SAIL Q3 rises to Rs 1,514 crore, to pay 15% interim dividend.

SAIL, the company has also made a net profit of Rs 531.7 crore. The board also approved an increase in the annual State of Affairs of the company's corporate shareholders. The company has also increased dividend payments per annum by Rs 52.5 crore. The SAIL will also plan to invest Rs 25,000 crore in new projects in the coming years.

SAIL is the third largest steel company in the world.
SAIL WIPES OUT ACCUMULATED LOSS, BOOKS HIGHEST-EVER NET PROFIT OF RS. 2,512 CRORE

REDEFINING PERFORMANCE

Financial year 2003-2004 brought resurgence in the global steel market after a long hiatus. Starting on a modest note with business activity in China affected by the SARS epidemic in the months of April and May, the year saw international steel prices picking up from Q2 and strengthening thereafter, riding on the back of significant growth of around 6-7% in steel consumption in the global market. All-round acceleration in industrial activity - in India, particularly in the steel-consuming segments like construction, capital goods, automobiles, consumer durables, etc. - also boosted domestic steel consumption, which grew by about 5% to over 30 MT.

For SAIL, fiscal 2003-04 was a landmark year. With its fundamental significantly strengthened as a result of an internal campaign - on improving operational efficiencies using available resources undertaken during the recession period, the company was fully prepared to take advantage of the market upsurge with higher gains. Having set itself sharply high operational targets, the company went all-out to achieve them. And succeeded beyond all expectations by rewriting its own record books! and bow!

Milestones in a landmark year -

- Turnover vaults to all-time high of Rs 24,178 crore; 26% growth
- Bottomline improves by over Rs 2,800 crore
- Rs 4,239 crore reduction in total debt
- Rs 435 crore lower-interest outgo
- Record saleable steel production of over 11MT; 7% growth
- Highest-ever sales of 10.7 MT; 7% increase
- Total exports grow by 36% to 1.17 MT
- 3.3% reduction in cost of production
- Durgapur Steel Plant becomes profitable again
SAIL set a landmark by wiping out the crore from its record financial year 2003-04. The company touched a record high of Rs 2,816 crore. The audited financial results of the company for FY 2004, taken on record by the SAIL Board of Directors on 28 May 2004, showed the company achieving a bottomline improvement of Rs 2,816 crore over the loss of Rs 304 crore suffered by the company in 2002-03. During FY '04, the turnover of India's largest steel producer also vaulted to an all-time high level of Rs 24,178 crore, a growth of 26% over the Rs 19,207 crore achieved in 2002-03.

Noteworthy among the many high points of this substantial improvement in financial performance was the re-emergence of Durgapur Steel Plant as a profit making enterprise after decades. Rourkela Steel Plant also emerged from a period of losses to earn cash profit during the year.

Financial performance -

During 2003-04, SAIL progressively notched up impressive gains in every financial quarter, achieving net profit of Rs 255 crore in Q1, Rs 505 crore in Q2, Rs 738 crore in Q3 and Rs. 1,014 crore in Q4. The continuous strengthening of the company's financial fundamentals was the outcome of a multi-pronged strategy - including increase in production and sales volumes, improvement in product-mix, cost reduction measures, reduction in borrowings - coupled with the buoyancy in the steel market.

The measures taken for cost reduction included a major thrust on reducing overall debt through repayment of loans, as well as curtailing the cost of finance. The company succeeded in reducing its external borrowings by a whopping Rs 4,239 crore, bringing its total debt to a level of Rs 8,689
crore at the close of the financial year. As a consequence of this, and substitution of higher interest bearing debts by lower interest bearing instruments, interest payments also declined by Rs 435 crore during 2003-04. With this, the debt-equity ratio of the company came down to 1.86:1 at the close of FY '04 from a level of 6.5:1 as on 31st March 2003.

**Highest-ever sales**

Sales revenue generation for the steel major continued to ascend during 2003-04, a year marked by a steady revival of the steel market. Record total sales of SAIL steel at 10.7 million tonnes (MT) - including 10.5 MT of mild steel from 4 ISPs - showed a growth of nearly 7% over the previous year's 10.03 MT. A surge in demand for steel within the country during the latter half of 2003-04 boosted the company's domestic sales of saleable steel to a record 9.5 MT, a growth of around 4%.

The major product categories where growth in sales took place included plates, HR coils, GP/GC, rounds, pipes and heavy structurals. Supplies of rails to the Railways increased to 7.1 lakh tonnes, including 1.5 lakh tonnes of 26 m length, reflecting a growth of 9% over 2002-03.
With additional sales of around 7 lakh tonnes, closing stocks of saleable steel were amongst the lowest in the last 20 years. During the year, stock reduction of over one lakh tonnes was achieved.

Average net sales realisation during 2003-04 improved by about 19% over 2002-03, mainly on account of improved product-mix, improvement in the quality of products and improved market conditions.

Taking advantage of the upswing in the international market, SAIL shipped 1.17 MT of steel to foreign markets during the year. This was a volume growth of 36% over the previous year. Of this, mild steel exports constituted 1.14 MT, an increase of 34% over FY '03. The main export destinations were China, South Korea, Thailand, Nepal, Myanmar, Sri Lanka and the Philippines. Inroads were made into some new markets, and export of wire rod coils and HR coils to Taiwan, Germany and UK was also undertaken.

However, during the later part of 2003-04, exports were curtailed in order to meet the increasing demand for steel in the domestic market. Due to this, exports decreased by around 12% during the January-March 2004 quarter. Overall, an additional half a million tonnes of steel were made available in the domestic market over 2002-03.
Record production-

SAIL seized the opportunity offered by the buoyant market to raise production as well as improve its product-mix. Consequently, record production levels were achieved as indicated below:

<table>
<thead>
<tr>
<th>Item</th>
<th>SAIL (MT)</th>
<th>4 ISPs (MT)</th>
<th>Addi prodn over 2002-2003 (lakh tones)</th>
<th>% growth over FY'03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hot metal</td>
<td>12.9</td>
<td>12.8</td>
<td>6.9</td>
<td>6</td>
</tr>
<tr>
<td>Crude Steel</td>
<td>12.1</td>
<td>11.8</td>
<td>7.8</td>
<td>7</td>
</tr>
<tr>
<td>Saleable Steel</td>
<td>11.02</td>
<td>10.72</td>
<td>6.7</td>
<td>7</td>
</tr>
<tr>
<td>CC Steel</td>
<td>7.24</td>
<td>7.24</td>
<td>7.1</td>
<td>11</td>
</tr>
</tbody>
</table>

The SAIL plants together produced a record over 11 MT of saleable steel during 2003-04, an improvement of 7% over the previous year's performance. The four main integrated steel plants of SAIL at Bhilai, Bokaro, Durgapur and Rourkela operated at an average capacity utilisation level of 104% and together produced 10.7 MT of saleable steel during the year.

SAIL's Raw Materials Division recorded highest-ever production of iron Ore during 2003-04 at 12.78 MT, a growth of 8% over the previous year. Total iron ore requirement of SAIL plants was met from captive sources.
The creditable performance also included a growth in production of steel through the continuous casting route by about 11% to 7.24 MT. Almost 61% of total crude steel production was achieved through the BOP-CC route. Rated capacity utilisation of CC shops went up to a level of 120%.

The company recorded a growth in production of high value items: 20% in plates, 6% in wire rods, 52% in pipes, 10% in CRNO, 11% in GP/GC and 5% in rails. Significantly, 1.5 lakh tonnes of 26-metre rails were supplied to the Indian Railways. This was a growth of 147% over the previous year.

**ENRICHING THE PRODUCT MIX**

<table>
<thead>
<tr>
<th>Product</th>
<th>03-04 Quantity (000T)</th>
<th>% growth over last year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rails</td>
<td>809</td>
<td>5</td>
</tr>
<tr>
<td>Plates</td>
<td>1894</td>
<td>20</td>
</tr>
<tr>
<td>PET Products</td>
<td>184</td>
<td>21</td>
</tr>
<tr>
<td>GP/GC</td>
<td>334</td>
<td>10</td>
</tr>
</tbody>
</table>

PET items include CRNO, Tin Plante and Pipe products

**Techno-economics**

Highest-ever blast furnace productivity at 1.53 tonnes/cu.m./day was achieved by SAIL showing an improvement of 1.3% over the previous year. Also, 2003-04 saw lowest-ever specific energy consumption of 7.46 giga calorie/tonne of crude steel produced, which is 1% lower than the previous year. This achievement came in spite of increase in production of high energy consuming value-added steels.

The wide-ranging initiatives taken by the company during the year to reduce financial and operational costs helped to lessen SAIL's total cost of production per tonne of saleable steel by 3.3%, despite a steep hike in prices of inputs.

The ICWAI National Award, conferred on SAIL in February 2004 for excellence in cost reduction in the year 2003, amply reflected the company's endeavours and successes on this front.
Capital projects-

Along with the thrust on production, sales and cost reduction, SAIL continued with its efforts to not only maintain the health of its production facilities but also upgrade technologies and processes during 2003-04. Thrust was also laid on keeping up the pace of several important ongoing projects like the Long Rail facility at Bhilai, upgradation of the ERW Pipe Plant and rebuilding of Coke Oven Battery (COB) # 1 at Rourkela, and installation of bloom caster at Durgapur.

The SAIL Board also gave in-principle approval for installing a new slab caster with secondary steel refining units and rebuilding of COB # 5 at Bhilai, as well as the first-stage modernisation of the Cold Rolling Mill at Bokaro Steel Plant. In all, project schemes worth Rs 1,300 crore were cleared during 2003-04. The schemes include the following:
Plant Upgradation

<table>
<thead>
<tr>
<th>Plant</th>
<th>Upgradation are</th>
<th>Cost (Rs. Cr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bhilai</td>
<td>1. Auto gauge control in Plate Mill</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>2. Ultrasonic testing machine in Plate Mill</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>3. Rebuilding of COB # 5</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>4. Slab casters</td>
<td>370</td>
</tr>
<tr>
<td></td>
<td>5. TG set in power plant</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>6. Wire Rod Mill B-strand Modernisation</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>7. Merchant Mill strands 9, 10 &amp; 12</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Bloom caster</td>
<td>175</td>
</tr>
<tr>
<td></td>
<td>Upgradation of BF # 4</td>
<td>60</td>
</tr>
<tr>
<td>Durgapur</td>
<td>1. Ugradation &amp; renovation of tandem</td>
<td>218</td>
</tr>
<tr>
<td>Rourkela</td>
<td>mill/pickling line of Cold Rolling Mill</td>
<td></td>
</tr>
<tr>
<td>Bokaro</td>
<td>2. Slag Granulation Plant at BF # 4</td>
<td>38</td>
</tr>
</tbody>
</table>

More proposals are under evaluation for technological upgradation and increase in production.

**Personnel & HRD:**

Around 2,000 employees opted for voluntary separations during the year, and along with around 3,500 natural retirements helped the company's manpower to be further reduced to a level of 131,910 at the end of March 2004. Since 1998, total reduction in SAIL's manpower has been around 45,000.

During 2003-04, labour productivity in SAIL went up to 137 tonnes of crude steel per man per year, an improvement of 11.38% over the level achieved the previous year.

Over 64,000 employees received training, of whom 1,700 were imparted with multi-skills. To enhance managerial effectiveness, specialised programmes on corporate governance, seven habits of highly effective people, EDs' workshop, etc., were organised.
A team of five employees of Bhilai's Rail & Structural Mill were conferred the nation's highest award recognising exceptional achievements of the workman - the Shram Ratna for 2003. In addition, another five-man team of BSP and one employee of Bokaro Steel Plant were awarded the Shram Vir. Vishwabarma Rashtriya Puraskar was presented to 38 employees of SAIL during 2003-04.

SAIL, associated with National Aids Control Organisation (NACO), has actively participated in education and communication campaign during the year. Around 25,000 employees and 50,000 non-employees were exposed to the Aids awareness programme.

Business planning-

To take off from the platform of turnaround effected during 2003-04, SAIL started giving shape to its Corporate Plan 2012, which shall be a guiding road map for the future growth strategy of the company. The plan document is in the last stage of finalisation.

While one of the major overall objectives of business restructuring - restoring financial health - has been achieved, SAIL has submitted all information on ongoing/pending divestment cases to the Government following the decision of the Cabinet Committee on Economic Affairs that all such cases will be handled by the Ministry of Disinvestment.
SAIL has signed an MoU with the Government for fiscal 2004-05 with new parameters and in accordance with new guidelines with more challenging targets.

Materials management -

A greater thrust on e-procurement enabled SAIL to procure material worth Rs 120 crore through this system as against Rs 20 crore the previous year.

Engineering & technology -

SAIL's Centre for Engineering & Technology took up 308 assignments during the year. Of these, 103 assignments have been completed. The remaining are in various stages of completion. Among the major ongoing projects are:

- Long rail project at BSP.
- Upgradation schemes at Wire Rod Mill and Plate Mill at BSP.
- Installation of new slab caster with other facilities in SMS-2 at BSP.
- Rebuilding of COBs at RSP, BSL and BSP.
- Upgradation schemes of CRM at BSL.
- Bloom caster at DSP.
- BF # 4 upgradation at RSP.
- Schemes at RMD mines.
- Rehabilitation schemes of IISCO.

Research & development -

During 2003-04, R&D projects focused on cost competitiveness, improvement in product quality, product development and basic research for improvement in techno-economic parameters, and to exploit full potential of available facilities. Some major initiatives taken in these areas included the following:
Cost competitiveness

• Introduction of probing techniques in BF at BSL to improve productivity.
• Introduction of EMS in ASP for improvement in quality of billets and reduction in cost of production.
• Improvement in sinter plant productivity at RSP, DSP & BSL.
• Reduction in coarser size of coal at BSL.
• Optimisation of heating practices in coke ovens, DSP.
• Development of self flow castables in BF at BSL & BSP.
• Improvement in tundish life at BSP.
• Entry guide map measurement in HSM, RSP.

Product quality

• Improvement in continuous annealing line of CRM, RSP.
• 880 grade rails, BSP.
• Wheel & axle heat treatment at DSP.

Product development

• Armour steel for proof of tank, RSP.
• Corrosion resistant rail steel, BSP.
• Low carbon EDD steel, BSL.
• Semi processed lamination steel, BSL.
• Medium carbon HRS, RSP.
• Spring steel, DSP.
• Lightweight steel prop for underground coal mines.

Other R&D activities included filing of 25 patents, 31 copyrights, presenting 192 technical papers and winning eight awards.
Environment management

SAIL's Environment Management Division contributed significantly during the year in maintaining the company's commitment to provide a healthy environment around its steel plants. The salient features of the efforts made towards fulfilling this purpose during 2003-04 included:

- Completion of pollution control schemes costing about Rs 25 crore.
- Planting of over 2 lakh trees to give focus on greenery development. SAIL has so far planted over 12 million of trees at different plants/units/mines.
- 68% of process solid wastes got recycled/sold by SAIL plants.
- Activities for environmental impact assessment study initiated for development of Chiria iron ore deposits.

Consultancy-

During the year, work on 18 orders, both in India and abroad, was undertaken by SAILCON, which is also pursuing 29 potential orders in 10 countries. Major jobs are ongoing in Georgia and Azerbaijan, Nigeria, Saudi Arabia, Egypt and Iran.

Corporate law SAIL played key role in creation of conciliatory & arbitral forum under SCOPE. Several initiatives taken by Corporate Law Department contributed greatly towards reduction in litigation and quick decision-making in several critical business issues during the year. Major decisions included:

- Delhi High Court quashed the award of ICC directing SAIL for payment of around US$ 2 million to Thyssen with regard to an export dispute.
- In an interim order, the Supreme Court directed the Government of Jharkhand to deposit enhanced compensation to the decree holder in land acquisition matters pending before Land Acquisition authorities at Bokaro.
- Based on Constitution Bench judgment in SAIL case, a large number of cases of contract labour absorption were contested and got dismissed or referred back for adjudication.
Among other activities undertaken by Corporate Law Department were interactions/training programmes across the company conducted in a structured manner to sensitise the line managers about the importance of legal aspects to avoid litigations later on.

Vigilance-

Under the guidance of Vigilance Department, procedure for sale of secondary products was formulated and implemented in various plants and units, which resulted in greater transparency. Procedure of granting credit on sales was studied and suitable guidelines are being evolved for improving the systems. The procedure for purchase of material and award of work contract was also reviewed keeping in view the emerging needs. In addition, Purchase Procedure 2000 was further streamlined.

Vigilance Manual was updated by compiling all relevant instructions and facilitating working of the Vigilance Department. The manual was formally released by the Central Vigilance Commissioner.

Number of old vigilance cases got settled at a faster rate compared to earlier years. 2,850 surprise checks were conducted during the year, with sizeable direct/indirect benefits.

Public relations-

Internal and external communication activities were geared up during the year to manage the company's steady transition from downturn to upturn.

Extensive external communication interspersed with periodic media campaigns were undertaken to project the organisation as a fundamentally strong company looking towards a brighter future. Wide communication through both print and electronic media strengthened the image of the organisation among stakeholders and the public. For the first time, SAIL made an attempt to establish the identity of the company as a quality producer of steel in the Chinese market by participating in the Made in India trade show held in China.

Internal communication activities continued apace through wall-papers, tent cards, house magazines and posters. The entire communication exercise was supported by a central theme of SAIL's turnaround being supported by a new thrust on growth and speed.
Financial Results for the Quarterly/year Ended 31st March, 2004 (Rs. in crores)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Particulars</th>
<th>9 Months Ended (Unaudited)</th>
<th>Quarter Ended (Unaudited)</th>
<th>Financial Year Ended (Audited)</th>
<th>Consolidated Results (Unaudited)(Audited)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sales/Income from operations</td>
<td>31.12.03</td>
<td>31.03.04</td>
<td>6267.35</td>
<td>31.03.03</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17406.15</td>
<td>747.16</td>
<td>2627.35</td>
<td>2627.35</td>
</tr>
<tr>
<td>2.</td>
<td>Less: Excise Duty</td>
<td>2191.43</td>
<td>690.23</td>
<td>660.39</td>
<td>2881.66</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2370.56</td>
</tr>
<tr>
<td>3.</td>
<td>Other Income</td>
<td>15274.72</td>
<td>6780.93</td>
<td>6006.96</td>
<td>21995.65</td>
</tr>
<tr>
<td></td>
<td></td>
<td>91.94</td>
<td>43.46</td>
<td>65.37</td>
<td>135.40</td>
</tr>
<tr>
<td></td>
<td>Total Income</td>
<td>1536.66</td>
<td>6242.39</td>
<td>5672.33</td>
<td>22131.05</td>
</tr>
<tr>
<td>4.</td>
<td>Total Expenditure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a) Increase
b) Consumption of Raw materials
c) Store cost
d) Consumption of stores & spares
e) Power & Fuel

| 5.     | Profit before depreciating, Interest & Tax| 3106.35                    | 1543.88                   | 4650.23                       | 2164.81                                  |

6. Interest

| 7.     | Depreciation                             | 847.88                     | 274.71                    | 1122.59                       | 1496.66                                  |

| 8.     | Profit/Loss (-) before tax (5-6-7)       | 1544.39                    | 1083.82                   | 241.65                        | 2628.21                                  |

9. Provision for current taxation/

| 10.    | Deferred taxation                        | 15.45                      | -17.79                    | 0.00                          | -2.34                                    |

| 11.    | Net Profit/ Loss (-) Minority interest  | 1497.80                    | 1014.28                   | 241.65                        | 2512.08                                  |

| 12.    | Paid up equity Share Capital             | 1430.40                    | 1430.40                   | 1430.40                       | 1430.40                                  |

| 13.    | a. Reserves (excluding revaluation reserve) & Surplus | 3.63                      | 2.46                      | 0.59                          | 6.08                                     |

| 14.    | Basic and Diluted Earning per share (Not annualised) (Rs.) | 3.63                      | 2.46                      | 0.59                          | 6.08                                     |

| 15.    | Aggregate of non-promoters Share holding - No. of shares - Percentage of share holding | 585710260                  | 585710260                  | 585710260                       | 585710260                                 |

|        |                                           | 14.18                      | 14.18                     | 14.18                         | 14.18                                    | 313 |
Notes -

i) The above results for the quarter/year ended 31st March 2004 were taken on record at the Board of Directors meeting held on 28th May 2004. The audited accounts, are subject to review by the Comptroller and Auditors General of India Under section 619(4) of the Companies Act, 1956.

ii) Accounting treatment given to Statutory Auditos Comments in their report on the accounts for the year 2003-04 is as under: The company has equity investments of Rs. 374.94 crores and loans, advances and Other recoverable dues or Rs. 183.69 crores in its subsidiary company, the Indian iron & Steel Co. Ltd. (IISCO) whose revival plan has been approved by Board for industrial and Financial Reconstructioin (BIFR) and is under implementation. Some of the reliefs under the revival plan have been availed of by IISCO. As a result and due to improved steel market conditions, IISCO has earned profit during the current year. In view of same and also considering the long-term nature of these investments, there is no permanent diminution in the value of investments and thus, no provision thereof has been made in the accounts. The company Auditors have observed that decline/short fall in value of equity investment and recovery of loans and other dues, is not ascertainable.

The Joint Plant Committee has conveyed the Steel Development Fund (SDF) Managing Committee's 'In-principle approval for linking the interest rates on SDF loans with the RBI Bank Rate w.e.f. 1st April, 1998. Pending finalisation of the modalities/clarifications, the benefits thereof have not been considered. The company Auditors have observed that impact on the company's profit arising out of lowering of interest rates has not been ascertained and accounted for.

iii) An amount of Rs. 1216.98 crores has been provided for during the quarter/year on estimated basis towards wage revision for the period 1.1.1997 to 31.12.2000.

iv) An amount of Rs. 118.47 crores has been provided as minimum tax on book profits as per section 115JB of the Income Tax Act, 1961.

v) The information on Investors' complaints pursuant to clause 41 of the listing agreement for the quarter ended 31st March, 2004 :
vi) In terms of limited revision to Accounting Standard - 26 on 'Intangible assets,' the voluntary retirement compensation charged to revenue in the nine monthly accounts for April-December 2003, has been treated as Deferred Revenue Expenditure (DRE). In the quarter January to March 2004, to be written off in five years. There is no impact on year to year basis but compared to nine-monthly accounts, this has resulted in increase in profit by Rs. 40.77 crores during the quarter January-March'04. Further, items of expenditure hitherto treated as DRE, except voluntary retirement compensation, have been charged to revenue during the current year resulting in decrease in profit by Rs. 5.13 crores. The accounting policy relating to provision towards non-moving stores & spares has been revised, resulting in decrease in profit of Rs. 33.18 crore during the year.

vii) The following subsidiaries, Associates and Joint Ventures have been considered for the purpose of preparing Consolidated financial statements as per Accounting Standard (a) Consolidated Financial Statements (AS-21), (b) Accounting for investments in Associates in Consolidated Financial Statements (AS-23), (c) Financial Reporting of interest in Joint Ventures (AS-27).

<table>
<thead>
<tr>
<th>Name of the Company</th>
<th>Ownership %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subsidiaries</strong></td>
<td></td>
</tr>
<tr>
<td>1. Indian iron &amp; Steel Company Ltd.</td>
<td>100</td>
</tr>
<tr>
<td>2. Maharashtra Elektrosmelt Ltd.</td>
<td>99.12</td>
</tr>
<tr>
<td><strong>Joint Ventures</strong></td>
<td></td>
</tr>
<tr>
<td>1. NTPC- SAIL Power company (Pvt.) Ltd.</td>
<td>50</td>
</tr>
<tr>
<td>2. Bhilai Electric Supply Company (Pvt.) Ltd. *</td>
<td>50</td>
</tr>
<tr>
<td>3. Bokaro Power Supply Company (Pvt.) Ltd. **</td>
<td>50</td>
</tr>
<tr>
<td>4. Metaljuncton. Company (Pvt.) Ltd.*</td>
<td>50</td>
</tr>
</tbody>
</table>
5. UEC-SAIL information Technology Ltd.**

6. Romelt-SAIL (India) Ltd. *

Associates -

1. Almora Magnestie Ltd.

The accounts of the following joint venture Companies have not been considered in the Consolidated Financial Results for 2003-04 and 2002-03.

1. SAIL - Bansal Service Centre Ltd.
   (40%) - Accounts for 2003-04 not available, proportionate share in SAIL's turnover is insignificant.

2. North Bengal Dolomite Ltd. (NBDL)
   (50%) - (Operations under suspension)

* Based on audited accounts for 2003-04
** Based on unaudited accounts for 2003-04.

Notes:

Segments have been identified in line with the Accounting Standard on Segment Reporting (AS-17) taking into account the Organisation and Management structure and also Internal Financial Reporting System though the Company primarily deals in iron & Steel items. Segment Revenue, Results and Capital Employed include the respective amounts identifiable to each of the segments.

PERFORMANCE HIGHLIGHTS OF PLANTS

Bhilai Steel Plant

Bhilai recorded best-ever performance in almost all operational areas during 2003-04 as a result of strategic initiatives taken to maximise asset utilisation like running of BF # 6, reviving Sinter Plant-I, running Plate
Mill in all three shifts, processing 100% rail heats through RII degasser, etc. Capacity utilisation improved to record levels as indicated below:

<table>
<thead>
<tr>
<th>Item</th>
<th>Prodn(MT)</th>
<th>Cap. Util(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hot metal</td>
<td>4.931</td>
<td>121</td>
</tr>
<tr>
<td>Concast</td>
<td>2.215</td>
<td>155</td>
</tr>
<tr>
<td>SMS-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crude Steel</td>
<td>4.742</td>
<td>121</td>
</tr>
<tr>
<td>Sal. Steel</td>
<td>4.091</td>
<td>130</td>
</tr>
</tbody>
</table>

Highest-ever production in other major areas included 0.72 MT of dolomite from Hirri mines, 5.8 MT of sinter, 0.72 MT of UTS-90 rails, 3 MT finished steel and 0.56 MT wire rods.

Production and despatch of UTS-90 rails to Railways went up by 5% and 3%, respectively, over 2002-03. Plate Mill production crossed 1 MT for the first time, following 109% utilisation of rated capacity. Production of special steel products, which constituted 29% of saleable steel, also grew - BQ plates by 36%, HT plates by 52%, TMT bars by 51% and EQ wire rods by 7% over the previous year.

TE parameters:

Highest-ever average converter lining life of 1788 blows as against previous best of 1483 blows in 2002-03, Best-ever BF productivity of 1.74 tonnes/ cu.m./day.

Product development:

- Cu-Ni-CR plates for corrosion resistant application.
- Weather-resistant Cu-P plates
- 25mm TMT - Fe 415 bars
- EN -8 high carbon grade 6 mm rods
- Plates wider than 3200 mm
- DMR-249 A for warships

317
Durgapur Steel Plant

Most of the major units of DSP registered best-ever performance during 2003-04. Highest ever production was achieved in following major items:

<table>
<thead>
<tr>
<th>Item</th>
<th>Prodn (MT)</th>
<th>% growth over Fy'03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sinter</td>
<td>2.64</td>
<td>3%</td>
</tr>
<tr>
<td>Hot metal</td>
<td>1.98</td>
<td>2%</td>
</tr>
<tr>
<td>Crude Steel</td>
<td>1.76</td>
<td>3%</td>
</tr>
<tr>
<td>Finished steel</td>
<td>0.704</td>
<td>0%</td>
</tr>
<tr>
<td>Saleable steel</td>
<td>1.61</td>
<td>~2%</td>
</tr>
</tbody>
</table>

Production through the concast route touched a level of 1 MT for the first time, utilising 131% of rated capacity.

TE parameters:

Best-ever coal-to-hot metal ratio at 0.952

- Lowest-ever coke rate of 560 kg/ thm
- Lowest-ever specific power consumption at 427 Kwh/tcs
- Lowest-ever specific water consumption at 4.86 m3/tcs
- All-time best specific refractory consumption at 11.8 lk/tcs
- Highest-ever section mill yield at 93.3%
- Labour productivity of 133 tcs/ man/year - highest since inception.

Product development:

- CC Billet - Boron Steel, Spring Steel
- Forging quality Bloom - SAE-4130
- IS 8500-Fe-490 B grade structural
- Development of 'S' profile locomotive wheels
Rourkela Steel Plant

RSP recorded all-round growth in production, despatches and improvement in TE parameters with all the four BFs in operation. Capacity utilisation of the plant in saleable steel production touched 94%. Production of hot metal at 1.73 MT showed a 5% growth over the previous year, while crude steel and saleable steel, both at 1.57 MT, were 7% and 3% higher than 2002-03.

PLANTWISE PROFITABILITY (PBIT)

<table>
<thead>
<tr>
<th>Plant</th>
<th>2002-03</th>
<th>2003-04</th>
<th>Swing</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSP</td>
<td>1088</td>
<td>2184</td>
<td>1095</td>
</tr>
<tr>
<td>DSP</td>
<td>-117</td>
<td>160</td>
<td>277</td>
</tr>
<tr>
<td>RSP</td>
<td>-228</td>
<td>147</td>
<td>375</td>
</tr>
<tr>
<td>BSL</td>
<td>644</td>
<td>1345</td>
<td>700</td>
</tr>
<tr>
<td>Others</td>
<td>-369</td>
<td>-309</td>
<td>60</td>
</tr>
<tr>
<td>Total</td>
<td>1018</td>
<td>3527</td>
<td>2509</td>
</tr>
<tr>
<td>Interest</td>
<td>1334</td>
<td>899</td>
<td>435</td>
</tr>
<tr>
<td>SAIL PBT</td>
<td>-316</td>
<td>2628</td>
<td>2944</td>
</tr>
</tbody>
</table>

Product mix:

Improvement in product-mix helped RSP in maximising contribution mainly in the following areas: Plate Mill plates by 24%, CRNO by 10%, electrical tin plates by 4%, ERW pipe by 19% and SW pipe by 92%.

TE parameters:

- Specific energy consumption reduced to 8.72 Gcal/tcs
- Captive generation in PP-I up to 44 MW
- Gross metallic input reduced to 1151 kg/tcs in SMS-I and to 1139 kg in SMS-II.
- 17% increase in average converter lining life of SMS-I and 13% in SMS-II.
- LD gas recovery up by 65%.
BOKARO STEEL PLANT

Ace achiever

- Best ever liquid fuel yield at 94%
- Highest-ever CCE yield of 95.66%
- Highest-ever VAD furnace life of 28.1 hours
• Highest-ever charge weight of 131802 tonnes and finishing of 104310 tonnes at BBM.

Others:

Development of En 36 grade for Widia, Hyderabad with a stringent chemistry & physical properties.

Salem Steel Plant

• Marginal profit of around Rs 2 crore during 2003-04.
• 2% growth in saleable steel production over 2002-03.
• Sales of 82,182 tonnes. Growth in stainless steel sales by 39% over previous year.
• Export during 2003-04 raised by 97% over 2002-03 to 20,918 tonnes.
• Highest-ever production of HRAP material for conversion orders by CRM with growth of 54% over previous best in 2002-03.

VISL improved its performance during the year and recorded a growth of 20% in saleable steel production and 42% in CC shop. Growth in the major shops are:

<table>
<thead>
<tr>
<th>Item</th>
<th>2003-04 (Tonnes)</th>
<th>% growth over FV03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hot metal</td>
<td>173,050</td>
<td>10</td>
</tr>
<tr>
<td>Crude Steel</td>
<td>114,478</td>
<td>8</td>
</tr>
<tr>
<td>CC Blooms</td>
<td>62,547</td>
<td>42</td>
</tr>
<tr>
<td>Pig Iron</td>
<td>31,303</td>
<td>59</td>
</tr>
</tbody>
</table>

IISCO booked a net profit of around Rs 27 crore during the year 2003-04, mainly due to strengthening of market demand and the financial package approved by the Government for its revival.

Operations at IISCO's Kulti works was stopped as a part of the rehabilitation package and almost all employees separated through VRS.
Implementation of the rehabilitation package for Burnpur works and mines has commenced.

MEL

Performance of MEL during 2003-04 got affected on account of breakdown of a transformer for about 6 months. After stabilisation of operation of Furnace-1, MEL operated at more than rated capacity in production of both high carbon ferro-manganese and silico-manganese.

SAIL'S MEDICAL & HEALTH POLICY

Running and maintaining such a huge network of health services require policies that delegate authority and reallocate resources. At SAIL, there is a Medical & Health Policy which lays down systems and procedures for its medical and health services to function better. The promote and maintain a healthy workforce right from induction to post-retirement.

The company's Medical Policy aims to -

◆ Provide comprehensive health care for the employees and their dependent family members.

◆ Organise community health services in and around the steel plants/units mines/townships.

◆ Mobilise and utilize available resources for optimizing qualitative medical and health services.

◆ Provide healthcare after retirement.

The Policy has been framed to embrace the following activities for the benefit of the employees, their families and the surrounding community:

i. To frame medical examination standards for regulating induction of fresh candidate having good physical and mental health to perform their jobs efficiently.

ii. To Provide preventive, curative and family welfare facilities through organized hospital and allied services.

iii. To identify and enlist referral hospitals of national repute and refer the cases as considered necessary.
iv. To pursue and improve upon the primary health care for the inhabitants of periphery villages of the main plants, as a part of social obligation.

v. To cater to the medical and health care needs of the supporting population residing in and around the plants/units/mines on payment basis after meeting own requirements.

vi. To augment community health activities in close collaboration with local self-government agencies.

vii. To extend medical care facilities for the retired employees and their spouses as a social security measure through different schemes.

viii. To ensure optimal utilization of available expertise by providing need-based inter and intra-medical services through specialist visits as well as through referral system.

ix. To organize specific health activities complementary to national health programmes and primary health care as per National Health Policy.

x. To rise to the occasion and provide medical relief to the victims at the event of natural calamities and other emergency situations as at when necessary.

xi. To maintain the records/registers/documents properly to deal with the medico-legal cases.

xii. To keep pace with the latest developments, update the knowledge and skill of medical and health professionals and paramedical staff through continuing medical education and training programmes.

xiii. To establish a computerized health information system for planning, review, evaluation and monitoring of medical and health activities at unit level and national level.

xiv. To design health education and training programmes for improving health status of the captive population.

xv. To launch applied research programmes for the benefit of the employees, health professionals and community at large.
HIV/AIDS Policy in SAIL

To help maintain harmony at the workplace as well as strengthen the existing bond between employer and the employee, the company's policy on HIV/AIDS would be as follows:

1. The company would implement all policies and directions of Government regarding HIV/AIDS as and when issued.

2. The company would work in close coordination with National AIDS Control Organisatin in all programmes in this regard in the relevant sectors, with a view to provide safe and healthy work environment for employees.

3. The management and trade unions connected with the company would unequivocally endorse non-discrimination policy during employment and implement HIV/AIDS programs across the company.

4. The HIV/AIDS programme will provide to company's employee accurate and up-to-date information about risk reduction in the personal lives of all concerned.

5. The company would educate its employees and the family on prevention care and counseling of HIV/AIDS by providing information through posters, leaflets, articles in the company journal and encourage interactive sessions. Particularly, attention would be given to dispel ill-conceived notions and myths.

6. The company would educate its employees on safe blood donation and transfusion.

7. Confidentiality regarding all medical information, especially HIV/AIDS status of the employees must be maintained by the treating doctors and the management. The information about the clinical diagnosis of a worker's status in terms of HIV/AIDS is to be kept strictly confidential. There will be no obligation on the part of the employees to inform the employer about their clinical status. All efforts shall be made to sensitize the concerned employees on issues of HIV/AIDS ensuring confidentiality.
8. HIV / Aids test will not be part of the annual health check ups, unless specifically asked for by an employee through voluntary counseling programme.

9. The company, as a policy, would not discriminate against any employee infected by HIV / Aids with regard to promotions, training and other privileges and other benefits as applicable to the employees of the company. The suffering from HIV / Aids will not be a ground for termination of service of any employee unless he/she is incapacitated to perform his/her duties and is declared medically unfit by the medical doctor.

10. A HIV - positive employee would be allowed to continue to work in his/her job unless medical conditions interfere with the specific job that s/he is doing. In such a situation, the employee can be shifted to another suitable position.

11. Tendency of an employee refusing to work along side or with an HIV positive employee must be discouraged. Such employees should be made aware through periodic awareness programmes that HIV / Aids do not pose any risk of transmission of the virus to co-workers through ordinary workplace contact. Employees should rather create a climate at the work place so as to make the affected person(s) comfortable and he/she he gets a feeling of being a part of the family.

It is hoped that with this policy, it would be possible to control the spread of HIV, help build positive attitudes towards those infected and promote health and safety amongst the employees. This, in turn would help the company achieve higher productivity and efficiency.

SAFETY MANAGEMENT IN SAIL

Whether using PPE like safety helmet, gloves, visors, fire-resistant clothing, harnesses, metal tipped boots, etc., as required for a job, or discussing the possible risks of the circumstances in which a particular job would have to be undertaken, or checking (and re-checking) the existing health of a machine/ equipment before operations, or keeping a careful watch for divergence from established norms-nothing is ever too much or too little to ensure safety of precious human lives and costly equipment in the steel industry. The smallest error in judgment, negligence or non-compliance to established safety practices/procedures/norms could cause loss of
productive lives and damage working equipment. In an industry that is among the most capital-intensive, the financial loss that has to be borne by a company when production is affected due to damage caused to equipment-

- besides the cost of repairing/replacing the equipment itself
- therefore averting accidents is a constant concern area.

In the case of SAIL, the concern assumes a far greater significance because of the existence of a large labour force that is engaged in the task of producing steel - a task that has inherent occupational hazards. The issue of safety in the workplace, therefore, is naturally a priority in our operational ethos.

It is often argued that an accident "happens by accident" and not by intent. But no amount of remorse or monetary compensation would reverse the losses incurred by accidents, especially of human lives. Whether it is a malfunctioning machine or human error that causes an accident, the blame ultimately has to be borne by man because machines operate on command and their maintenance/functionality is the responsibility of men. This lays a grave responsibility upon the operating personnel of a steel plant.

Also, the financial outlay on ensuring safety of men and machines in a steel plant and of protecting the environment in which they exist is very high. Considering the scale of operations of SAIL, this cost is multiplied several times over. But, as Mr Shashi Kant, Executive Director of the SAIL Safety Organisation (SSO) based in Ranchi, rightly points out in this context, "The cost of safety may be high. But the cost of not ensuring safety is still higher. This is particularly true in the case of the steel industry, which faces one of the most difficult challenges in the areas of safety, health and environment when compared to many other industries."

It has been proved statistically that an industry with a good record of safety also has a good record of production. The direct link between safety and production is productivity. It is to be noted that the steel industry, which today uses modern, automated production processes that incorporate improved safety measures, has also been at the forefront of the global economic recovery in recent times. Perhaps, the active initiatives taken by major steel producers in the world to improve safety at the workplace - resulting in improved productivity levels - have catalysed the surge. According to a safety
benchmarking pilot study conducted by the Working Group on Safety & Occupational Health of the International Iron & Steel Institute (IISI), major improvements have been made by steel companies in the world during the period 1990-99 in both reduction in fatalities and improvement in the frequency rates of lost time injuries. Global fatalities reduced 40% from 115 in 1990 to 68 in 1999. Lost time injuries were reduced nearly fivefold - from 25,634 to 5,722 - during the 10-year period. As the report rightly comments, "This is truly the untold story of the steel industry."

**SAIL Safety Polity**

Steel Authority of India Ltd. (SAIL) is committed to:

- The safety of its employees and the people associated with it, including those living in the neighborhood of its plants and units,

- Pursue safety efforts in a sustained and consistent way by establishing safety goals, demanding accountability for safety performance and providing the resource to make safety programme work.

**GUIDING PRINCIPLES**

- We firmly believe that all accidents are preventable.

- All employees are responsible and accountable for maintaining laid down safety standards.

- Safety standards shall be incorporated in all our work procedures.

- Imparting training to create safety consciousness and to work safely shall form key elements of our safety programme.

- We shall make collective efforts to enhance safety through participative safety committees and fora.

- We shall perform all works in consonance with the Local, State and Central Acts, Rules and Regulations on Safety.

- Comprehensive audits of the safety performance shall form an essential part of our safety programme.

- Continuous improvement in safety performance is necessary for our success.
The study throws up some other important facts:

- India reported the highest fatality count among the 16 countries.
- Best fatality performances (employee manhours without fatality) recorded in Japan, Sweden, Finland, China. (India ranked 8th among the 16 countries.)
- Injuries by region - most in South Asia, least in North Asia.

Among the major concerns that had arisen from analysis of the safety statistics received by the IISI, is the increasing problem of contractor safety. The study found that contractor fatalities accounted for 48% of all fatalities during the 10-year period. Contractor safety has therefore been identified as a major focus of the safety initiatives being taken by the global steel industry under IISI's guidance. Member countries have been requested to compile data on this area in a more organised and comprehensive manner so that international safety benchmarks can be improved further.

A member of IISI's Committee on Human Resources Working Group on Improving Steel Plant Safety, SAIL has laid a special thrust on the area of safety of contractor workers. It has been accorded high priority among the thrust areas identified for implementation of Corporate Plan 2012, in view of the plethora of projects involved that would entail participation of a large number of contract workers. The envisaged investment of the order of Rs 25,000 crore would cover massive construction activities - in coke oven batteries, blast furnaces, new rolling mills, process facilities, etc., and success of the plan would be influenced greatly by the safety assurance for the workers involved in implementing it. While mobilising and equipping the large workforce necessary for these projects, concerted efforts will be made to train and educate them so that these activities are carried out without any accidents. Every day new workers by the dozens would be participating in the projects in new, unfamiliar surroundings. Protocol systems, safety clearances and monitoring systems are therefore being strengthened and re-enforced in order to achieve incidence of zero-accident.

SSO is presently drawing out special guidelines on the following areas in the matter of contractor safety:
• Safety induction
• System of safety clearance
• Ensuring use of user-friendly PPEs
• Use of height pass after proper medical check-up
• Inclusion of safety violation penalty clause
• Ensuring proper supervision during execution of contract works.

Besides these measures to ensure contractor safety, SAIL has identified a number of actions for implementation based on a cause-wise analysis of accidents that have occurred previously [see interview with SAIL’s Director (Technical) on page 9]. The areas that will be covered under the augmented safety campaign that lays a thrust on prevention of accidents by using area-specific solutions are:

• Rail/road operations: Material handling is the major cause of accident in any industry, including the steel industry. The volume of material transported to, from and within the SAIL plants using rail/road infrastructure is huge and frequency high. Analysis of accidents in SAIL reveals that roughly one-third of fatalities occur in this area. The following steps have been identified to deal effectively with the problem:
  • Joint inspection of locos, roads & rail crossings.
  • Availability of full loco crew members.
  • Inspection of trucks/trailers and illumination.
  • Safety campaign and training on rail/road transportation.
  • Restricting heavy vehicle movement during shift changing hours.
  • Provision of blinkers & alarms at all crossings
  • Use of stoppers for positioning wagons.
  • Medical examination of drivers.
According to ED (Safety), a big step towards prevention of road accidents and improving safety on the roads has been taken by banning entry of people not wearing crash helmets in plant premises. However, he adds, "Movement within the plant needs to be improved further with regard to driving speed." Also, people often remove their helmets after leaving the plant area even when they are driving two-wheelers or other open vehicles. "This calls for attitudinal change and continuing our efforts endlessly and repeatedly," he feels.

- Fall from height: A number of tasks in steel plants involve working at heights, exposing employees to considerable risks. Steps identified to improve safety performance in this area include
  - Re-inforced enforcement of Inter-Plant Steel Standards (IPSSs) for working at heights.
  - Use of full-body safety harness instead of safety belts.
  - Compulsory medical fitness and height pass for jobs at heights.
  - Safety induction training for working at heights.

- Hit/caught between moving machinery/objects:
  
  Existence of numerous rotating equipments is a constant risk factor for workers in a steel plant. Workers wearing loose garments, especially during winter months, expose themselves to the risk of being caught by rotating machinery. To control the existence of such risk, the following activities are being strengthened:
  - Regular campaign for machine guarding,
  - Checking of limit switches of cranes by operators before starting of shift.
  - Use of appropriate & tested handling equipments.
  - Campaign against wearing loose garments.
  - Display of safe working loads on the material handling equipment.
  - Regular medical check-up of operators of cranes, heavy equipment, locos and machines.
Protection against hot substances:

Handling of liquid metals and hot substances is an integral part of the iron & steel making process. Despite existence of foolproof safety procedures, there have been many instances of accidents due to spillage of hot substances, especially in steel making through the BOF process. The SSO has enumerated the following steps, in addition to existing measures, to afford protection against injuries/fatalities in this category:

♦ Wearing fire-retardant clothing while handling liquid metal.
♦ IPSS for hot metal handling.
♦ Interplant comparison of SOPs for adopting best practices.
♦ Communication: Analysis of accident data has revealed that a large number of accidents could have been averted if communication between the different agencies involved had been clear and specific. Several accidents/mishaps have occurred due to lack of awareness of shopfloor conditions resulting from non-communication of important information and assumption of safe conditions. Ensuring clear and specific communication between work groups has thus become a thrust area.
♦ Occupational Health & Safety Assessment Series (OHSAS) 18000:

The challenges of high injury/illness rate, lost work days, conformance to stringent regulations/norms, large citations/penalties, rising compensation costs, worker retention and employee satisfaction have been provided a sound safety net by this international OH&S management system specification. It was created in response to urgent customer demand for a recognisable OH&S management system standard against which their management system may be assessed and certified. The emphasis is placed on practices being proactive and preventive by the identification of hazards and the evaluation and control of work-related risks. The main drivers for certification under safety management systems are the recognition of the value of systematic approach for certification/verification of a company’s OH&S management system for ensuring that appropriate legislation is addressed and acted upon and in improving the image of an organisation.
Efforts are on to obtain accreditation under OHSAS 18000 for SAIL's integrated steel plants.

- Personal protective equipment: It has been observed that the intensity of accidents could be considerably reduced if, at the working shopfloor level, strict use of PPE was ensured. Specifying and purchasing safety appliances that are user-friendly, convenient to use, light and attractive could increase their use manifold and SAIL is working in that direction.

A social, ethical approach

SAIL strongly believes in maintaining ethical and social standards while serving its corporate social responsibility - an approach that recognises a multiple bottomline, including, among other things, creating a safe and healthy environment and nurturing an active, resilient community along with its more traditional focus on profits. Systematic tracking of and reporting on 'social performance' in a variety of areas like safety, environment, etc., and ensuring ethical standards of production are inherent features of the company's business outlook. Naturally, SAIL gives adequate emphasis on safety of human resources and assets of the company along with production and productivity, cost reduction and quality.

Today, the issue of safety has been accorded top priority in SAIL, and result monitoring is being done at the highest level of management. Chairman, SAIL has himself initiated the top-down thrust. As a result, safety issues are now considered at par with production, quality and customer service and discussed as the first item in all appropriate forums. Violation of safety norms is viewed seriously and penalty provisions are imposed upon defaulters. Directions have been issued for adoption of all requisite measures to bring continuous improvement in safety standards and sustain a safe and healthy work environment. All-out efforts are being made to make safety as a built-in system of all work practices. Safety is being monitored by Chief Executives of plants/units to improve the visible concern of the management for safety and give a big boost for inculcating safety consciousness at the grassroots level, which in turn improves the human behavior towards safety.

Safety policy

A safety policy is an essential foundation for organisational effectiveness in any company, large or small. SAIL's Safety Policy establishes
organisational commitments towards safety of not only employees but all those associated with the company. The policy acts as the touchstone against which all efforts directed at ensuring safety of men and machines are tested and pursued in a sustained and consistent manner by all plants/units of SAIL. Substantial improvements in safety performance was possible through formulation of action plans covering safety and fire services and close follow-up for time-bound implementation and conducting statutory safety audits.

Safety organisation & efforts

The SAIL Safety Organisation was set up in 1988 to coordinate and monitor safety activities and provide the appropriate corporate thrust on safety management in the company. The objective of this corporate unit, based at Ranchi, is to promote and enhance the safety and fire services standards of plants/units/mines of SAIL. The SSO is member of the National Safety Council of India (NSCI) and Loss Prevention Association of India (LPA). It is also a member of the Bureau of Indian Standard (BIS) in the committees relating to safety on behalf of SAIL. The main functions of SSO are:

◆ To formulate & monitor appropriate policies
◆ To establish systems, procedures & guidelines
◆ To provide safe work environment
◆ To achieve industrial harmony through bipartite fora.

SAIL's well-established Management Information System enables the SSO to analyse the accident cases that occur in the company's plants/units/mines, details of which are reported through input form. Data entry is made with codified details of each accident case.

The package generates following types of reports:

◆ Comparative statement of accident statistics

◆ Classification of lost time due to accidents (LTAs) by shop / location, agency, types of accidents, body part injured, accident category, age and shift (under development).
The SSO also formulates the corporate safety action plan, advises plants/units/mines in matters relating to safety, provides competence through training that includes development and empowerment of employees, tracks safety performance while maintaining incident/accident MIS, and conducts periodic audits of the company's safety management system. Periodic review of safety performance of all plants/units is undertaken by both Chairman and Director (Technical), SAIL. All CEs do quarterly reviews of safety performance. ED (Safety)/SSO closely monitors safety issues by holding regular meetings of Heads of the Safety Engineering Departments at the SAIL plants/units/mines.

Inclusion of safety provisions in SOPs and integrating with work practices and developing IPSSs on identified areas/procedures are other functions of the SSO. Awareness on safety and related subjects is also generated among employees and the general public through children's painting competitions, safety essay contests, talks, etc. National Safety Day celebrations across SAIL are spearheaded by the SSO as well. Last but not the least of the SSO's tasks involve carrying out secretarial functions of the JCSSI (see box).

The SSO also publishes the annual statistics of accidents, conducts investigations and recommends action for prevention/redressal. The basic purpose is to learn from mistakes and take corrective steps for safety improvement. Besides, the SSO publishes books and manuals containing general safety instructions on a variety of operational areas and issues.

Preventive measures for avoiding accidents at work sites receive topmost priority in the safety management programme of the SAIL plants/units/mines. Close monitoring for compliance to statutory safety provisions and strict adherence to protocols of major capital repairs/shutdowns are prepared in advance. Training in the area of safety covers HoDs, line managers, departmental safety officers, safety professionals, trade union representatives, et al. Periodic drives are undertaken to inculcate safety awareness/culture at the grassroots level and timely liquidation of points identified as unsafe. Departmental and corporate I level safety committees undertake joint safety inspections. Surprise checks are frequently conducted for hazardous activities. Application of risk management techniques is monitored assiduously. Testing of tools/tackles and pressure vessels by competent persons, analysing LTAs and taking preventive measures, preparation/updating of on-site disaster management plans and conducting mock drills on
identified thrust areas to ensure effective implementation of the plan if the need arises are other specific tasks of the safety organisation at the plant/unit/mine level.

<table>
<thead>
<tr>
<th>Plant / unit / mine</th>
<th>Audit area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bhilai Steel Plant</td>
<td>Blast Furnace # 7, Ballooming &amp; Billet Mill, coke Oven Batteries 1-8, Energy Management Dept, Sinter Plant # II, Water Treatment Plant (Maroda), Coal Chemical Dept, Oxygen Plant-2, acetylene Plant</td>
</tr>
<tr>
<td>Bokaro Steel Plant</td>
<td>Ingot Mould Foundry, All cast house of Blast Furnaces, Steel Foundry &amp; Pattern Shop, Pickling line 1 &amp; 2 &amp; or CRM</td>
</tr>
<tr>
<td>Durgapur Steel Plant</td>
<td>Sinter Plant-II Central Engineering maintenance, Gas Holders</td>
</tr>
<tr>
<td>MEL</td>
<td>All major departments</td>
</tr>
<tr>
<td>CMO</td>
<td>Bhilai Warehouse</td>
</tr>
<tr>
<td>RMD Mines</td>
<td>Kalta &amp; Barsua Iron Mines</td>
</tr>
<tr>
<td>BSP Mines</td>
<td>Rajhara &amp; Dalli Mechanised Mines</td>
</tr>
<tr>
<td>IISCO Mines</td>
<td>Gua Ore Mines</td>
</tr>
</tbody>
</table>

Training programmes / workshops organized during 2004

<table>
<thead>
<tr>
<th>Training programme / Workshop</th>
<th>Venue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workshop on 'Safety in Iron Making'</td>
<td>BSL/TISCO</td>
</tr>
<tr>
<td>Workshop on 'Safety in Steel Making'</td>
<td>BSL/RSP</td>
</tr>
<tr>
<td>Workshop on 'Safety in Coke Making &amp; Coal Chemicals'</td>
<td>BSP</td>
</tr>
<tr>
<td>Training Programme on RCGS</td>
<td>BSP</td>
</tr>
<tr>
<td>Training on Safety Audit</td>
<td>RSP</td>
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<tr>
<td>Safe Material handling at Stockyards</td>
<td>CMO</td>
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"Shopfloor safety committees can do a wonderful job in identifying risks at a grassroots level," points out ED (Safety). "Discussing accidents and their causes and overcoming the shortcomings through consensus therefore becomes one of the main tasks of these committees. Even small improvements add up to give big results. For instance, tidying up the shopfloor after maintenance activity has to embedded in our work culture; cleaning of the shopfloor after any shutdown would go a long way in improving the work place and reduction of accidents ratio. The safety committees can effectively ensure this."

Safety record

One of the main indicators of safety performance is number of injuries on work (loW). The Occupational Health Centres in SAIL have recorded a continuous downward trend in loWs due to strengthening of safety efforts. This reinforces the effectiveness of the measures being taken by the company to improve safety standards and their implementation. Though there is a downward trend, there is no place for complacency in safety since the final goal is to achieve 'Zero-accident' level which has been achieved by several steel companies in advanced countries continuously for several years.

Safety audits

Safety audit is a useful technique to undertake critical appraisal of the effectiveness of the company's safety programme. Such periodic reviews provide an independent assessment on the correctness of the basic direction as well as identifying specific areas for action to improve safety standards. An amendment to the Factories Act 1987 makes it mandatory to audit major accident hazard units. Many departments of SAIL are covered under this amendment.

Safety has to be fully proactive on its activities. To this end in view, the SSO along with its set-ups at plants/units/ mines has been intensifying efforts for conducting safety audits. Special training programmes have also been organised to improve proficiency of the safety auditors who bring to light the differences between desired and actual working levels.
JCSSI: Committed to creating consciousness

A unique feature of safety management in the Indian steel industry is existence of the bipartite forum joint Committee on Safety, health and Environment in Steel industry (JCSSI). Formed in 1973 at the national level, JCSSI has representatives from the SAIL steel plants, Tata Steel and RINL. Major companies like Dasturco and HSCL which are involved in designing and construction of steel plants are also members of this committee. In addition, all central trade unions are represented on this committee.

With a view to inculcate safety consciousness, JCSSI organises seminars, workshops, training programmes, competitions on poster design, calendar design and essay writing for the employees of its member organisations. It has also brought education materials like manuals, booklets, safety codes and practices, checklists and other educative material from time to time. Some JCSSI publications are:

- Safety training manuals along with handouts for Coke Ovens, Blast Furnace, Rolling Mills, Material Handling, Construction Safety, Electrical Safety, General Safety etc.,
- Safety Practices and procedures
- General guidelines on statutory rules on safety
- Safety code for contractors’ workers
- Crane operators’ guide book
- Rail And Road Safety
- Safety in Manual Material Handling
- Video films on working at height, gas safety
- Health hazards study in ballast furnace department
- Health status of blast furnace employees
- Environment legislation and pollution norms in steel industry

With the cooperation and support of TU representatives, JCSSI formulates policies and guidelines for its member plants. Implementation of these guidelines is monitored through two sub-committees - on Plant Safety and
Construction Safety. SAIL and JCSSI jointly conduct interplant competitions on safety issues and give awards like Steel Minister's trophy, SAIL Chairman's Silver Plaque for 'No fatal accidents' and the Ispat Suraksha Purashkar for plants, mines and individuals.

JCSSI is continuously endeavouring to play a key role in improving the existing standards of safety, health and environment amongst its member organisations through various programmes and activities. It offers practical suggestions to plug the loopholes, effect improvements and does stupendous job in spreading the message of safety to the grassroots level.

The 53rd meeting of the JCSSI was held at Durgapur Steel Plant recently. ED (Safety)/SAIL, Mr Shashi Kant, in his welcome address, recalled the formation of the Standing Committee on Safety in the Steel Industry - the precursor of the JCSSI - in 1973 under the chairmanship of Mr Bagaram Tulpule, the then CM of DSP.

Mr K.K. Khanna, Director (Technical), SAIL, in his keynote address advocated benchmarking with the best world standards and practices on safety. MD/DSP, Dr S.K. Bhattacharyya, in his inaugural address, emphasised the need for safeguarding human resources, the most valuable of all resources against all possible hazards in steel industry.

The meeting mainly focused on safety issues. Presentations were made by SSO, integrated steel plants, DSP, BSP, BSL, RSP, Tata Steel, RINL, IISCO and RMD. There was indepth discussions in a very congenial atmospheres. All members took active interest in the deliberations of the meeting and offered valuable suggestions to improve safety standards in the steel industry like improving the quality of PPEs and spares. Dr M.K. Pandhe, President/CITU & Vice-chairman/JCSSI (TU}s in his concluding remarks advised that the members should interact more frequently in future in vital issues like environment, health and safety.

Safety Training

"Over a period of time we would like to see safety integrated into all aspects of business in SAIL. 'Not a tonne of steel at the cost of a drop of blood' will then not be and empty slogan but a part of our work ethos"
Today knowledge is considered as one of the biggest assets of any industry. Sharing of experiences is the best way of learning and understanding. To that end, SSO has started area-specific workshops to exchange experiences and to have mutual learning. Workshops on safety in coke making and CCD, iron & steel making, with executives from respective fields exchange experiences about their work and have lot to exchange from each other.

Companies like Tata Steel and RINL have also shown keen interest in these workshops. SAIL believes that sharing experiences would not only help improve safety standards for all Indian steel producers but also evolve better reporting methods and standards. Joint workshops could serve the purpose since the action plans evolved and committed upon would be carried to the workplace and implemented.

"We are trying to bring about attitudinal change towards safety at all levels of the organisation through different measures," informs Mr Shashi Kant. "The aim is to take attitudinal change to a level where the body language and actions of employees reflects it adequately."

Risk control systems

One of the most modern approaches in safety management, the Risk Control Grading System (RCGS) has a basic philosophy that says 'All accidents are preventable'. The role of management is to check system deficiencies by evaluation and take corrective actions. RCGS, which evaluates system weaknesses in the most comprehensive way, was first introduced in 1996-97 at Coke Oven Batteries 4,7 and 8, Benzol Refining Plant-1 and converters of SMS-lat Bokaro Steel Plant. These systems are meant to assess the risk and the damage to occupational health safety risks. It is scientific and systematic way of assessing our preparedness to handle risk and gradually improving upon them. SAIL is committed to expanding use of RCGS as an assurance system like ISO:9000 and ISO:14000. The following departments in different plants of SAIL implement RCGS:

- **Bokaro Steel Plant**: COB #1 & 2 and BRP-2; desulphurisation unit and gas cleaning plants 3 & 4 in EMD; SMS-1 pit side; soaking pit in Slabbing Mill
- **Rourkela Steel Plant**: BF # 3
- **Durgapur Steel Plant**: COB # 3; Oxygen Plant
Bhilai Steel Plant: COB #9 & 10; SMSs 1 & 2; BF #7; BBM; GIF & PS in Foundries.

No serious fatal accident has been recorded in any of these units after the introduction of RCGS. Besides, there was remarkable improvement in safe work culture, housekeeping and documentation. There is substantial enhancement of morale and motivation of workforce as well. Unsafe conditions are liquidated promptly and unsafe practices are avoided. There is reduction in cost of accidents. Above all there is systems approach in handling problems.

**IPSS 1:11**

To contribute to cost reduction through standardisation, Ministry of Steel had appointed a panel of experts to recommend creation of a permanent body to carry out the standardisation work. The Inter-plant Steel Standards Secretariat was created in 1975 to fulfill this objective. The Standardisation Committee IPSS 1:11 on Standardisation of Safety Appliances & Procedures is functioning under the Chairmanship of ED (Safety)/SAIL and Heads of Safety of SAIL plants, Tata Steel and RINL as members. The following standards on safety have been developed by the committee for ease of selection, procurement and bring uniformity in process:

- Definition of terms related to safety
- Safety procedures for oxygen, nitrogen, acetylene and fuel gases
- Safety procedures for working at height by regular employees
- Safety procedures for working at height by contractors' employees
- Permit to work
- Safety procedure for working at height by regular employees
- Code of practice for safe handling of liquid metal
- Safety in contract works in mines
- Safety in contract works in plants
- Safety procedure for wagon tippling Standards under print include Working in confined space and Fire-retardant trousers and jackets. More standards are under development.
Says ED (Safety): "Though most of the jobs have established SOPs and SMPs yet our overconfidence and complacence often drive us to bypass these practices, leading to serious safety violations. Unsafe practices used over a period of time are then accepted as standard practice. Then, there is always resistance to change. So going beyond rules, regulations and standard practices, we are trying to inculcate a radical change in the outlook towards safety at the workplace. Over a period of time we would like to see safety integrated into all aspects of business in SAIL. 'Not a tonne of steel at the cost of a drop of blood' will then not be an empty slogan but a part of our work ethos."