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Profile of Steel Authority of India Limited

4.0 INTRODUCTION

Steel Authority of India Limited (SAIL) is a leading steel-making company in India and one of the seven Maharashtra Central Public Sector Enterprises. It has fully integrated iron and steel plants and produces basic and special steel products. It caters the need of construction, engineering, power, railway, automotive and defence industries in India (SAIL, n.d.) and also exports it to overseas markets. SAIL produces a broad range of steel products, like hot & cold rolled sheets and coils, galvanized sheets, electrical sheets, structurals, railway products, plates, bars, rods, stainless steel and other alloy steels (SAIL, 2014).

SAIL has five integrated plants i.e. Bhilai Steel Plant, Durgapur Steel Plant, Rourkela Steel Plant, Bokaro Steel Plant and IISCO Steel Plant and three special steel plants i.e. Alloy Steel Plant, Salem Steel Plant and Visvesvaraya Iron and Steel Plant. All these plants are located in the eastern and central regions of India. These plants are situated close to domestic sources of raw materials. SAIL also has Company’s iron ore, limestone and dolomite mines near its plants. SAIL is the India’s second largest producer of iron ore and has the country’s second largest mines network. Therefore, SAIL is competitive in terms of availability of iron ore, limestone, and dolomite, the inputs for steel making.

SAIL has a Central Marketing Organization (CMO) which has a network of 37 Branch Sales Offices spread across the country, 25 Departmental Warehouses, 42 Consignment Agents and 27 Customer Contact Offices. CMO has the responsibility to carried out the marketing of wide range of long and flat steel products which are much in demand in India as well as in the overseas markets. The demands of customers in the remote areas of the country is meet by an ever increasing network of rural dealers, these dealer supplemented marketing efforts of CMO in domestic market. At present there are more than 2000 rural dealers in the country. SAIL’s wide spread marketing ensures availability of quality steel in all the districts of the country.
Exports of Mild Steel products and Pig Iron from SAIL’s five integrated steel plants are undertaken by International Trade Division (ITD). ITD is an ISO 9001:2000 accredited unit of CMO, located at New Delhi. 

SAIL’s Consultancy Division (SAILCON) located at New Delhi, with four decades of technical and managerial expertise and know-how in steel making, offers services and consultancy to clients all over the world. 

SAIL has a well-equipped Research and Development Centre for Iron and Steel (RDCIS) at Ranchi which helps to produce quality steel and develop new technologies for the steel industry. SAIL also has its own in-house Centre for Engineering and Technology (CET), Management Training Institute (MTI) and Safety Organization at Ranchi. Captive mines of SAIL are under the control of the Raw Materials Division in Kolkata. The Environment Management Division and Growth Division of SAIL operate from their headquarters in Kolkata (SAIL, n.d.).

4.1 BRIEF HISTORY OF STEEL AUTHORITY OF INDIA LIMITED (SAIL)

After the independence of India, a need was felt to develop the infrastructure for rapid industrialization of the country. The steel sector was crucial to propel the economic growth of the country. Therefore, Hindustan Steel Private Limited (HSL) was set up on January 19, 1954. Initially, HSL was designed to manage only one plant that is Rourkela steel plant. The preliminary work was done by the Iron and Steel Ministry for Bhilai and Durgapur Steel Plants. But the supervision and control of Bhilai and Durgapur steel plants were also transferred to Hindustan Steel from April 1957. The registered office of HSC was originally in New Delhi but later, it was moved to Calcutta in July 1956 and ultimately to Ranchi in December 1959 (SAIL, n.d).

Bhilai and Rourkela Steel Plants completed their 1 Million tonne stage by the end of December 1961. One Million tonne phase of Durgapur Steel Plant was completed in January 1962, after commissioning of the Wheel and Axle plant. The crude steel production of HSL increased from .158 Million Tonne in 1959-60 to 1.6 Million Tonne. Bokaro Steel Limited was established in January 1964 to construct and operate the steel plant at Bokaro. Bhilai Steel Plant completed its second phase in September 1967, after commissioning of the Wire Rod Mill. Tandem Mill, the last
unit of 1.8 Million Tonne phase of Rourkela was commissioned in February 1968 and the 1.6 MT stage of Durgapur Steel Plant was completed in August 1969, after commissioning of the Furnace in SMS. With the completion of the 2.5 MT stage at Bhilai, 1.8 MT at Rourkela and 1.6 MT at Durgapur, the total crude steel production capacity of HSL increased to 3.7 MT in the year 1968-69 and to 4.0 MT in the year 1972-73 (SAIL, n.d).

The Ministry of Steel and Mines presented a newly drafted policy statement to the Parliament on December 2, 1972 to evolve a new model for managing the steel industry by creating a holding company to manage inputs and outputs under one umbrella. Based on this, Steel Authority of India Ltd was incorporated on January 24, 1973, with an authorized capital of Rs. 2000 crores. SAIL was made responsible for managing five integrated steel plants at Bhilai, Bokaro, Durgapur, Rourkela and Burnpur, the Alloy Steel Plant and the Salem Steel Plant. Later, SAIL was restructured as an operating company in the year 1978.

SAIL is playing a crucial role in developing a sound infrastructure for the industrial development of the country since its inspection. It has greatly contributed to the development of technical and managerial expertise. It has triggered the secondary and tertiary waves of economic growth by continuously providing the inputs for the consuming industry (Prathuru, 2012).

4.2 OWNERSHIP AND MANAGEMENT

The Government of India owns about 75% of SAIL’s equity and retains voting control of the Company. However, by virtue of its ‘Maharatna’ status, SAIL enjoys significant operational and financial autonomy (SAIL, n.d.).

4.3 VISION

To be a respected world Class Corporation and the leader in Indian steel business in quality, productivity, profitability and customer satisfaction. (SAIL, n.d).
4.4 BOARD OF DIRECTORS

Table 4.1 shows the present composition of board of directors of Steel Authority of India Limited.

<table>
<thead>
<tr>
<th>No.</th>
<th>Designation</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Chairman</td>
<td>Shri P K Singh</td>
</tr>
<tr>
<td>3.</td>
<td>Director – Finance</td>
<td>Shri Anil Kumar Chaudhary</td>
</tr>
<tr>
<td>4.</td>
<td>Director – Technical</td>
<td>Shri SSMohanty</td>
</tr>
<tr>
<td>5.</td>
<td>Director – Personnel</td>
<td>Dr. N Mohapatra</td>
</tr>
<tr>
<td>6.</td>
<td>Director – Projects &amp; Business Planning</td>
<td>Shri G. Vishwakarma</td>
</tr>
<tr>
<td>7.</td>
<td>Director – Raw Material &amp; Logistics</td>
<td>Shri KalyanMaity</td>
</tr>
<tr>
<td>8.</td>
<td>Independent Director</td>
<td>Dr. Atmanand</td>
</tr>
<tr>
<td>9.</td>
<td>Independent Director</td>
<td>Shri J.M. Mauskar</td>
</tr>
<tr>
<td>10.</td>
<td>Independent Director</td>
<td>Shri P K Dash</td>
</tr>
<tr>
<td>11.</td>
<td>Independent Director</td>
<td>Prof. Ashok Gupta</td>
</tr>
<tr>
<td>12.</td>
<td>Independent Director</td>
<td>Shri Pramod Bindal</td>
</tr>
<tr>
<td>13.</td>
<td>Independent Director</td>
<td>Smt. Anshu Vaish</td>
</tr>
<tr>
<td>14.</td>
<td>Director – Commercial</td>
<td>Shri Binod Kumar</td>
</tr>
<tr>
<td>15.</td>
<td>Joint Secretary to the Government of India</td>
<td>Shri Sunil Barthwal</td>
</tr>
</tbody>
</table>

Source: SAIL

4.5 PLANTS AND PRODUCTS OF SAIL

SAIL produces and provide vital as well as basic infrastructure facilities across the length and breadth of India. SAIL is continuously meeting the growing demand for steel from different sectors contributing in the growth of Indian economy like infrastructure, railways, power, transportation, defence, oil & gas, heavy industries, construction, white goods, automobiles, etc. With an unmatched range of mild steel, both in long and flat categories, as well as a wide variety of special and stainless steels. Different products of SAIL are as follows:
### Table 4.2: Plants and products of SAIL

<table>
<thead>
<tr>
<th>Plants</th>
<th>State</th>
<th>Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bhilai Steel Plant (BSP)</td>
<td>Chhattisgarh</td>
<td>Rails (13/26m), Long Rails, (65-260m), Blooms, Billets, Slabs, Channels, Joists, Angles, TMT Rebars, Wire Rods, Crane Rails, Plates, Pig iron &amp; Coal Chemicals</td>
</tr>
<tr>
<td>Durgapur Steel Plant (DSP)</td>
<td>West Bengal</td>
<td>Blooms, Billets, Joists, Narrow Slabs, Channels, Angles, TMT Rebars, Wheels &amp; Axles, Pig iron &amp; Coal Chemicals</td>
</tr>
<tr>
<td>Rourkela Steel Plant (RSP)</td>
<td>Orissa</td>
<td>Plate Mill Plates, HR Plates, HR Coils, Slabs, CR Sheet/ Coil, Galvanized Sheets (plain &amp; Corrugated), ERW Pipes, Spiral Weld pipes, CRNO, Pig iron &amp; Coal Chemicals</td>
</tr>
<tr>
<td>Bokaro steel Plant</td>
<td>Jharkand</td>
<td>Hr Coils, Slabs, HR Sheets. Plates, CR Coils. Sheets, GP Sheets. coils, GC Sheets, Galvanized Steel, HRPO, Pig iron &amp; Coal Chemicals</td>
</tr>
<tr>
<td>IISCO Steel Plant (ISP)</td>
<td>West Bengal</td>
<td>Wire rods, Bars &amp; Rebars, Joists, Channels, Angles, Blooms, Billets, Universal &amp; Special section (Z-bar, MS Arch), Pig iron &amp; Coal Chemicals</td>
</tr>
<tr>
<td>Alloy Steels Plants (ASP)</td>
<td>West Bengal</td>
<td>Alloy Steel Squares &amp; Rounds, Wear Resistant Plates, Forgings, Carne Wheels, Forged Rolls/ Plates, Special Quality Slabs &amp; Stainless Steel Slabs (low Ni, 300 &amp; 400 series)</td>
</tr>
<tr>
<td>Salem Steel Plant (SSP)</td>
<td>Tamil Nadu</td>
<td>Cold Rolled Stainless Steel, Hot Rolled Carbon &amp; Stainless Steel Products, Micro-Alloyed Carbon Steel</td>
</tr>
<tr>
<td>Visvesvaraya Iron and Steel Plant (VISL)</td>
<td>Karnataka</td>
<td>High Quality Rolled &amp; Forged Alloy &amp; Special Steel Products</td>
</tr>
<tr>
<td>Chandrapur Ferro Alloy Plant</td>
<td>Maharashtra</td>
<td>High/ Medium/ Low carbon Ferro-Manganese, Silico-Manganese</td>
</tr>
</tbody>
</table>

**Source:** SAIL
4.5.1 Integrated Plants

1. Bhilai steel Plant (BSP)

Bhilai Steel Plant (BSP) is India's only manufacturer of rails and heavy steel plates and a major producer of structural. It was set up with the help of the USSR in 1955. The plant also specializes in other products such as wire rods and merchant products. BSP has an annual production capacity of 3.153 Million Tonnes of saleable steel. It is certified with ISO 9001:2000 Quality Management System Standard, SA: 8000 certification for social accountability, the OHSAS-18001 certification for Occupational health & safety and ISO:14001 for Environment Management System. It has bagged the CII-ITC Sustainability award for three consecutive years among the long list of national awards it has won (SAIL, n.d).

2. Durgapur Steel Plant (DSP)

Established in the 1955, DSP started with an initial capacity of one million tonnes of crude steel per year which later expanded to 1.6 million tonnes in 70's. Further, with a massive modernization programme in early 90's, the capacity of the plant increased to 2.088 million tonnes of hot metal, 1.8 million tonnes crude steel and 1.586 million tonnes saleable steel. The plant is accredited with ISO 9001: 2000 quality management system, accredited with ISO: 9002 quality assurance certification (SAIL, n.d).

3. Rourkela Steel Plant (RSP)

The plant was set up with German collaboration in 1955 with an installed capacity of 1 million tonnes which later enhanced to 1.9 million tonnes. The plant has undergone modernization in the mid-1990s. RSP was the first plant in India to incorporate LD technology of steel making and the first steel plant in SAIL and the only where 100% of slabs are produced through the cost-effective and quality-centric continuous casting route. The present capacity of plant is to produce 2 million tonnes of hot metal, 1.9 million tonnes of crude steel and 1.67 million tonnes of saleable steel. It is SAIL’s only plant that produces silicon steels for the power sector, high quality pipes for the oil & gas sector and tin plates for the packaging industry. Expansion project in the
plant has been implemented with capital investment of around Rs 12,000 crores for the massive modernization (SAIL, n.d.).

4. Bokaro Steel Plant (BSL)

Incorporated originally as a limited company on 29th January 1964, BSL later merged with SAIL. The Plant is the country’s first Swadeshi steel plant. It was built with local equipment, material and know-how. The modernization of 90s' has further upgraded the capacity to 4.5 MT of liquid steel. Many other new features have been added by modernization of plant. Bokaro is producing top quality hot rolled products that are well accepted in the international market. Bokaro also implements various programme under its corporate social responsibility (SAIL, n.d).

5. IISCO Steel Plant (ISP)

Established in 1918 with the name Indian Iron & Steel Company (IISCO), ISP amalgamated with SAIL on 16th February 2006 and renamed as IISCO Steel Plant (ISP). With time, the plant was upgraded to produce 4.26 lakh tonnes of saleable steel and 2.54 lakh tonnes of pig iron per annum. ISP produces a wide range of products that have been acknowledged for their finest quality and enjoys exclusive market dominance for some products. Currently, ISP is raising its saleable steel capacity to 2.5 million tonnes per annum with the help of Rs.16480 crore modernization-cum-expansion programme. ISP is the owner of India’s oldest unit that produces pig iron by modern methods at Kulti. This unit at Kulti was set up in the year 1870 by Bengal and iron works Co. (BIW). BIW was absorbed by IISCO in 1936 and steel making started as a regular measure in 1939. Another company named Steel Corporation of Bengal (SCOB), established in 1937, was also amalgamated with IISCO in 1952 (SAIL, n.d).

4.5.2 Special Steel Plants

1. Alloy Steels Plants (ASP) in West Bengal

It was set up in January 1965 to make India self-reliant in alloy & special steels production. ASP is located at Durgapur in Burdwan district of West Bengal. It is spread over an area of around 4.67 Sq. KM (467.22 Hectare). M/s MN Dastur & Co.
was the Consultant for ASP and the Technology knowhow was provided from M/s Atlas Steels, Canada. A Japanese Consortium, named JASCON, was the Major equipment supplier, while the Reheating Furnaces were supplied by Amco, Canada and Heat Treatment Furnaces supplied by Wellman Incandescent. ASP has been selected as the site where the world's 2nd largest commercial iron nugget making plant of 0.5 Million Tonnes capacity based on ITmk3 technology will be set up by SAIL-Kobe Iron India Pvt. Ltd. (SKI IPL) which is a Joint Venture Company formed by SAIL with M/s Kobe Steel, Japan (SAIL, n.d).

2. Salem Steel Plant (SSP) in Tamil Nadu

SSP is the supplier of wider width stainless steel sheets/coils in India. It has an installed capacity of 70,000 tonnes per year in Cold Rolling Mill and 1, 86,000 tonnes per year in Hot Rolling Mill. In addition, the plant has country's first top-of-the-line stainless steel blanking facility with a capacity of 3,600 tonnes per year of coin blanks and utility blanks/circles. Salem Steel Plant is presently going through Expansion and modernization (SAIL, n.d).

3. Visvesvaraya Iron and Steel Plant (VISL) in Karnataka

Visvesvaraya Iron and Steel Plant (VISL) was set up as the Mysore Iron Works on January 18, 1923 by Sir M Visvesvaraya. It is a pioneer in production of high quality alloy and special steels and pig iron. VISL has an installed capacity of 77,000 tonnes of alloy and special steels and 205,000 tonnes of hot metal. VISL has accredited with the ISO / TS 16949: 2009 certificate for steel production through rolled and forged routes and pig iron production (SAIL, n.d).

4.5.3 Ferro Alloy Plant

1. Chandrapur Ferro Alloy Plant

Chandrapur Ferro Alloy Plant is the only Public Sector Unit engaged in production of Manganese based Ferro Alloys in India. It became a Unit of SAIL on 12th July 2011. The plant is situated at Chandrapur in Maharashtra. It is located 166 km away from Nagpur on Delhi-Chennai rail route and is well connected by rail & road to the major cities of India. CFP has an installed capacity of 1, 00,000 Tonnes per Year
Ferro Manganese. CFP has been certified with Quality Assurance Certificate ISO 9001:2008. The latest technological development in the plant is state of the art Layer Casting Technology for casting molten Ferro Alloys and Ferro Alloy Processing Unit which is first of its kind in India (SAIL, n.d).

4.5.4 Subsidiary

1. SAIL Refractory Company Limited

The Government of India took over Burn Standard Company Limited which underwent a modernization & expansion programme in order to meet the growing demand of high quality basic refractories in the modern steel plants of SAIL and other private sector companies. The Salem Refractory Unit of Burn Standard Company Limited (BSCL) became a wholly-owned subsidiary of SAIL on December 16, 2011. The unit has now been renamed as SAIL Refractory Company Limited (SRCL). SRCL is located in Salem in the state of Tamil Nadu. It has an installed capacity of 1500 Million Tonnes per month for manufacturing calcined magnesite, 1200 Million Tonnes for basic bricks, 500 Million Tonnes for mag-carb bricks, 3000 Million Tonnes for bulk & monolithic and 2000 Million Tonnes for dunite. SRCL has 1718.3 acres of leasehold mining land spread over three locations. The company has an estimated quantum of magnesite reserves of about 10 Million Tonnes and about 9 Million Tonnes reserve of dunite (SAIL, n.d).

4.5.5 Other units

- SAIL Consultancy Division (SAILCON)
- R&D Centre for Iron and Steel
- Management Training Institute
- SAIL Safety Organization
- Environment Management Division
- Raw Materials Division
- Growth division
- Central Power Training Institute
- Central Marketing Organization
- Central Coal Supply Organization
- SAIL Refractory Unit (SRU)

### 4.6 JOINT VENTURES OF SAIL

Table 4.3 shows joint ventures of Steel Authority of India Limited with various organizations.

#### Table 4.3: Joint Ventures of SAIL

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Joint Venture</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>NTPC SAIL Power Company Pvt. Limited (NSPCL)</td>
<td>A 50:50 basis joint venture to manage SAIL’s captive power plants at Rourkela, Durgapur and Bhilai with a combined capacity of 814 megawatts (MW).</td>
</tr>
<tr>
<td>2.</td>
<td>Bokaro Power Supply Company Pvt. Limited (BPSCL):</td>
<td>A 50:50 basis joint venture with Damodar Valley Corporation (DVC) is managing the 302-MW power generating station and 660 tonnes per hour steam generation facilities at Bokaro Steel Plant.</td>
</tr>
<tr>
<td>3.</td>
<td>Mjunction Services Limited</td>
<td>A 50:50 joint venture with Tata steel to promotes e-commerce activities in steel and related areas including e-assets sales, events &amp; conferences, coal sales &amp; logistics, publications, etc.</td>
</tr>
<tr>
<td>4.</td>
<td>SAIL-Bansal Service Centre Limited</td>
<td>A joint venture with BMW Industries Ltd. on 40:60 bases for a service centre at Bokaro with the objective of adding value to steel.</td>
</tr>
<tr>
<td>5.</td>
<td>Bhilai JP Cement Limited</td>
<td>A 26:74 joint venture company with Jai Prakash Associates Ltd to set up a 2.2 million tonne (MT) slag-based cement plant at Bhilai.</td>
</tr>
<tr>
<td>7.</td>
<td>SAIL &amp; MOIL Ferro Alloys (Pvt.) Limited</td>
<td>A joint venture company between SAIL and Manganese Ore (India) Ltd on 50:50 basis to produce ferro-manganese and silico-manganese.</td>
</tr>
<tr>
<td>No.</td>
<td>Company Name</td>
<td>Description</td>
</tr>
<tr>
<td>-----</td>
<td>--------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>8.</td>
<td>S &amp; T Mining Company Pvt. Limited</td>
<td>A joint venture company with Tata Steel on 50:50 bases for joint acquisition &amp; development of mineral deposits to carry mining of minerals including exploration, development, mining and beneficiation of identified coking coal blocks.</td>
</tr>
<tr>
<td>9.</td>
<td>International Coal Ventures Private Limited</td>
<td>A joint venture company/SPV promoted by five central PSUs, viz. SAIL, CIL, RINL, NMDC and NTPC with 28.7%, 28.7%, 14.3%, 14.3% and 14.3% shareholding, respectively to acquire stake in coal mines/blocks/companies overseas for securing coking and thermal coal supplies.</td>
</tr>
<tr>
<td>10.</td>
<td>SAIL SCI Shipping Pvt. Limited</td>
<td>A 50:50 joint venture with Shipping Corporation of India to provide various shipping and related services to SAIL for importing of coking coal and other bulk materials and other shipping-related business.</td>
</tr>
<tr>
<td>11.</td>
<td>SAIL RITES Bengal Wagon Industry Pvt. Limited:</td>
<td>A 50:50 joint venture with RITES to manufacture, sell, market, distribute and export railway wagons including high-end specialized wagons, wagon prototypes, fabricated components/parts of railway vehicles, rehabilitation of industrial locomotives, etc., for the domestic market.</td>
</tr>
<tr>
<td>12.</td>
<td>SAIL SCL Limited</td>
<td>A 50:50 Joint Venture with Government of Kerala where SAIL has management control to revive the existing facilities at Steel Complex Ltd, Calicut and also to set up, develop and manage a TMT rolling mill of 65,000 MT capacity along with balancing facilities and auxiliaries.</td>
</tr>
</tbody>
</table>

*Source: SAIL*
4.7 MEMORANDUM OF UNDERSTANDING (MOU)

To pursue its strategic interests, SAIL has signed Memorandum of Understandings with several Indian and foreign companies:

**Table 4.4: Memorandum of Understanding (MOU) of SAIL**

<table>
<thead>
<tr>
<th>No.</th>
<th>Company</th>
<th>Agreement Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>POSCO, Korea</td>
<td>Strategic alliance for cooperation in a wide range of business &amp; commercial interest areas</td>
</tr>
<tr>
<td>2.</td>
<td>Kobe Steel Limited (KSL), Japan</td>
<td>The technical &amp; economic feasibility of ITmk3 technology for producing premium grade iron nuggets using iron ore fines and non-coking coal</td>
</tr>
<tr>
<td>3.</td>
<td>RashtriyaIspat Nigam Ltd. (RINL):</td>
<td>For jointly exploring and developing high grade low silica limestone deposits of Qalhat in the sultanate of Oman for supply to steel plants of SAIL &amp; RINL on a long term basis</td>
</tr>
<tr>
<td>4.</td>
<td>Larsen &amp; Toubro Ltd (L&amp;T):</td>
<td>To jointly set up, develop, manage and own captive/independent power plant(s) at suitable location/s to meet future power requirements of SAIL</td>
</tr>
<tr>
<td>5.</td>
<td>National Mineral Development Corporation (NMDC):</td>
<td>For jointly developing limestone mine at Arki in Solan district of Himachal Pradesh in 50:50 Joint Venture which will supply high grade low silica Limestone primarily to the steel plants of SAIL &amp; NMDC</td>
</tr>
<tr>
<td>6.</td>
<td>Hindustan Prefab Ltd (HPL):</td>
<td>For jointly exploring the techno-economic viability of carrying out the business of prefabricated structures in steel and cement.</td>
</tr>
<tr>
<td>7.</td>
<td>IRCON</td>
<td>For jointly working on infrastructure projects having transportation by rail/road as a component both in India and abroad.</td>
</tr>
</tbody>
</table>

*Source: SAIL*
4.8 MODERNIZATION AND EXPANSION

During 2014, SAIL took a major step forward on the modernization & expansion front, with the new 4060 m Blast Furnace (largest in the country) at Rourkela Steel Plant, operational since August, 2013. It marked a new chapter in the modernization and expansion of the company. Thereafter, other upcoming facilities at RSP have also been operationalized. From June 2014, the entire integrated process route comprising the new Ore Bedding & Blending Plant, 360 sq.m. Sinter Plant, the 7 m tall,3rd Coke Oven Battery No.6, the 4060 m Blast Furnace No.7, the 3 BOF, 2500 mm Slab Caster and the Plate Rolling facility in the New 1.0 Million tonne per annum Plate Mill are operational at RSP. Work in the finishing mill of the Plate Mill will be completed shortly. The production from these facilities is being ramped up.

4.9 PRODUCTION AND CAPACITY

SAIL produced 12.9 million tonnes (MT) of saleable steel in 2014, an improvement of 4% over 2013. Production of 14.5 MT of hot metal and 13.6 MT of crude steel was also 1% higher each than corresponding period of last year, respectively. All-time best production of special quality & value added products of 5.42 MT was achieved, which was 6% higher than FY’13. Power Plants maintained the best ever power generation of 699 MW during 2013-14, with a growth of 1% over last year. During the year SAIL took a major step forward on the 3 modernizations& expansion front, with the new 4060 m Blast furnace.

4.10 MANUFACTURING PROCESS

Some of the technological options for converting iron ore to steel products are given in figure 4.1. Hot metal and crude steel process are also interlinked among themselves as represented by arrows.
Figure 4.1: Manufacturing Process of Steel

Source: SAIL

4.11 MAJOR ACHIEVEMENTS

Steel Authority of India Limited has won several awards and accolades for its excellent performance in various fields. Some of the major achievements are given in the table 4.5.
Table 4.5: Awards and Accolades of SAIL

<table>
<thead>
<tr>
<th>YEAR</th>
<th>AWARDS AUTHORITY</th>
<th>AWARDS DETAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
<td>Hon’ble Prime Minister</td>
<td>The Prime Minister’s Trophy for the Best Performing Integrated Steel Plant (ISP) in the Country</td>
</tr>
<tr>
<td>2012-13</td>
<td>The Hon’ble President of India on Public Sector Day function</td>
<td>SCOPE Award for Best Practices in Human Resource Management for the year 2011-12</td>
</tr>
<tr>
<td>2012-13</td>
<td>Hon’ble President of India</td>
<td>Rashtriya Khel Protsahan Puraskar - 2012</td>
</tr>
<tr>
<td>2011-12</td>
<td>Hon’ble Prime Minister</td>
<td>MoU Excellence Award’ for the year 2010-11</td>
</tr>
<tr>
<td>2011-12</td>
<td>Indian Institution of Industrial Engineering</td>
<td>Performance Excellence Awards - 2010’</td>
</tr>
<tr>
<td>2010-11</td>
<td>Union Minister for Home Affairs Shri P. Chidambaram</td>
<td>Golden Peacock Environment Management Award for the year 2011</td>
</tr>
<tr>
<td>2009-10</td>
<td>International quality circle meet, Phillipines, 2009</td>
<td>Eight gold, one silver, six bronze won by SAIL employees</td>
</tr>
<tr>
<td>2007-08</td>
<td>Ministry of Rural Development, Govt. of India during the National Conference of Youth Hostels Association (YHAI).</td>
<td>Corporate Social Responsibility Award</td>
</tr>
<tr>
<td>2006-07</td>
<td>Indian Institute of Metals</td>
<td>National Sustainability Award for 2006</td>
</tr>
</tbody>
</table>

*Source: SAIL*
4.12 ENVIRONMENT POLICY

SAIL reaffirms its commitment to contributing towards a clean and sustainable environment and continually enhancing its environmental performance as an integral part of its business philosophy and value. Towards this commitment, SAIL shall:

- Integrate sound environmental management practices in all the activities.
- Conduct the operation in an environmentally responsible manner to comply with applicable legal and other requirement related to its environmental aspect and strives to be beyond.
- Progressively adopting cleaner and energy efficient technologies.
- Minimize waste generation and promote recovery, recycle and reuse.
- Increase greenery in and around the plants and mines.
- Strive for continual improvement in environmental performance by setting challenging targets, measuring progress, taking corrective action and communicating environmental information to all concerned.
- Enhance environmental awareness amongst all employees working for and on behalf of SAIL and the general population living around plants and mines.
- Encourage the business associates to adopt similar approach for environmental protection.

In order to attain the compliance with environmental laws, SAIL has established separate department on environment at all the Plant/Units. It has an Environment Management Division at the corporate level. The Company is also complying with all the forestry laws as per the laid down conditions. In addition to this, conditions imposed by the State Government(s) are also complied with. The ongoing Modernization and Expansion programme of the Company, apart from increasing the production capacity, also envisages installation of more efficient & environment friendly technologies and incorporation of latest pollution control technologies and equipment. The Company is spending about Rs. 5000 crores on pollution control scheme out of the total outlay of about Rs. 72000 crores for the on-going Modernization and Expansion programme. Various environmental protection and conservation measures being undertaken by the Company are mentioned in MD&A Report.
4.13 HUMAN RESOURCE POLICY

SAIL has achieved its present level of excellence through investing in its human resource, whose skill and knowledge constitute the basis of every initiative, be it technology or innovation. Developing skills and capabilities of employees to improve manpower utilization and labour productivity is the key thrust area of Human Resource Management (HRM) in SAIL. SAIL achieved the highest ever Labour Productivity (LP) of 278 tonnes of crude steel in 2013-14. The manpower strength of SAIL was 97897 (as on 31.03.2014) with manpower rationalization of 3981 achieved during the year. Developing Employee Capabilities & Competencies in order to develop its human resources for harnessing their potential, SAIL has been making sustained efforts through various training and development activities with focus on preservation of skills, transfer of skills and knowledge, training in specialized/advanced skills and technology in collaboration with reputed organizations and development of effective managerial competencies through association with premier institutes.

4.13.1 Harmonious Employee Relations

SAIL has a tradition of conducive and fulfilling employee relations environment. The healthy practice of settling the issues through discussions with trade unions or workers’ representatives enabled workers’ participation at different levels and facilitated in establishing a peaceful IR climate. Some of these forums are functioning since early seventies and are sufficiently empowered to address different issues related to wage, safety, and welfare of workers.

4.13.2 Grievance Redressal Mechanism

Internal grievances redressal machinery exists in SAIL Plants and Units, separately for executives and non-executives. The grievance procedure in SAIL has been evolved after sustained deliberations and involvement of employees, trade unions and associations. Joint grievance committees have been set up at Plant/Unit level for effective redressal of grievances. The grievances are dealt through a 3 stage grievance handling system and employees are given an opportunity at every stage to raise
grievances relating to wage irregularities, working conditions, transfers, leave, work assignments and welfare amenities etc.

4.14 SWOT ANALYSIS

4.14.1 Opportunities & Threats for SAIL

a. Opportunities:

- The Indian steel industry is poised for a robust growth over the medium term. There would be opportunities provided by a rapidly expanding domestic market.
- Focus on infrastructure projects viz. industrial freight corridors, new ports and new cities planned along the freight corridors provide opportunities for enhanced steel consumption.

b. Threats:

- Intensification of competition from domestic as well as foreign steel producers.
- Fall in international steel prices due to decline in raw material prices both for iron ore & coking coal.
- Excess steel capacity in the country could lead to a margin squeeze.
- Slowing growth in China could potentially increase competition from cheap imports.

4.14.2 Strengths & Weaknesses

a. Strengths

Strengths of SAIL include diversified product mix, well established nationwide marketing network, captive iron ore resources, skilled manpower, captive power plants, land bank for future expansion, dedicated R&D wing and strong balance sheet. Further, the on-going modernization is going to take SAIL ahead in terms of modern technology adoption, automation, product quality, bigger product basket, process efficiency & diversification opportunities. The diversified product mix and multi-
location production units are an area of strength for the Company. Also, it has a nationwide distribution network, with presence in every district in India. SAIL has the largest captive iron ore operations in India, which takes care of its entire requirement. With plans in place to expand the mining operations, the Company will continue to be self-sufficient in iron ore after completion of the on-going phase of expansion. SAIL’s large skilled manpower base is a source of strength. With emphasis on selective skilled recruitment for manning of upcoming facilities and recoupment against superannuating manpower, the manpower profile as well as the labour productivity will improve gradually over the years. SAIL’s captive Power Plants take care of about 70% of its total power need. With augmentation of capacities of Power Plants operated under Joint Venture, the Company will continue to have security in this key input in future as well. The Company has one of the biggest in-house research and development centres in Asia. SAIL’s RDCIS (Research & Development Centre for Iron & Steel) is a source of regular product and process innovation. Low overall borrowings lend strength to the Company’s Balance Sheet as it can mobilize resources while keeping the leveraging at manageable levels.

b. Weaknesses

Dependence on external sources for key input like coking coal leads to exposure of the Company to the market risk. Regular superannuation in large numbers, over the years, has resulted in skill depletion largely in the technical areas. Transfer of skill and knowledge has to be given thrust. Besides, technological up-gradations and modernization also call for consistent efforts towards competency development of employees. Adverse employee age mix, with the average age of 47 years is a serious concern. Skilled and competent manpower is required to move to a more favourable manpower age profile. A part of the operations in the Company continues to be from energy inefficient processes viz. open hearth and ingot route of production, which will be eliminated only after the completion of the current expansion program. At present around 20% of the products are in the form of semi-Finished Steel, resulting in lower value addition. This will continue till new rolling mills planned under current expansion programme contribute to value addition, as almost all semis will be converted to Finished Steel.
4.15 CORPORATE GOVERNANCE

The philosophy of the Company in relation to corporate governance is to ensure transparency, disclosures and reporting that conforms fully to laws, regulations and guidelines, and to promote ethical conduct throughout the Organization, with the primary objective of enhancing shareholders value, while being a responsible corporate citizen. The Company is committed to conforming to the highest standards of corporate governance in the Country. It recognizes that the Board is accountable to all shareholders and that each member of the Board owes his/her first duty for protecting and furthering the interest of the Company.

4.16 CORPORATE SOCIAL RESPONSIBILITY

From the establishment of SAIL in 1973, a system was put in place for socio-economic development of the neighbourhoods and communities operated by SAIL’s plants and units to minimize inequalities among the people by providing them quality education, healthcare, infrastructure and employment avenues, while simultaneously promoting scientific temperament and modern technology. SAIL has taken effective measures in the field of environment conservation, health and medical care, education, women’s upliftment, providing potable drinking water and ancillary development at each of its plants and units. By which, SAIL has contributed greatly in the economic development of these areas.

- Peripheral Development

Under Peripheral Development SAIL’s plants and units undertake different activities around the plant and units up to a radius of 16 kms. Programmes are undertaken by each plant in the area of road connectivity, construction of bridges/culverts, access to improved water sources, etc, in close coordination with the State and District administrations as well as the local Panchayats, social organizations and people's representatives.

- Medical and Health Care

The company provides healthy living conditions for its employees as well as the people living in peripheral areas. SAIL has established 54 primary health centre, 12
reproductive & child health (RCH) centre, 17 hospitals and 7 super-speciality hospitals to provide modern health care to more than 30.60 million people. These centres celebrate occasions such as World Health Day, World Blood Donor Day, and Newborn Week etc., to enhance awareness and sensitize people on health-related issues. SAIL has been implementing an AIDS awareness & control programme in partnership with the National AIDS Control Organization (NACO), Ministry of Health & Family Welfare, since 1999-2000. SAIL is also participating in other national health programmes like TB control, anti-malaria, leprosy eradication etc.

The company also organizes a number of health camps at various villages for immunization, blood donation, etc and to bring about awareness on health-related issues by distributing water purification tablets, handbills and other means of audio-visual communication. In 2009-10, more than 3850 camps were organized where over 2.32 Lakh of people got benefitted.

- **Preservation of Art & Culture**

SAIL has been contributing to the preservation of traditional forms of Indian art and culture. Performers are regularly invited and felicitated by SAIL. SAIL also organizes live shows and concerts and encourages their reception and appreciation in the society. SAIL provides financial help to organizations like SPICMACAY to promote classical arts. SAIL is preserving the Lodhi Tomb complex in New Delhi, Along with Archaeological Survey of India. Developmental work has also been undertaken by SAIL plants at various archeological sites in India.

- **Environment**

SAIL carry plantation across all its plants and mines. SAIL restored 200 acres of degraded land through afforestation at Purnapani flux mines of SAIL in Orissa. Pisiculture has been done in the abandoned quarries at Purnapani and 300,000 fishlings have been released in the quarry waters. Plantation of 10,000 saplings in 10 acres of degraded land has been planned. Out of that, plantation of 4,000 saplings has been completed at Barsua Iron Ore Mines. Recently, Medicinal plantation of Amla was undertaken in Chhatisgarh region. SAIL has signed an agreement with
Department of Bio-technology, Government of India and Centre for Environment Management for Degraded Eco-system.

- **Roads**

SAIL has been actively involved in the construction and repair of roads, thereby providing connecting facilities to nearly 2 lakh people across 329 villages every year. SAIL constructed a road, connecting the Salem plant to National Highway 7 in Tamil Nadu. In the year 2009-10, 103.35 kms of road were constructed benefiting 17,24,114 people. Till March 2010, more than 73 lakh people, across 435 villages, reaped the advantage of the modern network of roads built by SAIL.

- **Creating Sustainable Incomes**

SAIL is constantly working to impart training and help to the communities to make them self-sustaining units that can generate incomes for themselves. People living in the peripheral area of SAIL's plants/ units are taught the skills that will help them to merit more than two square meals a day. During the last three years, SAIL has provided vocational training to around 44,000 people in and around SAIL Plants/units.

- **Ancillary Development**

Good suppliers are intangible assets to any organization. SAIL has been supporting ancillary industries by providing land, supply of potable water, infrastructure facilities, consultation for developing the industry, publication of printed matter to inform the entrepreneurs of SAIL's requirements, special exhibitions of parts and drawings to get the exact specifications and ideas, exemption from paying EMD, security deposit etc. SAIL also provides handling equipment to these industries on hire basis, testing facilities providing available raw materials for manufacture, etc. For ancillarisation and industries development in the Chattisgarh region, the Government of Madhya Pradesh had conferred the prestigious 'Sahayak Udyag Mitra' award on Bhilai Steel Plant in 1997.
• **Women Upliftment**

Since the inception of SAIL, *Mahila Samities* have been formed in all SAIL’s plant. The *Samities* are comprises of spouses of the employees as its members. Spouses of MDs, EDs etc, are also a member of *Mahila Samiti*. The various activities being performed by the *Samities* includes:

- women empowerment and development
- community welfare activities
- assistance during natural calamities
- manufacturing products for general use in plants
- providing assistance to women belonging to economically weaker section etc
- providing vocational training to women
- facilitating access to education for needy girl children

• **Model Steel villages**

SAIL has adopted 79 villages across 8 states to develop them as Model Steel Villages (MSVs) in a phased manner. The developmental activities undertaken in these villages include medical & health services, education, roads & connectivity, sanitation, community centres, livelihood generation, sports facilities. By March 2012, the development of 71 MSVs has successfully been completed.

• **Family Welfare**

All SAIL hospitals have participated in the National Reproductive and Child Health programme (RCH). SAIL also participates in other National Health Programmes like National Tuberculosis Program, anti-Malaria, Anti Leprosy Program etc. There are 20 hospitals including 4 state-of-art hospitals situated throughout the country having a total strength of around 4000 beds for the benefit of employees, their dependents and the peripheral population. They are managed by trained medical staff of around 4000 people.

SAIL promotes the Government’s Small Family Norms. In a scheme for promoting family planning, an incentive of Rs. 400 is being provided for a tubectomy operation,
Rs. 500 for a vasectomy operation and Rs. 50 to family planning motivator for each case. In another scheme for employees, Rs.2000 is given to an employee with two or less children, for a sterilization operation.

SAIL has launched HIV/AIDS awareness and control program in partnership with National AIDS Control Organization (NACO), Ministry of Health and Family Welfare. Till date, about Rs.32 million have been received for implementing the policies of NACP-II in all plants/units. Till date, 1.1 Lakh employees and around six Lakh non-employees have been covered under Information, Education & Communication (IEC) Awareness Campaign. SAIL has launched School AIDS Education Programme, covering 111 schools, 3000 teachers and 35,000 students.

4.17 FINANCIAL HIGHLIGHTS OF SAIL

SAIL is India’s largest steel producing company. The company is among the seven Maharatnas of the country’s central Public Sector Enterprises. Some of the major activities indicating the financial highlights of Steel Authority of India Limited are given as follows:

Figure 4.2: Net Worth of Steel Authority of India Limited

Source: SAIL
Figure 4.4 depicts net worth of SAIL during 2005 & 2015. It can be seen from figure 4.4 that net worth of SAIL has been in increasing trend during the last decades. Net worth of SAIL has become four times during the study period. Net worth of SAIL increased from Rs. 11011 crores on 31-03-2005 to Rs. 43505 crores on 31-03-2015.

Figure 4.3: Net Sale of SAIL from 2005-06 to 2014-15

Source: SAIL

Figure 4.1 demonstrates the net sales trends of SAIL from 2005-06 to 2014-15. Net sales of SAIL have been in a fluctuating trend during the last decades. Net sales of Rs 28128 crores in 2005-06, increased to become Rs 43219 crores in 2008-09. However, SAIL experienced a decline in the net sales in year 2009-10 when the net sales dropped to Rs 40577 crores. This decline was an impact of global economic recession. However, it recovered and rose to Rs 46662 crores in 2011-12. In 2012-13, it again declined to Rs 44975 due to slow demand condition in the economy, but rose to Rs 46938 in 2013-14 and again declined to Rs 45952 in last year of the study.
As depicted in figure 4.4 saleable steel production of SAIL has been in fluctuating trend during study period. Saleable steel production increased from 12.1 MT in 2005-06 to 13.0 MT in 2007-08. Due to economic recession, saleable steel production declined to 12.5 MT in 2008-09. However, production of saleable steel recovered to become 12.9 MT in 2010-11. It again dropped to 12.4 MT in 2012-13 due to slow economic condition in the economy. Production of saleable steel increased to 12.9 MT in 2013-14 but again dropped to 12.8 MT in the last year of the study.
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