become fully operational, Boiler Coal is being supplied from other areas like Talcher in Orissa.

8.4 Dolomite

VSP is getting the SMS Grade Dolomite from its captive mine at Khammam. Bisra Lime Stone Co. Ltd., Birmitrapur is supplying the BF Grade Dolomite.

8.5 Lime Stone

VSP has its own mine at Jaggayyapeta in Andhra Pradesh for the BF Grade Lime Stone. SMS Grade Lime Stone is being procured partly by imports and partly from indigenous sources.

9. Marketing

VSP has its own marketing set-up to sell its products. The work on the construction of the 3 stock-yards at Madras, Bombay and Hyderabad, is in advanced stage. The consignment Agencies already in operation are at Agra, Ahmedabad, Banaglore, Calcutta, Coimbatore, Chandigarh, Delhi, Faridabad, Ghaziabad, Indore, Kanpur, Pune, Patna and Visakhapatnam.

The marketing operations will be fully computerised for which software has already been developed and tested, and hardware will soon be ready.

The gross sales turn-over of VSP during 1990-91 was Rs. 245 crores. In 1991-92 it is estimated to be Rs. 800 crores.

10. Export

In view of the good quality of the products, VSP proposed to export its Wire Rods. It started exports in November, 1991 with a trial consignment to Japan and again to Sri Lanka in January, 1992.

11. Environmental Protection

VSP has incorporated various pollution control measures to ensure that the environment is properly protected and preserved. The cost of the measures provided is of the order of Rs.460 crores. Massive afforestation programmes have been taken up in a phased manner over an area of about 3,600 hectares. Till November, 1991, more than 22 lakh trees have been planted. A total of 30 lakh trees would be planted by 1993-94, making one tree per each tonne of liquid steel.

12. Ancillary Development

Importance is being given by VSP for development of ancillaries in and around Visakhapatnam. A separate Cell has been formed to cater to the development of local industries. A Task Force consisting of representatives of the State Government and the VSP has gone into the aspect of ancillary development and identified 10 Upstream and 4 Downstream items based on VSP products. Letters of Intent have been issued to 52 entrepreneurs covering these items.

13. Personnel & Human Resource Development (HRD) Activities

13.1 General

VSP has been designed to be a sophisticated Steel Plant to be operating at high productive techno-economic parameters than achieved so far by the Steel Plants. A labour productivity of around 230 tonnes per man year has been planned. Towards this end, a relatively smaller but better qualified and trained manpower is being employed. In order to motivate the employees to achieve higher production and productivity levels, an innovative performance based incentive scheme has been introduced.

13.2 HRD Activities

VSP continued its thrust on Human Resource Development during the year. While core management development programmes continued for Frontline and Middle level Managers, the coverage was extended to Senior and Top levels of Management cadres during the year. After an intensive survey of training and organisation development needs, one Top Management Work-Shop and one Senior Management Development Programme were organised. The highlight of the

year, however, is the extension of need based training for Positive Attitude Development to the workmen. Tailor-made training for workmen have been planned during the year. Apart from training, HRD endeavour moved substantially into Performance. Appraisal and Communication area. Attempts are under way to hold specific work-shop in the skills of Target Setting, counselling, etc.

13.3 Manpower

The total Manpower in VSP as on 31.12.1991 is 15,768. This comprises of 2,236 executives and 13,532 non-executives. This includes about 4,000 personnel who are on the rolls to perform various functions like Construction, Design & Engineering, Mining and other staff functions. A special feature of VSP manpower is the high intake of Displaced Persons. As on 31.12.91, there are as many as 5,548 Displaced Persons working in VSP.

14 Representation of SCs/STs

As on 31.12.1991, Visakhapatnam Steel Plant has provided employment of 2,486 Scheduled Caste Persons and 725 Scheduled Tribe Persons. Percentage-wise it works out to 15.8% and 4.6% respectively.

Since the academic year 1989-90, a special scheme for grant of scholarships for the children of Scheduled Castes and Scheduled Tribes employees is in vogue. A scheme also exists to give scholarships to under-graduate Engineering Students belonging to Scheduled Castes and Scheduled Tribes categories.

In the matter of allotment of quarters, VSP provides reservation to the extent of 10% in A,B Types, LIG and executive flats. In respect of C, D Types and also MIG houses, the reservation is to the extent of 50%.

On the 14th October, 1991, Dr. Ambedkar Park was inaugurated where a life-size statue of Bharat Ratna Dr. B.R. Ambedkar was unveiled.

An Annual Merit Award Scheme has been introduced for 10th Class students based on the results of the final examination in the name of Dr. Ambedkar. The Merit Scholarship will continue every year.

The representation of SCs/STs, Ex-Servicemen, Physically handicapped persons and Women employees in the employment of VSP as on 31.12.1991 is given in Annexure-A

Annexure - A

Group	No. of Employees			SC			ST			Ex. Ser.			PHC		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
A	2174	62	2236	230	9	239	48	2	50	—	—	—	—	—	—
B	368	22	390	45	3	48	4	1	5	14	—	14	2	—	2
C	8377	174	8551	1238	41	1279	355	3	358	120	1	121	32	2	34
D (Excluding Safai Karamcharies)	1803	1	1804	291	2	293	134	—	134	122	—	122	27	1	28
D (Including Safai Karamcharies)	105	1	106	31	1	32	4	—	4	4	—	4	1	-	1
Trainees	2670	11	2681	590	5	595	173	1	174	—	—	—	—	—	—
Total	15497	271	15768	2425	61	2486	718	7	725	260	1	261	62	3	65

Kudremukh Iron Ore Company Limited

1. General

The Kudremukh Iron Ore Company Limited (KIOCL), which is a wholly owned Government of India Undertaking and the country's largest 100% EOU, was established in April, 1976 to meet the long term requirements of Iran. An Iron Ore Concentrate Plant of 7.5 MT capacity, which was set up at a cost of Rs. 517 crores, was to be financed in full by Iran. However, as Iran stopped further loan disbursements after paying US$ 255 million, the project was completed as per schedule with the funds provided by Government of India.

1.1 As a diversification measure, the Government approved the construction of a 3 million tonnes per year capacity Pellet Plant in Mangalore in May, 1985. The Plant went into commercial production in 1987 and is now exporting both blast furnace and DR grade pellets to as many as 9 countries including Japan, Hungary, Turkey, Australia, Indonesia.

2. Production

In 1991-92, KIOCL has targetted to produce 6.5 million tonnes of iron ore concentrates and 2.25 million tonnes of pellets. During the period April, 1991 to November 1991, production of 3.669 million tonnes of iron ore concentrates and 1.240 million tonnes of pellets has been recorded.

3. Exports

Having established itself as an exporter of good quality concentrate & pellets in the world market, the long term marketing strategy of KIOCL is to consolidate its position in the markets already entered into in the last five years, through medium and long term contracts for export of concentrates and pellets. In pursuance of this strategy, long term contracts have been concluded with major buyers such as Japan, Hungary, Indonesia and Australia.

KIOCL's exports during the year 1990-91 at Rs.228.98 crores represents an increase of 31% over the previous year. Between 1986-87 and 1990-91, the value of it's exports has gone up more than three times. The increase in export earnings during the last five years from 1986-87 and upto November, 1991 is detailed below:

(Rupees in lakhs)

Year	Concentrate	Pellets	Total	% increase over previous year
1990-91	11257	11641	22898	31.30
1989-90	7685	9755	17440	49.84
1988-89	5337	6302	11639	49.95
1987-88	5164	2598	7762	25.27
1986-87	5737	459	6196	61.65
1991-92 (upto Nov' 91)	11387	11956	23343	40.66

4. The authorised and paid-up share capital of KIOCL as on 31.11.91 were Rs.675.00 crores and Rs.634.51 crores, respectively.

5. Financial Performance

An overview of the financial performance of KIOCL during the year upto November, 1991 together with the figures for the previous three years, is indicated below:

(Rs. in lakhs)

Particulars	1991-92 (upto Nov'91)	1990-91	1989-90	1988-89
Total value of sales	23343	22898	17440	11639
Gross Margin	9553	8903	5524	2489
Total profit/loss on account of operations of the year	7791	6305	2495	(-)685
Inventories (excluding finished stock)	7712	8275	7281	5709

6. Manpower Position

As on October 31, 1991 the total number of employees in the KIOCL were as follows:

Group	Total No. of employees including SC, ST as on 31st November, 1991	SC in position	ST in position
'A'	432	29	8
'B'	171	10	2
'C'	1597	199	20
'D'	244	79	31
Total	2444	317	61

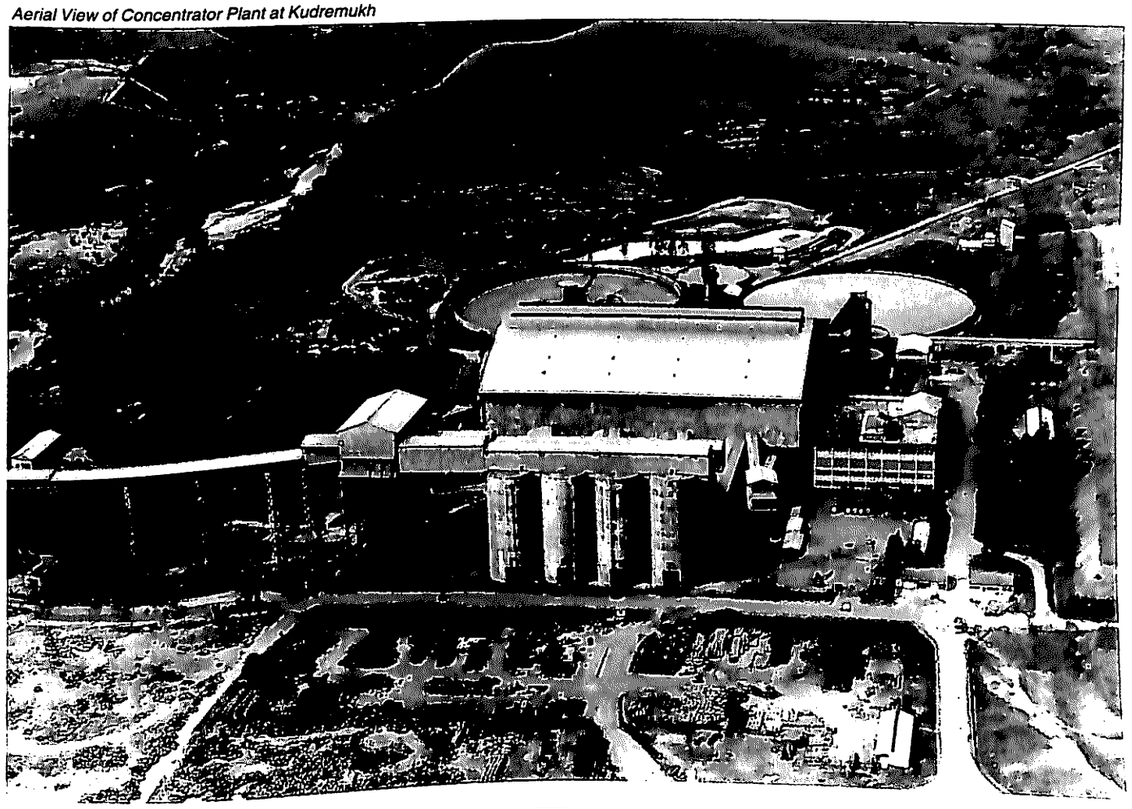
7. Worker's Participation in Management

KIOCL has set up 10 shop level councils and 2 joint councils at the apex level. The councils meet periodically to discuss measures for improving production and productivity. Besides this, KIOCL has constituted a Works Committee at its Kudemukh and Mangalore establishments comprising representatives of both workmen and management. These Committees deal with matters of general interest and have been functioning effectively.

8. Safety Measures

A safety Department functions independently in the Company. In addition, there is a Pit Safety Committee which includes representatives of the workers. This Committee meets regularly to discuss safety measures. As a matter of practice safety rules have been compiled for each work area, considering all safety aspects. All employees have been provided with these booklets. The company actively participates in the safety week celebrations organised by the Mines Safety Association.

Aerial View of Concentrator Plant at Kudremukh



7. Safety Measures

Over the years, ore deposits in MOIL's areas of operations near the surface are gradually getting depleted. Mining is extending to deeper horizons and extraction is increasingly done through underground workings. Deeper workings require extra vigilance with regard to support systems, ventilation and efficient filling of the voids arising out of extraction of ore. Even in respect of opencast workings depth has increased and hence judicious and selective use of plant and machinery has been resorted to, for safer and efficient workings. Emphasis is laid on training and re-training of employees to face the challenges associated with mining. In addition mine workings are regularly inspected by members of Pit Safety Committees, Workmen Inspectors, Safety Officers and Chief (Safety). Safety Weeks are observed and exhibitions are held to inculcate safety habits to ensure safe working. Safety Committee Meetings are regularly held during which any unsafe acts committed/observed are discussed to avoid recurrence.

8. Workers Participation in Management

Works/Canteen/Grievance Committees are functioning satisfactorily at each unit. The members of these Committees are from different sections of the employees. An effective mechanism exists for the association of workers representatives from the grass root level to the Apex Council at the Corporate Level. There is a continuing effort to strengthen this arrangement.

9. Environmental Protection

The Company has taken steps with regard to protection of environment. Planting of trees in large numbers on the lease-hold areas of the company has been taken up besides undertaking environmental studies covering different aspects such as impact of manganese on ecology, air and water pollution etc. Large scale plantation of trees at the company's mines has been programmed to be undertaken as an integral part of 8th plan.

10. Progressive use of Hindi

A separate Hindi Cell is functioning at the Corporate Office of the Company. Measures to popularise use of Hindi in the day to day activities of the company continued to be encouraged by organising 'Hindi Saptah' and 'Hindi Diwas' etc., during which various competitions were held and deserving employees suitably rewarded. Facilities for learning Hindi have been made available to employees who are not proficient in the language. Employees who pass the prescribed examination are given cash incentives in addition to awards under Government Schemes. MOIL was awarded the prestigeous prize for the best performance in the usage of Hindi - "Rajbhasha Chal Vajayanti" for 1988-89 by the Ministry of Steel & Mines (Deptt. of Steel). In addition, the company has been given an award by Nagar Rajbhasha Karyanvyan Samiti, Nagpur, for effective implementation of Hindi in official work.

11. Social Commitment

Consistent with the national policy to promote social welfare, MOIL has adopted a tribal village Gondi close to Ukwa Mine in Madhya Pradesh, and has introduced a wide range of development activities, such as repairs to roads, construction of houses for homeless tribals, construction of school building to impart education to tribal children etc. This is an ongoing exercise.

12. Personnel

The composition of the work force of the company as on 31st October 1991 was as under:

Group	SC	ST	Others	Total
A	13	8	186	207
B	12	6	144	162
C	337	415	1170	1922
D	1314	2157	3637	7108
Total	1676	2586	5137	9399

Out of the total number of 9399 employees 1934 are women.

Bharat Refractories Limited

1. Brief History

1.1 Bharat Refractories Ltd. (BRL) was registered as a company on July 22, 1974 as a subsidiary of Bokaro Steel Limited with only one unit located at Bhandaridah. With a view to develop and supply specialised refractories to the steel plants, BRL was restructured w.e.f. May 1, 1978. As a result of the restructuring, the Ranchi Road Refractories Plant at Ramgarh alongwith its captive sillimanite mines in Meghalaya and Bhilai Refractories Plant in Madhya Pradesh were brought under the umbrella of BRL. India Firebricks & Insulation Company Ltd. (IFICO) was also made a subidiary of BRL with effect from 1.5.78.

2. Capital Structure

2.1 Authorised share capital of the company was Rs. 50 crores as on 31.3.91 as against Rs.45.00 crores as on 31.3.90. The paid up capital as on 31.3.91 was Rs. 42.48 crores against Rs. 40.75 crores as on 31.3.90. The total outstanding loan together with interest accrued thereon as on 31.3.91 amounted to Rs. 83.57 crores as against Rs.75.42 crores as on 31.3.90.

3. Production Performance

3.1 The production performance of the various units of the company as well as the subsidiary IFICO during 1990-91 and actual production during April, 91 - Jan., 92 is given below:-

Value in Rs. lakhs
Qty. in MT

Name of Unit	1990-91		1991-92 (April 91 to Jan. 92	
	Qty.	Value	Qty.	Value
Bhandaridah Ref. Plant (BHRP)	17773	700.91	18967	1097.97
Ranchi Road Ref. Plant (RRRP)	5661	1072.13	5883	1183.21
Bhilai Ref. Plant (BRP)	27987	2620.38	22111	2294.39
Total of BRL	51421	4393.42	46961	4575.57
India Firebricks & Insulation Co. Ltd. (IFICO)	22469	2026.04	20814	1684.99

4. Financial performance

4.1 During the year 1990-91, the company (BRL) incurred a net loss of Rs. 965.84 lakhs after providing for interest and depreciation (including Deferred Revenue Expenditure) to the tune of Rs. 605.54 lakhs and Rs. 369.63 lakhs respectively. The company has incurred a net loss of Rs.952 lakhs during April, 91-Jan., 92 as against Rs.1046.19 lakhs during the corresponding period last year. During 1990-91 IFICO incurred a net loss of Rs.79.89 lakhs after interest and depreciation. In the current year in the first 10 months i.e. April, 91 - Jan., 92 it has incurred a net loss of Rs. 193.73 lakhs as against Rs.135.08 lakhs during corresponding period last year.

5. Foreign collaboration

5.1 Under collaboration with Kawasaki Refractories Company Limited (KRC) Japan, the subsidiary of Kawasaki Steel Ltd., BRL has introduced in India specialised products like Alumina-Carbon Sliding Gate Plates, Zircon based chemically Bonded Refractories and Low Cement Castables. BRL has also a technical know-how agreement with Shinagawa Refractories Company Ltd. (SRC), Japan, which is a subsidiary of a major Japanese Steel Producer, NKK for the production of coke-oven silica bricks. BRL has entered into a new agreement with SRC Ltd., Japan for the latest technology for the manufacture of a range of sophisticated refractories having applications for continuous casting and blast furnace operations in Steel Plants. The items to be manufactured are Blast Furnace Tap Hole Mud, Gunning & Coating Materials and Zirconia Open Nozzles and alumina-graphite sub-merged nozzles, Shrouds and Monoblock Stopper. Such production will meet the emerging needs of steel plants which are adopting improved technologies in their modernisation plans:

6. Research & Development

6.1 All the units and the subsidiary have laboratories equipped with facilities for testing, quality control and technological improvement. The R&D laboratories of the company and its subsidiary have been recognised by the Council of Scientific & Industrial Research, Ministry of Science & Technology, Govt. of India.

7. Industrial Relations:

7.1 Though some amount of industrial unrest affected production, the industrial relations were otherwise by & large peaceful in the Company.

8. Manpower

8.1 The position of manpower in different units of BRL/IFICO as on 31.3.91 was as follows:-

S. No.	Name of Unit	Total manpower	SC	ST	Women	Physically Handicapped
1.	BHRP	894	126	63	82	1
2.	RRRP	352	30	33	14	3
3.	BRP	1646	204	301	20	13
4.	Head Office	163	15	8	1	—
5.	PMP	24	2	—	2	—
6.	NS Mines	165	2	89	9	1
	Total of BRL	3244	379	494	128	18
	IFICO	1088	45	150	26	11
	Grand Total	4332	424	644	164	29

9. Safety Measures

9.1 Safety measures are being implemented in all the units as per provisions of the Factories Act, 1948 and are periodically reviewed by the Safety Committee appointed in different units and subsidiary of the Company.

10. Contract Labour

10.1 Contract Labour is engaged on non-perennial jobs. They are paid minimum statutory wages. In addition, they are extended other benefits like provident fund, medical facilities, leave etc.

11. Implementation of Official Language

The Company has been vigorously pursuing implementation of the official language policy of the Govt. Various schemes have been adopted to motivate employees to use Hindi progressively in their official work. Cash awards and commendation certificates were awarded to deserving employees.

National Mineral Development Corporation Ltd.

1. General

Incorporated on November 15, 1958, the National Mineral Development Corporation Ltd. (NMDC) is a wholly-owned undertaking of the Govt. of India engaged in the business of developing and exploiting mineral resources of the country (other than coal, oil, natural gas and atomic minerals). Presently its activities are concentrated on mining of iron ore and diamonds. NMDC operates the largest mechanised iron ore mines in the country at Bailadila (Madhya Pradesh) and Donimalai (Karnataka). The diamond mine is situated at Panna (Madhya Pradesh).

2. Iron Ore

2.1 Production

In 1990-91 NMDC produced 9.4 million tonnes of iron ore. During the period April, 1991 to November, 1991, 7.1 million tonnes of iron ore has been produced.

2.2 Exports

Exports of iron ore produced by NMDC is canalised through the Minerals and Metals Trading Corporation (MMTC). Most of the iron ore is exported to Japan and South Korea. In 1990-91, NMDC exported 7.4 million tonnes of iron ore valued at Rs.296.21 Crores. Exports of iron ore between April and November, 91 was 5.1 million tonnes.

Recently, NMDC has been exporting on a trial basis, calibrated iron ore (NP-67), a product developed through the Company's research efforts. The response from buyers has been encouraging.

2.3 Domestic Sales

With the commissioning of Visakhapatnam Steel Plant and the development of the indigenous sponge iron industry, NMDC is poised to enter the domestic market in a major way. VSP's entire iron ore requirements are linked to iron ore from Bailadila, while the calibrated ore from certain deposits in Bailadila is considered to be a suitable feed for gas based sponge iron units.

In 1990-91, NMDC's sales of iron ore to domestic units were around 1.9 million tonnes. Between April, 1991 and Nov., 1991 sale of iron ore to domestic consumers was 2.0 million tonness.

3. Diamonds

In 1990-91, 17401 carats of diamonds were produced. Between April, 1991 and November, 1991, the production was 11595 carats.

4. Finance

The authorised share capital of the company is Rs. 150 crores.. The paid up equity share capital as on 31.3.91 was Rs. 132.15 crores. GOI loans outstanding as on 31.3.91 were Rs.36.95 crores and Rs.33.49 crores on 30.11.91.

5. Operating results

In 1990-91, the company recorded a profit of Rs. 48.10 crores (before tax). The company also declared a maiden dividend of Rs.40 per share, totalling Rs.5.17 crores. Rs.25 crores was transferred to General Reserve for the first time.

Details of Employees (1991-92)

Group	Total No. of Regular Employees as on 1-10-91	No. of Scheduled Caste Employees (out of Col.2	No. of Scheduled Tribe Employees (out of Col.2)	No. of Women Employees (out of Col. 2)
1	2	3	4	5
A	622	32	4	12
B	1023	67	19	50
C	3309	464	587	126
D (Excluding Safai Karmachari)	1807	413	439	165
D (Safai Karamchari)	134	98	6	47
Total	6895	1074	1055	400

6. Manpower position

As on 31.10.91 the manpower position in different units of the company was as follows:

7. Workers Participation in management

Workers participation in management in the company is primarily through the mechanism of Joint councils at the shop, plant and apex levels. Meetings are held periodically. The scheme is working satisfactorily.

8. Raj Bhasha

NMDC received the Raj Bhasha Shield from the Ministry of Steel for the year 1988-89 for its excellent performance in the use of Hindi, among public undertakings under Ministry of Steel.

9. Research & Development

In recent years, much of the R&D efforts have been concentrated on development of value-added products by utilisation of Blue Dust. Blue Dust is the term used for the naturally occurring ultra Iron Ore fines found in the Bailadila sector of Madhya Pradesh where NMDC is operating two major iron ore projects.

NMDC has carried out various tests on Blue Dust both within the country and abroad, which have proved that this raw-material can be used for the manufacture of value-added products, such as:

(i) Iron Powder : Used in powder metallurgy for manufacture of automobile parts and electrodes.

(ii) Ferrite & Magnets : Used in electronics Industry

(iii) Pure Iron : Used in telephone & electronics industry and super alloy industry

(iv) Pig Iron/Steel : Directly from Blue Dust.

NMDC has established a Demonstration Plant, at its R&D Centre, Hyderabad, for the production of Ferric Oxide with a capacity of 140 tons per month. Ferric Oxide from this plant is being supplied to the domestic ferrite manufacturers and also exported abroad.

In addition to the above NMDC is exploring the possibilities with international companies for transfer of technology for setting up a commercial plant for production of Iron Powder, based on Blue Dust.

During 8th plan period, NMDC proposed to spend around Rs. 40 crores on various schemes for utilisation of Blue Dust.

10. Memorandum of understanding

In 1991-92, NMDC, entered for the first time into a Memorandum of Understanding with Government of India, under which it has committed to produce 108 lakh tonnes of Iron Ore, 17250 carats of Diamonds & earn a net profit (before tax) of Rs. 34.00 crores.

11. Mandovi Pellets Limited

Mandovi Pellets Ltd. (MPL) Goa is a joint venture company promoted in 1976 by the Govt. of India, through NMDC and M/s. Chowgule & Co. Pvt. Ltd. (CCPL) a private sector company. The Company has its pellet plant in Goa with an annual capacity of 1.8 million tonnes.

MPL commenced its operations in 1979, which continued for around two years. During this period the company exported around 1.5 million tonnes of pellets to the Japanese Steel Mills (JSM) under a long term contract signed with the foreign buyers. In 1981, MPL's Plant had to be closed down as the manufacture of pellets became economically unviable due to high price of furnace oil, shortage of power and steep decline in the prices of pellets in the international markets.

After remaining closed for almost a decade, MPL restarted its operations in September 1991. The pellets produced by the Company are now also being supplied to the domestic users.

12. J&K Mineral Development Corp. Ltd.

J&K Mineral Dev. Corp. Ltd. (J&KMDC) is a subsidiary company of NMDC incorporated on 19.5.89 for development of various minerals in the State of Jammu & Kashmir. NMDC holds 74% of equity in J&K MDC, the remaining 26% is owned by J&K Minerals Ltd. a state Govt. Public Sector Undertaking.

The first project being undertaken by J&K MDC is establishment of a 30,000 tonnes Dead Burned Magnesite (DBM) Plant at Panthal. Implementation is expected by mid-92, on clearance of the investment decision by Government.

Metal Scrap Trade Corporation Ltd.

1.0 Introduction

The Metal Scrap Trade Corporation Ltd. (MSTC), a Govt. of India Enterprise, is the canalising agent for export of ferrous scrap and import of carbon steel melting scrap including sponge iron/hot briquetted iron, re-rollable scrap, pig iron chips and old ships for breaking*. The company is also responsible for disposal of ferrous and miscellaneous scrap arisings from integrated steel plants under SAIL and disposal of scrap and surplus stores from other public sector undertakings and Govt. Departments.

2.0 Present Activities & Objectives

The main activities of the Company through its two operating divisions viz. Foreign Trade and Domestic Trade may be briefly described as follows:

Foreign Trade

(i) Canalising import of carbon steel melting scrap.

(ii) Canalising import of Sponge Iron/Hot Briquetted iron.

(iii) Canalising import of Re-rollable scrap.

(iv) Canalising import of old ships for scrapping (decanalised with effect from August, 1991).

(v) Canalising import of Pig Iron Chips (although canalised, actual imports have not been effected in view of adequate domestic availability).

Domestic Trade

(a) Disposal of ferrous and miscellaneous scrap from integrated steel plants (under SAIL).

(b) Disposal of scrap and surplus stores from other public sector undertakings and Govt. Departments.

The Corporation has also a Project & Development Division which basically aims at improving the quality of servicing through its market research and developmental activities. The main functions of this division may be briefly stated as under:

(i) to service the operation division by providing regular feedback about market developments, both short-term and long-term in respect of each item dealt with by the Company.

(ii) to initiate, propose and monitor schemes for diversification/development of projects and implementation thereof.

(iii) to serve as a data bank for regular and automatic supply of statistics available within the organisation by the operating divisions in time-bound fashion.

2.2 Objectives

The main objectives of MSTC are:

(i) to promote concerted action in the matter of movement of scrap within India and shipment of scrap to and from foreign countries in conformity with the policy of the Govt.,

(ii) to promote and develop measures for increased and improved collection of scrap within the country.

(iii) to support, protect, maintain, increase and promote export of scrap,

(iv) to ensure supplies of scrap to Indian users on such terms as may be determined from time to time,

(v) to undertake manufacturing activities allied to the steel industry,

3.0 Organisational Structure

The Chief Executive Officer of the Company is the Chairman-cum-Managing Director, assisted by General Managers, who are incharge of various functions. The affairs of the Corporation are organised along a profit centre concept with its two main operational departments being treated as two distinct profit centres.

In order to render better service to customers and also to exploit the indigenous scrap arisings more effectively, the company has four regional offices located at Delhi, Bombay, Bangalore and Calcutta, which are headed by Regional Managers who also report directly to the Chairman-cum-Managing Director.

The General Managers and the Regional Managers are assisted by professionals in various functional disciplines.

4.0 Diversification Plan

4.1 Objectives :

The Corporation has plans to set up a few Scrap Storage Yards for distribution of imported scrap

* MSTC has ceased to be a canalising agency wef 1st March 1992

amongst the actual users with the objective of giving "off-the-shelf" delivery to actual users. The main objectives of setting up these yards are :

(a) to meet the demand of the smaller consumers.

(b) to procure and stock scrap when international import prices are low.

(c) to maintain a buffer stock to avoid seasonal imbalances.

(d) to achieve better planning in import of scrap and more effective distribution.

The first scrap storage yard at Vizag Port is already in operation while some infrastructural facilities are still under process. The second yard is proposed to be set up at Madras Port.

So far no expenditure has actually been incurred in connection with the scrap yard at Madras Port.

MSTC has already approached Madras Port Trust authorities and certain other agencies like Central Ware Housing Corporation for a suitable developed project site.

New Projects

It has been decided to implement new projects of setting up four (4) more scrap storage yards at Kandla, Bombay, Delhi and Durgapur. The average capital expenditure estimated on each such project is Rs. 25 lakhs. The basic approach in embarking upon these four new scrap storage yard projects is to prepare the Company to face new challenges by not only acting as selling agents but also buying scrap on its own and selling after due processing, whenever needed.

Performance & Results

Physical Performance (Unit-'000 tonnes/LDT)	1989-90	1990-91	1991-92 (Upto Oct. 91)
A.Foreign Trade:			
a) Import of			
i) Carbon steel melting scrap/sponge iron/ HBI/MS Skull/ Pig Iron.	1858	1435	107
ii) Stainless steel scrap -			
iii) Ships for breaking -	NIL		
b) Export of Mill Scale Scrap	217	NIL	NIL
B.Domestic Trade:	41	NIL	NIL
i) Despatches of scrap arising from steel plants.		58	36
ii) Other Public Sector Undertakings and Govt. Deptts. (auction / tender sale (Rs. in crores)	22	41	68
C.Financial Results (Unit - Rs. in crores)	111.35	130.99	89.00
i) Gross Margin before Int. & Depreciation.	14.29	11.84	3.92
ii) Int. & Depreciation -	1.06	0.84	0.40
iii) Profit before tax -	13.23	11.00	3.52

D.Employment Statistics

The distribution of manpower at different centres including Regional offices of MSTC besides head Office at Calcutta as on 31.3.91 is given below:-

	Executives	Non-Executives	Total
i) Head Office in Calcutta -	67	130	197
ii) Regional Offices -			
a) Bombay -	8	14	22
b) New Delhi -	13	12	25
c) Bangalore -	8	13	21
iii) Sub Regional Offices:-			
a) Hyderabad -	1	—	1
b) Vizag -	4	NIL	4
c) Madras -	1	1	2
d) Durgapur -	2	—	2
	104	170	274

Ferro Scrap Nigam Limited

1.0 Introduction

Ferro Scrap Nigam Limited (FSNL) is a joint sector company under the Ministry of Steel with a paid-up capital of Rs. 200 lakhs in which the Metal Scrap Trade Corporation Limited (MSTC) holds 60% of the equity shares and the remaining 40% are held by M/s. Harsco Inc. of USA. The Company is a subsidiary of MSTC.

2.0 Activities and Objectives

The Company undertakes the recovery and processing of scrap from slag and refuse dumps in the steel plants at Rourkela, Burnpur, Bhilai and Bokaro. It has recently started work in Visakhapatnam and the Durgapur Steel Plant.

The scrap recovered is returned to the steel plants for recycling/disposal and the Company is paid processing charges on the quantity recovered at varying rates depending on the category of scrap. Scrap is generated both in the Iron & Steel Sections and also the Rolling Mills.

3.0 Organisational Structure

The Chief Executive Officer of the Company is the Managing Director who functions under the guidance of a Chairman (CMD, MSTC) and Board of Directors. The Managing Director is assisted by one General Manager and three Deputy General Managers who are incharge of activities at the main steel plants.

The corporate office is situated at Bhilai, and the Corporation has six field units in the steel plants at Bhilai, Burnpur, Rourkela, Bokaro, Visakhapatnam and Durgapur.

4.0 Physical & Financial Performance

4.1 Physical Performance

The production performance of FSNL for the last two years and the projected performance for the year 1991-92 is given below:

Item	1989-90	1990-91	1991-92 (Provisional)
Recovery of scrap (Lakh metric tonnes)	8.07	8.71	9.25
Market value of production (Rs. in crores)	354.54	383.24	407.00

4.2 Financial Performance

(Unit Rs. in lakhs)	1989-90	1990-91	1991-92 (Provisional)
i) Total turnover i.e. total service charges realised including misc. income etc.	3135.43	3118.15	3491.26
ii) Gross margin before interest and depreciation	1589.19	1494.51	1661.24
iii) Interest & depreciation	428.87	498.68	533.24
iv) Profit before tax	1160.32	995.83	1128.00

4.3 Sales Realisation

Sales realisation per metric ton for the last two years and estimated sales realisation per metric ton for the year 1991-92 and 1992-93 are indicated below:

1989-90	1990-91	1991-92 (Proj.)	1992-93 (Proj.)
Rs. 384.81	Rs. 345.15	Rs. 376.69	Rs. 394.97

Sponge Iron India Limited

1.0 Introduction

1.1 The Demonstration Sponge Iron Plant of the Company with an annual capacity of 30,000 tonnes was set up with UNDP/UNIDO assistance to establish the techno-economic feasibility of producing sponge iron, (a substitute material for ferrous scrap used by steel-melting Electric Arc Furnaces) from lump iron ore and 100% non-coking coal. The Unit, designed to use coal from Singareni Collieries Company Limited (SCCL) and iron ore from Bayyaram, A.N. Puram and Veldurthi regions of Andhra Pradesh, went into regular operation in November, 1980. It has been designed in such a manner that it can be operated both on production basis and for R&D work. It is based on the SL/RN Technology developed by Lurgi of West Germany.

1.2 Taking note of the successful operation of the Demonstration Plant, Govt. of India sanctioned in 1982 doubling of the plant capacity from 30,000 t to 60,000 t per annum through the setting up of a second unit. This unit, which was designed and built by the Company's Engineers incorporating the various modifications carried out to the Demonstration Plant for adapting the technology to Indian conditions, went into regular production from October, 1985.

1.3 The Company has also successfully designed and built a plant for briquetting of Sponge Iron Fines (below 6 mm size) which were not usable by Electric Arc Furnaces. The Briquetting Plant was commissioned during October, 1987 and is operating to full capacity. Since then the sponge iron briquettes have received wide acceptance in the market.

2.0 Finance

2.1 The authorised share capital of the Company as on 31.3.91 was Rs. 25.00 crores out of which paid up capital was Rs. 21.69 crores. Shares amounting to Rs. 20.86 crores are held by the Govenment of India, the balance of Rs. 0.83 crores being the share of the Government of Andhra Pradesh.

3.0 Production

3.1 The Production and Financial Performance of the Company during the last two years together with estimates for 1991-92 is furnished in the table below :

Table

	1989-90	1990-91	1991-92 (As per RE)
Production (t)	54,030	47,600	48,000
Capacity Utilisation (%)	90	79	80
Sales (t)	50,488	49,035	49,400
Turnover (Rs. in lakhs)	1,901	1,801	2,308
Generation of Internal Resources (Rs. in lakhs)	304	356	400
Net Profit (Rs. in lakhs)	174	180	219

3.2 As against the target of 54,200 t fixed for 1991-92 a production of 34,270 tonnes was achieved, upto December 1991, representing 63% of the target. There is deterioration in the quality of coal supplied by Singareni Collieries, fixed carbon content dropping to as low as 32-34% against requirement of 44% (minimum). The transportation of iron ore has also been very adversely affected. The annual production will be somewhat lower than the original target and is now expected to be around 48,000 t.

4.0 Sales and Profitability

4.1 Against a target of 35,650 t, despatches upto December, 1991 were 34,537 t representing 87% achievement. The despatches for the year were originally targetted at 54,200 t; estimates now are that 49,320 t would be achieved.

The operations upto the end of December, 1991 have shown a net profit of Rs. 245 lakhs, as against the targetted profit of Rs. 145 lakhs. The year is expected to end with a profit of Rs.300 lakhs.

5.0 Cost Reduction

5.1 Through the application of improved technique, constant efforts are being made to reduce the consumption of the principal input raw materials viz., iron ore, coal and limestone, thereby reducing the cost of production. Uses are also being found for waste products like iron ore fines, char and dull coal so that additional revenue can be generated from the sale of waste products.

5.2 A separate project is being set up for effectively utilising the sensible heat in the kiln off-gases for generation of 5 MW of electric power. By doing so the operations of the plant would improve as dependance on external power would be less thus effecting saving in cost of production.

6.0 Efforts Made Towards Indigenisation

6.1 The Engineering and Projects Division of the Company set up in 1982 had successfully completed the engineering and erection work of the Expansion Unit in 1985. By adopting some improved designs and incorporating some modifications, it was possible to reduce the foreign exchange component (inclusive of duty) to Rs. 0.85 crores as against the original estimate of Rs. 2.20 crores. In the setting up of the Expansion Unit, besides developing indigenous capability for manufacture of major equipment required for commercial sponge iron plants, the Division had also developed indigenous sources of supply for spares and consumables required for day-to-day operation of the existing plant.

6.2 The Engineering and Projects Division has also developed basic engineering data/designs for setting up large commercial sponge iron plants relevant to locally available ores and coals. The division has also developed expertise for agglomerating Sponge Iron Fines into high density briquettes which have received ready acceptance.

7.0 Energy Conservation Measures

7.1 The Company had worked out a scheme for utilisation of the Waste Heat from the stack emissions of the Sponge Iron Plant for generation of electric power through a system of Waste Heat Boilers and Steam Turbine. The power generated is proposed to be utilised in a specially designed Submerged Arc Furnace (SAF) for the production of low phosphorus pig iron using pre-reduced iron ore fines and char from the plant. These two projects were estimated to cost a total of Rs. 16.20 crores for the generation of 5MW of power from waste heat and for the production of 45,000 t per annum of low phosphorus pig iron. Besides rendering the sponge iron production process less sensitive to the characteristics of iron ore and coal, this plant is expected to provide an alternative steel-making route based on usage of 100% sponge iron with little dependance on the external power. Char presently considered as a waste product, would be utilised in the SAF for reduction of partially reduced Sponge Iron and at the same time help to improve the carbon content in the product.

8.0 Manpower

8.1 The total number of employees of the Company as on 31.12.1991 is furnished below indicating separately persons belonging to Scheduled Castes, Scheduled Tribes, Ex-Servicemen, Physically Handicapped and Women.

9.0 Employees' Participation in Management

Pursuant to the directives of the Government of India, a scheme for Employees' Participation in Management has been implemented in the Company. Under the scheme, one Plant Level Committee and 3 Shop Level Committees have been constituted with representatives of the Management and the Employees and regular meetings are held to discuss various problems and find solutions internally.

10.0 Hindi Implementation

During the period 45 documents were released as per Section 3(3) of the Official Language Act 1963 out of which 41 were bilingual; the remaining 4 were also translated later and placed on record. During the

Sl. No.	Groups	Total No. of Employees	S.C.	S.T.	Ex-Servicemen	PHC	Women
1.	Group (A)	108	11	—	—	—	1
2.	Group (B)	63	10	1	—	1	3
3.	Group (C)	265	40	27	3	4	16
4.	Group (D) (Excluding Safai Karamchari)	140	21	27	7	—	6
5.	Group (D)	10	8	1	—	—	9
	Total	586	90	56	10	5	35

period all question papers prepared for the tests for recruitment/promotion were bilingual.

Two employees passed the Praveen Examination under the Hindi Teaching Scheme. An exposure on Official Language was organised on 24th and 25th July, 1991. Approximately 70 employees participated in the same. Hindi week was celebrated from 14th to 20th September 1991. Various competitions were conducted on this occasion and prizes were distributed to the winners.

The third Sub-Committee of the Parliamentary Committee of Official Language made an inspection visit to the Company's office at Hyderabad on 30th September 1991. The Committee members were satisfied with SIIL's performance in the implementation of the use of Hindi. However, they desired that correspondence in the Hindi be increased.

11.0 Anti - Pollution Measures

The Plant has anti-pollution equipment for controlling air and water pollution to specified standards. The stack emissions and effluents are regularly analysed to ensure conformity to standards.

However, in view of the power cut imposed in the State by APSEB, operations are carried out restricting the functioning of the pollution control devices only to the extent necessary for fulfilling the relevant environmental control standards.

12.0 Waste Land Development

Consistent with the national policy of stepping up the rate of afforestation in the country to preserve ecological balance, Sponge Iron India Limited had undertaken, right from the construction stage itself, planting of trees in the Company's estate in a phased manner. Over 2,500 trees have so far been planted in vacant spaces and by the side of the roads in the Company's estate. A programme has been drawn up for planting of 10,000 trees in a phased manner.

13.0 Research and Development

13.1 The Company has received a 30 KVA laboratory scale Submerged Arc Furnace under UNIDO Programme. The furnace, after installation, would be utilised for conducting a wide range of test works for smelting different kinds of ores, such as ilmenite, etc.

13.2 VRDR Process:

Further trials on VRDR process developed by NML, using SIIL raw materials are proposed. In this connection NRDC is co-ordinating with NML for finalising further test programme for which the terms of reference have already been indicated by SIIL.

13.3 Smelting of Sponge Iron in HB Cupola:

Tests on smelting of Sponge Iron in HB Cupola for production of Grey Iron Castings are under-way. The results, if satisfactory, would enable use of Sponge Iron in Cupolas in place of Pig Iron, which is a scarce commodity.

14.0 Engineering/Consultancy Services

The Company has entered into engineering consultancy agreement with the following client companies for setting up coal based Sponge Iron Plants based on SIIL Technology.

a) Hindustan Electro Graphites (HEGL) 2 x 30,000 tpa
b) Kumar's Metallurgical Industries (KMIL) 2 x 30,000 tpa
c) Bellary Steel & Alloys Limited (BSAL) 2 x 30,000 tpa
d) Raipur Alloys & Steel Limited (RSAL) 1 x 30,000 tpa
e) Vandana Alloys 2 x 30,000 tpa
f) Calcutta Sponge Iron 2 x 30,000 tpa

The detailed engineering of HEGL Plant has since been completed and construction work at Plant Site near Durg (Madhya Pradesh) is well underway. The unit is expected to be commissioned by March 1992. In respect of others i.e., KMIL, BSAL, RSAL, the basic engineering work is in progress. For the above assignments the Company is receiving a total fee of Rs. 5.5 crores.

15.0 UNDP/UNIDO Assignments

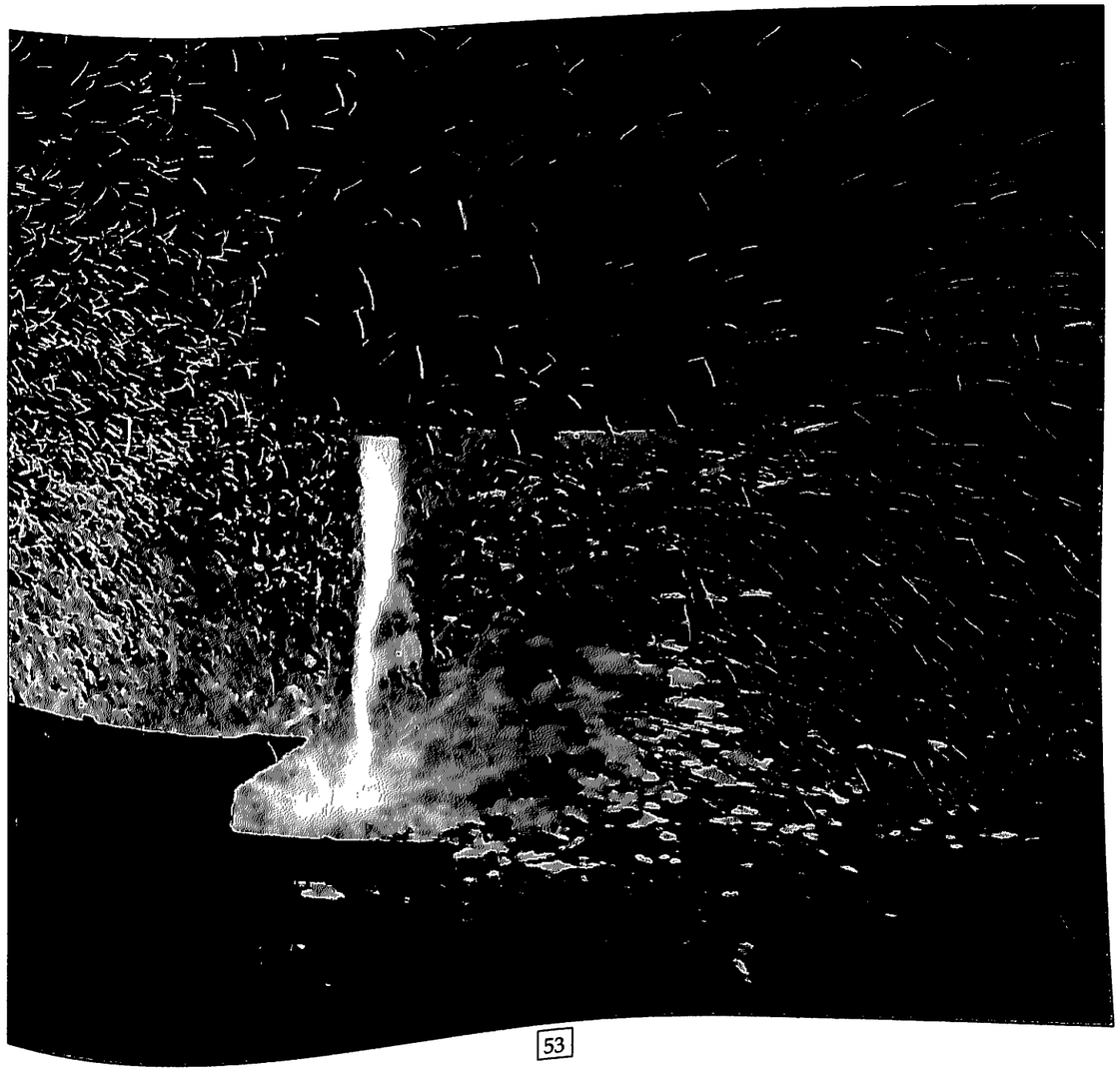
A test work assignment of Ilmenite samples from Egypt has since been completed and report submitted to UNIDO which has since been accepted.

Neelachal Ispat Nigam Limited

1. In October, 1980, Government decided in principle to set up a Second steel plant in Orissa. A Company, Neelachal Ispat Nigam Limited (NINL) was formed in March, 1982 with an authorised capital of Rs. 1,000 crores. On techno-economic considerations, the site of the project which was originally proposed to be near Paradip Port, was changed to another in the Daitari region. The project could not be set up due to resource constraints.

Vijaynagar Steel Limited

1. In April, 1970, Government took a decision in principle to set up a steel plant in Karnataka, so as to utilise the vast deposits of iron ore available in the Bellary-Hospet area. In December, 1982, a separate Company Vijayanagar Steel Limited was incorporated for this purpose. The project could not be set up due to resource constraints.



Hindustan Steelworks Construction Limited

1.0 General Background of Activities

Incorporated in June 1964 for pooling available construction expertise and creating an organisation in the Public Sector to take up construction works of Integrated Steel Plants, Hindustan Steelworks Construction Ltd. (HSCL) has now started under taking major capital works pertaining to coke oven batteries, blast furnace etc. Subsequently HSCL has also diversified into the non steel sector and is involved in areas like power plants, dam construction, bridges, coal handling plants etc. involving high degree of planning, co-ordination and sophisticated construction techniques.

1.1 Present Activities

HSCL is an important member of the consortium engaged in the implementation of the Durgapur Steel Plant modernisation programme. It is undertaking major civil, structural, erection works etc., in critical areas of the programme. HSCL is also involved in numerous works in the other steel plants. These include blast furnace work in Vishakhapatnam, rebuilding of coke oven batteries in Rourkela, repair of bloom & billet mills in Bhilai, expansion work of sendzimir mill in Salem etc. In the non-steel sector, the company is already working in power generation and hydel projects. Furthermore, it is actively seeking business in road development programmes under World Bank aided schemes.

2.0 Order Book Position

2.1 The company has secured orders totalling Rs. 18 crores in the non-steel sector during the year under report as a result of efforts to secure orders in energy sector including Thermal Power, Nuclear Power and other sectors like Township and Bridges. In the steel sector, company was awarded work of Rs. 51 crores till October 1991. The unexecuted orders at the beginning of April, 1991 was Rs. 429.60 crores.

3.0 Capital Structure

3.1 The authorised and paid-up share capital as on 31.10.91 was Rs. 20 crores. The total amount of loans from Govt. outstanding at the end of October, 1991 was Rs. 191.29 crores (Plan loan Rs. 60.10 crores and non-plan loan Rs. 131.19 crores) as against Rs. 183.79 crores as on 31.3.91.

4.0 Financial Performance

4.1 The Company's turnover in 1990-91 was Rs. 239.25 crores. The loss for 1990-91 for works in India was Rs. 48.32 crores. The loss for works in Libya was Rs. 24.56 crores. The projected turnover of the company for 1991-92 is Rs. 259 crores. The company has achieved a turnover of Rs. 182 crores between April,91 to Jan.,92 as against Rs. 147 crores during April, 90-Jan.,91.

5.0 Manpower Position

5.1 The company operates a Voluntary Retirement Scheme. So far 2120 employees have left the company under this scheme. As compared to the previous year there was a reduction in manpower strength by 193 employees due to retirement, resignation etc. The manpower position of the company as on 1.10.90 was 20,463 whereas as on 1.8.91 detailed information is given below:-

6.0 Safety Measures

6.1 Various steps are being implemented under the safety code formulated by the company. These include Safety Organisation in major units; safety education and instruction to the Contractors/PRWs engaged at various sites of the company. Safety appliances are invariably made available by the company for execution of hazardous jobs. Periodic seminars are also conducted to acquant the personnel with latest safety measures and also to review the safety requirements.

Group	Total strength	SC/ST	%	Female employ-ees	Ex-Servi-cemen	Physically handicapped employees
A.	1984	101	5.1	7	5	1
B.	823	71	8.6	10	3	1
C.	14925	3012	20.2	195	192	35
D.	2538	2378	93.7	1206	4	11
Total	20270	5562	27.4	1418	204	48

7.0 Workers Participation in Management

7.1 The company has set up joint councils/shop councils for workers participation in important matters like economy and cost reduction, wastage control, safety, quality improvement etc. Besides, the company has an Apex level joint forum which comprises of the management of the company and the national level trade unions i.e. INTUC, CITU, AITUC, HMS and three independent unions. Besides the above, a sub-committee of the Joint Forum consisting of five central trade unions leaders and the company's top management is also functioning.

8.0 Welfare Schemes

8.1 Employeee's Voluntary Welfare Scheme

A Central Welfare Fund Scheme for all sections of employees of the company was introduced w.e.f. 1.4.1987. Through this scheme immediate financial assistance is provided to the dependents of employees in the event of death while in service. The finances are arranged out of voluntary contribution by employees at the rate of minimum Rs. 2/- month and maximum of Rs. 10/- in a month.

8.2 Other welfare activities include special measure being implemented for the welfare of the SC/ST employees. These include schools in residential areas, allotment of land, drinking water supply, human resource development programme etc.

9.0 Measures for Improvement

9.1 The viability of the company has been adversely affected by the surplus manpower; low equity base; slackness in the growth of the steel sector; losses incurred in Libyan works; interest burden on Govt. loans and delay in realisation of dues from the clients especially in the non-steel sector.

9.2 To improve the viability of the company, the Govt. have extended financial assistance through plan and non-plan loan.

9.3 The other steps taken for revival of the company have included identification of areas of specialized capital and repair works in steel plants which could be executed by HSCL; introduction of various economy measures; reduction of inventory levels, implementation of Voluntary Retirement Scheme and diversification into the non-steel sector.

Companies of the Bird Group

The erstwhile Bird & Co. Ltd. was taken over by Government w.e.f. 25th October, 1980 under the Bird & Company Ltd. (Acquisition & Transfer of Undertakings & Other Properties) Act, 1980, in view of mismanagement and precarious financial position. The Ministry of Steel looks after the management of some of the companies, which are as follows:-

1. Orissa Minerals Development Co. Ltd. (OMDC) - Engaged in the mining of Iron Ore and Manganese ore;
2. Bisra Stone Lime Co. Ltd. (BSLC) - Engaged in the mining of limestone and dolomite;
3. Kumardhubi Fireclay & Silica Works Ltd. (KFSW) - Engaged in the production of refractories;
4. Karanpura Development Co. Ltd. (KDL) - Engaged in the Mining of limestone and clay.
5. Scott & Saxby Ltd. (SSL) - Engaged in the sinking of tube wells, soil testing, supply, repair and maintenance of pumps, etc.
6. Eastern Investment Ltd.
7. Burrakur Coal Co. Ltd.
8. Borrea Coal Co. Ltd.

Of the above Eastern Investment Ltd. is an investment company formed by the amalgamation of other investment companies of the Bird Group. The Burrakur Coal Co. Ltd & Borrea Coal Co. Ltd. are non-operational.

1. The Orissa Minerals Development Co. Ltd.

The company has its mine in Keonjhar Distt. of Orissa. The traditional customers for the company's products have been the steel plants, and recently the new sponge iron Units have also started purchasing their raw material requirements from OMDC. The company's performance has been as follows:-

Quantity in lakh tonnes
Rs. in crores.

	1990-91 Actual	1991-92 (Till Jan. 92)
Production	7.48	6.23
Turnover	6.88	5.30
Profit/Loss (—)	(—) 0.63	0.38

Reduced off take during the last few years by the Steel Plants led to liquidity problem making it difficult for the Company to invest in modernisation of its ageing plant and machinery. The company also has surplus manpower. To improve its performance, the following remedial measures have been taken :-

a) Reduction in surplus labour - so far 400 persons have left the company under Voluntary Retirement Scheme.

b) Location of new markets for its products, particularly in the sponge iron sector;

c) Development of its sponge iron grade Roida deposits.

2. The Bisra Stone Lime Co. Ltd.,

The Company's area of operation is in Sundergarh Distt. of Orissa. Its products are lime stone and dolomite. The performance of the company has been as follows :-

Quantity in Lakh tonnes
Rs. in crores

	1990-91 Actual	1991-92 (Till Jan. 92)
Production	7.77	6.59
Turnover	7.91	6.14
Profit/Loss (—)	(—) 9.14	(—) 8.28

The company's traditional buyers have been the integrated steel plants. The development of captive mines by the steel plants, and the emergence of new mining companies, have had an adverse effect on the company's sales during the last few years. The company also has a very large surplus work force. Coupled with a rising wage bill, reduced sales of the company have resulted in serious financial difficulties. Following steps have been taken to improve the position.

a) Reduction in work force through Voluntary Retirement Scheme

b) Increased sale to SAIL Steel Plants;

c) Supply of entire requirement of dolomite of the Visakhapatnam Steel Plant, whose requirements are 6 lakh tonnnes per annum. For this purpose the company is developing its Patpahar dolomite deposits. This is scheduled to be completed in May, 1992.

d) Continued financial assistance by the Govt. the company has been given a plan loan of Rs.3 crore and a non-plan loan of Rs.55 lakhs during 1991-92.

3. The Kumardhubi Fireclay & Silica Works Ltd.

The Company produces Refractory Bricks, mortars and castables and supplies its products to integrated Steel Plants of SAIL, as well as to other non-steel industries like glass, cement, petro-chemicals etc. The company is located at Kumardhubi in Dhanbad Distt. of Bihar. The performance of the company during 1990-91 and 1991-92 is as follows :

Quantity in lakh tonnnes
Rs. in crores

	1990-91	1991-92 (Till Dec.91)
Production	0. 17	0.07
Turnover	0.20	0.08
Profit/Loss	(-) 2.97	(-) 3.49

The company performed well upto the end of 1982. The decline started thereafter, mainly because of recession in demand of refractories and TISCO, a major share holder gradually losing interest in the Company. The company did not undergo any modernisation/diversification earlier.

Because of its poor performance the company was declared sick by the BIFR in 1989, & a revival package was formulated. The revival package is presently under the consideration of Industrial Reconstruction Bank of India.

During 1991-92, the company has been given a 'Plan Loan' of Rs. 2.00 crore and a 'Non-Plan' Loan of Rs. 45 lakhs.

4. The Karanpura Development Co. Ltd., :-

The Company produces lime stone and clay from its mines in Hazaribagh Distt. in Bihar. Its performance has been as follows :-

Quantity in lakh tonnes
Rs. in crores

	1990-91	1991-92 (Till Jan. 92)
Production	1.17	0.23
Turnover	1.16	0.23
Profit/Loss	(—) 0.16	(—) 0.34

The company has suffered a set back in 1991-92 since its mines were closed for more than 6 months following an accident. Consequently, it has not been able to meet its targets in the current year.

5. Scott & Saxby Ltd. (SSL) :-

The Company is engaged in the sinking of deep tubewells, soil testing, supply and repair of pumps and tubewells etc. It is a fully owned subsidiary of the Karanpura Development Co. Its performance has been as follows :-

Rs. in crores

	1990-91	1991-92 (Till Jan. 92)
Turnover	1.49	1.37
Profit/Loss	(—) 0.32	(—) 0.77

To improve its performance, the following measure have been taken :-

a) Improvement in management labour relations;

b) Reductionn of approximately 150 excess work force through Voluntary Retirement Scheme.

Finance of Public Sector Undertakings under Ministry of Steel for the year ending 1990-91.

(Rs. in crores)

S. No.	Company	Total Capital employed	Net Worth	Net Sales	Gross profit before depreciation after interest	Gross profit before interest after depreciation	Profits before Tax.	Profits after Tax.	Dividends	Retained Profit
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1.	SAIL	7223.38	4624.60	8184.10	855.30	603.19	248.26	244.69	0	244.69
2.	IISCO	217.78	358.89	489.91	461.45	96.99	—	—	—	133.55
3.	KIOCL	451.47	443.21	228.98	88.08	63.95	63.05	63.05	—	63.05
4.	MSTC	29.82	32.22	477.81	11.58	11.27	11.00	5.50	0.22	5.28
5.	HSCL	22.95	282.34	282.53	(—) 251.09	(—) 192.07	302.36	—	—	—
6.	NMDC	184.37	175.97	138.38	63.58	54.68	48.10	46.30	5.17	41.13
7.	BRL	81.26	7.54	43.94	—	—	—	—	—	—
8.	MECON	51.80	64.80	101.20	1.70	0.67	0.67	0.37	0.30	1.10
9.	MEL	40.85	(—) 7.40	89.72	4.63	7.34	2.19	2.19	—	—
10.	MOIL	25.39	24.62	44.41	10.19	8.81	7.86	4.71	1.09	3.62
11.	FSNL	31.89	27.91	30.06	14.37	10.54	9.96	5.69	0.25	5.44
12.	SIIL	22.61	22.22	18.01	3.56	2.81	1.80	1.80	0	1.80

Private Sector

Tata Iron & Steel Company Limited

Tata Iron & Steel Company Limited (TISCO), the only integrated Steel Plant in the Private Sector, was founded over 80 years ago. This Steel Plant is located at Jamshedpur and has captive collieries at Sijua, Jamadoba and West Bokaro and Iron Ore Mines at Noamundi and Joda in Bihar and Orissa.

The company embarked on a 2 million tonne (ingot Steel) expansion programme which was completed in 1958. Subsequently, the first major modernisation programme was undertaken by the Companny in 1980 when the outdated Duples process, was replaced by a modern LD shop alongwith continuous casting and other allied facilities. Immediately therafter, the company started work on Modernisation Programme- Phase II to strenghen its infrastructural facilities. The Principal features of this phase included the modern high speed B & R Mill, Raw material B&B Yard, Sinter Plants, Power Plants etc.,

TISCO is now poised to complete its Phase III Modernisation by 1994, which would increase its saleable steel production to 2.7 million tonnes per annum. The highlights of this phase, which is currently under way, are:-

* One MTPA hot strip mil!
* New LD shop with Slab casting
* Half Coke Oven Battery
* Oxygen Plant
* 2 new capitive power plants
* Expansion and modernisation of raw material facilities and transporation system.

In addition to the above, TISCO is also installing a modern 1 MTPA capacity blast furnnace.

2. Production

Production in the first 9 months of the year was:-

('ooo tonnnes)

	April-Dec. 91	April-Dec. 90
Hot Metal	1765	1686
Crude Steel	1763	1663
Saleable Steel	1481	1405
Semis %age	58 82%	54 23%

The production of steel has been higher by 76000 tonnes during this period, and is expected to cross 2.04 million tonnes during the current year. TISCO is also expecting to have the highest ever production of Sinter, Hot Metal, Crude Steel & Concast Billets during 91-92.

Although, the %age of Semis has reduced by 1.4% compared to the previous year, this could have been further reduced had there been adequate availability of power from public utilities.

The production and productivity of the Blast Furnace has been outstanding and is expected to achieve the best ever out put of Hot Metal with the lowest coke rate. The Sinter Plants have contributed significantly towards this through higher production of consistently good quality Sinter. Imported raw materials such as Coal, Lime Stone, Dolamite etc., have also played a crucial role in improving production and productivity.

3. Performance of Various Facilities:

a) Modernisation Phase - I

The performance of all major units installed under Phase I viz., LD shop, Lime Calcining Plant, Tar Dolo Block Plant, Oxygen Plant and Bar Forging units is quite satisfactory.

b) Modernisation Phase - II

The Bar & Rod mill is geared to produce all grades and sections of products envisaged, with excellent quality, at near rated capacity. The products of the B&R Mill have been well accepted in the international market. The other facilities like Coke Oven Battery No. 7 with stamp charging facility, the new Coal Handling Plant, the R&D Yard and SP No. 2 commissioned year before last, are fully stabilised. The improved quality of coke and sinter produced from the CO battery no. 7 and SP no. 2 respectively, has helped in reducing coke rate and increasing the productivity of Blast Furnaces to a large extent.

The energy optimised furnace (EOF) of 80 tonne capacity installed at SMS 3 has been facing teething troubles which are being sorted out. The new 6" High Frequency Induction Welding (HFIW) Tube Mill commissioned last year and the modernised 4 HI Mill, CR Plant on the Tubes Division is also undergoing trial runs.

4. Energy Conservation

At the Blast furnaces, the coke rate was lowest ever at 658 kg per tonne of hot metal as against 686 kg per tonne during the corresponding period of the last year. One of the factors for coke economy was the starting of coal injection in TISCO's biggest blast furnace ('F' Blast Furnace) since April 1991. Plans are on the anvil to extend coal injection to other furnaces.

At the unit level, fuel rates at the coke ovens, SMS 1, MM 1, Plate Mill, B&R mill, SP and refractory production units have shown improvement.

The inplant power generation was higher by 14MW as compared to the corresponding period last year. The over all power cycle efficiency has helped in reduction of plant specific energy consumption.

The steel to iron ratio was higher at 1.036 compared to 1.024 the previous year. The metalic recuperators at M & LS mill and B & R mill were rejuvenated. Flat flame burners were installed in sheet mill reheating furnace and annealing furnace. Also Tar/Steam emulsion burner in OH furnace at SMS I was installed which reduced the fuel rate by 7% as compared to the previous year.

5. Financial Performance

Financial Performance for the period April-September '91 showed a profit after taxes of Rs. 104.29 crores which was over 37% higher than the net profit for the previous year. Provision for interest and depreciation increased substantially as also the provision for taxes. Performance could have further improved with better power supply from public utilities. Cost increases also remained uncompensated affecting the profitability.

6. Safety Activities

During the first 9 months of 91-92, TISCO Works as a whole completed many 'million' accident free man-hours. However, during this period the number of lost time accidents in the works showed an increase as compared to last year, where as there was a decreasing trend in the lost time accidents among contractor's employees. TISCO is developing a data based safety management system which they hope to implement shortly. During this year as a part of preparedness to take care of major accident hazards, regular, regular drills/rehersals were organised.

SECONDARY STEEL SECTOR

The steel sector has recently been completely delicensed under the new Industrial Policy announced on 25.7.1991 (except for certain locational restrictions) irrespective of capacity, product and investment. Till quite recently, investment in the iron and steel sector was reserved for the public sector and, therefore, most of the investment in developing the steel industry had been made in the public sector. The secondary steel sector comprises largely small capacity electric are furnaces which remelt scrap to produce steel.

In order to facilitate higher production in the private sector to bridge the demand-supply gap, the Government has been actively encouraging the private sector units to modernise and expand. Now that the steel sector has been exempted from licensing requirements, entrepreneurs have a choice of plant size, location as well as technology.

Presently, the secondary steel sector produces over 3 million tonnes of crude steel and this is expected to increase to over 10 million, tonnes by the turn of the century, With the steps taken to liberalise the industrial policy, Government expects substantial private investment in the steel sector in the years to come.

1. Electric ARC Furnace Industry

1.1 EAF industry (mini steel plants) has been playing an important role in the over all production of steel in the country. Their contribution is about 30 percent of the country's total crude steel production. This industry is ideally suited to meet the regional demands of carbon steel and alloy and special steel. It has a distinct advantage over the conventional integrated steel plant route because of the lower capital cost and short gestation period and higher adoptability to market requirement.

It is expected that this sector will play a more significant role in the times to come inspite of the constraints of inadequate availability of steel melting scrap and power. The indigenous availability of scrap is not enough to meet the requirement of this sector and because of the restricted availability of foreign exchange, the country cannot afford to import large quantities of scrap on a continuous basis. With this in view, Government are making efforts for increasing the production of direct reduced iron (sponge iron) which is a substitute for steel melting scrap.

There are 216 Licensed EAF units with a total capacity of about 8.97 million tonnes per annum. Of these, 175 Units with a total licensed capacity of 6.8 MPTA have already been commissioned.

Production of ingots/concast billets by EAF units, which are reporting their production to the office of the Development Commissioner for Iron and Steel, during the last three years and for April-Sept, '91 is given below:

(In '000 tonnes)

Category	1988-89	1989-90	1990-91	April to Sept. '91 (Provisional)
Mild Steel	2058.5	2041.8	2363.0	740.2
Medium/High Carbon Steel	485.5	394.0	371.6	121.2
Alloy Steel	502.2	533.6	598.8	221.6
Stainless Steel	127.7	153.5	176.0	70.4
Total Reported	3173.9	3122.9	3509.4	1153.4

The above figures do not include production of steel by casting units registered with DGTD.

2. Steel Re-Rolling Industry

There are about 1012 units holding Carry-on-business (COB) licence, Industrial Licence, registrations and letter of intent for rerolling of long products, total capacity being about 20.85 million tonnes. In addition, there are quite a large number of units operating in the small scale sector.

Production of the re-rolling units during the last 3 years and for April-Sept. '91 is as follows:

(In '000 tonnes)

Category	1988-89	1989-90	1990-91	April to Sept. '91
Bars/Rods (Incl. Squares)	2,067.1	2,085.0	2,191.7	850.2
Wire Rods	544.3	506.0	634.5	283.3
Structural	767.8	769.2	743.8	318.7
Hoops	6.7	2.1	1.2	—
Special Sections	99.4	130.2	111.7	43.8
Slabs/Plates	32.4	45.6	41.2	19.7
Total Reported	3,517.7	3,538.1	3,724.1	1,515.7

3. Steel Wire Drawing Industry

There are 77 units having industrial licenses with a total capacity of 0.943 million tonnes per year.

Production of steel wire drawing units during the last three years and for April-Sept. 1991 is as under:-

(In '000 tonnes)

Category	1988-89	1989-90	1990-91	April-Sept., '91
Mild Steel	223.9	216.4	193.6	77.7
Medium/High Carbon	167.8	189.2	163.0	56.1
Alloy Steels	7.8	6.9	9.9	3.9
Stainless Steel	1.5	1.2	2.3	0.5
Total Reported	401.0	413.7	368.8	138.2

4. Cold Rolled Steel Sheets/Strips Manufacturing Industry

There are 89 units licensed/granted letter of intent for a capacity of around 3.040 million tonnes. 50 units are already in production.

The production of units for last 3 years and for April-Sept. 1991 is as follows:-

(In '000 tonnes)

Category	1988-89	1989-90	1990-91	April-Sept., 91
Mild Steel	464.3	557.2	547.5	283.0
Medium Carbon Steel	12.0	14.2	13.2	5.5
High Carbon Steel	10.1	8.1	6.8	3.0
Alloy Steels	1.6	0.9	0.4	0.6
Stainless Steels	6.9	3.4	5.9	2.3
Total Reported	494.9	583.8	573.8	294.4

5. Hot Rolled Steel Sheets/Strips Units

Apart from the integrated steel plants at Bokaro and Rourkela, there are 5 units in the private sector licensed to manufacture HR sheets/strips, having a total licensed capacity of 0.275 Million tonnes per annum.

The total production of hot rolled steel strips units during the last 3 years and for April-Sept., 1991 is as follows:-

(In '000 tonnes)

Category	1988-89	1989-90	1990-91	April to Sept. '91
Hot Rolled Steel sheets/Strips	35.7	29.0	45.3	32.7

6. GP/GC/Galvalume/Galfan/PVC/Vinyle Coated Sheets/Strips

There are 18 units holding licenses for the manufacture of GP/GC sheets. 9 of these with a total licensed capacity of 0.358 Million tonnes, have been commissioned.

Production of GP/GC sheets during the last three years and for April-Sept., 1991 is as follows:-

(In '000 tonnes)

Category	1988-89	1989-90	1990-91	April to Sept. '91
GP/GC Sheets/ Strips	181.5	213.6	219.0	83.2

Government have also granted 3 licences for an aggregate capacity of 0.145 MTPA tonnes for the production of PVC/Viny1 etc. coated sheets/strips. These are at various stages of implementation and have yet to commence commercial production.

Besides Rourkela Steel Plant, there are two units in the private sector for production of tin-plates. Total capacity of these 2 units is 0.15 Million tonnes of electrolytic tinplates per year.

Production of electrolytic tinplate of the two units in the private sector during the last 3 years and April-Sept., 1991 is as follows:

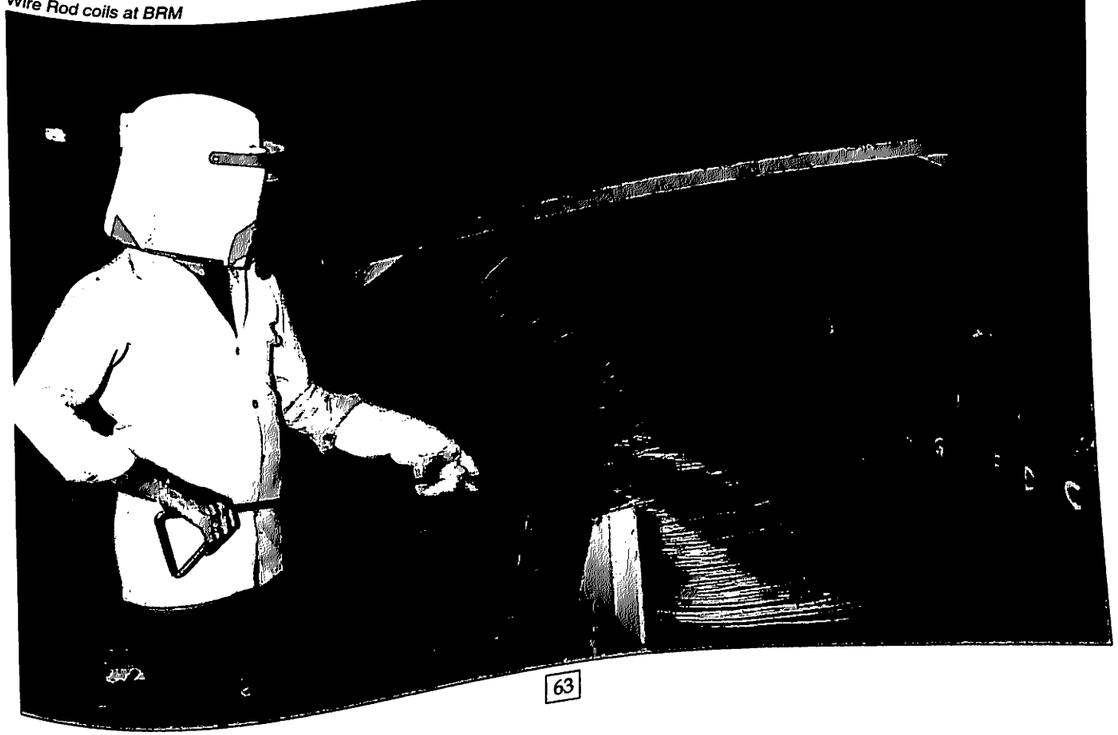
(In '000 tonnes)

Category	1988-89	1989-90	1990-91	April to Sept. '91
Oil Can size	45.3	44.7	46.0	2.7
Non oil can size	33.1	26.9	15.4	4.2
Total	78.4	71.6	61.4	6.9

Pig Iron Industry

1. Pig Iron is one of the basic raw materials for the Engineering Industry. However, the increase in pig iron production has not been commensurate with its demand, which in turn has affected the growth of

Wire Rod coils at BRM



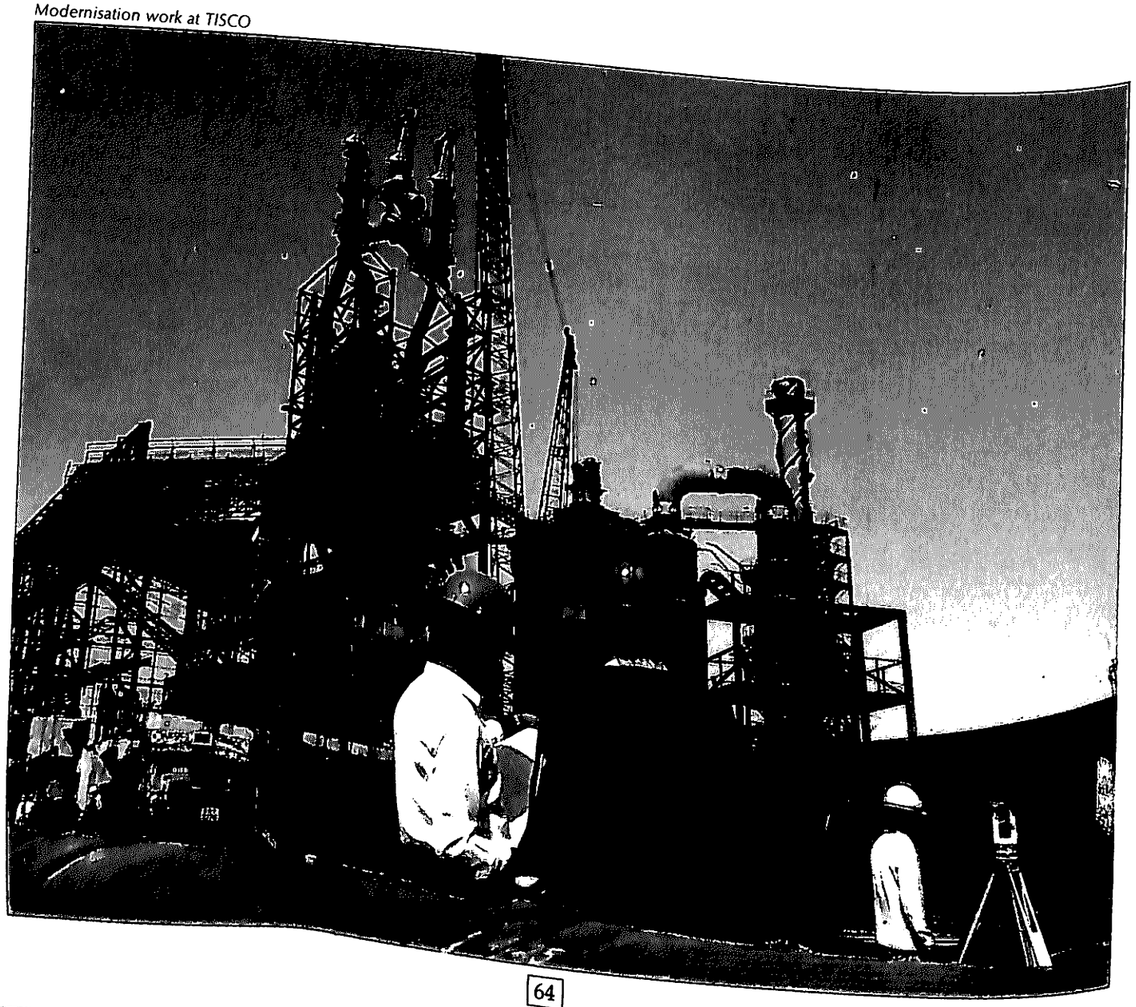
the Engineering Sector and has also affected the country's ability to exploit fully its export potential. Main sources of pig iron are the integrated steel plants which have to divert a part of their hot metal production to this sector. During 1991-92, against an estimated demand of approximately 19.2 lakh tonnes, the domestic production is likely to be about 14.4 lakh tonnes of which about 13.4 lakh tonnes will be contributed by the integrated steel plants.

2. Government is keen to develop pig iron production in the secondary sector. Though pig iron production was delicensed some years back, it is only now that private entrepreneurs have shown interest in setting up production facilities. The financial institutions have already sanctioned assistance for a capacity of 6.85 lakh TPA as per details given below:

(Quantity in lakh tons/year)

	Name	State	Capacity
1.	Mid-West Iron & Steel Ltd.	A.P	1.50
2.	SESA Goa Ltd.	Goa	1.50
3.	NOVA Dhatu Udyog Ltd.	Goa	0.58
4.	USHA Ispat Ltd.	MH	1.32
5.	IDCOL	OR	1.10
6.	TATA Korf Metals	W.B.	0.75

Modernisation work at TISCO



The undermentioned applications for a total capacity of 14.58 lakh tonnes per annum are under consideration of the financial institutions.

(Quantity in lakh tons/year)

	Name	State	Capacity
1.	Satvahana Ispat Ltd.	AP	1.20
2.	Asian Mineral Industries Ltd.	AP	0.63
3.	Suryavanshi Steel & Alloys	AP	1.30
4.	Vijeta Iron & Ispat Ltd.	BH	0.75
5.	Unity Ispat Ltd.	GJ	1.50
6.	Kirloskar Ferrous Industries	KN	1.25
7.	UNI Metal Ispat Ltd.	KN	0.75
8.	Jindal Strips Ltd.	MP	6.00
9.	Mapras Steel Ltd.	OR	1.20

3. The Sesa Goa unit at Goa is at an advanced stage of commissioning while the Usha Ispat Unit in Maharashtra is scheduled to be commissioned during 1992.

4. Production of pig iron requires coke as an essential input. The domestic availability of coke is, however, limited. Government is, therefore, simultaneously seeking to encourage the setting up of merchant coke oven batteries in the Private Sector. Efforts are also being made to assure coking coal supplies for the proposed Coke Oven Batteries. The secondary sector is expected to take advantage of the situation since manufacture of coke has been delicensed under the New Industrial Policy announced in July, 1991.

Ferro Alloys

Ferro Alloys are required as an essential raw material by the steel industry especially in the production of Alloy & Special Steels. While broad banding had been permitted earlier, with the announcement of the New Industrial Policy in July, 91, the industry has been delicensed. This decision has given a boost to this sector & also the entry of small scale producers.. Establishment of such units would result in dispersal of manufacturing facilities and also help in meeting the needs of local consumers. Production during the last 3 years and April to November, 1991 is given below:

(in thousand tonnes)

Category	1988-89	1989-90	1990-91
Ferro Manganese	182.000	188.33	204.000
Ferro Silicon	51.00	55.26	44.00
Ferro Molybdenum	0.231	0.194	0.043
Ferro Chrome	39.09	36.00	38.00
Ferro Tungston	—	—	—
Ferro Vanadium	0.055	0.066	0.030
Ferro Titabium	0.094	0.072	0.09
Mangnesium Ferro Silicon	0.014	—	—
Silicon Chrome	0.652	7.12	1.7
Silicon Manganese	27.34	34.00	29.0
Charge Chrome	82.00	76.85	70.00
Ferro Niobium	0.025	0.039	0.050
Total	382.501	397.931	386.913

Estimated production of various ferro alloys for the period April-November 1991 has been around 2.2 lakh tonnes.

Export of various Ferro Alloys

Export policy

Govt. policy is to conserve minerals with limited reserves and, through appropriate policies, encourage the export of value added items like ferro alloys. While the industry has adequate capacity to step up exports, their efforts are circumscribed by the high power tariff the units are subjected to and the prevailing international prices. The export of various ferro alloys during the last 3 years is given below:

	Qty. in lakh tonnes	Value in Rs. in crores
1988-89	1.18	137.21
1989-90	0.90	118.00
1990-91	0.70	104.00
1991-92 (April-Sept. 91)	0.34	49.00

Sponge Iron

Manufacturing of sponge iron was taken out of the purview of the licensing provisions of the industries (Development & Regulation) Act in 1985. While there were only two private sector units in production during 1988-89, the number of such units increased to six in 1990-91. The total installed capacity of sponge iron units is currently around 14.0 lakh tonnes per annum. Some more capacity is expected to become operational in the near future. The production of sponge iron from 1987-88 onwards is given below:-

(In lakh tonnes)

1987-88	1988-89	1989-90	1990-91
1.77	1.94	3.18	8.30

Research and Development

CHAPTER-VII

1. Iron & Steel Mission:

1.1 The Science & Technology Advisory Committee (STAC) attached to the Ministry of Steel continued to guide the Research & Development activities in the iron and steel sector. A sum of Rs. 1.8 crores has been made available for the continuing schemes taken up under the Iron & Steel Mission.

1.2 Of the 8 projects, studies on two projects have been completed. They are:

a) process development for conversion of non-coking coal/lignites/washery/middlings to a coking agent by solvent refined coal (SRC) technology-Phase I.

b) Beneficiation of Finely crushed coal by Heavy Medium cyclone cum Oil agglomeration technique - Phase I.

1.3 The implementation of projects under the Iron & Steel Mission can be taken up after finalisation of the VIIIth Five-Year Plan when the position of fund availability will be known.

2. R&D Activities in Iron and Steel Units Under the Ministry of Steel

The Public Sector Undertakings of the Ministry and also the steel plants in the private sector continued their R&D activities.

2.1 R&D Centre for Iron & Steel, SAIL, Ranchi.

2.1.1 The Centre has achieved significant improvement in all spheres of operation in the steel plants of SAIL, viz., productivity, processes, products, pollution and performance. The Centre has been involved in the indigenous development and implementation of a number of process technologies compatible with local resources and requirements. Mention may be made of the following main process technologies:

i) high pressure sintering plant at Chanderpur producing good quality of manganese ore sinter;

ii) technology for re-generation of acid sludge produced during washing of crude Benjol:

iii) casting of stainless steel thin strip directly from molten metal;

iv) on line marking system for identification of billets/slabs in continuous casting machine.

2.1.2 In the field of energy conservation, the following activities had been organised by the Centre.

— Computer Control system for reheating furnaces.

— Modified ignitionhood in sintering machines.

— Optimisation of process parameters in blast furnace.

— Introduction of an improved laddle pre-heating system in SMS.

2.1.3 The Centre has also contributed to improvement in production of various units, such as:

— Design improvement in the Sintering Machine.

- Trials with Zircon sand.

— Extensive use of low moisture castables in the hearth doors.

2.1.4 The Centre has made attempts to enhance the yield and quality of products for better value realisation. Important activities are:

i) Modification of secondary cooling regimes by continuous measurement of slabs surface temperature in the caster at BSP to enable to drastically reduce the generation of surface cracks.

ii) Modification of neat treatment practices at VISL.

iii) Quality of jackal steel plates for defence application.

2.1.5 The following critical indigenous products were developed in the shops:-

— Production of 90 UTS rails through LD-CC route.

— High temperature nickel base super alloy springs for slide gate mechanism.

— Hot rolled weather resistant in (corten) steel plates and sheets.

— Superior wear resistant electrodes for hard-facing of blast furnace big bells and hoppers.

— Exothermic hot repair mass for coke ovens and directly porosity purging element to be used in converters where combined blowing technology has been implemented.

— The Centre suggested various pollution control measures such as controlling the degree of pollution in the steel plants and their vicinity, the quality assurance control programme and noise monitoring.

2.1.7 The Centre provided technical advice and consultancy to other Organisations to improve their performance level. Mention may be made of the following two assignments:

— Complete metallurgical evaluation of the quality of CRM rolls supplied by HEC Ranchi to SAIL Plants.

— Evaluation of imported coal from Australia and their compatibility with the indigenous medium coking coal for the blend to be used in Visakapatnam Steel Plant.

2.2 Tata Iron & Steel Company Limited (TISCO):

2.2.1 Through R&D work, it has been established that by using lime upto a level of 25-30% in the LD sludge, it is possible to bring down the moisture level upto 15-35% and help to make sludge granular for easy handling. A project on commercial scale costing Rs. 60 lakhs has been accordingly taken up for drying LD sludge for use in the Sinter mix.

2.2.2 A suitable binder has been developed for production of chrome ore pellets with a compressive strength upto 80 kg. per pellet. This may help in the export effort.

2.2.3 A viable process flew sheet for beneficiation of Run of Mines, Joda fines (-10 mm) to below 2% alumina has been developed.

2.2.4 Results have shown that softening characteristics of iron ore and sinter inside Blast furnace increasing in the case of iron ore but there is practically no change in the case of sinter. It has also been established that sinter is much better for blast furnace than iron ore.

2.2.5 Laboratory tests have established the parameters in terms of coal grain size, moisture content to achieve the optimum stability of stamped charge coal take.

2.2.6 Suitable coal injection technique in blast furnaces identifying the coal size to be - 250 mesh, if the ash content of coal is more than 10%,has been developed. This system is under installation.

2.2.7 A tar steam emulsion burner to improve the efficiency of combustion at steel melting shop was developed which resulted in fuel saving and increase in productivity.

2.2.8 A mathematical model has been developed to estimate the temperature drop of liquid steel, tapped in the dolomite laddle as well as the drop in lining temperature of empty ladles after preheating in the L.D. Shop.

2.2.9 It has been established that taking into account the heat and mass balance of Energy optimising Furnace and LD converter it is possible to determine the optimum scrap addition for EOF & LD operation.

2.2.10 A mathematical model of heat transfer in continuous casting to study the effect of cooling water condition on mould heat transfer has been developed. This will help in monitoring the effect of cooling water condition of mould heat transfer.

2.2.11 Direct rolling of superior cold heading quality has been developed.

2.2.12 Continuous casting of low strength, cold heading quality steel was successfully tried for the first time.

2.2.13 It has been possible to dèvelop the optimum chemistry and taper of the ingot moulds to improve their life.

2.2.14 The R&D Division TISCO also brought out a number, of reports during the year, including a report for TIFAC on continuous Casting alongwith SAIL (R&D), MECON, MML and I.I.T., Bombay.

2.3 Kudermukh Iron Ore Company Limited:

2.3.1 A process has been establashed to improve the quality of concentrate from magnetic separation circuit with the installation of tertiary magnetic separating system.

2.3.2 For better metallurgical grade and improved recovery of non-magnetic concentrate, a floatation system has been established.

2.3.3 It has been established that by using coal as additive, it is possible to improve the pellets quality with higher metallisation and lower sulphur content. Use of dolomite as additive for improving the metallurgical properties of pellets is under study

2.4 Sponge Iron India Limited

R&D efforts have established the use of melting grade high carbon sponge iron briquettes in cupola. At present, it is possible to feed direct reduced iron (DRI) upto 15% of the total charge. In order to increase the proportion of direct reduced iron, high carbon about 4% is being produced using sponge iron fines and coke breeze and trials have been made in the hot cupola of NML Jamshedpur. The following results have been obtained:-

a) Sponge iron briquettes can be melted in a cupola upto 15%, as a substitute in place of pig iron.

b) A good grade of Sponge Iron briquettes having higher metallisation will enhance the productivity and decrease coke rate.

c) Use of low ash coke and higher operating temperatures in basic lined copola would tend to improve the percentage of usage of sponge iron briquettes.

2.5 Manganese Ore India Limited

The important areas where R&D tests have been taken up by the Company during the year are:

2.5.1 Beneficiation of medium and low grade ore as well as medium grade dioxide ore to Battery grade. As a result, it has put up HIMS Plant and further R&D work is in progress on the establishment of a wet process for fine ores.

2.5.2 Use of cable bolting and steel roof supports in underground mines. As a result, timber consumption has been reduced substantially.

2.5.3 Continuous R&D efforts are in progress for improvement in mining methods for better recovery of ore from underground mines.

2.5.4 Diamond drill has proved useful to locate new manganese bearing areas and further results in existing areas.

2.5.5 R&D were for optmisation of process parameter for EMD plant so as to double its capacity.

2.5.6 Continuous R&D efforts on de-phosphurisation of high phosphorous manganese ores is in progress.

2.6 Bharat Refractories Limited

R&D efforts were made in the following areas:

2.6.1 Improvement in the properties of LD Gunning Mass leading to reduction in rebound loss and better performance.

2.6.2 Development of tap hole mass for converter specially suitable for operational conditions at BSP & BSL.

2.6.3 Development of Trough Mix and Mud Gun mass for operational conditions of DSP, VSP.

2.6.4 Development of high alumina low cement castables to suit its requirement in several critical areas of steel plants.

2.6.5 Development of Super duty ramming mass for sealing the gap between bottom lining and barrel lining of converter jointly with RDCIS, SAIL.

Development of Management Information System

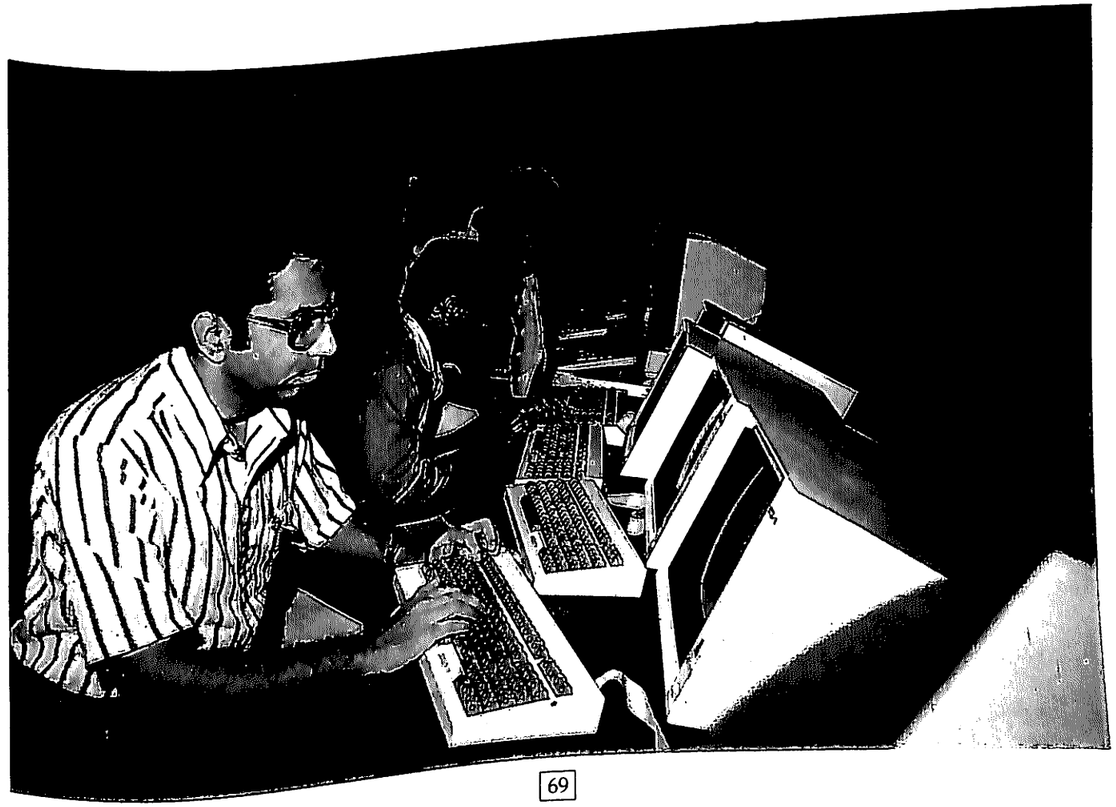
A computer based integrated Management Information System (MIS) has been developed in the Ministry of Steel with the assistance of the National Informatics Centre (NIC) in the areas of Administration, Public Sector Undertakings, Personnel Management, Projects, Secondary Producers and Finance Accounts & Budget.

The Computer Centre in the Ministry of Steel, which has been established as a central facility, is equipped with following hardware:

1. Super-At (HCL & SHIVA) compatible with 8 MB main memory, 160 MB & 300 MB Hard disks each alongwith 19 dumb terminals. — 2 NOs
2. IBM PC XTS/PC ATs — 5 NOs
3. Dot Matrix Printers & a Line Printer — 8 NOs

The Super-ATs are connected to the NIC Super Computer & Electronic Mail Package available on the Super Computer. Terminals of the Super AT in the networking environment have been given to Senior Officers of the Dept. including certain sections in the Ministry. These terminals facilitate interactive usage with the Management Information System developed for this Ministry as well as routine functions such as Word Processing, data entry etc.

Training programmes are periodically conducted by NIC for various levels of staff in the department to get them acquainted with the usage of computers in the areas like word processing, data entry operations, data processing techniques and package usage training on the several Sub-systems developed for this Ministry in the above said areas.



Organisational Structure

CHAPTER-D

9.1 The organisational structure of the Ministry of Steel is portrayed in the Chart at Annexure-I. To guide, command, control and facilitate the operations of the Ministry, the levels of supervision are established and suitable patterns for administrative control are formed.

9.2 The total strength of the Secretariat of the Ministry as on 31.12.1991 is 277. The classification/ category-wise details are at Annexure-II. An officer of the level of Director has been designated to function as Director (Public & Staff Grivevances).

9.3 The main objective of the Ministry is the development of iron and steel, industry in the country. The details of the work allocated to the Ministry are given item-wise in Annexure-III. There are 18 Public Sector Undertakings under the administrative control of the Ministry. The details are at Annexure-IV.

9.4 The Ministry has an attached office, viz., the Office of the Development Commissioner for Iron & Steel at Calcutta. The organisation chart of the Office of DCI&S as is at Annexure-V. The Office of DCI&S has been discharging regulatory as well as development functions. The organisation provides useful feed back which enables the Ministry in the formulation of policies and in taking executive decisions.

Statement showing the number of employees, number of SC/ST, Physically handicapped, exservicemen, men and women as on 31.12.91 in respect of the Ministry of Steel (Secretariat)

Annexure-II

Classification	No. of employees	Men	Women	SC	ST	PH	Exservicemen
1.	2.	3.	4.	5.	6.	7.	8.
Group 'A'	30	27	3	2	Nil	Nil	Nil
Group 'B'	84	72	12	10	2	Nil	Nil
Group 'C'	92	64	28	23	6	Nil	1
Group 'D'	71	68	3	29	8	1	1
Total"	277	231	46	64	16	1	2

Annexure-III

Items of Work Allocated to the Ministry of Steel

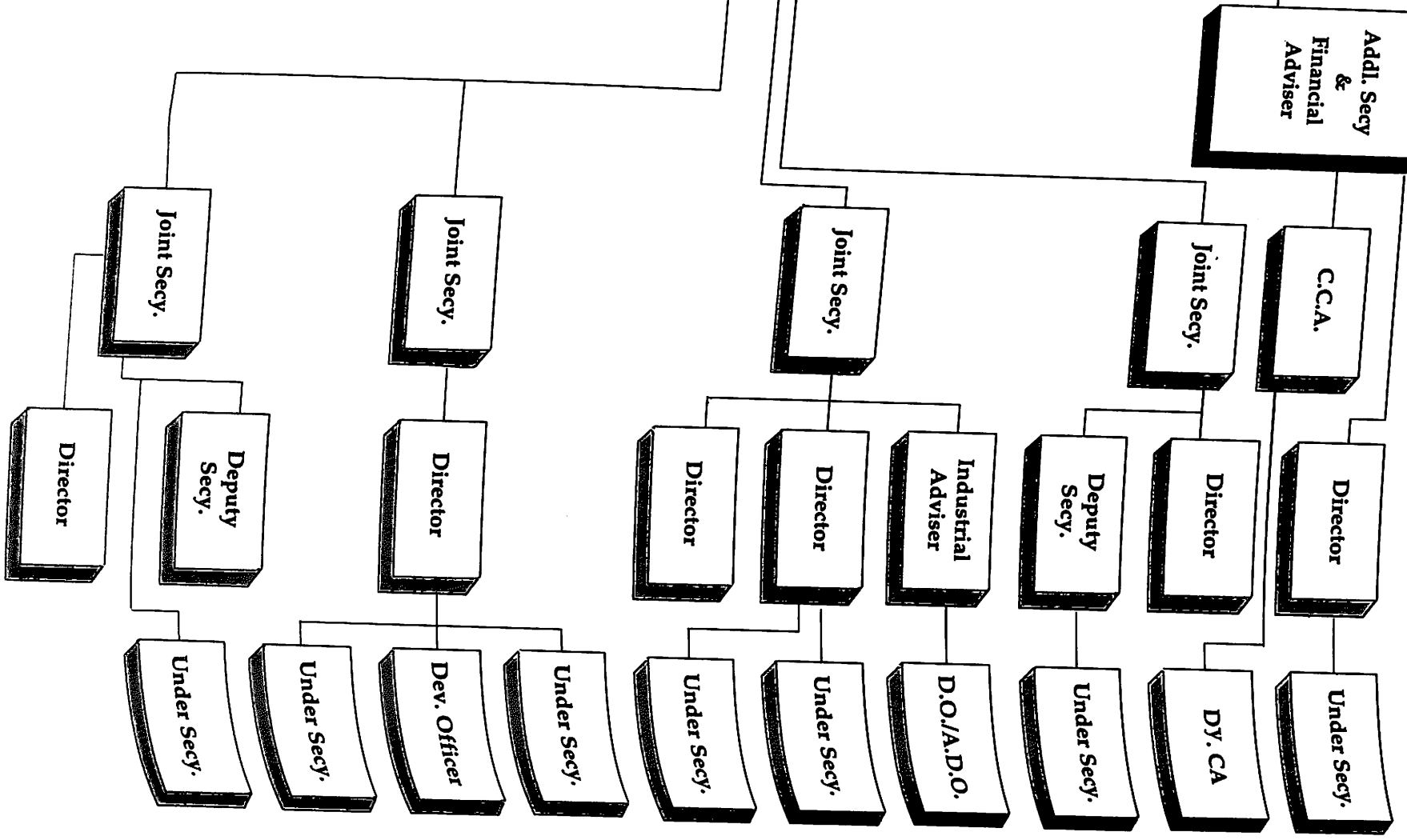
1. Steel Plants in the public and private sectors, the rerolling industry and ferro alloys, including all future development.
2. Development of Iron ore mines in the public sector.
3. Development of other ore mines and mineral processing for the steel plants.
4. Production, distribution, prices, imports and exports of iron and steel and ferro-alloys.
5. Planning, Development and control of the assistance to all iron and steel industries.
6. Production, supply, pricing and distribution of iron ore, manganese ore, limestone, sillimanite, kyanite and other minerals and alloys used in steel industry including magnesite & refractory industry but excluding mining leases or matters connected therewith.
7. The Steel Authority of India Limited and its subsidiaries.
8. Matters relating to the following undertaking namely:
   i) The Bolani Ores (India) Limited
   ii) The Manganese Ore (India) Limited.
   iii) The Metal Scrap Trading Corporation, and its subsidiary.
9. Other Public Sector Enterprises or undertakings falling under the subject included in this list except such as are specifically allotted to any other Department.
10. All attached or subordinate offices or other organisations concerned with any of the subjects specified in this list.
11. Setting up of coke oven Batteries.

Annexure-IV

List of Public Sector Undertaking under the Department of Steel

1. Steel Authority of India Limited, Ispat Bhawan, Lodhi Road, New Delhi - 110 003
2. Metallurgical & Engineering Consultants (India) Limited. MECON Building, Ranchi - 834 002
3. National Mineral Development Corporation Limited, Castle Hills, Masab Tank, Hyderabad 500 028
4. Bharat Refractories Limited Sector IV-3 Quarter No. 56 Bokaro Steel City-827 001.
5. Kudremukh Iron Ore Co. Ltd. 11 Block Koramangala, Bangalore - 560 034.
6. Manganese Ore (India) Ltd., 3 Mount Road Extension, Nagpur - 440 001.
7. Hindustan Steel works Construction, Ltd., No. 1 Shakespeare Sarani, (8th Floor), Calcutta - 700 001.
8. Sponge Iron India Limited, NMDC Complex, Khanij Bhavan, 10-3-3 II/A Castle Hills, Hyderabad- 500 028
9. Rashtriya Ispat Nigam Limited, Project Office 'A' Block, Visakhapatnam - 530 031 (AP)
10. Neelachal Ispat Nigam Limited, IPICOL HOUSE (4th Floor) Bhubaneswar- 751 007.
11. Metal Scrap Trade Corporation, 225 F, Acharya Jagdish Bose Road, Calcutta- 700 020.
12. Vijayanagar Steel Limited, Blue Cross Chambers, III Floor, 'B' Wing, Infantry Road, Bangalore- 500 001.
13. Ferro Scrap Nigam Limited, Building No 54 Old Admn. Office Complex, Bhilai- 490 001.
14. India Fire Bricks and Insulation Company Limited, Rly. Station Ranchi Road, P.O. Marar - 820 177 District Hazaribagh, Bihar.
15. Indian Iron and Steel Company Limited, Burnpur - 713 325.
16. IISCO Ujjain Pipe and Foundry Ltd., Calcutta.
17. J & K Mineral Development Corporation. Srinagar.
18. Visvesvaraya Iron and Steel Limited, Bhadravati.

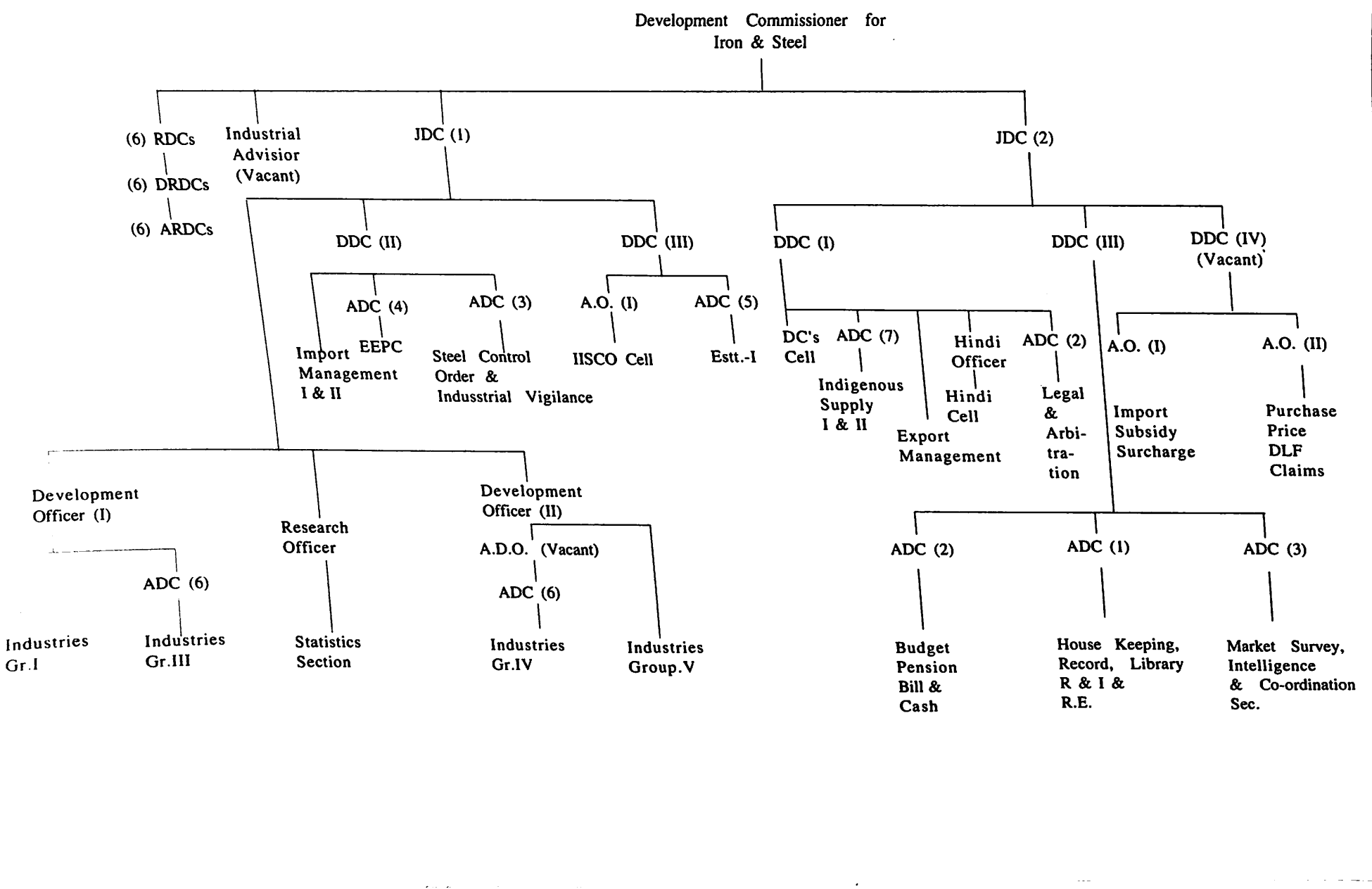
Organisational Chart of the Ministry of Steel



Annexure I

Annexure-V

Existing Organisation Chart of the Office of the Development Commissioner for Iron & Steel as on 31.12.91



Welfare of the Weaker Sections

An officer of the rank of Director has been designated as Liaison Officer to look after matters relating to representation of Scheduled Castes and Scheduled Tribes in the Ministry of Steel, its attached and subordinate offices and the Public Sector Undertakings under its administrative control. Periodic Reviews and status reports received from PSUs regarding recuitment/promotion of Scheduled Castes/Scheduled Tribes against the vacancies reserved for them are scrutinised in the Ministry of Steel and appropriate directions issued to the PSUs, as and when necessary.

2. The actual record of performance of some of the major PSUs in respect of representation of scheduled Castes/Scheduled Tribes during 1991 is indicated below:

(i) Steel Authority of India Limited (SAIL)

The total manpower of the Company as on 31st March, 1991 was 1,92, 364 comprising 18,911 executives and 1,73,453 non-executives as against the position on 31st March, 1990 which was 1,94,915 comprising of 18,319 executives and 1,76,596 non-executives.

Scheduled Castes and Scheduled Tribes employees constituted 12.62% and 9.75% of the total manpower respectively. Intake of SC and ST candidates was 33.15% of the total recruitment during the year 1990. The share of SC/ST employees in promotions was 15.77%. In accordance with Government instructions, special recruitment drives exclusively for SC/ST candidates were undertaken and more than 500 persons were recruited in SAIL plants and units through theses efforts.

The rosters for reservation are being maintained by the steel plants units separately for each group and in the prescribed form. In order to improve the proportion of SC/ST candidates in the executive cadre, SAIL has been operating a scheme for giving special coaching to SC/ST candidates for upgrading their technical skills. Similarly SC/ST employees are also imparted in-service training to improve the chances of promotion. The SC/ST candidates are also permitted relaxation in prescribed standards in respect of eligibility, experience, written test and interview. A member of the SC/ST community is also associated in Selection Board meetings.

(ii) Visakhapatnam Steel Project (VSP)

The representation of SC/ST in VSP as on 31.12.91 in given below:

Group	Total Number of employees	SC	ST
'A'	2236	239	50
'B'	390	48	5
'C'	8551	1279	358
'D' (Excluding safai karamchari)	1804	293	134
'D' (Safai Karamchari)	106	32	4
Total	13087	1891	551
Trainees	2601	595	174

(iii) Bharat Refractories Limited (BRL)

The Company, had as on 31.3.91, 4332 persons out of which 1068 belonged to Scheduled Castes/Scheduled Tribes.

(iv) National Mineral Development Corporation (NMDC)

The total number of employees in NMDC as on 31.10.91 was 6895 out of which 1074 persons belong to Scheduled Castes and 105 persons belong to Scheduled Tribes.

The group-wise distribution of SC/ST employees is indicated in the following table :-

Group	Total Number of employees	SC	ST
'A'	622	32	4
'B'	1023	67	19
'C'	3309	464	587
'D' (Excluding Safai Karamchari)	1807	413	439
'D' (Safai Karamchari)	134	98	6
	6895	1074	1055

The Corporation gives facilities for promotion of education among the children of SCs/STs by offering scholarships in Local Kendriya Vidyalayas and by providing free educational facilities to children of tribals who seek admission in project's schools. A school exclusively for children of tribals has been started by the Company at their Bailadila-5 Project. All tribals residing in the project area are offered free medical facilities at the NMDC project hospitals. Members of the scheduled tribe communities can also avail of the services of the Project Co-operative Societies, even if they are not employees of the Company.

At their Bailadila Project, the Company has constructed two community Centres Weekly film

shows and other entertainments are provided at these centres. NMDC provided 14 hand-pumps and also dug 37 wells in the nearby villages in order to improve drinking water facilities for the local residents. A weekly market (Haat) is being organised in Bacholi where the Advasis get an opportunity to sell their wares.

(v) Manganese Ore India Limited (MOIL)

The total number of employees in the Company as on 31.10.91 was 9399 out of which 1676 belong to Scheduled Castes and 2586 belong to Scheduled Tribes. The following table indicates the group-wise distribution of SC/ST employees in the total manpower:

Group	SC	ST	Total.
'A'	16	8	207
'B'	12	6	162
'C'	337	415	1922
'D'	1314	2157	7108
Total	1676	2586	9399

(vi) Metallurgical & Engineering Consultants (India) Limited (MECON)

The total number of employees in the Company as on 31.11.91 is 3825, out of which 228 persons belong to Scheduled Castes and 437 persons belong to Scheduled Tribes.

(vii) Hindustan Steelworks Construction Limited (HSCL)

The Company has a total manpower of 20463 on 31.12.91. The Company continued to lay stress on taking steps for promoting welfare of Scheduled Castes and Scheduled Tribes. The group-wise distribution of SC/ST employees is indicated in the table below:

Group	Total	SC/ST	%
'A'	1984	101	5.1
'B'	823	71	8.6
'C'	14925	3012	20.2
'D'	2538	2378	93.7
Total	20270	5562	27.4

As compared to the total strength of 20463 during the last year, there is a reduction of about 193 employees in the Company due to retirement, resignation, death, termination etc. and voluntary retirement.

Progressive Use of Hindi

The Ministry continued its efforts for greater use of Hindi in official work during the year 1991-92 in keeping with the Annual Programme prepared by the Department of Official Languages (Ministry of Home Affairs) for implementation of the Official Language of Union.

1.2 The work relating to the progressive use of Hindi in the Ministry of steel is under the administrative control of Joint Secretary and is looked after by a Director. A Hindi Section consisting of an Assistant Director, a Senior Translator, three Junior Translators, one Hindi Stenographer and three LDCs assist in this work. 45 Devangari Typerwirters including 19 bilingual electronic Typewriters, adequate Hindi reading material etc. are available in the Ministry. Besides, the computer is also being used for Hindi work. A number of measures are being taken for the promotion of progressive use of Hindi in the Ministry and in the office of the Development Commissioner for Iron and Steel. All communications received in Hindi are being replied to in Hindi.

2.0 Some important items in regard to the use of Hindi in the working of the Ministry and its PSUs are indicated below:

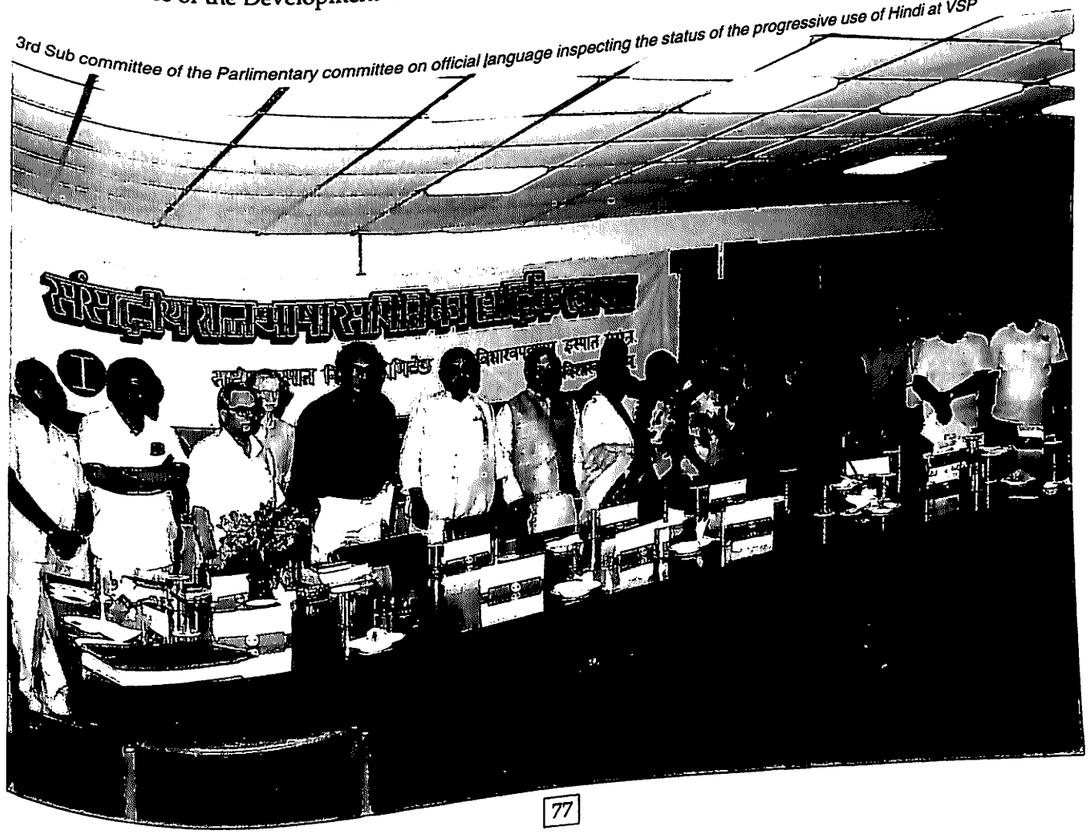
2.1 House Journals

Almost all the Public Sector Undertakings under the administrative control of this Ministry are publishing their house journals in Hindi also. In addition, Hindi magazines and books are available in their libraries.

2.2 Inspection

An Inspection Team has been constituted in the Ministry to oversee the status of implementation of the provisions of the Official Language Act/Rules in its attached office and Public Sector Undertakings under the administrative control of the Ministry. In

3rd Sub committee of the Parlimentary committee on official language inspecting the status of the progressive use of Hindi at VSP



the year under review this Inspection Team had made 15 such inspections.

2.3 Official Language Implementation Committee

There is an Official Language Implementation Committee under the Chairmanship of a Joint Secretary in the Ministry. This committee reviews the progress made in the use of Hindi in the Ministry, its attached office and Public Sector Undertakings. Meeting of the Committee are held regularly. This year two such meetings have been held. In each meeting, representatives of two undertakings are also invited by turn and status of the progressive use of Hindi is reviewed.

2.4 Hindi Salahkar Samiti

In Accordance with Government instructions, the Ministry of Steel has a Hindi Salahkar Samiti. Besides, Members of Parliament, senior officers of the Ministry of Steel Department of Official Language, Development Commissioner for Iron and Steel, Chairman-cum-managing Directors of Undertakings a and few eminent persons working for the propagation of Hindi are also its members.

The Samiti last met on 15.2.91 in which progress of use of Hindi in the Ministry was reviewed.

2.5 Rajbhasha Sheild/Trophies

In order to encourage the use of Hindi in the Office and Undertakings under the administrative control of the Ministry of Steel, a Chal Vaijayanti, a Rajbasha Shield and two Trophies have been instituted. These are awarded each year to the Office/Undertakings whose performance in this field is rated the best. Besides, a medal is also awarded to the officer/employee of the Ministry whose work in Hindi is rated the best.

Vice President Dr. S.D. Sharma giving Indira Gandhi Rajbhasha shield to Shri S.R. Kulkarni G.M., IISCO Ujjain Pipe and Foundary Co. Ltd.

2.6 Implementation of Section 3 (3) of the Official Language Act:

In pursuance of Official Language Policy of Govt. almost all documents covered under section 3(3) of the Official Language Act are prepared both in Hindi and English. In order to ensure issue of letters in Hindi to Central Government Offices located in Regions 'A' and 'B' "Chekpoints" have been identified in the Ministry.

2.7 Incentive Scheme for Original Work in Hindi:

The cash incentive Scheme for original work in Hindi introduced by the Department of Official Language is being implemented in the Ministry. Almost all Sections/Desks of the Ministry have started writing short/routine notes in Hindi. Some officers have also started writing notes in Hindi. Officers have been requested to use Hindi to the extent possible in their work so as to set an example for the staff under them. Five persons have been given cash prizes under the incentive scheme during the year.

2.8 Training of Staff in Hindi/Hindi Typewrting/Hindi Stenography

A programme has been drawn up for imparting training in Hindi/Hindi typewriting/Hindi Stenography to those employees for whom in-service training is obligatory. The position regarding-training in Hindi/Hindi typing/Hindi Stenography in the Ministry is as under:

Officers and staff of the attached offices and Public Sector Undertakings are given training under the Hindi Teaching Scheme of the Ministry of Home Affairs, wherever such facilities exists. In other places employees are encouraged to learn Hindi through correspondence courses conducted by the Central Hindi Directorate.

SAIL have initialed their own Hindi teaching programme through correspondence.

The expenditure on such training is borne by the concerned organisation.

2.9 Hindi Week

In order to create interest in the use of Hindi in official work among officers/employees of the Ministry, a 'Hindi Week' was observed from 14.9.91 to 21.9.91. An appeal was issued by the Hon'ble Minister of State for Steel to the staff of the Ministry and to all the Public Sector Undertakings. During this week Hindi essay/Hindi typing/Hindi stenography competitions were conducted and prizes awarded.

		Trained	Under Training/ nominated for training.
1.	Hindi Typing	6	7
2.	Hindi Stenography	19	3
3.	Hindi Training		
(i)	Total number of employees officers (Group A,B & C)	—	196
(ii)	Total number of employees officers pessessing working knowledge of Hindi	—	186
(iii)	Total number of employees under training	—	
(v)	Total number of employees yet to be trained in Hindi	—