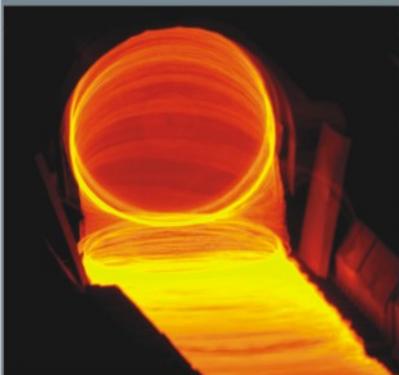


# Annual Report 2007-2008



सत्यमेव जयते

**MINISTRY OF STEEL**  
GOVERNMENT OF INDIA

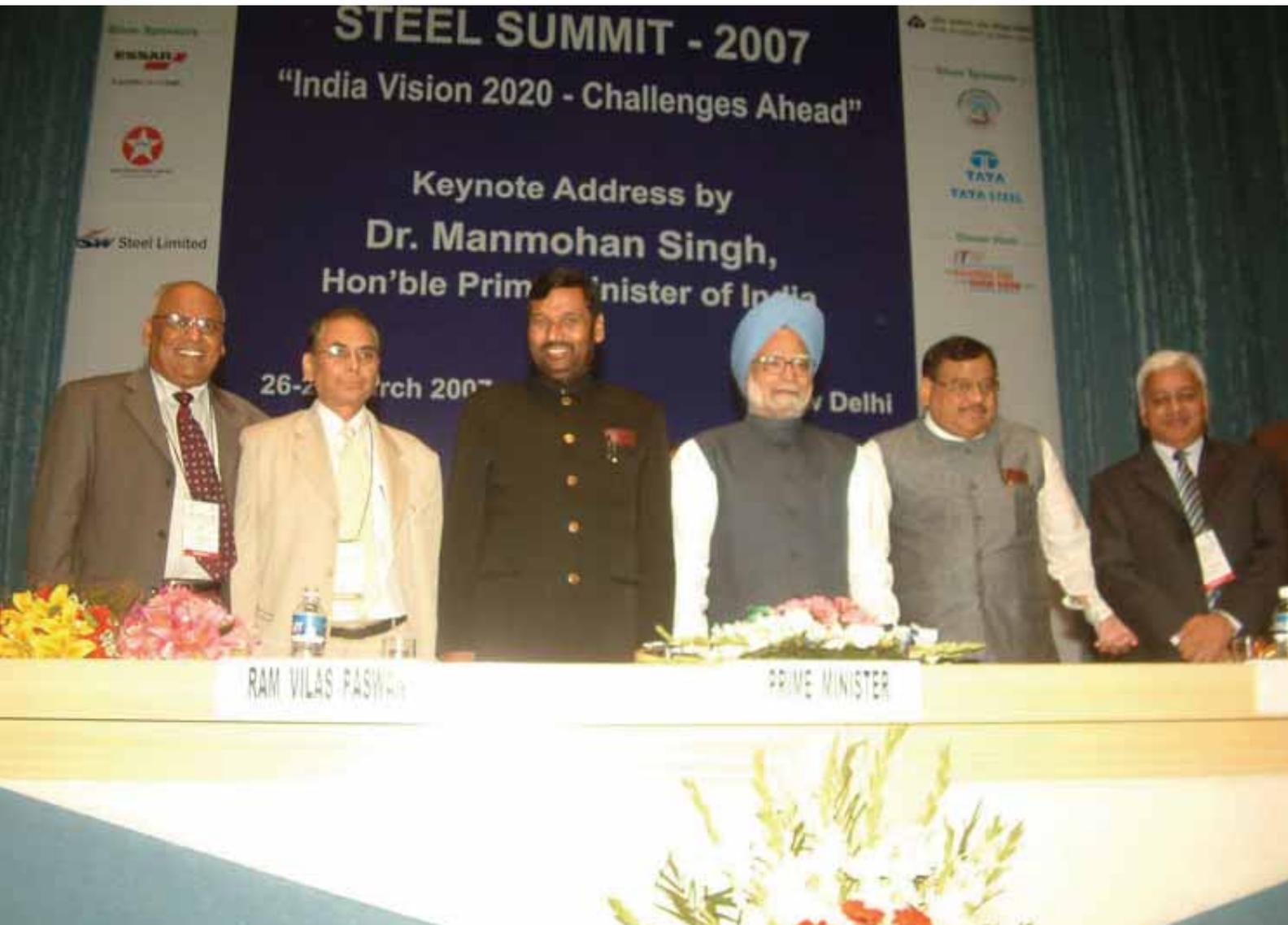


**MINISTRY OF STEEL**

**ANNUAL REPORT**

**2007-08**

<b>Chapter</b>	<b>CONTENTS</b>	<b>Page No.</b>
<b>I</b>	HIGHLIGHTS	<b>04</b>
<b>II</b>	DEVELOPMENT OF THE INDIAN STEEL SECTOR DURING THE PAST SIXTY YEARS	<b>10</b>
<b>III</b>	ORGANISATIONAL STRUCTURE AND FUNCTIONS OF MINISTRY OF STEEL	<b>17</b>
<b>IV</b>	PUBLIC SECTOR	<b>22</b>
<b>V</b>	PRIVATE SECTOR	<b>37</b>
<b>VI</b>	RESEARCH AND DEVELOPMENT	<b>46</b>
<b>VII</b>	ENERGY AND ENVIRONMENT MANAGEMENT	<b>55</b>
<b>VIII</b>	DEVELOPMENT OF INFORMATION TECHNOLOGY	<b>72</b>
<b>IX</b>	SAFETY	<b>79</b>
<b>X</b>	WELFARE OF WEAKER SECTIONS OF SOCIETY	<b>82</b>
<b>XI</b>	VIGILANCE	<b>90</b>
<b>XII</b>	GRIEVANCE REDRESSAL MECHANISM	<b>95</b>
<b>XIII</b>	IMPLEMENTATION OF PROVISIONS OF PERSONS WITH DISABILITIES ACT, 1995	<b>98</b>
<b>XIV</b>	PROGRESSIVE USE OF HINDI	<b>106</b>
<b>XV</b>	EMPOWERMENT OF WOMEN	<b>110</b>
<b>XVI</b>	NEW INITIATIVES/INNOVATIVE SCHEMES	<b>114</b>
<b>XVII</b>	RECOGNITION AND AWARDS	<b>128</b>
<b>XVIII</b>	PROMOTION OF STEEL USAGE	<b>132</b>
<b>XIX</b>	CORPORATE SOCIAL RESPONSIBILITY	<b>135</b>
<b>XX</b>	TECHNICAL INSTITUTES UNDER THE MINISTRY OF STEEL	<b>144</b>
<b>XXI</b>	IMPLEMENTATION OF THE RIGHT TO INFORMATION ACT, 2005	<b>148</b>
<b>XXII</b>	DEVELOPMENT OF NORTH-EASTERN REGION	<b>150</b>
<b>ANNEXURES</b>		<b>152-164</b>



Steel Summit - 2007 held in New Delhi on 26<sup>th</sup>- 27<sup>th</sup> March, 2007, graced by the presence of Hon'ble Prime Minister, Dr. Manmohan Singh, Hon'ble Union Minister for Chemicals & Fertilisers and Steel, Shri Ram Vilas Paswan and Hon'ble Union Minister of State for Steel, Dr. Akhilesh Das. Also seen in the picture are Secretary (Steel), Shri R. S. Pandey, Chairman SAIL, Shri S.K. Roongta and MD Tata Steel, Shri B.Muthuraman.

## CHAPTER - I

# HIGHLIGHTS

### STEEL SECTOR TRENDS

- India emerged as the fifth largest crude steel producing country in the world in the year 2006 as against eighth position three years back. India is expected to become the second largest producer of steel in the world by the year 2015.
- India also maintained its lead position as the world's largest producer of direct reduced iron or sponge iron.
- The country is likely to achieve a Steel production capacity of nearly 124 million tonnes by the year 2011-12.
- 194 Memoranda of Understanding (MoUs) have been signed in various States with a total planned capacity of around 243 million tonnes, and a total proposed investment of over Rs. 5.15 lakh crore. Major investment plans are in the States of Orissa, Jharkhand, Karnataka, Chhattisgarh and West Bengal.
- Production, consumption and export of finished steel for the period April-December, 2007 grew by 6.6%, 12.3 % and 9.1 % respectively as compared to the corresponding period of the previous year.
- Data relating to production, consumption, import and export of finished steel (alloy & non-alloy) and crude steel from the year 2002-03 onwards are reflected in the table below:

(in million tonnes)

		2002 - 03	2003 - 04	2004 - 05	2005 - 06	2006 - 07	2007 - 08* (April - December)
<b>Finished Steel including Alloy Steel</b>	<b>Production</b>	37.166	40.709	43.513	46.566	52.529	40.117
	<b>Consumption</b>	30.677	33.119	36.377	41.433	46.783	36.992
	<b>Import</b>	1.663	1.753	2.293	4.305	4.927	5.325
	<b>Export</b>	4.517	5.207	4.705	4.801	5.242	3.850
<b>Crude Steel</b>	<b>Production</b>	34.707	38.727	43.437	46.460	50.817	39.608

\*Provisional

### Major initiatives taken by the Ministry of Steel during the year 2007-08

- An Inter-Ministerial Group (IMG) was constituted to monitor, facilitate and coordinate speedy actualisation of major steel investments in the country.
- A Steel Pricing Monitoring Committee was formed for keeping track of steel price movements and to advise the industry on their product-mix as well as long-term capacity addition. The Committee held four meetings in January, March, June and October 2007.
- Present per capita consumption in the country is only around 46 kg (2006) against the world average of 150 kg and that of 400 kg in developed countries. The awareness campaign to increase domestic steel consumption was intensified during the year.

- Preparatory action for take off of the 'Steel Research & Development Mission (SRDM)' in virtual mode with funding from main/ major steel producers was completed.
- Steel Technology Centre at IIT, Kharagpur to promote R&D in iron & steel sector was approved, at a cost of Rs. 22.26 crore for 5 years.
- Initiatives under Clean Development Mechanism (CDM) - Host Country Approval (HCA) to 58 proposals from the iron and steel plants in India accorded which will result in Green House Gas abatement worth 66 million tonnes of CO<sub>2</sub> equivalent.
- Under the Asia Pacific Partnership on Clean Development and Climate (APPCDC), Rourkela Steel Plant of SAIL has been selected. A team from Japan visited India during 14<sup>th</sup>-17<sup>th</sup> January, 2008 for diagnostic study of Rourkela Steel Plant for identification of gaps in energy efficiency and environment-friendly technologies.
- In the five year Plan for steel sector, a new scheme named 'Scheme for promotion of R&D in the Iron & Steel Sector' has been included with a budgetary provision of Rs. 118 crore.
- A Quality Control Order on 17 selected steel products was issued by the Department of Consumer Affairs on 12<sup>th</sup> November, 2007 under which production, sale or distribution and storage of sub-standard products would be an offence with effect from 12<sup>th</sup> May, 2008.
- An International Seminar on Iron Ore beneficiation and pelletisation organised in October, 2007 to encourage iron ore pelletisation capacity using iron ore fines.
- A study on adequacy of infrastructure for the Proposed Expansion in Steel Capacities in the 11<sup>th</sup> Plan with special reference to the states of Orissa, Jharkhand and Chhattisgarh has been completed.
- A Discussion paper on 'Iron Ore Fine utilisation in India' was brought out by Economic Research Unit, Ministry of Steel in October, 2007.
- For resolving railway infrastructure bottlenecks, a Coordination Committee, consisting of representatives from Steel Industry, Ministry of Steel and Railway Board has been constituted.
- Reform of steel sector data was carried out to get accurate estimates of capacity and production figures and the existing database was updated on the basis of the corrective exercises undertaken during the year.

### Performance of PSUs and companies under the Ministry

The combined Profit Before Tax (PBT) of the PSUs and the Companies under this Ministry have gone up from around Rs. 14,322 crore in 2004-05 to Rs. 15,566 crore in 2006-07. The combined performance of these companies up to the third quarter of 2007-08 shows a combined PBT in the region of Rs. 13,655 crore.

The contribution to Central and State Government exchequers by way of excise duty, customs duty, dividend, corporate tax, sales tax, royalty etc. has gone up by 84 % from Rs. 8,978 crore in 2004-05 to Rs. 16,475 crore in 2006-07 and the trends up to the third quarter of 2007-08 indicate a figure of Rs. 12,596 crore.

### MAJOR INITIATIVES IN THE STEEL PSUs

- The Public Sector Undertakings - Steel Authority of India Limited (SAIL) and Rashtriya Ispat Nigam Limited (RINL) are in the midst of ambitious expansion plans. The expansion plans would increase the capacity of SAIL from 14.6 million tonnes of hot metal production per annum to 26 million tonnes by 2010, at an approximate cost of around Rs. 53,000 crore.
- In the case of RINL, the expansion plan would increase its capacity from the present level of 3 million tonnes of hot metal production per annum to 6.3 million tonnes by 2009-10 at an estimated cost of around Rs. 9,000 crore.





- Various proposals for merger of PSUs under the administrative control of the Ministry of Steel as well as acquisitions of various companies are underway. Merger of Kudremukh Iron & Steel Company Ltd. (KISCO) with Kudremukh Iron Ore Company Ltd. (KIOCL) has been completed, while the following are under process :
  - Acquisition and merger of Neelachal Ispat Nigam Ltd. (NINL) by SAIL
  - Acquisition of National Iron & Steel Company Ltd. (NISCO) by SAIL
  - Merger of Maharashtra Elektrosmet Ltd. (MEL) with SAIL
  - Merger of Bharat Refractories Ltd. with SAIL
  - Acquisition of Steel Complex Ltd., Calicut, Kerala by SAIL
  - Merger of Sponge Iron India Ltd. with NMDC
- Kulti works, which was part of the erstwhile Indian Iron and Steel Company Ltd. (IISCO), has been revived and rechristened as 'SAIL Growth Works' in December, 2007
- During the year, the PSUs under the Ministry have implemented the Integrity Pacts (IP) - an International best practice from Transparency International, for improving fairness and transparency in procurement and contracts with bidders/ vendors for all major purchases and contracts.
- 9 PSUs - SAIL, NMDC, MOIL, MSTC, KIOCL, MECON, HSCL, FSNL and BRL signed Memoranda of Understanding (MoUs) with Transparency International, India in September 2007. The MoUs aim at improving the efficacy in implementation of the "Integrity Pact". RINL had already signed an MoU with Transparency International, India in March, 2007. With the signing of these MoUs, the PSUs under the Ministry of Steel, have been covered under the Integrity Pact.
- Securing metallurgical coal and Thermal coal assets from overseas - SAIL, RINL, CIL, NTPC and NMDC signed an MoU on 3<sup>rd</sup> August, 2007 for a Special Purpose Vehicle (SPV). The Government have approved this proposal on 8<sup>th</sup> November, 2007. The SPV has been named as 'Coal Ventures International (CVI)'.
- In order to make available steel items to the common man. SAIL and RINL are expanding their distribution networks at a fast pace. SAIL has now 1,564 dealers in place (325-SC, 122-ST, 211-OBC, 906-Gen), covering 603 districts in the country against 653 dealers as on 1<sup>st</sup> April, 2007. 42% dealers belong to SC/ ST/OBC category. In RINL, 131 district level dealers have been appointed to cater to the requirement of small consumers. Action plan has also been drawn in RINL to cover another 83 districts during 2007-08 and 394 districts during 2008-09.
- Corporate Social Responsibility (CSR) has been identified as an important parameter in the MoUs drawn up by all the PSUs with the Ministry for 2007-08. CSR activities focusing on environmental conservation, education, health care, cultural efflorescence and peripheral development, family welfare, social initiatives and other measures are underway in the PSUs.
- All PSUs under the Ministry have made commitments to the cause of CSR and have earmarked at least 2% of their distributable surplus for CSR activities. One of the PSUs, NMDC has earmarked 5% of its distributable surplus for CSR activities. The total budget allocated for CSR in respect of the PSUs for 2007-08 is around Rs. 230 crore and of these the major contributions are from SAIL (Rs. 100 crore), RINL (Rs. 34 crore) and NMDC (Rs. 89 crore).
- In view of the calamity brought in by the floods in UP, Bihar and Assam, some of the PSUs organised immediate relief measures in these affected states. SAIL, NMDC and RINL contributed Rs. 5 crore, Rs. 4 crore and Rs. 2 crore respectively towards the flood relief measures.
- All the main producers have been sensitised by the Ministry to 'adopt' villages around their plants and as a part of their Corporate Social Responsibility (CSR), help develop these villages as 'Model Steel Villages'. 129 villages are being developed into 'Model Steel Villages'.
- Use of steel is emphasised in these Model Steel Villages in items such as storage bins, bullock carts, buildings such as school buildings, panchayat halls, health centre buildings, water tanks, waiting sheds etc.

## PERFORMANCE OF MAJOR PUBLIC SECTOR UNDERTAKINGS UNDER MINISTRY OF STEEL

### STEEL AUTHORITY OF INDIA LTD. (SAIL)

- During 2007-08 (April-December, 2007), SAIL recorded a turnover of Rs. 30,025.76 crore, an increase of Rs. 2,370 crore over the turnover in the corresponding period last year (CPLY).
- SAIL maintained its track record of consistent profitability with profit after tax of Rs. 5160.02 crore during 2007-08 (April-December, 2007) an increase of Rs. 859.61 crore over the profit after tax in the CPLY.
- Sales turnover increased by 11.4% over corresponding period last year (CPLY) to Rs. 10,756 crore in the third quarter (October-December) (Q3) of 2007-08.
- Profit before tax (PBT) at Rs. 2,922 crore was also the highest achieved in any third quarter, and 31% over Rs. 2,234 crore in CPLY.
- Interim dividend for the company's shareholders for the fourth consecutive year, at an enhanced rate of 19%, which amounts to Rs. 784.78 crore, the highest-ever interim dividend paid by the company so far.
- Highest profit after tax of Rs. 5,160 crore for the April-December, 2007 period with a growth of 20% over CPLY.
- Borrowings were further reduced by Rs. 413 crore in the third quarter (Oct-Dec) (Q3) to Rs. 2,792 crore as on 31<sup>st</sup> December, 2007. With this, SAIL's debt-equity ratio came down to the lowest-ever level of 0.13:1 at the end of the third quarter.
- Highest ever production of hot metal, crude steel & saleable steel by SAIL during 2007-08 (April - December, 2007) :
  - 11.31 million tonnes of hot metal , with a growth of 5% over CPLY.
  - 10.38 million tonnes of crude steel , with a growth of 4% over CPLY.
  - 9.6 million tonnes of saleable steel , with a growth of 3% over CPLY.
- Highest ever finished steel production of 7.95 million tonnes, with a growth of 5% over CPLY. Bars and rounds went up by 29%, Medium structurals went up by 10%, rail by 5%, wheel & axle by 5% , Cold Rolled Non grain Oriented (CRNO) by 5% & plates by 14% over April - December, 2006.
- Highest ever production of value added steel at 2.77 million tonnes in April-December, 2007, with a growth of 20% over CPLY.
- SAIL plants operated at an average capacity utilisation of 121% during Q3 of 2007-08 against 112% achieved in CPLY, and produced a record 3.4 million tonnes of saleable steel.
- For the first time in a quarter, production of special steels and value-added items crossed the one million tonne mark, recording a growth of 30%.
- Substantial growth was recorded in products like high corrosion resistant TMT bars for coastal areas (326%), Liquefied Petroleum Gas (LPG) grade steel (24%), TMT bars (32%), plates (18%), medium structurals (11%), 90 Ultimate Tensile Strength (UTS) rails (13%), wheels & axles (6%), CRNO (5%), etc. SAIL also achieved record domestic sales of 3 million tonnes during Q3.

#### Techno-economic parameters

- Improvement in Techno-economic parameters during April-December, 2007
  - Coke rate reduced by 1% at 537 kg/ tonne hot metal during April-December, 2007 as compared to CPLY.
  - Energy consumption at 7.04 giga calories/ tonne crude steel reduced by 2% during April-December, 2007 as compared to CPLY.
- Achieved highest-ever labour productivity of 224 tonnes/ man/ year in Q3, up from 206 tonnes/ man/ year during the same period last year.





## **RASHTRIYA ISPAT NIGAM LTD. (RINL)**

- During 2007-08 (April - December, 2007), provisional figures indicate that the Company has registered a net Profit of Rs. 1,248 crore.
- Sales during April-December, 2007 reached Rs. 6,766 crore, registering a growth of 10% over the corresponding period of last year. During this period sales in the domestic market stood at Rs. 6,441 crore and exports were at Rs. 325 crore.

## **NMDC LTD.**

- On 23<sup>rd</sup> January 2008, NMDC was granted Navratna Status by the Government of India.
- NMDC has become one of the top ten companies listed on the Bombay Stock Exchange in terms of Market Capitalisation.
- Turnover improved by 35% during the period April-December, 2007 as compared to CPLY.
- Production and sales of iron ore during April-December, 2007 increased by 12.5% and 13.6% respectively as compared to CPLY.
- The dividend paid to Government during April-December, 2007 registered an increase of 24% as compared to CPLY.
- The energy consumption registered a decline of 3% during the period April-December, 2007 as compared to CPLY.
- During April-December, 2007, NMDC produced 20.10 million tonnes of iron ore as compared to 17.86 million tonnes in the corresponding period of previous year.
- Domestic sales of iron ore of 17.07 million tonnes, as against 15.71 million tonnes during the corresponding period of last year.
- The company exported 2.79 million tonnes of iron ore to Japan, South Korea and China valued at approximately Rs. 692 crore during April-December, 2007 as compared to 1.78 million tonnes valued at Rs. 430 crore during the corresponding period of last year.
- Total Sales of iron ore during April-December, 2007 was 19.86 million tonnes as against 17.49 million tonnes during corresponding period of last year.

## **MANGANESE ORE (INDIA) LTD. (MOIL)**

- Production of manganese ore during April – December, 2007 was 9,40,185 tonnes which shows 34% increase vis a vis corresponding period of previous year.
- Sales Turnover during April – December, 2007 was Rs. 491.90 crore which shows 67% increase vis a vis corresponding period of previous year.
- Profit Before Tax during April – December, 2007 was Rs. 311.32 crore which shows 158% increase vis a vis corresponding period of previous year.
- During January 2008, MOIL declared an interim dividend of 130% for the year 2007-08, on its paid up capital of Rs. 28 crore. The total interim dividend amounted to Rs. 36.40 crore. Of this an amount of Rs. 29.69 crore was paid to the Government of India which holds 81.57% of the shares of MOIL.
- An Integrated Manganese Beneficiation Plant with annual capacity of 5 lakh tonnes was commissioned during October, 2007.
- The installation of 15.2 MW Wind Energy project in Madhya Pradesh is underway. The commissioning of 4 out of 19 Wind Energy Generators (WEGs) has been done and connected to the grid. It is expected that the installation all the 19 WEGs will be completed in all respects and connected to Madhya Pradesh Electricity Board (MPEB) grid by March, 2008.

**MSTC LTD.**

- MSTC has been upgraded to Schedule - B Company during 2007-08.
- During April-December, 2007, MSTC's total volume of business stood at Rs. 6583.74 crore against Rs. 4676.97 crore in the corresponding period in previous fiscal year.
- In the current financial year upto December, 2007, MSTC's turnover was at Rs. 2567.08 crore against Rs. 2170.48 crore in the corresponding period in the previous fiscal year.
- The company's profit before tax till April-December, 2007 stood at Rs. 57.92 crore against Rs. 45.50 crore in the corresponding period in the previous fiscal year.

**HINDUSTAN STEELWORKS CONSTRUCTION LTD. (HSCL)**

- Overall turnover increased by Rs. 59 crore till Q3 of FY 2007-08 over the corresponding period of FY 2006-07 – an increase of 20%.
- Operational Profit till Q3 of FY 2007-08 was Rs. 23.43 crore against Rs. 15.56 crore achieved during the corresponding period of FY 2006-07 – an increase of Rs. 7.87 crore (50%).
- Out of 17 Units of the Company, 15 Units generated Operational Profit (PBIDT) till Q3 of FY 2007-08.

**MECON LTD.**

- During the year 2007-08 (April - December, 2007), MECON secured engineering & consultancy assignments worth Rs. 331.56 crore and procured turnkey business amounting to Rs. 631.68 crore.

**BHARAT REFRACTORIES LTD. (BRL)**

- BRL's Bhilai Refractories Plant has produced and supplied High Alumina Bricks for the first time.

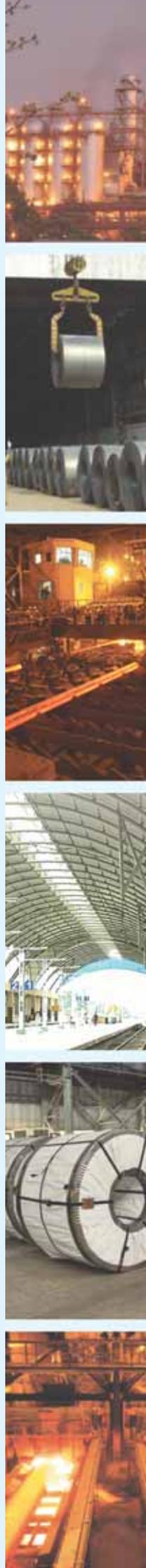
**SPONGE IRON INDIA LTD. (SIIL)**

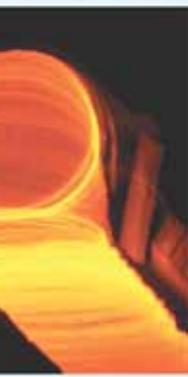
- The production of sponge iron during 2007-08 (April-December, 2007) was 33,583 tonnes with a capacity utilisation of 76%.
- The Average Sales Realisation of Rs. 11,285 per tonne of sponge iron was achieved during 2007-08 upto December, 2007.
- The sales turnover achieved during 2007-08 upto December, 2007 was Rs. 37.11 crore.
- The operating profit was Rs. 7.55 crore upto December, 2007.

**KUDREMUKH IRON ORE COMPANY LTD. (KIOCL)**

The Board for Industrial and Financial Reconstruction (BIFR) vide its orders dated 18<sup>th</sup> June, 2007 and 18<sup>th</sup> July, 2007 has approved the merger of Kudremukh Iron & Steel Company Ltd. (KISCO) with Kudremukh Iron Ore Company Ltd. with effect from 1<sup>st</sup> April, 2007. KISCO has merged with KIOCL and is called Blast Furnace unit of KIOCL.

- During April to December, 2007, the Company has posted profit before tax of Rs. 56.11 crore surpassing the target of Rs. 33.86 crore set for that period.
- Pellet Plant of KIOCL registered an increase in production of 420% as compared to the corresponding period of last year. The company also achieved 144% of the targets of Gross Margin for the period ending 31<sup>st</sup> December, 2007, thereby reflecting an increase of 274% as compared to the corresponding period of last year.





## CHAPTER - II

# DEVELOPMENT OF THE INDIAN STEEL SECTOR DURING THE PAST SIXTY YEARS

At the time of independence in 1947, India had only three steel plants -Tata Iron & Steel Company, Indian Iron and Steel Company and Visvesvaraya Iron & Steel and a few electric arc furnace based plants. The period till 1947 thus witnessed a small but viable steel industry in the country, which operated with a capacity of about 1 million tonne and was completely in the private sector. From the fledgling one million tonne capacity status at the time of independence, India has now risen to be the 5<sup>th</sup> largest crude steel producer in the world and the largest producer of sponge iron. As per the official estimate the Iron and Steel Industry contributes around 2% of the Gross Domestic Product (GDP) and its weight in the Index of Industrial Production (IIP) is 6.20%. From a negligible global presence, the Indian Steel industry is now acknowledged for its product quality, reflected by trends of rising exports. Indian companies have also now made a mark in the global Mergers and Acquisitions market.

As it traversed its long history during the past 60 years, the Indian Steel Industry has responded to the challenges of the highs and lows of business cycles. The first major change came during the first three Five Year Plans (1952-1970) when in line with the economic order of the day, the iron and steel industry was earmarked for state control. From the mid 50s to the early 70s, Government thus set up large



Inaugural function for commencement of Golden Jubilee celebrations by SAIL as it enters its 50<sup>th</sup> Year of Production. Hon'ble Union Minister for Chemicals & Fertilisers and Steel, Shri Ram Vilas Paswan is flanked by Shri B.S. Meena, Additional Secretary & Financial Advisor, Shri Elias George, Joint Secretary, Ministry of Steel; Shri S.K. Roongta, Chairman SAIL and Shri G. Ojha, Director (Personnel) SAIL.

integrated steel plants in the public sector at Bhilai, Durgapur, Rourkela and Bokaro. The policy regime governing the industry during these years involved:

- Capacity control measures: licensing of capacity, reservation of large scale capacity creation for the public sector units.
- A dual pricing system: price and distribution control for the integrated large scale producers in both the private and the public sectors, while the rest of the industry operated in a free market.
- Quantitative restrictions and high tariff barriers.
- Railway freight equalisation policy: to ensure balanced regional industrial growth.
- Controls on imports of inputs including technology, capital goods, mobilisation of finances and exports.

The large scale capacity creation in the public sector during these years contributed to making India the 10<sup>th</sup> largest steel producer in the world as crude steel production grew markedly to nearly 15 million tonnes in the span of a decade from a mere 1 million tonne in 1947. But the trend could not be sustained from the late 70's onwards, as the economic slowdown adversely affected the pace of growth of the Indian Steel Industry. However, this phase was reversed in 1991-92, when the country replaced the control regime by liberalisation and deregulation in the context of globalisation. The provisions of the New Economic Policy initiated in the early 90's impacted the Indian Steel Industry in many ways :

- Large scale capacities were removed from the list of industries reserved for the public sector. Licensing requirement for additional capacities was also withdrawn subject to locational restrictions.
- Private sector came to play a prominent role in the overall set up.
- Pricing and distribution control mechanisms were discontinued.
- Iron and Steel industry was included in the high priority list for foreign investment, implying automatic approval for foreign equity participation up to 50% subject to the foreign exchange and other stipulations governing such investments in general. This limit has since been increased to 100%.
- Freight equalisation scheme was replaced by a system of freight ceiling.
- Peak import tariff rates were reduced from more than 100% to about 30% average, which has since been reduced to 5%.
- Quantitative import restrictions were largely removed. Export restrictions were withdrawn.

The system, therefore, underwent marked changes. For steel makers, opening up of the economy opened up new channels of procuring their inputs at competitive rates from overseas markets and also new markets for their products. It also led to greater access to information on global operations/ techniques in manufacturing. This, along with the pressures of a competitive global market, increased the need to enhance efficiency levels so as to become internationally competitive. The steel consumer, on the other hand, was now able to choose items from an array of goods, be it indigenously manufactured or imported. This freedom to choose established the sovereignty of the consumer and galvanised steel producers to provide products/service levels in tune with the needs of the consumers. With the opening up of the economy in 1992, the country experienced rapid growth in steel making capacity. Large integrated steel plants were set up in the Private Sector by Essar Steel, Ispat Industries, Jindal Group etc. Tata Steel also expanded its capacity. To sum up, some of the notable milestones in the period were:

- Emergence of the private sector with the creation of around 9 million tonnes of steel capacity based on state-of-the-art technology.
- Rapid growth in net production of finished steel: from about 16.1 million tonnes in 1992-93 to 25.2 million tonnes in 1996-97 (12% growth per annum).
- Reduction/ dismantling of tariff barriers, partial float of the rupee on trade account, access to best-practice of global technologies and consequent reduction in costs – all these enhanced the international competitiveness of Indian steel in the world export market. Indian steel exports increased rapidly from 0.31 million tonnes to around 3 million tonnes between 1992 and 1996. Imports, however, remained around 1-2 million tonnes, making India a net exporter of steel.

After 1996-97, with the steady decline in domestic economy's growth rate, Indian steel industry's pace of growth slowed down and in terms of all the performance indicators – capacity creation, production, consumption, exports and price/ profitability – the performance of the industry fell below average. In foreign trade, Indian steel was also subjected to anti-dumping/ safeguard duties as most developed economies invoked non-tariff barriers. Economic devastation caused by the Asian financial crises, slowdown of global economy and the impact of glut created by additional supplies from the newly steel-active countries (the steel-surplus economies of erstwhile USSR) were negative factors.

However, from the year 2002, the global industry turned around, helped to a great extent by China, whose spectacular economic growth and rapidly-expanding infrastructure led to soaring demand for steel, which its domestic supply could not meet. At the same time, recoveries in major markets took place, reflected by increase in production, recovery of prices, return of profitability, emergence of new





markets, lifting of trade barriers and finally, rise in steel demand – globally. The situation was no different for the Indian steel industry, which by now had acquired a degree of maturity, with emphasis on intensive R&D activities, adoption of measures to increase domestic per capita steel consumption and other market development projects, import substitution measures, thrust on export promotion and exploring global avenues to fulfill input requirements.

The rapid pace of growth of the industry and the observed market trends called for certain guidelines & framework. Thus, was born the concept of the National Steel Policy, with the aim to provide a roadmap of growth and development for the Indian steel industry. The National Steel Policy (NSP) was announced in November, 2005 as a basic blue print for the growth of a self-reliant and globally competitive steel sector. The Policy sought to enhance the indigenous steel production to 110 million tonnes per annum by 2019-20 from the 2004-05 level of 38 million tonnes, implying a compounded annual growth rate of 7.3%. The long-term objective of the National Steel Policy is to ensure that India has a modern and efficient steel industry of world standards, catering to diversified steel demand. The focus of the policy is to attain levels



Hon'ble Union Minister for Chemicals & Fertilisers and Steel Shri Ram Vilas Paswan in the presence of Chief Minister, Chattisgarh, Dr. Raman Singh and other dignitaries on the occasion of the ceremony for modernisation and expansion of Bhilai Steel Plant on 9<sup>th</sup> February, 2008. Also seen in picture are Shri Ramchandra Paswan, MP; Shri S.K. Roongta, Chairman, SAIL and Dr. J.S. Sarma, Secretary, Fertilisers & Steel.

of global competitiveness in terms of global benchmarks of efficiency and productivity. The national policy seeks to facilitate the removal of procedural and policy bottlenecks that affect the availability of production inputs, increased investment in research and development, and the creation of road, railway and port infrastructure. The policy focuses on the domestic sector but also envisages a steel industry growing faster than domestic consumption, which will enable export opportunities to be realised. However, while the National Steel Policy indicated production and consumption targets for 2019-20 at 110 million tonnes and 90 million tonnes respectively, the Working Group on Steel Industry set up by the Planning Commission for the 11<sup>th</sup> Five Year Plan (2007-12) has projected a total demand of 70.34 million tonnes for finished steel and a total production of 80.23 million tonnes of crude steel by the end of the 11<sup>th</sup> Plan i.e. 2011-12. Both the 11<sup>th</sup> Plan projections and the NSP targets are likely to be considerably surpassed.

The 11<sup>th</sup> Plan would be crucial for realising the objectives pronounced in the National Steel Policy 2005 of building a modern and efficient domestic steel industry of global standards with a capacity to cater to diversified product demand. The Working Group on Steel Industry has made recommendations consistent with the targets/objectives of the National Steel Policy, 2005.

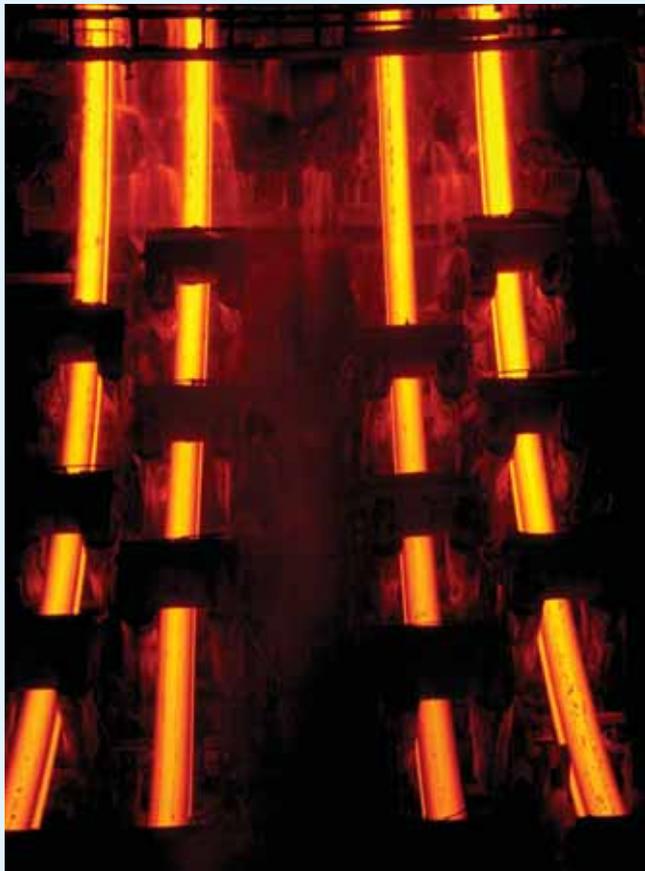
The rejuvenated steel market in the country has already witnessed the announcements of mega expansion plans of leading domestic producers in the form of Greenfield and/or Brownfield projects in different parts of the country. The decision of POSCO, South Korea to set up their 12 million tonnes integrated steel plant in Orissa has given the Indian steel industry a feel of what 'globalisation' is all about. This was soon followed by Mittal Group's announcement of plans to set up their 12 million tonnes integrated steel unit in Orissa. However, domestic Indian steel producers did not lag behind. Indian conglomerate Tata Steel's \$12 billion takeover of Anglo-Dutch giant Corus Group Plc, transformed Tata Steel Ltd. into the world's 5<sup>th</sup> largest steel producer, which may well be regarded as a benchmark even in the history of Indian steel industry. Such developments only prove that the Indian steel industry has entered a mature phase.

Besides achieving the rank of the 5<sup>th</sup> largest global crude steel producer, India also made a mark globally in the production of Sponge Iron/ Direct Reduced Iron. Courtesy a mushrooming growth of coal based sponge iron units in key mineral-rich pockets of the country, domestic production of sponge iron increased rapidly, enabling the country to achieve and maintain the number one position in the global market. In 2006-07, India also rounded off the 10<sup>th</sup> Plan period, a phase when both finished steel production and consumption recorded a significant 10% growth, on compounded basis – achievements that indicate that a stable foundation for future development of Indian steel industry has been laid. With a series of mega projects – either being implemented or at the proposal stage, which once operational will re-write the structure of steel industry and its dynamics; and a domestic economy carrying forward the reform process further – the future of Indian Steel industry is definitely optimistic. This, in fact, is reflected in the projections for the 11<sup>th</sup> Plan Period, which indicate that for finished non-alloy steel, domestic steel demand would reach 70 million tonnes and steel supply would touch 77 million tonnes by the end of the terminal year of 11<sup>th</sup> Plan, i.e. 2011-12. These would represent 40% and 66% growth rates respectively as compared to 2007-08, the first year of the 11<sup>th</sup> Plan period.

In this journey of progress, the Indian Steel Industry has also taken significant steps in improvement of productivity, conservation of natural resources and energy, import substitution, quality upgradation; environment management and research and development. Some notable developments are :

- Introduction of Stamp Charging and Partial Briqueting of Coal Charge (PBCC) for production of metallurgical coke - in this process, it has been made possible to replace part of the metallurgical coal requirements by non-coking/ semi-coking coal, with higher strength of the coke and less emission.
- Installation of energy recovery coke ovens – in order to meet the power requirements as well as to reduce emission. Energy recovery type coke ovens have been set up by many steel companies such as those of Sesa Goa, JSW Steel, VISA Steel, NINL & Gujrat NRE Coke Limited.
- Use of non-coking coal in iron making – processes such as Corex have now been introduced in some of the steel plants to produce hot metal by predominantly using non-coking coal. Coal Dust/ Pulverised Coal Injection System has been introduced in several blast furnaces to partially substitute Coke. In addition, there has been large scale growth of sponge iron units based on non-coking coal.
- Use of Direct Reduced Iron (DRI) / Sponge iron in steel making – earlier, only scrap could be used as a feed material in electric arc furnaces. With growing scarcity of scrap, a replacement could be found in the form of DRI produced from iron ore with reformed natural gas/ non-coking coal as reductant.
- Use of hot metal in electric arc furnaces – setting up of Basic Oxygen Furnaces is capital intensive and successful only at a large scale. However, with the advent of modern electric arc furnaces, steel could be produced in electric arc furnace by use of hot metal that substantially replaces steel scrap and results in huge savings in electricity consumption.
- Adoption of continuous casting - The first solidified form of steel in the melting shops used to be ingots. With the advent of continuous casting in the late 70s, continuous cast blooms/ billets/ slabs resulted in significant energy savings as well as improved productivity. Adoption of thin slab casting has further resulted in additional energy savings in the hot strip mills. Today, continuously cast steel output is around 66%.
- Import Substitution – Till the early 80s, Indian steel production was centered mostly on non flat





Four strand continuous casting (Bhilai Steel Plant, SAIL).

products. Critical flat products such as thin gauge Hot Rolled coils, Deep Drawing/ Extra Drawing grade Cold Rolled coils, thin gauge Galvanised Plain/ Galvanised Corrugated sheets and Tin Mill Black Plate used to be mostly imported. With the setting up of modern hot strip mills in the 90s; cold rolling mills and galvanizing lines from the 80s; and colour coating lines from the 90s, India is now well equipped to produce various grades of flat products.

- Value added production – Earlier, integrated steel plants had to earmark part of the hot metal production for production of pig iron for foundries. From the early 90s, mini blast furnaces were set up in the country that supplied pig iron to the foundries and enabled the integrated steel plants to concentrate on production of value added steel items.
- Increasing Productivity of blast furnaces – Most of the blast furnaces of the steel plants were of small volume. In order to increase productivity, the blast furnaces in the steel plants have gradually been revamped or newly set up with bigger volumes. The biggest blast furnace in India at present is with RINL (3200 cubic metres). The capacity of new blast furnace at IISCO

steel plant of SAIL, JSW and JSPL is going to be around 4000 cubic metres.

- Reducing coke consumption in blast furnaces and improving productivity – Indian blast furnaces used to consume as high as 850 kilograms of coke per tonne of hot metal and Blast Furnace productivity were hovering at less than one tonne per cubic meter per day. Introduction of modern technologies and practices viz. high top pressure, high blast temperature, pulverized coal injection; attention on burden preparation & distribution; and higher use of sinter in place of lumps have resulted in reduced coke consumption and improved productivity. Today, Coke rate in some of the blast furnaces is less than 500 kg/ tonne hot metal & productivity exceeding 2 tonnes per cubic meter per day.
- Enhancing steel quality – Earlier the steel making furnaces used to complete the steel making within the furnaces itself. With the introduction of modern steel making technologies/ practices and secondary refining technologies such as ladle metallurgy, vacuum degassing etc., it is now possible to produce steel of much lower inclusion and much lower content of oxygen, nitrogen and hydrogen. The ladle furnace technology has also made it possible to cut down the steel making time in converters or Electric Arc Furnaces and enable to produce steel of low sulphur and phosphorus content.
- Efforts to reduce energy consumption and emissions – Iron and Steel making involves energy intensive processes. The international norm of energy consumption is 4.5 to 5 Giga calories per tonne of crude steel. With setting up of modern equipments and beneficiation of raw materials, Indian Steel plants have been able to achieve energy consumption at the level of 6.5 to 8.5 Giga Calories only. Further, steps are being taken to achieve much lower energy consumption and corresponding lower Green House Gas (GHG) emission by the end of 11<sup>th</sup> Five Year Plan. With the growth of steel industry, increasing attention is being paid to environment management. Steps such as afforestation, installation of pollution control equipments etc. are likely to abate the pollution emanating from steel industry. Further, the Indian iron and steel industry is now taking the advantages of Clean Development Mechanism under the Kyoto Protocol thereby reducing pollution and energy consumption.

### Present growth Scenario and future outlook

In India the steel sector is growing at a robust rate with significant increases in both production and consumption. Crude steel production grew at more than 10 % annually from 34.71 million tonnes in 2002-03 to 50.82 million tonnes in 2006-07. This growth was driven by both capacity expansion (from 40.41 million tonnes in 2002-03 to 56.84 million tonnes in 2006-07) and improved capacity utilization (from 86% in 2002-03 to 89% in 2006-07). During 2006, India emerged as the 5<sup>th</sup> largest crude steel producing country in the world as against 8<sup>th</sup> position three years back. India, the world's largest producer of direct reduced iron (DRI) or sponge iron, is also expected to maintain its lead in the near future. Sponge iron production grew at a CAGR of 22% to reach a level of 18.35 million tonnes in 2006-07 compared to 7.86 million tonnes in 2002-03. India is expected to become the second largest producer of steel in the world by 2015.

### Crude steel: Trends in Production, Private/ Public Sector

Traditionally, Indian steel industry were classified into Main Producers (SAIL plants, Tata Steel and Vizag Steel/ RINL) and Secondary Producers. However, with the coming up of larger capacity Steel making units, of different process routes, the classification has been characterised as Main Producers & Other Producers. Other Producers comprise of Major Producers namely Essar Steel, JSW Steel and Ispat Industries as well as large number of Mini Steel Plants based on Electric Furnaces & Energy Optimising Furnaces. Besides the steel producing units, there are a large number of Sponge Iron Plants, Mini Blast Furnace units, Hot & Cold Rolling Mills & Galvanising/ Colour Coating units which are spread across the different states of the country. The details of production of Main and Secondary producers may be seen in the Annexure-III. Other related details are reflected in the Annexures-IV to XI. The following table highlights the total as also the contribution of the private and public sector in crude steel production in the country:

(in million tonnes)

	2003-04	2004-05	2005-06	2006-07
<b>Public Sector</b>	15.788	15.912	16.964	17.003
<b>Private sector</b>	22.939	27.525	29.496	33.814
<b>TOTAL PRODUCTION</b>	38.727	43.437	46.460	50.817
<b>% share of public sector</b>	40.8	36.6	36.5	33.5

The Indian Steel Industry has withstood international competition despite the reduction of basic customs duty on steel from 25-30% in 2002-03 to 5% in 2006-07. The industry now operates in an open economy where exports and imports respond to increases or decreases in the domestic demand driven primarily by market signals. While exports of finished steel were sustained at a level of 4-5 million tonnes per annum during the 10<sup>th</sup> Plan, imports sharply increased from about 1.66 million tonnes in 2002-03 to 4.93 million tonnes in 2006-07 not because of fall in competitiveness but to fill up supply-demand gap in the domestic market. In the current year, production, consumption and exports of finished steel for the period April-December, 2007 grew by 6.6%, 12.3% and 9.1% respectively as compared to the corresponding period of the previous year. Imports of finished steel during the current year (April-December, 2007) were up by 68.7 % over the corresponding period of the previous year. The pace of consumption growth has thus out paced production growth and the country has become a net importer of steel. These facts indicate a healthy demand for steel in the domestic market which augurs well for the steel industry especially at a time when new investments are lined up in the steel sector.

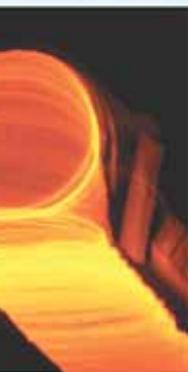
### Expansion in Capacity

The National Steel Policy 2005 had projected consumption to grow at 7% based on a GDP growth rate of 7-7.5% and production of 110 million tonnes by 2019-2020. These estimates will be largely exceeded and it is envisaged that in the next five years, demand will grow at a considerably higher annual average rate of over 10% as compared to around 7% growth achieved between 1991-92 and 2005-06. It has been assessed that, on a 'most likely scenario' basis, the steel production capacity in the country by the year 2011-2012 will be nearly 124 million tonnes.

### Foreign investments and private sector participation

Domestic and foreign investors have shown a great deal of interest in setting up steel capacities in the country. Prospective investors include existing public sector as well as private sector manufacturers,





reputed foreign manufacturers, sponge iron makers going in for forward integration, as well as small rolling mills trying to get into backward integration, among others. As per the latest information available in the Ministry of Steel, 194 MoUs have been signed in various States with intended capacity of around 243 million tonnes, with an investment of over Rs. 5.15 lakh crore. It appears that with major investment plans in the States of Orissa, Jharkhand, Karnataka, West Bengal and Chhattisgarh, actual production may considerably exceed the 110 million tonnes annual steel production by 2019-20 envisaged in the National Steel Policy of November 2005.

## Role of Ministry of Steel

The pre-de-regulation phase has seen the Ministry of Steel in the key role of a regulator which was essential, given the operating economic conditions, the limited presence of industry and the scarcity of key raw material for steel making at home. Through skillful and judicious decisions on allocation and pricing and formulating related policy measures, the Ministry of Steel had played an important role in taking the steel industry forward in this phase.

In the post-de-regulation period, the role of the Ministry of Steel has primarily been that of a facilitator for the Indian steel industry, being responsible for the planning and development of iron and steel industry, development of essential inputs such as iron ore, limestone, dolomite, manganese ore, chromites, ferro alloys, sponge iron, and other related functions. In its present day role, the Ministry of Steel is extending all possible support for the development of the Iron and Steel Industry in the country, in matters like:

- Providing linkage for raw materials, rail movement clearance etc. for new plants and expansion of existing ones.
- Facilitating movement of raw materials other than coal through finalization of wagon requirements and ensure an un-interrupted supply of raw materials to the producers.
- Interaction with All India Financial Institutions to expedite clearance of projects.
- Regular interactions with entrepreneurs proposing to set up new ventures, to review the progress of implementation and assess problems faced.
- Identification of infrastructural and related facilities required by steel industry.
- Promoting, developing and propagating the proper and effective use of steel and increasing intensity of steel usage particularly in the construction sector in rural and semi urban areas, through the setting up of "Institute for Steel Development and Growth (INSDAG)" in Kolkata.
- Encouraging research & development activities in the steel sector. There is an institutional mechanism through which financial assistance is provided from Steel Development Fund for this purpose. Efforts are being made to further augment R&D activities in the country.
- An Empowered Committee under the Chairmanship of Hon'ble Minister for Chemicals & Fertilisers and Steel provides overall direction to research efforts on iron and steel in the country and approves specific research projects placed before it for funding, fully or partially, from the Steel Development Fund (SDF).
- The organisation of Steel Consumer Council under the Chairmanship of the Hon'ble Minister for Chemicals & Fertilisers and Steel provides a forum for interaction of all producers and consumers of steel in the country.
- Through the National Steel Policy – a Vision document, the Ministry of Steel has laid down the Long Term Vision of Growth for the Indian Steel Industry and efforts are currently under way to give form to each individual area of operation.

The Indian Steel Industry is currently going through an expansionary phase backed by liberalised policy environment. Prospects of domestic demand appear to be excellent, driven by high investment rate, accelerated growth in the manufacturing industry and expansion in physical infrastructure creation. In this scenario, the Ministry of Steel assumes an important facilitating role. While direct Government involvement may no longer be required, the Ministry would have to continue the necessary support, particularly, in areas like providing essential infrastructure facilities, assuring easy availability of critical inputs such as iron ore, coal, gas and power and creation of an environment for facilitating skilled manpower development. This will enable the Indian Steel Industry to ride on the strength of its present assets like availability of iron ore, relatively low wage rates, ongoing modernization and expansion projects and rise many rungs beyond the present stature in the coming years.

## CHAPTER - III

# ORGANISATIONAL STRUCTURE AND FUNCTIONS OF MINISTRY OF STEEL

The Ministry of Steel is under the charge of the Minister of Chemicals & Fertilisers and Steel who is assisted by a Minister of State. The Ministry is responsible for the planning and development of iron and steel industry, development of essential inputs such as iron ore, limestone, dolomite, manganese ore, chromites, ferro-alloys, sponge iron etc. and other related functions. The list of subjects allocated to the Ministry may be seen at Annexure I. There are 10 public sector undertakings and one directly managed Government company under the administrative control of the Ministry of Steel. The list of Minister-in-charge and the officers upto the level of Deputy Secretary who have worked during the year 2007-08 is given in the Annexure II.

\*\* Organizational Chart at page no 19

### DEVELOPMENT COMMISSIONER FOR IRON AND STEEL (DCI & S) CELL

Consequent upon the acceptance of the recommendations of the Expenditure Reforms Commission (ERC), an administrative decision was taken to close down the office of the Development Commissioner for Iron and Steel (DCI & S), Kolkata alongwith its four Regional Offices located at Chennai, Mumbai, Kolkata and New Delhi with effect from 23.5.2003. The residual work except the collection of data from secondary sector was transferred to the DCI & S Cell in the Ministry of Steel. The DCI & S Cell is handling matters relating to allocation of iron & steel items to small scale industries (SSI) units through Small Scale Industries Corporations (SSICs)/ National Small Industries Corporation (NSIC). Iron & Steel items are allocated to the State Small Scale Industries Corporations (SSICs) and National Small Industries Corporation (NSIC) in states where SSICs are defunct or non-existent for distribution to SSI units. In order to ensure that small-scale industries obtain raw materials at reasonable prices, the Government provides nominal handling charges approximately Rs.500 per tonne to the Corporations. The allocation of iron & steel items, during the last three years, for distribution to SSI units is as follows:

(Quantity in '000 Metric Tonnes)

Corporations	2005-06	2006-07	2007-08*
SSICs	612	430	413
NSIC	219	61	48
<b>Total</b>	<b>831</b>	<b>491</b>	<b>461</b>

\* Position as on 31.12.2007.

The distribution policy for the year 2007-08 is given in the Ministry of Steel's [website www.steel.nic.in](http://www.steel.nic.in).

### OTHER RELATED OFFICES OF MINISTRY OF STEEL

#### JOINT PLANT COMMITTEE

The Joint Plant Committee (JPC) was established in 1964, following the recommendations of Dr. K. N. Raj Committee, for the purpose of formulating guidelines for production, allocation, pricing and distribution of iron and steel materials in the country. Indian steel industry was deregulated in 1992, which marked a turning point for the JPC. From that point onwards, the role/ charter/ activities of the JPC changed considerably as it moulded itself into the role of a facilitator for the Indian steel industry, operating in a liberalised market-driven economy.

The JPC is headquartered at Kolkata with four regional offices in New Delhi, Kolkata, Mumbai and Chennai and an Economic Research Unit at New Delhi serving as a wing of JPC to carry out techno-economic studies. At present, the JPC comprises of the following members:





- Chairman - Joint Secretary, Ministry of Steel, Government of India
- Four representatives from Steel Authority of India Ltd. (SAIL)
- One representative each from Tata Steel Ltd. and Rashtriya Ispat Nigam Ltd. (RINL) and
- One representative from Indian Railways, as an important consumer of steel

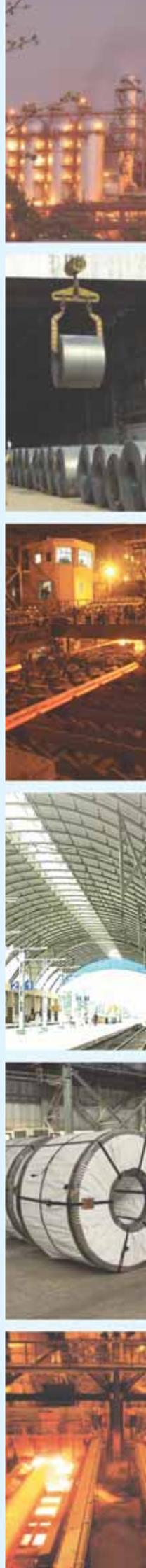
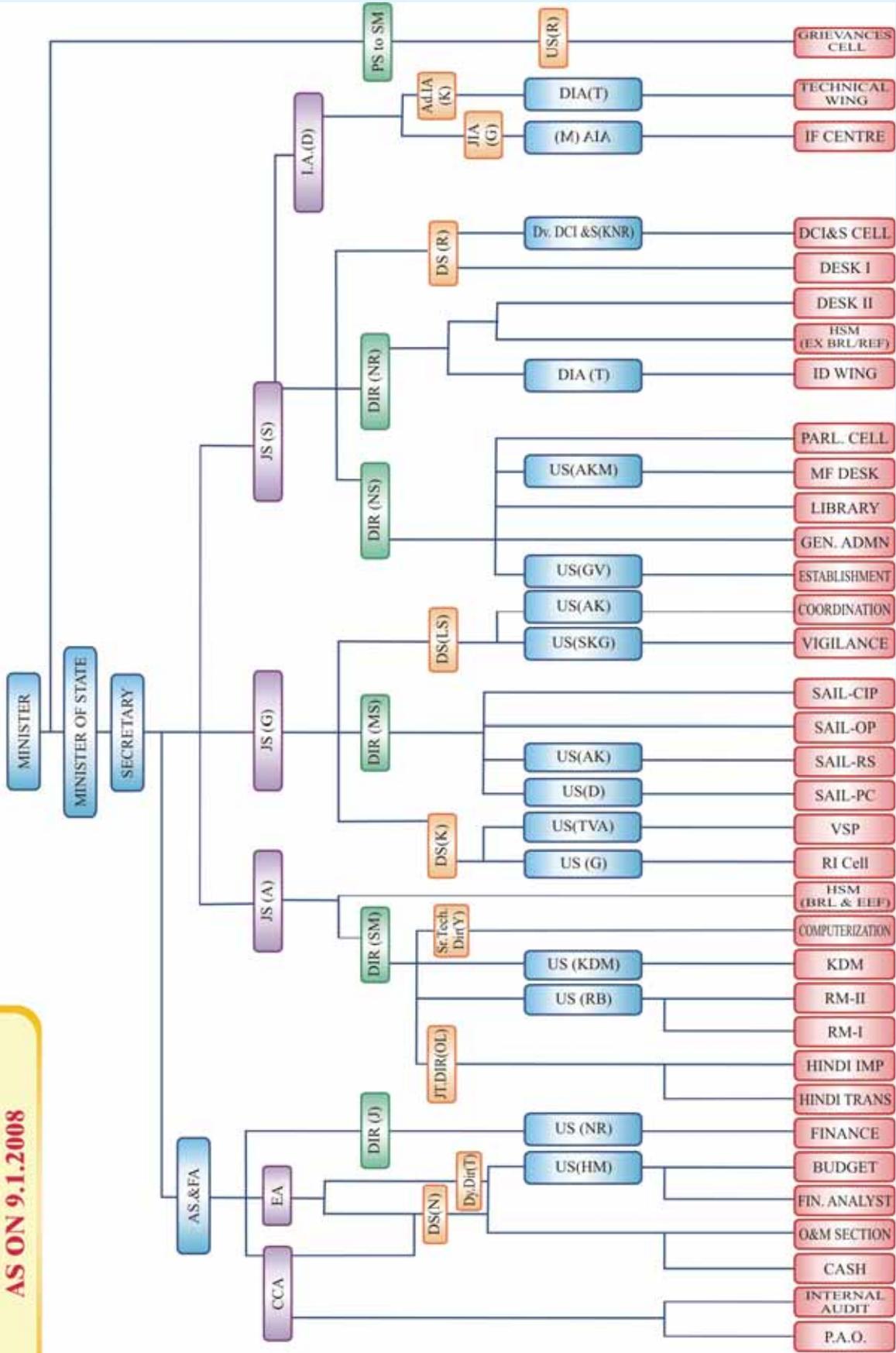
## ECONOMIC RESEARCH UNIT

The Economic Research Unit (ERU) is a part of the Joint Plant Committee (JPC). It was constituted in September, 1983 on the recommendations of Bureau of Industrial Costs and Prices to assist the Ministry of Steel/ JPC on economic policy and research. The ERU is mainly responsible for analysis of data collected by the JPC and for conducting specific studies/ analysis entrusted to it by the Ministry of Steel. The ERU is headed by a Chief Economist.

## ACTIVITIES OF JPC & ERU

1. The National Steel Policy, 2005 has laid down the long term Vision of Growth for the Indian steel industry, which is on the threshold of undergoing a major change, in terms of number, production, capacity and technology, among others. India has achieved the rank of being the 5<sup>th</sup> largest producer of crude steel in the world, besides being the world's largest sponge iron producer. In such an environment, JPC, accredited with the ISO 9001: 2000 certification for its data/ information services, has been pursuing a charter of jobs, keeping in mind the information needs of an industry changing rapidly. Reflecting the changing times of steel industry, JPC is also in the threshold of a change as it gears up to a restructuring plan as a registered Society under the Society's Act. The objectives are being drawn up looking into the future and the enhanced role the organization is required to play in different platforms of operation.
2. **Data & Information Services:** JPC is officially empowered to collect data on the Indian iron and steel industry, resulting in the creation and maintenance of basic databank on this industry. Major data items collected include:
  - Capacity, Production and Stock of both Main and Secondary Producers of steel covering segments like crude steel, semi-finished steel, non-flat steel and the entire downstream range of flat steel;
  - Domestic market prices of iron and steel;
  - Export-import of iron, and steel;
  - Production, prices, reserves of raw materials for steel making;
  - Production, availability, consumption of refractory;
  - Consumption data of related category of iron & steel features in the database as a derived item.Besides regular liaison with the units, segment-specific surveys form a major database maintenance activity for updating the population frame and aid policy decisions at the government level. Completed surveys include those on sponge iron, induction furnace/electric arc furnace and re-rolling units. A survey of pig iron industry and another of the refractory segment are currently being pursued.
3. **Dissemination of information:** Besides collection of data, dissemination of information to all stakeholders of Indian steel industry is another key activity of JPC. Major channels of information dissemination include:
  - **JPC Bulletin on Iron & Steel:** provides a monthly trend scenario of the Indian iron and steel industry in a global perspective.
  - **Performance Review: Iron & Steel:** encapsulates an exhaustive account of the developments in different aspects of the Indian iron and steel industry in the previous fiscal year.
  - **Annual Statistics:** provides a statistical profile of five-yearly database on different areas of Indian steel industry.
  - **Survey Reports:** include reports of various surveys conducted by JPC namely sponge iron, pig iron, Cold Rolled-Galvanised Plain/Corrugated, Electric Arc Furnace/ Induction Furnance.
  - **Special Publications:** recently, JPC has released the 'Guidelines for Entrepreneurs for Setting up of Iron & Steel Plants'. Prepared by MECON Ltd, the report (in CD format) compiles all the vital information sought by an entrepreneur wishing to set-up a steel plant in the country.
  - **Through website, [www.jpcindiansteel.org](http://www.jpcindiansteel.org):** information on different aspects of the domestic iron & steel industry.

**ORGANISATION CHART  
OF MINISTRY OF STEEL  
AS ON 9.1.2008**





4. **Some of the key projects undertaken by Economic Research Unit (ERU) include:** estimating category-wise demand for the 11<sup>th</sup> Five Year Plan, estimating capacity and production in the Induction Furnace Sector (study undertaken on behalf of the Expert Group formed for revising JPC data), revision of targets of National Steel Policy in view of acceleration in economic growth, assessing adequacy of infrastructure for the proposed expansion in steel capacity in the 11<sup>th</sup> Plan with special reference to Orissa, Chhattisgarh and Jharkhand and study on the prospects of Utilisation of Iron ore fines in India. Besides monthly analysis of market prices, formation of pre-budget proposals for the steel sector, studies on competitiveness of the Indian steel industry, ERU also functions as the Secretariat to the Steel Price Monitoring Committee and to the Sub-committee on relative movement of Hot Rolled Coil & Cold Rolled Coil prices.
5. **Support services:** Varied support was provided to the steel industry/ the Ministry of Steel on different issues/ activities, related to development of industry and /or spread of awareness on usage of steel. Some of the key activities here include:
- Organisational responsibility of the Steel Consumers' Council meetings of the Ministry of Steel, which provides a forum for interaction between the producers and consumers of steel in the country.
  - Showcasing the multifaceted usage of steel in daily life through organisation and participation (every year since 2002) in the 'Steel Pavilion' of the Ministry of Steel in the 'India International Trade Fair' (IITF), New Delhi.
  - JPC took initiatives to propagate knowledge, awareness on the benefits of usage of steel and bridge the information gap between the producers and end-users of steel. This was achieved through lending support to, as well as organization of, seminars/ workshops on technology, infrastructure, environment, market trends, budget, policymaking and other topical issues.
6. **Secretarial Functions of the SDF:** JPC is the secretariat of the Steel Development Fund (SDF) Managing Committee based on notification issued by the Government of India in the year 1978 Secretary, Ministry of Steel, is the Chairman, SDF Managing Committee. The other members are Secretary, Ministry of Finance, Department of Expenditure, Government of India, Secretary, Planning Commission, Government of India and the Joint Secretary, Ministry of Steel, Government of India is the Member Secretary, SDF Managing Committee. The Ministry of Steel has decided to promote Research and Development for which funds are earmarked every year, from SDF. This fund thus provides financial assistance to the industry from the interest of SDF corpus for taking up projects like, technology up gradation, measures connected with pollution control, activities related to Research & Development.
- Out of the SDF Corpus JPC also renders assistance in matters relating to:
- Rebate to the Small Scale Industries Corporation (SSIC) engaged in the distribution of steel.
  - Award of Prime Minister's Trophy for the best integrated steel plant.
  - Market Development Projects.
  - Global Environment Facility/ UNDP project for environment and pollution control in the iron and steel sector.
7. **Milestones achieved in recent times:** Some of the activities undertaken by JPC during the year 2007-08 are as follows:
- Revision Of Database To Address Issues On Industrial Statistics:** Compilation of statistics for the steel industry has been beset with two key challenges : under-reporting in crude steel data (affecting in turn, semi-finished and re-rolling sector data) and double counting in data for flat steel. JPC had been working on these for some time and during 2007-08, it has corrected these two problems and accordingly revised its entire data series starting from 1992-93. Collection of field data from plants and equipment manufacturers was part of the exercise and JPC had put in efforts to compile all such data from extensive field surveys.
  - Compilation of data on future prices:** In recent times, JPC had started compiling and reporting on future traded prices of key categories of iron and steel in the country.
  - Implementation of National Steel Policy – building up database on refractory industry:** Under the direction of the Ministry of Steel, JPC has launched a survey of the Indian refractory segment to understand its population frame, its present status and prospects for growth – a first time exercise in the country on this niche segment.

- iv) **JPC bulletin on Iron & Steel:** Monthly editions of the JPC Bulletin on Iron and Steel provide a current trend scenario of the steel industry in a global perspective, along with updates on technology, news, events, statistics and has become a coveted journal for all stakeholders of steel industry. The popularity of the journal is on the rise, as reflected by a rising subscription base.
- v) **Clean development & climate workshop:** JPC had handled the organisational responsibility of the 3<sup>rd</sup> meeting of the Steel Task Force (STF) of the Asia Pacific Partnership for Clean Development and Climate (APPCDC), which was held in Kolkata in March 2007. Delegates from the six member partner countries, India, China, Japan, Australia, the United States and the Republic of Korea assembled to discuss key areas of policy initiatives, technology and best practices. The STF under the aegis of the Partnership is mandated to facilitate the uptake of best available technology, practices and environmental management systems in Partnership countries together with increased recycling. The professional execution of the program had fetched JPC recognition and praise from the Chairman of the APP Steel Task Force, Ministry of Economy, Trade and Industry, Government of Japan.

### LIST OF PUBLIC SECTOR UNDERTAKINGS & COMPANIES UNDER THE ADMINISTRATIVE CONTROL OF MINISTRY OF STEEL

SL. NO.	NAME OF THE COMPANY	HEADQUARTERS	SUBSIDIARIES
1.	<b>Steel Authority of India Ltd.</b>	Ispat Bhawan, Lodi Road, New Delhi - 110003	<b>Maharashtra Elektros melt Ltd.</b> , Chandamul Road, Chandrapur-442401, Maharashtra
2.	<b>Rashtriya Ispat Nigam Ltd.</b>	Administrative Building, Visakhapatnam - 530031, Andhra Pradesh	
3.	<b>NMDC Ltd.</b>	Khanij Bhawan, 10-3 -311/A, Castle Hills, Masab Tank, Hyderabad-500028, Andhra Pradesh	<b>J&amp;K Mineral Development Corporation Ltd.</b> 33 B/ B IInd Extn Gandhi Nagar, Jammu-180004 J&K
4.	<b>Maganese Ore (India) Ltd.</b>	MOIL Bhawan, 1-A Katol Road, Nagpur-440013, Maharashtra	
5.	<b>MSTC Ltd.</b>	225-F, Acharya Jagdish Bose Road, Kolkata - 700020, West Bengal	<b>Ferro Scrap Nigam Ltd.</b> , FSNL Bhawan, Equipment Chowk, Central Avenue, Bhilai - 490001 Chattishgarh
6.	<b>Hindustan Steelworks Construction Ltd.</b>	No. 1, Shakespeare Sarani, 8th Floor, Kolkata - 700071 West Bengal	
7.	<b>MECON Ltd.</b>	MECON Building, Ranchi - 834002 Jharkhand	
8.	<b>Bharat Refractories Ltd.</b>	Sector IV, Central Avenue, Bokaro Steel City - 827004 Jharkhand	
9.	<b>Sponge Iron India Ltd.</b>	Khanij Bhawan, 10-3-311/A, Castle Hills, Masab Tank, Hyderabad -500028, Andhra Pradesh	
10.	<b>Kudremukh Iron Ore Company Ltd.</b>	II Block, Koramangala Bangalore-560034, Karnataka	
11.	<b>Govt. Managed Company- Bird Group of Companies</b>	FD-350, Sector-III, Salt Lake City, Kolkata-700106, West Bengal	

## CHAPTER - IV

### PUBLIC SECTOR

The Companies under the Ministry of Steel have performed well in the last three years. The combined Profit Before Tax (PBT) of the Companies with this Ministry have gone up from around Rs. 14,322 crore in 2004-05 to around Rs.15,566 crore in 2006-07. The current year's trend is also encouraging and the combined performance of these companies up to the third quarter of 2007-08 shows a combined PBT in the region of Rs. 13,655 crore.

The contribution of Public Sector Enterprises to the public exchequer has gone up significantly. The contribution to Central and State Government exchequer by way of excise duty, customs duty, dividend, corporate tax, sales tax, royalty etc. has gone up by 84% from Rs. 8,978 crore in 2004-05 to Rs. 16,475 crore in 2006-07 and the trends up to the third quarter of 2007-08 indicate a figure of Rs. 12,596 crore. This chapter briefly enumerates the details of the PSUs.



Shri S.K. Roongta, Chairman SAIL receiving gold trophy of the prestigious 'SCOPE Award for Excellence and Outstanding Contribution to the Public Sector Management' for the year 2004-05 from Hon'ble Prime Minister Dr. Manmohan Singh, on 8<sup>th</sup> March 2007 at a function held in New Delhi.

### STEEL AUTHORITY OF INDIA LIMITED (SAIL)

Steel Authority of India Limited (SAIL) is a company registered under the Indian Companies Act, 1956 and is an enterprise of the Government of India. It has five integrated steel plants at Bhilai (Chhattisgarh), Rourkela (Orissa), Durgapur (West Bengal), Bokaro (Jharkhand) and Burnpur (West Bengal). SAIL has three special and alloy steel plants viz. Alloy Steels Plant at Durgapur (West Bengal), Salem Steel Plant at Salem (Tamilnadu) and Visvesvaraya Iron & Steel Plant at Bhadravati (Karnataka). In addition, a Ferro Alloy producing plant Maharashtra Elektros melt Ltd. at Chandrapur, is a subsidiary of SAIL. SAIL has Research & Development Centre for Iron & Steel (RDCIS), Centre for Engineering & Technology (CET), SAIL Safety Organisation (SSO) and Management Training Institute (MTI) all located at Ranchi; Central Coal Supply Organisation (CCSO) at Dhanbad; Raw Materials Division (RMD), Environment Management Division (EMD) and Growth Division (GD) at Kolkata. The Central Marketing Organisation (CMO), with its head quarters at Kolkata, coordinates the country-wide marketing and distribution network. SAIL Consultancy Division (SAILCON) functions from New Delhi.



Shri S.K. Roongta, Chairman SAIL handing over the interim dividend cheque of Rs. 673.49 crore, to Shri Ram Vilas Paswan, Hon'ble Union Minister for 2007-08 Chemicals & Fertilisers and Steel, on 7<sup>th</sup> February 2008.

### Capital Structure

The authorised capital of SAIL is Rs. 5,000 crore. The paid-up capital of the Company was Rs. 4130.40 crore as on 31st March 2007, which was held to the extent of 85.82% by the Government of India and the balance 14.18% by the financial institutions/ GDR-holders/ banks/ employees/ individuals etc.

### Financial Performance

The Company recorded a sales turnover of Rs. 39,188.66 crore in 2006-07. The post-tax net profit for the year 2006-07 was Rs. 6,202.29 crore. The Company paid dividend

@ 31% of paid up equity capital for the year 2006-07. The sales turnover and net profit after tax for nine months ended 31<sup>st</sup> December, 2007 were Rs. 30,025.76 crore and Rs. 5,160.02 crore respectively.

### Production Performance

The details of production plan and achievement for SAIL including ISP are as given below:

(In Million Tonnes)

Item	2006-07			April – December 2007		
	Target	Actual	Fulfilment(%)	Target	Actual	Fulfilment(%)
Hot Metal	14.10	14.60	104	10.96	11.31	103
Crude Steel	13.03	13.50	104	10.26	10.37	101
Saleable Steel	11.86	12.58	106	9.26	9.60	104

### Raw Materials

During 2006-07, the total Iron Ore Production from captive mines of the Company was 25 million tonnes. The flux (limestone/ dolomite) production of captive mines during the year was 2.3 million tonnes. The production of iron ore and flux during the period April-December, 2007 was 19.3 million tonnes and 1.95 million tonnes (provisional) respectively.

### Manpower

The manpower strength as on 31<sup>st</sup> March, 2007 was 1,32,973 comprising 16,031 executives and 1,16,942 non-executives. The total reduction in manpower achieved during the year stood at 5,238, which included separation of 539 employees through voluntary retirement.

### MAHARASHTRA ELEKTROSMELT LTD. (A Subsidiary of SAIL)

Maharashtra Elektros melt Ltd. is situated in Chandrapur, Maharashtra and is a major producer of ferro manganese and silico manganese for captive use of SAIL Plants. The Authorised and Paid-Up Share Capital of the Company as on 31<sup>st</sup> March, 2007 were Rs. 30 crore and Rs. 24 crore respectively. SAIL's holding is approximately 99.12% of the paid-up capital.

### Financial performance

During the year 2006-07 the Company recorded a turnover of Rs. 291.854 crore (including conversion income of Rs. 241.80 crore) and made a net profit after tax of Rs.18.50 crore. The turnover and net profit after tax of the Company during April, to December, 2007 were Rs. 249.03 crore and Rs. 24.97 crore respectively.



## Production performance

The production of all grades of Ferro Alloys during 2006-07 and 2007-08 (Apr.-Dec.) was as under:  
(Tonnes)

Material	2006-07	April - December 2007 (provisional)
High Carbon Ferro Manganese	56319	48311
Silico Manganese	50371	26849
Medium Carbon Ferro Manganese	373	1140

## RASHTRIYA ISPAT NIGAM LTD. (RINL)

RINL, the corporate entity of Visakhapatnam Steel Plant (VSP) is the first shore based integrated steel plant located at Visakhapatnam in Andhra Pradesh. The plant was commissioned in August 1992 with a capacity to produce 3 million tonne per annum (mtpa) of liquid steel. The plant has been built to match international standards in design and engineering with state-of-the-art technology incorporating extensive energy saving and pollution control measures.

Right from the year of its integrated operation, VSP established its presence both in the domestic and international markets with its superior quality of products. The company has been awarded all the three International standards certificates, namely, ISO 9001:2000, ISO 14001: 1996 and OHSAS 18001: 1999.

RINL was accorded the prestigious 'Mini Ratna' status by the Ministry of Steel, Govt. of India in the year 2006 and the company is gearing up to complete the ambitious expansion works to increase the capacity to 6.3 mtpa by 2009. RINL has prepared a road map to expand the plant's capacity upto 16 mtpa in phases.

### Performance

The physical performance in terms of production and percentage achievement of rated capacities along with financial/ marketing performance for the last 2 years and current year 2007-08 (April-December, 2007) is as under:

Items	2005-06	2006-07	2007-08 (April-December, 2007)
Production (in million tonnes)			
Hot Metal	4.153 (122%)	4.046 (119%)	2.943 (115%)
Liquid Steel	3.603 (120%)	3.606 (120%)	2.462 (109%)
Saleable Steel	3.237 (122%)	3.290 (124%)	2.289 (115%)

Financial Performance & Marketing Performance( Rs. in crore)

Sales	8491	9151	6766
Gross Margin	2369	2633	2262
Profit before tax	1890	2222	1992
Profit after tax	1252	1363	1248

\*Figures in brackets indicates % rated capacities being operated

## NMDC LTD.

Incorporated on 15<sup>th</sup> November, 1958, NMDC is engaged in the business of developing and exploring mineral resources of the country (other than oil, natural gas and atomic minerals). At present its activities are concentrated on mining of iron ore, diamonds and silica sand.

NMDC operates the largest mechanised iron ore mines in the country at Bailadila (Chattisgarh) and Donimalai (Karnataka). The Silica Sand Project is at Lallapur, Allahabad and the Diamond Mine is situated at Panna (Madhya Pradesh).



Shri Ram Vilas Paswan, Hon'ble Union Minister for Chemicals & Fertilisers and Steel, laying the foundation stone for Deposit - 11B Project at Bailadila, Chattisgarh on 15<sup>th</sup> January, 2008.

All the iron ore production units have been accredited with ISO 9001:2000 and ISO 14001:2004 certifications and also R&D Centre of NMDC was accredited with ISO 9001:2000 certification. NMDC has become the second PSU under Ministry of Steel to be accorded the Navratna status.

## IRON ORE

### Production

NMDC produced 20.10 Million Tonnes of iron ore during the year 2007-08. (April-December, 2007).

### Domestic Sales

Domestic Sales of iron ore was 17.07 Million Tonnes during the year 2007-08. (April-December, 2007).

### Exports

Exports of iron ore is canalised through MMTC Ltd. In 2007-08, (April-December, 2007) NMDC exported 2.79 million tonnes of iron ore to Japan, South Korea and China valued at approximately Rs. 639.93 crore.

### Silica Sand

Production of Finished Silica Sand was 2920 tonnes and the sale was 2446 tonnes during the period (April-December, 2007).

## Finance

### Capital structure

The Authorised share capital of the company is Rs.150 crore. The paid up equity share capital is Rs. 132.16 crore. Outstanding loans from Government of India are nil.



## Financial Performance

The financial performance of the company for the year 2006-07 and 2007-08 (April-December, 2007) are given below:

(Rs. in crore)

Item	2006-07	2007-08 (April-December, 2007)
Sales/ Turnover	4185.84	3816.80
Gross Margin	3581.79	3437.44
Profit before tax	3498.31	3389.42

## MANGANESE ORE (INDIA) LTD. (MOIL)

Manganese Ore (India) Limited (MOIL) was established in 1962. It is the largest producer of Manganese Ore in India. At the time of inception, the Central Province Manganese Ore Co. Ltd. (CPMO) held 49% of shares and the remaining 51% was held in equal proportion by the Government of India and the State Government of Madhya Pradesh and Maharashtra. Subsequently, in 1977, the Government of India acquired the shares held by CPMO in MOIL and MOIL became a wholly owned Government Company with effect from October, 1977. As on 31<sup>st</sup> December, 2007 the paid up capital of the Company is Rs. 28 crore. Government of India held 81.57% shares in MOIL with the State Governments of Maharashtra and Madhya Pradesh holding 9.61% and 8.82% shares respectively.



Shri Ram Vilas Paswan, Hon'ble Union Minister for Chemicals & Fertilisers and Steel, with Shri K.L.Mehrotraa, CMD MOIL; Dr. G. Sanjeeva Reddy, MP, Rajya Sabha and Chairman INTUC and Patron, MOIL Workers Association and Shri Ajoy Kumar, Joint Secretary, Ministry of Steel, on the inaugural function of MOIL Bhawan at Nagpur on 27<sup>th</sup> July, 2007.

MOIL produces and sells different grades of Manganese Ore as below:

- High Grade Ores for production of Ferro manganese
- Medium grade ore for production of Silico manganese
- Blast furnace grade ore required for production of hot metal and
- Manganese Dioxide for dry battery cells and chemical industries.

MOIL has set up a plant based on indigenous technology to manufacture Electrolytic Manganese Dioxide (EMD). This product is used for the manufacture of dry battery cells. EMD produced by the Company is of good quality and well accepted by the market. A Ferro manganese plant having a capacity of 10,000 tonnes per annum was also set up in 1998 by MOIL for value addition.

## FINANCE

Authorised Capital of the company is Rs.100 crore and paid-up Capital was Rs.28 crore as on 31st December, 2007.

The physical and financial performance of the company for the last 2 years and for the year 2007-08 (upto December, 2007) is given below :

Sl. No.	Item	2005-06	2006-07	2007-08 (April-December)
1.	<b>Production</b>			
	a) Manganese Ore ('000 tonnes)	865	1047	940
	b) E.M.D. (tonnes)	1301	1312	774
	c) Ferro Manganese (tonnes)	6170	10200	8270
2.	<b>Total Income (Rs. in crore)</b>	356.19	451.82	529.57
3.	<b>Profit before tax (Rs. in crore)</b>	169.00	201.15	311.32
4.	<b>Reserves (Rs. in crore)</b>	344.04	433.49	568.85
5.	<b>Net Worth (Rs. in crore)</b>	345.98	455.81	615.76
6.	<b>Book value per share (Rs.)</b>	2257.34	1604.46	2199.16
7.	<b>Earning per share (Rs.)</b>	747.25	(*)479.31	(*)733.93

(\*) On enhanced equity capital consequent issue of Bonus shares.

The performance of the Company in 2007-08 (April-December) vis-a-vis the MoU target for the year is as under :

Sl. No.	Item	MoU Target 2007-08	Actual 2007-08 (April- December)
1.	<b>Production :</b>		
	a) Manganese Ore (tonnes)	9,34,500	9,40,185
	b) E.M.D. (tonnes)	-	774
	c) Ferro Manganese (tonnes)	-	8,270
2.	<b>Total Income (Rs. in crore)</b>	343.00	529.57
3.	<b>Profit before Tax (Rs. in crore)</b>	150.00	311.32

## MSTC LTD.

MSTC Ltd. (formerly Metal Scrap Trade Corporation Ltd.) was set up on the 9<sup>th</sup> September, 1964 as a canalizing agency for the export of scrap from the country. With the passage of time, the company emerged as the canalizing agency for the import of scrap into the country. Import of scrap was de-canalised by the Government in 1991-92 and MSTC has since then moved on to marketing ferrous and miscellaneous scrap arising out of steel plants and other industries and importing Coal, Coke, Petroleum products, semi finished steel products like HR Coils and export primarily Iron ore. The Company has also established an e-auction portal and undertakes e-auction of Coal, Diamonds and Steel Scrap and has developed an e-procurement portal in house.

### Capital structure

The company has an authorized capital of Rs. 5 crore and paid up capital was Rs. 2.20 crore as on 31<sup>st</sup> December, 2007 of which approximately 90% is held by the Government of India and balance 10% by members of Steel Furnace Association of India, Iron and Steel Scrap Association of India and others. Paid up capital of Rs. 2.20 crore includes bonus shares issued in the year 1993-94 in the ratio 1:1.



### Location of units

The registered and corporate office of the Company is located at Kolkata and it has four Regional Offices at Kolkata, Delhi, Chennai and Mumbai; three branch offices at Visakhapatnam, Bangalore and Vadodara and four resident offices at Bhopal, Goa, Hazira and Trichy.

### Physical and Financial Performance

The physical and financial performance of the company for the last two years and for the year 2007-08 (upto December, 2007) is given below:

(Rs. in Crore)

Performance	2005-06	2006-07	2007-08 (upto Dec'07)
<b>A. Physical</b>			
(i) Selling Agency	3230	3491	3042
(ii) Marketing	4541	4179	3542
(iii) Total Volume of Business	7771	7670	6584
<b>B. Financial</b>			
(i) Turnover	4172.75	3100	2567
(ii) Operating Profit (before interest depreciation and provision)	86.15	93.40	59.56
(iii) Interest depreciation and provision	0.45	2.53	1.64
(iv) Profit before tax	85.70	90.87	57.92
(v) Dividend	498%	540%	-

### FERRO SCRAP NIGAM LTD. (FSNL)

FSNL is a wholly owned subsidiary of MSTC Ltd. with a paid up capital of Rs. 200 lakh. The Company undertakes the recovery and processing of scrap from slag and refuse dumps in the nine steel plants at Rourkela, Burnpur, Bhilai, Bokaro, Visakhapatnam, Durgapur, Dolvi, Duburi & Raigarh. 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 during Iron & Steel making and also in the Rolling Mills. In addition, the Company is also providing Steel Mill Services such as Scarfing of Slabs, Handling of BOF Slag, etc.

### Physical & financial performance

The production performance of FSNL for the last two years and for the year 2007-08 (upto December, 07) is given below:

Item	2005-06	2006-07	2007-08 (upto Dec' 07)
Recovery of scrap (lakh metric tonne)	22.46	22.04	17.36
Market Value of Prod. (Rs. in crore)	988.24	969.68	767.52

### Financial performance (Rs. in lakh)

Item	05-06	06-07	2007-08 (upto Dec' 07)
Total Turnover i.e, Service charge realised including misc. Income, etc.	10679.37	11062.80	8148.73
Gross Margin Before Interest & Depreciation	1865.14	1536.53	1165.07
Interest & Depreciation	1009.70	1228.65	958.47
Profit before Tax	855.44	307.88	206.60

## HINDUSTAN STEELWORKS CONSTRUCTION LTD. (HSCL)

HSCL was incorporated in June 1964 with the primary objective of creating in the Public Sector an organisation capable of undertaking complete construction of modern integrated Steel Plants. HSCL had done the construction work of Bokaro Steel Plant, Vizag Steel Plant and Salem Steel Plant from the inception till commissioning and was associated with the expansion and modernisation of Bhilai Steel Plant, Durgapur Steel Plant, IISCO (Burnpur) and also Bhadravati Steel Plant. With the tapering of construction activities in Steel Plants, the company intensified its activities in other sectors like Power, Coal, Oil and Gas. Besides this, HSCL diversified in Infrastructure Sectors like Roads/Highways, Bridges, Dams, Underground Communication and Transport system and Industrial and Township Complexes involving high degree of planning, co-ordination and modern sophisticated techniques.

The company has developed its expertise in the areas of Piling, Soil investigation, Massive foundation work, High rise structures, Structural fabrication and Erection, Refractory, Technological structures and Pipelines, Equipment erection, Instrumentation including testing and commissioning.

The company has also specialised in carrying out Capital repairs and Rebuilding work including hot repairs of Coke Ovens and Blast Furnaces and other allied areas of Integrated Steel Plants.

### Capital Structure

The Authorised and Paid-up Share Capital as on date is Rs.150 Crore and Rs.117.10 Crore respectively. The total amount of Government of India loan outstanding as on date is Rs.546.64 Crore (Plan Loan Rs.33.50 Crore and Non-Plan Loan Rs.513.14 Crore). The company received Rs.243.88 Crore from Government as Non-Plan assistance to pay salaries & wages and statutory dues to the Employees after implementation of Restructuring Package in 1999. The company has drawn loan of Rs.518.36 crore in two phases (2000-01 to 2002-03) from the various Banks under the Guarantee given by Government of India for rationalisation of manpower through Voluntary Retirement Scheme (VRS).

### Financial Performance of the Company

The financial performance of the company during the period 2006-07 and 2007-08 (Apr.-Dec.) is as under:

(Rs.in Crore)

YEAR	2006-2007	2007-2008 (April - December)
Turnover	433.33	346.00
Operational Profit (Profit Before Interest, Depreciation & Tax)	30.17	23.00
Net Loss	83.50*	60.00**
		(unaudited)

\*The net loss includes Rs. 24.23 crore towards Voluntary Retirement. Expenditure charged during the year and Rs. 81.93 crore towards interest on GOI loan.

\*\*The net loss includes Rs. 3.65 crore towards VRS expenditure and Rs. 76.0 crore towards interest on GOI loan.

Ministry of Steel has forwarded a proposal for revival & restructuring of HSCL, incorporating various financial, organisational and structural modifications, to Board for Reconstruction of Public Sector Enterprises (BRPSE).

## MECON LTD.

MECON is one of the leading multi-disciplinary design, engineering, consultancy and contracting organization in the field of iron & steel, chemicals, refineries & petrochemicals, power, roads & highways, railways, water management, ports & harbours, gas & oil, pipelines, non ferrous, mining, general engineering, environmental engineering and other related/ diversified areas with extensive overseas experience. MECON, an ISO: 9001- 2000 accredited company, registered with World Bank (WB), Asian Development Bank (ADB), European Bank for Reconstruction and Development (EBRD), African Development Bank (AFDB), and United Nations Industrial Development Organisation (UNIDO), has wide





exposure and infrastructure for carrying out engineering, consultancy and project management services for mega projects encompassing architecture & town planning, civil works, structural works, electric, air conditioning & refrigeration, instrumentation, utilities, material handling & storage, computerization etc. MECON has collaboration agreements with leading firms from the USA, Germany, France, Italy, Russia, etc. in various fields.

The authorized share capital of the company is Rs. 10,400 lakh (previous year Rs. 4,100 lakh) against which the paid up capital is Rs. 10,313.84 lakh (previous year Rs. 4,013.84 lakh). All the shares are held by the Government of India.

### Management Initiative

Keeping in view the highly dynamic business scenario, a number of initiatives have been taken by the management in areas such as :

- Formation of Strategic Business Units in the area of Metals, Oil & Gas, Power and Infrastructure,
- Curtailment of expenditure in various areas of operation
- Right sizing of manpower, closing of unviable offices and down sizing of other offices for consolidating strength at main engineering office
- Focus on client & their project specific requirement
- Signing of MoUs/ Agreements on technology & business promotion with reputed foreign companies for synergizing mutual strengths and addressing the present market needs
- Consortium working philosophy with leading foreign and Indian Companies/ institutions
- Entering into strategic alliances, multi-skilling of personnel for productivity improvement, and
- Enterprise wide networking for e-working, on-line work item allocation, on-line job card filling, e-archives, project progress monitoring,

MECON is the first consultancy organization in the country to be accredited with ISO-9001 certification. This certification for Consultancy, Design & Engineering, Procurement of Plant & Equipment, Construction & Project Management Services and Execution of Turnkey Projects is valid till January 2009. Surveillance audit had been completed in December 2007.

### Business Diversification

In view of the cyclic demand/ investments in the Steel Sector over the past several years, MECON has made forays into a number of diversified sectors of the economy especially Oil & Gas, Power and Infrastructure. The company has gained substantial experience and recognition in some of these sectors and plans to build a strong portfolio of services to meet the growing demand of clients. This would also help the company in adjusting to the sectoral market fluctuations by aligning itself towards the sectors having greater opportunities in future.

During the year, consultancy business procured from the diversified sectors (other than metals) has been significant. In Engineering and Consultancy, the company's order booking is 24.81% (previous year 24.14%) in the diversified sectors and 75.19% (previous year 75.86%) in Metals Sector.

### Revival & Restructuring

Government approved the Restructuring proposal of the company during February, 2007. Accordingly, MECON was sanctioned a financial package of Rs. 100.72 crore, consisting of Rs. 93 crore as cash assistance and Rs. 7.72 crore as non-cash assistance. In addition, Government has also decided to continue with 50% interest subsidy and waiver of guarantee fee on VRS loans taken by the company.

## **BHARAT REFRACTORIES LTD. (BRL)**

Bharat Refractories Ltd. (BRL), a Government of India Undertaking was incorporated on 22nd July, 1974 and at present it has the following four units:

- i) Bhandaridah Refractories Plant at Bhandaridah;
- ii) Ranchi Road Refractories Plant at Ramgarh;
- iii) Bhilai Refractories Plant at Bhilai and
- iv) IFICO Refractories Plant at Ramgarh.

The Company is engaged in the manufacture and supply of various kinds of refractories not only to the Integrated Steel Plants but also to the Mini Steel Plants.

### Capital Structure

The authorised share capital of the company as on 31<sup>st</sup> March, 2007 was Rs. 246 crore against which the paid-up capital was Rs. 229.79 crore.

### Performance

The production performance of the different units of the Company during 2006-07 and 2007-08 is as follows:

Units	2006-07 (Actual)		2007-08			
	Actual		Target		Provisional (upto 31.12.07)	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>Bhandaridah Ref. Plant(BhRP)</b>	28394	62.57	28000	59.60	22087	52.86
<b>Ranchi Road Ref. Plant (RRRP)</b>	7378	24.76	8500	28.68	3857	13.00
<b>Bhilai Ref. Plant (BRP)</b>	26959*	55.47*	28500	56.59	22707	46.99
<b>IFICO Ref. Plant (IFICO RP)</b>	26062	47.14	30000	50.13	16353	28.65
<b>Total:</b>	<b>88793</b>	<b>189.95</b>	<b>95000</b>	<b>195.00</b>	<b>65004</b>	<b>141.50</b>

\* includes conversion job to SAIL Steel Plant.

### Financial Performance

During the year 2006-07, the profit before interest, depreciation and tax in respect of BRL amounted to Rs. 7.54 crore, but after providing for interest, depreciation and prior period adjustment/ fringe benefit tax (FBT) to the tune of Rs. 16.76 crore, Rs. 3.18 crores, Rs. 2.71 crore and Rs. 0.20 crore respectively, it incurred a net loss of Rs.15.31 crore.

During 2007-08 (upto 31.12.2007), the profit before interest, depreciation and prior period adjustment/ FBT amounted to Rs. 11.16 crore but after providing for interest, depreciation and prior period adjustment to the tune of Rs. 12.11 crore, Rs.3.98 crores and Rs. 0.15 crore respectively, it incurred a net loss of Rs. 5.08 crore.

### SPONGE IRON INDIA LTD. (SIIL)

Sponge Iron Plant of the company was initially established as a demonstration unit with a capacity of 30,000 tonnes per annum (tpa) with UNDP/ UNIDO assistance to establish the techno-economic feasibility of producing sponge iron (a part substitute for ferrous scrap used by Induction and Electric Arc Furnaces) from lump iron ore and 100% non-coking coal. The unit, based on non-coking coal from Singareni Collieries Company Ltd. (SCCL) and iron ores available at various regions in Andhra Pradesh and neighbouring states, went into regular operations in November, 1980. Several improvements and modifications were effected to the Sponge Iron Plant based on Rotary Kiln Process to suit the local raw materials and operating conditions. As a result, it has not only helped developing SIIL technology but also paved way for the development of Sponge Iron Industry in the Country. The Company doubled its capacity from 30,000 tonne per annum to 60,000 tonne per annum in October, 1985.

### Capital Structure

The authorised share capital of the company stood at Rs. 66 crore as on 31.03.2007; paid up capital was Rs. 65.10 crore. (Rs. 64.27 crore held by Government of India and the balance of Rs. 0.83 crore by the Government of Andhra Pradesh).





## Production

The Production and Financial Performance of the company during the last two years, together with provisional figures for 2007-08 (upto December, 2007) is furnished in the table below:

(Rs. in lakhs)

	2005-06	2006-07	2007-08 upto Dec.07 (Provisional)
<b>Production</b>			
- Sponge Iron (tonnes)	48,302	55,194	33,583
- Power Generation (lakh Kwh)	49	56	15
- Capacity Utilisation (%)	81	92	75
<b>Sales</b>			
- Sponge Iron (tonnes)	48,215	54,670	33,082
- Sales Turnover (Net) (Rs. in lakh)	4,304	5,061	3,711
- Generation of Internal Resources (Rs. in lakh)	692	434	755
- Net Profit (Rs. in lakh) (PBT)	566	629	665

## Project consultancy

- The Company has made a feasibility report for NMDC for their proposed Sponge Iron Plant at Nagarnar.
- The Company has taken up a consultancy contract with a Peruvian Company for supply of equipment for pollution control of Sponge Iron Plants.

## KUDREMUKH IRON ORE COMPANY LTD. (KIOCL)

An 100% Export Oriented Unit (EOU), ISO 9001-:2000, ISO 14001 and Four Star Trading House status holding company KIOCL, was established in April, 1976 to meet the long term requirements of Iran. An Iron Ore Concentrate Plant of 7.5 million tonnes capacity was set up at Kudremukh. This project 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.

While the project was commissioned on schedule, consequent upon the political developments in Iran, they did not lift any quantity of Concentrate. As a diversification measure, the Government approved the construction of a 3 million tonnes per year capacity Pellet Plant in Mangalore in May, 1981. The capacity of the Pellet Plant was increased to 3.5 million tonnes with additions/ modifications. The plant went into commercial production in 1987 and is now exporting Iron Ore Pellets to China and also to domestic units such as Ispat Industries Ltd., SAL Steel Ltd and Rashtriya Ispat Nigam Limited. Consequent upon Supreme Court's verdict, mining was stopped at Kudremukh w.e.f. 31<sup>st</sup> December, 2005 and Pellet Plant is operated with procured Hematite Ore.

## Production

The target set for production during the year 2007-08 is 2.6 million tonnes of Pellets. For the period April to December, 2007, the actual production is 1.33 million tonnes which represents 73% target fulfilment. Shortfall in production of Pellets upto December, 2007 is on account of operational problems being encountered in the Pellet plant after switching over to usage of 100% Hematite ore from magnetite ore. While efforts are continuing to rectify the problems, the operation of Pellet plant has stabilized to a great extent.

The target set for production of Pig Iron during the year 2007-08 is 1.90 lakh tonnes. As against a target of 1.50 lakh tonnes of Pig Iron fixed for the period April to December 2007, actual production is expected to be 1.06 lakh tonnes which represents 71% of the target fulfillment. There is shortfall in production of Pig Iron upto October 2007, on account of replacement of moulds and major repair work in respect of Pig Casting Machine and Gas cleaning System.



A view of Pellet Storage Yard of KIOCL

## Sales

The Sales revenue during the last five years and during 2007-08 (upto December, 2007) is as below:

(Rs. in lakh)

Year	Concentrate	Pellets	Blast Furnace Unit*	Total
<b>2007-08 (upto December, 2007) (Provisional)</b>	-	67310	25340	92650
<b>2006-07</b>	-	26744	-	26744
<b>2005-06</b>	12091	111137	-	123228
<b>2004-05</b>	16050	169327	-	185377
<b>2003-04</b>	20209	82729	-	102938
<b>2002-03</b>	21135	51579	-	72714

\*Note: The erstwhile Kudremukh Iron & Steel Company Ltd. merged with the company with effect from 1<sup>st</sup> April, 2007, hence information furnished for the current year only.

## Financial performance

An overview of the performance of KIOCL during the year 2007-08 (upto December, 2007) together with actuals for the previous three years, is indicated below:

(Rs. in lakh)

Particulars	2007-08 (upto December, 2007)	2006-07	2005-06	2004-05
<b>Total value of Sales</b>	92650	26744	123228	185377
<b>Gross Margin</b>	9804	5181	68706	120863
<b>Profit after Tax</b>	3763	1377	35630	64984
<b>Inventories (excluding finished stock)</b>	21116	17252	15843	8720

Note: The erstwhile Kudremukh Iron & Steel Company Limited merged with the Company with effect from 1<sup>st</sup> April, 2007, hence financial information furnished above includes financial performance of Blast Furnace unit for the current year only.



## BIRD GROUP OF COMPANIES (BGC)

Consequent upon nationalisation of the Undertaking of Bird & Company Limited in 1980, the following seven companies came under the administrative control of the Ministry of Steel, Government of India.

- (a) The Orissa Minerals Development Company Ltd. (OMDC)
- (b) The Bisra Stone Lime Company Ltd. (BSLC)
- (c) The Karanpura Development Company Ltd. (KDCL)
- (d) Scott & Saxby Ltd. (SSL)
- (e) Eastern Investments Ltd. (EIL)
- (f) Burrakar Coal Company Ltd. (Burrakar).
- (g) Borrea Coal Company Ltd. (Borrea).

The status of the companies is as under:

- Burrakar and Borrea Coal companies became non-operational after nationalisation of coal mines. The two companies are in the process of liquidation. The official liquidator has already taken over the assets and liabilities of these two companies.
- EIL being an investment company is having a major stake in the equity shares of operating companies under the Bird Group.
- OMDC, BSLC, KDCL & SSL are operating companies under the Group.

## STATUS OF THE COMPANIES AT THE TIME OF NATIONALISATION

At the time when the Bird Group of Companies came under the administrative control of the Ministry of Steel, Government of India, all of them were financially sick and burdened with various problems. With the financial support from the Government of India, problems relating mainly to excessive manpower, erosion of working capital and outstanding liabilities could be settled to a considerable extent.

## PERFORMANCE OF THE INDIVIDUAL OPERATING COMPANIES

### THE ORISSA MINERALS DEVELOPMENT COMPANY LTD. (OMDC)

#### Location of Mines, Activities and Capital Structure

The mines of the company are located around Barbil, Keonjhar district, Orissa. The activities relate to mining and marketing of iron ore and manganese ore. The authorised as well as paid up capital is Rs. 60 lakh.

#### Performance

In view of buoyancy in the steel market, the demand for iron ore increased substantially. Due to higher production and better realisation, the company staged a turnaround in 2002-03.

The performance of the company is given below.

	2005-06	2006-07	2007-08 (April-December, 2007)
Production('000 Metric Tonnes)	2416	2268	1387
Sales (Rs. in lakh )	25271	29993	16275
Gross Margin before Interest on Government Loans & Depreciation ( Rs. in lakh )	19287	26291	15294
Net Profit/ Loss ( Rs. in lakh )	12993	17347	9809

## THE BISRA STONE LIME COMPANY LTD. (BSLC)

### Location of Mines, Activities and Capital Structure

The mines of the company are located around Birmiritrapur in the district of Sundargarh, Orissa. The main activities of the company are mining and marketing of limestone and dolomite. The authorised as well as paid up capital is Rs. 50 lakh.

### Performance

With change in steel making technology, demand of BSLC's products declined sharply and consequently the company incurred heavy losses. With financial support from the Government of India in the form of plan loan and non-plan loan, the company was in a position to keep its existence and take some steps for augmentation of production. Measures were taken to change the product-mix and improve upon the quality. The modification work was also undertaken for placing one rake of 58 BOX N wagons into two parts in order to avoid delay in loading of wagons and avoiding the demurrage for detention for earlier placing of rakes in three parts. An MoU has been signed with SAIL for steady dispatch of Limestone and Dolomite to eastern sector steel plants of SAIL. With such initiatives, the performance of company has slightly improved during the current financial year.

The performance of the company is given below :

	2005-06	2006-07	2007-08 (April-December, 2007)
<b>Production('000 Metric Tonnes)</b>	956	962	836
<b>Sales (Rs. in lakh)</b>	3012	3770	3199
<b>Gross Margin before Interest on Government Loans &amp; Depreciation (Rs. in lakh)</b>	(-) 266	452	198
<b>Net Profit/Loss (Rs. in lakh)</b>	(-) 6412	(-) 6665	(-) 5535

## THE KARANPURA DEVELOPMENT COMPANY LTD. (KDCL)

### Location of Mines, Activities and Capital Structure

The mines of the company are located around Sirka, Jharkhand. The company produces limestone suitable for cement manufacture. The authorized and paid up capital is Rs. 40 lakh and Rs 20 lakh respectively.

### Performance

The company markets its products mainly in the States of Jharkhand and Bihar. Demand of cement grade limestone in these states has been fluctuating, thereby affecting the performance of the company. The company is taking steps to augment production by development of mines and exploring new markets to push up dispatch.

The performance of the company is given below :

	2005-06	2006-07	2007-08 (April-December, 2007)
<b>Production of Limestone('000 Metric Tonnes)</b>	77	67	45
<b>Sales (Rs. in lakh)</b>	197	178	124
<b>Gross Margin before Interest on Government Loans &amp; Depreciation (Rs. in lakh)</b>	4	(-) 19	(-) 9
<b>Net Profit/Loss (Rs. in lakh)</b>	(-) 163	(-) 221	(-)188





## SCOTT & SAXBY LTD. (SSL)

### Activities and Capital Structure

The company's works are located in Kolkata and is mainly engaged in the activities of sinking of deep tubewells and mineral exploration. The authorised as well as paid up capital of the company is Rs. 5 lakh.

### Performance

The company's performance is not satisfactory because of impediments like dearth of orders, old and worn out machinery and excessive manpower. The performance of the company is given below:

	2005-06	2006-07	2007-08 (April-December, 2007)
<b>Sales (Rs. in lakh)</b>	155	105	73
<b>Gross Margin before Interest on Government Loans &amp; Depreciation (Rs. in lakh)</b>	(-) 117	(-) 311	61
<b>Net Profit/Loss (Rs. in lakh)</b>	(-) 978	(-) 1347	(-) 1077

The company is taking steps to augment the activity in the existing field of business i.e. sinking of deep tubewells in order to achieve the target. It is also exploring other areas of activities within the Group companies for deployment of workmen in order to add to revenue. The company is also contemplating further rationalisation of surplus manpower.

## NEELACHAL ISPAT NIGAM LTD. (NINL)

NINL, a joint venture company promoted by MMTC and the Government of Orissa has set up a 1.1 Million tonne Integrated Steel Plant at Kalinga Nagar Industrial Complex, Duburi, Jajpur District, Orissa. NINL is the first steel plant to become operational at Kalinga Nagar Industrial Complex, Duburi. The first phase is already commissioned and the company is producing pig iron and Blast Furnace coke as main products and the by-products are Granulated slag, Crude tar, Ammonium sulphate, Nut coke, Coke breeze and C.I. scrap. In its very first year (2004-05) of integrated operation of first phase, NINL became the largest producer and exporter of pig iron in India and has maintained its position since then. The products under Steel Melting Shop, which is under construction, are billets, bars & wire rods of different quality and sizes. The company has its own captive power plant of 62.5 MW capacity and is presently self sufficient in power, besides exporting substantial quantity of power to the Government of Orissa.

The construction work of phase-II which consists of steel melting shop, billet caster, bar and rod mill has already started. Major equipment have been ordered from SMS DEMAG, Heavy Engineering Corporation, Ranchi and other suppliers. Civil and fabrication contracts have also been awarded.

NINL has its own captive mines at Koira in Sundargarh and Keonjhar district of Orissa with 1800 hectares of mines area and an estimated reserve of 110 Million Tonnes of iron ore.

## CHAPTER – V

### PRIVATE SECTOR

The private sector of the Steel Industry is currently playing an important and dominant role in production and growth of steel industry in the country. Private sector steel players have contributed nearly 67% of total steel production of 38.08 million tonnes to the country during the period April-December, 2007. The private sector units consist of both major steel producers on one hand and relatively smaller and medium units such as Sponge iron plants, Mini Blast Furnace units, Electric Arc Furnaces, Induction Furnaces, Re-rolling Mills, Cold-rolling Mills and Coating units on the other. They not only play an important role in production of primary and secondary steel, but also contribute substantial value addition in terms of quality, innovation and cost effectiveness.

#### TATA STEEL LTD.

Tata Steel has an integrated steel plant, with an annual crude steel making capacity of 5 million tonnes located at Jamshedpur, Jharkhand. Tata Steel has completed the first six months of fiscal 2007-08 with impressive increase in its hot metal production. The hot metal production at 2.76 million tonnes is 4.6%



A panoramic view of TATA Steel Plant at Jamshedpur, Jharkhand.

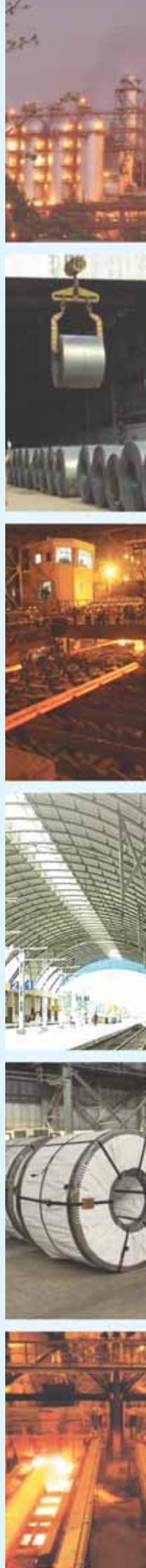
more compared to the corresponding period of the previous year. The crude steel production during the period was 2.43 million tonnes which is marginally lower than the production of 2.45 million tonnes last year. The saleable steel production was at a lower level during the period April-September, 2007 (2.34 million tonnes) compared to the corresponding period of last year (2.36 million tonnes).

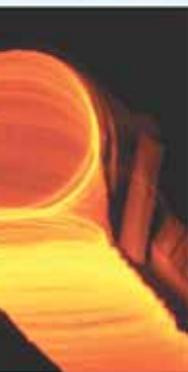
Tata Steel is continuing with its programme of expansion of steel making capacity by 1.8 million tonnes to reach a rated capacity of 6.8 million tonnes. The Project is reported to be moving ahead of schedule and is likely to be commissioned by May 2008 against the original schedule of June 2008. The Company has planned to take the capacity to 10 million tonnes by the fiscal year 2010.

Tata Steel's Greenfield projects in Orissa and Chattisgarh are progressing on schedule with placement of equipment order for Kalinganagar Project in Orissa and commencement of the land acquisition process. Jharkhand Project is awaiting announcement of Relief & Rehabilitation policy of the State Government.

#### ESSAR STEEL LTD. (ESL)

Essar Steel Holdings Ltd. (ESHL) is a global producer of steel with a footprint covering India, Canada, USA, the Middle East and Asia. It is a fully integrated flat carbon steel manufacturer—from iron ore to





An aerial view of Essar's Steel Complex at Hazira, Gujarat

ready-to-market products. ESHL has a current global capacity of 8 million tonnes per annum (MTPA). With its aggressive expansion plans in India and other parts of Asia and North America, its capacity is likely to go up to 25 MTPA by 2012. Its products find wide acceptance in highly discerning consumer sectors, such as automotive, white goods, construction, engineering and shipbuilding.

Essar Steel Ltd., the Indian Company of Essar Steel Holdings Limited, is the largest steel producer in western India, with a current capacity of 4.6 MTPA at Hazira, Gujarat, and plans to increase this to 8.5 MTPA. The Indian operations also include an 8 MTPA beneficiation plant at Bailadilla, Chattisgarh which has world's largest slurry pipeline of 267 km to transport beneficiated Iron Slurry to the pellet plant, and an 8 MTPA pellet complex at Visakhapatnam.

The Essar Steel Complex at Hazira in Gujarat, India, houses the world's largest gas-based single location sponge iron plant, with a capacity of 4.6 MTPA. The complex also houses the steel plant and the 1.4 MTPA cold rolling complex. The steel complex has a complete infrastructure setup, including a captive port, lime plant and oxygen plant.

Essar Steel produces highly customized value-added products catering to a variety of product segments and is India's largest exporter of flat products, selling close to half of its production to the highly demanding US and European markets, and to the growing markets of South East Asia and the Middle East. The company's products conform to quality specifications of international quality certification agencies, like ABS, API, TUV Rhine Land and Lloyd's Register. Essar Steel is the first Indian steel company to receive an ISO 9001 and ISO 14001 certification for environment management practices.

Essar Steel utilizes Hot Briquetted Iron-Direct Reduced Iron (HBI-DRI) technology supplied by Midrex Technology, USA along with four 150 tonnes DC electric arc furnaces imported from Clecim, France. The Hazira unit of Essar Steel is equipped with 5.5 million tonnes per annum (MTPA) hot briquetted iron plant, 4.6 MTPA electric arc furnace, 4.6 MTPA continuous caster, 3.6 MTPA hot strip mill and 1.4 MTPA Cold Rolling Mill. During the year 2007-08, Essar was awarded costs ISO/TS 16949 and OHSAS 18000 certification.

## **JSW STEEL LTD.**

### **JSW Steel, Vijayanagar Works**

JSW Steel is a 3.8 MTPA integrated steel plant, having a process route consisting broadly of Iron Ore Beneficiation – Pelletisation – Sintering – Coke making – Iron making through Blast Furnace as well as

Corex process – Steel making through : BOF- Continuous Casting of slabs – Hot Strip Rolling – Cold Rolling Mills. JSW Steel has a distinction of being certified for ISO-9001:2000 Quality Management System, ISO-14001:2004 Environment Management System and OHSAS 18001:1999 Occupational Health and Safety Management System. The capacity as on 1.11.2007 stood at 3.8 MTPA and the capacity is likely to rise to 6.8 MTPA by 2008, and further to 9.6 MTPA by 2010.

### JSW Steel, Tarapur & Vasind Works

JSW Steel Tarapur & Vasind Works specialize in down-streaming facilities which include: 1.0 MTPA Cold rolling, 0.9 MTPA Hot Dip Galvanising (HDG), 0.1 MTPA Colour coating, 0.1 MTPA CRCA products & 0.3 MTPA Hot rolled plates capacity. JSW Steel has a distinction of being certified to ISO-9001:2000 Quality Management System.

Capacity as on 1.11.2007: 1.0 MTPA Cold Rolling, 0.9 MTPA HDG, 0.1 MTPA Colour coating and 0.1 MTPA CRCA product.

Capacity Expansion Plan: 0.75 MTPA Galvanising capacities by the fiscal year 2009. 0.15 MTPA Colour Coated Sheet capacities by the fiscal year 2009.

### JSW Jharkhand Steel Ltd.

As a part of its Vision 2020, JSW Steel plans a state-of-the-art 10 Million Tonne Steel plant with 900 MW Captive Power Plant in Jharkhand. The total investment of the project is slated at Rs. 35,000 crore which includes the Steel Plant, Mines and Infrastructure facilities. The plant is expected to commence operations by 2010, and will capitalise on vast resources available in the state.

### JSW Bengal Steel Ltd.

JSW Steel is in process of setting up a 10 MTPA integrated steel plant along with captive power plant at Godapisa, West Midnapur, in West Bengal. The project will be implemented in suitable phases, the first phase being of 3 MTPA. The project will help in accelerating the pace of industrial development of West Bengal by creating employment, infrastructure and utilising mineral reserves.

## JINDAL STEEL & POWER LTD. (JSPL)

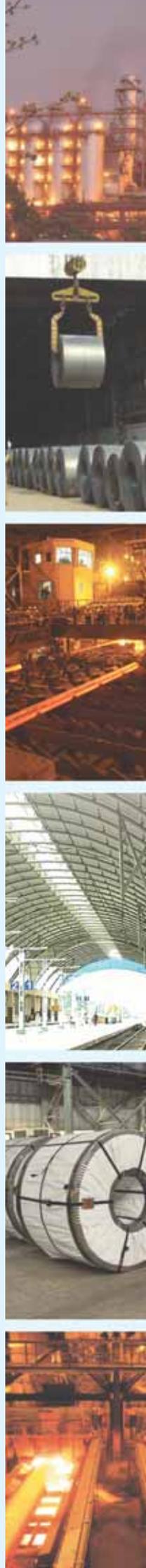
Jindal Steel & Power Limited is one of the fast growing major steel units in the country. The Raigarh plant of JSPL has a present capacity of 1.37 million tonne per annum (MTPA) sponge iron plant, 2.40 MTPA Steel Melting Shop (SMS), 1.0 MTPA plant Mill, 2.30 sinter plant, 0.8 MTPA coke oven and a 330 Mega Watt captive power plant.

During the year 2006-07, the company produced 1.19 million tonnes of sponge iron, 0.8 million tonnes of various steel products, 0.57 million tonnes of hot metal and 0.21 million tonnes of rolled products.

The performance of JSPL during April-October 2007-08 was 0.68 million tonnes of sponge iron, 0.72 million tonnes of steel products (slabs/blooms/billets/rounds), 0.68 million tonnes of hot metal, 0.27 million tonnes of rolled products and 0.11 million tonnes of plates.



An aerial view of the JSPL Plant at Raigarh, Chattisgarh





## Capacity addition plan

Enhancement of present steel capacity from 2.4 MT to 6.0 MT in phased manner by 2010 incorporating:

- 2.0 MT gas based DRI producing gas by coal gasification
- 4000 Cubic Metre blast furnace
- 3 MT steel melting shop with Electric Arc Furnace route and thin slab caster.
- Hot Strip Mill ( Compact Strip Product technology)
- Cement plant to consume the blast furnace slag.
- 4X135 MW Power plant increasing the capacity to 840 MW.

## ISPAT INDUSTRIES LTD. (IIL)

IIL has set up one of the largest integrated steel plants in the private sector in India at Dolvi in Raigad District, Maharashtra with a capacity to manufacture 3 million tonnes per annum of hot rolled steel coils (HRC). The Dolvi complex also boasts of an ultra modern blast furnace (setup by a group company Ispat Metallics India Ltd.) capable of producing 2.0 million tonnes per annum of Hot Metal/ Pig Iron, a 2.0 million tonnes capacity Sinter Plant (newly commissioned) and a DRI plant with a capacity of 1.6 million tonnes per annum. The complex boasts of an ultra modern captive jetty which meets the plants' requirement with regard to import of various raw material. In the coming years, after augmenting necessary infrastructure facility, it has planned to export the goods from the captive jetty. Further, the complex envisages adding a 110 MW captive power plant (which will use the Blast Furnace gas) in near future.

The integrated steel plant is using the converter-cum-electric arc furnace route (CONARC process) for producing steel. In this project, IIL have uniquely combined the usage of hot metal and DRI (sponge iron) in the electric arc furnace for production of liquid steel for the first time in India. For casting and rolling of liquid steel, IIL has the state-of-the art technology called compact strip production (CSP) process, which was installed for the first time in India and produces high quality and specifically very thin gauges of Hot Rolled Coils.

The production facilities for various products in IIL are as under:

### Sponge Iron / DRI Plant

Special features about the DRI plant:

- One of the most efficient Midrex Mega Module Sponge Iron Plant in the world.
- Rated Capacity - 1.6 MTPA
- Operating consistently at over 100% rated capacity
- Fully computerized process control.
- ISO 9002 and ISO 14001 certified
- Only plant in the world using above 60% of Lump Ore in feed mix.



A panoramic view of Coast based 3 Million Tonne Dolvi integrated Steel Plant of Ispat Industries at Raigarh, Maharashtra.

The plant has achieved the best metallization and lowest energy

consumption comparable to the international benchmarks. As against the prescribed average natural gas consumption of 2.6 Giga calories per Million Tonne, the sponge iron plant has achieved 2.3 Giga calories per Million Tonne. Also, as against the prescribed average metallisation of 92%, the plant has already touched 95%.

## BHUSHAN POWER & STEEL LTD. (BPSL)

Bhushan Power & Steel Ltd. although a new entrant in integrated steel making, has over 35 years of experience in the steel sector, being a part of the erstwhile Bhushan steel group. The company at present, has 5 finished product plants in Chandigarh and Derabassi and one plant in Kolkata. Its first integrated steel plant (ISP) in Sambhalpur district of Orissa is in operation with 4 DRI kilns with a total capacity of 0.68 MTPA; a 0.80 MTPA blast furnace; a 0.45 MTPA coke oven plant; 1 MTPA sinter plant; 1.2 MTPA steel making facility and 0.9 MTPA HR mill. The company has further plans to add sponge iron capacity of 1.02 million tonnes and 1.0 million tonne of hot metal production, by the year 2010.

## MONNET ISPAT & ENERGY LTD. (MIEL)

MIEL started its manufacturing activities in the year 1994, with a One Lakh tonnes per annum coal based sponge iron plant based on indigenous technology, Today it has emerged as one of the largest coal based sponge iron and Manganese Alloys manufacturer in the country. Apart from this, MIEL's Raipur Sponge Iron Kiln has achieved a world record campaign of 525 days and is still in operation. The company has its own captive coal mines, and is the only Indian private company to operate underground coal mines. The company has created various benchmark, in the mining industry in terms of production (the highest producing underground coal mines), safety (awarded with DGMS safety awards for two consecutive years) and OMS. The company in a very short span of time has made a distinct mark in the steel sector and has a mission to add 5.00 MTPA of high end steel products by 2012.

### Expansion

The company is presently operating plants in the State of Chhattisgarh; at Raipur with 0.30 MTPA of finished steel and at Raigarh with 0.50 MTPA of Sponge Iron. The company is in the process of expanding its Raigarh Steel Complex. The entire facility will be integrated with primary steel manufacturing of DRI 1 MTPA & Hot Metal of 1MTPA, captive mines, power etc. The company is setting up a 1.50 MTPA plant with a combination of plates, wire rods and also for catering to the high end construction sector. It has plans to set up a 2 MTPA fully integrated steel plant in Angul Orissa where the work for Phase I is already under progress. It has plans to set up another 1 MTPA Steel plant in Hazaribagh, Jharkhand.

## SPONGE IRON INDUSTRY

India is the world's largest producer of Sponge Iron. The growth of sponge iron especially during last 5 to 6 years in terms of capacity and production has been substantial. The installed capacity of sponge iron increased from 1.52 million tonnes per annum in 1990 – 91 to 26.39 million tonnes in 2004 – 05. The production has increased from 0.9 million tonnes in 1990-91 to 18.35 million tonnes in 2006-07. At present there are 324 sponge iron units installed in the country having a capacity of 26.39 million tonnes per annum. Out of these, there are 321 Coal Based Units in operation with a capacity of 18.40 million tonnes per annum. There are 3 gas based units covering a capacity of 7.99 million tonnes per annum.

The production of sponge iron units, which are reporting their production during the last three years and the 2007-08 (Apr-Dec 2007) is given as under:

(in million tonne)

Production	2004- 05	2005-06	2006-07	April-December, 2007 (Provisional)
<b>Total Reported</b>	10.30	12.65	18.34	13.85
<b>Total Estimated</b>	—	-	-	-
<b>Grand Total</b>	<b>10.30</b>	<b>12.65</b>	<b>18.34</b>	<b>13.85</b>

## PIG IRON INDUSTRY

Pig Iron is one of the basic raw materials required by the foundry and casting industry for manufacture of various types of castings for the engineering sector. Usha Martin Industries Ltd., Jindal Steel & Power Ltd. and Ispat Industries Ltd. have integrated the Mini Blast Furnace (MBF) and are using the hot metal in the



charge – mix directly for manufacture of steel through Electric Arc Furnace. Hospet Steel, a Joint Venture of Kalyani and Mukand and Southern Iron and Steel Company Ltd. (now a part of JSW Steel), have integrated their MBF with Energy Optimising Furnace for manufacture of steel. The excess hot metal produced by them supplements the pig iron production. Besides MBF, a COREX Plant (alternative to conventional MBF/ BF) along with down – stream steel making through Basic Oxygen Furnace (BOF) which has been commissioned in Karnataka by JSW Steel Ltd. also supplements the production of pig iron.

The production of pig iron during the last 3 years and current year are given in the table below:

(in million tonne)

Type of the unit	2004- 05	2005-06	2006-07	April-December, 2007 (Provisional)
Private/ Secondary Producers	2.603 (81%)	3.688(79%)	4.133(83%)	3.150(81%)
<b>Total</b>	<b>2.603</b>	<b>3.688</b>	<b>4.133</b>	<b>3.150</b>

NB : The figures within brackets indicate the percentage contribution by the respective sectors.

## ELECTRIC ARC FURNACE INDUSTRY

At present, there are 36 Electric Arc Furnace based steel plants working in the country with an aggregate capacity of 13.80 million tonnes per annum. Apart from the working units there are around 3 units, which are closed. Production of Ingots/ Concast Billets by EAF units, which have been reporting their production to Joint Plant Committee, during 2006 - 07 was 9.88 million tonnes as compared to 8.43 million tonnes during 2005–06 – registering a growth of 17%. This sector continues to face challenges of rising cost of inputs, increasing power tariffs, shortage of power and resource crunch.

## INDUCTION FURNACE INDUSTRY

During 2006–07, it is estimated that 970 units with a capacity of 19.50 million tonnes were in operation. The total production of induction furnace units registered a growth of 14% during 2006-07, producing 15.39 million tonnes against a production of 13.49 million tonnes in 2005–06, as reported to Joint Plant Committee.

### Performance of EAF based steel plants

Status (updated on the basis of the Survey on Electric Arc Furnace Units 2004 undertaken by JPC) :

( in million tonne)

	Number	Capacity
<b>Commissioned Units</b>	39	14.14
<b>Closed Units</b>	3	0.34
<b>Working Units</b>	36	13.80

### Production

The Production of Electric Arc Furnace units as reported to JPC:

(in million tonne)

Category	2004-05	2005-06	2006-07	April-December, 2007 (Provisional)
<b>Mild Steel</b>	4.37	4.31	5.06	3.79
<b>Medium/High Carbon Steel</b>	1.35	1.50	1.76	1.32
<b>Alloy Steel</b>	0.95	1.53	1.80	1.35
<b>Stainless Steel</b>	0.84	0.92	1.08	0.81
<b>Others</b>	0.05	0.04	0.05	0.04
<b>Total Reported</b>	<b>7.56</b>	<b>8.30</b>	<b>9.75</b>	<b>7.31</b>
<b>Total Estimated</b>	<b>0.28</b>	<b>0.13</b>	<b>0.13</b>	<b>0.10</b>
<b>Grand Total</b>	<b>7.84</b>	<b>8.43</b>	<b>9.88</b>	<b>7.41</b>

**HOT ROLLED LONG PRODUCTS UNITS (Re-rolling Mills)**

Status (updated on the basis of the Survey on Re-rolling Units 2004 undertaken by JPC):

(in million tonne)

	Number	Capacity
Commissioned Units	2288	34.19
Closed Units	669	6.09
Working Units	1619	28.10

**Production**

Production of Hot Rolled Long Product manufacturing units as reported to JPC:

(in million tonne)

Category	2004 - 05	2005-06	2006-07	April-December, 2007 (Provisional)
Bars/Rods (incl. Squares)	3.98	4.97	5.70	4.27
Wire Rods	0.88	0.84	0.96	0.72
Structural	1.21	1.62	1.85	1.39
Hoops	0.03	0.03	0.05	0.04
Special Section	0.17	0.22	0.26	0.19
Patra/others	0.59	1.32	1.51	1.13
Total Reported	6.86	9.00	10.33	7.74
Total Estimated	4.68	4.04	9.50	7.13
Grand Total	11.54	13.04	19.83	14.87

**STEEL WIRE DRAWING UNITS****Status**

(in million tonne)

	Number	Capacity
Total Units	100	1.44
Closed Units	67	0.82
Working Units	33	0.62

**Production**

Production of Steel Wire Drawing Units, as reported to JPC:

(in million tonne)

Category	2004 - 05	2005-06	2006-07	April-December, 2007 (Provisional)
Mild Steel	0.16	0.08	0.07	0.05
Medium/ High Carbon Steel	0.17	0.20	0.18	0.13
Alloy Steel	0.01	0.04	0.04	0.03
Stainless Steel	0.01			
Others	0.04	0.17	0.14	0.10
Total Reported	0.39	0.49	0.43	0.31
Total Estimated	0.03	0.01	0.11	0.09
Grand Total	0.42	0.50	0.54	0.40



## HOT ROLLED STEEL SHEETS/STRIPS/PLATES UNITS

### Status

(in million tonne)

	Number	Capacity
Commissioned Units	14	11.41
Closed Units	5	0.26
Working Units	9	11.15

### Production

Production of Hot Rolled Steel Sheets/Strips, as reported to JPC:

(in million tonne)

Category	2004-05	2005-06	2006-07
H R Steel Sheets /Strips	6.95	7.45	8.56
Plates	0.33	0.65	0.89
Total Reported	7.28	8.10	9.45

## COLD ROLLED STEEL SHEETS/STRIPS UNITS

### Status

(in million tonne)

	Number	Capacity
Total Units	91	7.89
Closed Units	38	0.8
Working Units	53	7.09

### Production

Production of Cold Rolled Steel Sheets/Strips Units, as reported to JPC:

(in million tonne)

Category	2004 - 05	2005-06	2006-07	April-December, 2007 (Provisional)
Mild steel	4.18	4.87	5.48	4.10
Medium Carbon Steel	0.10			
High Carbon Steel	—			
Alloy Steels	0.01			
Stainless Steel	0.16	0.17	0.20	0.15
Others	0.07	0.09	0.08	0.06
Total Reported	4.52	5.13	5.76	
Total Estimated	0.03	0.03	0.05	0.04
Grand Total	4.55	5.16	5.81	4.35

## GALVANISED AND COLOUR COATED SHEETS/STRIPS UNITS

### Status

(in million tonne)

	Number	Capacity
Commissioned Units	18	4.25
Closed Units	-	-
Working Units	18	4.25

### Production

Production of Galvanised (Plain & Corrugated) and colour coated Sheets/Strips Units, as reported to JPC:

(in million tonne)

Category	2004-05	2005-06	2006-07
GP/GC Sheets/Strips (including colour coated)	2.87	3.22	3.58
Total Reported	2.87	3.22	3.58

## TIN PLATE UNITS

### Status

(in million tonne)

	Number	Capacity
Commissioned Units	3	0.21
Closed Units	2	0.03
Working Units	1	0.18

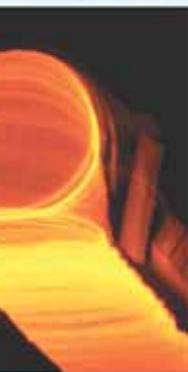
### Production

Production of Tin Plate Units, during the last three years and current year:

(in million tonne)

Category	2004 - 05	2005-06	2006-07	April - December, 2007 (Provisional)
Oil Can Size	0.14	0.15	0.16	0.12
Non Oil Can Size	-	-	-	-
Total Reported	0.14	0.15	0.16	0.12





## CHAPTER - VI

### RESEARCH AND DEVELOPMENT

Major Research & Development in Indian iron & steel sector over the years has remained confined to a few steel companies like Steel Authority of India Ltd. and Tata Steel Ltd. However, now it is picking up in other plants, though in overall terms, R&D in the steel sector remains very meagre, at less than 0.2% of their turnover. Actual R&D expenditure in different companies in Steel and associated sector in India over the last 3 years is given in the table below :

In order to encourage R&D activities in the iron ore and steel sector, under the existing Empowered Committee mechanism, chaired by Secretary (Steel), Ministry of Steel is providing financial assistance from Steel Development Fund (SDF) for spending upto Rs. 150 crore per year. So far, 59 research projects covering a cost of Rs. 500 crore approximately with the SDF component of Rs. 230 crore have been approved. Out of this, 24 projects have been completed, 8 projects have been stopped and 27 research projects are undergoing. The research areas, inter-alia, include beneficiation of ores, improvement in productivity, development of new/ quality products, development of human resources, reduction in energy consumption, pollution etc. Some of these completed projects are yielding benefits to the iron & steel industry. The PSU - wise turnover, R&D investment and R&D as % of turnover for 2005-06, 2006-07 & 2007-08 (upto September, 2007) is as under:

(Rs. in crore)

Name of companies	2005-06			2006-07			2007-08(upto 30.9.07)		
	Turn over	R&D Invest ment	% of Turn over	Turn over	R&D Invest ment	% of Turn over	Turn over	R&D Invest ment	% Turn over
Steel Authority of India Ltd *	322.80	62.38	0.193	39189	76.85	0.196	30026	62.09	0.207
Rashtriya Ispat Nigam Ltd.**	8469	10.46	0.12	9131	11.68	0.13	10000	15.00	0.15
NMDC Ltd.	3711	6.17	0.17	4186	729	0.17	3817	6.63	0.17
Kudremukh Iron Ore Co. Ltd.	1232.28	0.35	0.02	267.44	0.60	0.22	927.53	1.20	0.13
Manganese Ore (India) Ltd. **	334.09	1.28	0.38	417.63	2.08	0.50	650.0	4.18	0.64
Sponge Iron India Ltd.	43.04	0.09	0.21	50.61	0.12	0.24	33.93	0.09	0.26
Bharat Refractories Ltd.	164.29	0.23	0.14	199.83	0.21	0.10	100.24	0.16	0.16
MECON Ltd.	253.79	00.55	0.22	365.61	0.61	0.17	172.73	0.21	0.13
Tata Steel Ltd.	11904	25.00	0.21	13854	33.25	0.24	8664	14.73	0.17
Jindal Steel & Power Ltd.	2905	1.74	0.06	3948	2.76	0.07	2504.67	1.95	0.078
Jindal Stainless Ltd.	3494.60	0.46	0.013	5267.80	1.04	0.02	2566.2	1.08	0.043
Mukund Ltd.	1650	0.66	0.04	1060	0.53	0.05	1300	0.26	0.020
Essar Steel Ltd.	6850.5	2.87	0.045	9000.5	9.9	0.11	5681.8	7.0	0.12

\*figures of 2007-08 are for April-December, 2007.

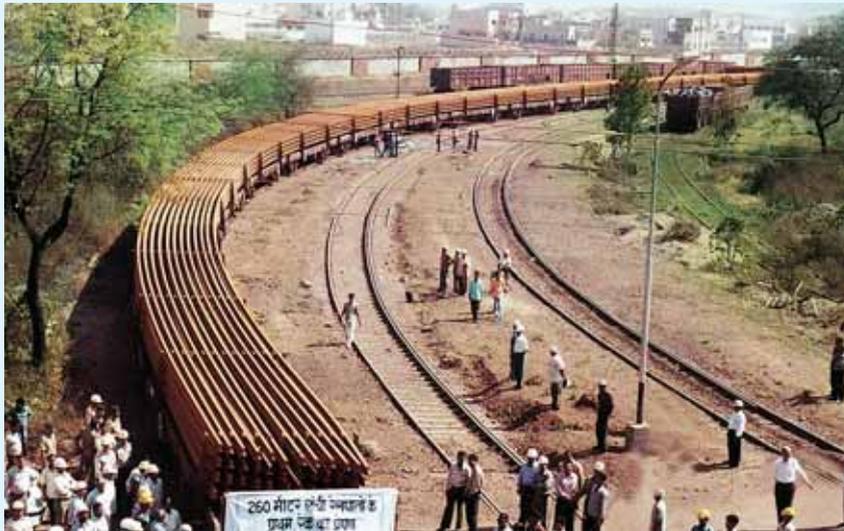
\*\*figures pertain to projections for 2007-08 as a whole year.

Highlights of R&D initiatives by steel companies are given herewith:

## STEEL AUTHORITY OF INDIA LTD (SAIL)

Research & Development Centre of the company has undertaken 104 R&D projects in the current year 2007-2008, out of which 62 projects are to be completed during the year. These projects provided technological inputs to SAIL plants / units with thrust on cost reduction, value addition, quality improvement and development of new products. 16 projects have already been completed during the period April-November, 2007.

The centre has filed 2 patents and 6 copyrights during April-November, 2007. During this period 24 patents have been sealed and 15 copyrights have been granted. As many as 30 technical papers were published and 56 papers were presented. In addition, RDCIS undertook contract research work and provided significant consultancy services and know-how to organisations outside SAIL, yielding external earning of Rs. 119.17 lakh upto November 2007.



SAIL's Bhilai Steel plant produces long Rails for better and smooth journey.

### R&D Efforts and Achievements

Some of the significant achievements in different technology areas during April-November, 2007 are summarised below :

#### Cost Competitiveness/ Quality Improvement Initiatives:

- Low MgO sinter practice for control of sinter return in Sinter Plant #3; Bhilai Steel Plant resulting in higher sinter strength and higher productivity.
- Investigation into reasons for high CO/ CO<sub>2</sub> ratio in Blast Furnace #2; Rourkela Steel Plant resulting in improvement in gas utilisation
- Auto operation of Blast Furnace charging conveyors and monitoring of vibrators at BSL resulting in reduction in downtime of conveyors (7hrs/ month) and increase in hot metal production
- Optimisation of VAD process parameters for enhanced production of special quality slabs in Steel Melting Shop II at Bhilai Steel Plant
- Enhancement of cast billet quality and caster productivity for 125mm square forging quality billets at Durgapur Steel Plant
- Quality upgradation of high carbon CC billets
- Improvement in lining life of 60 tonne steel ladle at SMS-I at Rourkela Steel Plant
- Improvement in coating adherence of galvanised products at Bokaro Steel Plant
- Design modification in hydraulic circuit of edge guide system at DCR mill, Cold Rolling Mill at Bokaro Steel Plant

#### Energy Conservation and Environment Control Initiatives:

- Introduction of curtain flame ignition system in machine #1 of Sinter Plant #2, Bhilai Steel Plant resulting in an increase in productivity from 1.10 to 1.20 t/m<sup>2</sup> hr
- Improving thermal performance of annealing furnace of steel foundry at Bokaro Steel Plant resulting in reduction in fuel consumption.

- 
- Introduction of water quality monitoring system in cooling water circuit in Basic Oxygen Furnace at Durgapur Steel Plant

#### **New Products Developments**

- Development of earthquake resistant TMT rebar Grade Fe 415/ 500 (8/10/12 mm) with improved corrosion resistance at Bhilai Steel Plant
- Development of High yield strength as rolled plates (SAIL MA 550 HI) at Bhilai Steel Plant
- Development and commercial production of armour steel plates for T-90 MBT at Rourkela Steel Plant
- Development of boron bearing aluminium killed low carbon steel at Bokaro Steel Plant
- Development of vanadium micro-alloyed rails at Bhilai Steel Plant

### **RASHTRIYA ISPAT NIGAM LTD. (RINL)**

**Significant achievements of different R&D work during the year are summarized below:**

#### **Process improvements**

- An internally designed and fabricated pilot coke oven of 250 kg capacity with movable wall was successfully commissioned. Various coals were tested successfully. Plastics and boiler coal in different percentages were also tried for study purpose. Intangible benefits are optimisation of Coal blend by Pilot Oven test with different sources/ type of coals.
- A project to improve the efficiency of LD converter stack cooling circuit is completed and will be implemented soon by the department concerned.
- A project to investigate the 'Muck generation' in the process of Crude Benzol recovery was undertaken. The project was completed and the reasons for muck generation were identified.
- An internal project was taken up for improvement in Mud gun mass quality.

#### **Development of New Grades/Products**

- 27 C 15, CHQ 1010 & CHQ 1018 are under progress.

#### **Cost reduction**

- A project has been taken up for Technical Analysis and Optimisation of Continuous Casting in RINL using existing plant facilities along with National Institute of Technology, Trichy.
- A project has been taken up to study the effect of Alum content in EQ grade Wire rod coils with the help of Welding Research Institute, Trichy for better realisation of the product.

#### **Waste management**

- Briquettes were made from the process wastes generated in RINL for use in blast furnace. These have been tested in the laboratory and further action for study to produce the briquettes on an Industrial scale is under progress.
- Briquettes made from converter sludge were successfully used in steel making process and further action to produce the briquettes on Industrial scale is under progress.
- Action taken to increase utilisation of LD slag generated. A project is being taken up to remove phosphorus from LD slag through bio-remedial process so that the internal recycling of LD slag will increase.

#### **Energy conservation**

- A project to improve thermal efficiency of reheating furnaces in rolling mills is under progress. Report is submitted by Indian Institute of Chemical Technology (Hyderabad).

#### **Environment management**

- An R&D project was undertaken to study the removal of Ammonical Nitrogen by Bio-remedial method. Encouraging results were achieved at Laboratory scale.
- A project proposed to be taken with Andhra University and supported by Department of Science & Technology, Government of India to remove CO<sub>2</sub> from flue gases at RINL using Algae.

**NMDC LTD.**

- An MoU has been signed for technical collaboration between MISA (Moscow Institute of Steel and Alloys) and NMDC for undertaking development work for preparation of Nano Crystalline Iron Powder from Blue Dust.
- The work of construction of a Pilot Plant of 300 tonnes per annum capacity for producing Carbon Free Sponge Iron powder has already been awarded and the work is likely to be completed by April 2008.
- New Product Development Wing of R&D has developed 4 new grades of Mn-Zn Ferrites and it also developed two grades of Ni-Zn Ferrites.
- Studies have been completed and preparation of report is under progress for utilisation of Kimberlite tailings as a performance improver in cement industries in association with National Council of Cement and Building Materials Laboratory, Ballabgarh.
- An MoU has been signed with Central Salt Marine Chemicals Research Chemicals Institute and Kanoria Chemicals and Industries Ltd. to set up Pilot Plant for production of value added Silica based products such as precipitated Silica, Sodium Silicate and Zeolite - A from kimberlite tailings.
- Development of indigenous technology for production of value added products from Beach Sand is in progress. There is a proposal for setting up a Pilot plant of 1.5 tonnes per month capacity for production of Titania slag and Pig Iron.
- Apart from the works related to investigation/ development/ production projects of NMDC, various projects sponsored by other companies/ PSUs are also being regularly taken up.

**MANGANESE ORE (INDIA) LTD. (MOIL)**

- The thrust areas for the R & D efforts in MOIL are directed towards meeting the challenges of safe and cost effective mining practices in underground mines with increasing depth.
- Thrust is also being given in the R & D activities for the development of beneficiation and upgradation techniques in addition to exploration of new deposits.

**MECON LTD.**

Towards commercialisation effort of R&D products, MECON has been successful in receiving an order from Defence Institute of Physiology and Allied Sciences (DIPAS), DRDO, Delhi for supplying "Solid State Microclimate Conditioning Unit (SSMCU)" for MBT ARJUN and other armoured vehicles.

SSMCU was successfully designed and developed by MECON for defence personnel working at high ambient temperature or in deserts. This "SSMCU" was integrated in MBT ARJUN TANK and successfully demonstrated at CVRDE, Chennai. A final successful demonstration trial of such a unit was conducted at Mahajan Field Firing Range at Rajasthan (Indo-Pak Border).

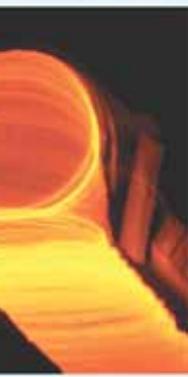
**Assignments/ Projects Completed**

- Commercialisation effort successfully completed against the order from Defence Research & Development Organisation (DRDO) for supplying Heating Gloves and Socks for Defence personnel.
- "Thermoelectrically heated oil filter for automobiles in cold region" was successfully developed and applied for Indian Patent.

**New R&D Proposals under consideration of Various Government Agencies**

- Joint revised proposal with SAIL, Research & Development Centre for Iron and Steel on Indigenous Development of Mini Pellet Plant of 0.5 million tonnes/ year for utilisation of iron ore ultra fines.
- Joint proposal on Stove Heating Model and Automatic Stove Changeover for Blast Furnace No. 4, Rourkela Steel Plant, SAIL.





### Other R&D Efforts

- Three Patents Sealed (Patent No. 198979, 195457 & 198129)
- Patent under process-One (Patent Filing no: 1429 Kol/ 2007).

### BHARAT REFRACTORIES LTD. (BRL)

- Development of spinel bonded functional refractories like Top Well Block, Bottom Well Block, Porous Plug Block, Upper Nozzle and Lower Nozzle for increased ladle life.
- Development of special quality Top Hole Clay to achieve longer Tap Hole length and Casting duration with the existing operational parameters.
- Development of special High Grade Trough Mix having base (Alumina+ Silica 82%) having characteristic of straight life of 40,000 million tonnes of hot metal throughput.
- Development of special Resin Bonded Mudgun Mass to achieve 100% + 3.2 meter Tap Hole length.
- Development of Tuyser surrounding bricks with combined blowing technique in SMS-II convertor.

The above in house R & D activities have helped to achieve greater life of bricks which in turn has increased the revenue earning of the company.

### KUDREMU KH IRON ORE COMPANY LTD. (KIOCL)

The main objectives of R&D activities at KIOCL are emphasized at quality improvement through process development/ modifications to suit the requirement of pellet plant for operation with Hematite ore.

#### Achievements

In order to get the required concentrate of size around 1600 blaine, creation of grinding facility to grind – 10 mm iron ore fines to 1600 blaine has been created and is under operation. Derrick screen for all the three mill lines have been commissioned and are in production line for separation of ultra fines. Assistance of Metchem Canada Inc. for process and technological modifications for use of hematite ore for pellet making and grinding facility is being utilised through their process laborators COREM, Canada. Development of infrastructure at Mangalore facilities for receipt, unloading, handling, blending, storage and grinding of hematite ore sourced from different agencies is being undertaken involving the following works are also in progress:

- Construction of railway siding adjacent to Pig Iron complex of KIOCL for receiving the iron ore arriving in railway wagons.
- Creation of bulk material handling facility for unloading, storage and conveying the iron ore fines from the railway siding to the pellet plant storage sheds.
- Creation of wet grinding system to grind hematite iron ore to make pellet feed material and modification to pellet plant to suit production of pellets from hematite ore.

#### Project Status (R&D)

- |  |   |
|--|---|
| ● Total No. of projects on hand as on 1.4.2007 | 4 |
| ● Number of projects completed 2006-07         | 1 |
| ● Number of projects planned in 2007-08        | 2 |

### TATA STEEL LTD. (TSL)

The Research & Development activities in Tata Steel are carried out with two major purposes

- To develop new technology and products that give the company competitive advantage.
- To add value to customers.

In order to provide focus and address major challenges of the current and future, R&D activities mostly concentrate on the following 7 thrust areas:

- Producing 8% ash coal, maintaining yield, from Indian coking coal
- Complete beneficiation of iron ore
- Improving blast furnace productivity
- Lowering phosphorus in steelmaking
- High strength, high ductility flat products for automobiles
- Ferro chrome – reduction in power cost
- Coatings – reducing Zinc consumption

### Collaborations

In order to leverage the best research groups in the world, Tata Steel's R&D collaborates with leading national/ international experts and institutions. The concept of Visiting Scientist was also implemented. Currently three scientists of international repute, Professor R.K. Ray, Professor A.K. Lahiri and Professor T.C. Rao are spending 3-9 months in R&D. Several scientists of international repute regularly visit TSL. Presently, a team of 98 researchers and 41 non-officers (supervisors and workers) of different background are working in the R&D division. Out of 98 researchers, the number of PhDs is 35, M Tech/ M Eng is 54 and B Tech/ BE is 9.

### Intellectual Property Rights (IPR)

IPR is treated as one of the prime measures of R&D, reflecting novelty, originality and applicability of research. Trend showing the Intellectual Property Rights filed and awarded are shown in following table:

Financial Year	Granted	Filed
2005-06	20	82
2006-07	53	74
2007-08 (April-September)	35	22

### International Publications

Status of publication made by the R&D professional in 10 major international journals over a period of last three years and current year (Till September) is shown below:

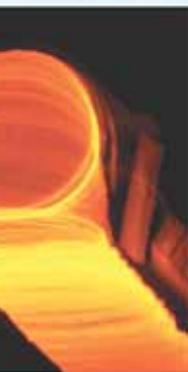
Calendar Year	Number of papers in 10 major journals
2005	20
2006	34
2007	18
2008 (Till September)	19

### Benefits

Some of the benefits from the R&D efforts are mentioned below:

- **Reduction in soaking time of Induction Furnace (IF) grade slabs:** Reduction of the soaking time of IF slabs has led to increase in productivity at Hot Strip Mill (HSM) from 166 to 250 tonnes per hour maintaining surface quality in CR strip. This resulted in a recurring saving of Rs. 14.67 crore per annum.
- **Rubber covering of rolls for steel industry:** This effort has resulted in recurring saving of Rs. 13.28 crore per annum with the following outcome:
  - ❑ Increase of almost 300% in straight life.
  - ❑ No sign of major failure like groove formation, layer separation, slippage, cut mark etc.
  - ❑ Extension of service life results – less breakdown time, reduction in shut down frequency, uninterrupted production, reduction in maintenance cost and reduction of reduced quality of finished sheet rolls.





## JSW STEEL LTD.

### Benefits derived due to R&D efforts

- Productivity and quality improvement in Sinter resulting an increase in sinter productivity from 31.6 to 35.3 t/m<sup>2</sup>/d,
- Development of a process for producing improvement quality sinter .
- Laboratory development of selective granulation process for sintering.
- Laboratory development of Hybrid sinter from soft and fragile iron ore fines of Bellary-Hospet area.
- Process development for producing high basicity (up to 1.3) pellets to enable improved productivity of Blast Furnaces.
- Development of a new process for enhancing storability of sinter in the yard.
- Improvement in productivity and quality at coke oven through optimisation of coal blend and its characteristics.
- Improvement in productivity of Corex through installation of new coal dryer to reduce moisture below 4%, introduction of new parameters such as, Coal Charged Strength after Reaction & Coal Char Reactivity Index (Patented) for coal selection, and use of sinter fines into the Melter-Gasifier (Patented).
- Improvement in Availability of Corex by reducing the occurrence of shaft jammings through improved pellet quality, and use of better quality coal.
- Improvement in BF productivity through optimisation of burden (pellet/ sinter/ ore) distribution in BF-1 to improve its productivity by 10% from 2.1 t/ m<sup>3</sup>/d to 2.3 t/ m<sup>3</sup>/d.
- Development of a hearth wear prediction model for Blast Furnace.
- Reduction in slag rate in Blast Furnace.
- A new process for external de-siliconisation using sinter fines in BF-1 iron runner.
- Development of API X70 grade steel.
- Hot Metal Pre-Treatment facility, first of its kind in India, commissioned leading to faster optimisation of parameters and smooth stabilisation of the process.
- Contractual research with IIT, Kanpur to improve the steel yield and cleanliness.
- Yield improvement in Hot Strip Mill through optimization and control of air/gas ratio in the reheating furnace.
- Process development for utilisation of iron-bearing solid waste, an environmental concern through cold bonded agglomeration using pelletising disc.

## ESSAR STEEL LTD. (ESL)

### R& D Highlights of the year 2007-08

- Development of SPRC-35/ 40 Cold Rolled Close Annealed steel for auto application. (Pioneered successfully development of dent resistance IF steel for automotive industries).
- Development of DOMEX 650 steel plates for automobile industries (First trial was successful with material meeting the basic properties of the specification. This steel will be a substitute for conventional BSK 46 for chassis long and cross member application).
- In-house development of mathematical model for a) Hot Strip Mill-Run Out Table temperature prediction and b) Micro-structure evolution model.(This model will be very useful for determining the temperature profile of strip on ROT and subsequently the resulting Micro-structural of the material at each stage of cooling. This will reduce the number of dummy trials needed to establish the Cooling pattern for development of Dual phase (F+M) steel).
- Development of API 5L X-80 and API 5 LX-65 grade steel Line Pipe application
- Development of High strength plates as per Caterpillar spec. 1E 1242: (High strength plates with YS and TS of 550/ 620 Mega Pascal minimum were developed in thickness range 6.00-10.0 mm and would be an Import substitute.

## JINDAL STAINLESS LTD. (JSL)

JSL at Hisar continues to give thrust on new product development, upgradation of quality of existing products and cost reduction by process improvement and optimisation in order to enter into new segments as well as to keep pace with the challenging market dynamics. Highlights of R&D are given below:

- Development of duplex stainless steel 2304 grade. Hot rolled and annealed plates supplied to chemical, petrochemical and paper pulp plants.
- Development of 216L to substitute Cr-Ni-Mo (316L) grade in various media successfully supplied for sugar refinery.
- Development of 201LN grade for cryogenic application used for manufacture of liquid oxygen and nitrogen tanks.
- Development of heat resistant stainless steel 30815 containing rare earth cerium.
- Development of Ni free IRSM-44-97 and 409M grades with required mechanical properties as per customer's requirement.
- Development of Ni free austenitic stainless steel with minimum 15% Chromium having very good strength, toughness and wear resistance.
- Development of 430 ferritic stainless steel for washing machine drum application.
- Development of ferritic grade 436 LM with excellent draw ability for automotive industry.
- Development of ferritic grade 439 for superior oxidation and corrosion resistance and automotive exhaust application.
- Development of ferritic grade 441 for superior pitting & crevice corrosion resistance.
- Development of stainless steel LPG cylinder of low nickel austenitic stainless steel (In progress).
- Development of welding electrodes for 216L and 201LN grades.

## JINDAL STEEL & POWER LTD. (JSPL), RAIGARH

### Product Developments

- Development of Asia's largest 800x300 and 900x300 parallel flange beams section in Rail & Universal beam mill.
- Casting of 255 mm diameter round section.
- Rolling of 3200 mm wide plate.

### Process Developments

- Optimisation of chemistry for optimum RI and RDI of sinter
- Optimisation of chemistry to eliminate the star cracking of plates.
- Coal characterisation by petrographic studies and optimisation of coal blends for carbonisation.
- Blast furnace productivity achieved up to 2.5 t/ m<sup>3</sup> with a coke rate of 460 kg and fuel rate of 514 kg per tonne of hot metal.
- Injection of 10% captive high volatile matter and high ash washed coal in Blast Furnace blended with low volatile matter imported Pulverised Coal Injection (PCI) coal.
- Recycling of secondary refining slag
- Facility for complete coal characterisation laboratory with Pilot Coke Oven.

### Technological Developments

- Conversion of burners of ignition hearth of Sinter Plant from single fuel to dual fuel to use Blast Furnace gas.
- Addition of Metallurgical waste like mill scale and flue dust in sinter making and Electric Arc Furnace for reduction of solid waste and cost reduction.





- Changing top size feed coal from 75 mm to 25 mm at coal mines.
- Mechanisation of flame hardening of hot saw blades at rail and universal beam mill.
- Forced cooling of structural on cooling bed by forced draft.



#### Ongoing R&D Work During The Year

- To minimise the accretion formation in DRI kilns,
- To eliminate the Air tube failures in DRI Kilns.
- Reducing coke rate & increasing productivity in Blast Furnace.
- Petrographic and fluidity analysis of single rank and blended coal.
- Study of Iron ore and its mineral characterization and to find out the method for phosphorus and alumina reduction.
- Study to reduce the rusting in Structural.



### ISPAT INDUSTRIES LTD.(IIL)

#### Highlights

- Modification in bottom purging -Optimisation of stirring by porous plugs This project is under implementation with the technical assistance from RWTH AACHEN University- Germany.
- Production of Dual Phase Steel – DP300. This project is under implementation with the technical assistance from RWTH AACHEN University- Germany.
- Production of API-X65 development is under progress for thickness 15.88 mm. This project is under implementation with the technical assistance from Salzgitter Mannesmann Forschung GmbH and Mr. Malcolm Gray.
- Production of American Petroleum Institute (API) grade steel. This project is implemented with the technical assistance from Salzgitter Mannesmann Forschung GmbH.
- Development of API X 70 in 14.30 to 19.80 mm thickness and development of IF steel - Joint development project taken for 5 years with SMS Germany.
- Testing of HR coil made at Ispat for various new applications. This is being carried out at Salzgitter Mannesmann Forschung GmbH.
- Presently IIL is developing grades for automobile applications.



#### Technological Improvements

- Successful rolling was done of Dual Phase Steel DP600 in 3.0 to 4.5 mm thickness.
- API X 65 in 14.3 mm thickness was developed.
- LPG steel in normalised grade was developed for export market in 2.1 to 5 mm thickness.



## CHAPTER - VII

# ENERGY AND ENVIRONMENT MANAGEMENT

Environment management and energy efficiency constitute an important benchmark for assessing any sector or company both globally and domestically. The Ministry of Steel and its PSUs have contributed significantly by performing a commendable role in this regard. Under the aegis of Kyoto Protocol & Asia Pacific Partnership on Clean Development and Climate (APPCDC), Ministry of Steel is facilitating adoption of energy efficient clean technologies. A large number of iron & steel plants have obtained Host Country approval for adopting energy efficient clean technologies and thereby avail Carbon credits. So far, 58 such projects amounting to reduction of 66 million tonnes of carbon dioxide equivalent have been approved by the National Clean Development Mechanism Authority. The Ministry of Steel is pursuing all other Iron & Steel companies to avail this opportunity.

Highlights of Energy Conservation Measures adopted and being adopted by individual iron and steel companies are given below:

### STEEL AUTHORITY OF INDIA LTD. (SAIL)

- SAIL has put in its best efforts to meet standards set by legislation and to go beyond the norms where appropriate, through voluntary commitments such as those comprising the Charter on Corporate Responsibility for Environment Protection (CREP). This is a partnership concept devised by the Ministry of Environment & Forests, applicable to all the integrated steel plants.
- SAIL plants have put in continued efforts for further improvement in their environmental & energy performance which is evident on comparing the following indicators :

Indicators	2005-06	2006-07	2007-08* (April-September)
Specific raw material consumption (Tonnes/ tcs)	3.2	3.23	-
Specific energy consumption (Gcal/tcs)	7.24	7.16	7.24
Particulate Matter (PM) emission (Kg/tcs)	2.50	2.30	2.29
Specific water consumption (m <sup>3</sup> /tcs)	5.26	4.33	4.46
Specific effluent discharge (m <sup>3</sup> /tfs)	2.98	2.73	2.71

\* Provisional data

Note : tcs - tonne of crude steel; tfs- tonne of finished steel; Gcal-Giga calories

### Energy Conservation Measures

With the aim of reducing specific energy consumption, the integrated steel plants under SAIL are striving hard, despite the constraints on account of raw material quality and technology. Actual Consumption of energy per tonne of crude steel in different steel plants under SAIL are:

(Gcal/tcs)

Plant	2005-06	2006-07	2007-08 (April-September)
BSP	6.79	6.82	7.07
DSP	7.37	7.07	7.25
RSP	8.46	7.98	7.74
BSL	7.13	7.09	7.07
ISP	8.46	8.19	8.20
<b>SAIL (as a whole)</b>	<b>7.24</b>	<b>7.16</b>	<b>7.23</b>



A few important energy conservation schemes implemented during 2006 – 07, plantwise, are listed below :

#### Bhilai Steel Plant (BSP)

- Fabrication and erection of thyristor control for 800 tons shear in Blooming and Billet mill.
- Installation of energy efficient dry fog dust suppression system in Blast Furnace # 4 stock house.
- Installation of side burner in Furnace # 1 & 2 of Rail Mill.

#### Durgapur Steel Plant (DSP)

- On-line sealing of steam blast and gas leakages.
- Insulation of steam lines and other hot surfaces.

#### Rourkela Steel Plant (RSP)

- Commissioning of alternate Blast Furnace gas line for Blast Furnace-IV stoves.
- Steam impingement on sinter bed was introduced in both the strands of Sinter plant # I.
- Commissioning of second vapour absorption chiller in Coal Chemicals Department.

#### Bokaro Steel Plant (BSL)

- Dry gunniting in 238 ovens to plug cross leakages.
- Change over from 9-2 pushing series to 5-2 pushing series in running battery no. 7 & 4.
- Resumption of coal dust injection in Blast Furnace # 4 after capital repair.
- Installation of 18 kW motors in place of 24 kW motors in 92 nos. of bases in Annealing Line 2 of Cold Rolling Mill.

#### IISCO Steel Plant

- Installation of electronic belt weigh feeder at coal handling bunker of Battery # 8 and 9.
- Blast Furnace gas firing to Unit B at Boiler Plant.

Besides the above, several energy conservation schemes are under implementation in the year 2007-08:

#### Emission and discharge levels

Particulate Matter (PM) emissions from stacks in SAIL has been brought down from a level of 12.6 kg/ tcs in 1995 – 96 to 2.3 kg/ tcs in 2006-07 and the water consumption in SAIL steel works has steadily reduced from 17.3 m<sup>3</sup>/ tcs in 1995–96 to 4.58 m<sup>3</sup>/tcs in 2006-07.

In Bhilai Steel Plant, consumption level at 3.19 m<sup>3</sup>/ tcs is comparable with the best performance world wide (CORUS : 3.0 m<sup>3</sup>/ tcs, POHANG : 3.97 m<sup>3</sup>/ tcs [2005 figures]).

All the SAIL plants are meeting environmental quality norms with respect to effluent discharge and ambient air quality. With regard to Particulate Matter (PM) emission from the major stack of the steel plants, 91% are complying with the norms laid down by the statutory bodies. For the non-complying stacks, respective plants have initiated corrective actions.

#### Solid Waste Management

The wastes Generated at SAIL Plant are being utilised through internal recycling and selling to outside agencies. Year wise utilisation of solid waste is given below:

Year No.	Generation of Solid wastes ('000 T)	Utilisation(%)
2005-06	7840.63	69.5
2006-07	7816.10	78.7
2007-08 (April-October)	4815.00	71.3



A view of Aushadi Vatika of Dalli-Rajhara mines of SAIL

**Environmental Plantation**

Trees have a significant role in protection of environment and ecological balance. Extensive afforestation programme are being followed in all the plants and mines. A total of 1,68,699 saplings have been planted covering an area of 65 hectare in 2006-07 as against 1,45,5212 saplings planted in an area of 63.7 hectare in 2005-06 in and around the steel plants of SAIL. Its Dalli-Rajhara mines has developed a major area of the Saptagiri park as Aushadi Vatika by planting medicinal plants.

Highlights of action taken in the current year to control the stack emission:

Plant	Shop	Action taken
RSP	Sinter Plant I	Electro Static Precipitator (ESP) internals and electricals of strand I have been changed (total no. strands 2); 40% of the suction hoods of the ESP have been replaced.
	High PressureBoiler 5 & 6	Proposal for installation of improved design of ESP for both the boilers has been initiated.
BSL	Sinter Plant Raw Materials Plant	ESPs in place of multi cyclones are being installed. New ESP of improved design is being installed.

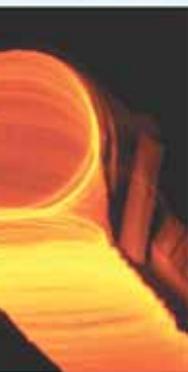
**Eco - restoration of De-graded Lands**

SAIL has signed an MoU with Delhi University and Department of Bio-technology, Government of India for Ecological Re-habilitation of Degraded Mines and Ash Pond of SAIL. To begin with, Purnapani Limestone and Dolomite Quarry has been selected for eco-restoration of the degraded site. Pisciculture has been developed in a mined-out pit at Purnapani. Eco-restoration work has also been initiated in Barsua and Kalta Iron ore Mines of SAIL.

**Implementation of Environment Management System (EMS) Linked to ISO 14001**

In accordance with National Environment Policy, SAIL is building a management system at its different plants and units for further environmental protection, including acquisition of certification under the international standard ISO 14001 and through internal environmental assessment system so as to reduce the environmental impact in all aspects of activities. So far, EMS certification have been accredited to the





following units of SAIL:

- BSP (whole plant and township)
- BSL (entire plant)
- DSP (Steel Melting Shop and entire Mills area)
- RSP (Silicon Steel Mill, Sinter Plant II, Hot Strip Mill, Plate Mill, Environment Engineering Department)
- ISP (Rolling Mill Complex)
- SSP (entire plant)
- Dalli Iron Ore Mine
- Meghahatuburu Iron Ore Mine
- Kiriburu Iron Ore Mines
- Bolani Ores Mines

Actions have been initiated for progressively implementing EMS in the balance units of SAIL

#### **Initiatives for Promotion of Renewable Energy**

SAIL have been making efforts since long in its different units for the use of solar energy in their premises.

#### **Initiatives for Preservation of Global Environment**

##### **Phasing out of Ozone Depleting Substances (ODS)**

SAIL along with UNDP took up an umbrella project for the replacement of Carbon Tetrachloride (CTC) used as cleaning solvent by Trichloroethylene at the 6 production units of SAIL namely Bhilai Steel Plant, Durgapur Steel Plant, Rourkela Steel Plant, Bokaro Steel Plant, IISCO Steel Plant and Salem Steel Plant. Using equipment funded under the UNDP project, SAIL would cease using ODS in future production activities and works.



Pisciculture in a mined-out pit at Purnapani, Orissa.

The objective of this project is to phase out the use of approximately 268 metric tonnes of CTC as cleaning solvent for electrical machines and Oxygen Plant (storage tank, cylinders, rotors stators, piping etc.) used in the manufacturing of steel at above said plants of SAIL. The implementing agency of the project is the UNDP and Ozone Cell of the Ministry of Environment & Forests, Government of India is the coordinating agency. The approximate cost of the project is Rs. 16 crore. As on date, all the 6 plants received the equipment supplied by UNDP. Further action is going on for installation of other enabling facilities.

### Clean Development Mechanism (CDM)

To get the benefit under CDM, SAIL had initiated a project, "LD gas recovery from Steel Melting Shop-II for power generation", under waste heat recovery at RSP in 1 December, 2003. The RSP project has now been registered at UNFCCC on July 6, 2007 and will accrue Carbon Emission Reductions (CERs) equivalent to 8,536 tonnes of CO<sub>2</sub> every year. SAIL had furthered its efforts for CDM implementation at its plants and have identified 71 projects covering 5 integrated steel plants at Bhilai Steel Plant, Durgapur Steel Plant, Rourkela Steel Plant, Bokaro Steel Plant and IISCO Steel Plant, which are having potential to attract CDM benefits.

### Environmental Recognitions

SAIL plants have been awarded various prizes for environmental management namely Golden Peacock Special Appreciation for CSR; Sustainability Award, 2006, organized by CII, New Delhi; Golden Peacock Innovation Award, 2006 instituted by IOD, New Delhi; Greentech Gold Award in metal sector for outstanding achievements in Environment Management for the year 2007 for BSP and RSP; Golden Peacock Environment Management Award, 2007 for BSP; Greentech Environment Excellence Award, 2007 for DSP, Indira Gandhi Memorial Excellent Pollution Control Award; Indira Gandhi Vriksha Mitra Award; Jawaharlal Nehru Memorial Excellent Pollution Control Implementation Award; and Golden Peacock Innovative Product/ Service Award for eco innovative services.

## RASHTRIYA ISPAT NIGAM LIMITED (RINL)

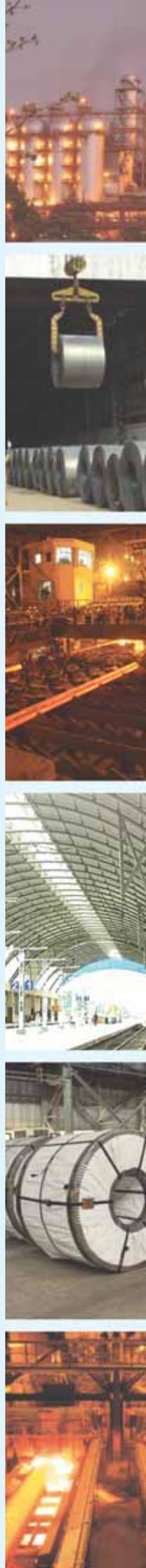
### Environment Management & Waste Management

#### Current level of emissions/ pollutions

All parameters of ambient air stack emissions, noise, fugitive emissions from batteries and effluents are within norms. For containing the fluctuation in ammonical nitrogen a consultancy project of nitrification – denitrification has been awarded to TPE, Russia and tendering of civil, mechanical and electrical works is in progress with a total project cost of Rs. 55 crore. The project is expected to be commissioned in 2009.

#### Major Projects (Under Implementation/ Implemented)

- Three continuous ambient air monitoring stations have been installed at a cost of Rs. 1.35 crore. The fourth ambient air station has been ordered, indigenous equipment supplied and imported equipment expected in January 2008.
- Ten continuous on-line stack monitoring systems have been installed and commissioned at an estimated cost of Rs. 2 crore. Order for remaining Ten continuous on-line stack monitoring system have been placed and erection of equipment is under progress.
- A scheme to control fugitive emissions in Steel Melting Shop, is being provided at a cost of Rs. 50 crore and orders for the consultation contract were placed in December 2007.
- An ultra-filtration project to treat sewage water from the township Sewage Treatment Plant (250 cubic metre per hour ) to make-up water quality for cooling applications in SMS and Mills was commissioned on 12<sup>th</sup> December, 2005.
- High temperature membrane bags are being provided in four Calcining & Refractory Material Plant at a cost of Rs. 716 lakh for further improving work zone environment, and are scheduled for commissioning by 31<sup>st</sup> December, 2008.
- Electronic controllers have been installed in the Electrostatic Precipitators.





## Waste Management

(in Million tonnes)

	2005 - 06	2006 - 07	2007-08 (April-October)
<b>Total Generation</b>	3.805	3.929	2.009
<b>Total utilisation (%)</b>	65.9%	80.76%	82.40%

## Environmental Awards

- Golden Peacock award for excellence in environmental management by World Environment Foundation, New Delhi on 11<sup>th</sup> June, 2006 at Palampur.
- Leadership and Excellence Award in Safety, Health and Environment – 2005 (for best presentation) by Confederation of Indian Industries on 17<sup>th</sup> February, 2006
- National Energy Conservation Awards 2006 first prize for the fourth consecutive year.
- National Award for Excellence in Water Management – 2006 by CII.

## Energy Management

### Energy Consumption

(GCal/ tcs)

<b>2005-06</b>	6.45
<b>2006-07</b>	6.53
<b>2007-08 (April-November)</b>	6.60

### Measures taken/ being taken for reduction in Energy & future plans

- Specific Heat consumption in Blast Furnace decreased from 496 Mega Calories/tonne of Hot Metal in 2006-07 to 494 Mega Calories/tonne of Hot Metal in 2007-08 (Apr-Nov) by optimizing air fuel ratio of BF stoves.
- Specific Heat consumption in SMS decreased from 34 Mega Calories /tLS in 2006-07 to 33 M. cal/tLS in 2007-08 (Apr-Nov) by optimizing mixer operation.
- Air recuperator of Light & Medium Merchant Mill reheating furnace #2 was replaced in November 2007.
- Gas recuperator of Wire Rod Mill reheating furnace was replaced in August 2007 to improve Specific Heat consumption.
- Gas recuperator of reheating furnace #1 was repaired and Air recuperator of reheating furnace #2 was replaced in Medium Merchant & Structural Mill in June 2007 to improve Specific Heat consumption.
- Installation of VFDs (Variable frequency drives) to reduce electrical energy consumption.
- Replacement of existing chiller with energy efficient chiller (1 no) in Chilled Water Plant #3.

## NMDC LTD.

### Environment and Quality Management

Environmental monitoring studies for the year upto 2007-08 (upto December, 2007) showed that all the parameters were within norms for all production projects of NMDC.

The four major production projects, Bailadila Dep-14-11C, Dep-5, Donimalai and Diamond Mining Project Panna have been accredited with ISO 14001-2004. The company is accredited with ISO 9001-2000 certification for Donimalai Iron Ore Mine, Research & Development Centre, Bailadila Iron Ore Project Dep-5, 10 and 11A and Dep-14/11C.

## Energy Conservation

Consumption of electrical energy per tonne of Iron Ore excavated during the last 3 years is as follows

Year	Target	Actual
2005-06	1.98	1.80
2006-07	2.10	1.82
2007-08(upto Dec'07)	2.05	1.91

NMDC has carried out an energy audit for Donimalai Iron Ore Mine through an external agency and similar audit for Bailadila Iron Ore Mine, Bachel Complex is being under taken.

## MANGANESE ORE (INDIA) LTD. (MOIL)

### Eco-Development and Environmental preservation

MOIL took a lead in massive afforestation in the Company's mines with special emphasis on reclamation of mines areas and rehabilitation of spoil dumps, supported by exhaustive research and development. This has helped to improve the mine environment. An integrated biotechnological approach has been adopted to achieve the goal of sustainable and eco-friendly mining. Additionally, certain areas have been covered by shrubs and grass for a greening effect and checking erosion.



Dr. Akhilesh Das, Hon'ble Minister of State for Steel with Shri K.L. Mehrotra, CMD, MOIL on his visit to Wind Farm Project (left) and a view of 4.8 Mega Watt Wind Farm Project (right) of MOIL at Nagda Hills, Indore.

### Status of Afforestation and future plans

The total lease hold area held by the Company is 1804.545 Hectare. Out of which 515.69 Hectare or roughly 28.5% falls under spoil dumps. The total area covered under afforestation upto 2007-08 plantation seasons is 586.131 Hectare. More than 17 lakhs saplings have been planted upto 2007-08 plantation seasons, and the survival rate is 80%. The major species planted are Shishum, Cassia, Teak, Neem, Eucalyptus and Mangoes. Almost three fourth of the total land available within the company's lease hold area and separable for plantation activity has been covered under plantation.

### Initiative Regarding Energy Conservation And Efficiency:

KWH Consumption Per Tonne	2005-06	2006-07	2007-08 (April-December)
Manganese Ore	7.30	7.26	7.20
EMD	2351	2253	2235
Ferro Manganese	2891	2877	2849



## MECON LTD.

MECON, being a consultancy organisation, does not operate/ manufacture any large scale plant or machinery themselves which call for exclusive efforts on Energy Conservation, Pollution Control and Waste Management. However, efforts are made by MECON for its clients which address these important issues of energy conservation, pollution control and solid waste management. Some of the examples are:

- MECON had developed expertise for preparation of Project Idea Note(PIN) & Project Design Document(PDD) for availing carbon trading benefits under CDM.
- MECON had taken up Forest Evaluation Project for various districts of Rajasthan, Hill Circle & Sundarbans Circle and Darjeeling, Jalpaiguri, Cooch Behar, Bankura, North Kharagpur, Burdwan and Birbhum forest Division in West Bengal from the National Afforestation and Eco-development Board (NAEB) of the Ministry of Environment & Forests.
- MECON had put in significant engineering efforts to achieve zero discharge from production plants being engineered by it. MECON received orders, from both public and private sectors, for preparation of Environmental Impact Assessment/Environment Management Plan reports. MECON has geared up to take EIA/ EMP studies under new Notification of September, 2006 of the Ministry of Environment & Forests.
- MECON's Environmental Engineering Laboratory which is recognized under Environment Protection Act, 1986 also renders its services for sampling, testing and analysis of air, water, noise, sewage and soil quality to various Steel Plants and other Sectors, both in private and public. MECON has prepared Environmental Norms and Standards for Sponge Iron Plants in the country in association with Central Pollution Control Board (CPCB) and has also been asked to prepare environmental and energy saving standards for Sinter Plants by CPCB.
- MECON is executing the job of revamping the effluent treatment plant and pump houses with pollution control facilities of SAIL's Bhilai Steel Plant on turnkey basis. MECON is also executing rebuilding job of Coke Oven Battery no. 10 at ISP, Burnpur as Consultant with Biological Oxidation and Dephenolisation (BOD) plant for degradation of Coke Oven effluents and also BOD Plant for 2.5 MT expansion of ISP, Burnpur. In addition, MECON is carrying out detail engineering work of sewage treatment plant, sewerage facilities and other effluent treatment facilities for various other industries in public & private sector.

## BHARAT REFRACTORIES LTD. (BRL)

Some of the steps taken by BRL for improvement in conservation of energy are as under:

- Pre-heating of furnace oil is done for achieving better automisation of oil burners.
- Calibration of fuel pump and nozzle of engines at regular intervals.
- Adoption of appropriate setting pattern of green bricks.
- Use of recommended lubricating oil for engines.
- Switching off unwanted load for reducing electricity consumption.
- Conversion of Producer Gas Plant from Coke to Coal fired.

## Environment Management

- All units of the company have obtained/ applied for valid consent from the concerned State Pollution Board. Dedusting Units have been installed at the plants to control air pollution. BRL appointed experts for analysis of pollution level and suggestion made by them are implemented. The norms prescribed are strictly complied with.
- No solid wastes are generated in any of the plants of the company.

## Energy Management

Consumption of energy per unit of production:

Particulars	2005-06	2006-07	2007-08 (Upto September, 2007)
Electricity (Kwh)	209	216	210
Coal (Kilograms)	201	173	172
Furnace Oil (Litres)	91	76	75

## SPONGE IRON INDIA LTD. (SIIL)

### Environment Management

All norms specified by Andhra Pradesh Pollution Control Board/ Central Pollution Control Board in respect of water, air, ambient air, noise level and solid waste management are being maintained within the standards prescribed.

### Energy Conservation

As a part of continuing efforts towards conservation of energy, the company has made significant improvement in energy efficiency of the operating units. Against a normal range of 120 units of power consumption per tonne of sponge iron, the company may achieve a consumption level of 110 units per tonne of sponge iron by 31<sup>st</sup> March, 2008.

In the sphere of consumption of process energy, SIIL is likely to maintain a level of consumption of reductant at 1.38 tonnes/ per tonne of sponge iron upto December, 2007 (provisional) inspite of variations in the chemistry and physico chemical characteristics of coal. As a measure of conserving energy, the company has further invested an amount of Rs.165 lakh for Waste Heat Recovery (WHR) and renovation and modification works for Captive Power Plant (CPP).

## KUDREMUKH IRON ORE COMPANY LTD. (KIOCL)

### Environment Management

In view of the verdict of the Hon'ble Supreme Court, mining operations were stopped on 31<sup>st</sup> December, 2005 at Kudremukh project site. Execution of pollution control jobs such as de-silting, construction of check bunds etc., could not be taken up since forest land of 3203.55 Hectare (out of total lease area of 4605 Hectare) is included in the Kudremukh National Park and non-forest activities are not permitted in the National Park as per statute.

### Environment Management at the Pellet plant, port facilities and captive power plant at Mangalore

- The standard norms prescribed by Karnataka State Pollution Control Board in respect of air and water quality monitoring are being adhered to in all areas of work.

The Company has valid ISO 1400, ISO-9001 & ISO –18001 Certification for Mangalore establishment. The Company has obtained authorization for scientific disposal of garbage generated in the township under MSW Rules 2000.

### Energy conservation

Energy consumed in Pellet plant for the last 2 years & April to December, 2007 :

Year	2005-06	2006-07	2007-08 upto Dec. 2007
Power consumption per tonne of Pellets	37.53 * KWH / Tonne	111.17** KWH / Tonne	88.63** KWH / Tonne
Heat Consumption per tonne of pellets in '000 K Calories	121.10	262.0	238.00



\* Energy for Pelletisation only.

\*\* Energy is inclusive of grinding, filtration and pelletisation.

Note: consequent upon switchover from magnetite ore to hematite ore in Pellet plant operation, energy consumption has increased. Steps are being taken to resolve the operational problems at Pellet plant, Mangalore.

Specific Energy Consumption & Coke rate in blast furnace:

Year	Specific Energy KWH/ Tonne of Hot metal	Coke rate KG/ Tonne of Hot metal
2005-06	212	739
2006-07	191	721
2007-08 (upto December 2007)	231	752

## TATA STEEL LTD.

### Energy Management

Specific Energy Consumption

Gcal/ tonnes of crude steel :

Year	Plan/Target	Actual Performance	Improvement over previous year, %
2005-06	6.842	6.959	0.09
2006-07	6.815	6.717	3.48
2007-08	6.662	6.685 *	0.49*

\*Figures for 2007-08 are for April to November

### Salient Highlights of 2006 – 07

- Conversion of four stoker type boilers at Power House No. 3 from coal firing to By-Product Gas firing thereby reducing the coal consumption in power generation.
- Increased recovery of LD gas from a level of 37 Normal cubic metre per tonnes of crude Steel to a level of 56 Normal cubic metre per tonnes of crude Steel. The recovered LD gas is mixed with BF gas for utilisation at Power Houses.
- Increased vacuum at Power House No. 4 turbo generator sets thereby increased the power cycle efficiency.
- Installation of variable frequency drive in power house boilers, Hot Strip Mill blowers and descaler pumps.
- Increase in high top pressure at E Blast Furnace, thereby increasing the blast furnace productivity and reduction in blast furnace coke rate.

### Action Plan For 2007–08

- Installation of Top Recovery Turbine at H Blast Furnace.
- Modification in LD gas network to recover additional LD gas from LD Shop No. 2
- Split blowing at Blower Houses to reduce steam consumption for blast furnace blowing.
- Increase in High Top Pressure of C Blast Furnace.

### Environment Management

- Environmental Management System was modified as per ISO-14001: 2004 standards. The Occupational Health & Safety Management System (OHSAS-18001) was integrated with the Dupont

Recommendations. Both the systems were successfully renewed by IRQS for EMS & OHSAS Certificates.

- Specific energy consumption reduced to 6.720 GCal/ tcs in Fiscal 2007 from 6.959 GCal/tcs in Fiscal 2006.
- Specific water consumption reduced to 6.62 m<sup>3</sup>/ tcs in FY 07 from 7.46m<sup>3</sup>/ tcs in FY 06.
- The total water pollutant discharge reduced to 0.15 Kg/ tcs in FY07 from 0.18 Kg/ tcs in FY06.
- The dust emission from stack reduced to 0.95 Kg/ tcs in FY07 from 1.18 Kg/ tcs in FY06.
- The CO<sub>2</sub> emission was brought down to a level of 2.13 t/ tcs in FY07 from 2.28 t/ tcs in FY06.
- The company published its 6<sup>th</sup> Corporate Sustainability Report for the year 2005-06. Tata Steel is the only Indian Company included in "Sustainability Biennial Benchmark Survey 2006-07" of the top hundred Global Corporate Sustainability Reporters.
- Field trials in collaboration with Government of Jharkhand and Birsa Agricultural University for use of LD Slag as a Soil Conditioner. The trails have shown encouraging results.
- Solid Waste utilisation over the last three years are consistently high, over 80% as given below:

Items	2005-2006	2006-2007	2007-08 (April-September)
<b>Total Generation</b>	3150944	3392048	1624786
<b>% Utilisation</b>	80.20	84.80	84.11

#### Action Plan For 2007 – 08

- Installation of secondary fume extraction system (ESP) at LD#1.
- Development of Energy saving Projects under CDM
- Up-gradation of existing Pollution Control Equipment to bring down dust emissions from stack to less than 50 milligram per normal cubic metre.
- Installation of Continuous Emission Monitoring System (CEM) in major process stacks.
- Commissioning of Susunghariah and Garam Nala wastewater recycling projects for 6 million gallons per day water recovery.
- Surveillance of Environment Management System as per ISO 14001: 2004 & Re-certification of OHSAS 18001: 1999.
- Incorporation of Dupont Safety recommendations into Environment Health & Safety Management System.
- Up-gradation of environmental monitoring and analysis facilities at Environment Management Department Laboratory.

## JSW STEEL LTD.

### Energy Management

(Gcal/ tcs)

	2005-06	2006-07	2007-08 (April-December)
<b>Energy consumption</b>	5.81	6.10	6.97

Measures taken for reduction in energy consumption and future plans

JSW has optimised the energy utilisation through adoption of best available technology :

- It pioneered the energy efficient COREX Technology for Iron making.
- The first 1.2 MTPA non-recovery coke ovens with stamp charging and co-generation of 85 MW





waste heat power is not only energy efficient but environment-friendly process.

- Other conventional energy saving measures adopted are :
  - a) LD Gas recovery,
  - b) 100% Continuous Casting,
  - c) Highest hot charging of slabs,
  - d) Coal injection in Blast Furnaces,
  - e) High Hot blast Temperature in stoves.

JSW is one of the unique plants where 100% of the power is produced from by product fuels from the steel plant. It has launched an ambitious plan to further reduce the Specific Energy consumption through:

- Diagnostics studies of heating regimes and following delay strategies.
- Continuous audit of energy use and its regular follow up in weekly review meetings at the highest level.
- Specific energy rate fixed for each unit by benchmarking it with best practices with due consideration of local constraints.
- Training of personals for all levels tailored for each level.
- Development of an interactive Energy Management Information System.

#### Environment Management and Solid Waste Management

- Current level of emission/ pollutions confirm to the standard norms prescribed by Central Pollution Control Board and/or State Pollution Control Boards in respect of water, air, noise pollution for different processes

#### Actions taken to mitigate pollution during 2007-08

- a) With the adoption of measures like side steam filters and water recycling filters, the water consumption has been brought down below 3.5 cubic meter per tonne of steel as against the Ministry of Environment & Forests's norm of 8.0 cubic meter per ton of steel
- b) The secondary fume extraction facility for the Basic Oxygen Furnace shop has been commissioned ahead of Charter on "Corporate Responsibility for Environment Protection" (CREP) schedule of March 2008
- c) A 250 kg/hour incinerator is being commissioned at a cost of Rs. 2 crore to incinerate waste organic materials.
- d) An order has been placed for granulation of Basic Oxygen Furnace slag based on a new technology of Baosteel. This will help in ensuring higher usage of Basic Oxygen Furnace slag.
- e) A scheme of utilisation of 100% slurry in pellet and sinter plant has been developed and will be commissioned by March 2008.
- f) A project to use waste plastics in steel making is being initiated with support from University of New South Wales.
- g) The use of Liquified Petroleum Gas is being phased out by replacing with Corex gas.
- h) During the year, one project with a potential saving of 0.7 million tonne of carbon dioxide has been sent for registration.
- i) Preparation of Project Document for another 18 projects, with a potential saving of 2 million tonnes carbon dioxide is in progress.
- j) Two continuous AAQ stations have been commissioned. With this, there are now 3 AAQ monitoring stations.
- k) Order has been placed for 3 more AAQs which will then facilitate comprehensive monitoring of pollution levels.
- i) % utilisation of solid wastes during the year 2007, varied in the range of 70-96%.

## ISPAT INDUSTRIES LTD. (IIL)

### Energy Management

Energy audit was conducted in August 2006. Following projects have been taken up for implementation and are in progress:

- Modification of compressed air system to reduce the electrical energy consumption.
- Utilisation of freely available BF gas blended with propane in place of Light Diesel Oil (LDO) to reduce the fuel consumption at ladle heating burners at ladle heating station.
- Utilisation of BF gas and LDO in place of present LDO (100% LDO) fired burners at Coke drying unit to reduce the fuel consumption.
- Installing waste heat recovery systems on D.G. set (11.8 MW) to heat feed water of 16 tph boiler in order to reduce the present fuel consumption.

### Environment Management

The Pollution Control systems for Air and Water are inbuilt with production facility. To control dust emissions in the ambient air and work zone during transporting raw materials, the following air pollution control equipment have been provided at the conveyer system:

- Raw material transfer points at Jetty have been operating with dust suppression system.
- Entire conveyer system from Jetty to plant is closed system.

### Effluent Treatment and Disposal

In Sponge Iron plant, waste water is processed in Classifier, which is used for removal of coarse, heavy and suspended particles. In Hot Strip Mill waste water is filtered through filtration plant and after cooling is reused in the process. Thus the entire treated waste water is reused in the process. In Blast Furnace Plant, Hot return wastewater from the Gas cleaning plant is brought to the Wastewater Treatment Plant. The settled sludge is sent to sludge storage tanks with agitators and later to Vacuum drum filter, which removes the moisture content. Filtrate water is sent to cooling tower and the same is reused for gas Cleaning Plant. There is no effluent discharge from Hot Strip Mill and Blast Furnace plants. Treated waste water is re-circulated back in the process.

### Air Pollution Control Systems

To control dust emission in the ambient air, the following air pollution control equipment have been provided at the Integrated Steel Plant.

- Raw material transfer points have been operating with dust suppression system.
- Adequately designed Dust collection system at dust discharge point along with adequate stack height are in operation.
- Gas Cleaning Plants (GCP I & II) and Blast Furnace Gas Cleaning Plant
- Stock House and Bag Filter De-dusting systems
- Cast House Fume Extraction Systems
- Dust Catcher and suppression systems
- Slag Granulation Plant - Slag generated from Blast furnace plant is converted into granules in Slag granulation plant and sold for cement making
- Electrostatic precipitator

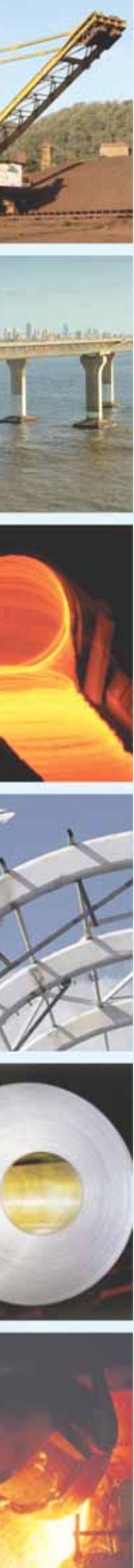
### Environmental Laboratory

Ispat Industries, Dolvi, has a dedicated Environmental Laboratory manned with qualified and trained personnel to carry out analysis of water, air, stack emission and noise monitoring. The analysis reports are regularly submitted to the statutory authorities like Maharashtra Pollution Control Board, Central Pollution Control Board and the Ministry of Environment & Forests. Annual Environmental Audit reports are also submitted to concerned authorities regularly.

### Environment Management System ISO 14001

The company has implemented ISO 14001 for its Sponge Iron Plant.





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## JINDAL STAINLESS LTD. (JSL), HISSAR

### Environment Management

#### Air Emission Management (Clean Air Management)

Two 'Dog Houses' were installed and commissioned in 2007 to reduce dust and noise level in its electric arc furnace and refining units in steel melting shops. All the Process emission stationary sources are connected through effective Air Pollution Control (APC) System to enable JSL to maintain the statutory requirement well within the limit:

- Particulate Matter at Stack Emission: Less than 10 mg/ Nm<sup>3</sup> in Steel Melting Shop
- Particulate Matter at Stack Emission: Less Than 20 mg/ Nm<sup>3</sup> in Rolling Mills.
- De-NO<sub>x</sub> system has been installed at Annealing Plants AP-1, AP-2, AP-3 and AP-4 lines to treat the Process Flue Gas/ Fumes generating from Pickling Lines to avoid the fumes to emit into the surrounding environment.

#### Waste Water Management

To ensure Zero discharge of effluent, the company has installed:

- Industrial Waste Water Treatment Plant
- Rinse Water Treatment/ Recycle Plant
- Domestic Waste Water Treatment Plant
- Reverse Osmosis Plant

#### Pollution Control and Waste Management

Following equipment are installed with investment of approximately Rs.155 crore for Pollution Control Measures in terms of Air Emission Management:

- Four Dog House at SMS I & II
- Up-gradation of existing APCs and Installation of new APCs
- Installation of 4 Nos. of De-Nox at AP1 to AP4 Lines
- Industrial Cross Ventilation and Roof Extractors at all Sheds
- Installation of New ETPs and Up-gradation of the existing Effluent Treatment Plants
- New Drainage Systems for Carrying Sewage & Industrial Effluents to Reverse Osmosis System and then to Distribution Network
- Drinking Water Pre-treatment System for Office & Residential Colonies and Neighboring Villages
- Construction of Waste Water Storage Tanks, Storm Water Storage and Treated RO water Storage Tanks for Recycling with proper Mesh-Net & Corrocretin impervious lining
- New Waste Management Yard has been introduced with Construction of Separate Bins, Racks etc.
- New Scrap Handling System at Scrap Yard
- Upgradation of Safe Slag Transportation, Handling & Disposal Systems with Strengthening of 6 MVA Submerged Arc Furnace for Metal Recovery from Slag

#### Solid Waste Management (Metal Recovery from Slag at 6 MVA SRF)

The total solid waste such as process slag, pickling waste, hopper recovery of APC equipment are mixed and processed into a 6 MVA Capacity Submerged Arc Furnace to recover metallic while the slag above 6 mm (up to 58.5%) is utilised as base material for road construction, Internal Flooring, Park/ Lawn Beautification and slag as powder (41.5%) is utilised by cement industries to meet the CREP Target.

#### Energy Management

JSL has an Integrated Management System of Q-SHE (Quality, Safety, Health & Environment) in place for Controlling, Monitoring and reviewing all Operational activities in line with the requirements of existing Environmental Legislations/ Standard and exercising on best Industrial Code of Practices. This Stainless Steel manufacturing unit has aimed to continue the value addition activities in line with the requirement of IS/ISO 9001: 2000: QMS, IS/ISO 14001: 2004: EMS, OHSAS: 18001: 1999 and TPM Certification towards Environment Friendly and Safe Production.

### Measures taken/ being taken for Reduction in Energy Consumption

- Variable speed drives are provided for water pumps, hydraulic pumps, cooling towers, air compressor and blowers.
- To optimise the combustion efficiency of annealing furnace, air/ fuel ratio controller have been installed.
- New oxygen plant commissioned to reduce power consumption per tonne/oxygen produced.
- Steps have been taken to reduce the fuel consumption and NO<sub>2</sub> emission.
- Main gates and street lights are replaced by solar lights.

## JINDAL STEEL & POWER LTD., (JSPL) RAIGARH

### Environment management

Over the last four years, the Company's operation has been well within the standard norms prescribed by Central Pollution Control Board and/or State Pollution Control Boards in respect of water, air and noise pollution.

Details of action taken in the current year to control the same are given below:

### Air Pollution Control Measures

#### Blast Furnace

- Raw Material Handling Areas : Fugitive dust is collected using water sprinklers.
- Blast Furnace process : Cyclone and two stage ventury scrubber (gas cleaning plant)
- Stock house/ junction points. : Pulse jet bag filters control the transfer/ junction pts emission from stock house and clean air is discharged through stack.
- Submerged Arc Furnace : The waste gases are routed through fume extraction system to after burners to burn off the CO & CO<sub>2</sub>. The CO free gas is passed through bag filter. The dust is accumulated in the bag filter. Dust free gas is discharged through stack.

#### DRI & Waste Heat Recovery Boiler (WHRB)

- DRI kilns : The flue gas is passed through dust settling chamber, where gases are made partially free of Suspended Particulate Matter and are completely combusted. The gases are passed through heat exchanger of WHRB, after which the gases are passed through Electro Static Precipitator (ESP) and then discharged from stack.
- Transfer points : Fugitive dust is collected in bags through suction hood. Clean gas is discharged from stack.
- Captive Power Plant : The flue gas from boilers is passed through ESP and discharged through stack.

#### Steel Melting Shop

- EAF & Ladle furnace : The gases are sucked through fume extraction system and then taken to after combustion chamber for converting CO to CO<sub>2</sub>; thereafter through water cooled ducts, where the temperature of gases are reduced to 130 - 150° C and then treated in bag filter for removal of particulate matter.
- PGP & Limekiln : The gases are passed through dust collector and then through wet ventury scrubber. Treated gas is passed through stack.
- Coke Oven Plant : Waste gases from the coke ovens are burnt completely and the heat generated is used in the Waste Heat Recovery Boiler for steam and subsequent power generation. Gases are fully combusted and left off through stack.





### **Limestone-dolomite plant**

Waste gas cleaning and Plant dedusting : Dust Extraction system comprising of high efficiency pulse jet type bag filter with centrifugal fan and motor, instrumentation and controls, duct work including suction hoods, duct supports, chimney dust hoppers, dampers, dust conditioner etc. are provided.

### **Sinter Plant**

Process and Dedusting side : ESP installed and flue gas discharged through common stack.

### **Water Pollution Control**

The Plant has adopted Close Water Circuiting arrangement to maintain zero discharge. Besides two existing sewage treatment plants, two more sewage treatment plants are being commissioned to utilize 100% treated water for gardening & horticultural activities.

### **Solid Waste Management**

The Company has treated/ recycled 100% solid waste in the form of char, blast furnace slag, sludge and dust and fly ash during 2005-06 and 2006-07. Treatment of submerged arc furnace slag has increased from 92% in 2005-06 to 100% in 2006-07.

### **Energy Management**

Consumption of energy in Giga calorie/ per tonne of crude steel for the financial year 2006-07 was 5.6 and 5.58 Gcal/ tcs during 2007-08.

#### **Measures taken/ being taken for reduction in energy consumption and the future plans to this effect:**

- Installation of new blast furnace from Danieli Corus of capacity 1681 cubic metre, which reduced overall specific energy consumption of blast furnace and specific power consumption of electric arc furnace due to increase in hot metal use.
- 5 air-preheaters installed in waste heat recovery boilers.
- Installation of dual fired boiler (1x63 TPH) substituted coal by Blast Furnace Gas partially.
- Installation of non-recover type, environmental friendly coke oven plant.
- Due to installation of coke oven plant, utilisation of coke oven gas generated extra electrical power.
- Replacement of petro-fuel by producer gas .
- Introduction of metallurgical coke fines in Electric Arc Furnace by coke injector as cheap substitute of CPC.
- 10 waste heat recovery boilers (WHRB) installed to utilise sensible heat of off-gas of DRI-Kilns to generate extra electrical power.

### **Future plans**

- Installation of new producer gas plant to replace petro fuels.
- Utilisation of blast furnace gas of new blast furnace, BF-2 to generate extra electrical power from Unit-3 power plant.
- Pulverised coal injection in the new blast furnace BF-2 to reduce coke consumption in the blast furnace.
- Installation of PRDS in Power Plant-II, phase-III to utilise extra steam generated.
- Use of mill scale in SMS-II.
- New blast furnace of 4000 m<sup>3</sup> will be installed.
- Cement plant will be installed to utilise granulated slag from blast furnace.

## ESSAR STEEL LTD. (ESL)

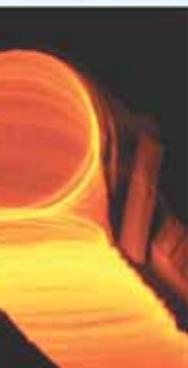
Essar has adopted imported, state-of-the-art and clean production technologies for all its production plants:

- Continuous focus on reducing the water consumption on a tonne of crude steel basis. The present consumption is around 2.59 M<sup>3</sup>/tcs. Essar Steel has been awarded the CII- Sohrab Godrej National Award for Excellence in "Water Management- beyond the fence".
- Continuous investments in technology and modifications have resulted in continual improvements in work zone emissions and stack emissions.
- Technology up gradation and revamping in acid recovery plant as to ensure continual improvements in emissions levels.
- Provision of High Efficiency Venturi Scrubbers in Hot Briquetted Iron (HBI) plant to control emission of particulate matter. This also helps in recovery of iron ore fines and its reuse after pelletization.
- Installation of Central Vacuum de-dusting System for control of emission of Particulate Matter (PM).
- Use of low NO<sub>x</sub> generating burners in natural gas/ liquefied natural gas / Naphtha based Power Plant for control of emission of Oxides of Nitrogen.
- Installation of effluent treatment plant for treatment of industrial effluent consisting of oil skimmers. Clarifiers and effluent recycle and reuse system. At present, 95% of treated effluent is being recycled.
- Treated sewage at plant and township are being utilised for plantation and green belt development.
- Environmental Management Cell (EMC) has been set up to carry out all functions related to Environmental Management, Monitoring of Environmental Quality Namely effluents, stack emissions, ambient air quality and noise levels) and Control. 5 highly qualified and experienced environmental personnel are managing the Cell.

In order to improve the environment quality, following additional initiatives were undertaken in the last three years:

- Installation of additional bag filters and Induced Draft fan in Fume Extraction System (FES) system to have increased suction.
- Installation of central vacuum de-dusting system in Electric Arc Furnace (EAF).
- Installation of hot Direct Reduced Iron (DRI) feeding chute with Nitrogen gas to reduce dust emissions.
- Installation of booster fans for improved dust suction for Ladle Furnace (LF).
- The gap between the LF cover and the rib was reduced to reduce dust emissions.
- Laid permanent (pipeline) sprinkling system for 1505 metre stretch to arrest re-suspension of dust from roads.
- Installation of sprinklers at transfer points of conveyors.
- 100% reuse of treated water from Captive Power Plant & Sewage Treatment Plant and more than 95% of treated effluent from Hot Rolled Coal plant is being used for horticulture purposes.
- Reuse of partial wastewater from Hot Briquetted Iron (HBI) for washing, (pipeline) sprinkling system and wet screening.
- Installation of oil skimmer at HBI.
- Containment area at each user department for waste oil and oil barrels storage to avoid spillage & thereof oil loss.
- Greenbelt programme has been adopted.
- Better solid waste Management through proper storage bins for segregation of wastes at source itself for different uses.
- Reuse and better utilisation of all types of solid wastes.





## CHAPTER - VIII

### DEVELOPMENT OF INFORMATION TECHNOLOGY

The Ministry of Steel and the PSUs under it constantly endeavour to be updated on matters relating to IT infrastructure, development and applications.

#### MINISTRY OF STEEL

#### IT INFRASTRUCTURE

- The Computer Centre in the Ministry is equipped with Windows 2003 servers; Pentium based client systems, scanner for document imaging operations and heavy duty laser printers. In addition to these, the centre is also equipped with Local Area Network (LAN) equipment such as switches & hubs, which serve as a backbone for accessing information on Ministry-wide Local Area Network (LAN), Internet, as well as operating Intranet based applications in the Ministry;
- Apart from NIC Central facility, about 150 Pentium based client systems capable of handling present day Windows based software and Office automation suits are operational with Officials and Desks/ Sections in the Ministry.
- A LAN of about 150 nodes is operational in the Ministry and is being extensively used for i) Electronic Diarising ii) sharing of files/ documents iii) collecting information/ material on Annual Reports, Parliament Questions, Pendency, Tracking & Monitoring Applications (VIP References, Public Grievances, Parliament Assurances, Position of Vacant Posts, ACC approvals, Review/ Appeal cases, Draft Audit Paras) from Sections/ Desks and iv) compilation and collection of replies to Parliament questions from Desks/ Sections in the Ministry and their onward transmission through E-mail to the Rajya Sabha and Lok Sabha.
- Internet connectivity for access to the sectoral information has been provided to all Officials/ Desks/ Sections in the Ministry.

#### E-GOVERNANCE APPLICATIONS AND PROMOTING THE CONCEPT OF PAPERLESS OFFICE IN THE MINISTRY

- As part of e-governance programme, a Ministry-wide Intranet portal is operational for sharing and disseminating information through a Bulletin Board services for Notices/ Circulars/ Office Orders among the users of the Ministry;
- The portal facilitates Electronic Dak/ Diary movement of documents. The portal also facilitates E-filing and approval of note sheets and documents as a work flow and work routing application.
- The facility for downloading of forms for sanction of leave and advances, medical re-imburement, Annual Confidential Report forms, Identity Card, staff car booking, Income Tax, telephone list, E-mail addresses, directory of Officials/Sections/ Desks in the Ministry, organisation chart, activity list are also provided on the Intranet portal for the Officials/ Staff of the Ministry.
- Personal Corner for employee's profile, salary statement, GPF statement, Bulletin Board Services for Office Memoranda, Office Orders and Office Circulars and flash of deputation vacancies/ posts in Government of India are available on the portal.
- The Intranet portal also provides a single window interface for accessing computer based systems in the area of tracking and monitoring of important references, parliament assurances, public grievances, position of vacant posts and their status in the Ministry and its PSUs, Pending Review/ appeal cases, court cases, Audit Paras etc. to minimise pendency and improve delays in decision making.
- As a part of e-Governance plan of the Government of India, the following Web Based systems are being implemented in the Ministry:
  - i. RTI-MIS - facilitates monitoring of Requests & Appeals received under RTI Act, 2005. The system has been implemented in the Ministry & its PSUs. The system has been developed by Central Information Commission (CIC).

- ii. Efforts are being made to implement CPGRAMS software for facilitating redressal of Public Grievances & CPENGRAMS for facilitating redressal of Pensioners Grievances in the Ministry & its PSUs.

## MINISTRY'S OFFICIAL WEBSITE

- The Ministry's official web-site (<http://steel.gov.in>), in bilingual format, provides information on aspects of the Ministry and the Steel Sector.
- A G2G bilingual interface between Ministry & its PSUs for on-line collection of information from PSUs on monthly/ quarterly performances to minimize delays in information collection, compilation of Cabinet Summary and conducting quarterly performance review.

## VIDEO CONFERENCING FACILITY

- Video Conferencing facility has been setup between the Ministry & its PSUs to conduct important meetings, speed up decision making, improve use of executive time and to reduce travel cost.

## STEEL AUTHORITY OF INDIA LTD. (SAIL)

### IT Initiatives in SAIL

SAIL has a well defined strategy for IT initiatives. The growth plan drawn by the company to achieve 26 million tonnes of hot metal by 2010, envisages a major thrust on IT applications to achieve customer centric processes, cost effectiveness, enhanced profitability, product quality and stake holder satisfaction. The plan envisages strengthening of IT communication network, establishing Production, Planning and Control (PPC) computerization and implementation of Enterprise Resource Planning (ERP) and Manufacturing Execution System (MES). Bhilai Steel Plant is piloting ERP implementation to be followed by other units in a phased manner and PPC and MES would be implemented by individual plants.

SAIL has taken the following IT initiatives across the company, some of which have already been implemented and the balance are in the process of being completed :

- Video Conferencing : Commissioned in May 2006, this allows SAIL plants/units across the country, RINL, NMDC and the Ministry of Steel to be linked for conferencing. It is being used to conduct important meetings, speed up decision making, improve use of executive time and reduce travel cost.
- Networking : SAIL has a SAIL WAN connecting all the ISP's Unit Offices and various Marketing offices using BSNL/ MTNL leased lines, Virtual Private Network (VPN) network backed up by Integrated Steel Plants and VSATs. All the ISPs have Fibre Optic based Local Area Networks.
- E-commerce - Tender Website: Commissioned in August 2006, SAIL has implemented an exclusive Tender Web Site <http://www.sailtenders.co.in> for uploading all tenders by SAIL Steel Plants/ units. The website is also linked to the website of the Ministry of Steel. This site contains tender related information and is accessible to the vendors. The tender website of SAIL contains information on live open tenders, notices/ circulars, Limited Tenders, Standard Terms & Conditions, Vendor registration forms, Vendor Exploration (for Single Tender Items) and Contract Details etc. SAIL has been using Digital Signatures for uploading tender documents on the SAIL Tender Website since 2005, which conforms to IT Act, 2000.

To avail the benefit of transparency in negotiations and purchasing at best available market price, SAIL was the first PSU to implement e- procurement through reverse auction in 2001-02. The transactions have grown steadily from Rs. 19 crore in 2001-02 to Rs. 801 crore in 2006-07.

e-selling: Forward auction started in SAIL in 2002-03 and has increased from Rs. 53 crore in 2002-03 to Rs. 1906 crore in 2006-07.

e-payment : e-payment of salaries to employees in SAIL is being done through SBI and ICICI Banks. e-payment to Suppliers is also being made. SAIL has also started using e-payment platform provided by various banks at major plants/ units to make payment. Several Mechanisms like ECS, RTGS, NEFT and Corporate Internet banking are being used. These include payment to vendors/ suppliers, employees, statutory dues etc. such as central excises, Tax deduction at source, service tax etc., freight to railways,



fee to Director General of Foreign Trade and other entities who have given their mandate to receive payment electronically.

### Employee Services

Intranet websites have been developed by plants/ units for providing on-line facilities like leave encashment, LTC/ LLTC encashment to employees. Information like Circulars, Orders, Forms, Pay slips, Provident Fund status are available on website for employees. e-kiosks have been installed for access of intranet websites by employees of plants/ units.

On-line e-procurement System (EPS) is being implemented in SAIL for indigenous consumables/ spares through Limited Tender Enquiry. This will be extended to cover imports and open tenders. The EPS is to generally cover Open Tenders, transports, Reverse Auction, Standard Communications, Digital Signature etc. The on-line transactions on EPS are secure, based on SSL certification of server. Agreement with



Shri S.K. Roongta, Chairman, SAIL inaugurating the e-kiosk (Saral e-Sewa) at Ispat Bhawan, New Delhi on 29<sup>th</sup> March, 2007.

Metal-Junction was signed in May 2007 to implement EPS at the Plants/ Units viz. – BSL, DSP, ISP, ASP in 1<sup>st</sup> Phase and at SSP, MEL, VISL and RMD in the 2<sup>nd</sup> Phase. This will be integrated with the forthcoming Enterprise Resource Planning (ERP), which is being implemented at Bhilai Steel Plant for the time being.

SAIL Corporate Office alongwith its Central Marketing Organisation has devised a system, which will be used for taking e-receipts through the SBI portal. The necessary software has already been developed by SBI. Through this facility any corporate customer of SAIL having a bank account with SBI can make payments to the Bank Account of any of the branches of SAIL by visiting the website of SBI i.e. <http://www.onlinesbi.com>. The branches have been advised to educate the corporate customers of SAIL about this facility. It is envisaged that with speedy implementation of various aspects of e-commerce, SAIL would be able to enhance its business through the e-route. Fairness and transparency in systems would be ensured and lead time of transactions would get reduced considerably.

## RASHTRIYA ISPAT NIGAM LTD. (RINL)

Information Technology department is one of the few departments in Visakhapatnam Steel Plant (VSP) to have started functioning from project stage of the plant itself. It used to solve the data processing requirements of VSP construction, like PERT/ CPM Charts for Project Execution, Technical Documentation Information System, Contract Billing, Payroll for Russian Experts, etc. Information Technology Department provides IT-services and IT-enabled services for all the internal customers of (VSP). The range of service include: Software Development, Operation & Support to Servers and other infrastructure, Operation & Support to Process Control, Sizing, procuring and installation of IT infrastructure.



Process Control Centre at RINL.

### Process Control

Another important facet of Information Technology Department is the process control area. The Rolling Mills of VSP are the first of their kind in Indian steel industry in terms of automation and computerisation. All the operations, like rolling, cutting, guiding, cooling, etc. are meticulously controlled using computers.

Some of the IT systems in vogue in RINL are: Attendance Recording, Marketing System, CISF Gate Pass System, Contract Billing, Costing, Financial Accounting, Human Resource Information System, Internet and Intranet Website, Maintenance Management, Materials Management, Pay-Roll, Production Planning and Control, Raw Material Management, Repair Shop Scheduling and 'Wagon Information and Tracking'.

### Implementation of e-commerce in RINL

- (i) The process for fixing up a service provider for e-auction has been initiated.
- (ii) All open tenders are being kept on the website for free download.
- (iii) Surplus/scrap items are being disposed off through physical auction, tenders as well as e-auction. During 2007-08, three e-auctions were conducted and material worth Rs. 94.78 lakh has been sold through e-auctions.
- (iv) 100% of Tender Sales are made through e-auction mode.
- (v) During 2007-08, the process of finalization of Road Transportation Contracts was changed to e-auction mode from the practice of obtaining sealed price bids in open tenders.
- (vi) During 2005, e-auction was implemented for sale of coal chemicals like tar products and benzol products, which are by-products from Coke Ovens. However, due to inadequate response from the customers at that time, the same could not be continued. During this year, it is proposed to implement e-auction for sale of by-products from December 2007. Open advertisements in all India news papers are planned to be given for wide publicity.
- (vii) At present about 33% of all payments are released through electronic mode.
- (viii) Tenders/ expression of interests etc. are placed on the website as also the details of the tenders/ contracts awarded. These are being updated regularly by the concerned departments. In addition, details such as General Conditions of Contracts, terms and conditions of contracts, application forms/ -proformas in a downloadable form, status of bill payments of contractors, online receipt of applications in the case of recruitment to the post of Management Trainees selection of which are being made on All India Basis are being posted on website.
- (ix) QMS documentation as per ISO 9001:2000 is made available to all users on the Company's portal.
- (x) Online complaint handling system has been developed and made available on the website.



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- (xi) Enterprise Resource Planning (ERP) department has been set up in with the objectives inter alia to improve RINL's ability to conduct e-business with its vendors and customers etc.
- (xii) Chairman online Scheme has been introduced in order to meet the needs of the employees to have a forum where they could interact directly with CMD.

### **NMDC LTD.**

NMDC has made good progress in implementation of e-Commerce, in the field of e-procurement, e-auction and e-payment for procurement of goods, sale of surplus items and scrap, spot sale of iron ore in Indian market, inter-Project transfer of funds as well as payment of Railway freight. On-line payments to vendors/ suppliers at Head Office has been undertaken on trial basis.

### **MANGANESE ORE (INDIA) LTD. (MOIL)**

MOIL has set-up a full-fledged Systems Department to ensure effective computerisation of all the functional areas of the Company. Important IT initiatives include :

- Installation of 206 Computers, out of which 89 Computers are at Head quarters and the remaining 117 Computers are distributed in the Mines.
- Local area Networks (LAN) on NOVELL 4.2 and on WINDOWS-2003 Platform are in place at Head Office as well as at two of the Major mines viz. Balaghat & Dongri Buzurg. LAN development at other mines is in progress.
- For effective sharing of databases/ information and other resources on regular basis all the remotely located production units and Head Office are connected through VSAT.
- e-mailing and data transfer facilities all the concerned officials have been provided with internet through a shared 1 mbps broadband connection.

MOIL has implemented e-commerce for its procurements and sales since April, 2006. During 2007-08, apart from Ferro Manganese & Ferro Manganese slag, the oxide and dioxide grade of manganese ore from Dongri Buzurg mine have also been included in e-sales with encouraging results. A total of eight e-sale events were organised through MSTC.

### **HINDUSTAN STEELWORKS CONSTRUCTION LTD. (HSCL)**

Corporate Internet Banking facility has been provided at the Head Office and units at Ranchi, Vizag, Nagpur, Bokaro, Bhilai and Kolkata Project Units for e-payment to Contractors/ Suppliers/ Employees and for switching over to other e-commerce activities. The Company has provided e-tendering facility to HSCL/ Sipat Unit through ICICI Bank. HSCL, New Delhi, Chennai and Bangalore Units will also start availing Corporate Internet Banking facility shortly. HSCL's Head Office and offices at Bokaro, Bhilai, Kolkata Project and Hyderabad are making salary payment through e-payment regularly.

### **MECON LTD.**

MECON is presently concentrating on in-house development of IT infrastructure and integrated information management system for the company. The organisation has decided to implement a full-fledged web enabled Enterprise Resource Planning (ERP) System which will encompass all the activities of the organisation with special emphasis on the following :

- Project Management
- Contract Management
- Financial Management
- Resource Planning & Management

The system requirements are under finalisation for inviting tenders from ERP solution providers. The proposed system is expected to be implemented by March 2009.

**e-commerce activities**

- The registration of vendors and Tendering are carried out through the web enabled system.
- The orders placed every month are being furnished on the MECON website.
- Service tax payment is made electronically.

**BHARAT REFRACTORIES LTD. (BRL)**

Enterprise Resource Planning (ERP) package is under development stage in one of the BRL's units and the same is being implemented during 2007-08. Bhandaridah Refractories Plant of BRL is also going to computerize PF accounting shortly. Thrust on e-governance has been maintained as a result of which all open tenders of the Company are now posted on the website.

BRL participates in the following areas of e-commerce through on-line reverse auctions.

- Slide Gate Refractories of Different SAIL Units (all SAIL Units are procuring 100% of this item through on-line reverse auction) – BRL has done about Rs.14 crore business in this area (25%-30% of SAIL requirement in this area).
- Blast Furnace Trough Castable (some SAIL Units are procuring 100% of this item through on-line reverse auction) – BRL has done about Rs. 25 crore business in this area (60% of total requirement of SAIL units).
- Alumina-Magnesia Castable to ASP – BRL is doing business of Rs.1 crore (60% of total requirement of ASP).

**MSTC LTD.**

MSTC launched e-procurement services in 2006-07. However, the first on-line transaction was executed during 2007-08 on behalf of Coal India Ltd. for purchase of explosives. The total cost of the items procured was Rs. 850 crore. Similarly, procurement of 19 KG and 35 KG cylinders were made through reverse auction for Bharat Petroleum Corporation Ltd. Some e-procurement services were provided to Andrew Yule & Co. Ltd. as well. MSTC is developing an e-shopping mall for providing sellers and buyers of different industrial items a virtual marketplace for carrying out business transactions. MSTC achieved a volume of business of more than Rs. 3,000 crore in 2006-07 and the entire volume was on account of e-sales. During 2007-08 (upto November 2007), the volume of business transacted by MSTC through e-commerce (e-sale and e-procurement) was about Rs. 2,600 crore and it is expected that by the end of 2007-08, the figure will cross Rs. 3,500 crore mark. As part of systems improvement effort, MSTC's e-commerce Division has received ISO 9001:2000 Certificate with effect from 16.11.2007.

**FERRO SCRAP NIGAM LTD. (FSNL)**

FSNL is rendering its specialised services to integrated Steel Plants through its Corporate Office at Bhilai and nine operational units inside the works premises of the Steel Plants. ERP package which covers e-procurement, e-payment etc. is being implemented in FSNL and it is expected that the package will be implemented during next financial year.

**SPONGE IRON INDIA LTD. (SIIL)**

The company's IT system is an upgraded version of SUN SERVER-280R with Oracle as the database software. This system currently caters to the needs of the company. Since SIIL is being merged with NMDC, no new initiatives on the IT front have been taken up.

**KUDREMUKH IRON ORE COMPANY LTD. (KIOCL)**

Disposal of scrap/ surplus items is being done by e-auction, through MSTC Bangalore, since September 2004. In the last financial year, four e-auctions were held at Mangalore and Kudremukh. e-procurement





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auction by web tendering-cum-reverse auction was commenced in the year 2003-04. During the financial year 2006-07, 1000 metric tonnes of caustic soda for captive power plant was e-procured through WIPRO and the company got financial benefit of around Rs. 1.80 lakh (approximately). The threshold value for e-procurement was initially fixed at Rs. 5 lakh and above. After review it was revised during 2006 to Rs.15 lakh in this company.



### **BIRD GROUP OF COMPANIES (BGC)**

As on date the tendering of fines/ lump iron ore is being conducted by BGC through METAL Junction on e-auction mode.



## CHAPTER - IX

### SAFETY

Safety is an important aspect in the functioning of any industry. It is important not only for its employees and workers but also for the environment and the nation. Iron & Steel production being a complex and hazardous activity, needs to prevent injuries and accidents, provide a healthy working environment and guard against all possible hazards and risks to be adequately recognized and taken care of. This chapter highlights the emphasis on safety by the PSUs under the Ministry.

#### STEEL AUTHORITY OF INDIA LTD. (SAIL)

SAIL has a comprehensive Safety Policy, which underlines the commitment of top management towards this vital issue that concerns its most valuable resource that is human resource. In SAIL, Safety is taken care of at corporate, unit and shop levels. A Corporate Safety Unit named SAIL Safety Organisation (SSO) exists to coordinate, monitor, promote and enhance the operational/ fire safety activities undertaken at the different plants/ units and to provide appropriate corporate thrust on safety management in the Company. In addition, each Plant/ unit of SAIL has a full-fledged Safety Engineering Department (SED) to look after safety management of the respective plants and units. Safety at shop floor is closely taken care of by Departmental Safety Officers. Following efforts are being made in different plants/ units as well as at SSO level :

- Safety is designed and built into every job before any job is executed . Safety aspects have been incorporated in Standard Operating Practices (SOP) and Standard Maintenance Practices (SMP)
- Annual Performance Plans (APP) in the areas of Safety and Fire services are formulated and review of implementation of APP is done by plants and SSO.
- Internal and external safety audits of major departments particularly hazardous areas are conducted as per schedule and points arising from these audits are resolved.
- All the necessary Personal Protective Equipment like safety shoes, safety helmets, breathing apparatus etc. are provided free of cost to all regular employees. PPEs are supplied by the contractor to their workers as per terms of contract. In case of failure to do so, these are issued by SAIL on cost recovery basis.
- All major capital repairs/ shut downs are closely monitored round the clock to prevent accidents.
- Regular preventive inspections of unsafe acts and conditions are being done on the basis of checklist and corrective actions are taken.
- Work-permit/ Protocol system are in vogue for hazardous jobs where multiple agencies are involved like jobs on Gas lines, Steam lines, Pressure vessels, Lifting equipment, Electrical installations, Electrically Powered Machines, Hydraulic lines, while working in confined space, working at height etc.
- Job/ area specific safety communications are displayed at vulnerable locations to caution employees about hazards and take precautionary measures. Periodic campaigns are conducted to inculcate safety awareness up to grass root level.
- On-site disaster management plans have been prepared and mock drills on emergency preparedness are conducted regularly.
- All accidents are investigated and remedial actions are taken to prevent their recurrence.
- Safety training by Safety Engineering Department has been made mandatory for contractor workers before issue of gate pass to them. In addition, Job specific safety training is imparted at site by the executing agency before starting the job.
- HRD intervention in the area of safety covers Heads of Departments, Line Managers and Departmental Safety Officers. Besides area specific workshops are conducted at different location on important topics like gas safety, rail/road safety, safety in iron, steel and coke making etc. for sharing of best practices in safety management.
- Skill oriented job specific safety training is being imparted to various target groups like Crane Operators, Loco Operators, Porters, Riggers, Welders, Gas Cutters, Electricians, Heavy Earth Moving Equipment Operators etc.
- Safety awareness among housewives and school children is being generated through various workshops, campaigns, competitions etc.





- The movement of heavy vehicles is restricted during shift change hours to avoid any road accident. No person riding two wheelers is allowed entry inside plant premises without a crash helmet. In addition surprise checks are being carried out.
- A bipartite forum named Joint Committee on Safety, Health and Environment for Steel Industry (JCSSI) headed by Director (Technical), SAIL as its Chairman and Executive Director (Safety), SAIL as Vice Chairman and having representatives from Steel plants and Units of SAIL, RINL, Tata Steel, Ispat Group, ESSAR, NINL and Central and Plant level Trade Unions is functioning at National level. With a view to inculcate safety consciousness, JCSSI organises seminars, workshops, training programmes and safety competitions for member organisations. JCSSI with the co-operation and support of Trade Union representatives formulates policies and guidelines for its member plants and monitors the implementation.

### **RASHTRIYA ISPAT NIGAM LTD. (RINL)**

Continuous efforts on implementation of safety standards, monitoring of risk control measures and other pro-active measures have resulted in reduction, elimination of potential hazards. During 2007-08, the achievements & highlights of safety are brought out below:

- One Million Lost Time Injury Free Man Hours, was achieved in six departments.
- Round the clock monitoring of activities was carried out by safety personnel during capital repair works at various units of the plants.
- Auto dewatering system was developed and installed in TLC pit at mixer shop of SMS for preventing explosions.
- Polycarbonate roof sheets were provided in place of CGI sheets in ammonium sulphate plant for avoiding hazards in frequent replacement of rusted sheets.

### **NMDC LTD.**

NMDC has training centres in all its projects equipped with requisite infrastructure as required under Mines Vocational Training Rules. These centres cater to the needs of basic training, refresher training, and training for skilled trades and also for those injured on duty. In each mining project of NMDC sufficient number of Workmen inspectors are nominated/ appointed for mining operations, Mechanical and Electrical installations as per statutory requirements.

Mine Level Tripartite Safety Committee Meeting are conducted in each of the Operating Mines, once in a year at project level with Senior Officials, Union Representatives and Directorate General of Mines Safety (DGMS) officials, in which safety performance and its appraisal is made and the recommendations are implemented. Meeting has been conducted during the year at all production units except DMP, Panna. Tripartite Safety Committee Meetings are being held regularly once in a year at Head Office. Safety committees have been constituted in every operating mine and pit safety meetings are held every month discussing the safety matters and corrective actions related to work atmosphere.

National Institute of Miners Health, Nagpur has completed the field study of 'Dozimetry' and 'equipment vibrations' for all the projects. All the projects have Occupational Health Centres equipped with full infrastructure and are manned by qualified doctors trained in Occupational Health and Safety at Central Labour institute, Mumbai. Periodical Medical Examination under the statute are carried out regularly in all the projects, with a planned programme.

### **MANGANESE ORE (INDIA) LTD. (MOIL)**

All the Mines working is being regularly supervised by Competent Supervisors like Mine Mate, Mine Foremen and qualified Mining Engineers. Safety Inspections are also being carried out during the working shift by Workmen Inspector, Safety Officer, Mine Manager and Agents. Internal Safety organisation headed by a Dy. General Manager (Safety) at Head Quarters is co-ordinating with DGMS for inspecting the mines from time to time. Regular Safety Committee meetings are held at mines where day to day safety aspects are discussed with the participation of workers representative. Unsafe Acts and Mine Accidents are analysed in details to avoid any recurrence.

The accident statistics for the current year 2007-08 showed a declining trend; in place of 31 mine accidents till December 2006, there were only 16 accidents in 2007 till December, 2007.

Regular occupational health check ups are done as per the guideline of DGMS. Safety policy for the Company has been framed as per recommendation of 9<sup>th</sup> Safety Conference. The Company has introduced

study of Health Safety Management through Risk Assessment for Dongri Buzurg Mine and Balaghat Mines. Regular training is imparted to Workmen Inspector & Workers in the Training Centre, Munsar regularly. All these concerted efforts have reduced the frequency of mine injury.

MOIL took part in All India Mines Rescue Competition and has bagged the overall first prize for the year 2007.

Kandri and Munsar Mines of MOIL bagged the National Safety Awards 2006 for the Longest Accident Free Period where as Dongri Buzurg Mine bagged the award for Longest Injury Frequency Rate.

### **FERRO SCRAP NIGAM LTD. (FSNL )**

As a measure of creating safety awareness among the employees, special programmes on safety and allied areas, were incorporated in the annual training calendar. Such programmes on Safety and related aspects are arranged through National Safety Council and other such reputed agencies for the benefit of the employees. In addition to the training programmes, Safety Day celebrations are also held in the company wherein safety debate competitions, etc. are organized and the employees participate in such competitions with great enthusiasm. Winners of such competitions are awarded with suitable prizes.

### **HINDUSTAN STEELWORKS CONSTRUCTION LTD. (HSCL)**

HSCL has formulated safety code and adequate steps have been taken for its implementation. In addition, the company complies with all the safety norms connected with construction activities. The company has full-fledged Safety Departments in Steel Plants/ Units where more than 80% of its workmen are posted.

### **MECON LTD.**

MECON has design and consultancy offices and does not have an industrial unit. However, at project sites all necessary safety related precautions are being taken and as a result no accident has been reported during the year.

### **BHARAT REFRACTORIES LTD. (BRL)**

All safety norms are being followed by BRL and effective measures have been taken to ensure adequate safety in all the plants.

### **SPONGE IRON INDIA LTD. (SIIL)**

During the year, efforts were made to take measures required for Safety and Security of workforce in all areas. A safety Committee was constituted and National Safety Day was observed in order to inculcate Safety discipline amongst the employees of the company. There were no accidents during the year.

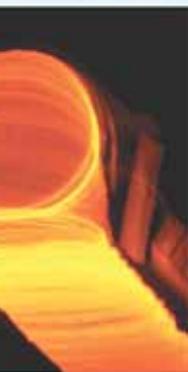
### **KUDREMUKH IRON ORE COMPANY LTD. (KIOCL)**

Safety Departments are functioning effectively in all the locations of KIOCL. The company gives utmost importance to the occupational safety and health of the persons working in the Company. Workers participation in Safety Management System is one of the important criteria adopted by the company. Workers' participation in Area-wise Safety Committees is ensured. Safety inspections are carried out regularly by the Safety Officer alongwith the Safety Committee Members. Safety points are discussed in the Safety Meetings held every month. Suitable action is taken for implementation of the shortfalls if any and for improvement. Various training programmes are being conducted to inculcate safety consciousness and to develop the human resources. Refresher training covering their area of working, First Aid training, Fire fighting, Positive Thinking, Awareness programmes on Environment, Quality and Safety Management System are conducted on need base regularly.

### **BIRD GROUP OF COMPANIES (BGC)**

Mining companies under the Bird Group take safety measures according to Directorate General of Mines Safety (DGMS) Guidelines such as maintaining mines and haulage roads as per safety regulations, providing safety accessories to the employees working in the mines, first aid training, display of safety slogans, arrangement for fire fighting demonstration, vocational training to mines workers and celebration and participation in Annual Mines Safety Week.





## CHAPTER - X

### WELFARE OF WEAKER SECTIONS OF SOCIETY

#### MINISTRY OF STEEL

The Ministry of Steel and the public sector undertakings under it comply with the Government guidelines with regard to welfare of weaker sections of the society.

Statement Showing the Number of SC/ ST/ OBC/ Ex-Servicemen/Men & Women as on 9<sup>th</sup> January, 2008 in respect of Ministry of Steel:

Classification of Post	No. of Employees in position*	Men	Women	SC	ST	OBC	PH	Ex-Servicemen
A	42	38	4	3	2	-	-	-
B	104	65	39	14	6	2	-	-
C	58	51	7	13	5	3	2	-
D	67	65	2	30	8	4	1	-
Total	271	219	52	60	21	9	3	-

PH-Physically handicapped

\*Includes Personal staff of Hon'ble Minister for Chemicals & Fertilisers and Steel & Hon'ble Minister of State for Steel

#### STEEL AUTHORITY OF INDIA LTD. (SAIL)

The major welfare activities being carried out by SAIL for the benefit of SC/ ST and other weaker sections, are as under:

- SAIL awards 14 scholarships to deserving SC/ ST undergraduate engineering students in various disciplines to encourage technical education among them.
- SAIL also awards Merit-cum-means and Merit scholarships and Jawaharlal Nehru Science & Technology Scholarships to the wards of its employees. 20% of these scholarships are reserved for the wards of SC/ ST employees.
- Bhilai Steel Plant has started giving 18 scholarships for SC/ ST students from Prime Minister's Trophy Fund from 1.4.2004.
- Rourkela Steel Plant has instituted a scholarship of Rs.1,00,000/- each for the entire course period for selected six SC/ ST students from peripheral villages for pursuing professional courses like medical, engineering etc. from 2006-07.
- Salem Steel Plant provides 10 scholarships on yearly basis, besides providing free uniform and books to SC/ ST students from peripheral schools.
- In Bhilai, Bokaro and Rourkela Steel Plants, no tuition fee is charged from SC/ ST students in company run schools. Steps have been taken to provide education to more and more tribal children in these Schools.
- The company has provided land for construction of school buildings in some of the Steel Townships as well as in other places for spreading education among the local population. For this purpose a 12 rooms hostel has been allotted for SC/ ST students at Bokaro Steel Plant.
- Bhilai Steel Plant has taken a new initiative by adopting 20 children every year from the SC/ ST community. At present Bhilai has adopted 95 SC/ ST children. Their entire education, boarding, lodging is being provided by Bhilai Steel Plant.
- Bokaro Steel Plant has adopted 15 Birhor tribe children under Gyan Jyoti Yojna. They are being given free education, boarding and lodging, medical and sports facilities for their overall development.
- 51 tribal students are being provided education free of cost in a company sponsored DAV school at Chiria.

- SAIL Steel Plants organise functions every year to celebrate the birth anniversary of Dr. B. R. Ambedkar. Various programmes are conducted on this day to propagate the message of Dr. B. R. Ambedkar among the children and general masses.
- SAIL's Tribal Sports festival 2007 was organised at Durgapur Steel Plant on 31<sup>st</sup> December, 2007, in which 1,458 villagers from 16 villages participated in different games.
- At each of the main integrated Steel Plant location one school has been opened to provide free primary education to the children of economically weaker section living below poverty line. They are being provided free uniforms, books and other stationery items besides mid-day meal to encourage them to attend the school.

Groupwise representation of SC/ ST employees in SAIL (as on 31.12.2007)

Group	Total No. of Employees	SC	ST	OBC	PH	Women	Ex-Servicemen
A	16221	2101	907	944	48	616	15
B	48294	5698	3820	4084	322	3008	92
C	64854	10866	11135	5522	391	3004	347
C (Safai Karamchhari)	1235	909	155	4	2	485	0
<b>Total</b>	<b>130604</b>	<b>19574</b>	<b>16017</b>	<b>10554</b>	<b>763</b>	<b>7113</b>	<b>454</b>

### RASHTRIYA ISPAT NIGAM LTD. (RINL)

RINL has initiated a few of schemes under CSR which would benefit SC/ ST and weaker sections in surrounding villages, which are as under :

- A Model Steel Village is being erected at Maddivanipalem. After construction, the same will be handed over free of cost to the District Administration for handing over to the identified beneficiaries with preference to weaker sections.
- Steel Bullock carts got designed through Institute for Steel Development and Growth (INSDAG), Kolkata would be distributed through the District Administration with preference to weaker sections.
- De-addiction programme was conducted at Salugu, a tribal village in Paderu Mandalam.
- Distribution of Mosquito Nets in tribal areas was undertaken.
- Distribution of wooden benches to Upper Primary School in Durguvanipalem SC Colony.
- Medical camps for Eye Care, Dental Care, etc. were held at Eppagaruvu, Devarapalli Mandalm, Lambasingi village near Narasipatnam and other tribal areas.
- Vocational Training Programmes and Entrepreneurship Awareness Programmes for women and unemployed youth including those belonging to weaker sections - like Light Motor Vehicle Driving, Liquid Blue preparation, Dress-making, Beauty Care, computer training and pre-school teacher training were organised in Rehabilitation Colonies and tribal areas through Jan Sikshana Samsthan, an outfit sponsored by Ministry of Human Resource Development and National Institute for Micro, Small and Medium Enterprises (NIMSME), Ministry of Small & Medium Enterprises, Government of India.
- Sensitisation programmes on HIV/ AIDS in Rehabilitation colonies and tribal areas.

### Educational Merit Award

Under Annual Merit Award Scheme, a Cash Award in the name of Dr BR Ambedkar, for students belonging to SC/ ST Communities is in vogue since the year 1991. Based on the pass results of the X<sup>th</sup>/ SSC examination, 10 cash merit awards of Rs. 500 each and 10 cash merit awards of Rs. 250 each are given to the 1<sup>st</sup> and 2<sup>nd</sup> rank holder students of SC/ ST communities respectively, from each of the schools of VSP.



The manpower position as on 31.12.2007, with the representation details is furnished below :

Groupwise manpower as on 31.12.2007								
GROUP	STRENGTH	MEN	WOMEN	SC	ST	OBC	PH	EX-SERVICEMEN
A	4895	4636	259	840	278	829	0	0
B	2624	2569	55	422	148	554	8	16
C	6352	6271	81	1084	448	1093	24	53
D	2582	2531	51	421	179	619	25	19
<b>Total</b>	<b>16453</b>	<b>16007</b>	<b>446</b>	<b>2767</b>	<b>1053</b>	<b>3095</b>	<b>57</b>	<b>88</b>

- A - Executive and Junior Officers  
 B - Highly Skilled  
 C - Skilled  
 D - Unskilled

### NMDC LTD.

The total number of employees in NMDC as on 31.12.2007 was 5,633, out of which 1,014 belong to Scheduled Castes (18%), 1,193 to Scheduled Tribes (21.18%) and 604 to OBCs (10.72%):

Classifications of Posts	Total no. of employees	SC		ST		OBCs	
		No	%	No	%	No	%
Group A	938	135	14.39	44	4.69	118	12.58
Group B	1028	150	14.59	182	17.70	65	6.32
Group C	2325	463	19.91	592	25.46	177	7.61
Group D (Excluding Safai Karamchari)	1191	221	18.56	316	26.53	235	19.73
Group D (Safai Karamchari)	54	41	75.93	3	5.56	0	0
MCPRL* (S1)	52	3	5.77	27	51.92	0	0
MCPRL	45	1	2.22	29	64.44	9	20
<b>Total</b>	<b>5633</b>	<b>1014</b>	<b>18.00</b>	<b>1193</b>	<b>21.18</b>	<b>604</b>	<b>10.72</b>

\* Muck Cleaning Piece Rated Labour

The details of some of the community/ peripheral works undertaken by NMDC in and around their respective areas are given below:

### Community/ Peripheral Development Activities

NMDC has a commitment to share the fruits of progress with those associated with the local area in line with its corporate philosophy to be a responsible corporate citizen. NMDC incurred an expenditure of Rs. 2,466.18 lakh towards community/ peripheral development activities including expenditure of Rs. 316 lakh towards providing free medical treatment to adivasis/ villagers during the year 2006-07. NMDC has spent around Rs. 2,136 lakh for the year 2007-08 (upto December 07).

### Skill Development Programme

NMDC in its Bailadila Complex has introduced a unique scheme called "Skill Development Programme" for improving the employment potential of middle passed tribal youths by imparting them training for a period of one year in various activities of the project. During this period, each participant is paid pocket expenses every month besides providing them uniform and other safety equipment and appliances. Regular classes are also held to improve their skills, performance and knowledge and they are also guided for registering their names in the local employment exchanges. This is an endeavour aimed towards bringing them to an employable position.

### MANGANESE ORE (INDIA) LTD. (MOIL)

MOIL is a Labour Intensive Organisation with over 6786 employees on its roll. About 77.58% of the total strength belongs to SC/ ST/ OBC. MOIL has undertaken several measures for the Welfare of the Weaker Sections. Some of them are as listed under:

- Adoption of Tribal Villages
- Training in Sericulture for economic development.
- Help to the schools in surrounding Mines.
- Organization of Eye Camp/ Blood Donation Camp/ Child Welfare Camps.
- Grant of subsidy to Gram Panchayat for water supply scheme.
- Giving financial assistance to Social Institutions who are working for the rehabilitation of the aged and handicapped persons.
- Provided Sewing Machines for Development and upliftment of the Tribal Women.

The composition of the work force of the Company as on 31<sup>st</sup> December, 2007 is as under:

Group	SC	ST	OBC	Others	Total
A	26	5	35	142	208
B	25	10	35	109	179
C	288	260	319	606	1473
D	921	1383	1958	664	4926
<b>Total</b>	<b>1260</b>	<b>1658</b>	<b>2347</b>	<b>1521</b>	<b>6786</b>

Out of the above 882 are women employees.

### MSTC LTD.

Policies and procedures of the Government in regard to reservation, relaxation, concession for recruitment and promotion, etc. for the SC/ ST/ OBC/ PH candidates are complied with in MSTC Adequate representation of SC/ST/OBC members was ensured in both Departmental Promotion Committees as well as Selection Committees (in case of recruitment). In order to improve the efficiency of the employees belonging to the reserved categories and to prepare them to take up higher positions in future, special attention was paid to their training and development in their respective fields of function. During the year 2007-2008 (till 31<sup>st</sup> December, 2007), 2 SC, 2 ST and 4 OBC employees of the company were sponsored



for Institutional training programme. In addition, all possible cooperation and assistance was provided to the MSTC SC/ ST Employees' Council, which function primarily to safeguard the interest of the reserved section of employees of the Company.

SC/ ST/ OBC/ Physically handicapped/ ex-servicemen status as on 31.12.2007:

GROUP	TOTAL	SC	ST	OBC	PHYSICALLY HANDICAPPED	EX-SERVICE MEN
A	140	18	9	17	3	NIL
B	111	30	5	2	3	1
C	29	4	NIL	5	1	NIL
D	18	8	1	1	1	NIL
<b>TOTAL</b>	<b>298</b>	<b>60</b>	<b>15</b>	<b>25</b>	<b>8</b>	<b>1</b>

### FERRO SCRAP NIGAM LTD. (FSNL)

The employment statistics of the company, as on 31.12.2007 are given below:

Group	No. of Employees		SC		ST		Ex-Servicemen		Physically Handicapped	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
A	154	01	12	-	04	-	01	-	-	-
B	494	07	59	-	28	-	07	-	-	-
C	476	12	123	03	98	-	44	-	01	-
D, Including Safai Karmachari	03	-	03	-	-	-	-	-	-	-
<b>Total</b>	<b>1127</b>	<b>20</b>	<b>197</b>	<b>03</b>	<b>130</b>	<b>-</b>	<b>52</b>	<b>-</b>	<b>01</b>	<b>-</b>

The Company has formulated various welfare schemes for the employees and is implementing the same with full satisfaction to the employees. Apart from the above, in fulfillment of its social responsibilities, the company has implemented a Scheme for Upliftment of Weaker Section, wherein free Text Books and Note Books are distributed to the first 3 meritorious Male & Female students of Class IX, X & XII, belonging to SC, ST & OBC Communities, of a Government school in the nearby village. This scheme has commenced from the academic session 1998-99, for which an amount of Rs.20,000 per annum has been allocated. The company has allocated an amount of Rs. 20,000 per annum for all the 9 units of FSNL also, from the academic session 2006-07 onwards, and the eligible meritorious students belonging to SC/ ST/ OBC community studying in the identified Government schools, were provided school uniforms.

### HINDUSTAN STEELWORKS CONSTRUCTION LTD. (HSCL)

- HSCL had been assisting in providing schools in areas where SC/ST/OBC & Physically Handicapped employees mostly reside.
- Assistance is given for supply of drinking water.

- Plots were allotted to workers for making hutment in the land allotted at sites of client with electricity, water supply and sanitation arrangement etc.
- Children of SC/ ST, OBC & Physically Handicapped employees get due preference in the matter of schooling at Projects.
- Directives of the Central Govt. with regard to recruitment and promotion in respect of SC/ ST OBC & Physically Handicapped employees are implemented.
- All along the above points had been followed in HSCL, but due to prevailing critical ways and means situation, austerity measures are being followed and avoidable expenditure is being curtailed.

Group	Total number of Employees	SC	ST	OBCs	Ex-Service men	Physical handicapped	Women
1	2	3	4	5	6	7	8
A	292	20	2	22	-	3	3
B	220	8	1	12	1	3	7
C	944	123	73	47	-	3	42
D	48	9	4	3	-	-	1
<b>Total</b>	<b>1504</b>	<b>160</b>	<b>80</b>	<b>23</b>	<b>1</b>	<b>9</b>	<b>53</b>

### MECON LTD.

Existing employment pattern of weaker section of society (SC, ST and OBC) in MECON Ltd. is as follows:

Group	Total No. of Employees	SC	ST	Ex. Ser.	PHs	OBC	Women Employees
A	1530	202	90	3	3	154	102
B	58	12	13	2	0	17	6
C	135	29	50	13	3	24	23
D	6	0	4	0	0	0	1
<b>Total</b>	<b>1729</b>	<b>243</b>	<b>157</b>	<b>18</b>	<b>6</b>	<b>195</b>	<b>132</b>

### Welfare activities

Community Development Committee of MECON has adopted Poverty Alleviation Programme/ Schemes such as Community Education/ Vocational Training, Afforestation, Community Medicine, Model Village, Resource Generation Schemes in the Tribal Village of Ranchi District including the persons with disabilities for Welfare of Weaker Sections of the Society (SC, ST and OBC and the persons with disabilities)

Steps are being taken to encourage the SC/ ST/ OBC employees-scholarship scheme has been introduced for their children for higher studies.

### BHARAT REFRACTORIES LTD. (BRL)

In spite of liquidity crisis, the Company has been able to educate wards of people settled in and around factory area through establishment of schools.





## Manpower position

Sl. No.	Group	Total No. of Employees	SC	ST	Ex-Service men	PHC	OBC	Women
1	A	198	11	08	01	01	41	04
2	B	239	21	16	0	04	59	10
3	C	838	90	104	06	01	405	10
4	D	404	61	82	01	05	176	86
	Total	1679	183	210	08	11	681	110



## SPONGE IRON INDIA LTD. (SIIL)

### Manpower

Sl. No.	Group	Total No. of Employees	SC	ST	Ex-Service men	PHC	Women	OBC
1	A	57	16	2	-	1	1	-
2	B	49	9	3	-	-	1	-
3	C	127	24	6	-	3	4	-
4	D	70	13	12	-	-	13	-
	Total	303	62	23	-	4	19	-



### Recruitment and promotions

In the matter of reservation for recruitment and promotions to various posts, SC/ ST candidates are being given the benefits, concessions as per the Government Directives. There was no backlog of vacancies reserved for SC/ ST candidates.

### Training

SIIL, being situated predominantly in a tribal area and in view of dearth of qualified SC/ ST candidates, freshers from the institutes are being recruited in different disciplines and the job training is being given to the SC/ ST employees so as to enable them to acquire the required skills for possible absorption in regular posts after the training.

### Social Activities

To look after the peripheral developmental activities in and nearby areas, a small medical cell is being provided by the company. Recognising its social responsibilities, the company undertakes programmes from time to time for the benefit of the tribal people in the local areas. As a part of this, free medical camps were conducted by SIIL with the help of local Doctors in the nearby villages and medicines were distributed. The company has been running a High School in its campus to cater the needs of children not only of SIIL employees but also other children from the neighbouring tribal villages. The children of local population particularly SC/ ST are availing the education facilities. Chlorinated drinking water is being provided to the local population residing in and around the factory free of cost from Kinnerasani Drinking Water Reservoir.



## KUDREMUKH IRON ORE COMPANY LTD. (KIOCL)

### Number of Employees

The total number of employees on 31<sup>st</sup> December, 2007, is as under:

Group	Total No. of employees	No. of employees belonging to					Women Employees
		SC	ST	Ex. Ser.	P.Hs.	OBC	
A	403	54	11	-	3	58	12
B	99	3	2	1	2	11	22
C	1026	155	45	14	11	182	27
D	123	48	12	-	4	17	20
<b>Total</b>	<b>1651</b>	<b>260</b>	<b>70</b>	<b>15</b>	<b>20</b>	<b>268</b>	<b>81</b>

### Welfare Measures

- The Company has set up full fledged facilities at Kudremukh and Mangalore by establishing a modern township, hospital, recreation facilities etc. 10% of type "A" and "B" quarters and 5% of "C" & "D" type quarters are reserved for SC/ ST employees.
- During the financial year 2006-07, 55 merit scholarships and merit-cum-means scholarships were sanctioned to the children of employees. Out of 55 scholarships, 20% i.e. 11 are to be reserved for the children of SC/ ST employees. During the year, only 10 applications were received from the children of SC/ ST employees and all of them were sanctioned scholarship. The qualifying standard of eligibility i.e. First Class or 60% whichever is higher, is relaxable to 50% in the aggregate marks for sanction of scholarship to children of SC/ ST employees.

### Recruitment

During the calendar year 2007 (January to November), 10 candidates (5 General, 4 SC and 1 ST category) were recruited in Group 'A'.

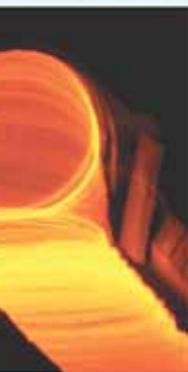
### BIRD GROUP OF COMPANIES (BGC)

**Existing employment:** Scheduled Castes (SC) -23%, Scheduled Tribes (ST)- 47% and OBCs-11%.

### Welfare activities

- Providing educational facilities-OMDC and BSLC under the Bird Group extends aids to peripheral schools and colleges. The companies extend aid in the form of construction of buildings, arranging study materials, providing furniture, school buses, etc.
- Providing hospital facilities-OMDC and BSLC run hospitals mainly for the treatment of people and employees belonging to weaker sections.
- Providing drinking water by dugwells, tubewells etc. for the employees belonging to weaker sections and also nearby villagers.
- Undertaking of occupational health surveillance - The company undertakes programme for malaria eradication, pulse polio etc. through the hospitals of OMDC and BSLC mainly for the weaker sections.
- Occupational health surveillance covering facilities like X-ray, pathological laboratory, audiometry, ECG, Lungs function test, dental clinic, operation theatre etc is conducted by OMDC from time to time for the employees belonging to weaker sections and also for nearby villagers.





## CHAPTER - XI VIGILANCE

### ACTIVITIES AND ACHIEVEMENTS OF THE VIGILANCE DIVISION OF THE MINISTRY OF STEEL

The Vigilance unit of the Ministry is headed by a Chief Vigilance officer (CVO) of the rank of Joint Secretary appointed on the advice of the Central Vigilance Commission (CVC). The CVO with one Deputy Secretary, one Under Secretary and supporting staff, functions as the nodal point in the vigilance set-up of the Ministry. The Vigilance Unit in all PSUs is headed by a CVO appointed by the Ministry in consultation with the CVC and the Department of Personnel & Training. The Ministry reviews the vigilance activities in the PSUs through formal quarterly meetings and through periodic returns and statements sent by the CVOs. Other than this, depending on the backlog of pending references, the Ministry also held discussions with the CVOs of concerned PSUs on need basis. During the year, two meetings of the CVOs of the PSUs chaired by the Secretary (Steel)



Shri Pratyush Sinha, Central Vigilance Commissioner delivering his keynote address in the Vigilance Conclave of Steel Ministry PSUs on 24<sup>th</sup> September, 2007. Also seen in the picture are Shri Elias George, Joint Secretary, Ministry of Steel, Shri R.S. Pandey, Secretary, Steel; Shri S.K. Roogta, Chairman SAIL and Retd. Admiral R.H. Tahiliani, Chairman, Transparency International, India.

were convened, wherein the overall performance of the PSUs were reviewed. A special emphasis was laid on preventive vigilance and system improvement processes in the PSUs. Circulars containing instructions and guidelines on different aspects of vigilance management received from the CVC, were also circulated to the PSUs for strict compliance. Progress thereon, in the form of follow up action taken, was monitored.

The CVOs of the PSUs were further directed to:

- i) actively participate and co-ordinate for ensuring effective implementation of the Integrity Pact in their respective PSUs;
- ii) to review the process of ISO Certification for their Vigilance Departments, which they had obtained in the previous year; and
- iii) provide inputs from vigilance perspective to achieve adoption of e-Commerce to the fullest extent possible in their PSUs.

### PROMOTING TRANSPARENCY IN THE PSUs

#### ISO Certification for Vigilance Departments

To ensure that the PSUs under the Ministry of Steel function within a transparent framework with high levels of integrity, an exercise was launched for improving the functioning of the vigilance machinery in the PSUs. Consequently, the PSUs namely SAIL, RINL, NMDC, MECON, KIOCL, HSCL, BRL and MOIL had obtained ISO 9001-2000 Certification for their Vigilance Departments during 2006-07. The Vigilance Department of MSTC and FSNL are expected to obtain ISO Certification during the course of current year.

#### Integrity Pact

With a view to bring about transparency and normativeness in the areas of tendering, procurement and sales, a decision was taken to adopt Integrity Pacts for all the PSUs under the Ministry. Integrity Pact is

a tool developed during the 1990s by Transparency International to help governments, business and civil society to fight corruption in the field of public contracting.

During the year, all the PSUs under the Ministry implemented Integrity Pact (IP) for improving fairness and transparency in procurement and contracts with bidders/vendors for all major purchases and contracts. In a Vigilance Conclave of Steel Ministry PSUs organised on 24<sup>th</sup> September 2007, in New Delhi, 9 PSUs-SAIL, NMDC, MOIL, MSTC, KIOCL, MECON, HSCL, FSNL and BRL signed Memorandum of Understanding (MoUs) with Transparency International, India. RINL had already signed an MoU with Transparency International, India in March 2007. With the signing of these MOUs, all the PSUs under the Ministry of Steel, except Sponge Iron India Limited (SIIL) which is shortly being merged with NMDC, have been covered under the Integrity Pact. The MoUs aim at improving the efficacy in implementation of the 'Integrity Pact'. External Independent Monitors (EIMs) have also been put in place by the respective PSUs for the Integrity Pact Programme after approval of their names by the respective Boards of the Company, the Ministry and the CVC. The EIMs will enquire into any dispute regarding violation of the Integrity Pact Agreement referred to them.

### e-Commerce in Steel PSUs

The Ministry has been advocating the increase of e-commerce in the Ministry's PSUs, for enhancing efficiency and reducing transitional cost and corruption. Consequently, the PSUs under the Ministry have increasingly gone over to the e-commerce mode.

### Preventive Vigilance

The CVOs had also identified areas prone to corruption and necessary action thereon was taken, including initiatives on intensive system studies for suggesting measures for streamlining the existing procedures. Highlights of vigilance activities undertaken in the PSUs were as follows:

### STEEL AUTHORITY OF INDIA LD. (SAIL)

The following initiatives were undertaken:

- Identification of critical items and firming up of the five best vendors for procurement at BSP.
- Review of the system of dispatch of prime products, defectives, from mills to different consignees against movement plan issued by Central Marketing Organisation Central Marketing Organisation, Durgapur Steel Plant.
- System study for introduction of weighbridge operations at Rourkela Steel Plant.
- Review of System of local purchase of medicines at Bokaro Steel Plant.
- Bringing out comprehensive guideline for processing of bills of different packages for modernisation and expansion at IISCO Steel Plant.
- System improvement for the process of tender finalisation of transportation contract for Organisation Central Marketing Organisation.
- Suggesting improvements in the existing software of 60 tonne weighbridge to provide protection against manipulations at Alloy Steel Plant.
- Review of the handling and recording of fuel consumption for running of DG sets in Research & Development Centre for Iron & Steel campus.

As a result of the Vigilance initiatives, loopholes were identified and addressed.

### RASHTRIYA ISPAT NIGAM LTD. (RINL)

The following areas have been identified for systemic improvements during the year 2007-08 and are under study:

- Disposal of surplus and scrap material through auction by Scrap Disposal Section of Central Stores.
- System of drawal and use of Aluminium Coils.
- Efficacy of the complaints lodging and monitoring through website





## Integrity Pact

RINL is the first organization under the Ministry of Steel and the second Public Sector Undertaking in India to enter into a Memorandum of Understanding with Transparency International (India) on 29.3.2007 for implementation of Integrity Pact. Implementation of Integrity Pact Programme has been launched with effect from 1<sup>st</sup> April 2007 in all contracts pertaining to Projects, Works, Materials Management and Marketing equal to and above the respective threshold values fixed by the Management. Central Vigilance Commission (CVC) and Transparency International (India)'s clearances have been obtained for appointment of two eminent persons as External Independent Monitors (EIM) to monitor implementation of Integrity Pact Programme in RINL. So far, no complaints referring Integrity Pact have been received by the organization.

Vigilance at RINL, proved to be an effective management tool with emphasis on preventive vigilance. Measures like review of procedures, identification of sensitive posts, conducting surprise/quality checks, mounting surveillance and rail / road weighments and re-weighments were undertaken. The vigilance observations were brought to the notice of the concerned for taking corrective actions / improvement in existing procedure systems wherever required. On the preventive vigilance front, greater thrust was laid on examination of tenders at the processing stage with a view to modifying certain restrictive tender clauses in line with CVC guidelines on the issue so as to bring in greater transparency and increased competition. Vigilance Department, as a result of surprise/regular inspections, suggested system improvements to improve the existing procedures for purchases and contracts, to update vendors list and to revise recruitment and promotion Rules. Preparation of works manual in conformity with the CVC guidelines is in progress.

### MECON LTD.

The following areas have been identified for systems improvement:

- Creation of general awareness about vigilance among employees through training and internal communication such as in-house journals, news-letters and in-house website.
- Improving transparency in sensitive areas through an increased use of Information Technology and RTI Act
- Tender preparation, evaluation, award of contract, purchase and recruitment procedures.
- Financial transactions of the company.
- Posting of employees in sensitive areas.
- Changes in Establishment Manual.

Besides, steps have been taken for creating awareness regarding vigilance amongst the employees, improving transparency; in the areas of tender preparation, evaluation, award of contract, purchase and recruitment procedure and financial transactions.

### KUDREMUKH IRON ORE COMPANY LTD. (KIOCL)

Vigilance Department has contributed to inputs for:

- Upgradation of procurement manual, which was prepared about 16 years back Changes regarding e-commerce is being incorporated in the revised manual.
- Preparation of sales manual.
- Updating and streamlining the recruitment procedure which is under process.

The details regarding quality related services, Annual Report, Recruitment Advertisement, Company Profile, RTI Act, procedure for lodging complaints, invitation for expression of interest, tender notices and limited tender enquiries of empanelled parties for sale of pellets have also been made available on KIOCL web site: [www.kudremukhore.com](http://www.kudremukhore.com).

### NMDC LTD.

- In order to improve the areas needing improvement, Vigilance Department undertook regular checks including surprise checks on implementation of various systems and procedures in order to identify the loopholes and improve the system.
- The Vigilance Department initiated action for suggesting changes in the purchase procedures in NMDC especially with regard to procurement of capital items in which deviations from tender specifications were found in many cases.
- Pending final modifications of the procedures, internal circulars have been issued by setting procedures for capital purchases and for strict adherence to the Materials Manual in whatever

form they have been at present.

- Action has also been taken for updating Vendor List by inviting applications through press advertisement as well as in the e-portal of the Company.
- Action has also been taken to streamline the correctness of qualifications and age of the employees in the Service Book.
- Action has also been taken to avoid spot tender and substitute such tenders for Limited Tender Enquiry after forming fresh list of vendors through press advertisement and website advertisements.
- Action has been taken to issue internal circulars with regard to various procedures in civil and mechanical works pending the preparation of Works Manual.

### **SPONGE IRON INDIA LTD. (SIIL)**

The Vigilance personnel carried out surprise checks/ regular checks and suggested improvements in the systems/ procedures:

- Necessary instructions have been given for improving vigilance administration to closely monitor the contractor's bills.
- The company has taken steps to put the information pertaining to the contracts concluded whose value is more than Rs. 5 lakh. The status of payments made to contractors for contract value of more than Rs. 5 lakh is also hosted in the website of SIIL.
- The company is taking steps to make payments through e-payment process.

### **HINDUSTAN STEELWORKS CONSTRUCTION LTD. (HSCL)**

Awareness of rules and procedures amongst the executives was emphasised. All the circulars issued by CVC on tendering were compiled and made available to every Unit Head and Departmental Head for ready reference. Several interactive sessions were held at corporate level as well as Unit level with top executives. Regular checks and surprise checks were conducted on several project sites and guidance circulars were issued to all Units to avoid lapses in work.

### **BHARAT REFRACTORIES LTD. (BRL)**

The following areas were identified for system improvement :

- Raw Materials;
- Finance Department;
- Store; and
- Maintenance Department.

Regular and surprise inspections were conducted and the guidelines received from CVC were being circulated to concerned department for strict compliance and adherence.

### **MSTC LTD.**

Five transactions of iron ore exports were examined and remedial measures suggested for implementation.

### **FERRO SCRAP NIGAM LTD. (FSNL)**

Study of the existing Purchase Manual was taken up for systemic improvement. It has been recommended to analyse all the L1 suppliers of items being purchased by all Units and Head Office and the last L1 supplier in any of the Units/ Head Office for particular items to be included in the list of Vendors of all units and Head Office for inviting tenders for the particular item in order to ensure reasonability in price. The Purchase Manual is also being updated for incorporating above recommendations alongwith other provisions.

The area of medical expenses being claimed by employees was also identified for systems improvement and in order to prevent misuse of this facility, steps were taken such as to review the list of Company's panel of doctors periodically and to delist such doctors from whom excess billings were reported; to scrutinise thoroughly the medical claim of employees exceeding Rs. 500 in a month.

### **MANGANESE ORE (INDIA) LTD. (MOIL)**

The areas identified for improvement were mainly related with the tendering processes. Four circulars





were issued by the MOIL Vigilance Department to improve the tendering process and bring in transparency in contract works. The Works Manual, Contract Manual and Purchase Manual were also updated by incorporating the guidelines and instructions issued by CVC and Ministry of Steel.

### **BIRD GROUP OF COMPANIES (BGC)**

After review of the sensitive areas of work, the following recommendations were made:

- All payments to be made through electronic medium. MIS System at the Head Quarter to be streamlined in order to maintain a daily record of production and sale of minerals from different production points in different companies under the Bird Group of Companies. The database for production and delivery of minerals sold from different mines to be maintained in every mine in the computer on a daily basis.
- Installation of weighbridges at the exit of each production point/ quarry and such weighbridge to be connected with computer in order to ensure automatic recording of minerals being transported by each truck from each production point in real time and such records of minerals transported from the exit point of each quarry and minerals received at the railway siding to be reconciled every day.
- Use of NIC portal to give wider reach to the advertisements of sale of minerals. Minerals to be sold only through e-auction even in case of 'NIL' response to the e-auction.

### **VIGILANCE AWARENESS WEEK CELEBRATIONS**

The 'Vigilance Awareness Week' as advised by Central Vigilance Commission was observed in the Ministry of Steel during the period from 12<sup>th</sup> to 16<sup>th</sup> November, 2007. Appropriate banners and posters were displayed in the Ministry to create and bring about vigilance awareness amongst the officers and staff working in the Ministry. A pledge was administered to the officers and staff by Secretary (Steel). The Vigilance Awareness Week was also celebrated in the PSUs under the Ministry of Steel with



Shri P.K. Bishnoi, CMD, RINL releasing the inaugural issue of SPANDANA-Vigilance News letter, during the Vigilance Awareness Week.

enthusiasm. During the Vigilance Awareness Week 'Presentations-cum-interaction sessions' were held with Customers, Vendors and Contractors of the PSUs with the concerned Commercial Departments and the Vigilance Departments in many of the PSUs. Talks and presentations were delivered on related topics by eminent persons. Essay writing, slogan competitions, painting and elocution competitions were conducted for school children in schools around the PSUs. In RINL the 1<sup>st</sup> issue of Internal News Letter (Quarterly) of Vigilance Department named as "SPANDANA" was released by CMD, RINL during the Vigilance Awareness Week 2007. The web based on-line 'Complaint Handling System' developed with the help of Information Technology Department of VSP was also inaugurated by the CMD, RINL during the Week.

## CHAPTER - XII

# GRIEVANCE REDRESSAL MECHANISM

### MINISTRY OF STEEL'S GRIEVANCE CELL

Steel Minister's Grievance Cell has been functioning in the Ministry of Steel since July, 2004 to coordinate and monitor the grievances/ complaints/ suggestions of public and consumers relating to steel and steel products, received either in the office of Minister of Steel or directly in the Cell. In addition, a Joint Secretary rank officer is designated as the Grievance Officer of the Ministry to receive and dispose off petitions from the public.

### STEEL AUTHORITY OF INDIA LTD. (SAIL)

An effective internal Grievance Redressal Machinery exists in SAIL plants and units, separately for executives and non-executives. The Grievance Procedure has evolved after sustained deliberations and consent of employees, trade unions and associations. The grievances in SAIL plants/ units are dealt with in three stages and employees are given an opportunity at every stage to raise grievances relating to irregularities, working conditions, transfers, leave, work assignments and welfare amenities etc. Such issues are effectively settled through the time-tested system of grievance management. However, majority grievances are redressed informally in view of the participative nature of the environment existing in the steel plants. The system is comprehensive, simple and flexible and has proved effective in promoting harmonious relationship between employees and management.

Status of Public/ Staff Grievance for the period 1.4.2007 to 31.12.2007 is as under:

Grievance outstanding as on 1.4.2007	No. of Grievances received during the period	No. of Grievances disposed off	No. of Grievances pending as on 31.12.2007
18	2834	2784	68

### RASHTRIYA ISPAT NIGAM LTD. (RINL)

#### Public Grievances

The system of redressal of Public Grievances has been streamlined, and its scope broadened to include complaints of suppliers, customers, etc. and systematic recording of receipt and disposal of such grievances are being carried out. To provide required thrust in this area, a senior executive in the rank of General Manager has been nominated as Officer on Special Duty(OSD) to handle and monitor the public grievances centrally. All Heads of Departments have been advised to accord due priority for redressal of public grievances as per time frame in each department.

#### Staff Grievances

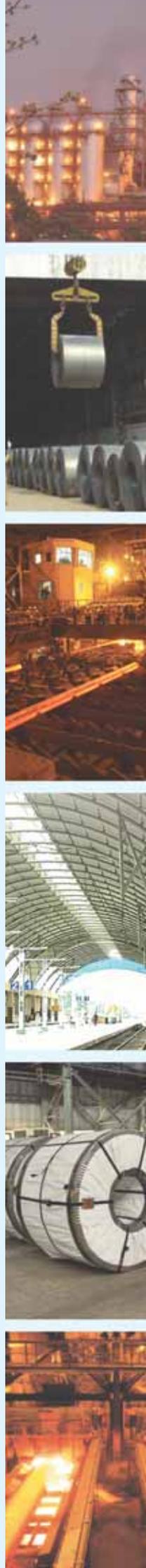
RINL has a well laid down procedure for handling staff grievances through committee system namely Area Grievance Redressal Forum (AGREF) and Central Grievance Redressal Forum (CENGREF). The redressal of staff grievances are coordinated by the Zonal Personnel Executives who send monthly progress report on the number of employees' grievances received and redressed etc. for compilation, computerization and monitoring. The entire system of redressal of grievances is monitored centrally by Personnel Coordination Section.

### NMDC LTD.

The grievance redressal machinery in NMDC is headed by a General Manager in the Head Office and by Head of Projects in each of the four production projects. The machinery is working satisfactorily. However, the volume of grievances handled is very low, as such, computerisation has not been done. Public dealing in the organisation being minimal, no time norms etc. have been fixed. However, as and when any public grievances (including in the press) is received, the same is promptly attended to. Monthly and quarterly reports on staff/ public grievances are sent to Ministry indicating the position. There were no staff/ public grievance received by NMDC during the period 01.04.2007 to 31.12.2007.

### MANGANESE ORE (INDIA) LTD. (MOIL)

- Employees' grievances - MOIL has its own grievance redressal procedure for Executives as well as non-executive employees. The grievances of employees are accordingly dealt with as per the rule.
- For redressal of grievance machinery in MOIL one Grievance Officer has been nominated for the



purpose at each unit. The Grievance Officer nominated at Head Office co-ordinates with the Grievance Officers at the units for their effective performance.

- Public Grievance – All Grievance officials have been apprised of the manner in which the Public Grievance received are to be disposed. The system adopted for dealing the grievance of public was constituted on the basis of instructions received from various authorities in the past.
- All grievances are monitored at Head Office on the basis of assessment of data received from unit, Grievance Officer through the monthly report as well as through inspection by Head Office authorities.

## MSTC LTD.

A Public Grievance Cell has been constituted to deal with grievances of any member of the public as well as the employees. Constitution of this Cell has been widely circulated to all the Offices of MSTC. Any grievance received is examined by the Cell in consultation with the Head of Department (HOD) concerned and sometimes with the staff union, if the grievance is of collective nature. MSTC being a very small organisation having maximum 20 to 30 staff in each department/ office, the staff have easy access to the HODs and even CMD. Therefore, at present there is no need for setting up of a formal machinery for redressal of employee grievance. Besides, in line with the Supreme Court judgment, a committee has also been constituted for prevention of sexual harassment of women at work place.

Status of Public/ Staff Grievances for the period 01-04-2007 to 31-12-2007 is as under:

Sl. No.	Type of Grievances	Grievance Outstanding as on 1-4-2007	No. of Grievances as Received during the period	No. of Cases disposed off	No. of Cases Pending as on 31-12-2007
1.	Public Grievances	5	15	20	Nil
2.	Staff Grievances	Nil	1	1	Nil
	<b>TOTAL</b>	5	16	21	Nil

## FERRO SCRAP NIGAM LTD. (FSNL)

FSNL is engaged in rendering specialized services to the integrated steel plants in scrap recovery and processing operations. Hence, no direct public dealings are made by the company. However, in case any public grievances are received, the same are redressed without any delay.

For redressal of Staff Grievance, there is a Grievance Redressal Scheme wherein the grievances are redressed to the entire satisfaction of the individual concerned, in a time-bound schedule.

Status of Public/ Staff Grievances for the period 01-04-2007 to 31-12-2007 (Provisional) is as under:

Type of Grievance	Grievances outstanding as on 1.4.2007	No. of Grievances received during the period	No. of cases disposed off	No. of cases Pending as on 31.12.2007 (Prov)
Public Grievances	Nil	Nil	Nil	Nil
Staff grievances	6	3	1	8

## HINDUSTAN STEELWORKS CONSTRUCTION LTD. (HSCL)

Compliance with regard to Public/ Staff Grievance Redressal issues was made during 2006-07 and 2007-08.

## MECON LTD.

### Public Grievances

By and large MECON does not have dealings with the public in general. But any specific complaint relating to any kind of harassment is treated as a grievance. Complaints from customers are taken very seriously and attended to. There is no grievance pending from the contractors/ customers or public in

general. A notice has been put up near the Reception at the Main Gate mentioning the details of contact official whom the public can contact for the above purpose. Representatives of the public in general have access to meeting the concerned officials of the Department and also the designated officials mentioned above on matters relating to Public Grievances. MECON has also designated officials under Right to Information Act, 2005 for handling public grievances and the same has been given wide publicity through press and electronic media for information of general public.

### Employees Grievances

In MECON there is a three-tier grievance procedure for redressal of employees' grievances. A Grievance Advisory Committee consisting of representatives of Executives and Non-Executives employees is operative to consider grievance of employees and recommend for redressal. In addition to above there is a Committee constituted with a senior Lady Engineer as its Chairman to look into the grievances or complaints of women employees in the company. Further, there is a separate cell for redressal of grievances of SC/ ST/ OBC employees. At present, there is no staff grievance from any quarter.

Suggestion/ Complaint Boxes have been placed at various floors/offices, which can be utilized by the employees for placing their grievances/ point of view before the management. Generally employees prefer to take up their issues/ grievances through their elected representatives of MECON Employees Union (MEU) in respect of Non-Executive Employees and MECON Executive Association (MEA) in respect of Executive Employees both of which are recognized by the Company.

### BHARAT REFRACTORIES LTD. (BRL)

With the introduction of three-tier grievance handling machinery for the employees, grievances are redressed under the laid down time bound procedure. The officer in-charge of the Public Relations Department is assigned the responsibility for monitoring the grievance handling procedure for speedy redressal of the grievances.

### SPONGE IRON INDIA LTD. (SIIL)

The Committee constituted with 4 Senior Officers of SIIL, for redressal of Public Grievances relating to the company matters, takes care of the Public Grievances regularly.

### KUDREMUKH IRON ORE COMPANY LTD. (KIOCL)

KIOCL has framed a well defined Grievance Procedure, which covers all the employees, both Executives and Non-executives. Ever since its introduction in 1977, the scheme has been working satisfactorily without any complaint from either the recognised union or Officers Association. In view of the limited number of employees in the organisation, the grievances are easily identified and redressed at the grass root level itself.

Whenever any Public Grievances are received by the Company in writing, the same are acknowledged promptly. The grievances so received are carefully examined in detail and analysed for taking quick and prompt action. Two Directors, one General Manager and one Deputy General Manager are designated as Directors of Grievances for redressal of the Public/ Staff Grievances.

Statistics of Staff/ Public Grievances for the period 01-04-2007 to 31-12-2007 is as under :

Type of Grievances	Grievances outstanding as on 1.4.2007	No. of Grievances received during the period	No. of cases disposed off	No. of cases Pending as on 31.12.2007
Staff Grievances	Nil	4	1	3
Public Grievances	1	1	-	2



## CHAPTER - XIII

# IMPLEMENTATION OF PROVISIONS OF PERSONS WITH DISABILITIES ACT, 1995

### MINISTRY OF STEEL

The Ministry of Steel and all the PSUs under it have implemented the Government rules with regard to the implementation of provisions of the Disabilities Act, 1995.

Status of implementation of the Persons with Disabilities Act, 1995 during the year 2007-08 (as on 31<sup>st</sup> December, 2007) in the Ministry of Steel:

Number of Employees		Number of disabled persons			Total (BL+HI+LD)	% age of disabled persons (Col 3 & Col 1)
(1)		(2)			(3)	(4)
Group	No.	BL*	HI**	LD#		
A	42	-	-	-	-	-
B	104	-	-	-	-	-
C	58	-	1	1	2	3.45
D	67	-	-	1	1	1.49

\* BL – Blindness or Low vision

\*\* HI – Hearing Impairment

# LD – Locomotor Disability

### STEEL AUTHORITY OF INDIA LTD. (SAIL)

Representation of Persons with Disabilities as on 31<sup>st</sup> December, 2007 :

Group	Total No. Employees	No. of Disabled			Total	% age of Disabled Persons (w.r.t. col.2)
1	2	3			4	5
		VH	HH	OH	VH+HH+OH	
A	16221	0	5	43	48	0.30
B	48294	17	25	282	322	0.67
C	64854	21	23	347	391	0.60
C( Safai karamcharies )	1235	0	1	1	2	0.16
<b>Total</b>	<b>130604</b>	<b>38</b>	<b>54</b>	<b>673</b>	<b>763</b>	<b>0.58</b>

VH - Visually Handicapped

HH - Hearing Handicapped

OH - Orthopaedically Handicapped

**Welfare schemes/policies being administered by SAIL for Physically Disabled Persons:**

- SAIL provides scholarship to the physically disabled children of its employees to support their education.
- Employees in works division who become disabled while in service are redeployed in identified posts after providing them training. Proper medical facilities like Jaipur foot and wheel chair are also provided to them.
- Special relaxation is provided in allotment of quarters to disabled employees. Care is taken to allot ground floor to such employees.
- SAIL extends free medical facility even to a major brother or sister of an employee, if they are disabled and dependent on the employee.
- Additional special conveyance allowance is given to disabled employees.
- Shops, STD booths, milk booths, hawkers licenses etc. are allotted to disabled persons in plants of SAIL.
- Various facilities for sports and cultural activities are provided exclusively for the disabled persons at plant locations. Separate playgrounds have been earmarked for the handicapped at some of the plant locations. Sports events like East Zone Disabled Cricket and Inter State Disabled Cricket have been organised to encourage disabled persons at Bhilai.
- World Disability Day, musical programmes, drawing and painting competition etc. are organised to build confidence in disabled persons.



SAIL handed over motorised vehicles to Rajiv Gandhi Foundation for distribution to physically disabled persons at Jawahar Bhawan, New Delhi on 20<sup>th</sup> August, 2007.

- SAIL plants have undertaken special initiatives to facilitate creation of centers of learning for education and training of mentally/ physically challenged children by supporting the NGOs working in this area by:
  - Providing building/ infrastructure support
  - Special training equipment
  - Medical aid etc.

## RASHTRIYA ISPAT NIGAM LTD. (RINL)

Status Of Implementation Of The Persons With Disabilities Act, 1995 during the Year 2007- 08  
(as on 31-12-2007):

Group	Total No. of Employees appointed after the Act came into force (i.e. 7-2-1996)	Out of Col. 1 Number of disabled persons			Total BL+HI+LD	% age of disabled persons (Col.3 & Col.1)
		BL	HI	LD		
	1	2			3	4
A	63	-	-	2	2	3.17
B	-	-	-	-	-	-
C	143	3	1	2	6	4.20
D	84	1	1	2	4	4.76
<b>Total</b>	<b>290</b>	<b>4</b>	<b>2</b>	<b>6</b>	<b>12</b>	<b>4.14</b>

Legends: BL = Blindness or low vision

HI = Hearing Impairment

LD = Locomotor disability or cerebral palsy

### Additional welfare activities to the disabled

As part of CSR initiatives, RINL has taken up Disability Rehabilitation Programmes for hearing impaired, physically challenged, differentially-abled children and blind persons. Disability Rehabilitation camps were organized to identify beneficiaries. The poor and needy were distributed the following appliances/aids :

- Calipers
- Walking sticks for the blind
- Tri-cycles
- Hearing aids
- Crutches
- Wheelchairs
- Artificial limbs

Disability Rehabilitation Camps were also conducted by RINL as part of "Lifeline Express" that is Hospital on wheels at Vizianagaram.

A special school 'Arunodaya Special School' for the differentially-abled children run by the Visteel Mahila Samithi (a voluntary organization of Ladies in Ukkunagaram) is supported by RINL by way of :

- A special grant of Rs. 10 lakh
- Personal Computer
- A specially designed bus
- Running and maintenance of School and Bus
- Imparting of special training to the teachers to develop confidence among the multi-challenged children
- A school building

During the year 2007-08, an amount of Rs. 23 lakh was spent in organizing the Disability Rehabilitation camps in which around 1500 persons got benefited. RINL has spent around Rs.1534 per head.

**NMDC LTD.**

Number of employees	Numner of disabled persons			Total BL+ HI+LD	% of disabled persons	In case figure in Col. 4 is less than 3% reasons there of*	Action taken to fill up the shortfall
	1	2	3				
Group	BL	HI	LD				
A-938	-	-	3	3	0.57%	NMDC being a mining organisation is governed by the proviosious of the Mines Act and Rules and Regulations thereof and considering the safety factor it is not possible to employ PwDs in jobs involving working in the mines/ plant.	NMDC has at present on its roll 32 employees with disabilities in various posts. In case of any recruitment in future, due consideration to eligble PwDs will be given in posts which are suitable for their employment.
B-1028	-	-	10	10			
C-2325	-	-	14	14			
D-1245	-	0	5	5			
MCPRL (SI) 52	-	-	-	-			
MCPRL 45	-	-	-	-			
<b>Total 5633</b>	-	0	32	32	0.57%		

Legends: BL-Blindness or low vision; HI-Hearing Impairment;LD-Locomotor disability or cerebral palsy; MCPRL-Muck Cleaning Piece Rated Labour.

\*Not less than 3% for persons with disabilities of which 1% each for Persons suffering from (i) Blind or low vision (ii) Hearing Impairment (iii) Locomotor or cerebral palsy.

**MEASURES TAKEN FOR THE BENEFIT OF PERSONS WITH DISABILITIES**

**Schemes/ policies:** NMDC has extended the following benefits and concessions:

- Monthly transport allowance at double the normal rates.
- Provision of support appliances/all artificial limbs.
- Relaxation of upper age limit in Direct Recruitment.
- Equal opportunities in promotions.
- Rehabilitation in alternate suitable posts in case an employee suffers disability due to employment injury.
- Post retirement medical benefits to the employee and his spouse.
- Employees' Benefit Scheme: In case the employee is found medically unfit for his job, as per which a benefit equal to 60% of pay + DA drawn by him at the time of discharge is payable monthly, till the employee's notional date of retirement, on depositing the gratuity amount received by the employee which is refunded without interest after the notional date of retirement. In the event of unfortunate death before expiry of such notional date, the amount of monthly benefit will continue to the nominee and at the end of such notional date, the deposited amount is refunded to the nominee. This is in addition to payment of other benefits like CPF, leave encashment etc.
- NMDC have also organized Orthopaedic Medical Camps at its Projects from time to time in which a number of local Adivasis have been treated/operated upon. They were also provided with Crutches Tri-cycles/Artificial legs etc free of cost by NMDC.
- With a view to extending possible help to the disabled persons of Bailadila Complex, Disability Detection Camp was organized at Bailadila Complex and at Donimalai Project by NMDC through M/s Sweekar Rehabilitation Institute for Handicapped, Secunderabad. As a result thereof, a total of 15 disabled persons were supplied with necessary aids and appliances.



Shri Ram Vilas Paswan, Hon'ble Minister for Chemicals & Fertilisers and Steel presenting tricycles to Physically challenged children at Bailadilla, NMDC on 15<sup>th</sup> January, 2008.

### **MANGANESE ORE (INDIA) LTD. (MOIL)**

MOIL provided financial aids to the Social organisations involved in upliftment of physically handicapped persons and undertook activities such as :

- Provision of tricycle to needy handicapped persons
- Provision of artificial limbs to the handicapped persons
- Provision of artificial hearing aid to the persons suffering from hearing impairment
- Provision of financial aid to the blind persons for their operation.



Shri Ram Vilas Paswan, Hon'ble Minister for Chemicals & Fertilisers and Steel along with CMD MOIL, Shri K.L. Mehrotraa distributing tricycles to physically disabled persons during inauguration of medical camp at Nagpur.

Status of reservation of persons with disabilities:

Group	Total Employment	Identified Posts	No. of Disabled persons	%
A	208	30	-	-
B	179	85	1	0.56
C	1473	260	7	0.47
D	4926	95	8	0.16
<b>Total</b>	<b>6786</b>	<b>470</b>	<b>16</b>	<b>0.24</b>

Manganese Ore (India) Ltd. being Mining Company and major activities carried out are in underground Mines situated in remote places, it is not possible due to statutory restrictions under Mines Act and Metaliferous Mines Regulations and because of the safety reasons, to deploy disabled persons on the jobs which are on strenuous nature at the Mines. There is no direct recruitment in the identified category since the last ten years.

### MSTC LTD.

Status of implementation of the Persons with Disabilities Act, 1995 during the year 2007-08 (as on 31.12.2007) :

Number of employees		Number of Disabled Persons		Total BL+HI+LD	% disabled persons (Col.3 & Col.1)
(1)		(2)		(3)	(4)
Group		HI	LD		
A	137	-	3	3	2.14
B	110	1	2	3	2.70
C	29	-	1	1	3.44
D	18	1	-	1	5.55
<b>Total</b>	<b>294</b>	<b>2</b>	<b>6</b>	<b>8</b>	<b>2.68</b>

\*No recruitment being done in Group B

BL-Blindness or low vision; HI-Hearing Impairment; LD-Locomotor Disability

### FERRO SCRAP NIGAM LTD. (FSNL)

Status of Implementation of the Persons with Disabilities Act 1995 during the year 2007-08 (as on 31.12.2007):

No of employees	Numner of disabled persons			Total BL+HI+LD	% of disabled persons	In case figure in Col. 4 is less than 3% reasons there for	Action taken to fill up the shortfall	Remarks
1	2			3	4	5	6	7
Group	BL	HI	LD	-	-	As stated at	As stated at	
A : 157	-	-	-	-	-	(a) below	(b) below	
B : 531	-	-	-	-	-			
C : 458	-	-	-	-	-			
D : 03	-	-	-	-	-			
<b>Total : 1149</b>								

BL-Blindness or low vision; HI-Hearing Impairment; LD-Locomotor Disability

- a) FSNL is a scrap processing company rendering services to the integrated steel plants. The activities of FSNL operations are carried out in open area in all the seasons. Further, heavy equipments such as Balling Cranes, Magnetic Separators, Dozers, Dumpers etc. are the main equipment used in carrying out operational activities. Thus, the atmosphere/ working condition of FSNL is not conducive for the persons with disabilities and hence, it is felt that engagement of disabled persons for carrying out jobs in field will not be safe for them.

b) Wherever possible, such persons are being accommodated by FSNL in office work in Group "C" Posts.

### **HINDUSTAN STEELWORKS CONSTRUCTION LTD. (HSCL)**

Status of Implementation of the Persons with Disabilities Act, 1995 during the year 2007-08 (as on 31.12.2007):

Group	No. of employees	No. of Disabled			Total	% of 6 w.r.t.2
		3	4	5		
1	2	VH	HH	OH	6	7
A	303	0	0	3	3	1%
B	221	0	0	3	3	1.3%
C	957	2	0	1	3	0.31%
D	50	0	0	0	0	-
Total	1531	2	0	7	9	0.59%

### **MECON LTD.**

The Company has implemented the provisions of "Persons with Disabilities Act, 1995". Total employment strength of MECON as on 30.11.2007 is 1706, out of which persons belonging to disabled/ physically handicapped category in various posts in "A", "B", "C" and "D" are 5 (A:2, B:NIL, C:3 and D: NIL).

### **BHARAT REFRACTORIES LTD. (BRL)**

Due to financial limitation and constraint, BRL has not been able to introduce special schemes/ policies for the benefit of persons with disability. In view of the coverage given under section 47 of Disabilities Act, 1995, no employees has been terminated or reduced in rank on being disabled during the employment.

### **SPONGE IRON INDIA LTD. (SIIL)**

As against the required 3% of Physically Handicapped Categories(PHC) as per the Act, the Company is presently having 1.32%. Details are as under :

Group	No. of employees	No. of PHC			Total PHC	% of PHC
		BL	HI	LD		
A	57	-	-	1	1	1.75
B	49	-	-	-	-	-
C	127	-	-	3	3	2.36
D	70	-	-	-	-	-
Total	303	-	-	4	4	1.32

The shortfall is on account of the persons belonging to Physical Handicapped who left on VRS and there is no recruitment in the Company since 1995 due to various reasons and the Company is being merged with NMDC shortly.

### **KUDREMUKH IRON ORE COMPANY LTD. (KIOCL)**

Details of Physically Handicapped employees in different groups in position as on 31.12.2007 is as under:

No. of employees	No. of disabled persons			Total BL+HI+LD	% of disabled persons (Col.3 & Col. 1)	In case figure in Col. 4 is less than 3% reasons there of*	
	1	2	3				4
Group	BL	HI	LD				
A	403	1	-	2	3	0.74	*
B	99	-	-	2	2	2.02	
C	1026	1	2	8	11	1.07	#
D	123	-	3	1	4	3.25	
<b>Total</b>	<b>1651</b>	<b>2</b>	<b>5</b>	<b>13</b>	<b>20</b>	<b>1.21</b>	

Legends : BL - Blindness or low vision, HI - Hearing impairment, LD - Locomotor disability or cerebral palsy  
 \*Not less than 3% for persons with disability of which 1% each for persons suffering from: (i) Blind or low vision (ii) Hearing impairment (iii) Locomotor or cerebral palsy

# As and when the company gets fresh mining lease in alternative locations/new projects, efforts will be made to fulfill the shortfall of physically handicapped employees in the company.

KIOCL strives hard to provide appropriate safety and health measures in all the locations and specially where physically handicapped persons are employed and ensures that a particular disability does not come in the way of performance of the jobs allotted to them. The work environment is maintained in such a manner that productivity/ performance of the Physically Handicapped persons is in no way impaired by the disability. No discrimination is made in recruitment or promotion on account of physical disabilities of the persons in the identified posts.

The following concessions are being extended to the Physically Handicapped:

- Conveyance Advance is granted to the Orthopaedically Handicapped employees.
- In Kudremukh Township, Physically Handicapped employees (Orthopaedics) are provided quarters near to the Administrative Office and also at ground floor to avoid inconvenience/ hardship.
- However, no separate budget has been allocated for the benefits of physically handicapped.

#### \* Reasons for shortfall

KIOCL is a highly sophisticated, fully mechanised organisation where deployment of Physically Handicapped in technical areas is a potential safety hazard. The operations are carried out by heavy earth moving equipment which are highly sophisticated. Since the entire mining operations, right from blasting to ship loading are computer controlled, deployment of manual labour in Mining activities is to the barest minimum and the major portion of the work force in Group C & D posts are in the technical areas, where scope for employment of Physically Handicapped is very limited.

In view of the judgement during October 2002 of Hon'ble Supreme Court to stop Mining activities at Kudremukh with effect from 31.12.2005 and due to consequential surplus manpower, available at Kudremukh for redeployment to other locations of the company, recruitment is strictly limited to urgent need/requirement only. While redeploying additional manpower to other locations of the company, preference will be given to physically handicapped persons. Due to separation on VRS, between 1999 to 2007 (upto 31.12.2007), a total of 719 employees have been released, out of which 18 employees belonged to Physically Handicapped category.



## CHAPTER - XIV

### PROGRESSIVE USE OF HINDI

#### MINISTRY OF STEEL

##### Progressive use of Hindi

The Ministry of Steel made greater use of Hindi in official work during the year 2007-08, keeping in view the Annual Programme prepared and issued by the Department of Official Languages (Ministry of Home Affairs) for implementation of the Official Language Policy of the Union.

The work relating to the progressive use of Hindi in the Ministry is under the administrative control of a Joint Secretary and is being looked after by a Director level officer. There are two Hindi Sections under the direct charge of a Joint Director (Official Language). Hindi Implementation Section looks after the work relating to Implementation of Official Language Policy and consists of one Section Officer, one Assistant, one Lower Division Clerk and one Peon. Hindi Translation Section looks after the work relating to Hindi Translation and consists of one Assistant Director (Official Language), one Senior Hindi Translator, three Junior Hindi Translators, one Lower Division Clerk and one Peon.

##### 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 and its Public Sector Undertakings. Meetings of the committee are held regularly. Three such meetings have been held up to 31<sup>st</sup> December, 2007 during the current financial year.

##### Hindi Salahakar Samiti

Hindi Salahakar Samiti of this Ministry was reconstituted on 30<sup>th</sup> November, 2004 under the Chairmanship of the Minister for Steel. During the year, the Samiti met on 23<sup>rd</sup> October, 2007.

##### Implementation of Section 3 (3) of the Official Language Act, 1963

In pursuance of the Official Language Policy of the Government of India, almost all documents covered under Section 3(3) of the Official Language Act, 1963 are prepared both in Hindi and English. In order to



Dr. Akhilesh Das, Hon'ble Minister of State for Steel presiding over the prize distribution ceremony at Steel Room, Udyog Bhawan, New Delhi on 29<sup>th</sup> November, 2007.

ensure issue of letters in Hindi to Central Government Offices located in Region "A", "B" and "C", check points have been identified in the Ministry.

### Rajbhasha Shield/ Trophies

In order to encourage the use of Hindi in the PSUs under the administrative control of the Ministry of Steel, Ispat Rajbhasha Shield (First Prize), Ispat Rajbhasha Trophy (Second Prize), Ispat Rajbhasha Trophy (Third Prize) and one Rajbhasha Shield for the PSUs located in Region "C" have been instituted. These are given every year to the Undertakings on the basis of their annual performance in progressive use of Hindi. Besides, a medal is also awarded to the officer/ employee whose work in Hindi is rated to be the best in the Ministry.

### 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.

### Cash prize scheme for dictation in Hindi

An incentive scheme for officers for giving dictation in Hindi is in operation in this Ministry.

### Award for writing original books in Hindi

A scheme for awarding cash prizes for writing technical books in Hindi on various disciplines related to the steel industry and its allied subjects is also in operation in the Ministry. An amount of Rs. 20,000/-, Rs. 16,000/- and Rs. 10,000/- each, is awarded for the first, second and third prize respectively.

### Hindi Divas/ Hindi Fortnight

In order to encourage use of Hindi in official work amongst officers and employees of the Ministry, appeals were made by the Hon'ble Minister of Chemicals & Fertilisers and Steel and Hon'ble Minister of State for Steel on 14<sup>th</sup> September, 2007. Hindi Fortnight was organized in the Ministry from 14<sup>th</sup> to 28<sup>th</sup> September, 2007. During this period, One Hindi workshop and various Hindi competitions were organized.

### Training in Hindi/ Hindi Typewriting/ Hindi Stenography

A programme has been drawn up for imparting training in Hindi/ Hindi Typing/ Hindi Stenography to those employees for whom in-service training is obligatory. All officers and staff except group "D" employees of the Ministry possess working knowledge of Hindi. As far as Hindi typing and Hindi Stenography is concerned, out of 21 Lower Division Clerks and 31 Stenographers, 11 Lower Division Clerks and 30 Stenographers are conversant with Hindi typing and Stenography respectively.

## STEEL AUTHORITY OF INDIA LTD. (SAIL)

SAIL continued its thrust on implementation of the official language policy of the Government of India. The company has won several prizes at the corporate/ plant/ unit levels including the first prize for its Hindi house journal "Ispat Bhasha Bharti" for four consecutive years from Town Official Language



Shri G. Ojha, Director (Personnel) receiving the first prize awarded to "Ispat Bhasha Bharti" from Hon'ble Minister of Home Affairs, Shri Shivraj Patil on 14<sup>th</sup> September, 2007.



Implementation Committee, Delhi and another prize from the Ministry of Steel in the area of promoting the usage of Hindi in official work. The Government of India awarded first prize to SAIL at National level for "Ispat Bhasha Bharti" as it has been adjudged best Hindi journal among all PSUs of the country. The award was received by Director (Personnel) from Hon'ble Minister of Home Affairs on the occasion of Hindi Diwas on 14<sup>th</sup> September, 2007.

### **RASHTRIYA ISPAT NIGAM LTD. (RINL)**

The details of the activities undertaken in propagation of Hindi during April to December 2007 in RINL are as follows:

- Three meetings of the Official Language Implementation Committee were held on 10.5.2007, 29.9.2007 and 22.12.2007 and the progress made in use of Hindi in RINL was reviewed in the said meetings.
- All the documents mentioned under Section 3 (3) of Official Language Act, 1963 were issued in bilingual form i.e. both in Hindi and English. As regards the correspondence made with Regions 'A', 'B' & 'C', the targets fixed by the Department of Official Language, Ministry of Home Affairs were achieved during the said period.
- Hindi Day and Week were celebrated in RINL's Headquarters during September, 2007. Similar celebrations were also organized in all the Regional Offices of Marketing Department of the Company during December, 2007, wherein the branches working under the Regional Offices have also participated. Various Hindi Competitions were organized for the employees working in the said offices of VSP and employees participated in the competitions with utmost interest.
- 230 employees have been trained in Hindi during the year . 75 Employees were trained in Computers to use Hindi through 'Shusha Fonts' during the said period. 14 Hindi Workshops were organized in the said period, wherein 114 employees possessing working knowledge in Hindi have been trained.

### **NMDC LTD.**

During the year 2007-08 the company continued its efforts for the progressive use of official language in all its production units and Head Office. Efforts were made to use official language in administrative as well as in technical fields. Rajbhasha Technical/ Professional Seminars/ Technical presentations in Hindi were organised during the year at Headquarter as well as in Production Units.

On 14<sup>th</sup> September, 2007 NMDC received the prestigious Indira Gandhi Rajbhasha Shield for the year 2005-06. NMDC also received 1<sup>st</sup> Prize Town Official Language Implementation Committee (TOLIC) undertakings, Hyderabad-Secunderabad for the year 2006-07 on 19<sup>th</sup> December, 2007.

### **MANGANESE ORE (INDIA) LTD. (MOIL)**

During the year, MOIL continued its efforts in propagating and implementation of the provisions of Official language Act 1963 and rules and orders thereon. The Company's in-house Hindi journal "SANKALP" in Hindi encourages the employees to participate in various competitions like essay competition, noting, drafting, poetry and articles for propagating Hindi. Around 92% of the work is being done at the mines of MOIL in Hindi. As the Company has been receiving First prize from the Ministry of Steel for the last 10 years the "CHAL-VAIJAYANTI" puraskar has been permanently awarded to the Company.

### **MSTC LTD.**

The Company ensures strict adherence to all directives of the Government on implementation of Official Language Policy. Hindi Diwas was celebrated in the company and various competitions like Hindi Essay writing, Hindi Gyan pratiyogita, Hindi Prashnothari partiyogita etc. were conducted and the winners were given prizes. Annual cash awards are also given for Hindi Noting/Drafting and Hindi Typing.

### **FERRO SCRAP NIGAM LTD. (FSNL)**

In order to encourage and motivate the employees to carry out their day-to-day jobs in Hindi, "Hindi Diwas" & "Hindi Pakhwada" are organized in the company and various Hindi competitions, like Hindi Essay writing, Hindi Gyan Pratiyogita/Hindi debate etc., are conducted, and the winners are given suitable prizes. The guidelines/directives of the Government/Ministry with regard to implementation of Official Language policy are strictly adhered to and implemented in the company.

On 23<sup>rd</sup> October 2007, "Ispat Rajbhasha Shield" (First Prize) was awarded to FSNL in the Hindi Salahkar Samithi's meeting held at Visakhapatnam.

### **HINDUSTAN STEELWORKS CONSTRUCTION LTD. (HSCL)**

HSCL has made various encouraging efforts in implementing the official language Policy and Programs of Department of Official Language, Government of India. Besides holding meeting of the Official Language implementation Committees at Corporate and Unit levels at regular intervals, the Company made a massive drive to motivate its officials at all levels for use of Hindi in official noting and drafts. The Government's guidelines on the use of Rajbhasa are complied with. Hindi Day and Hindi Fortnight were observed during the year. HSCL has been awarded the "Rajbhasa Shield Award 2006-07" by Town Official Language Implementation Committee (PSUs) Kolkata under Ministry of Home Affairs, Deptt. of Official Language for implementation of Hindi in official work.

### **MECON LTD.**

In terms of the provisions of Official Language Act, various activities to motivate employees to work in Hindi and propagate and facilitate Hindi implementation were undertaken during the year. Efforts have been made to implement Official Language Policy of the Government of India with full force at Headquarter and other Offices of MECON. Besides imparting Hindi training, workshop and Quiz competitions, debates were organised to improve the knowledge of employees in using Hindi in their official work. Town Official Language Implementation Committee (TOLIC), Ranchi, which functions under the aegis of Chairman-cum-Managing Director, MECON, organized Rajbhasa Seminars during the year. Hindi week was observed at Head Office and its Site Offices during 14<sup>th</sup> to 20<sup>th</sup> September, 2007.

### **BHARAT REFRACTORIES LTD. (BRL)**

The company continued with the thrust on implementation of official languages policy of the Government of India. Various activities to motivate the employees for using Hindi in official work were undertaken during the year. The company was awarded Ispat Rajbhasa Trophy and Indira Gandhi Shield for the years 2004-05 and 2006-07 respectively during the year 2007-08.

### **SPONGE IRON INDIA LTD. (SIIL)**

During the period from April to December, 2007, the Company complied with Section 3 (3) of the Official Languages Act, 1963 and 193 documents were released in bilingual form. Different schemes were introduced for progressive use of Hindi such as Noting and Drafting and Competitions in Hindi Official Language Implementation Committee Meetings were convened from time to time. Hindi Divas was celebrated on 14.09.2007 and prizes were presented to the winners in different competitions conducted for the employees.

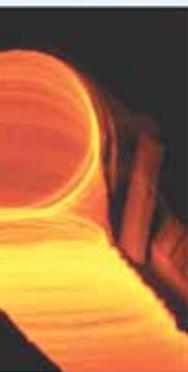
### **KUDREMUKH IRON ORE COMPANY LTD. (KIOCL)**

The Company follows the directives issued by the Department of Official Language, Ministry of Home Affairs and the Ministry of Steel, Govt of India for progressive use of Official Language Hindi.

Hindi training was given to the employees. Cash awards and increments were also given as per the Government directives. Hindi Workshops, Orientation programmes were conducted during the year to create awareness, impart knowledge and encourage the employees to do their Official work in Hindi.

Official Language implementation Committee meetings took place regularly and the progress during the previous quarter was reviewed in such meetings. Hindi fortnight was celebrated at all the locations of the Company. Hindi programmes and several Hindi competitions were also held and prizes distributed to the winners. The amount of cash prize was doubled this year. During the year, 4 Hindi workshops were conducted to impart practical training to employees for doing their official work in Hindi. The Company is the Convenor of Bangalore Town Official Language Implementation Committee (Undertakings) and conducts regular meetings.





## CHAPTER - XV

### EMPOWERMENT OF WOMEN

The Hon'ble Supreme Court of India in its judgment in August 1997, in the case of Visakha and others versus State of Rajasthan and others, recognised international conventions and norms of gender equality of women, in relation to work and held that sexual harassment at workplace, is against their dignity and is violative of Article 14,15(1) and 21 of the Constitution of India. As per the guidelines laid down by the Hon'ble Supreme Court, all employers whether in the public or private sector should take appropriate steps to prevent sexual harassment. As a part of the mechanism, a complaint committee with a third party representation and headed by a woman, with not less than half of its members being women is to be constituted in each organisation.

In compliance of the guidelines of the Hon'ble Supreme Court, Ministry of Steel has constituted a five-member committee, headed by a Joint Secretary level woman officer and having three women as members, to look into complaints made by women employees and to address them. The committee did not receive any complaint in 2007-08 which is a broad indicator of general satisfaction of women work force in the Ministry.

A Gender Budget Cell has also been set up in the Ministry as per directions of the Ministry of Finance and the Ministry of Women & Child Development with the aim of initiating steps for implementation of the concept in the Ministry. While the Ministry of Steel had no plan/ schemes to implement upto 2006-07, efforts would be made to incorporate some components in the New Scheme approved for XI Plan viz. 'Promotion of Research & Development in Iron & Steel Sector' which may directly lead to the empowerment of women as a beneficiary group.

All the public sector undertakings under the Ministry of Steel have also been directed to implement the Hon'ble Supreme Court's guidelines. The related details are briefly enumerated below.

#### STEEL AUTHORITY OF INDIA LTD. (SAIL)

SAIL employs about 6666 women employees in both technical and non-technical areas which is around 5% of the total employees. Though historically and traditionally, SAIL as a PSU has been a labour-intensive manufacturing industry with more employees being men, over the years, more and more women employees have joined to work, even in tough working conditions of the shopfloor.

Recognising that gender equality and empowerment of women leads to faster progress of society, a Mahila Samaj was formed in 1957 in Bhilai when the industrial complex was just coming up. Since then this revolutionary institution, which started with just 50 members on August 4, 1957 has inspired other SAIL plants to develop their ladies society/ groups as well. These groups have been at the forefront of community welfare and have been given the status of an ancillary industry by SAIL. These various plant level organisations have, as on date, a total of 4000 members and 15 affiliations with national-level organisations. They undertake various activities especially those involving women from the weaker sections or belonging to SC/ ST communities. The members, through internal revenue collections, have been



Mahila Samaj at SAIL plants are empowering women to earn their livelihood.

conducting various activities, including manufacturing of hand gloves, masala, soaps, bags, etc. by self help groups. In addition these groups have contributed to women's colleges and worked for rehabilitation of the differently-abled.

In pursuance of the directives of Government of India in terms of the directions given by the Supreme Court of India, SAIL constituted Complaint Committees at its units in 1998. These committees are meant for redressal of women employees for matters related to sexual harassment at the workplace. Thus SAIL through its various initiatives, has endeavoured to accord an equal status to women.

### **RASHTRIYA ISPAT NIGAM LTD. (RINL)**

Some of the initiatives taken for empowerment of women during 2007-08 (upto 31.12.2007) are as under :

- The Women in Public Sector (WIPS) Cell has been actively involved in empowering the women folk within and outside the organisation. WIPS completed 10 years of its existence on 9.8.2007.
- WIPS showcased its decennial celebrations titled 'A Decade of Excellence' of WIPS at VSP during August, 2007.
- WIPS members involved themselves in relief operations including medical services for those affected by heavy rains and floods during the year.
- In order to improve the gender relations within the organisation, 3 Gender Sensitivity programs were conducted.
- Women employees were sponsored for attending relevant external programs and foreign tours specific to their area of work.
- Number of women employees rose to 445 during 2007-08, as against 431 in 2006-07. They constitute 2.7 % of the workforce. RINL has a special cell to deal with sexual harassment in the workplace . The activities of the cell are planned and designed based on the feedback received from various sources including WIPS Regional and national meets.

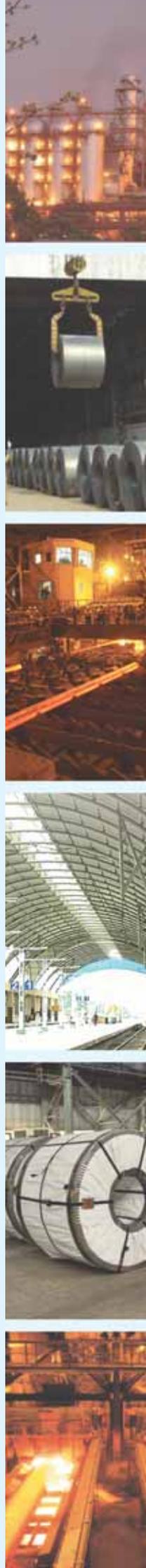
### **NMDC LTD.**

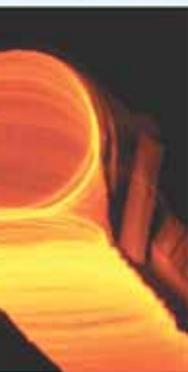
NMDC employs 251 women employees which constitutes about 4.5% of its total manpower of 5633 (as on 31.12.2007). The company provides equal opportunities for the sexes at all levels be it selection, recruitment, placement or promotion. The number of women in senior positions in NMDC is growing and three independent Directors in the NMDC Board are women. Facilities like separate wash rooms, rest rooms/Lunch rooms etc have been provided in the Head Office and various projects. NMDC has also been sponsoring women employees for training on awareness on healthcare, family planning etc. All statutory obligations of the Company are reflected in its policies for women employees. In compliance with the directives of the Hon'ble Supreme Court guidelines relating to sexual harassment of women employees at work place, complaints committee have been constituted in all the Project sites and Head Office. The committee, headed by a woman employee meets periodically to review the status of the complaints received. No case of harassment has been reported so far. The directives have been widely circulated and the Conduct Rules have been amended in the year 1998 for incorporating suitable clause for prohibition of sexual harassment of women at work place. NMDC has made sincere efforts to increase the awareness of women in general in the remote areas where it has its mines. Various awareness programmes have been conducted on health care, family planning, antenatal services, informative programmes on AIDS control and other social issues with the active involvement of the Mahila Samities functioning in the projects.

### **MANGANESE ORE (INDIA) LTD. (MOIL)**

MOIL employs 882 women employees which constitutes 12.99% of its total workforce of 6786 as on 31.12.2007. In compliance with the directives of the Supreme Courts' guidelines relating to Sexual Harassment of Women workers, a Complaint Committee comprising of three officials including a lady Doctor was constituted in the year 1999. No case of any harassment has since been reported at any of the Mines of the Company or its Corporate Office. The directives have been widely circulated to bring awareness amongst the women workers.

Mahila Mandals are working effectively at all the Mines of the Company. Various cultural, social, educative and community activities, such as adult education, blood donation camps, eye camps, family planning





etc. are being organised regularly, mostly for the benefit of the women residing in the remote mine areas. Every year 8<sup>th</sup> March is celebrated as International Women Day and various programmes are organised to mark the day. The Company grants Maternity Leave and Special Casual leave for Family Planning. MOIL has set-up creches at its mines and gives time off for nursing mothers. As part of its CSR activities, Self Help Groups have also been created at the mines which comprise women hailing from the remote villages. They are trained to make candles, washing powder, washing soaps, bamboo baskets, tailoring and various other vocational activities in order to make them self-reliant.

### **MSTC LTD.**

MSTC is a life long member of Women in Public Sector (WIPS) and their women employees have actively participated in all the events of WIPS during 2007-08. The Treasurer of Eastern Region of WIPS is from MSTC.

### **FERRO SCRAP NIGAM LTD. (FSNL)**

All necessary measures/statutory provisions for safeguarding the interests of women employees in matters like payment of wages, hours of work, health, safety and welfare aspects, maternity benefits etc. are being followed by the Company. Based on the Supreme Court directives, conduct rules of the Company has been amended by incorporating suitable clause for prohibiting sexual harassment of women at work place. A Complaints Committee was constituted in December, 2000 to deal with complaints made by victims of sexual harassment. The Complaints Committee comprises of a senior woman employee as Chairperson, a representative from the recognised Union and 3 persons from different Departments. Every year 8<sup>th</sup> March is celebrated by the women employees of the Company as International Women's Day and function/ programmes are organized at FSNL Site Offices and Corporate Office. The Company grants maternity leave and special casual leave for family planning. With a view to increase awareness regarding AIDS, House Safety and activities of Company, housewives of employees are imparted 'Family Training' through Workers' Education Board' every year.

### **HINDUSTAN STEELWORKS CONSTRUCTION LTD. (HSCL)**

As on 31.12.2007, HSCL had 3 women in executive positions, 10 in non-executive position and 41 in lower level posts, making a total of 54 employees posted in different Units. Most of the women employees are posted at Bokaro and Bhilai. No organized body of woman employees exists in the Company. However, it is ensured by the Management of the Company that the interest and privilege of the woman employees are protected. It is also ensured that they are not subjected to any sort of sexual harassment in the workplace.

### **MECON LTD.**

MECON is an equal opportunity employer and there is no discrimination made on the basis of gender. There are a total 126 women employees. A fair number of women employees work in executive category and many of them are working in senior management grades. There is a designated committee headed by a senior lady executive to look after harassment of women employees and other problems at workplace. Women employees are also nominated in various committees and social welfare units run by the company. MECON also encourages small family norm in respect of its employees and also provides incentive scheme for promoting small family norms. The Community Development Centre run by MECON emphasizes on empowerment of women by running several courses on primary education and vocational training. Around 200 women from the weaker sections in the locality are benefited by this programme every year.

### **BHARAT REFRACTORIES LTD. (BRL)**

There are 110 women employees as on 31.12.2007. In conformity with the National Policy for Empowerment of Women, the Conduct, Discipline and Appeal rules have been amended by incorporating a special clause 5 (35) relating to sexual harassment of women, to ensure a protected and congenial atmosphere at work for the women employees. Various complaint committees have been constituted at different levels to examine the complaints. As far as BRL is concerned, no complaint has been received from any women employee.

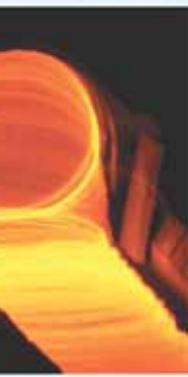
**SPONGE IRON INDIA LTD. (SIIL)**

As on date the company has 19 women employees. As per the guidelines received from Hon'ble Supreme Court of India, the Company has constituted a Complaints Committee of Women for redressal of the complaints made by the women employees.

**KUDREMU KH IRON ORE COMPANY LTD. (KIOCL)**

All necessary measures/ statutory provisions for safeguarding the interests of women employees in matters like payment of wages, hours of work, health, safety and welfare aspects, maternity benefits etc. are being followed by the Company. Out of a total strength of 1651 employees, 81 are women employees, constituting 4.90% of the total workforce. Based on Hon'ble Supreme Court's directives, conduct rules of the company has been amended by incorporating suitable clause for prohibiting sexual harassment of women at work place. A complaints committee has been constituted during September 1998 to deal with complaints made by victims of sexual harassment. The complaints committee comprises of a Senior Women Executive as a Chairperson, three nominated women representatives from the recognized union and Lady Advocate from High Court of Karnataka as a third Party Member. A Women's Forum – Women in Public Sector is operating in KIOCL and most of the women employees are members of the said Forum. KIOCL is a life Member for WIPS. Co-ordinators are being nominated on rotation basis from KIOCL to Liaison with the WIPS and women employees (Members) are being sent to attend Annual meets/ Regional meets of WIPS by the company.





## CHAPTER - XVI

# NEW INITIATIVES/ INNOVATIVE SCHEMES

## MAJOR INITIATIVES TAKEN BY THE MINISTRY OF STEEL

### Steel Consumer's Council

A Steel Consumers' Council was constituted in 1986. The Council consists of the Government, producers and consumers of iron and steel, house builders and related industries. The objective of the Council is to advise and assist the Central Government on matters relating to supply, availability, quality and market trends of iron and steel. The 21<sup>st</sup> Meeting of the Steel Consumers' Council was held on 20<sup>th</sup> August, 2007 under the Chairmanship of the Hon'ble Minister for Chemicals & Fertilisers and Steel. The various issues affecting the consumers of steel, namely, opening of new stockyards and on line monitoring of their working, monitoring of the trend of domestic steel price, review of prevailing excise and import duties and availability of steel material, figured prominently in the meeting.



Shri Ram Vilas Paswan, Hon'ble Minister for Chemicals & Fertilisers and Steel addressing consumers in the National Steel Consumer's Council Meeting organised by the Ministry of Steel. Also seen in the picture (From Left to Right): Shri K.A.S Deo, Joint Secretary (Steel); Shri A.K. Rath, Special Secretary and Financial Advisor, Minister of Steel; Shri R.S. Pandey, Secretary Steel; Shri S.K. Roongta, Chairman SAIL and Shri P.K. Bishnoi, CMD, RINL

### Monitoring Steel Price

Since its deregulation in 1991, the steel sector in the country is free to decide on its domestic and export prices. The Government does not control the steel price which is decided by market forces, mainly determined by the parameters of supply– demand factor, and landed cost of import. Keeping in view the request of steel consumers in the National Steel Consumers' Council Meeting held in June 2006, a Steel Pricing Monitoring Committee (SPMC) was formed under the Chairmanship of Joint Secretary (Steel) with members from Economic Research Unit (ERU), major steel producers and steel consumer associations. The Committee's role is to monitor price movements of various categories of steel products, discuss and analyse the variations, formulate strategies regarding future price, based on an adaptive model and recommend strategies vis-à-vis steel production, consumption and trading. The Committee seeks to provide an interface between the producers and consumers of steel. The Committee functions as a watchdog and oversees that a free and fair environment prevails in the market. In pursuance of the recommendations

contained in the 25<sup>th</sup> Report of the Standing Committee on Coal & Steel on Demands for Grants 2007-08, Ministry of Railways, Coal India Ltd. and NMDC Ltd. have been co-opted as special invitees in the Steel Price Monitoring Committee. The Committee has so far held four meetings in January, March, June and October 2007. During the meetings the Committee took note of the important aspects regarding steel price movements and advised the industry to decide their product-mix as well as long-term capacity addition, keeping in view the demand growth in long products. Producers were also advised to keep the ex-factory prices of long products at check and to maintain their export balance vis-à-vis the domestic demands for steel.

### Constitution of Inter Ministerial Group (IMG)

With a view to facilitate speedy actualization of major steel investments in the country, the Hon'ble Prime Minister approved constitution of an Inter Ministerial Group (IMG) to monitor and coordinate issues concerning major steel investments in the country. The IMG is chaired by Secretary (Steel) with Secretaries of Department of Industrial Promotion & Policy, Mines, Environment & Forest, Road Transport & Highways, Shipping, Member (Traffic) –Railway Board and Chief Secretaries of concerned State Governments as its members. The broad Terms of Reference of the IMG are to review and coordinate measures for early completion of major steel capacities and to address various problems concerning infrastructure; availability of raw materials; speedy environmental clearance; availability of other resources such as land and water; and issues concerning rehabilitation. Prior to holding the meeting of IMG, a detailed discussion with all major steel investors having their existing/proposed capacities of 3 million tonnes or more, had taken place in the Ministry of Steel, in a meeting on 17.08.2007. Based on the discussions, a detailed Agenda Note was prepared and circulated to all IMG members seeking their remarks. The first meeting of IMG took place on 30.10.2007 in the Ministry of Steel to consider the problems and issues raised by the major steel investors. The IMG critically examined the issues and brought out a list of Action Points for compliance to be reviewed in its next meeting.

### Encouraging Research & Development in Iron & Steel Sector

Besides supplementing R&D initiatives & investment under the existing Empowered Committee Mechanism, the Ministry of Steel has evolved innovative and mechanisms to encourage R&D in Iron & Steel Sector.

In the 11th Plan for the Steel Sector, a new scheme named 'Scheme for promotion of R&D in the Iron & Steel Sector' has been included with budgetary provision of Rs. 118 crore. The scheme is presently at formulation stage.

The Ministry of Steel has decided to set up a 'Virtual Centre' namely Steel Research & Development Mission (SRDM) as a registered society to, inter-alia, take up path breaking/innovative research and development work with financial contribution from the main steel producing companies. Follow up action towards its operations, is being taken in consultation with the stake holders.

It has also been decided to set up a Steel Technology Centre at IIT, Kharagpur to promote and encourage study and research in metallurgical engineering particularly in iron & steel sector. This project has recently been approved at a cost of Rs. 22.26 crore for 5 years after which it will be run by IIT, Kharagpur like other centers of excellence at the institute.

### Quality Control Order on selected steel products

In order to make available quality steel to the consumers, the Ministry has identified for Mandatory Quality Certification under the Bureau of Indian Standard Act 1986. 17 steel products used in housing and construction, plates used in pressure vessels and boilers, electrical sheets for transformers and motors, galvanised sheets for roofing and paneling, tinplates used for packaging of food products etc. have been identified for placing under the Quality Control Order. The products were identified in consultation with the steel industry and associations and recommendations were sent to Ministry of Consumer Affairs for issue of formal orders. The formal Quality Control Order in this respect has been issued on 12.11.2007 by Department of Consumer Affairs and will be notified shortly. The said Quality Control Order will take effect after a period of six months from the date of its publication in the official gazette. Within this period, the producers would be required to equip themselves with suitable arrangements for testing and inspection of their products in-house or by outsourcing and also obtain licence from Bureau of Indian Standards for use of Standard Mark in their products, within 45 days of the issue of this Order, if not already obtained. After the issue of this Order, production, sale or distribution and storage of sub-standard products would be prohibited and such products, if any, would have to be disposed off as scrap. The aforesaid Quality





Control Order is expected to go a long way in making available critical steel products of certified quality to the consumers. This will also give a right to the consumers to insist on quality steel for such critical applications and to take legal recourse against supply of sub-standard products. After issue of the Order, the Ministry of Steel has taken follow-up action such as circulating the copy of the Order amongst the Industry/Associations. A meeting was also held with them to apprise them of the Provisions of the order to ensure that quality products are produced and sold with effect from 12<sup>th</sup> May, 2008 when the order comes into force. Ministry of Steel is also taking follow-up action for appointment of the Appropriate Authority for implementation /enforcement of the order.

### **Initiatives under Clean Development Mechanism (CDM)**

CDM is one of the flexible arrangements under Kyoto Protocol of the United Nations Framework Convention on Climate Change (UNFCCC) to support the implementation of sustainable and environment friendly technologies. The Central Government had constituted the National CDM Authority (NCDMA) that accords Host Country Approval (HCA) to eligible projects. So far, around 700 projects have been accorded HCA which includes 58 proposals from the iron and steel plants in India. These projects will result in Green House Gas abatement worth 66 million tonnes of CO<sub>2</sub> equivalent and Certified Emission Reduction (CER) will be generated till the year 2012 which are to be traded in the international market earning substantial foreign exchange which at present rate is in the range of 15 to 25 Euros per CER unit. As a result the companies as well as the nation will gain substantially. The Ministry of Steel has taken the initiative to persuade PSUs under its control to develop CDM projects expeditiously.

### **Moving to environment friendly technologies**

The Asia Pacific Partnership on Clean Development and Climate (APPCDC) is an innovative public-private partnership which is bringing together seven countries – Australia, Canada, China, India, Japan, Korea and the United States – to accelerate the development and deployment of cleaner, more efficient technologies to meet pollution reduction, energy security and climate change concerns in ways that promote sustainable economic development. Under the APPCDC, there are eight task forces covering various sectors of economy and there is one specific task force to cover the concerns of the iron & steel sector namely Steel Task Force. Japan is the Chair Country of STF and India is the Co-chair. Several projects have also been identified for development/ deployment of energy efficient environment friendly technologies. Indian steel plants have proposed to get their plants diagnosed by experts from advanced countries for identification of gaps in energy efficiency and environment friendly technologies. Upon plant diagnosis, suitable project proposals would be selected for adoption in the plants. Under this scheme, Rourkela Steel plant of SAIL has been selected for diagnosis in 2007-08. A team from Japan visited India during 14<sup>th</sup>-17<sup>th</sup> January, 2008 for diagnostic study of Rourkela Steel Plant of SAIL for identification of gaps in energy efficiency and environmental friendly technologies. Funding mechanisms are being firmed up.

### **Towards higher utilisation of Iron Ore fines**

As per a study done by Economic Research Unit under the Ministry of Steel on “Iron ore fines utilisation in India”, there was a consumption of 37.77 million tonnes of iron ore lump and 41.175 million tonne of iron ore fines during the year 2005-06 by the domestic steel industry. Thus, fines consumption by domestic steel industry was 52.2% of the total consumption. The study notes that traditionally, India's Steel Industry was mostly using high grade lump due to abundant availability and supply. However, now-a-days, with an idea of conservation and due to limited availability of high grade iron ore as well as price factor, Indian Steel Industry has started using lower grade iron ore fines also, after suitable beneficiation & agglomeration (sintering & pelletisation). The Study has further concluded that the technology matrix of the various capacity expansion plans and new steel plants is heavily biased towards technologies using agglomerated fines. This will result in sharp increases in incremental demand for fines and that itself will take care of the surplus that is supposed to have been generated in the process of mining. As per this study, the share of fines in steel making in country is likely to further increase from 52.2% during 2005-06 to an estimated 69.5% by 2011-12 and to about 72% by 2019-20. To encourage optimum utilisation of domestic iron ore fines, the Ministry of Steel has recommended fiscal and other measures for promotion of beneficiation and agglomeration (sintering & pelletisation) of iron ore in India.

### **Knowledge propagation and experience sharing**

The Ministry of Steel organised the 3<sup>rd</sup> Meeting of the “Steel Task Force” (STF) and Workshop of the Asia

Pacific Partnership on Clean Development & Climate on 13<sup>th</sup>-16<sup>th</sup> March, 2007 at Kolkata, which was attended by all the STF members, namely, the USA, Republic of Korea, China, Japan and Australia besides India. Having reviewed the progress of STF, it was also decided to depute Japanese experts for assisting in diffusion of clean environment-friendly technologies in selected steel plants.

“Steel Summit 2007” was organised by the Ministry of Steel at New Delhi on 26<sup>th</sup> -27<sup>th</sup> March 2007, in partnership with the Confederation of Indian Industry (CII). The Summit was addressed by the Hon’ble



Shri R.S. Pandey, Secretary (Steel) inaugurating the International Seminar on Iron Ore Beneficiation & Pelletisation organised by the Ministry of Steel on 1<sup>st</sup> October, 2007. Also seen in the picture (from left to right): Shri A.K. Rath, Special Secretary and Financial Advisor, Shri P. Ganesan, CMD KIOCL, Shri S.K. Roongta, Chairman SAIL and Shri A.C.R. Das, Industrial Advisor, Ministry of Steel.

Shri S.K. Roongta addressing the gathering.  
Dr. U.P. Singh, Joint Secretary, Ministry of Steel on the dais.

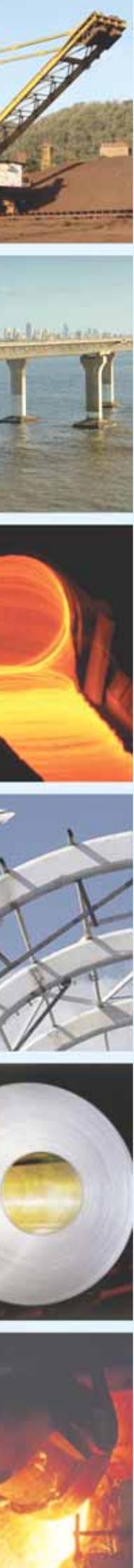


Prime Minister of India, Dr. Manmohan Singh. In his keynote address, the Hon’ble Prime Minister deliberated upon Vision 2020 and the definitive role the Indian Steel Industry has to play in the growth of Indian economy while fulfilling the objectives of equity and social responsibility.

The Ministry of Steel organised an International Seminar on Iron Ore Beneficiation & Pelletisation on 1.10.2007 in New Delhi. The basic theme of this seminar was to exploit the usage of lower grade of iron ore by beneficiating the same and also to maximise the use of iron ore fines by agglomeration processes like pelletisation. Presently Iron ore fines are being exported in huge quantity to countries like China. The Seminar was attended by about 200 national and international delegates. This Seminar has generated awareness and enthusiasm among the iron ore miners and iron & steel producers. It is expected that substantial greenfield capacity for producing pellets based on the iron ore fines will materialise in the coming year.

### Resolving Infrastructure Bottlenecks

A Coordination Committee, consisting of representatives from steel industry, the Ministry of Steel and Railway Board has been constituted to identify the major bottlenecks in railway facilities to the steel sector. The Ministry of Steel had also commissioned a study with its Economic Research Unit (ERU) to assess the infrastructural deficiencies and requirements in the major steel producing areas, particularly with reference to Orissa, Jharkhand and Chhattisgarh. The report has recently been brought out. It focuses on infrastructure requirements in transport (railway, road, and port), water resources and power to meet the proposed expansion in the steel industry. The Report has been shared with concerned Ministries and the issues will be taken up for discussions in the next meeting of the IMG.



## Reform of steel sector data

It has been perceived for quite some time that estimates of induction furnace and re-rolling sectors were on lower-side, owing mostly due to under-reporting of crude steel data by the electric induction furnace route of production. This in turn has affected production figures for semi-finished and re-rolling (long product) sectors. At the same time, flat steel products have faced the problem of double counting due to inclusion of standalone finished output as also as purchased finished steel input in total finished steel production.

To study the problems, an Expert Committee was constituted by the Ministry of Steel in 2006, drawing members from the industry and academia. Corrective exercises have led to revised figures of capacity and production and the ratio of figures of flat products and long products in consumption. Based on the revised data for crude steel, calculations for the calendar year, 2006 (January – December) show that India achieved a production of 49.45 mt crude steel during the year.

## MODERNISATION AND EXPANSION OF STEEL AUTHORITY OF INDIA LTD.

In line with the recent acceleration of economic growth of the nation, SAIL is rapidly augmenting its production capacities. In this era of increasing global competition, SAIL is taking active measures for ensuring that it continues to be a dominant player in the steel production map of the world. SAIL has embarked upon an expansion plan for raising annual steel making capacity of 26 million tonnes per annum against the present capacity of 14.6 million tonnes per annum. The modernisation of SAIL plants/units is expected to be completed progressively by December, 2010 at an estimated cost of Rs. 53,000 crore.



Shri Ram Vilas Paswan, Hon'ble Minister for Chemicals & Fertilisers and Steel inaugurating the rebuilt pollution-free Coke Oven Battery 5 of SAIL's Bokaro Steel Plant on 21st September 2007.

The major thrust of the modernisation and expansion plan is to adopt the best modern technology, which in addition to being cost effective should also be energy efficient and environment friendly. Thus the expansion plans besides augmenting production capacity of the steel plants also aims at removal of technological obsolescence, reduction in energy consumption, improvement in product mix, elimination of semi-finished steel, up gradation of pollution control measures and augmentation of infrastructure facilities in all the plants to support higher production.

The implementation of SAIL's expansion and modernization plan by 2010 is underway with the placement of orders for several major packages at IISCO Steel Plant (ISP), Burnpur and Salem Steel Plant (SSP) at Salem. The plant-wise capacity expansion is given as under:

(Figures in Million Tonnes per annum)

Plant	Hot Metal		Saleable steel	
	Actual 2006-07	After Expansion	Actual 2006-07	After Expansion
<b>Bhilai (BSP)</b>	4.82	7.50	4.22	6.53
<b>Durgapur (DSP)</b>	2.06	3.50	1.70	2.83
<b>Rourkela (RSP)</b>	2.12	4.50	1.94	3.88
<b>Bokaro (BSL)</b>	4.59	7.44	3.86	6.53
<b>IISCO ( ISP)</b>	0.78	2.91	0.40	2.37
<b>VISL</b>	0.24	0.33	0.13	0.22
<b>Alloy Steel Plant</b>	-	-	0.14	0.43
<b>Salem Steel Plant</b>	-	-	0.18	0.34
<b>Total</b>	<b>14.61</b>	<b>26.18</b>	<b>12.58</b>	<b>23.13</b>

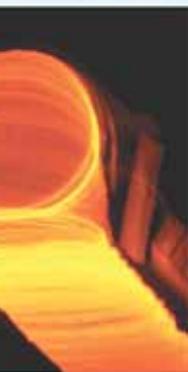
For ISP, Letter of Acceptance (LOA) was issued for all 16 packages by 17.9.07 and contracts have since been signed for all packages as per schedule. In case of SSP, Letter of Acceptance (LOA) was issued for all 14 packages progressively by 14.9.2007 and the contracts have since been signed.

For Bokaro Steel Plant (BSL), tenders have been issued for all the 15 packages and all have been opened. One of the orders has been placed and for a second one the placement of order is underway. For the Bhilai Steel Plant (BSP), Rourkela Steel Plant (RSP) and Durgapur Steel Plant (DSP) there are 15, 16 and 15 main packages respectively that are being finalised.

SAIL has so far been able to maintain the timelines for activities which are directly under its control like strengthening of project organizations, developing planning and monitoring systems, ordering and execution of preliminary site activities, appointment of consultants, and issue of tenders after receipt of specifications from consultants etc. The progress of expansion and modernisation plan of SAIL is monitored on a regular basis in the Ministry of Steel.



Hon'ble Union Minister for Chemicals & Fertilisers and Steel, Shri Ram Vilas Paswan addressing a gathering on the occasion of foundation stone laying ceremony for modernisation and expansion of Rourkela Steel Plant on 4<sup>th</sup> January, 2008, at Rourkela. Seen in the picture are (R to L): Shri Jual Oram, MP; Shri Ram Chandra Paswan, MP; Shri Naveen Patnaik, Chief Minister, Orissa; Shri R. S. Pandey, Secretary, Steel; Shri S.K. Roongta, Chairman SAIL and Shri B.N. Singh, MD, RSP.



Hon'ble Union Minister for Chemicals & Fertilisers and Steel, Shri Ram Vilas Paswan, laid the foundation stone for the modernisation and expansion of Rourkela Steel Plant (RSP) of Steel Authority of India Ltd (SAIL) in the distinguished presence of the Hon'ble Chief Minister of Orissa, Shri Naveen Patnaik, at the site of the plant's upcoming 5<sup>th</sup> Blast Furnace on 4<sup>th</sup> January, 2008. Similarly, the foundation stone for the Modernisation & Expansion of Bhilai Steel Plant (BSP) was laid by the Hon'ble Minister on 9<sup>th</sup> February, 2008, in presence of Hon'ble Chief Minister of Chattisgarh Dr. Raman Singh . The modernisation package will help to establish these plants as important player in the dynamic steel scenario, besides contributing to progress and prosperity in the region.

## **STATUS ON EXPANSION OF RINL (VISAKHAPATNAM STEEL PLANT)**

Government of India approved the Expansion Project on 28<sup>th</sup> October, 2005. The proposed completion schedule of Stage-I is 36 months & Stage – II is 48 months respectively from the date of approval. In the first stage (on-going expansion), the capacity will be increased from its present production of 3.6 MT to 6.3 MT by 2009-10.

The company has also prepared its Corporate Plan 2020 considering the National Steel Policy 2005 published by the Ministry of Steel and the growing demand for steel in the country. The Corporate Plan envisages expansion of the capacity to 16 MT by 2019 in four phases. In the first phase (on-going expansion), the capacity will be increased to 6.3 MT. In the second, third and fourth phases, the production capacity will be increased to 8.5 MT by 2011, 13 MT by 2015 and 16 MT by 2019 respectively.

## **ENSURING RAW MATERIAL SECURITY**

### **Acquisition of coking coal mines/ equity stakes abroad**

A key determinant for attaining the country's enhanced steel production targets is ensuring security of coking coal supplies from overseas. Supply of coking coal in the international market tends to be volatile and ensuring security of supply is a primary consideration. In the wake of major expansion/investment plans announced by steel producers, securing raw materials has arisen as a major concern. The major input raw materials required for production of steel are coal and iron ore. By 2019-20, about 70 million tonnes of coking coal will be required, of which 85 percent will have to be imported. Consequently a need has been felt to make all out efforts for acquisition of equity stakes in coking coal mines in overseas territories and the Government would need to encourage joint ventures and equity participation abroad by steel and coal companies. Government approved this proposal for formation of a Special Purpose Vehicle on 8<sup>th</sup> November, 2007. The SPV has been named as Coal Ventures International (CVI). The main objectives are inter-alia to ensure secured supply of imported metallurgical coal of at least 10% requirements of SAIL and RINL. Steel Authority of India Ltd., (SAIL), Rashtriya Ispat Nigam Ltd., (RINL), Coal India Ltd. (CIL), National Thermal Power Corporation (NTPC) and National Mineral Development Corporation (NMDC) are all equity participants from the Public Sector in this SPV which has autonomy and freedom currently accorded to a Navaratana company without the formal Navaratna status. The SPV would have an initial equity capital of Rs. 3,500 crore. The equity contributions by the member companies are SAIL – Rs. 1,000 crore, CIL – Rs. 1,000 crore, RINL – Rs. 500 crore, NMDC – Rs. 500 crore, NTPC – Rs. 500 crore. The CVI has started functioning as an unincorporated venture with its head office at New Delhi.

### **Ensuring availability and conservation of iron ore**

- The total availability of iron ore (estimated by Indian Bureau of Mines) as on 1.4.2005 is 25.2 billion tonnes. Of this Magnetite resource is 10.6 billion tonnes (about 40% of the total) and 14.6 billion tonnes is Haematite. Presently, not much of magnetite ore is being mined because of the ban imposed by the Hon'ble Supreme Court for environmental reasons. Of the Haematite reserves, 18.6% is high grade, 50.6% is medium grade, 28.4% is of low grade while 2.4 % is unclassified.
- India's per capita iron ore reserve is 10 tonnes. Brazil has iron ore reserve of 120 tonnes per capita and Australia has 900 tonnes per capita. Export of iron ore have risen sharply in the recent years. It has increased by about 2.5 times in seven years, from a level of 37.49 million tonnes in 2000-01 to 93.79 million tonnes in 2006-07.
- During 2006-07, India's iron ore production was 180.917 million tonnes out of which 93.79 million tonnes was exported and about 77.00 million tonnes was consumed domestically. As of now, about 45% of production of iron ore is being domestically used and 55% of production is being exported. At this rate of growth of production and export, the entire resources will be exhausted in 20 years.

- The policy regarding iron ore export should aim at attracting investment in steel making capacity so that the value addition and export of finished products is promoted instead of exporting raw materials.
- Conservation of iron ore, particularly of higher quality, should be the most critical component of policy. India's comparison has to be with countries such as Russia, USA and China which conserve their raw materials for domestic value addition, rather than with Brazil and Australia where per capita availability of iron ore is 12 times and 90 times respectively more than India.
- An export duty of Rs. 300 per tonne on export of iron ore fines having 62% and above Fe content and on all kinds of lump ore has been imposed to help conserve quality iron ore. For iron ore fines having Fe content below 62%, the export duty has been kept at Rs. 50 per tonne.
- Ministry of Steel is in favour of providing incentives for using fines within the country and disincentives for reckless exploitation of limited reserves.
- There should also be more investment in mining to establish more reserves and to promote scientific mining.

## MERGER & ACQUISITIONS

To revive ailing PSUs through synergistic mergers and in line with prevailing trends in the steel sector, a number of proposals were taken up by the Ministry. Various proposals for merger of PSUs under the administrative control of Ministry of Steel are underway and it is expected that a majority of these will be completed shortly. The details are as under:

### Merger of KISCO with KIOCL

KISCO was set up in 1995 as a Joint Venture Company of Kudremukh Iron Ore Company Limited (KIOCL), MECON Limited and MSTC Limited (all PSUs under the administrative control of Ministry of Steel) for manufacturing of Pig Iron and Ductile Iron Spun Pipe (DISP). The Pig Iron Complex was installed and made operative in May 2001 with a capacity of production of 2.00 lakh tonnes of Hot Metal per annum out of which a part of hot metal was proposed to be used for production of Ductile Iron Spun Pipes. The profitability of the composite project was assured from the DISP component being a finished product with high margins. However, due to poor market condition prevalent then, KISCO could not access the primary market for public equity and DISP plant could not be installed as per schedule. Due to heavy losses, its net worth was eroded and the company was referred to BIFR in 2003. In the meantime, KIOCL has acquired the entire equity and KISCO became its subsidiary. Based on the merger/ rehabilitation scheme submitted by KIOCL, BIFR approved the merger of KISCO with KIOCL with effect from 1.4.2007 vide their Orders dated 18.6.2007 and 18.7.2007. Accordingly, KISCO has been merged with KIOCL for all practical purposes with effect from 1.4.2007. Consolidated Balance Sheets indicating positive Net Worth after the merger are to be filed with BIFR to get the name of KISCO struck from its records. After the merger of KISCO with KIOCL, the implementation of DISP project has been taken up by the KIOCL on priority and the completion of the project is scheduled in the next 2 years. After merger, improvement in the performance of Pig Iron Plant has been seen.

### Merger of SIIL with NMDC

Sponge Iron India Ltd. (SIIL) a Public Sector Undertaking under the administrative control of Ministry of Steel was set up in 1975 to develop indigenous rotary kiln based technology for sponge iron production using iron ore and non-coking coal extensively available in the country with the assistance of UNDP/ UNIDO. The technology was imported from Germany and the plant is located in Paloncha in Khammam District of Andhra Pradesh. The first Plant of 30000 tonnes per year capacity was commissioned in 1980 and the second plant of the same capacity was commissioned in 1985. Initially, the thrust of the company was towards the development of technology. Subsequently the objective shifted to commercial operation and sale of sponge iron. Due to various constraints, both internal and external, the company could not make profits in sponge iron business over a long period of time and the accumulated loss of the company continued to increase particularly due to recession in steel market during 1993-99. The Government of India granted a financial re-structuring package to the Company in 2000 envisaging waiver of interest and conversion of loan into equity. After this, the Company was referred for disinvestment. However, due to continuous improvement in overall techno-economic performance, improving market trend and financial restructuring, the company





turned around during 2000-01 and continued to remain in profit during the subsequent years. After that the Company was taken out of disinvestment list because of it being a profit making Company as per the policy envisaged through National Common Minimum Programme (NCMP).

The Ministry of Steel had set up an Expert Group to examine the various merger proposals of the PSUs under the Ministry. The Expert Group has recommended the merger of SAIL with NMDC keeping in view the raw material potential of SAIL and proposed capacity expansion of sponge iron by the NMDC. Due diligence exercise by both the companies has been completed. Valuation of Assets has also been completed. Board of Directors of both the companies as well as the Government of Andhra Pradesh who is also a stake holder in SAIL have conveyed their approval for the merger of SAIL with NMDC. The process of merger is expected to be completed by the end of September, 2008.

#### **Acquisition and merger of Neelachal Ispat Nigam Ltd. (NINL) by SAIL**

As per the recommendations of Committee of Secretaries (CoS), an Empowered Committee headed by Secretary, Department of Disinvestment (DoD) was constituted in January, 2006, to oversee the modalities of the merger. SAIL Board in its 312<sup>th</sup> meeting held on 24.3.06 accorded in-principle approval for acquiring equity share capital of NINL through cash payment and subsequently merging it with SAIL. Industrial Development Bank of India (IDBI), was appointed by NINL as Valuer for valuation of NINL's business. IDBI has since submitted its valuation report to NINL, which was sent to the major shareholders of the company for their remarks. Two of the major shareholders that is Government of Orissa and MMTC have expressed certain reservations on the valuation of NINL shares, arrived at by IDBI. Ministry of Steel has taken up the matter with the other concerned Ministries/ Departments as well as Government of Orissa.

#### **Merger of Maharashtra Elektrosmet Ltd. (MEL) with SAIL**

Pursuant to the approval of the Expert Group set up by the Ministry of Steel that MEL should be merged with SAIL, Board of Directors of SAIL in their 314<sup>th</sup> meeting held on 25.5.06 and in the 193<sup>rd</sup> meeting of MEL Board held on 26.5.06 accorded in principle approval for the merger of MEL with SAIL. Valuation of MEL's shares has been done while valuation of SAIL's equity shares is in progress to decide a swap ratio in which SAIL's shares would be allotted to MEL shareholders. The merger process requires various issues to be resolved with the State Government of Maharashtra, like obtaining "No Objection" for transfer of MEL land in favour of SAIL etc. which is in progress. As soon as the "No Objection" is received from Government of Maharashtra, the actual merger process is expected to be completed within 8-10 months.

#### **Merger of Bharat Refractories Ltd. (BRL) with SAIL**

In-principle approval in respect of merger of BRL with SAIL was obtained from the SAIL Board on 22.9.06 on a clean-slate basis and communicated to the Ministry of Steel on 13.10.06. BRPSE had also recommended the financial restructuring package for BRL. Valuation of assets of BRL has been carried out by MECON Ltd. and thereafter approval of the cabinet for the merger process will be sought.

#### **Acquisition of NISCO and developing it further**

For taking over of the assets of National Iron & Steel Company Limited (NISCO) including about 125 acres of land on a clean slate basis, Government of West Bengal has been requested to provide the final clearance for transfer of NISCO at a nil cost to SAIL. SAIL has proposed to modify the existing mill at NISCO and set up rolling facilities to produce 45380 tonnes per annum of Fe 500 grade TMT bars at an estimated investment of Rs. 48.28 crore (Road – Rs 16 Crore, TMT Mill – Rs 27.89 crore, Contingency – Rs 4.389 crore). Necessary actions like digital survey of the NISCO's land and the proposed route for a link road project is being carried out by NISCO and the Government of West Bengal. Based on final clearance from the State Government, necessary action would be initiated for acquiring of NISCO's assets and developing it further.

#### **Acquisition of Steel Complex Ltd., Calicut, Kerala**

Steel Complex Ltd.(SCL), with a 50,000 tonnes per annum capacity for producing continuous cast billets has approached SAIL through the Government of Kerala for necessary help for its revival. SAIL provided technical guidance from June to December, 2007 due to which the performance of SCL improved by about 18%. SAIL has also provided an interest free trade advance of Rs. 5 crore in December, 2007 for purchase of scrap. The billets produced by SCL will be purchased by SAIL for onward conversion and sale by SAIL. It was decided that SAIL should send a team to discuss and decide the conditions for taking over of SCL through Joint Venture route. The SAIL team discussed the issue with the Government of Kerala on 18.1.08. The MOU between SAIL and Govt. of Kerala to this effect is likely to be signed during March, 2008.

### Revival & Restructuring of HSCL

Government is also working on a revised Revival-cum-Restructuring package for HSCL. In view of the recent performance improvement of the company, as well as the need for more construction related activities in the steel sector, M/s A.F.Ferguson has been appointed as the Consultant to draw out the detailed revised proposal for the Business and Financial Restructuring plan.

### Restructuring/reorganisation of the Bird Group of Companies

A committee was constituted under the Chairmanship of Dr. J.K. Bagachi, former Secretary, in the Ministry of Steel for restructuring/ reorganisation of the Bird Group of Companies. The Committee has submitted its report to the Ministry and the same is under examination.

### Revival of Kulti

Kulti Works which was part of the erstwhile Indian Iron and Steel Company Ltd. (IISCO) is one of the oldest iron works in Asia. Being a captive shop for manufacturing non-ferrous and steel castings for steel plants, Kulti Works had a crucial role in assuring quality and reliable supplies of critical items to SAIL plants. Upon becoming a sick unit, it was referred to BIFR in 1994 and was closed down in 2003. With the closure of Kulti Works, SAIL plants had to depend on outside agencies for a number of critical spares and castings. After amalgamation of IISCO with SAIL in June 2006, the possibility of recommencing production activities at Kulti Works was studied and in July, 2007 the proposal for restarting activities at



Shri Ram Vilas Paswan, Hon'ble Minister for Chemicals & Fertilisers and Steel inaugurating the SAIL Growth Works at Kulti, West Bengal on 25<sup>th</sup> December, 2007. Also seen in the picture are: Shri Pranab Mukherjee, Hon'ble Union Minister for External Affairs; Shri Priyaranjan Dasmunshi, Hon'ble Union Minister for Information & Boardcasting; Shri R.S. Pandey, Secretary, Steel and Shri S.K. Roongta, Chairman, SAIL.

Kulti was approved by the SAIL Board. In view of the implementation of the expansion plans in SAIL, the requirement for castings and machinery is expected to further increase in the coming years. The decision to restart activities at Kulti as a separate unit of SAIL, named the 'SAIL Growth Works' was taken with a view to giving an impetus to the expansion plans of SAIL besides helping in regeneration, development of the locality and economic benefits to the local people. On 25.12.07, Hon'ble Steel Minister inaugurated the starting of activities for operation of 'SAIL Growth Works' at Kulti, West Bengal. The facilities which are to be initially started include non-ferrous and steel foundry, machine shop and other supporting facilities.

## JOINT VENTURES (JVs) AND MEMORANDA OF UNDERSTANDING (MOUs) FOR STRATEGIC INITIATIVES

### MoU with State Government of Jharkhand

SAIL has initiated actions for a new greenfield project in Jharkhand with initial capacity of production envisaged as 6 MTPA and further expansion upto 12 MTPA. A copy of the report has been submitted to the State Government for signing an MoU. Decision of the State Government is awaited.

### JV for Integrated steel Plant

An MoU for setting up a 4 MTPA steel plant in Chhattisgarh preferably in the Bastar area was signed between SAIL, RINL and NMDC on 17.08.2007 with approval of their respective Boards. MECON has been appointed as Consultant to prepare the site selection and economic feasibility report by April 2008. At the request of NMDC, a meeting was taken by Chief Secretary, Government of Chhattisgarh, Raipur on 17.10.2007 with the representatives of NMDC, SAIL, RINL and MECON to facilitate the issues of land, iron ore, water, electricity etc., pertaining to setting up of the proposed steel plant. Action as per guidelines given in this meeting is in progress.

### MoU with BCCL

SAIL entered into an MoU with Bharat Coking Coal Ltd. (BCCL) on 27<sup>th</sup> April, 2006 for providing a soft loan of Rs. 166 crore for the phase-I upgradation of Moonidih Mine at 16 Top seam. The scheme envisages replacement of old longwall equipment for continuation of coal production. The entire production of 0.66 MTPA ROM coal/ 0.46 MTPA washed coking coal from the seam will be available for SAIL steel plants.

### MoU with POSCO

An MoU has been signed by SAIL with POSCO for a strategic alliance with the following salient features:

- Information sharing in the areas of corporate strategy planning;
- Exchange of professionals, including engineers and technicians;
- Know-how and expertise sharing in the areas of development of mines;
- Know-how and expertise sharing in the areas of business practices such as Enterprise Resource Planning (ERP), Process Improvement (PI) and Six Sigma;
- Joint usage of the existing marketing and warehousing network of each other; coordination in procurement of coking coal, nickel and ferro alloys and engagement of transportation vessels; and
- Joint research and development projects.

### MoU with MOIL

SAIL has signed an MoU with MOIL on 26<sup>th</sup> June, 2007 for formation of a JVC for setting up ferro-manganese and silico-manganese plant at Bhilai on 50:50 partnership at an estimated capital outlay of Rs. 225 crore.

### MoU with IL&FS IDC

Steel Authority of India Limited (SAIL) signed an MoU with IL&FS Infrastructure Development Corporation (IIDC) in September 2007, for formation of a special purpose vehicle (SPV) to develop, operate and maintain a steel sector Special Economic Zone (SEZ) at Salem in Tamil Nadu. IIDC is a wholly-owned subsidiary



Shri S.K. Roongta, Chairman SAIL and Mr. Soung - Sik Cho, Senior Executive Vice President and Member of Board, POSCO, exchanging greetings at the MoU signing ceremony on 16th August, 2007 at New Delhi.

company of IL&FS (Infrastructure Leasing & Financial Services Limited), an investment banking institution, and is engaged in advisory and project development activities across diverse sectors. It specialises in providing integrated and comprehensive professional services towards development of infrastructure projects, from conceptualisation to implementation. SAIL and IIDC will hold equity shares in equal proportion in the proposed SPV, which will be formed within one month to initiate the process of development of the SEZ. The SEZ is to be developed in an area adjacent to SAIL's Salem Steel Plant (SSP). SAIL will play the role of lead anchor by providing customised steel products to prospective units in the SEZ which could be set up to manufacture architectural facades, railway applications, dairy plants, chemical and pharmaceutical plants, machines for the food processing industry, tubes and pipes, auto component, panels for lifts, etc. SAIL would gain from the proposed venture in the form of likelihood of assured demand for a part of SSP's stainless steel production, which is going to increase significantly after commissioning of planned facilities under SAIL's growth plan. In addition, SAIL would receive the benefits allowed to an SEZ developer in the form of land lease rentals, tax concessions and earnings from provision of services to the SEZ. The MoU proposes that while SAIL will provide land, IIDC will provide advisory and other related services for the SEZ.

### Joint Venture for Cement Plant

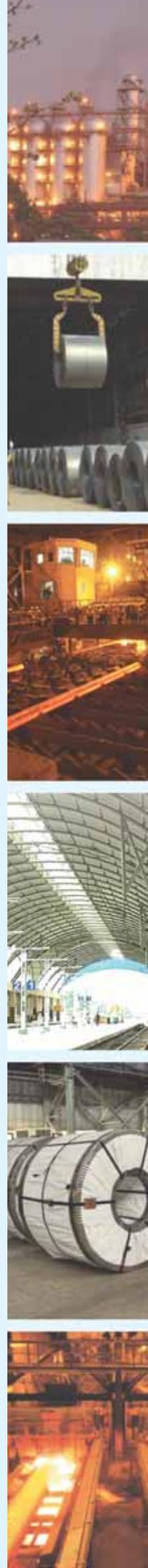
SAIL and Jaiprakash Associates Limited (JAL) have incorporated a Joint Venture Company named Bhilai Jaypee Cement Ltd. with equity contribution of SAIL at 26% of paid-up share capital for setting up a cement plant of 2.2 MTPA capacity, which will utilise BSP blast furnace slag and limestone from Satna mines. The project is at a cost of Rs. 612 crore and is to be financed by 70% Debt and 30% Equity.



MoU being signed amongst SAIL, Indian Railways, NMDC and Government of Chattisgarh for construction of a 235 Kilometres new broad gauge railway line from Dalli-Rajhara to Jagdalpur via Rowghat in Chattisgarh on 11<sup>th</sup> December, 2007, in the presence of (from left to right) Dr. Raman Singh, CM, Chattisgarh; Shri Lalu Prasad Yadav, Hon'ble Minister for Railways; Shri Ram Vilas Paswan, Hon'ble Minister for Chemicals & Fertilisers and Steel; Shri T.R. Velu, Hon'ble State Minister for Railways.

### MoU for developing Dalli-Rajhara to Rowghat Railway line

An MoU was signed on 11<sup>th</sup> December, 2007 amongst Steel Authority of India Ltd. (SAIL), NMDC Ltd., the Ministry of Railways and the State Government of Chhattisgarh for the construction of a 235 kilometer new broad gauge railway line from Dalli Rajhara to Jagdalpur via Rowghat in Chhattisgarh, The new railway line will facilitate transportation of iron ore, minerals, steel, food and forest products. The project will be constructed in two phases. The Phase-I is 95 kilometers from Dalli-Rajhara to Rowghat whereas Phase-II is 140 Kilometers from Rowghat to Jagdalpur. The cost of this Project is estimated at Rs. 968.60 crore at 2004-05 price levels. Phase-I will be completed in five years and SAIL will bear the entire cost of Rs. 304 crore. Phase-II will cost Rs. 640 crore which will be shared by Indian Railways (Rs. 376 crore – 57%), SAIL (Rs. 141 crore – 21%), the State Government of Chhattisgarh (Rs. 76 crore – 12%) and NMDC (Rs. 70 crore – 10%). The process of land acquisition for Phase-I has already begun.





### Agreement with Railways

SAIL has also entered into a Traffic Guarantee Agreement with Rail Vikas Nigam Ltd. (RVNL) under the Ministry of Railways, Government of India on 19<sup>th</sup> December, 2007 for transportation of an assured volume of 5 lakh tonnes of imported coking coal per annum using the Paradip-Haridaspur railway line. SAIL also handed over a cheque for Rs. 2.5 crore as its equity contribution in Haridaspur-Paradip Railway Company Ltd, which has been formed by RVNL as a special purpose vehicle (SPV) for development of an 82-km railway line in Orissa to connect Paradip port with the hinterland. As a strategic investor in the company, SAIL will be provided the required number of rakes from the Indian Railways for movement of imported coking coal to meet its increased production targets of 2010. SAIL will also enjoy reduced freight rates for some destinations.

### MoU with Tata Steel

Steel Authority of India Ltd. (SAIL) and Tata Steel Ltd. (Tata Steel) signed an agreement to establish a 50:50 joint venture company (JVC) for coal mining in India. The JVC will identify, acquire and develop coal blocks in India. Four suitable medium coking coal blocks in the State of Jharkhand with reserves of around 600

million tonnes are under evaluation for this purpose by a joint working group of SAIL and Tata Steel. On allotment of the blocks, the JVC will develop and carry out mining operations for the captive use by SAIL and Tata Steel.



Shri S.K. Roongta, Chairman SAIL and Shri B. Muthuraman, MD Tata Steel signing an agreement to establish a joint venture company for Coal Mining in India on 3<sup>rd</sup> January, 2008.

### MoU with HEC for equipment supply

Steel Authority of India Ltd. (SAIL) signed an MoU with Ranchi-based Heavy Engineering Corporation (HEC), the largest integrated engineering complex in the country, for supply of equipment for its ongoing modernisation & expansion programme. HEC will supply torpedo ladle cars, transfer cars, slab despatch cars, rolls,

EOT cranes and other mechanical equipment required for the modernisation & expansion of the SAIL plants. The MoU with HEC will enable SAIL in achieving security of critical equipment and spares during the growth plan period at competitive prices. HEC was set up in 1958 to manufacture and supply capital equipment, machine tools for core sector industries, especially steel. The company has supplied quality equipment for critical areas during installation of Bokaro Steel Plant in the 1970s and during modernisation of SAIL plants in the 1990s.

SAIL is also successfully managing various JV companies in the non-core areas like power (NTPC & DVC), e-commerce (metal junction with TATA), Steel Service Centre (BMW).

### NMDC's MoU with CMDC

NMDC has signed an MoU with Chhatisgarh Mining Development Corporation, Chattisgarh State for developing Bailadila Deposit 13 Mine for 10 mtpa capacity as a Joint Venture.

### MOIL's Strategic Alliance with BHP Billiton, South Africa

The reserves of high grade manganese ore in India are very limited. Over the years, the demand for

manganese ore and ferro alloys has increased considerably due to increase in the production of Steel. There is likely to be a huge demand gap between the availability and requirement of manganese ore and ferro alloys in the country.

Looking to this aspect, MOIL has been exploring the possibilities of Joint Venture in the following areas for business development :

- Optimum utilisation of Manganese Ore of different grades for domestic markets commensurate with the growth of Steel Industry and Manganese Ore.
- South Africa has 4000 million tonnes of proven reserves which constitutes about 80% of the World Reserves, but accounts for only 18% of the World's production and hence has the huge potential to source the requirement of manganese ore.
- MOIL has signed an MoU with BHP Billiton, South Africa, who is the largest producer of Manganese Ore in the world, for import of high grade low phosphorus. Manganese ore to blend with low/ medium grade high phosphorus Manganese Ore of MOIL for a suitable blend, to meet the demand of ferro alloy industry during the coming years.
- A Working group with senior officials of MOIL and BHP Billiton has been constituted and two rounds of discussions/ visit have been held. Techno-commercial aspects have been discussed in detail and it has been decided to prepare suitable blends using ores of MOIL and BHP Billiton on trial basis.
- The concept study report has been conducted for setting up of 1,00,000 Tonnes Per Year Ferro Alloy Plant in South Africa.



## CHAPTER - XVII

### RECOGNITION AND AWARDS

The PSUs under the Ministry of steel have consistently bagged several prestigious awards for their excellent performance in various categories. Some of the major awards received during the year are highlighted below:

#### STEEL AUTHORITY OF INDIA LTD. (SAIL)

SAIL received various awards/accolades for excellence in a number of fields during the year 2007-08. Some of the major awards are:

- Hon'ble President of India conferred the Business World – FICCI – SEDF Corporate Social Responsibility Award -2006 to SAIL on 7<sup>th</sup> May, 2007. This is the first time that a PSU has won this award since it was



Shri S.K. Roongta, Chairman SAIL (Centre) & Shri G. Ojha, Director (Personnel), SAIL receiving the Business World-FICCI-SEDF Corporate Social Responsibility Award-and citation from the then President of India, Dr. APJ Abdul Kalam on 7<sup>th</sup> May, 2007.

instituted in 1999. The Award recognizes the innovative corporate social responsibility initiatives taken by SAIL in the fields of education, access to drinking water, medical and health care, sanitation, communication /roads, women's empowerment, tribal welfare, environment preservation, sports, heritage preservation etc.

- SAIL bagged 4 Prime Minister's Shram Awards namely 2 Shram Vir and 2 Shram Shri Awards for the year 2004. A total of ten employees (eight from BSP and two from VISL) bagged these laurels. The Awards were given away by Hon'ble Prime Minister Dr. Manmohan Singh in a function organized at Vigyan Bhavan, New Delhi on 27<sup>th</sup> April, 2007.
- SAIL won the Gold Trophy of the prestigious 'SCOPE Award for Excellence and Outstanding Contributions to the Public Sector Management' for the year 2006-07.
- SAIL received 1<sup>st</sup> rank for being "Largest & Most profitable Steel Company (Public Sector)" at Construction World – (NICMAR) Awards 2007 on 30<sup>th</sup> October, 2007 at Mumbai.



Shri S.K. Roongta, Chairman SAIL receiving the "FICCI Annual Award 2006-07 for outstanding achievement" in the category of Rural & Community Development Initiative on 15<sup>th</sup> February, 2008, from Hon'ble Prime Minister, Dr. Manmohan Singh.

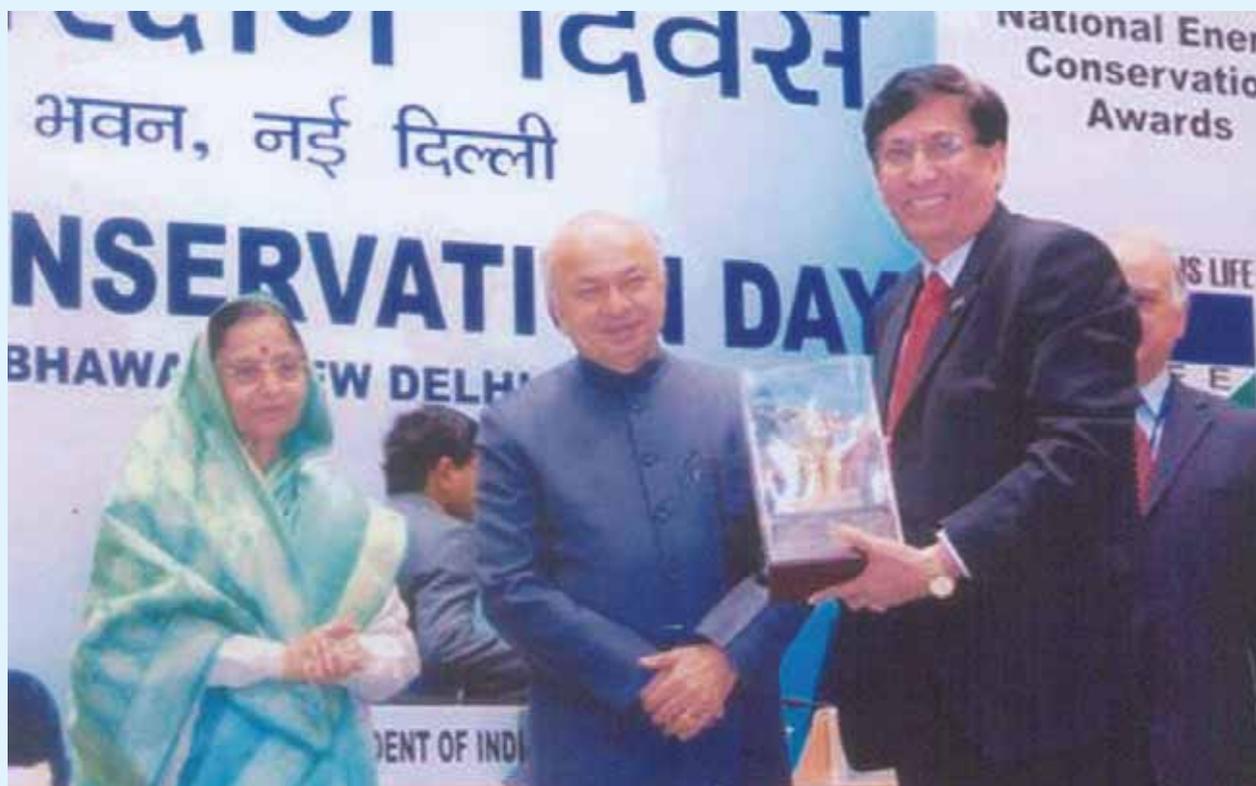
- Fifty one employees of SAIL were awarded the prestigious 'Vishwakarma Rashtriya Puraskar' for the year 2006. The award was given in a function held at Vigyan Bhavan on 7<sup>th</sup> October, 2007.
- A total of nine (five Winners & four Runners up) National Safety Awards were received by SAIL's Bhilai Steel Plant employees during 2007.
- A total of 77 members from SAIL's Steel Plants participated in the International Convention of Quality Circle ( ICQ CC – 07) organized at Beijing, China during 24<sup>th</sup> – 27<sup>th</sup> October, 2007. Two Silver and two Bronze Medals were bagged by the SAIL team members.
- SAIL emerged as runner up in the Category of "Most Innovative Industry Resource" in the Corporate University Best in Class Award 2007 presented in Florida, USA in November, 2007
- SAIL won the prestigious CNBC-TV18 "Employers of Choice Award 2007" in PSU Sector category on 27<sup>th</sup> November, 2007.
- The Research & Development Centre for Iron & Steel (RDCIS) of Steel Authority of India Limited (SAIL) was selected as the Winner of the 'Golden Peacock Innovative Products/ Service Award- 2007' of the Institute of Directors (IOD) on 5<sup>th</sup> January 2008. The Golden Peacock Award signifies the pinnacle of achievement in recognition towards the development of innovative value-added products in high growth segments such as – Construction, Automobiles, Defence etc. Product development activities are among the core activities of RDCIS for which this award has been given.
- SAIL was honoured with the "FICCI Annual Award 2006-07 for outstanding achievement" in the category of Rural & Community Development Initiative on 15<sup>th</sup> February, 2008.

### RASHTRIYA ISPAT NIGAM LTD. (RINL)

The awards and recognitions accorded to RINL during the year 2007-08 are as under:

- National Recognition in the form of "SCOPE BEST ENTERPRISE AWARD". The award is given every year to a PSU/ PSU Banks that has done commendable work for the development of Women in their Companies.





Her Excellency, Hon'ble President of India, Smt. Pratibha Patil, presenting the National Energy Conservation Awards. Shri K.L. Mehrotra, CMD MOIL receives the National Energy Conservation Awards 2007 (First Prize in Mining Sector) for MOIL.

- Prime Minister's Trophy for the year 2005-06 (announced on 27<sup>th</sup> September, 2007).
- Commendation Certificate for Significant Achievement for the year 2006-07 was conferred on RINL by the Confederation of Indian industries (CII) - (presented on 1<sup>st</sup> November, 2007).
- Organisational Excellence Award by INSSAN-2006 (presented on 16<sup>th</sup> February, 2008).
- VSP bagged four Vishwakarma Rashtriya Puraskar (VRP) - 2006 awards at national level for innovative suggestions (presented on 7<sup>th</sup> October, 2007).
- "5 S" certification was awarded to 10 departments of RINL in the month of October, 2007 and to another 10 departments in the month of February, 2008. On the whole, 24 departments of RINL have bagged the "5 S" certification, so far. This is the first of its kind in a public sector steel plant.
- Two Quality Control (QC) teams i.e. "SAMRUDDHI" from Steel Melting Shop department (SMS) and "TRISHAKTI" from Light and Medium Merchant Mill department (LMMM) consisting of 14 members of RINL bagged Gold Medals at the International Convention on Quality Control Circles (ICQCC) 2007 convention organised by China International Conference Centre for Science & Technology (CICCST) at Beijing, China from 24<sup>th</sup> - 27<sup>th</sup> October, 2007.
- RINL was presented "Best Dealer Award" by the Andhra Pradesh State Government for its contribution in payment of taxes to the State exchequer and compliance of Value Added Tax provisions (presented on 4<sup>th</sup> May, 2007).

### **MANGANESE ORE (INDIA) LTD. (MOIL)**

For its continuous excellent performance, MOIL was conferred a number of national and regional recognitions in varied fields of activities. The following are some of the recognition the company has received at national level during the year :

- The President's National Energy Conservation Award for the year 2007.
- 1<sup>st</sup> Prize in Mining Sector for Chikla Mine for the year 2007 awarded by Her Excellency, the President



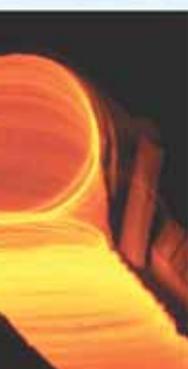
National Award for Excellence in Cost Management for the year 2006 being conferred to NMDC on 2<sup>nd</sup> July, 2007.

- of India, Smt. Pratibha Patil.
- Certificate of Merit in Chemical Sector for the year 2007 for Electrolytic Manganese Dioxide Plant at Dongri Buzurg Mine.
- The company bagged 32 Prizes in the Mines Environment and Mineral Conservation Week 2007-08.

**NMDC LTD.**

- NMDC received IIIIE Enterprise Excellence Award for the year 2005-06 on 18<sup>th</sup> May, 2007.
- NMDC received the Institute of Costs and Works Accountants of India National Award for Excellence in Cost Management 2006 on 2<sup>nd</sup> July, 2007.





## CHAPTER - XVIII

### PROMOTION OF STEEL USAGE

The per capita consumption of steel in India is much lower than that of the developed nations. Therefore, there is a huge potential for growth of steel consumption in the country. While steel use will improve with rising income levels, urbanisation and infrastructure development ; conscious efforts are needed to stimulate domestic demand, particularly in rural areas and for creation of incremental consumption pattern.

#### Awareness campaign to increase domestic steel consumption

One of the major objectives of the National Steel Policy is to augment the demand and consumption of steel in the country by conscious promotion of steel usage. The need for a sustained campaign for creating awareness at different levels of steel users was also strongly brought out in a meeting convened in the Ministry on 17<sup>th</sup> October, 2006 as the present per capita consumption in the country is only around 46 kg (2006) against the world average of 150 kg and that of 400 kg in developed countries. Consequently, a National Steel Promotion Campaign was launched in March 2007 by the Hon'ble Minister for Chemicals & Fertilisers and Steel, with participation of major steel producers such as Steel Authority of India Ltd. (SAIL), Rashtriya Ispat Nigam Ltd. (RINL), JSW Ltd., Jindal Steel & Power Ltd. (JSPL), Essar Ltd., Ispat Industries Ltd. to create a mass awareness regarding various innovative and common uses of steel. The campaign was actively propagated during 2007 through print and electronic media. The Steel Promotion Campaign also places particular emphasis on rural sector steel use. Under this scheme, steel bullock carts have been designed and are being distributed in the rural areas in various parts of the country. The design for steel bullock carts is made by Institute for Steel Development & Growth (INSDAG) and the scheme is sponsored by SAIL, RINL and other private sector steel units. So far, 600 steel bullock carts have been fabricated for distribution. The utility of the steel bullock carts vis-à-vis primitive bullock cart were propagated widely. These will be distributed through the District Administration with preference to weaker sections.

In order to encourage usage of steel in bridges, crash barriers, flyovers and building construction, INSDAG also has been advised to involve Architects/ Engineers to promote steel intensive structural design as being cost effective and efficient. INSDAG is also taking steps for modification of CPWD code and the technical education curricula in the country. The steel campaign will also further expand so as to educate the architects, designers engineers and builders in going for more steel intensive structures in flyovers, bridges, airports, railway station platforms as well as other engineering applications.

#### Distribution network of steel

Responding to the appeal by the Hon'ble Minister for Chemicals & Fertilisers and Steel that prices of steel should be kept at reasonable level to safeguard the interests of the common man in accordance with the UPA's Common Minimum Programme, the main steel producers in a meeting held in the Ministry on 8<sup>th</sup> September, 2006 resolved to make available items of common steel consumption in the rural areas through their dealer network at the same price as applicable in Metros and a decision was taken to have at least one dealer in each district in order to make available steel items to common man. Consequently, a significant part of the cost of transportation as well as distributors/ wholesalers' margin would be borne by the producers. This is providing relief of about Rs. 600 – 1000 per tonne to the individual customer in the rural areas. In order to ensure the availability of commonly used items of steel in the rural areas across the country, SAIL and RINL are expanding their distribution networks at a fast pace with the objective of having dealers in all the districts of the country. Preference for SC, ST and OBC are given while allotting District Level Dealerships and relaxed entry conditions have been formulated for SC/ ST and OBC categories to ensure their wider participation.

#### Steps taken by SAIL to promote usage of steel

- During the year 2007-08 SAIL appointed 911 new district dealers taking the total number of dealers to 1564 in 603 districts for widening the reach of its products. 42% dealers belongs to SC/ ST/ OBC category. Distribution network was enhanced by establishing 6 new warehouses and 1 customer contact offices at new locations during the period April-December 2007. SAIL already has the widest marketing network consisting of 37 Branch Sales Offices, 24 Customer Contact Offices and 56 Warehouses as on 31<sup>st</sup> December, 2007 spread all over the country which helps it in meeting requirements of wide range of customers, in time.



A Tableau presented by the Ministry of Steel is moving from Rajpath to India Gate, on the occasion of the Republic Day Parade, on 26 January 2008 at New Delhi. The Tableau propagated the themes of Steel usage and the role of the Steel Sector as a support base for the infrastructural growth.

- Distribution network was enhanced by establishing 3 new Branch Sales Offices (BSO) and 6 new warehouses.
- District Dealer Meets were conducted at 9 locations during the year (Kolkata, Chennai, Chandigarh, Jaipur, Guwahati, Hyderabad, Varanasi, Patna and Nagpur) for building awareness regarding different usages of steel.
- Items of mass consumption like Rebars and Galvanised Sheets, required by common man are sold through district dealers. SAIL has also introduced a dedicated website [www.straightline.in](http://www.straightline.in) for booking requirement of TMT online by small customers and door delivery developed, to start with at Kolkata and National Capital Region (NCR) of Delhi.
- SAIL has undertaken various promotional activities to promote sales through dealers. Some of them are given below:
  - Wall Paintings.
  - Radio jingles.
  - Product brochures/ technical literature given to the dealers.
  - Promotional items (calendars/ pens/ key chains) distributed among dealers.
  - Advertisement of operative dealers in print media/ dealer details are also updated on the SAIL website.
  - Incentive schemes have been introduced by the company to encourage dealers to perform consistently and promote SAIL steel.
- SAIL is regularly holding architects and masons meets along with its dealers for promotion of SAIL steel.





## RASHTRIYA ISPAT NIGAM LTD. (RINL)

Continuous efforts were made by RINL, VSP for developing new products to meet specific applications for promoting steel usage. High end value added steels like Corrosion Resistant Materials (CRM) and High Strength Corrosion Resistant Materials (HSCRM) for construction in the coastal areas, Spring Steels for railway clips, 27C15 grade for making anchor chains in ship building industry, Vizag TLT grade for Transmission Line Towers, CO<sub>2</sub> grade for continuous welding electrodes, Boron grade steel for high tensile fasteners, SUP11A grade for leaf springs, Cold Head Quality (CHQ) material for fasteners, high manganese steels for automobile applications etc. have been developed over a period of time.

Considering the necessity for high strength rebars for construction purposes, rebars in Fe500 grade have been developed in place of Fe415 rebars. The in-charge of Project Sales from Head Quarters visits all the regions in the country for promoting usage of Fe500 grade rebars.

- In RINL, 131 district level dealers (DLDs) have been appointed to cater to the requirement of small consumers. Action plan has also been drawn in RINL to cover another 83 districts during 2007-08 and 394 districts during 2008-09.
- There has been a steady improvement in the lifting of steel by DLDs. The quantities of steel lifted by them in the last two years and the current year are as under:

(in tonnes)

2005-06	2006-07	2007-08 (Apr-Dec 2007)
7331	10434	21595

RINL is undertaking various promotional activities to make the rural consumers aware of the Steel usage, the Products supplied and their application and advantages of steel usage. Various modes of awareness campaign are as follows:

- Publication of the name and address of the District Level dealers (DLDs) in local edition of newspapers.
- Hoardings at districts advertising RINL's product along with address of local DLDs.
- RINL product advertisement at Bus Stations in district centers and on the buses going from district centers to rural areas.
- RINL Stalls at various Melas, Industrial Fairs etc.
- Propagation of concept design for steel intensive low cost buildings in rural areas through DLDs
- Wall painting at rural locations advertising RINL products.
- Holding DLDs Conferences to bring awareness regarding usage of steel and to discuss various issues of mutual concern.

## CHAPTER – XIX

### CORPORATE SOCIAL RESPONSIBILITY

Corporate Social Responsibility (CSR) has been identified as an important parameter in the Memoranda of Understandings drawn up by all the Public Sector Undertakings (PSUs) with the Ministry for 2007-08 and CSR activities are being monitored closely by the Ministry. All profitable Steel PSUs have made commitments to the cause of CSR and have earmarked at least 2% of their distributable surplus for CSR activities. The total budget allocated for CSR in respect of the PSUs for 2007-08 is around Rs. 230 crore and of these the major contributions are from SAIL (Rs. 100 crore), RINL (Rs. 34 crore) and NMDC (Rs. 89 crore).

The Budget Allocated for CSR activities (2007-08) by the PSUs is as below :

PSUs	Amount
SAIL	Rs.100 crore
NMDC	Rs. 89 crore
RINL	Rs. 34 crore
MOIL	Rs. 3 crore
MSTC	Rs. 1.18 crore
KIOCL	Rs. 2 crore
BRL	Rs. 13 lakh
FSNL	Rs. 6 lakh
MECON	Rs. 20.90 lakh
SIIL	Rs. 5 lakh

The PSUs had been advised to strengthen their existing mechanism for implementation and review of the CSR activities and to empower suitable officials in their respective organisations with appropriate administrative and financial delegation of powers so as to streamline and ensure the implementation of CSR activities as per their respective earmarked budgets. CSR activities focusing on environmental conservation, education, health care, cultural efflorescence and peripheral development, family welfare, social initiatives and other measures are underway in the PSUs. Beginning with the peripheral areas around their respective plants, the PSUs will gradually target the CSR activities to cover the areas populated by the SCs, STs and weaker sections of the society. In addition, the PSUs will also provide assistance to National,





State and reputed local organisations involved in the field of arts, culture, health care, tourism, sports and other allied areas. In view of the calamity brought in by the floods in Uttar Pradesh, Bihar and Assam, some of the PSUs organised immediate relief measures in these affected states. SAIL, NMDC and RINL contributed Rs. 5 crore, Rs. 4 crore and Rs. 2 crore respectively towards the flood relief measures.



In the need of hour SAIL, NMDC and RINL reached out to the flood affected areas with immediate flood relief materials.

### Model steel villages

All the main producers have been urged by the Ministry to adopt villages around their plants and as part of CSR, help develop these villages as model steel villages. Appropriate schemes in the areas of health, education, livelihood promotion through agriculture and/or small scale industries will be drawn up preferably in conjunction with Government's development schemes operated in the area, for their comprehensive development. In such endeavours use of steel will specially be made in items such as storage bins, bullock carts, school buildings, panchayat halls, health centre buildings, water tanks, waiting sheds etc. It has been targeted to cover around 129 villages (SAIL -79, RINL-5, MOIL-5 and NMDC-40) and develop them into modern steel villages.

SAIL has adopted 79 villages across eight States (Chattisgarh, West Bengal, Orissa, Bihar, Jharkhand, Karnataka, Tamil Nadu and Madhya Pradesh) and these will be developed as Model Steel Villages in a phased manner. These villages will be provided with complete infrastructural facilities like developed roads, electricity and water facility, medical and health services, sanitation, schools for providing education family welfare, sports, community centres, training of villagers for income generation and livelihood promotion through Self Help Groups etc. The result of the CSR efforts in this direction will touch all the areas of the villager's life and provide them with improved living standards. The details of the 79 villages, State wise are in the table in the following page.

Details of State-wise 79 villages adopted by SAIL as model steel villages

State	Number of villages
Bihar	5
Jharkhand	12
Orissa	20
West Bengal	18
Chattisgarh	21
Karnataka	1
Madhya Pradesh	1
Tamil Nadu	1
<b>Total</b>	<b>79</b>

Out of the above 79, villages, 12 villages are likely to be ready as Model Steel Villages during the Financial Year 2007-08

MOIL has adopted the following five villages around its mining leasehold areas for their holistic development:

- Kurmuda village in Bhandara district of Maharashtra
- Edurbuchi village in Bhandara district of Maharashtra
- Chargaon village in Nagpur district of Maharashtra
- Manjhara village in Balaghat district of Madhya Pradesh
- Dhansua village in Balaghat district of Madhya Pradesh

## STEEL AUTHORITY OF INDIA LTD. (SAIL)

For the financial year 2007-08, the budget for CSR has been earmarked at 2% of distributable surplus (after dividend and dividend tax) of the fiscal 2006-07 which is around Rs. 100 crore. In addition to the adoption of Model steel villages as brought out above, other major CSR initiatives undertaken by SAIL are as follows:

### Health Camps

- 267 medical camps were held upto December, 2007 covering around 4.75 lakh of the needy population in 11 states (Bihar, Jharkhand, Chattisgarh, Orissa, West Bengal, Tamil Nadu, Karnataka, Maharashtra, Madhya Pradesh, Haryana, Himachal Pradesh) for providing free health check-up, pathological lab treatment, medicine, immunisation, etc.
- The purpose of the Health Camps is to create health awareness and sensitize people on health related issues by way of immunisation, blood-donation, provision of water purification tablets, distributing handbills, condoms, etc. During the health camps, villagers with major ailments are referred to the main plant hospitals for treatment. Provision of specialists in the area of Gynaecology, Cardiology, Pediatrics, Ultrasound, Orthopedics are made, besides activities like changing pacemaker and minor surgery for the affected people.

### Education

Separate schools have been setup for under-privileged children at five Integrated Steel Plants. These schools provide free education, stationery items, support of books, uniforms and nutritious mid-day meals. Around 138 schools in the peripheral areas of SAIL's plants/ units in the country have been supported under such educational schemes. More than 80,000 children receive education in these centres, a majority of which are located within 1-2 kms of the target population making education easily accessible. Through its initiatives in the field of education, SAIL is now able to cover about 394 villages in the peripheral areas providing thousands of students access to quality education.

### HIV/ AIDS prevention

One major initiative in the area of preventive health, which is being implemented across all SAIL plants/ units, is HIV/ AIDS Prevention and Control Programme. This national programme is being implemented by SAIL in its capacity of an inter-sectoral collaborator of the National AIDS Control Organisation under the Ministry of Health & Family Welfare, Government of India since 1999-2000. The company has covered





around 6 lakh non-employees and 1 lakh employees in the AIDS Awareness Programmes since 1999-2000. In 2003, the International Labour Organisation documented SAIL's HIV/ AIDS programme as a case study for workplace intervention.

### Water

SAIL constructs on an average 157 water related infrastructure every year for people living in far-flung areas. Each SAIL plant has ensured that villages within a radius of 20 kms of its township have access to potable water. This has been done by installing 1831 water sources, including borewells, handpumps, overhead tanks, ponds, etc.

### Roads

SAIL has been involved in the construction and repair of 33 kms of pucca roads per year, thereby providing access to modern infrastructure facilities every year to nearly 2 lakh people across 435 villages.



Construction of culvert at Bansgora (left) and linking villages by roads (right) by SAIL's Bokaro Steel Plant.

### Sports

Promotion of sports has been an integral part of the corporate philosophy of SAIL right from its inception. The company has setup 4 sports academies, viz. a hockey academy at Rourkela, an athletics academy for boys at Bhilai, an athletics academy for girls at Durgapur, and a football academy at Bokaro. Continuous emphasis on sports activities has helped in developing players who have gone on to compete at state and national level tournaments. As an organisation, SAIL also undertakes sponsorship of various major sporting events.

### Environment

Extensive plantations have been carried out in SAIL plants and mines and 13.5 million trees have been planted in and around SAIL plants/ mines so far. Tree plantation drive undertaken by BSP for a 100 km stretch of which 30 kms were covered during 2006-07. Medicinal plantation of Amla was undertaken in Chattisgarh region.

### Ancillary Industry

Since the year 1978, 42 units have been identified by SAIL as ancillary units each year progressively at various SAIL plants. Approximately 1,861 units are recognised by the company as ancillary units. This number is constantly increasing. Also, the company has reserved a number of items exclusively for procurement from these ancillary units. These ancillary units have been provided with orders worth Rs. 600 crore each year resulting in employment of more than 700 persons each year. The support has been given by SAIL to the ancillary industries by providing land, supply of potable water and other infrastructure facilities and capability building for their further development.

### Preservation of Art, Culture

SAIL is involved in preserving ancient form of art by promoting various dying art-forms. This is done by promotion of the art form, giving the performers a platform to showcase their talent, etc. Alongwith the ASI,



SAIL has taken up the task of preserving the Lodhi Tomb, development of infrastructural facilities and amenities etc. at Archeological sites of Lauria Nanandangarh and Chankigarh in West Champaran district of Bihar. Plans for adoption of more such monuments are on the cards.

## RASHTRIYA ISPAT NIGAM LTD. (RINL)

RINL sustained its CSR activities during the year 2007-08 in fulfilling its various obligations towards society. A full-fledged CSR Department has been formed to give more thrust to the CSR activities. The RINL CSR Policy has adopted a four-fold strategy as that of a Promoter, Partner, Facilitator and Consultant. The major initiatives taken up by RINL under CSR are given as under:

### Peripheral Development

In order to propagate usage of steel in rural areas a Model Steel Village is being erected at Maddivanipalem. Steel intensive structures will be used for building one Panchayat Meeting Hall, School Building, 10 Steel Huts and 3 Bus Shelters. Construction work is in progress. Around Rs.33 lakh will be spent on these activities. In a novel way, Steel Bullock carts were got designed through Institute for Steel Development and Growth (INSDAG), Kolkata. The utility of the steel bullock carts vis-à-vis primitive bullock carts were propagated by way of display. 50 Steel Bullock carts were distributed at Vizianagaram district at a cost of Rs. 7.60 lakh. Distribution of Mosquito Nets in tribal areas was also undertaken through ITDA. Developmental works in Rehabilitation Colonies and Peripheral villages amounting to Rs.124 lakh were also carried out.

Flood relief work for flood affected people of Bihar was undertaken along with SAIL and NMDC.

### Education

The talents of rural school students of nearby Zila Parishad (Z.P.) schools were recognised by organizing Vidyalaya Divas. Cultural programmes by nationally eminent artists were organized through SPICMACAY in the Community Welfare Centres of Rehabilitation Colonies. The support to SPICMACAY is Rs.10 lakh. Promotion of girl child education in Z.P. Schools of surrounding villages was organised by instituting Gurajada Apparao VSP scholarships at a cost of Rs. 2.5 lakh for 153 girl students. 225 free seats were given for girl students in Visakha Vimala Vidyalayam at a cost of Rs. 8.60 lakh. A workshop towards excellence was conducted for teachers through Academic Staff College, Andhra University. RINL provided a grant of Rs.10 lakh as support to Arunodaya Special School. A specially designed bus was also donated to the school at a cost of Rs. 9 lakh.

### Sports, Cultural Activities and Miscellaneous Activities

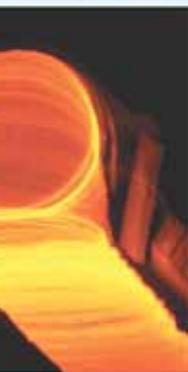
RINL organised district level grid sports through Visakha Vimala Vidyalayam at a cost of Rs. 1 lakh. Vocation Training Programme for women and unemployed youth- like light motor vehicle driving, liquid blue preparation, dress-making, beauty care, Microsoft Office/PC training and pre-school teacher training were organised in Rehabilitation Colonies through Jan Sikshana Samstha, an outfit sponsored by the Ministry of Human Resource Development, at a cost of Rs. 3 lakh for 300 beneficiaries. Bio-diesel plantation worth Rs. 2 lakh of Jatropha was commenced under afforestation programme

### Health and Medical Activities

Multi-Purpose Social Service Camps/ Programmes were organised both at RH Colonies, peripheral area, tribal areas and Mines. Sensitising the residents on various aspects such as Mother and Child Care, Lifestyle Management, Self-employment, Clean and Green Environment, De-addiction, and HIV/ AIDS Awareness Campaigns were conducted at a cost of Rs.1 lakh. Free Eye, ENT & Dental Camps were conducted through Lions Club, Ukkunagaram Chapter at CWC, Vadlapudi, D.Gorlevanipalem and Aganampudi. The Operation Theatre at King George Hospital, Visakhapatnam was upgraded with a support of Rs. 5 lakh from RINL.

Support of Life-line Express (a hospital on wheels) at Vizianagaram a town 60 km from Visakhapatnam, was given for carrying out eye surgeries, cleft lip surgeries and for distributing hearing aids and medicines. Disability rehabilitation campaigns were held during May and December 2007 for physically challenged in Visakhapatnam and Vizianagaram districts. 990 beneficiaries received items like tri-cycles, wheel-chairs, crutches, calipers, hearing aids etc.





Sensitization campaigns on AIDS were undertaken through 'erection of FLEX boards' on NH-5 corridor between Anakapalle and Vizag and by 'enacting of street plays' on AIDS by local theatre artistes in and around Rehabilitation colonies and also in districts of Vizianagaram and Krishna.

## NMDC LTD.

As part of its Corporate Social Responsibility, NMDC initiated various programmes towards peripheral/ community development in surrounding villages of its various production projects. Some of the thrust areas of peripheral development/ community development programme under Corporate Social Responsibility were:

- Medicare
- Education
- Drinking Water
- Infrastructure Development

While the process of providing medicare and drinking water facilities were initiated long back, more structured developmental works in the identified thrust areas commenced around 1989 in a big way. Some of the development works NMDC carried out, more or less commonly in the all the project areas have been:

- Providing school building/ additional class rooms, uniforms, teaching aids etc and cash awards to meritorious students.
- Free medical treatment (both indoor and outdoor) in the project hospitals to local tribals/ villagers.
- Organizing free health camps separately and in conjunction with the State Government Departments.
- Providing drinking water to the nearby villages by constructing open wells, hand pumps etc.
- Providing all-weather roads, culverts etc. connecting neighboring villages
- Providing community buildings, Ashrams, Anganwadis etc., in the nearby villages.
- Skill development training to local adivasi youths.
- To adopt villages for intensive CSR works and to expand CSR activities in Health, Education etc. in different districts around NMDC Projects as also elsewhere.
- NMDC committed a sum of Rs. 50 crore and has already paid Rs. 20 crore for establishment of a Medical College at Jagdalpur.

CSR Expenditure for the last four years and current year 2007-08 (April-December, 2007) :

Parameters	2003-04	2004-05	2005-06	2006-07	2007-08 (April-December)
CSR Expenditure (Rs. in crore.)	3.35	11.79	13.55	24.66	21.36

- As decided by Board of NMDC, budget for CSR expenditure of every year is to be taken as 5% of retained earning of previous year (from the year 2006-07).
- NMDC has become a Member of the Global Compact Forum under the aegis of United Nations Organisation (UNO).

## MANGANESE ORE (INDIA) LTD. (MOIL)

MOIL earmarked 3% of the net profit towards CSR expenditure for the year 2007-08 which comes to Rs 3 crore. The Company has gone beyond the limited sphere of covering the peripheral areas and extended the CSR work to other states like Uttar Pradesh, Bihar etc. The Company has formulated CSR groups both at the corporate level and also at unit levels to implement CSR programmes and constant monitoring is also being done both at the unit level as well as at corporate levels. MOIL organised a large scale medical camp in which about 500 tri-cycles were given to the needy persons hailing from the entire Vidarbha region covering 11 districts. In addition, medical specialists were made available in the camp to examine the patients.

The Company took up a number of developmental activities such as renovation of schools, roads, construction of culverts, drains, provision of drinking water, sanitation, medical care, development of children's park, electrification of schools, street lights, provision of solar lights etc. These works are under progress and will be carried out on a continuous basis. The Company also provided assistance to reputed national and local organisations involved in the field of arts, culture, health care, etc. The Company has contributed Rs. 50,000/- for organising "Kalidas Festival" a week long cultural programme organised by the Government of Maharashtra in Nagpur in which renowned artists perform every year. The Company has been sponsoring this event continuously for the last several years.



Shri K.L. Mehrotra, CMD MOIL presenting keys for three state-of-the-art fully air-conditioned mobile hospital vans equipped with medical gadgets to Hon'ble Minister for Chemicals & Fertilisers and Steel, Shri Ram Vilas Paswan (left) and the CMD MOIL explaining to Hon'ble Minister the various features of equipment installed in the van (right).

The Company provided three fully air-conditioned, Cardiac-cum-Trauma Care Ambulance equipped with latest medical gadgets for cardiac care on emergency. The value of each vehicle together with medical equipment such as Multi-para monitors, Defibrillator Monitor, Infusion pump, etc. is around Rs.18 lakh. The company also distributed 250 tri-cycles to the needy persons hailing from Uttar Pradesh. The Company also distributed 550 Hearing aids and 125 Crutches in the State of Uttar Pradesh besides tri-cycles. In addition to the above, 500 tri-cycles were distributed to physically challenged persons hailing from the villages in Maharashtra and Madhya Pradesh. MOIL has entered into an MoU with Suraj Eye Institute for sponsoring 500 charitable cataract surgeries and lens implementation during the period April 2007 to March 2008 with a view to reduce the burden of blindness under the scheme "Light to Lives". The institute will carry out surgeries for people hailing from the villages located around MOIL mines in the first instance and extend the scope to the areas beyond the periphery of MOIL's mines. The Suraj Eye Institute has commenced with conduct of surgeries and has conducted a camp in Munsar and Beldongri villages located around Gumgaon and Kandri Mines and had successfully conducted 300 surgeries till December 2007.

## MSTC LTD.

MSTC undertook the following CSR activities during the year:

- For the year 2007-08, the company provided financial assistance of Rs. 44 lakh to organisations dedicated to upliftment of poor and mentally retarded children, minor girls and women (upto December, 2007).



- The company has decided to enhance its budget on corporate social responsibility and also adopt a slum near to the Head Office of the company at Kolkata and arrange for primary education and primary health care in collaboration with a NGO.
- Efforts are also being made to protect the environment by beautification of a small park, near its Head Office in Kolkata.

### **FERRO SCRAP NIGAM LTD. (FSNL)**

The Company undertakes various activities in fulfillment of its corporate social responsibilities. FSNL has formulated a comprehensive scheme for discharge of its social responsibilities for upliftment of weaker section. Under the scheme, FSNL has identified various schools located nearby its units, and distributes complete sets of Text books, Notebooks, 2 sets each of School uniforms and other materials of academic use, to the meritorious male and female students belonging to SC, ST & OBC Communities studying in these schools. Nearly 500 students have been benefited under the above scheme. The Company has also extended its support for developing play grounds and providing infrastructure for Football, Volleyball, Handball and other sports activities in these schools. As a measure of environmental protection and to create a healthy atmosphere in the school vicinity, the company has arranged saplings with protecting barricades on both sides of the approach road of the school in Dundera, near Bhilai. Apart from this, the company is also planning to construct a big hall with all facilities like toilets etc., in the above school, at an estimated cost of Rs. 7.70 lakh, for which necessary action has already been initiated.

### **HINDUSTAN STEELWORKS CONSTRUCTION LTD. (HSCL)**

The activities of the Company towards 'Corporate Social Responsibilities' are restricted due to non-availability of distributable surplus. About 78% of the Company's employees and their families are stationed at SAIL/ RINL Steel Plants – Bokaro, Bhilai and Vizag. These Units organised the following activities during 2007-08:

- Tree plantation in HSCL township
- Stress Management Programmes
- Independence Day celebration
- Cultural functions on special days of National Importance
- Construction of temporary sheds for flood protection in Bihar.

### **MECON LTD.**

The major developmental activities being carried out by MECON are as follows :

- Under the "Community education scheme", free education is being provided to the under privileged poor children at 12 primary education centers, which are running in the slum areas/ backward areas/rural areas in and around Ranchi and nearby villages.
- Under the "Resource generation scheme", 8 stitching training centers are running in slum areas backward areas in and around Ranchi. These centers are for the poor womenfolk.
- Under the "Community health programme", the followings areas are being covered:
  - General health/ medicine camps (in and around Ranchi & nearby villages)
  - Flood relief health camp in Bihar
  - Eye operation (Cataract)
  - Family planning operation
  - HIV/ AIDS awareness programme
  - Distribution of bleaching powder & gammacin powder in slum areas/ villages
  - Mass inoculation of children under Pulse Polio programme
- Providing assistance to Cheshire Home (a home for disabled persons), Bariatu, Ranchi in the following areas:
  - Expansion of printing press building to accommodate additional facilities/ services
  - Purchase of crutches, calipers, artificial limbs, tri-cycles, wheel chairs etc.
  - Training in chalk making
  - Opening up of a stitching training center for the womenfolk
  - Providing training & support to youths of the tribal villages in Rupru, District Ranchi and Rai, District Khunti in the following

- Lac cultivation
- Preparation of vermin-compost (earthworm manure)
- Honey bee keeping
- Horticulture/ agro based farming.

### **BHARAT REFRACTORIES LTD. (BRL)**

In spite of liquidity crisis, the Company has been able to educate wards of people settled in and around factory area through establishment of schools. Tree plantation has also been taken up to prevent environment degradation. During the year (upto December, 2007), expenditure was incurred on providing school/bus facilities for the students from nearby village, plantation of trees for protection of environment, running primary school for the benefit of nearby poor people and running school upto class-2 level.

### **SPONGE IRON INDIA LTD. (SIIL)**

During the year, SIIL spent Rs.17 lakh under Corporate Social Responsibility (CSR) against a target of Rs.5 lakh which is 4% of the Profit After Tax of the Company.

### **KUDREMUKH IRON ORE COMPANY LTD. (KIOCL)**

KIOCL has contributed towards CSR activities with the focus primarily being in the area of Education and Health care. In the current financial year, some of the activities undertaken by the Company in respect of various CSR activities as outlined in brief :

- Running of Schools and other expenses on education.
- Forest, ecology and other related matters.
- Distribution of medicine and extension of other medical facilities to the tribal population and other people of nearby areas.
- Financial Assistance towards construction of new rooms at Government Higher Primary School, Horanadu.
- Supply of steel fabrication towards construction of bridge for the convenience of local residents of Nellibeedu, Kudremukh.
- Supply of steel and trusses towards construction of temple and shelter at Kudremukh.
- Supply of pipes to Forest Department, Kudremukh for setting right the gravity water supply system at Bhagavati Nature Camp, Kudremukh.
- Financial assistance to schools at Mangalore and neighbouring areas for conducting sports and other related activities.

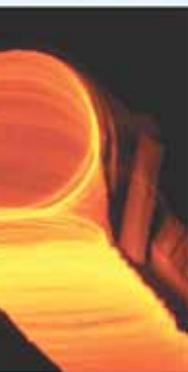
During the year, the Company spent about Rs. 123 lakh towards CSR activities till 31.12.2007.

### **BIRD GROUP OF COMPANIES (BGC)**

The companies under Bird Group undertook various steps to fulfill Corporate Social Responsibility. Some of them are as below:

- The Orissa Minerals Development Co. Ltd. (OMDC) under the group runs one twenty bedded hospital at Thakurani with Ambulance facility. Villagers from adjacent villages are allowed free treatment in the hospital.
- The Bisra Stone Lime Co. Ltd. (BSLC) runs a forty bedded hospital at Birmitrapur with Ambulance facility. Villagers of adjacent villages are allowed treatment at this hospital with nominal charges.
- OMDC arranged to renovate a number of ponds in the villages nearby for the purpose of provision of water.
- Both OMDC and BSLC extended aids to peripheral schools and colleges in the form of construction of building, arranging study materials, providing furniture, school buses etc. Active participation was also made in other awareness programmes.





## CHAPTER - XX

# TECHNICAL INSTITUTES UNDER THE MINISTRY OF STEEL

The Ministry of Steel strives to constantly upgrade the technical skills of the workforce through courses and programmes. The following institutes set up for the purpose deserve a mention for their worthwhile role and contribution:

### BIJU PATNAIK NATIONAL STEEL INSTITUTE (BPNSI)

- Based on the concept plan developed by a task force set up by the Ministry of Steel, a decision was taken to set up a National Steel Institute (NSI) at Puri, as a Training-cum-Service-cum-Research & Development centre under the management of Joint Plant Committee (JPC). The foundation stone for the Biju Patnaik National Steel Institute (BPNSI) at Puri was laid on 1<sup>st</sup> January, 2001. The institute is registered under the Societies Registration Act, 1980 and started functioning from 1<sup>st</sup> January, 2002. The Chairman, JPC is also the Chairman of the BPNSI. The BPNSI was established to help the domestic secondary steel industry to be in tandem with the rapid transformation which global and Indian steel industry has been undergoing. The Cabinet had on 20<sup>th</sup> February, 2004 approved the setting up of the BPNSI at Puri as a full-fledged institute with capital funding from JPC. The shortfall in establishment expenditure is met by the JPC till the Institute becomes self-sustaining. An advance of Rs.10 crore has been given to the BPNSI from the Steel Development Fund, the interest of which is to be utilised for undertaking research and development projects. Presently, the Institute is running in a rented building in Sarbodaya Nagar, Puri. The Institute is managing the resident mission (Eastern Region) of UNDP/ GEF project.

Some of the major initiatives taken by the BPNSI during the year 2007-08 are enumerated below:

- The institute conducts a course on “Advanced Certificate in Iron & Steel Manufacturing and Plant Management” which prepares students to take managerial position in the Industry, since October 2006 onwards. The students have completed their 2<sup>nd</sup> semester course and will take practical training in industries from January 2008 onwards for a period of six months.
- For the benefit of the working executives the said course is being offered from January 2007 onwards as part of its Training and Further Education (TAFE) Programme.
- Visa Steel, Jai Balaji Group and Gonterman Peipers Ltd. have evinced interest to take students of the Institute as industrial trainees.
- Another batch of the iron & steel manufacturing course has been enrolled in January, 2008.

### NATIONAL INSTITUTE OF SECONDARY STEEL TECHNOLOGY (NISST)

The need for Human Resource Development and Technology Upgradation in the Secondary Steel Sector comprising mainly the steel melting units with Electric Arc Furnace (EAF) or Induction Furnaces (IF), and the Re-rolling units has been felt since long. A similar opinion was expressed by the Advisory Committee on Steel Rolling Industries, set up by the Ministry of Steel, Government of India in 1984. It was primarily based on these needs and also the demand from the industry, that the National Institute of Secondary Steel Technology was set up as a registered society on 18<sup>th</sup> August, 1987 under the Chairmanship of the then Development Commissioner for Iron & Steel and presently Joint Secretary, Ministry of Steel, with the following aims and objectives :

- To provide trained technical manpower to the secondary steel sector through short-term and long-term courses and to update their knowledge base.
- To bring awareness about the State of Art Technology by holding Seminars, Workshops and Symposia.
- To provide various industrial services and testing facilities.
- To extend consultancy services to industries in terms of solving technological problems, improving energy efficiency and reducing pollution levels.

- To conduct Research, Development and Design work in frontier areas for providing updated technology to this sector.
- To organise for documentation and information retrieval services to the industry.
- To provide a platform for interaction between industry and educational as well as research institutions.

The following areas of secondary steel sector are under the purview of the Institute:

- Electric Arc and Induction Furnace
- Ladle Refining
- Rolling Mills (Hot & Cold)
- Direct Reduced Iron units

#### Major activities of NISST

- R&D activities
- HRD activities
- Industrial Services/ Consultancy
- Testing services through its
  - Chemical, energy and environmental lab
  - Metallographic lab
  - Spectrometer lab
  - Mechanical and NDT lab
  - Electrical lab
  - Energy Audit

NISST is an ISO 9001-2000 Certified organisation for its laboratories. During the year 2007-08, the Institute achieved milestones and took initiatives as outlined below:

- The Job Oriented Certificate Course (JOCC) in Steelmaking and Rolling Technology run by NISST entered its 16<sup>th</sup> year of operation. This has already provided more than 400 skill/ semi-skilled, supervisory level technical personnel to the secondary steel sector, thereby opening a new channel of employment.
- A new Centre for JOCC has been opened at Pune.
- Metallurgical and mechanical testing were conducted for Garrison Engineers, Punjab State Electricity Board (PSEB), Northern Railway, Power Grid Corporation and Housing Boards.
- NISST has been working jointly with IIT, Kanpur for undertaking a Developmental Project on computer simulation and e-demonstration on reheating furnace operation.
- Upgradation of pollution control laboratory of NISST at Mandi Gobindgarh is underway and shortly will be dedicated to the services of the industry as well as the nation.
- NISST is continuously providing technical support to the secondary steel sector to improve quality, yield, value addition and cost reduction to meet the challenge.
- Human Resource Development activities are being continuously undertaken to improve knowledge and skill of the employees of the secondary steel sector through modular courses.
- The institute organised Seminars, in-house trainings, Safety Awareness programmes and Workshops for the steel industry. It organised National level Seminars at Palakad (Kerala) and Chennai. Chennai Seminar has been planned as annual event.
- NISST has been empanelled by Bureau of Energy Efficiency for conducting energy audits through its qualified and registered energy auditors. Energy audits of industries and buildings including those of





Punjab State Electricity Board, Banks etc. are being carried out with suggestive measures for energy conservation in the service to the nation.

- Process for National Accreditation Board for Testing and Calibration Laboratories (NABL) has been initiated. Once obtained, industry shall be immensely benefited. In the next phase, Bureau of Indian Standards (BIS) certification shall be obtained.
- In-house training programmes have been undertaken in steel industry all over the country. Many units have already placed their request.
- NISST is planning to set up one unit at Kerala engaged in Steelmaking & Rolling for quality and productivity improvement programme.

### **INSTITUTE FOR STEEL DEVELOPMENT & GROWTH (INSDAG)**

The initiatives for setting up the INSDAG emanated from the steel producers and the Institute was registered as society on 26<sup>th</sup> August, 1996. The mission of the Institute is to work in unison with all stake holders in the steel industry so as to evolve ways and means for efficient usage of steel and provide optimum value to the customers. The Institute primarily works towards the development of technology in steel usage and market for the steel fraternity. INSDAG is housed in part of the office of the Joint Plant Committee (JPC) and in a rented building at Kolkata. INSDAG was expected to function and grow on part contribution from the industry. However, the membership contribution is mainly spent in R&D work on development projects and its contribution in establishment expenditure is hardly 20%. The balance of establishment expenses is being met through Grant-in-Aid from the JPC.

### **Education/ Training of Professionals and Teaching Faculty on Steel Design**

For enhancing the knowledge and skill of faculty and professionals in the country on structural steel design methods and technologies, the following Refresher Courses and Short Term Training Programme were conducted:

#### **Refresher Courses**

<b>Title</b>	<b>Venue</b>	<b>Organised with</b>
Steel-Concrete Composite Construction	Bangalore	INSTRUCT Bangalore
Steel-Concrete Composite Construction	Visakhapatnam	IDDC, Visakhapatnam
Designing Steel Structures with limit state- introducing revised IS800	Chennai	L&T ECC, Chennai
Steel-Concrete Composite Construction	Coimbatore	Kumaraguru College of Technology, Coimbatore
Fabrication & Erection of Steel Structures	New Delhi	MODCKON ENGINEERS, New Delhi
Design & Construction of Steel Buildings	Bangalore	INSTRUCT Bangalore
Steel Intensive Construction-efficient connections of Steel Construction and Space Frames	Chennai	L&T ECC, Chennai
Protection of Steel Structures from Corrosion and Fire	Chennai	L&T ECC, Chennai
Fabrication and Erection of Steel Structures	Chennai	L&T ECC, Chennai

**Short Term Training Programme**

Title	Venue	Organised with
Structural Steel Design-Limit State Method	Bhubaneswar, Orissa	Centre for Engineering and Technology, Biju Patnaik University of Technology
Structural Steel Design- Limit State Method	Surat, Gujarat	Sardar Vallabhbhai National Institute of Technology (SVNIT)

**Consultancy assignments**

Some consultancy projects being pursued are as under:

- Ispat Pragati Kendra at SAIL Colony, Ranchi.
- Preparation of Design Manual for rural bridges and culverts for National Rural Road Development Authority, Government of India, Ministry of Rural Development.
- Modern Inter-State Bus Terminal (ISBT) (Both Temporary and Permanent).

Following noteworthy developments during the year enhanced the image and acceptability of the Institute:

- INSDAG was selected as a nodal agency for carrying out the “National Steel Promotion Campaign” with the theme “STEEL FOR LIFE”.
- INSDAG together with the main steel producers i.e. RINL, TATA Steel, JSW, Essar and Ispat floated a new consultancy company – STEELSCAPE Consultancy Private Limited. Besides generating income for INSDAG, the company will help in creating lot of demonstration of steel structures in the country and in increasing steel applications in India.
- Through a national level competition where 17 leading architects participated, a landmark steel intensive design for INSDAG’s office building at Kolkata was finalised. Order for architectural design will be placed on the 1<sup>st</sup> prize winner.
- INSDAG organised eight workshops on “Steel in Construction” with good participation from structural engineers, architects, steel technologists, builders and academicians.
- INSDAG made its presence felt in many international bodies and seminars through its contribution.





## CHAPTER - XXI

# IMPLEMENTATION OF THE RIGHT TO INFORMATION ACT, 2005

### INTRODUCTION

With a view to promoting openness, transparency and accountability in the administration and good governance of the country, the Government of India enacted the Right to Information (RTI) Act, 2005 on 15<sup>th</sup> June, 2005. This is a landmark in the history of Indian democracy. The provisions of sub-section (1) of section 4, sub-section (1) & (2) of section 5, sections 12, 13, 15, 16, 24, 27, and 28 came into force with effect from 15th June, 2005 and the remaining provisions of the Act came into force with effect from 12<sup>th</sup> October, 2005. The objective of the Act is to promote openness, transparency and accountability in the administration and to provide good governance in the country and at the same time to protect the citizens' Right to Information (RTI) to enable every citizen to secure access to the information from public authorities. Correspondingly, dissemination of such information has become an obligation for all public authorities.

### IMPLEMENTATION OF RTI ACT IN THE MINISTRY OF STEEL

A separate Right to Information Cell (RI Cell) with an Under Secretary and an Assistant has been created to provide secretarial assistance in proper implementation of the RTI Act. A Deputy Secretary and a Joint Secretary have been nominated as Public Information Officer (PIO) and Appellate Authority respectively. In addition, two Assistant Public Information Officers (APIOs) have also been nominated. The Ministry also monitors the progress/ proper implementation of RTI Act in its PSUs/ Companies and other organisations which are under its administrative control. The manual of 17 items, details of Appellate Authority/ Public Information Officer, Assistant Public Information Officers and the names of all the Public Authorities with their categories have been hosted on the Ministry's Website [www.steel.gov.in](http://www.steel.gov.in). All the Public authorities under the administrative control of the Ministry of Steel have also hosted the manual of 17 items on their respective websites and have nominated their respective Public Information Officers/ Assistant Public Information Officers and Appellate Authority. Annual Report for the year, 2006-07 of the Ministry of Steel covering all the Public authorities under it was sent to the Central Information Commission. During the year 2007-08 (upto 31<sup>st</sup> December, 2007), the Ministry of Steel alone had received 59 RTI applications for information.

### STEEL AUTHORITY OF INDIA LTD. (SAIL)

A total of 655 applications were received in SAIL as a whole during the first nine months of 2007-08, out of which 51 were for its Corporate Office. Out of these 51 receipts, 13 cases related to SAIL Plants/ Units which have been transferred to the respective Plants/ Units under section 6 (3) of RTI Act. The remaining cases - 38 were disposed off. An Awareness Programme/ Workshop on "Obligations of Public Authorities under RTI" was organised on 5<sup>th</sup> May, 2007 at Corporate Office for the benefit of PIOs and Senior Officers.

### RASHTRIYA ISPAT NIGAM LTD. (RINL)

A total of 44 requests relating to matters such as recruitment of displaced persons, land acquisitions, tenders, product prices, recruitment and training, publications and physically handicapped candidates were received under the provision of Right to Information Act by RINL during the year 2007-08 (1<sup>st</sup> April to 31<sup>st</sup> December 2007). Out of that, 43 requests were disposed off by furnishing information to the seekers and 1 request was rejected. In one case the appellant had appealed to the Central Information Commission. On-line processing/ monitoring of requests and appeals (RTI MIS) under the provision of Right to Information Act was implemented with effect from 1<sup>st</sup> April, 2007. Assistance-cum-awareness campaigns were organised with regard to the implementation of Right to Information Act in the month of September 2007, in the surrounding villages in association with Community Welfare Centers under Visakhapatnam Steel Plant. In the month of December 2007, a Coordination meeting under the chairmanship of Director (Personnel) was conducted for all the Nodal officers and other officers dealing with RTI matters in the organisation, to impart clarity to them for effective implementation of the Act.

### NMDC LTD.

Officers at the level of Executive Director/ General Manager at Head Office and Deputy General Manager/ Senior Manager at the operating mines have been designated as Public Information Officers. Director (Commercial) has been nominated as Appellate Authority. All the details relating to Right to Information Act have been placed in the company's website [www.nmdc.co.in](http://www.nmdc.co.in).

### **MANGANESE ORE (INDIA) LTD. (MOIL)**

MOIL has appointed PIOs at the Corporate Office and PIOs/ APIOs have also been appointed in all its Mining Units. Director (Production & Planning) has been designated as Appellate Authority under the Act. The names of all the PIOs/ APIOs and the Appellate Authority has been also hosted in the website [www.moil.nic.in](http://www.moil.nic.in). 17 manuals prescribed in clause (b) subsection (1) of section (4) were also hosted in the above portal. Awareness has been generated in order to make employees aware about the updates in its website and a Seminar was also organised during the year, to enable employees to appreciate the important aspects of Act.

### **MSTC LTD.**

All replies to queries made under RTI Act were made within the stipulated time period in MSTC.

### **FERRO SCRAP NIGAM LTD. (FSNL)**

FSNL has implemented Right to Information Act, 2005 by nominating CPIO/APIO, finalisation of manuals of 17 items(manuals) and hosting of manuals on Company's website [www.fsnl.nic.in](http://www.fsnl.nic.in). Quarterly reports are submitted to Ministry of Steel and Central Information Commission regularly. All requests for information are being dealt with as per the prescribed guidelines of the RTI Act, 2005.

### **HINDUSTAN STEELWORKS CONSTRUCTION LTD. (HSCL)**

RTI Act has been implemented in HSCL. The Company has nominated one CPIO and seven APIOs. CMD, HSCL is the first Appellate Authority under the Act for the Company. During April to December, 2007 the company received 44 RTI applications and all the 44 applications were disposed off by CPIO. A total of 27 first appeal cases were received and all these were also disposed off by Appellate Authority.

### **MECON LTD.**

In line with the directives of Govt. of India, MECON has also implemented the Right to Information Act 2005. All the relevant manuals pertaining to RTI Act 2005 have been hoisted on MECON's Website – [www.mecon.co.in](http://www.mecon.co.in). A Public Information Officer (PIO) has been nominated by MECON at its headquarters and Assistant Public Information Officers (APIOs) have been nominated at various regional and site offices. The queries from the public are attended to by these nominated officials and replied back by the PIO to the applicant within the stipulated time period.

### **BHARAT REFRACTORIES LTD. (BRL)**

The Right to Information Act 2005 has been implemented in the company and General Manager (Personnel & Administration) has been assigned responsibility of Public Information Officer at the Head Office. Assistant Public Information Officers have been put in place in the other units of BRL.

### **SPONGE IRON INDIA LTD. (SIIL)**

The information sought under the RTI Act was furnished by SIIL as and when requests were received.

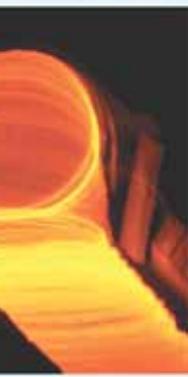
### **KUDREMUKH IRON ORE COMPANY LTD. (KIOCL)**

The Company is complying with the provisions of Right to Information Act, 2005 both in letter and spirit. Information as sought under the Act are provided well within the prescribed time. The Company has appointed Public Information Officers/ Assistant Public Information Officers at various locations for effectively complying with various provisions of the Act. Necessary details as required under the Act are also posted in Company's website.

### **BIRD GROUP OF COMPANIES (BGC)**

A Public Information Officer and an Assistant Public Information Officer have been appointed in BGC to comply with the provisions of the RTI Act.





## CHAPTER - XXII

### DEVELOPMENT OF NORTH-EASTERN REGION

Ministry of Steel has been exempted from the requirement of making 10% of the budgetary allocation in the Demands for Grants for this purpose. However, some of the Public Sector undertakings under the Ministry have undertaken initiatives to take up projects in some of the States in the region.

#### STEEL AUTHORITY OF INDIA LTD. (SAIL)

##### Hot Dip Galvanising Line Project at Dagaon, Assam

In line with the thrust given to development of the North-East and based on a market survey, SAIL Board in January 1997 approved the setting-up of a Hot Dip Galvanizing Line (HDGL) Project to cater to the demand of corrugated and plain galvanised sheets in the North-Eastern region. The envisaged capacity of the Plant was 40,000 tonnes per annum and the estimated cost was Rs. 42.85 crore.

At a later stage it was found that the project was is not financially viable. Therefore it was decided by SAIL Board in March, 2000 that the project be kept in abeyance and alternate strategies, including identification of suitable party who may be interested in owning and executing the project, may be examined. The work was suspended in April, 2000.

Thereafter a Joint-venture company (JVC) named N. E. Steel & Galvanising Pvt. Ltd. (NESGPL) was incorporated in December, 2005 and subsequently, the Deed of Transfer was signed in June 2006 amongst MECON, SAIL and NESGPL for transfer of the turnkey contract of MECON from SAIL to NESGPL.

After transfer of SAIL's rights on the land for the HDGL Project, transfer of financial documents, contract document and vouchers for the expenditure incurred by SAIL on the HDGL Project (including titles and deeds) to NESGPL will be carried-out and the work will be resumed by the JVC.

##### Installation of Steel Processing Unit at Guwahati

With a view to meet increased customer demand for tailor made steel products, it was felt that there is a need to set up Steel Processing Unit (SPU) near the consumption points, particularly in a State where no steel plant is located and where steel consumption is low as compared to national average. As per the National Steel Policy- per capita Steel consumption in rural areas is to improve from 2 to 4 kg by 2019-20. The Working Group on Steel Industry for 11<sup>th</sup> five year plan emphasised that "an important potential area for steel usage resulting from economic growth and rising income levels in the household sector, is in the rural areas. However, unlike urban areas, in rural areas concerted efforts would be required to convert this rural potential into actual consumption of steel".

Keeping this in view, SAIL is considering setting up SPUs at various locations including the North-East region. Guwahati has been identified as a suitable location for setting-up of the SPU based on the demand and availability of steel especially for construction/ housing sector, subject to certain exemptions/ concessions from the State/ Central Government.

The facilities proposed to be installed at Guwahati are TMT Bar Mill, Galvanising, cut-to-length and corrugation line, De-coiling, straightening and cutting of TMT Coils. The land for the project has been identified at Tilingaon near IIT, Guwahati and the State Government has approved land acquisition in December, 2007. The Gazette notification and advertisement for obtaining no objection from land owners is being taken-up by the concerned State Government authorities.

#### RASHTRIYA ISPAT NIGAM LTD. (RINL)

RINL does not have any independent stockyard in the North-East Region. It caters to steel requirements of the Region through the stockyard located in Kolkata and through the traders based in Kolkata. RINL has also been supplying steel directly to the hydro-electric and other projects coming up in the North -East Region. Out of the likely supply of 6000 tonnes to Myntbu Leshka Hydro-electric Project located at Pdeng

Shakap in the State of Meghalaya, more than 5000 tonnes have already been supplied during the year 2007-08. RINL also supplied about 200 to 300 tonnes of steel products to a major hydro-electric project in the State of Sikkim. RINL is also planning to appoint a Consignment Sales Agency at Guwahati shortly to cater to the requirements of North-Eastern States.

### **MECON LTD.**

MECON as an engineering and consultancy organisation has carried out a number of consultancy, engineering and project management assignments for various Government departments and PSUs located in the North Eastern region. Presently MECON is on a look out for fresh assignments in this region.

### **BIRD GROUP OF COMPANIES (BGC)**

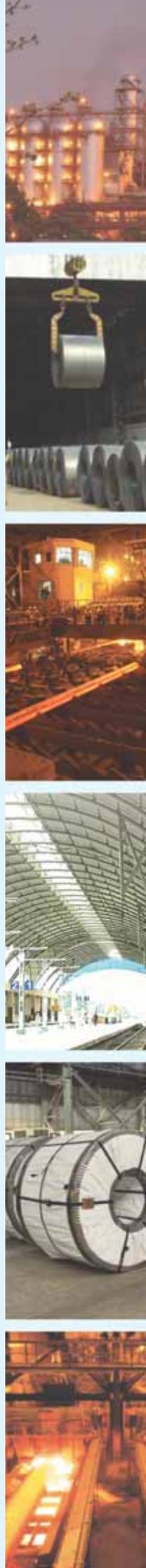
BGC's Scott & Saxby Ltd. (SSL) has played a role in the development of Tea Gardens in the state of Assam by helping in utilisation of underground water. The company had sunk about 600 Deep Tubewells for Tea Gardens in Assam. The company subsequently spread its activities in the state of Tripura and has sunk 179 deep Tubewells in the State till December, 2007. The company has further orders in hand for execution in Tripura. The sinking of deep Tubewells in the State of Tripura constitutes a part of the Rural Development Project of the Department of Public Health Engineering.

### **HINDUSTAN STEELWORKS CONSTRUCTION LTD. (HSCL)**

Another PSU under the Ministry, namely Hindustan Steelworks Construction Ltd. (HSCL) has the following projects under execution in the State of Tripura:

- Rural Roads under the Pradhan Mantri Gram Sadak Yojana (PMGSY)
  - (i) Phase IV: for new connectivity of 37 km, at a cost of Rs. 30.52 crore;
  - (ii) Phase V: for new connectivity of 234 km, at a cost of Rs. 166.80 crore;
  - (iii) Phase VI: for new connectivity of 213 km and upgradation of another 107 km at cost of Rs. 234.35 crore; and
  - (iv) Detailed Project Report for construction of 185 km had been submitted by the company to National Rural Roads Development Agency (NRRDA)
- Construction of three District Hospitals at a cost of Rs. 39.39 crore.

The projects mentioned above in respect of HSCL are various contractual works entrusted to the company by the concerned agencies.





## ANNEXURE - I

### **LIST OF SUBJECTS ALLOCATED TO MINISTRY OF STEEL AS PER GOVERNMENT OF INDIA (ALLOCATION OF BUSINESS) RULES, 1961**

1. Planning, development and facilitation of setting up of iron and steel production facilities including Electric Arc Furnace (EAF) units, Induction Furnace (IF) units, processing facilities like re-rollers, flat products (hot/cold rolling units), coating units, wire drawing units and steel scrap processing including ship breaking.
2. Development of iron ore mines in the public sector and other ore mines (manganese ore, chrome ore, limestone, sillimanite, kayanite, and other minerals used in the iron and steel industry but excluding mining lease or matters related thereto)
3. Production, distribution, prices imports and exports of iron and steel and ferro-alloys.
4. Matters relating to the following undertakings including their subsidiaries, namely:-
  - (i) Steel Authority of India Limited (SAIL);
  - (ii) Rashtriya Ispat Nigam Limited (RINL);
  - (iii) NMDC Limited;
  - (iv) Manganese Ore (India) Limited (MOIL);
  - (v) MSTC Limited;
  - (vi) Ferro Scrap Nigam Limited; and
  - (vii) Hindustan Steelworks Construction Limited (HSCL);
  - (viii) MECON Limited;
  - (ix) Bharat Refractories Limited (BRL);
  - (x) Sponge Iron India Limited (SIIL);
  - (xi) Kudremukh Iron Ore Company Limited (KIOCL);
  - (xii) Bird Group of Companies.

## ANNEXURE - II

# MINISTERS IN-CHARGE AND OFFICERS IN THE MINISTRY OF STEEL DURING 2007-08

(Please see Chapter III)

<b>Minister for Chemicals &amp; Fertilizers and Steel</b>	Shri Ram Vilas Paswan
<b>Minister of State for Steel</b>	Dr. Akhilesh Das
<b>Secretary</b>	Shri R.S. Pandey
<b>Special Secretary &amp; Financial Adviser</b>	Shri A.K.Rath (up to 16.11.2007)
<b>Additional Secretary &amp; Financial Adviser</b>	Shri B.S. Meena
<b>Joint Secretaries</b>	Shri Elias George Shri K.A.S. Deo (up to 10.09.2007) Shri Ajoy Kumar Dr. U.P. Singh
<b>Economic Adviser</b>	Smt. Chandralekha Malviya
<b>Chief Controller of Accounts</b>	Smt. Vibha Pandey
<b>Industrial Adviser</b>	Shri A.C.R. Das
<b>Directors</b>	Shri Anil Sant (up to 9.7.2007) Shri J.P. Shukla Shri Nihar Ranjan Das Shri Navin Soi Shri Mukhmeet Singh Bhatia Shri Ashutosh Baranwal (up to 3.09.2007) Shri Sanjay Mangal
<b>Director level Officers</b>	Dr. Navneet Kumar Sehgal, PS to Hon'ble Minister of State for Steel (up to 21.05.07) Shri Sudhir Garg, PS to Hon'ble Minister of State for Steel Shri Jane Alam, PS to Hon'ble Minister for Chemicals & Fertilizers and Steel Shri D. Kashiva, Additional Industrial Adviser
<b>Deputy Secretaries</b>	Shri L. Siddhartha Singh Smt. Vijayalakshmi Nadendla (upto 1.12.2007) Shri O.P. Kautia (up to 31.12.2007) Shri M.K. Roy Smt. B. Nalini Smt. Indrani Kaushal
<b>Deputy Secretary level Officers</b>	Shri R.P. Rathi, OSD to Hon'ble Minister for Chemicals & Fertilizers and Steel Shri B.D. Ghosh, Joint Industrial Adviser Shri O.P. Sethi, Joint Director (Official language) Shri B.S. Kaushik, Senior PPS to Additional Secretary & Financial Adviser



## ANNEXURE - III

# PRODUCTION OF MAIN AND SECONDARY PRODUCERS

### (SUMMARY)

('000 tonnes)

SL.NO.	ITEM / PRODUCER	2003-04	2004-05	2005-06	2006-07	Apr-Dec'07 (Provisional)
I.	<b>CRUDE STEEL :</b>					
	<b>Main Producers</b>	19756	19738	21402	21868	16178
	ASP + VISL	256	277	292	309	230
	<b>Other Producers</b>					
	EAF/ Corex - LD/MBF-EOF Units	8238	10229	11273	13250	10750
	Induction Furnaces	10477	13193	13493	15390	12450
	<b>TOTAL (Crude Steel)</b>	<b>38727</b>	<b>43437</b>	<b>46460</b>	<b>50817</b>	<b>39608</b>
	% share of Secondary Producers	48.3%	53.9%	53.3%	56.4%	58.6%
II.	<b>PIG IRON :</b>					
	<b>Main Producers</b>	966	625	1007	860	751
	<b>Other Producers</b>	2798	2603	3688	4133	3150
	<b>TOTAL (Pig Iron)</b>	<b>3764</b>	<b>3228</b>	<b>4695</b>	<b>4993</b>	<b>3901</b>
	% share of Secondary Producers	74.3%	80.6%	78.6%	82.8%	80.7%
III	<b>SPONGE IRON :</b>					
	<b>Gas Based</b>	3976	4640	4545	5265	4020
	<b>Coal Based</b>	5901	7897	10280	13080	9880
	<b>TOTAL (Sponge Iron )</b>	<b>9877</b>	<b>12537</b>	<b>14825</b>	<b>18345</b>	<b>13900</b>
IV.	<b>FINISHED STEEL (Alloy/Non-Alloy)</b>					
	<b>Main Producers</b>	15383	15824	16413	17614	13310
	<b>Other Producers</b>	27966	31041	34809	40047	30592
	<b>Less IPT/Own Consumption</b>	2640	3352	4656	5132	3785
	<b>TOTAL (finished steel)</b>	<b>40709</b>	<b>43513</b>	<b>46566</b>	<b>52529</b>	<b>40117</b>
	% share of Secondary Producers	60.8%	71.3%	74.8%	76.2%	76.3%

**EAF** : Electric Arc Furnace  
**LD** : Linz-Donawitz  
**MBF** : Mini Blast Furnace  
**EOF** : Energy Optimising Furnace  
**IPT** : Inter-Plant Transfer

## ANNEXURE IV PRODUCTION OF CRUDE/LIQUID STEEL

('000 tonnes)

PRODUCER	2003-04		2004-05		2005-06		2006-07		Apr-Dec'07 (Prov.)						
	WORKING CAPACITY	% UTILI- SATION	WORKING CAPACITY	% UTILI- SATION											
<b>PUBLIC SECTOR</b>															
<b>B S P</b>	3925	4743	121%	3925	4582	117%	3925	5054	129%	3925	4799	122%	2944	3732	127%
<b>D S P</b>	1802	1759	98%	1802	1806	100%	1802	1801	100%	1802	1869	104%	1351	1433	106%
<b>R S P</b>	1900	1572	83%	1900	1603	84%	1900	1661	87%	1900	1990	105%	1425	1536	108%
<b>B S L</b>	4360	3754	86%	4360	3835	88%	4360	4228	97%	4360	4067	93%	3270	3097	95%
<b>I S P</b>	380	301	79%	520	357	69%	520	434	83%	500	472	94%	375	352	94%
<b>A S P</b>	234	141	60%	234	150	64%	234	140	60%	234	150	64%	175	114	65%
<b>V I S L</b>	95	115	121%	118	127	108%	118	152	129%	118	159	135%	89	116	130%
<b>TOTAL (SAIL) :</b>	<b>12696</b>	<b>12385</b>	<b>98%</b>	<b>12859</b>	<b>12460</b>	<b>97%</b>	<b>12859</b>	<b>13470</b>	<b>105%</b>	<b>12839</b>	<b>13506</b>	<b>105%</b>	<b>9629</b>	<b>10380</b>	<b>108%</b>
<b>R I N L</b>	2910	3403	117%	2910	3452	119%	2910	3494	120%	2910	3497	120%	2182	2319	106%
<b>TOTAL : (Public Sector)</b>	<b>15606</b>	<b>15788</b>	<b>101%</b>	<b>15769</b>	<b>15912</b>	<b>101%</b>	<b>15769</b>	<b>16964</b>	<b>108%</b>	<b>15749</b>	<b>17003</b>	<b>108%</b>	<b>11811</b>	<b>12699</b>	<b>108%</b>
<b>PRIVATE SECTOR</b>															
<b>Tata Steel Ltd Majors</b>	3500	4224	121%	4000	4103	103%	5000	4730	95%	5000	5174	103%	3750	3709	99%
<b>Other E A F Units/ MBF-EOF</b>	5770	5108	89%	6560	6237	95%	7160	6968	97%	9750	8410	86%	8550	7085	83%
<b>INDUCTION FURNACE UNITS</b>	4484	3130	70%	4566	3992	87%	4542	4305	95%	6844	4840	71%	4940	3665	74%
<b>TOTAL : (Private Sector)</b>	<b>14550</b>	<b>10477</b>	<b>72%</b>	<b>17100</b>	<b>13193</b>	<b>77%</b>	<b>18700</b>	<b>13493</b>	<b>72%</b>	<b>19500</b>	<b>15390</b>	<b>79%</b>	<b>15600</b>	<b>12450</b>	<b>80%</b>
<b>TOTAL :</b>	<b>28304</b>	<b>22939</b>	<b>81%</b>	<b>32226</b>	<b>27525</b>	<b>85%</b>	<b>35402</b>	<b>29496</b>	<b>83%</b>	<b>41094</b>	<b>33814</b>	<b>82%</b>	<b>32840</b>	<b>26909</b>	<b>82%</b>
<b>GRAND TOTAL :</b>	<b>43910</b>	<b>38727</b>	<b>88%</b>	<b>47995</b>	<b>43437</b>	<b>91%</b>	<b>51171</b>	<b>46460</b>	<b>91%</b>	<b>56843</b>	<b>50817</b>	<b>89%</b>	<b>44651</b>	<b>39608</b>	<b>89%</b>

Majors = Essar, Ispat &amp; JSWL.



## ANNEXURE - V

# PRODUCTION OF CRUDE/LIQUID STEEL

## 2003-04 TO 2007-08

('000 tonnes )

CATEGORY OXYGEN ROUTE	2003-04	2004-05	2005-06	2006-07	Apr-Dec'07 (Provisional)
<b>B S P</b>	4743	4582	5054	4799	3732
<b>D S P</b>	1759	1806	1801	1869	1433
<b>R S P</b>	1572	1603	1661	1990	1536
<b>B S L</b>	3754	3835	4228	4067	3097
<b>I S P</b>	301	357	434	472	352
<b>V I S L</b>	115	127	152	159	116
<b>R I N L</b>	3403	3452	3494	3497	2319
<b>TATA Steel Ltd.</b>	4224	4103	4730	5174	3709
<b>JSW Steel Ltd.</b>	1608	1875	2268	2643	2300
<b>Other Oxygen Route</b>	445	510	576	724	600
<b>TOTAL OXYGEN ROUTE :</b>	<b>21924</b>	<b>22250</b>	<b>24398</b>	<b>25394</b>	<b>19194</b>
<b>ELECTRIC ARC FURNACE</b>					
<b>A S P</b>	141	150	140	150	114
<b>Essar Steel Ltd.</b>	1837	2360	2510	3006	2685
<b>Ispat Industries Ltd.</b>	1663	2002	2190	2761	2100
<b>Jindal Steel &amp; Power Ltd.</b>	273	379	564	803	915
<b>Lloyds Steel Ltd.</b>	338	454	515	537	360
<b>Jindal Stainless Ltd.</b>	484	535	542	585	415
<b>Other Electric Arc Furnace</b>	1590	2114	2108	2191	1375
<b>TOTAL ELECTRIC ARC FURNACE:</b>	<b>6326</b>	<b>7994</b>	<b>8569</b>	<b>10033</b>	<b>7964</b>
<b>INDUCTION FURNACE</b>	10477	13193	13493	15390	12450
<b>GRAND TOTAL :</b>	<b>38727</b>	<b>43437</b>	<b>46460</b>	<b>50817</b>	<b>39608</b>

## ANNEXURE - VI PRODUCTION OF HOT METAL

('000 tonnes)

P L A N T S	2003-04	2004-05	2005-06	2006-07	Apr-Dec'07 (Provisional)
<b>A. PUBLIC SECTOR</b>					
BHILAI STEEL PLANT	4932	4511	5178	4817	3878
DURGAPUR STEEL PLANT	1982	2017	1953	2064	1620
ROURKELA STEEL PLANT	1727	1691	1778	2124	1648
BOKARO STEEL PLANT	4108	4132	4707	4588	3502
IISCO STEEL PLANT	641	684	782	775	500
VISVESVARAYA I & S PLANT	173	168	205	238	163
RASHTRIYA ISPAT NIGAM	4055	3920	4153	4046	2943
<b>SUB TOTAL (A) :</b>	<b>17618</b>	<b>17123</b>	<b>18756</b>	<b>18652</b>	<b>14254</b>
<b>B. PRIVATE SECTOR</b>					
TATA STEEL LTD.	4466	4347	5177	5552	4145
OTHER BLAST FURNACE UNITS	6081	6831	7879	10463	7751
<b>SUB TOTAL (B) :</b>	<b>10547</b>	<b>11178</b>	<b>13056</b>	<b>16015</b>	<b>11896</b>
<b>TOTAL (A+B) :</b>	<b>28165</b>	<b>28301</b>	<b>31812</b>	<b>34667</b>	<b>26150</b>



## ANNEXURE - VII

### PRODUCTION OF PIG IRON

('000 tonnes)

P L A N T S	2003-04	2004-05	2005-06	2006-07	Apr-Dec'07 (Provisional)
<b>A. <u>PUBLIC SECTOR</u></b>					
BHILAI STEEL PLANT	121	10	127	40	93
DURGAPUR STEEL PLANT	51	52	26	38	34
ROURKELA STEEL PLANT	13	9	15	44	25
BOKARO STEEL PLANT	89	74	166	160	90
IISCO STEEL PLANT	222	186	213	177	80
VISVESVARAYA I & S PLANT	31	21	21	49	24
RASHTRIYA ISPAT NIGAM	439	273	439	352	405
<b>SUB TOTAL (A) :</b>	<b>966</b>	<b>625</b>	<b>1007</b>	<b>860</b>	<b>751</b>
<b>B. <u>PRIVATE SECTOR</u></b>					
BLAST FURNACE/ COREX UNIT	2798	2603	3688	4133	3150
<b>SUB TOTAL (B) :</b>	<b>2798</b>	<b>2603</b>	<b>3688</b>	<b>4133</b>	<b>3150</b>
<b>TOTAL (A+B) :</b>	<b>3764</b>	<b>3228</b>	<b>4695</b>	<b>4993</b>	<b>3901</b>

**ANNEXURE - VIII**  
**PRODUCTION FOR SALE OF FINISHED STEEL**  
(Non-Alloy & Alloy Steel)

('000 tonnes)

P L A N T S	2003-04	2004-05	2005-06	2006-07	Apr-Dec'07 (Provisional)
<b>A. PUBLIC SECTOR</b>					
BHILAI STEEL PLANT	3013	3200	3238	3232	2677
DURGAPUR STEEL PLANT	704	702	676	707	513
ROURKELA STEEL PLANT	1570	1540	1606	1939	1509
BOKARO STEEL PLANT	3259	3439	3504	3612	2621
IISCO STEEL PLANT	246	272	259	316	241
RASHTRIYA ISPAT NIGAM	2834	2904	2980	3042	2156
ALLOY STEEL PLANT	37	26	27	29	22
SALEM STEEL PLANT	85	134	171	183	172
VISVESVARAYA I & S PLANT	100	102	131	131	92
Less INTERPLANT TRANSFER	20	10	7	15	15
<b>SUB TOTAL (A) :</b>	<b>11828</b>	<b>12309</b>	<b>12585</b>	<b>13176</b>	<b>9988</b>
<b>B. PRIVATE SECTOR</b>					
TATA STEEL LTD	3535	3505	3821	4423	3307
MAJORS	5832	6786	9534	11629	9650
OTHER PRODUCERS	22134	24255	25275	28418	20942
Less Own Consumption (Major & Others)	2620	3342	4649	5117	3770
<b>SUB TOTAL (B) :</b>	<b>28881</b>	<b>31204</b>	<b>33981</b>	<b>39353</b>	<b>30129</b>
<b>TOTAL PRODUCTION FOR SALE(A+B)</b>	<b>40709</b>	<b>43513</b>	<b>46566</b>	<b>52529</b>	<b>40117</b>



## ANNEXURE- IX

# CATEGORYWISE PRODUCTION FOR SALE OF FINISHED STEEL (NON-ALLOY) (‘000 tonnes)

CATEGORY	2003-04				2004-05				2005-06				2006-07				Apr-Dec'07 (Provisional)				
	M.P.	Others	IPT/ OC	TOTAL	M.P.	Others	IPT/ OC	TOTAL													
<b>1. Non-Flat Products</b>																					
<b>Bars &amp; Rods</b>	4236	10120		14356	4496	10851		15347	4622	12014		16636	5161	13650		18811	3934	10500		14434	
<b>Structurals/Spl.Sec.</b>	1176	2768		3944	1043	2965		4008	1087	3397		4484	1104	3780		4884	762	2850		3612	
<b>Rails&amp;Rly.Materials</b>	834	95		929	912	95		1007	894	119		1013	918	120		1038	702	100		802	
<b>TOTAL (Non-flat product)</b>	<b>6246</b>	<b>12983</b>		<b>19229</b>	<b>6451</b>	<b>13911</b>		<b>20362</b>	<b>6603</b>	<b>15530</b>		<b>22133</b>	<b>7183</b>	<b>17550</b>		<b>24733</b>	<b>5398</b>	<b>13450</b>	<b>0</b>	<b>18848</b>	
<b>2. Flat Products</b>																					
<b>Plates</b>	1933	249		2182	2248	327		2575	2321	653		2974	2450	892		3342	1985	826		2811	
<b>H R Coils/Skelp/Strips</b>	3949	5331	523	8757	3803	5971	559	9215	4088	7116	1689	9515	4526	8464	1809	11181	3490	6440	1860	8070	
<b>H R Sheets</b>	302	554		856	299	811		1110	309	300		609	292	411		703	226	317		543	
<b>C R Coils/Sheets/Strips</b>	1768	3707	1918	3557	1843	4292	2650	3485	1918	4881	2810	3989	1936	5511	3125	4322	1360	3985	1790	3555	
<b>GP/GC Sheets</b>	774	2356		3130	804	2868		3672	807	2975		3782	813	3578		4391	541	2585		3126	
<b>Elec.Sheet</b>	71	68		139	57	64		121	70	78		148	76	72	5	143	60	57		117	
<b>Tin Plates</b>	41	124		165	35	139		174	32	150		182	17	155		172	11	120		131	
<b>T M B P</b>	32	-	20	12	18	6	10	14		7	7	0	9	11	11	9				0	
<b>Tin Free Steel</b>				0		2	2	2				0		2		2				0	
<b>TOTAL (Flat Products)</b>	<b>8870</b>	<b>12389</b>	<b>2461</b>	<b>18798</b>	<b>9107</b>	<b>14480</b>	<b>3219</b>	<b>20368</b>	<b>9545</b>	<b>16160</b>	<b>4506</b>	<b>21199</b>	<b>10119</b>	<b>19096</b>	<b>4950</b>	<b>24265</b>	<b>7673</b>	<b>14330</b>	<b>3650</b>	<b>18353</b>	
<b>3. Pipes (Large dia)</b>	71	486		557	53	535		588	63	995		1058	88	1110		1198	60	820		880	
<b>TOTAL (Fin. Carbon Steel)</b>	<b>15187</b>	<b>25858</b>	<b>2461</b>	<b>38584</b>	<b>15611</b>	<b>28926</b>	<b>3219</b>	<b>41318</b>	<b>16211</b>	<b>32685</b>	<b>4506</b>	<b>44390</b>	<b>17390</b>	<b>37756</b>	<b>4950</b>	<b>50196</b>	<b>13131</b>	<b>28600</b>	<b>3650</b>	<b>38081</b>	

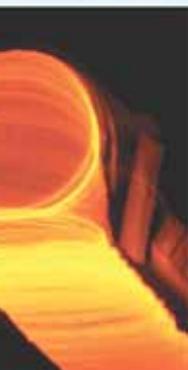
IPT/OC : Inter Plant Transfer/own consumption; TMBP : Tin Mill Black Plates; MP: Main Producers.

## ANNEXURE - X

### IMPORT OF IRON & STEEL THROUGH MAJOR INDIAN PORTS

('000 tonnes)

Sl. CATEGORY	2003-04	2004-05	2005-06	2006-07	Apr-Dec'07 (Provisional)
<b>I <u>Semi-finished Steel(Non-Alloy)</u></b>					
Semis	86.5	227.3	372.1	268.7	88.3
Re-rollable Scrap	50.6	100.9	169.5	154.7	152.4
Finished Steel(Non-Alloy)					
Bars & Rods	71.0	128.6	375.0	290.1	383.9
Structurals	17.4	66.4	99.1	86.2	66.7
Rly.Materials	0.2	2.1	0.3	2.5	9.4
Plates	423.5	423.1	791.9	1124.5	1130.2
HR Sheets	41.0	61.7	31.7	56.9	22.7
HR Coils/skelp/Strips	413.3	816.8	1526.6	1571.7	2239.4
CR Coils/Sheets	242.9	287.3	487.2	605.8	559.7
GP/GC Sheets	102.1	105.8	134.1	195.2	189.5
Elec.Sheets	80.6	110.8	215.9	252.4	171.2
TMBP	0.2	0.2	1.9	1.8	3.1
Tin Plates	35.4	42.1	75.8	124.1	77.3
Tin Plates Waste Waste	16.4	13.6	22.5	25.0	37.7
Tin Free Steel	28.7	21.7	28.2	32.2	34.3
<b>TOTAL Fin. Steel (Non-Alloy)</b>	<b>1472.7</b>	<b>2080.2</b>	<b>3790.2</b>	<b>4368.4</b>	<b>4925.1</b>
<b>TOTAL STEEL (Non-Alloy)</b>	<b>1609.8</b>	<b>2408.4</b>	<b>4331.8</b>	<b>4791.8</b>	<b>5165.8</b>
<b>II <u>Alloy/Stainless Steel</u></b>	223.0	195.1	478.0	503.6	371.3
<b>TOTAL Steel (I + II)</b>	<b>1832.8</b>	<b>2603.5</b>	<b>4809.8</b>	<b>5295.4</b>	<b>5537.1</b>
<b>III <u>Other Steel Items.</u></b>					
Pipes & Fittings	133.3	57.5	118.5	137.2	69.8
Misc.Steel Items	53.9	109.0	473.6	317.7	311.1
Steel Scrap	1497.3	2042.0	3335.8	2185.3	1718.5
<b>IV <u>Iron</u></b>					
Pig Iron	2.6	8.3	2.8	3.7	6.8
Sponge Iron	-	-	-	0.1	0.6
H.B.Iron	-	-	-	-	-
<b>V <u>Ferro-Alloys</u></b>	36.0	42.5	49.7	105.9	165.5
<b>GRAND TOTAL :</b>	<b>3555.9</b>	<b>4862.8</b>	<b>8790.2</b>	<b>8045.3</b>	<b>7809.4</b>



## ANNEXURE - XI CATEGORY-WISE EXPORTS

('000 tonnes)

CATEGORY	2003-04	2004-05	2005-06	2006-07	Apr-Dec'07 (Provisional)
SEMIS (Non-Alloy)	684.0	261.0	388.3	665.3	284.0
<b>FINISHED STEEL (Non-Alloy)</b>					
Bars & Rods	499.0	162.0	387.0	329.0	147.0
Structurals	64.0	70.0	89.4	75.0	54.0
Plates	355.0	158.0	149.8	106.5	101.0
H R Sheets/Coils	1522.0	1328.0	1371.1	1580.3	1092.0
C R Sheets/Coils	770.0	620.0	450.5	386.4	390.0
GP/GC Sheets	1486.0	1843.0	1842.6	2173.3	1560.0
Electrical Sheets	34.0	15.0	24.4	1.5	19.0
Tinplates	29.0	36.0	43.0	37.0	27.0
Pipes	76.0	149.0	120.0	203.5	153.0
<b>Total Finished Steel (Non-Alloy)</b>	<b>4835.0</b>	<b>4381.0</b>	<b>4477.8</b>	<b>4892.5</b>	<b>3543.0</b>
<b>Total Steel (Non-Alloy)</b>	<b>5519.0</b>	<b>4642.0</b>	<b>4866.1</b>	<b>5557.8</b>	<b>3827.0</b>
<b>Total Steel (Alloy)</b>	<b>372.0</b>	<b>324.0</b>	<b>323.0</b>	<b>349.0</b>	<b>304.4</b>
PIG IRON	518.0	393.0	440.1	706.7	326.0
SPONGE IRON			42.3	55.6	5.0

## ANNEXURE - XII

## A SUMMARY OF IMPORTANT AUDIT OBSERVATIONS FOR THE YEAR 2007

### STEEL AUTHORITY OF INDIA LIMITED (SAIL)

#### Audit Report No. 9 of 2007 (Performance Audit)

#### Coal Dust Injection System in the blast furnaces

Steel Authority of India Limited (SAIL) operates 24 Blast Furnaces (BF) with an annual production capacity of 13.60 million tonnes (MT) of hot metal. Metallurgical Coke (Met Coke or BF Coke) forms a major portion of the cost of hot metal production. For replacement of expensive metallurgical coke with non-coking coal, SAIL introduced Coal Dust Injection system (CDI) in six blast furnaces in Bhilai Steel Plant and Bokaro Steel Plant. The Company was eager to modernise its BFs for making them cost effective but it did not ensure availability of commensurate infrastructural facilities for successful operation of CDI. This resulted in under utilisation of the capacity for CDI, created at a cost of Rs.1467.80 crore and loss of Rs.142.60 crore due to shortfall in the targeted substitution of BF cake.

SAIL also has a Corporate Plan to introduce CDI in all the Plants in a phased manner. Proposals for installation of CDI in five more blast furnaces in Durgapur Steel Plant, Bokaro Steel Plant and Rourkela Steel Plant at an estimated cost of Rs. 406.08 crore had been approved. Before committing fresh investments in the installation of CDIs in other blast furnaces, the Management had not rectified or improved the condition of the selected BFs nor created commensurate infrastructure to achieve the optimum utilization of CDI System.

#### Audit Report No. 11 of 2007 (Regularity Audit)

Non-disposal of iron ore fines accumulated at Gua Ore Mines resulted in non realization of revenue of Rs. 1507 crore.

(Para 18.4.1)

Notwithstanding rising prices, the Company purchased Moly Oxide on piecemeal basis resulting in extra expenditure of Rs. 10.04 crore during 2004-05.

(Para 18.4.2)

Delay in finalization of tenders for "Back up rolls" resulted in extra expenditure of Rs. 8.20 crore due to subsequent purchase at higher price and production loss of Rs. 375.52 crore due to unscheduled change of the rolls.

(Para 18.4.3)

Hot Rolled Coil lifted under Export Incentive Scheme was irregularly considered towards fulfilment of Memorandum of Understanding (MoU) quantity. In another case, enhancement of MoU quantity was allowed in contravention of Company policy. These resulted in irregular payment of Turnover Discount of Rs. 8.03 crore by the Company.

(Para 18.4.4)

Poor performance of ingot moulds produced in-house at Durgapur Steel Plant foundry due to deficiencies in processing and manufacturing resulted in excess consumption of ingot moulds involving an extra expenditure of Rs. 7.02 crore during 2003-04 and 2004-05.

(Para 18.4.5)

Non-implementation of the Company's decision for recovery of electricity charges as per tariff of State Electricity Board from employees resulted in loss of Rs. 1.22 crore to the Company.

(Para 18.4.6)





Agreement to sell a quantity of 3.50 lakh Metric Tonnes of granulated slag against the willingness of the buyer to purchase four lakh Metric Tonnes, resulted in a loss of revenue of Rs. 1.06 crore to the Company.

(Para 18.4.7)

## **RASHTRIYA ISPAT NIGAM LTD. (RINL)**

### **Audit Report No. 11 of 2007 (Regularity Audit)**

The Company did not evaluate the financial position of the vendor before placing an order and incurred avoidable extra expenditure of Rs. 9.13 crore.

(Para 18.3.1)



## **MECON LTD.**

### **Audit Report No. 11 of 2007 (Regularity Audit)**

Decision to acquire additional office accommodation without proper assessment of requirement resulted in unfruitful expenditure of Rs. 11.08 crore to the Company, besides payment of interest and operation and maintenance charges to the extent of Rs. 1.59 crore upto January 2006.

(Para 18.1.1)



## **MSTC LTD.**

### **Audit Report No. 11 of 2007 (Regularity Audit)**

Due to the decision to enter into a contract with an agency without proper business credentials and inadequate supervision of the activities of that agency, the Company suffered a loss of Rs. 11.66 crore in financing the purchase of castor seeds and export of castor oil.

(Para 18.2.1)





सत्यमेव जयते

**MINISTRY OF STEEL**

GOVERNMENT OF INDIA

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