

# Corporate Sustainability Report 2016-17



**Entrusting Growth**



स्टील अथॉरिटी ऑफ इण्डिया लिमिटेड  
STEEL AUTHORITY OF INDIA LIMITED



## Sustainable Development Policy

SAIL recognizes that its business activities have direct and indirect impact on the environment and society. SAIL is committed to continuously promote Sustainable Development encompassing environmental, societal and economic aspects related to its business activities.

### Guiding Principles

- Affirm its commitment to contributing towards a clean and sustainable environment and continually enhancing its environment related performance as an integral part of its business philosophy and values.
- Strive to integrate its business values in an ethical and transparent manner to demonstrate its commitment to sustainable development and to meet the interests of its stakeholders.
- Create a positive footprint within the society to make a meaningful difference in the lives of people by continually aligning its initiatives to the goals for sustainable development.
- Regularly interact with stakeholders to assess and achieve sustainability goals associated with its business activities, through constructive dialogue.
- Maintain commitment to business and people for quality, health and safety in every aspect.

**P K Singh**  
Chairman

January 2017

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# CHAIRMAN'S MESSAGE

## Dear Stakeholders,

It gives me immense pleasure to present our seventh Corporate Sustainability Report 2016-17, a transparent and voluntary disclosure of the Company's environmental, economic and social performance.

This report has been prepared in accordance with the latest GRI Sustainability Reporting Standards 2016 and aims to accentuate key issues pertaining to sustainable development, measures undertaken to deal with these issues and to convey our sustainability strategy and accomplishments to all our valuable stakeholders.

All our operations are conducted in environmentally sustainable manner and we firmly believe that for a successful and sustainable business, we must balance three bottom lines – financial, social and environmental. It has always been our approach to achieve operational and financial objectives without losing sight of our duty towards our environment and society.

In view of the economic recovery world over, we expect a positive thrust in the industrial development, internationally as well as domestically. With the support of appropriate trade measures, Indian steel industry has obtained a level playing field and our country has become a net exporter of steel during the year 2016-17. Further, we foresee more stability for domestic steel industry as the country is projected to become the 5<sup>th</sup> largest economy in 2017.

With respect to SAIL's performance, I am pleased to share that during 2016-17, SAIL achieved a turnover of ₹ 49,180 crore, registering a growth of more than 14% over the last year. On the production front, we achieved highest ever Hot Metal production at 15.73 million tonnes (MT), Crude Steel production at 14.50 MT and Saleable Steel production at 13.87 MT during the year. During the year, a contribution of ₹ 10,244 crore was made to the national exchequer by way of payment of taxes and duties to various government agencies.

We are also geared up to play a significant role in the economic development of the country with a quantum increase in our production capacity, as our Modernization and Expansion Programme (MEP) is nearly completed and optimum utilisation of the modernized units shall help to improve quality of products, operational efficiency and cost reduction.

During the year, the New Universal Rail Mill was inaugurated at our Bhilai Steel Plant (BSP), thereby making BSP the single largest rail producing facility in the World. This state-of-the-art mill produces World's longest single piece rail of 130 m length and supplies welded 260 m rail panels to the Indian Railways. Production at the already operational new facilities, under the MEP, was ramped up during the year and a Blast Furnace and new Plate Mill at our Rourkela Steel Plant have touched about 100% of their rated capacities. The new facilities at IISCO Steel Plant have also been ramped up significantly. A capital expenditure of ₹ 4,939 crore was incurred during the Year 2016-17 and it is planned to invest ₹ 3,500 crore, during 2017-18.

Product development, for meeting specific application requirement of our customers, has been a continuous endeavour for us. Twenty new products, particularly special steels, having superior product quality for meeting stringent application requirement of various market segments have been developed for a wide variety of applications during the year. These new products include new grades of TMT rebars, plates for Air Craft Carrier ships, wire rod and rebars for construction, structurals etc., further adding to our wide-ranging product portfolio. We will be enlarging our value added products basket with the installation of a New 3 MTPA Hot Strip Mill at Rourkela.

We have also launched a Company-wide initiative, 'SAIL Uday', to create and implement a sustainable turned around strategy for the company. In this unique initiative, short and long term action plans have been formulated involving cross functional teams across Plants, Units and Marketing and benefits are expected to come in this fiscal itself. We have always adopted a multi-pronged approach that calls for elimination of technological obsolescence, improvement in operational dynamics, exploration of future business opportunities, nurturing of leadership through strategic alliances, ensuring raw material security by developing new mines, betterment of energy efficiency, enrichment of product mix, reduction of environmental footprints, among others.

We have formed Joint Venture Companies in different areas, viz. power generation, rail wagon manufacturing, slag cement production, securing coking coal supplies from domestic as well as foreign sources, etc., which has helped us to bring in expertise from the different sectors for the sustained growth of the company.

Another area of our strength and a vital source of sustenance as well as a thrust is our raw material security. During the year, our total requirement of iron ore was met from captive sources. We are expanding capacities of our existing iron ore mines and new iron ore mines are being developed to meet the future requirement of iron ore.

We continue to make concerted efforts for conducting various operations in an environment friendly compartment. This has effectively resulted in reduction of emissions & discharge levels and an increase in utilization of solid wastes & green cover. Through these continuous efforts, the specific Particulate Matter (PM) emission load from the major stacks has abridged by more than 12% in the last five years. Also, as a part of MEP, state-of-the-art technologies are being installed to further bring down the pollution level and CO<sub>2</sub> emissions. During the last five years, the specific CO<sub>2</sub> emission has reduced by more than 5% and specific effluent load of the discharges by more than 18%. As a measure to enhance greenery, about 2.10 lakhs trees have been planted in and around our Plants and Mines during the year. Further, we have taken-up an ambitious drive for plantation of 10 lakh saplings during 2017-18.

Our operations have evolved due to emphasis on continual improvement as most of our operations are put to the scrutiny of various international standards like ISO 14001 for EMS, ISO 9000 for Quality Management Systems, SA 8000 for Social Accountability and OHSAS 18001 for Occupational Health and Safety on regular basis.

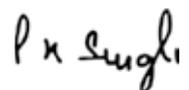
With regard to responsibility towards society, we continue to work towards our credo of making a meaningful difference in people's lives. We are regularly making significant contributions through our CSR programmes in the field of medical and health care, livelihood generation, sanitation, road, drinking water, education, etc. along with the focus on helping the downtrodden and underprivileged section of population. Our CSR activities are not only limited to areas in which we operate but are also carried out at different zones throughout the Country.

We have been actively participating in the "Swachh Bharat Abhiyan" initiated by the Hon'ble Prime Minister of India. Under this major cleanliness initiative, construction of 672 toilets in schools falling within the periphery of our Plants & Mines in various states of the Nation, as allocated by Ministry of HRD, had been undertaken and completed.

We are committed to conforming to the utmost standards of Corporate Governance by ensuring transparency, disclosure and reporting as required under various laws, regulations and guidelines. Our report also represents an impartial presentation of Company's economic, environmental and social performance.

**To conclude, I quote Ban Ki-moon, the eighth Secretary General of United Nations - "Sustainable development is the pathway to the future we want for all. It offers a framework to generate economic growth, achieve social justice, exercise environmental stewardship and strengthen governance." We echo the same sentiment and firmly commit to sculpt a sustainable growth that is in harmony with mother earth.**

With best compliments,



**P K Singh**  
Chairman



# OUR FOOTPRINTS



SAIL organisational network in India

CORPORATE OFFICE .....		UNITS .....		CONSIGNMENT AGENCY YARD .....	★	BRANCH SALES OFFICES	
INTEGRATED STEEL PLANTS .....		CMO HEAD QUARTERS .....		SALES RESIDENT MANAGER .....	■	1. NORTHERN REGION .....	
ALLOY AND SPECIAL STEEL PLANTS .....		REGIONAL OFFICES .....		CUSTOMER CONTACT OFFICE .....	■	2. EASTERN REGION .....	
FERRO ALLOY PLANT .....		STEEL PROCESSING UNIT .....		SAIL REFRACTORY UNIT (SRU) .....	■	3. WESTERN REGION .....	
		DEPARTMENTAL WAREHOUSE .....	★	TRANSPORT & SHIPPING OFFICE .....		4. SOUTHERN REGION .....	

# SEVENTH ANNUAL CORPORATE SUSTAINABILITY REPORT

## PERIOD

SAIL presents its seventh Annual Sustainability Report, printed in continuation since the Financial Year 2010-11. This report comprises our endeavours towards sustainability activities undertaken during the period from 1<sup>st</sup> April 2016 to 31<sup>st</sup> March 2017. This report is in continuation to our last report published for the Financial Year 2015-16

## FRAMEWORK

All our reports are published in line with the guidelines of Global Reporting Initiative (GRI). The top management has decided to continue practice of following GRI and thus we bring forth the report for this year 'in accordance' Core Option as per GRI Sustainability Reporting Standards. GRI published the Standards in 2016. The report comprises the Economic, Environmental and Social aspects of our business activities, under our belief of transparent reporting to our stakeholders, who are connected with us directly or indirectly.

Principals of Inclusivity, Materiality and Responsiveness derive their reference from Indicator Protocol, Sector Supplements and Technical Protocol. The reference to the same can be found on page 31.

This report has been prepared in accordance with the GRI Standards : Core option.

## SCOPE

Sustainability efforts in SAIL are driven from our inherent policy of transparency towards one and all. Our Annual Reports for the Financial Year 2016-17, ending 31<sup>st</sup> March 2017 form the base for the details on the financial reports in the economic performance section. Data for Social and Environmental Performances of Plants, Units and Mines has been taken from the respective sections. Page 10 of the report defines the boundaries within which the details of products and services of Plants, Units and Mining operations have been shared. No Unit has been shifted, divested or closed during the Financial Year being reported. Transparency has been maintained in sharing of all significant events of the past, and the projections of their impacts to occur in future. Data quality of the report has been maintained viz a viz accuracy and reliability, timeliness, clarity and comparability of figures and periods, forming a base for our ethics of reporting.

## STANDARDS

Financial performance of the company has been reported as per Company Law guidelines. The International Standards such as ISO 9000, ISO 14001, OSHAS 18001 and SA 8000 comprise an invaluable part of our Quality, Environment, Health and Safety management. Statutory audits as well as internal audit checks ensure our commitment to Economic and Financial systems. These are open to verifications and review by the concerned government authorities. World Steel Association (WSA) guidelines and calculation methodologies are followed in the reporting of Carbon Dioxide (CO<sub>2</sub>) emissions for Integrated Steel Plants (ISPs). Adherence to relevant Indian Standards is maintained in Quality Management System. We follow requisite regulations issued by the Ministry of Environment, Forest and Climate Change (MOEFCC) and the Factories Act 1948 for maintaining our work environment and safety regulations. Material issues are prioritised based upon their significance on economic, environmental and social performance of the Company and stakeholder engagement. The materiality assessment process has helped in establishing material aspects which are explained in the respective chapters.

## DISTRIBUTION AND FEEDBACK

English Language has been used for publishing the full report. The report can be requested via email and is available for downloading from SAIL website ([www.sail.co.in](http://www.sail.co.in)). Stakeholder feedback on the report shall be reported to the related department upon its receipt via email. For any other additional information about our efforts on sustainable development, we are available at [sailsustainability@gmail.com](mailto:sailsustainability@gmail.com)

## ASSURANCE

We have not got the External Assurance carried out for the report.

## OUR ACHIEVEMENTS

The year 2016-17 has been a year full of challenges for our Company. The profitability of the company has been adversely affected due to increase in imported and indigenous coal prices, increase in interest cost, depreciation and increase in repairs and maintenances.

Flood of low priced import from China and other countries and subdued demand of steel also had an adverse impact on our profitability.

However, we still achieved highest ever Hot Metal production, highest ever Crude Steel production and highest ever Saleable Steel production during the year.

### FINANCIAL

All values are in ₹ Crore

Key Performance indicators	2014-15	2015-16	2016-17
Turnover	50,627	43,294	49,180
Net Sales	45,208	38,471	43,866
Profit Before Tax	2,359	-7,008	-4,851
EBITDA	5,586	-2,204	672
Capital Expenditure	6,840	6,034	4,939
Total Assets	99,327	1,00,340	1,06,539
Export Sales	1,568	557	1,738
Profit After Tax	2,093	-4,021	-2,833
CSR Budget	78	56	22.80

### PRODUCTION

All values are in MT

Key Performance indicators	2014-15	2015-16	2016-17
<b>Plants</b>			
Hot Metal	15.41	15.72	15.73
Crude Steel	13.91	14.28	14.50
Pig Iron	0.63	0.64	0.5
Total Saleable Steel	12.84	12.38	13.87
Semi-Finished Steel	3.01	3.05	3.17
Finished Steel	9.84	9.33	10.70
<b>Mines</b>			
Iron Ore Production	23.18	24.83	26.44
Flux Production	2.11	2.26	2.08

We regularly track our progress against our commitment to support the environmental improvement programs that are aimed to reduce our environmental footprint, minimise emissions, reduce energy consumption, greenhouse gas emissions, incorporating water reuse and recycling, managing wastes, and mitigating the environmental impacts. We are also meticulously monitoring various social impact indicators such as labour productivity, employee training, and our spending on CSR.

### ENVIRONMENTAL

Key Performance indicators	Unit	2014-15	2015-16	2016-17
Specific CO <sub>2</sub> Emission	t/tcs	2.65	2.60	2.61
Particulate Matter Emission Load	kg/tcs	0.83	0.81	0.77
Specific Effluent Load	kg/tcs	0.10	0.09	0.086
Specific Effluent Discharge	m <sup>3</sup> /tss	2.16	2.14	1.91
Specific Water Consumption	m <sup>3</sup> /tcs	3.66	3.51	3.75

### SOCIAL

Key Performance indicators	Unit	2014-15	2015-16	2016-17
Labour Productivity	tcs/man/year	302	315	320
Training	Man-hours/employee/year	115.2	109.6	104.80
Spending on CSR	₹ Crore	35.04	76.16	29.05
Female Employees	% of total employees	6.00	6.00	6.00



# SAIL

## THE STEEL GIANT

Steel Authority of India Limited (SAIL), a Government of India Undertaking and a Maharatna Central Public Sector Enterprise, is the one of the largest steel-making company in India, giving its bit towards writing a growth story of New India. We are proud to be among the seven Maharatnas of the Country's Central Public Sector Enterprises. With headquarters, at New Delhi; we have our significant presence all over the country.

We are a fully integrated iron and steel maker, producing both basic and special steels for domestic construction, engineering, power, railway, automotive and defense industries and for sale in export markets. We produce iron and steel through our five integrated steel plants and three special steel plants, placed principally in the eastern and central regions of India and positioned close to captive iron ore, limestone and dolomite mines which are one of our domestic sources of raw materials.

We were ranked 23<sup>rd</sup> in terms of crude steel production in 2016 by World Steel Association and we are among the top five steel producing companies of the Country. Our product portfolio covers a wide range of steel products covering Long, Flat and Tubular products. We offer flat products in the form of Plates, HR Coil / Sheets, Galvanised Plain / Corrugated Sheets, and long products comprising Rail, Structurals, Wire rods and Merchant products. In addition, ERW pipes, Spiral welded pipes and Silicon Sheets from part of Company's rich product-mix.

## SCOPE OF THE REPORT

The following SAIL Plants, Units and Mines are covered in the Scope of this report.

### Plants

- Bhilai Steel Plant
- Durgapur Steel Plant
- Rourkela Steel Plant
- Bokaro Steel Plant
- IISCO Steel Plant
- Alloy Steels Plant
- Salem Steel Plant
- Visvesvaraya Iron and Steel Plant
- Chandrapur Ferro Alloy Plant

### Units

- Central Marketing Organisation
- Research and Development Centre for Iron & Steel
- Centre for Engineering and Technology
- SAIL Safety Organisation
- SAIL Growth Works, Kulti
- Environment Management Division
- SAIL Refractory Unit

### RMD Mines

#### Iron Ore Mines

- Kiriburu
- Meghahatuburu
- Gua
- Manoharpur
- Bolani
- Barsua
- Kalta

#### Flux Mines

- Kuteshwar Limestone Mine
- Bhawanathpur Limestone Mine
- Tulsidamar Dolomite Mine

### BSP Mines

#### Iron Ore Mines

- Rajhara
- Dalli
- Jharandalli
- Dalli Manual
- Mahamaya

#### Flux Mines

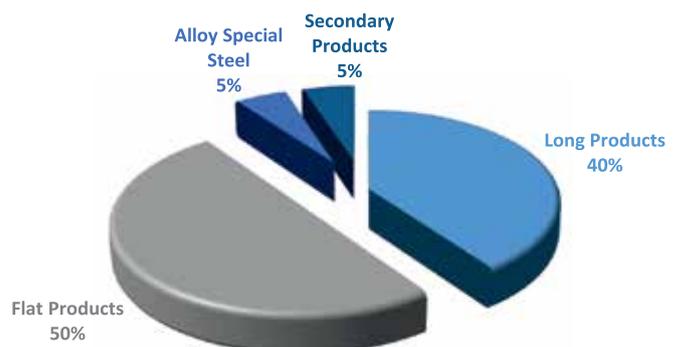
- Nandini Limestone Mine
- Hirri Dolomite Mine

#### VISL Flux Mines

- Bhadigund Limestone Mine
- Kenchapura Dunite Mine

We have the largest marketing network among all domestic steel producers. Our marketing organization, the Central Marketing Division (CMO) takes care of the need of the marketing of all the products of steel through its pan-India presence in terms of 37 Branch Sales Offices (BSOs), 27 Customer Contact Offices (CCOs), 25 Departmental Warehouses and 22 Functional Consignment Agency Yards. Further, our marketing efforts are complemented by a well built dealer network of 1973 dealers spread across the country. Our domestic venture is complemented by strong and ever expanding network of rural dealers takes the responsibility of reaching out to the smallest customers in the remotest corners of the Country.

### Sales Value of the Products



# PRODUCT BASKET



## HOT ROLLED

We are the domestic producer of hot rolled coils, sheets having several direct industrial and manufacturing applications



## PLATES

We are currently the largest domestic producer of plates commanding significant market share. Our Plates are used for building infrastructure, ships, pipes, tanks, vessels, etc.



## COLD ROLLED

Cold rolled sheets and coils offer superior finish and properties and preferred for precision tubes, automobile panels and also for further processing such as colour coating and galvanizing



## RAILWAY PRODUCTS

We produce high quality railway products such as rails, wheels, axles and sleeper plates which are sold to Indian Railways and also exported around the world



## STRUCTURALS

I-beams, channels and angles are long steel products with cross sections of various shapes which are used for structures such as transmission towers, bridges and other infrastructure applications



## BARS AND RODS

Reinforcement steel and wire rods are primarily used in construction industry and we are a prominent player in this sector



## SPECIALITY PRODUCTS

We also produce special products such as electrical sheets, galvanized products and pipes which are used by specific industries



## ALLOY AND STAINLESS PRODUCTS

Alloys and stainless steel products offered by us find applications in automobiles, railways, pharmaceutical equipment and household utensils



## SEMI-FINISHED PRODUCTS

Blooms and billets are converted to finished products at our units and also sold to re-rollers for conversion

Chairman SAIL interacting with Workforce



# OUR SUSTAINABILITY PATH

A holistic approach has been adopted towards our sustainability framework; referring to the Business, Health & Safety, Environment and Community management across all our operations. To promote improved accountability within the system, we have in place Sustainable Development Policy which supports our Operating Model and helps in implementation of this framework.

Our belief in sustainability is derived from a built-in dedication and commitment of our corporate family. The business roles and responsibilities of the employees are aligned with mission and values of the Company. The sense of social responsibility helps us in engaging with our stakeholder in a constructive manner. We give due importance to our supply chain while striving towards improvement of product range & quality and eliminating of any detrimental effect. Our commitment to give back to the society, through our various well designed community initiatives, remains our main aim.

**PRIORITIES**

- To lead the steel sector
- To achieve continuous expansion in the market by developing growth strategies
- To carry out ethical business
- To evolve a participative mechanism for all our stakeholders
- To keep the business sustainable by adopting multi-dimensional approaches in the areas of cost and financial management, technology upgradation, value addition on products along with addition of new products that align with the future demands
- To adopt global best practices across our value chain
- To install 'state-of-the-art' technologies for achieving excellence in environmental footprints
- To incorporate functional improvements in areas such as mining, steel making, marketing, human resource management and in peripheral services including community development

**STRENGTHS**

- Among the leading steel producers of the Nation
- Presence of production units at multiple locations having an edge over other domestic steel players
- Modernized units after completion of the on-going modernisation and expansion
- Availability of SAIL products across the Country owing to a well-established nationwide marketing and distribution network
- Most varied product range
- Land bank for future capacity expansion
- Input security - 100 percent integration in iron-ore
- Large pool of highly skilled & trained professionals having experience in steel making

**OPPORTUNITIES**

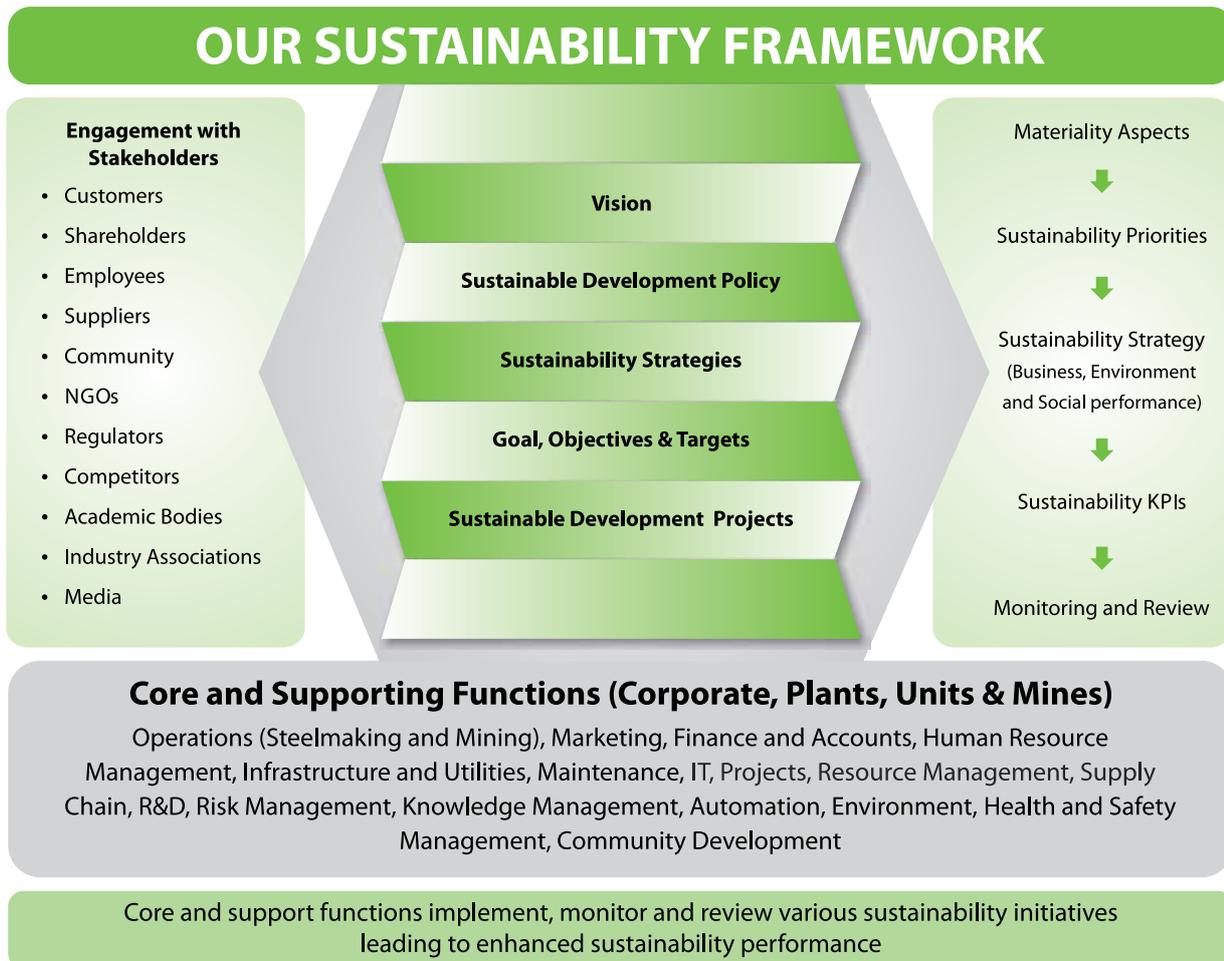
- Accelerated push from the Government for steel intensive segments such as infrastructure, capital goods and construction to make India the 2<sup>nd</sup> largest steel consumer in the world in the coming years.
- Markets of Middle East and South East Asia having high export potential
- Improved product quality and reduced cost resulting from high operational efficiency and utilization of the modernized units

**GROWTH STRATEGIES**

- Consolidation of leadership position through capacity enhancement.
- Concerted focus on value added products.
- Continual enhancement of operational efficiencies.
- Augmentation of raw material base and improving quality of inputs.
- Strategic alliances with an aim for sustainable growth
- Cost optimization.

# SUSTAINABILITY FRAMEWORK

Our sustainability priorities are planned with support from the relevant stakeholders of the Company. Inputs from our valuable stakeholders occupy the main criteria in designing the material aspects based on which we identify our sustainability priorities, that impact our triple bottom line growth and assist us in formulation of our Vision, Goals, Policies and Strategies.



## OUR SUSTAINABLE DEVELOPMENT PROJECTS

The Guidelines of the Department of Public Enterprises (DPE), Ministry of Heavy Industries and Public Enterprises, Government of India helped us in drafting our Policy for Sustainable Development. Taking cue from this Policy, we have engrained Sustainability Development across all our operational locations. In 2016-17, maintenance of ecologically restored Purnapani Limestone & Dolomite Quarry, in collaboration with the 'Centre for Environment Management of Degraded Ecosystem' (CEMDE), University of Delhi, was carried out.

## COMMUNITY SUPPORT BY SAIL

As a responsible Company, we imbibe a culture that makes us conscious towards the socio-economic conditions of the communities we operate in. We undertake many CSR activities at our various locations in adherence to the directives like 'DPE Guideline on CSR & Sustainability for Central Public Sector Enterprises-2013', 'The Companies Act 2013' and 'The Companies (Corporate Social Responsibility Policy) Rules, 2014'. For details of our CSR initiatives, please refer to page **79-88**.



# PARTNERSHIPS, ASSOCIATIONS AND MEMBERSHIPS

## WORLD STEEL ASSOCIATION (WSA)

Continuing association with the WSA has enabled us in achieving excellence in steel production through knowledge sharing on sustainable steel production and practices for achieving business prominence. We conform to the WSA Principles and are committed to reduction of CO<sub>2</sub> emissions by use of co-products, adoption of best practices, enhancing energy efficiency through use of better operational practices as well as new technology and exploring breakthrough technologies.

## MONTREAL PROTOCOL

Our successful commitment to Montreal Protocol has helped us in phasing out Ozone Depleting Substances (ODS). viz. Carbon Tetra Chloride (CTC). Now, we use Trichloroethylene (TCE) as cleaning solvent in our operations.

## UN GLOBAL COMPACT

Our business policies and actions are aligned with the ten universal principles of UN Global Compact towards human rights, labour, environment, and anti-corruption.

## STOCKHOLM CONVENTION ON PERSISTENT ORGANIC POLLUTANTS (POPs)

Our collaboration with MOEFCC and UNIDO is helping us in setting up of a static facility for environmentally sound management of Polychlorinated Biphenyls (PCB) at BSP in line with the Stockholm Convention. PCB, a POP, in electrical transformers will be treated/destroyed using suitable technology being brought in by UNIDO under this ongoing project.

## CHARTER ON CORPORATE RESPONSIBILITY FOR ENVIRONMENT PROTECTION (CREP)

We have voluntarily subscribed to the action points defined under the Charter on Corporate Responsibility for Environmental Protection (CREP), an MOEFCC initiative. As a responsible corporate citizen, we strive to go beyond the statutory compliance and try to make a significant mark in this Charter.

## STANDING CONFERENCE OF PUBLIC ENTERPRISES (SCOPE)

Being one of the largest Public Sector Enterprises (PSE) in India, SAIL has been actively involved in the proceedings of SCOPE, a prominent body of the Central Government of India.

## OTHER ASSOCIATIONS & MEMBERSHIPS

- All India Management Association (AIMA)
- All India Organization of Employers (AIOE)
- Associated Chambers of Commerce and Industry of India (ASSOCHAM)
- Centre for Organization Development (CoD)
- Confederation of Indian Industry (CII)
- Consultancy Development Centre (CDC)
- Delhi Productivity Council (DPC)
- Federation of Indian Chambers for Commerce and Industry (FICCI)
- Forum of Women in Public Sector (WIPS)
- Indian Institute of Metals (IIM)

- Indian Institute of Plant Engineers (IIPE)
- Indian Society for Trade and Development (ISTD)
- Indo USSR Chamber of Commerce and Industries (IUCCI)
- Institute of Public Enterprises (IPE)
- Institute of Rail Transport (IRT)
- Project Management Associate (PMA)
- The Energy and Resources Institute (TERI)
- The Indian Iran Chamber of Commerce and Industry (IICCI)
- World Confederation of Productivity Science (WCPS)

## KEY JOINT VENTURE COLLABORATIONS

- NTPC-SAIL Power Company Limited
- Bokaro Power Supply Company Private Limited
- SAIL Bansal Service Centre Limited
- Mjunction Services Limited
- Bhilai Jaypee Cement Limited
- S&T Mining Company Private Limited
- SAIL & MOIL Ferro Alloys Private Limited
- International Coal Ventures Private Limited
- SAIL-SCI Shipping Private Limited
- SAIL SCL Kerala Limited
- SAIL-RITES Bengal Wagon Industry Private Limited
- SAIL Kobe Iron India Private Limited

- TMTSAL SAIL JV Limited
- SAL SAIL JVC Limited
- SAIL-Bengal Alloy Castings Private Limited
- Prime Gold-SAIL JVC Limited
- VSL SAIL JVC Limited
- Abhinav-SAIL JVC Limited
- N.E. Steel & Galvanising Private Limited
- North Bengal Dolomite Limited
- Romelt-SAIL (India) Limited
- NMDC SAIL Limited
- Bastar Railway Private Limited

## DEVELOPMENT OF ROWGHAT - JAGDALPUR RAIL CORRIDOR IN THE STATE OF CHHATTISGARH

With the aim of bringing about greater socio-economic development of the backward areas of Bastar region in Chhattisgarh and to further the industrial progress and mining activities of the region, an MOU was signed amongst SAIL, NMDC Ltd., IRCON International Ltd. and Government of Chhattisgarh, in May 2015 for development of a rail corridor from Rowghat to Jagdalpur. This rail corridor shall be used for both freight and passenger services in the Southern part of Chhattisgarh. A new Joint Venture Company under the name "Bastar Railway Private Limited" has been incorporated in May, 2016.

## RAIL TRANSPORTATION

A Joint Venture Company (JVC) between SAIL and RITES viz. "M/s. SAIL RITES Bengal Wagon Industry Pvt. Ltd. (SRBWIPL)" has been formed for manufacture and rehabilitation of railway wagons. The JVC has commenced commercial operations at its factory at Kulti, West Bengal and Orders from Railways are being executed.

## JV WITH ARCELORMITTAL FOR PRODUCTION OF AUTOMOTIVE STEEL

Supporting Make in India programme of Govt. of India, SAIL and ArcelorMittal signed an MOU in May, 2015 to explore the possibility of setting up an automotive steel manufacturing facility under a Joint Venture in India. The proposed venture will construct a state-of-the-art Cold Rolling Mill and other downstream finishing facilities in India that will offer technologically advanced steel products to India's rapidly growing automotive sector.

## ULTRA MEGA STEEL PROJECT

In order to help India in achieving the capacity growth of 300 million tonnes of crude steel, Ministry of Steel has evolved a concept of developing Ultra Mega Steel Plants. SAIL is participating for setting up of an Ultra Mega Steel Plant of capacity (3+3) or (4+2) MTPA in Bastar, Chhattisgarh. An MoU to this effect was signed amongst SAIL, NMDC, Ministry of Steel and Government of Chhattisgarh in May, 2015. New Joint Venture Companies for Steel SPV and Mining SPV have been formed.

# AWARDS & ACCOLADES

## SAIL

- 7 Prime Minister's Shram Awards (involving 26 employees) for the year 2015
- 10 Vishwakarma Rashtriya Puraskar Awards (involving 42 employees) for the performance year 2015
- Gold Trophy of "SCOPE Meritorious Award for Best Practices in Human Resource Management" for the year 2014-15
- Golden Peacock Award for Corporate Governance for the year 2016
- Governance Now PSU Award 2016 under the award category "Relative Growth & Adaptation"
- Ispat Rajbhasha Trophy for the year 2014-15 for best official language implementation

## Bhilai Steel Plant

- CII-Exim Bank Award 2016 for Business Excellence
- Excellence Award in the category of Integrated Steel Plant under Iron & Steel Sector for the year 2015-16 in the State level Sustainable Energy Awards 2016 by Chhattisgarh State Renewable Energy Development Agency.
- Vayoshreshtha Samman for the "Best Public Sector Organization in Promoting the Well Being and Welfare of Senior Citizens" on the occasion of International Day for Older Persons.

## Durgapur Steel Plant

- 10 Quality Circle Teams won awards (8 Par Excellence and 2 Excellence) from QCFI.

## Rourkela Steel Plant

- CII EXIM Bank Excellence Award for Strong Commitment to Excellence for the year 2015-16.
- Coal & Coke Zone and Steel and CCM Zone Bagged "Zero Fatality awards for the years 2015 and 2016 respectively from the Joint Committee on Safety, Health & Environment in the Steel Industry (JCSSI).

## Bokaro Steel Plant

- Golden Peacock HR Excellence Award for the year 2016.
- Gold Award in Training Excellence Category at the 6th Annual Greentech HR Award for the year 2015-16.
- Energy Management Department, has won First Prize in CII(ER) Productivity Awards 2016.

## Visvesvaraya Iron & Steel Plant

- Ispat Suraksha Puraskar for "No Fatal accident occurred during the Calendar Years 2015 & 2016 under Scheme – II, Group (B) (Special Steel Plant) by the Joint Committee on Safety, Health & Environment in the steel Industry (JCSSI)
- Ispat Suraksha Puraskar for "No Fatal accident occurred involving Contract Labour during the Calendar Years 2015 & 2016 under Scheme – II, Group (B) (Special Steel Plant) by the Joint Committee on Safety, Health & Environment in the Steel Industry (JCSSI)

## Salem Steel Plant

- National Award for the Empowerment of Persons with Disabilities -2016.(Best Employee with Disabilities under Hearing Impairment Category)

- Ispat Suraksha Puraskar for “No Fatal accident occurred during the Calendar Year 2016 under Scheme – II, Group (B) (Special Steel Plant)
- Ispat Suraksha Puraskar for “No Fatal accident occurred involving Contract Labour during the Calendar Year 2016 under Scheme – II, Group (B) (Special Steel Plant)

## Raw Material Division

- 8 Quality Circle Teams won awards (5 Par Excellence and 3 Excellence) from QCFI during the 30th National Convention on Quality Concept

## Research & Development Centre for Iron & Steel

- National G-cube (Good Green Governance) Award 2016



**Proud Vishwakarma Rashtriya Puraskar Awardees**

# GOVERNANCE FRAMEWORK

We have an overarching vision and we work in tandem with all our stakeholders- business partners, government, employees and communities to improve the way in which we operate. We believe that effective Corporate Governance results in framing of an efficient, transparent and acquiescent operative mechanism built on the pillars of trust. Our Corporate Governance objectives are designed to enhance value for our diverse stakeholders.

We strive to ensure transparency, disclosures and reporting that conforms fully to laws, regulations and guidelines, and to promote ethical conduct throughout the Organization. The objective of augmenting shareholders value, while being a responsible corporate citizen, is firmly rooted in the governance philosophy of SAIL.

At SAIL, we are committed to the highest standard of Corporate Governance where our Board is accountable to all stakeholders and each member of the Board owes his/her first duty for protecting and furthering the interest of the Company.

Some of our spirited protocols such as independent internal audit, well-crafted policies, guidelines, procedures, regular review by Audit Committee / Board, etc. help in carrying our Corporate Governance in accordance with the Companies Act 2013, SEBI (LODR) Regulations 2015 and DPE Guidelines. Our Board of Directors is guided by the Company's Vision and Credo and the Board regularly analyses the performance of the Company on economic, environmental and social issues. The Board is a combine of highly professional full time Executive Directors, Non-Executive Independent Directors and Government Nominee Directors. Directors on our Board have always been very eminent persons, highly qualified, experienced and successful in their respective fields, having held very senior level positions in SAIL itself or various Government/non Government organizations and Public Corporates. The Independent Directors have been well qualified in diverse fields such as Banking, Finance, Industry, Administration, Academics, Personnel, Operations, Raw Materials, Commercial, etc. There are five Chief Executive Officers (CEOs) heading five Integrated Steel Plants, who are permanent invitees to the Board.

The Directors present the Annual Report of the Company together with audited accounts for every Financial Year in the Annual General Meeting (AGM). The proceedings of the AGM, including the suggestions, comments and feedback from the shareholders are duly recorded. The concerns of the stakeholders are discussed at the Board Meeting and after prioritization of these concerns, the management integrates the same in its business decisions.

Adherence to Corporate Governance agenda is ensured by a number of Committees like Audit Committee, Nomination & Remuneration Committee, Stakeholders' Relationship Committee and Corporate Social Responsibility (including Sustainable Development) Committee. Besides these Statutory Board Level Committees, various other Board Sub-Committees (BSC) like BSC on Strategic Alliance(s) & Joint Ventures; Projects; MoU, Vision & Strategic Planning and Health, Safety & Environment have also been constituted by the Company and all of these are headed by an Independent Director. This robust structure, having valuable and varied experience of Independent Directors, enables us to have an independent perception on various governance issues before the same are considered by the Board of Directors. We have a well-designed multi-layered organization structure for managing risks, with each Plant/Unit having its own Risk Owner/Champion who identifies the



risks, evaluate and draw the mitigation plan on a regular basis to Chief Risk Officer of the Company at Corporate level. SAIL Risk Management Committee (SRMC) oversees the Risk Management function in the Company by addressing issues pertaining to the policy formulation as well as evaluation of risk management function to assess its continuing effectiveness.

We have a Code of Conduct applicable to Board Members as well as the Senior Management. There were no instances of non-compliance and no imposition of any penalty or stricture from the Stock Exchange(s) or SEBI in the matter related to capital markets or compliance during the year.

The Government of India sets out the terms & conditions for appointment and nomination of the Director(s). No other pecuniary benefit is granted to the Non-Executive Directors. Non Executive Independent Directors (other than Government Nominee Directors) are paid only sitting fee for each Board/ Board Sub- Committee Meeting attended by them whereas the salary and pay scales of the Whole Time Directors are fixed as per the prevailing Rules of the Government (DPE). The Government of India has exempted performance evaluation of Board, Chairperson and non Independent Directors, except Functional Directors, for Government companies like us.

Various divisions of our Corporate Office regularly collect, compile and monitor various issues pertaining to the management of economic, environmental and social areas. The status reports along with agenda papers, prepared with the inputs provided by the respective Plants/Units on the economic, environment and social performances including legal compliance are regularly put up to the Board for examination, comments and recommendations. The response from the Board members is analyzed by our top management for decision-making.

There were no transactions by the Company of material nature with Promoters, Directors or the Management, Subsidiaries, relatives, etc. during the year that may have potential conflict with the interests of the Company at large.

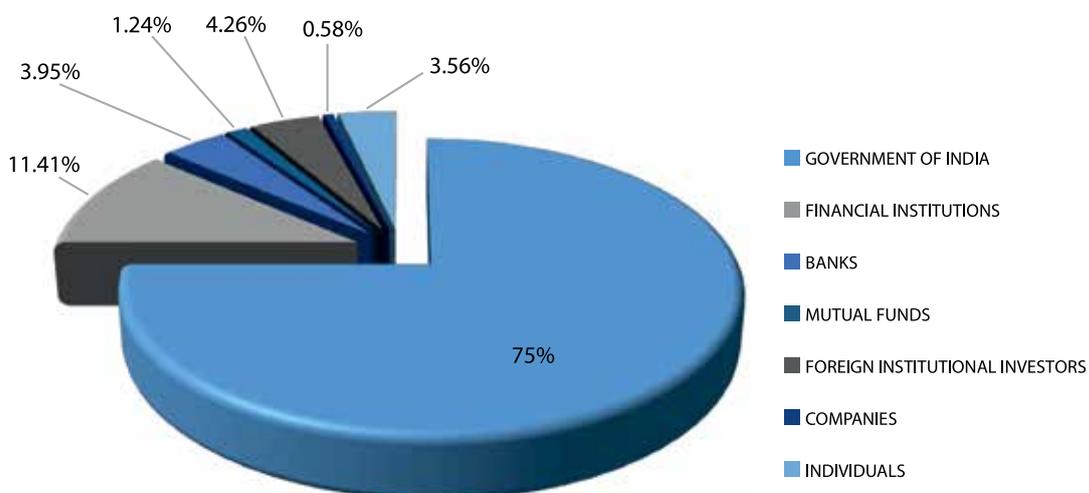
The Government of India owns 75% of the equity and retains voting control over the Company. However, SAIL, by virtue of its 'Maharatna' status enjoys significant operational and financial autonomy.

## BOARD OF DIRECTORS

As on 31<sup>st</sup> March 2017, the Board of Directors comprised of a full time Chairman, 6 Whole Time Directors (i.e. Executive Directors) and 8 Non-Executive Directors (consisting of 2 Government Nominee Directors and 6 Independent Directors) and 12 Board meetings were held during the year,

There were no complaints pending for redressal as on 31<sup>st</sup> March 2017. Number of shareholders' complaints received during the year was 11 and all were resolved.

**Shareholders breakup for SAIL as on 31<sup>st</sup> March 2017 (% of Equity)**



# Board of Directors

(As on 15<sup>th</sup> March 2018)



**Shri P. K. Singh**  
Chairman



**Shri Saraswati Prasad**  
Additional Secretary & Financial Advisor,  
Ministry of Steel, GoI



**Shri Anil Kumar Chaudhary**  
Director (Finance)



**Dr. G. Vishwakarma**  
Director (Projects & Business Planning)



**Shri Raman**  
Director (Technical)



**Ms. Soma Mondal**  
Director (Commercial)



**Shri Atul Srivastava**  
Director (Personnel)



**Prof. Ashok Gupta**  
Independent Director



**CA Parmod Bindal**  
Independent Director



**Smt. Anshu Vaish**  
Independent Director



**Dr. Samar Singh**  
Independent Director



**Shri Nilanjan Sanyal**  
Independent Director



**CA Kartar Singh Chauhan**  
Independent Director



**Prof. Narendra Kumar Taneja**  
Independent Director

## Chief Executive Officers (Permanent Invitees)



**Shri Ashwini Kumar**  
Rourkela Steel Plant



**Shri A. K. Rath**  
Durgapur Steel Plant



**Shri M. Ravi**  
Bhilai Steel Plant



**Shri P. K. Singh**  
Bokaro Steel Plant



**Shri A. Dasgupta**  
IISCO Steel Plant

## OUR CORPORATE INTEGRITY

We uphold integrity as the core value which drives all our business activities. In SAIL, our emphasis has always been on preventive and proactive vigilance activities from top to bottom, to build an environment which enables people to work with integrity, efficiency and impartiality by upholding highest ethical standards.

As an organization which is value driven, we have established vigilance departments in all Plants/Units with Quality Management System (QMS) to receive and investigate complaints relating to corruption as per the Central Vigilance Commission (CVC) guidelines.

CVC is a Government of India Institution set up to prevent corruption and to advise and guide Central Government agencies in the field of vigilance. Vulnerable areas/ departments of different Plants/Units were subjected to a total of 2,531 periodic checks which included file scrutiny and joint checks. Since inception, it has been a thrust area of Vigilance Department to effectively implement and monitor various preventive vigilance measures.

To raise the awareness amongst employees we conduct several activities such as awareness sessions and workshops on periodic basis on aspects such as Whistle Blower Policy, Purchase/ Contract Procedures, RTI Act, Conduct, Discipline and Appeal Rules, System and Procedures followed in SAIL, etc. 143 workshops/ trainings were organized at different Plants/ Units, covering 2,938 employees in the year 2016-17.

On the basis of the finding of the investigations in the complaints, major penalties were advised against 11 employees and minor penalties against 24 employees during the year 2016-17. In addition to this, major penalties were imposed on 10 employees including dismissal of 6 employees and minor penalties were imposed on 32 employees during the year 2016-17. Further, various systemic improvements and preventive / administrative actions were suggested in the above cases to prevent recurrence of such incidents.

As we do not practice any anti-competitive behaviour, antitrust and monopoly practices, hence we have not initiated any case in this regard. We do not encourage supporting any kind of political lobbying and political persuasion in its functioning guide. However, we give utmost importance and respect to all national and state-level political representatives. We have not made any monetary or in-kind contribution to any political party during the reporting period. There were no fines or sanctions for non-compliance with laws and regulations in the reporting period.

### THRUST AREAS OF SAIL VIGILANCE FOR THE YEAR

1. Implementation of e-procurement in Contract Cell (Works & Non-works) including Township Contracts.
2. Installation of CCTV cameras at Vigilance sensitive areas.
3. Surveillance in the areas of receipt, sampling & testing of high value raw materials.

### NEW INITIATIVES BY VIGILANCE

#### Business Intelligence:

With a view to introduce analytics in the areas of Preventive Vigilance so as to generate exception alerts and red flags for corrective action / system improvements, Business Intelligence (BI) Modules have been developed in the existing SAP/ERP system in Integrated Steel Plants and CMO.

#### Geo Fencing:

It has been decided to introduce GPRS/GPS system for monitoring the movement of tippers /dumpers which are to be used by contractors for transportation of Iron ores to railway sidings which are at faraway locations. The fleet monitoring system has been introduced in Kalta Mines and is being extended to other mines.

#### CCTV Cameras:

Certain vulnerable points were identified in the Plants/Units such as weigh bridges, dispatch and unloading points, entry and exit points for goods, places of sampling and chemical analysis of received materials etc., on the advice of SAIL Vigilance. CCTV and allied data recording systems have been installed at these places for monitoring and surveillance, which would help in preventing fraudulent activities at the above sensitive areas.

#### E-procurement:

In an initiative towards maximizing e-procurement systems for all procurements / contracts to increase transparency in tendering process, Vigilance deptt. has advised to incorporate e-procurement in the areas of Contract Cells and Township procurements also. The same has already been implemented in most of the Plants / Units.

# ENGAGING WITH STAKEHOLDERS



# अनुभव मंथन Anubhav Manthan

for

## Steel PSUs Project Learning

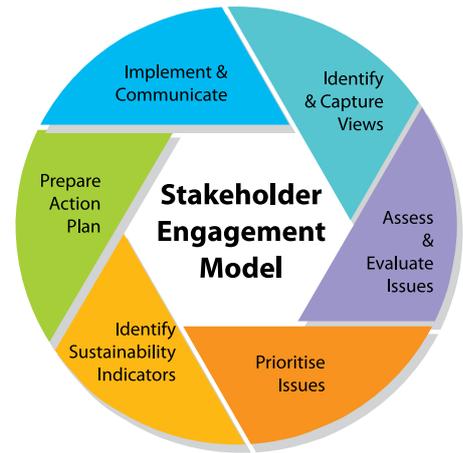
India Habitat Center, 26<sup>th</sup> May, 2016



We recognize all those individuals or groups who have interest or concern in the operational or business activities of our Company as a stakeholder. It has always been one of our prime objectives to build trust amongst our stakeholders, which has been achieved through a well-defined engagement mechanism aimed at addressing their feedback and concerns. Our well framed stakeholder engagement activities have provided us opportunities to identify risks arising out of the stakeholder concern and develop strategies to manage them.

The identification of stakeholder is based on our business strategy and sustainability vision that believes that stakeholders are the main contributors to the success of the Company and their feedback is a reproduction of their expectations. We highly value partnership with our stakeholders and actively seek to reinforce the alliance with our stakeholder groups like government, shareholders, employees, customers, suppliers, community, NGOs, academics, consultants, competitors, financial institutions etc.

The Feedback mechanisms at SAIL have evolved and matured over several decades. Our frequency of engagement varies with the stakeholder groups ranging from regular everyday interaction with employees to Annual General Meetings (AGM) for shareholders.



### Strategic Stakeholder Priorities

#### Completeness

- Knowing & Understanding Stakeholders
- Transparent & Balanced Reporting

#### Materiality

- Assessing Significance to Stakeholders & Management
- Deciding what to report on

#### Responsiveness

- Connecting & Responding
- Providing Access to Information



Chairman SAIL visiting Shop-Floor

## STAKEHOLDER ENGAGEMENT MATRIX

Stakeholder Groups	Sub-Groups	Engagement Mechanism	Concerns / Perceptions	Accrued Benefits
<b>Shareholders</b>	<ul style="list-style-type: none"> <li>Government</li> <li>Institutions</li> <li>Insurance Companies</li> <li>Individuals</li> </ul>	Annual General Meetings, Quarterly and Half- yearly Reports to shareholders, Shareholder relation meets, Investor surveys	Profitability of the Company, Creation of wealth, Stock price, Grievances and Complaints	Creation of wealth for Shareholders
<b>Employees</b>	<ul style="list-style-type: none"> <li>Regular</li> <li>Contractual</li> </ul>	Labour Unions, Bipartite & Tripartite Meetings, Departmental & Zonal Committee Meetings, Various Platforms for Dialogues & Communication, CEO Interactions, Employee Satisfaction Surveys, Annual Appraisals, Internal newsletters, etc.	Safe and healthy working conditions, Good remuneration package, Professional growth, Quality of life, Welfare measures, Training and Career Development	Inspired, encouraged, satisfied and enthused workforce
<b>Suppliers</b>	<ul style="list-style-type: none"> <li>Ancillaries</li> <li>Bulk Suppliers</li> <li>Vendors</li> </ul>	Vendor meetings, Meetings with Suppliers, Ancillary Association Meetings, Supplier Relationship Management	Partnership with value creation, Timely payment, Engaging more local suppliers, Supplier satisfaction, etc.	Contented suppliers
<b>Customers</b>	<ul style="list-style-type: none"> <li>Institutional</li> <li>Retail</li> </ul>	Customer meets, Plant visits, Director's conference with customer groups, Visits to customers and Customer satisfaction surveys	Partnership with value creation, Product quality, Delivery compliance, Customer satisfaction, Resolution of complaints, etc's	Long-lasting association, contented customer
<b>Community</b>	<ul style="list-style-type: none"> <li>Urban</li> <li>Rural</li> <li>Indigenous Communities</li> </ul>	Community meetings, Interaction with municipalities, Town administrative committee, Involvement in local society functions	Quality of life, Job opportunities, Education, Welfare measures, Medical facilities, Sustainable livelihood	Socio-economic development of the area, Partnership in development
<b>NGO's</b>	<ul style="list-style-type: none"> <li>Local</li> <li>National</li> </ul>	Visits to Plants, Seminars, Conferences, Interactions, etc.	Environment quality, Human rights, Freedom of association, Compliance to regulations	Safe and healthy labour force, Environment friendly operations, Ethical operations, Compliance to Standards
<b>Regulators</b>	<ul style="list-style-type: none"> <li>Central Government</li> <li>State Government</li> <li>Local Bodies</li> </ul>	Meetings with Central & State Government/Steel Ministry / Trade Bodies, Industry Associations, Ministry of Environment, Forests & Climate Change, Other statutory bodies, etc.	Economic, Environmental and Social Compliance, Human Rights, Safety, Compliance to ILO Conventions	Legal Compliance, Beyond Compliance
<b>Competitors</b>	<ul style="list-style-type: none"> <li>Local</li> <li>International</li> </ul>	Knowledge sharing, Partnership with value creation, Anticompetitive behaviour, Consumer privacy	Fair business, Partnership, Public policy advocacy	Knowledge sharing, Best practices, Ethical Business
<b>Industry Associations</b>	<ul style="list-style-type: none"> <li>WSA</li> <li>CII</li> <li>FICCI</li> <li>IIM, etc.</li> </ul>	Conferences, Workshops, Seminars	Industry Policy, Regulations, Technology, Environment, CSR, Business Excellence	Knowledge sharing, Public policy advocacy, Best practices
<b>Academic Bodies</b>	<ul style="list-style-type: none"> <li>Institution</li> <li>Research Labs</li> </ul>	Conferences, Workshops, Seminars	Knowledge management, R&D activities, Partnership for value creation	Knowledge sharing, New technology
<b>Professionals / Consultants</b>	<ul style="list-style-type: none"> <li>Local</li> <li>International</li> </ul>	Visits to Plants, Seminars, Conferences, Interactions	Partnership with value creation, Training and development	Knowledge building, Value creation, Collaboration
<b>Media</b>	<ul style="list-style-type: none"> <li>Local</li> <li>National</li> </ul>	Press Meets, Interactions with Plant & Corporate Communications, etc.	Economic, Environmental and Social performance Achievements	Transparency and communication

## FEEDBACK FROM STAKEHOLDERS

We engage with our valued stakeholders through diversified modes of engagement and design our strategy and initiatives based on their feedback. Inputs from shareholders help into the strategic plan development and the consequent strategic objective setting. Customer feedback goes into forming basis for product improvement, products and services development necessary for customer retention, market penetration and growth. Interaction with suppliers allows us to recognize focus areas and strengthen our relationship with them.

We have developed metrics for capturing stakeholder feedback in systematic manner. Customer Satisfaction Index and Employee Satisfaction are just some of such metrics used for gauging the stakeholder feedback and its quantification. We are also consciously capturing the employees' needs and expectation in a structured manner and ensure that the organizational policies are aligned with our employee expectations.

## MATERIALITY ASSESSMENT PROCESS

Materiality Assessment is a framework which allows for prioritization of issues and areas pertaining to economic, environment and social aspects of Sustainability. We have adopted a structured approach for understanding stakeholder expectations and analyzed relevant issues for their professed importance as well as impact of these issues on our business. Our materiality mapping activity incorporates our internal & external stakeholders across our operations ensuring inclusivity in the approach.

We, at SAIL, have been conducting structured materiality assessments since past seven years. For the present report, the response was sought from valued internal and external stakeholders on the aspects of GRI SUSTAINABILITY REPORTING STANDARDS 2016. Due effort has been made through this report to connect on the issues identified as having importance to stakeholders as well as those which impact our business.

While developing materiality mapping, it was ensured that there is inclusivity in the approach and due importance was paid to the views of the stakeholders with regard to sustainability challenges faced by SAIL. In total, 110 internal & external stakeholders were engaged across the Plants, Units and Mines of SAIL. For the present report, reporting boundary for all aspects has been restricted to the operations of SAIL.

Issues identified during Stakeholder Engagement	Linkage with GRI aspects	Page in Report
Improving profitability & growth	Economic Performance	34
Restricting operating cost and encouraging cost saving	Economic Performance	34
Providing fair and equal wages	Market Presence	71
Managing resources and conserving minerals	Materials	49
Improving energy efficiency and adopting renewables	Energy	39
Conserving water by recycling and reusing	Water	46
Conserving biodiversity and land rehabilitation	Biodiversity	51
Reducing greenhouse gas emissions & carbon footprint	Emissions	44
Managing waste by recycling, reusing, recovering and reducing	Effluents & Waste	47, 48
Enhancing employee satisfaction	Labour Management Relations	72
Health and safety of employees, process safety and emergency preparedness	Occupational Health & Safety	61
Increasing employee productivity	Training & Education	77, 78
Providing healthcare to community	Local Communities	81
Preventing corruption	Anti-Corruption	26
Product compliance	Product & Service Labeling	56

## Materiality Matrix



### Engagement with Stakeholders



# FINANCIAL SUSTAINABILITY

Surpassing other major economies, India is projected to become the world's third largest economy in coming 5-6 years. The global economy is recovering which is a healthy sign for industrial and manufacturing activities. As per the IMF projections, the global output is expected to grow by 3.6% in 2018 which is poised to provide more stability in the steel industry world-wide. India's GDP is projected to rise to USD 3.6 trillion by 2020 which is a good sign for businesses especially like steel making that are focused on future domestic as well as growth across the globe.

As a result of introduction of suitable trade measures by the Government of India in FY 2016-17, the domestic steel industry performed to its potential and the country became a net exporter of steel. During the year, the Company achieved highest ever Hot Metal production at 15.73 MT, Crude Steel production at 14.50 MT and Saleable Steel production at 13.87 MT along with all round improvements in the major techno-economic parameters. It is strongly believed that with the current stage of development of the Indian economy and its expected growth for the next decade, the steel demand in India will see noteworthy growth in coming future. It is envisaged in India's National Steel Policy 2017 that with its strong reforms, rise in infrastructure spend and healthy consumption, total domestic steel capacity will reach a mark of 300 Million tonnes resulting in having 160 kg of per capita steel consumption by 2030-31.

We, as a preferred steelmaker, are delivering world class products which not only strengthen the infrastructure of the nation but also being appreciated by its customers across the world.

Further, we have undertaken several measures to strengthen market position and to enlarge our reach for maintaining robust financial growth. The key areas of action followed by us include cost control measures through productivity improvement, monitoring of high value procurement, optimising coal blend, etc. Positive outlook of credit ratings is an outcome of robust fund management practices.

Key Economic Indicators (in ₹ crore)	2014-15	2015-16	2016-17
Gross Turnover (Direct Economic Value Generated)	50,627	43,294	49,180
Net Turnover	45,208	38,471	43,866
Cost of Material consumed including bought out goods	18,523	17,155	21,126
Employee Wages & Salaries	9,736	9,715	8,948
Payments to Providers of Capital			
- Interest (Finance Cost)	1,454	2,300	2,528
- Interest (Capital-Expenditure During construction)	638	644	582
- Dividends	826	0	0
Community Investments (CSR Expenditure)	35	76	29
Contribution to Government / Exchequer	11,110	8,496	10,244
Operating Profit	3,813	-4,707	-2,106
Profit After Tax	2,093	-4,021	-2,833
Income Retained in Business	837	-4,232	-2,833

We have created a forte for ourselves in the business by providing world class products and services to our customer at the competitive cost. We have gained appreciation and loyalty from our customers by regularly maintaining a customer centric approach and zero tolerance on quality.

SAIL caters to almost the entire gamut of the mild steel business - Flat Products in the form of Plates, HR Coils/Sheet, CR Coils/Sheets, Galvanized Plain/Corrugated Sheets and Long Products comprising Rails, Structurals, Wire-rods and Merchant Products. In addition, Electric Resistance Welded Pipes, Spiral Welded Pipes, Electric Tin Plates and Silicon Steel Sheets form part of the Company's rich product-mix. In spite of the challenging market, we have achieved total sales volume of 13.1 MT during the year 2016-17, registering a growth of about 13% over the previous year. With regard to Dealer Sales, record sales of around 0.82 MT were achieved during the Financial Year 2016-17, thereby registering a growth of 3% over 2015-16. In respect of exports, 0.67 million tonnes were exported, which were higher by over 200% as compared to the previous year.



**Hon'ble Prime Minister of India at the Dhola Sadiya Bridge**

SAIL was the main supplier of steel in construction of the Country's longest bridge "Dhola-Sadiya" built on river Lohit in Assam, connecting the States of Assam and Arunachal Pradesh. The company has supplied around 90% of steel comprising TMT, Structurals and Plates, for this prestigious project built under public private partnership. The bridge being 9.15 km in length, is 3.55 km longer than Mumbai's Bandra-Worli Sea Link.

We have also achieved highest ever despatches of Long Rails (260m panels) to Indian Railways with a growth of 11.1% over the previous year. Further, 181 numbers of Narrow Gauge Forged wheels were specially manufactured and supplied for maintenance of the Kalka-Shimla Railway Line, a UNESCO declared World Heritage Site.

Some of our key economic risks and barriers along with their mitigation strategies are briefly described below:-

### Economic Risks

- Dumping of steel from abroad and increased competition from domestic and overseas steel manufacturers
- Cheap sourcing of steel from countries with whom India has Free Trade Agreement (FTA)
- Lower sales realization of products and depressed domestic demand
- Higher Royalty rate on Iron Ore and dependence on external sources for key input - coking coal
- Delays in ramping up of production from the new Units due to initial stabilization factors
- Adverse employee age-mix and High manpower cost

### Mitigation Strategies

- Market expansion to explore and strengthen presence in new growth segments
- Product innovation to provide cutting-edge solution and retain customers
- Expeditious ramping up of new units
- Securing long-term contracts with suppliers and establishing relationship with customers
- Development of new mines and exploring international partnerships
- Rationalization of workforce

Besides the risks, the Company also foresees many opportunities in its coming future. With an accelerated push on account of the policies proposed by the Government for steel intensive segments such as infrastructure, capital goods and construction, the Company expects a colossal market position for itself. High export potential to Middle East and South East Asia markets shall also have an advantage to the Company.

We have also launched a Companywide initiative with the help of Boston Consulting Group (BCG) named 'SAIL Uday' for improving our all-round performance in which cross functional teams across Plants, Units and marketing have been formed. In this initiative, both short and long term action plans have been formulated and implementation of various initiatives is already initiated.

## OUR R&D ACTIVITIES

Our well-established Research & Development Centre has earned recognition as a premier organization in the field of ferrous metallurgy. An inclusive strategic vision for research and development, having an intention for maintaining leadership position in market, improving operational efficiencies, cultivating process innovations & reengineering and enhancing quality of products has been taken up by the Company. We have embarked upon an ambitious Master Plan for R&D aiming at integrating R&D initiatives towards business & operational goals of the Company. This Plan called for creating Centre of Excellence (CoE) in all the Plants and implementing High Impact Projects (HIP) and Technology Missions (TM) for achieving technological eminence. This initiative has taken roots and is under different stages of implementation.

The efforts of our engineers and scientists have culminated in filing of 35 patents and 28 copyrights during the year. 95 technical papers (27 international) were published and 127 papers (52 international) were also presented.

## OUR MODERNIZATION & EXPANSION PROGRAMME (MEP)

We are nearing towards our last leg of implementation of on-going Modernisation & Expansion Programme. During the FY 2016-17, the Company has achieved many milestones. At BSP, New Universal Rail Mill for supply of 130 m rail, World's longest singlepiece rail, has been commissioned and welded 260m rail panels are being dispatched to Railways. A capital expenditure of ₹ 4,939 crore was incurred by us during Financial Year 2016-17 and capex planned for 2017-18 is ₹ 3,500 crore. During the year, new already operational facilities were also ramped up. New Blast Furnace at RSP achieved about 100% of its capacity, whereas, other facilities like New Caster and New Plate Mill were also in process of stabilization.

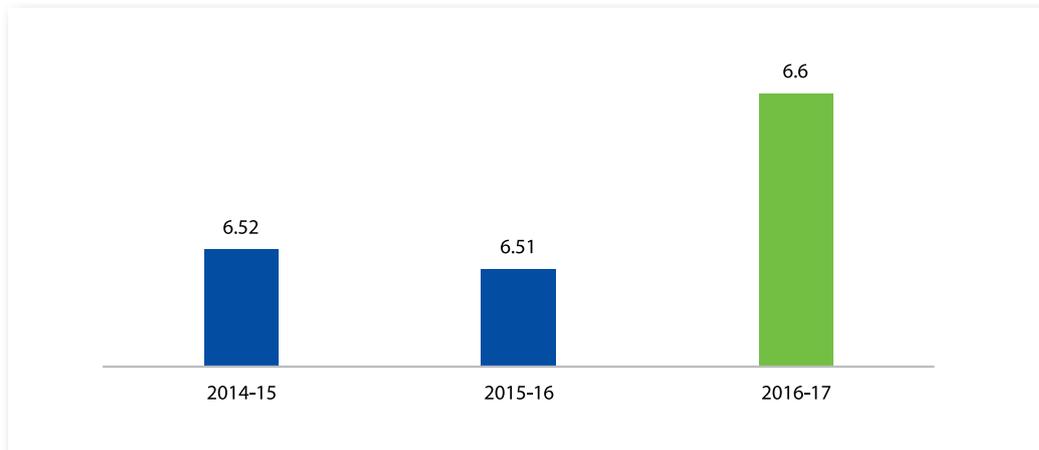
As a result of putting in of the state-of-the-art facilities installed under the current MEP, significant improvement in the techno economics including improved environmental parameters is registered.

# ENERGY

## EFFICIENCY



Infrastructural development comprises a major portion of the exponential growth that our country is witness to right now. SAIL, being one of the largest players in the Iron and Steel sector, has made enormous contribution in the national development. Almost all sectors spanning from Automobile, Power, Machine goods and Infrastructure require steel as one of the main ingredient in their growth. The process of production and processing of Steel is highly energy intensive and thus has a large carbon footprint associated along with its production. In order to achieve improved energy efficiency and low carbon footprint, the Iron and Steel Industry has taken various initiatives over the period of time. The Global world has become more responsive towards conservation of energy, and it is more sensitive towards the Iron and Steel sector as this sector is highly energy intensive.



#### Specific Energy Consumption (GCal/tcs)

We are committed towards a better tomorrow not only by way of participating in the development in a big way, but also by giving them a energy secured future. We are continually working towards this end by way of dedicated Plant wise Energy Management Departments that analyse Plant operations and subscribe to several energy saving mechanisms. Owing to our continual efforts, we have been able to reduce our energy consumption over the years.

Power & Fuel Consumption	2016-17	
	Quantity	(TJ)
Purchased Electricity (M kWh)	8188	105,212
Generated Electricity (M kWh)	1022.5	12,882
Coking Coal (MT) Including CDI	15.32	432,024
Non Coking Coal (MT)	0.489	9,291
Furnace Oil ('000KL)	15.7	654
<b>Energy Consumption</b>		<b>560,063</b>

As a part of commitment towards development of renewable energy, our Company has already installed a capacity of 1070 KWp rooftop solar plants at various locations and 1 MWp grid interactive solar plant at RSP. Further actions for installation of 200 MWp capacity solar plants at various SAIL Plant locations have also been initiated. 350 KVA Solar Power Plant has also been installed at Kanpur for catering the power requirements of the entire warehouse. The Company has also introduced various renewable energy initiatives like use of coal bed methane in re-heating furnaces, bio-diesel in locomotives, agro based fuel in boilers and solar water heating & lighting systems at its plants and units.

To further fulfil SAIL's Renewable Energy Commitment, a Solar Power Plant project is being developed through NTPC-SAIL Power Company Limited, a Joint Venture Company of NTPC and SAIL. In addition, Solar street lights have been installed; Solar Lanterns and Smokeless chullahs have been distributed among the rural people.

## **SCHEMES FOR ENERGY CONSERVATION AND TECHNOLOGY ABSORPTION**

### **Bhilai Steel Plant**

- Optimization of energy through control of air-gas ratio of Hot Blast Stoves in BF #6
- Installation of timers for outdoor lighting circuits of CCD-3 in COB#11 for considerable energy saving and cost control.
- Installation & commissioning of VVVF drives in all the 4 sections of Charging Side Roller Tables of Wire Rod Mill, Swivelling drive of Turn table of Wire Rod Mill and Ladle drier of SMS-2
- In-house replacement of old inefficient pumps with energy efficient pumps.

### **Durgapur Steel Plant**

- Commission of revamped Coke Oven Battery #5, hot repair of Coke Oven Battery #6B and cold repair of Coke Oven Battery #6A
- Installation of VVVF panel in Coke Oven Battery #1
- Complete replacement of sinter cars in Sinter Plant -1 for suction improvement.
- Commissioning of Coal Bed Methane injection in Blast Furnace #4 to increase Hot Blast Temperature
- Installation of additional Coke Oven Gas burners in boilers #5 & #6, thereby drastically reducing coal consumption.
- Closure of energy intensive Soaking Pit route and production through Continuous Casting route increased from 88% to 95%

### **Rourkela Steel Plant**

- Increased and consistent power generation from Top-pressure Recovery Turbine Generator (TRTG) & Back Pressure Turbine Generator (BPTG), resulting in reduced import of power from Grid
- Replacement of skid pipes with insulation in Reheating Furnace #5 of Hot Strip Mill to reduce heat loss
- Erection and commissioning of an alternate mixed gas line to CP-II for its smooth operation

### **Bokaro Steel Plant**

- Improvement of power factor by reviving capacitor bank of LF-1 sub-station of CCS
- Commissioning of new ID fan no-2 with VFD in SMS-II
- Change of heating mode in pickling from direct heating to indirect heating through steam
- Rectification of about 110 steam leakage points & replacement of 25 steam traps

### **IISCO Steel Plant**

- Increase in Coke Oven gas yield and BF gas yield
- Power generation from Top-pressure Recovery Turbine (TRT)
- Decrease in Coke rate
- Installation of energy efficient lights

A capital expenditure of ₹ 66.98 crore was incurred during the Financial Year 2016-17 towards energy conservation equipment.

# OUR ENVIRONMENT



All of our operations are carried out with a determined intent of encouraging clean, green and sustainable development. Our intent is manifested in the form of our Corporate Environment Policy. Our various interventions include adoption of latest environment friendly technologies, implementing robust environmental management systems, creating awareness and imparting training to our employees on latest best practices.

Every environmental agenda at our Plants, Units and Mines attend to critical issues such as energy conservation, resource optimization, biodiversity protection and mitigation of undesirable environmental impacts, if any, as well as smooth operational and maintenance programmes for environment and pollution control facilities. Our Plants, Units and Mines have progressively also introduced well defined environment management systems in their operations, resulting in meaningful improvement in waste minimization and recycling, water & energy conservation, noise reduction, reduction in particulate emissions and effluent discharges, in accordance with National Environmental Policy 2006. Being a responsible corporate citizen, we have always maintained a proactive approach to safeguard the environment. There were no fines or non-monetary sanctions for noncompliance with environmental laws and regulations.

Some of the key environmental risks/challenges foreseen by us and their mitigation strategies are briefly listed below:

### ENVIRONMENTAL RISKS

- Increased global concern for climate change prompting adoption of challenging targets by the Regulators
- Operational and Financial risk to the industry in form of carbon taxes, emission caps etc.
- Increasing quantity of waste requiring proper management and disposal
- Deteriorating air and water quality as a result of increasing concentration of industries in the vicinity

### MITIGATION STRATEGIES

- Regular adoption of clean technologies to reduce CO<sub>2</sub> emissions
- More venturing in environmental protection measures
- Developing strategies for proper handling, recycling and reuse of waste
- Compliance with the norms as well as preparing for beyond compliance scenario

Our commitment towards sustainable development is evident from our espousal to Charter on Corporate Responsibility for Environmental Protection (CREP) requirements, which is a voluntary commitment between SAIL and the MoEF&CC, Government of India and helps steel plants reduce their environmental traces across their operations. Further, as per the Sustainable Development Guidelines issued by Department of Public Enterprises (DPE), we have put in place a Sustainable Development (SD) Policy and taken up specific SD projects across our Plants, Units and Mines.

It has been our commitment to develop our business model into one which provides steel for advancing the economic growth while ensuring that all operations are environment-friendly as well as create value for the society. This commitment is obviously visible in our almost completed Modernization and Expansion Programme (MEP).

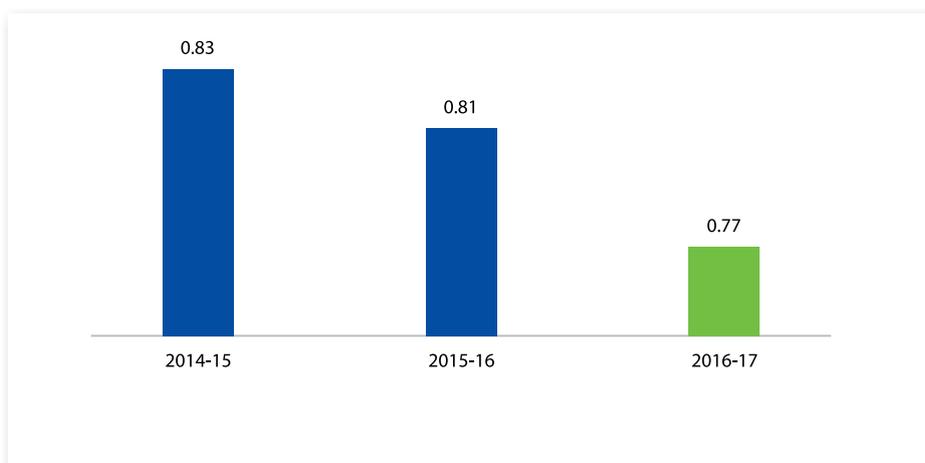
A key focus area during this MEP is to enhance the production capacity along with phasing out old technologies/equipment and installation of energy efficient & environment friendly technologies. Out of the total MEP outlay, around 8% has been spent on pollution control schemes alone. These schemes will also contribute towards energy efficiency, resource conservation and emission reduction.

To monitor and mitigate the environmental impact of our operational activities, we have a dedicated unit, "Environment Management Division (EMD)" catering to the diverse environmental implications arising from our varied operations ranging from mineral extraction to rolling out finished steel.

EMD, as a Corporate unit, has been bestowed with responsibility to monitor and facilitate the environment management and pollution control activities in Plants, Units and Mines. Besides EMD, each Plant and Mine has its own department manned with qualified officers for implementation of environmental protection measures.

Our commitment to “comply with applicable (environmental) regulations and striving to go beyond”, results from our concerted efforts towards environmental stewardship in and around our operating units. A Board level committee, the Board Sub-Committee (BSC) on Health, Safety and Environment, also guides the efforts of the Company towards environment protection and conservation.

Curbing the emissions from chimneys has been one of the focus areas of action for us. The emissions from stacks is not only a concern of health and safety for the employees, but also affect the neighbourhood around our Plants. In order to provide a clean and green ecosystem, several steps have been taken which have led to particulate matter being limited to 0.77 kg/tcs during the year. Through continuous efforts, the specific Particulate Matter (PM) emission load from the major stacks has reduced by more than 12% in the last five years. Our Plants are effectively maintaining the air pollution control devices and regularly up-grading them in order to comply the statutory norms. Emissions of SOx are reduced by the use of low sulphur coal and desulphurization of coke oven gas, while for NOx control special burners and process related changes are installed.



**Particulate Matter Emission Load (kg/tcs)**

## OUR CARBON FOOTPRINT

Our various functional units which contribute to the emission of CO<sub>2</sub> are Coke Ovens, Sinter Plant, Blast Furnaces, Steel Melting Shop, Power Plant etc. We are participating in the World Steel Association (WSA) CO<sub>2</sub> data collection system through Global Steel Sector Approach. Other indirect greenhouse gas emissions are due to transportation of raw materials, finished products and employee commute. Even though these emissions are somewhat inconsequential, we have undertaken several interventions to minimise them. Due to various steps taken, the CO<sub>2</sub> intensity during the last five years has reduced by more than 5%, with CO<sub>2</sub> intensity for 2016-17 as 2.61 t/tcs.

## CONSERVING WATER

The importance of conserving water resources is becoming evident with every passing day. Water scarcity and water quality are going to be one of the major economic and health concerns in the coming future. With several regulatory requirements also mandating businesses to take concrete steps in the direction of water conservation, we have undertaken several initiatives in this direction. It has been our regular endeavor to maintain equilibrium in the surrounding ecosystem while carrying out our production activities. Our initiatives towards water conservation include setting up of Waste Water Treatment Plants, identifying source of leakage and arresting them, assessment & analysis of the discharged water from various units to identify areas that need improvement to reduce fresh make-up water demand.

We have taken due care to minimize water consumption at our Mines also. Regular efforts are being made to reuse and recycle the treated effluents to the maximum possible extent. The efforts have resulted in minimizing effluent discharge and pollution load.



**Treatment of Effluent at Plant**

Water conservation month was celebrated during Jan., 2017 across SAIL. During the water conservation month an array of activities viz. awareness campaigns, showcasing of films on methodologies for water conservation on intranet along with display of posters, hoarding at strategic places like canteen area, welfare buildings, shop floors etc., water conservation pledge ceremonies, melas, rallies on motor cycle involving valve operators and pump operators, slogan, essay and quiz competition among employees and students at company owned academies/institutions were carried across Plants, Mines & their Townships to create awareness amongst employees, their family members and all the stakeholders regarding importance of water and need for water conservation.

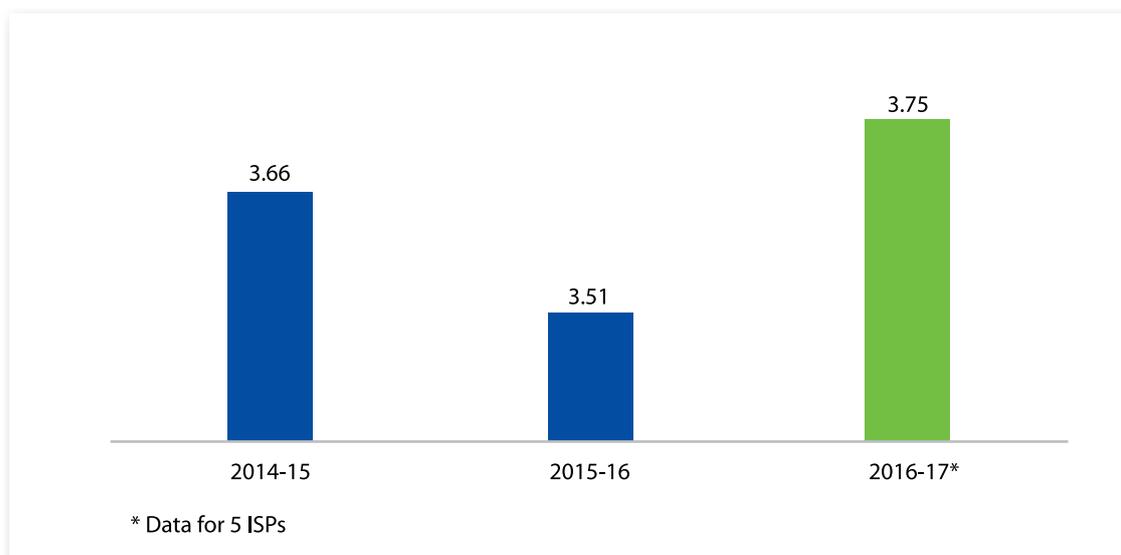
A workshop aimed at reduction in water consumption was organized by Environment Management Division, SAIL, at MTI, where representatives from the Integrated and Special Plants of SAIL, CET, RDCIS and SAIL Refractory Units, participated. A detailed time bound implementable action plan, both short term and long term, was prepared for conservation of water in respective Plants and their Townships.

Primary focus across all areas was on arresting of wastage on account of leakages in water supply pipelines. Leakages were identified and addressed at more than 100 locations at different section of pipes of various diameters at our Integrated Steel Plants and Special Steel Plants. In addition, for conservation of water at steel Townships, the overflows from overheads tanks were closely monitored to rationalize supply of water. The float valves at overhead tanks were also rectified and fixed on priority and the supply of water at the Townships was optimised for further conservation of water.

### Water sources for various SAIL Plants & Units

Plants/Units	Water Source
BSP	River Mahanadi
DSP	River Damodar
RSP	River Brahmani
BSL	River Damodar
ISP	River Damodar
ASP	River Damodar
SSP	River Kaveri
VISL	River Bhadra
CFP	Groundwater (borewells)
SGW	River Barakar

All of our Plants and Mines are located strategically to ensure availability of surface water. No negative impacts were observed on the water sources or the nearby water bodies because of our operations.



**Specific Water Consumption for SAIL Plants (m³/tcs)**

### EFFLUENT TREATMENT

The effluent discharged from various operations in steel industry can have detrimental effect on the ecology of the local biosphere as well as on the natural resources and water bodies. It is for this reason that we have shown our commitment to treat the discharged water adequately and strictly monitor the parameters so that the quality conforms to the prescribed standards. Efficient effluent management, integrated into the operations, goes a long way in fostering a sense of stewardship to ones community and surroundings.

### Effluent discharged by ISPs during last three years

	2014-15	2015-16	2016-17
Quantity of Effluent discharged (Mm <sup>3</sup> )	30.31	25.57	25.41

During the year, all the parameters pertaining to standards of effluent discharged from all the Plants were well within the norms.

### Effluent Quality of Five ISPs during the year

Unit: (mg/l except pH)

Parameters	pH	SS	BOD	COD	Phenol	Cyanide	Oil & Grease	NH <sub>3</sub> -N
<b>Norm</b>	<b>6.0-8.5</b>	<b>100</b>	<b>30</b>	<b>250</b>	<b>1.0</b>	<b>0.2</b>	<b>10</b>	<b>50</b>
BSP	6.9-7.8	33-70	12-23	44-86	BDL-0.32	BDL-0.08	0.85-3.95	1-17
DSP	7.2-8.3	5-45	12-26	110-145	0.15-0.56	0.01-0.19	1.02-5.10	4-39
RSP	7.0-8.0	12-55	7-9	23-36	0.07-0.16	0.07-0.13	2.75-4.75	7-23
BSL	6.3-8.1	19-53	6-14	37-172	0.01-0.11	0.006-0.119	0.24-1.89	1-4
ISP	7.2-8.3	10-19	1-4	2-12	BDL-0.26	BDL-0.04	<1-1	0.4-19

### Effluent Quality of SSPs during the year

Unit: (mg/l except pH)

Parameters	Norm	ASP	SSP	VISL	CFP
pH	6.0-8.5	7.6-8.5	6.22-8.10	7.50-8.00	6.20-7.18
Suspended solids	100	10-87	4-24	39-60	36-87
BOD	30	5-8	<2.0-4.0	3.00-5.00	15.8-28.4
COD	250	9-37	8-16	4.50-56	83.7-182.7
Fluoride	2	<0.2	0.32-1.43	<0.02	BDL
Iron	3	<0.3	<0.05-0.1	0.44-0.65	1.29-2.09
Oil & Grease	10	<1-8.25	<0.4	BDL	<4

## WASTE MANAGEMENT

The four principles of waste reduction- reduce, reuse, recycle and recover, are duly adhered to across all our operations. We have developed and are following a comprehensive waste management strategy. In the iron & steel making process, a large quantity of wastes and by-products are generated for every ton of steel produced. These by-products include slag, dust, sludge, and used firebricks etc. Slag which accounts for a majority of by-products, is almost entirely utilized. Blast Furnace slag is used as input material for cement making while BOF slag is used as material for road base, civil engineering work, soil improvement, fertilizer, etc. With persistent efforts, we have been able to achieve solid waste utilization of more than 83% during the year, whereas 24.72% solid wastes were internally re-cycled out of this. During the year, 89.47% of BF slag and 71.24% of BOF slag were utilised.

We do not transport any type of waste, whether hazardous or non-hazardous outside India. There were no significant spills during the reporting period.

With the philosophy of 4 Rs firmly embedded in our organizational approach, there have been several initiatives to explore the avenues for utilisation of solid waste generated in other areas. A few of these initiatives are listed below:

### Use of weathered LD Slag as rail track ballast

The physical properties of Weathered LD Slag (WLD Slag) meet the specification required for stone ballast for use as rail track ballast. We have taken up the project of "Field Trial for Utilization of the Weathered LD Slag as rail track ballast", at Ispat Nagar Railway Yard, Bokaro, in association with the South Eastern Railways (SER). Weathered LD slag from our Bokaro Steel Plant was spread over a stretch of 500 meter rail track and field trial has been taken for the same by the SER.

### Use of BF-BOF slag as replacement of natural aggregates (Sand) in IS: 383

With initiatives of the Company, the Bureau of Indian Standards (BIS) has suitably amended the relevant IS: 383, permitting utilization of iron and steel slag as a replacement of natural aggregate up to the extent as has been given in the IS: 383 (Revision-III), 2016.

### Dry Granulation of LD/BOF Slag (hydro-mechanical Study) - A project taken up under R&D Master Plan of SAIL

This innovative process is under research stage globally. It has been estimated in a lab scale study that LD slag after granulation can be utilised in cement making up to the extent of 15%. We have engaged IIT Kharagpur for conducting lab scale study for this R&D project.

### Use of Air Cooled Blast Furnace slag in road making

A detailed study was carried out by Central Road Research Institute (CRRI), New Delhi to assess the various engineering and geo-technical properties of Air Cooled Blast Furnace Slag (ACBFS). Based upon the CRRI study report, RDCIS SAIL took up a project to construct cement concrete pavement in RDCIS Complex, wherein about 500 MT of air cooled blast furnace slag of 5 – 25 mm size from BSL was used.

### Solid Waste Generation and Utilisation for ISPs (T)

Type of Waste	Generation	% Utilization
BF slag	6,038,321	89.47
LD BOF slag	1,596,362	71.24
THF slag	115,880	nil
BF Flue dust	183,678	85.50
BF Sludge	96,828	3.76
LD /BOF Sludge	112,820	27.36
Mill scale	284,948	98.40
Lime/Dolo Fines	205,240	85.27
Refractory Wastes	29,670	100
<b>TOTAL</b>	<b>8,663,747</b>	<b>83.20</b>

### Solid Waste Generation and Utilisation from Units for 2016-17 (T)

CFP	Generation	% Utilisation
FeMn Slag	1663	282.14
Si Mn Slag	57,971	67.5
Mn Ore Fines	12,814	117.9
Coke Fines	4,146	129.8
Quartz Fines	163	Nil
Flux Fines	52	Nil
Iron Ore Fines	319	Nil
GCP Sludge	6,108	Nil
<b>Total</b>	<b>83,236</b>	<b>166.41</b>

VISL	Generation	% Utilisation
BF Slag (Granulated)	20,260	189.4
Coke Breeze	3,324	244.9
BF Flue Dust	1,221	Nil
BF Sludge	607	Nil
BOF Slag	6,345	nil
BOF Sludge	607	Nil
Iron Ore Fines	13,174	211.7
Refractory waste	230	Nil
<b>Total</b>	<b>45768</b>	<b>162.6</b>

SSP	Generation	% Utilisation
Neutralized Pickling Sludge	1,679	Nil
Diatomaceous Earth	37	Nil
ARS Metal Oxide Powder	62	Nil
SGL Swarf	30	131.5
Boiler Ash	1,639	Nil
Steel Shot Dust	494	95.7
Mill Scale (HRM & APL)	3,539	295.8
SMS Slag	35,566	9.1
EAF Dust	1,807	Nil
AOD Dust	2,272	Nil
Grinding Swarf & Dust	171	Nil
Torch Cutting Bag house Dust & Caster Scale Pit	124	Nil
Other wastes	4,498	Nil
<b>TOTAL</b>	<b>51,918</b>	<b>27.4</b>

ASP	Generation	% Utilisation
EAF / AOD Dust	198	22.2
EAF Slag	2,277	Nil
Grinding Dust	431	100
Mill scale	1,424	56.9
Refractory Bricks	479	67.7
<b>Total</b>	<b>4,809</b>	<b>33.5</b>

#### Solid Waste Generation from Mines

BSP Mines	2016-17
Overburden	6,435,275
Tailings	756,249
<b>RMD Mines</b>	
Overburden	12,734,505
Tailings	954,842
<b>VISL Mines</b>	
Overburden	18,588
<b>Total</b>	<b>2,08,99,459</b>

We have always been of the opinion that proper collection and disposal of hazardous waste is highly important as the ill effects of its contact with the environment can even result in irreparable damage to the eco-system. The management and disposal of these wastes has always been a key focus area for our top management.

Inventorisation and quantification of the hazardous wastes have been done at our Plants and the identified wastes are being handled and disposed as per the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016. SAIL Plants, Units and Mines have received authorization for the same.

#### Hazardous Waste Generated at ISPs (T) for 2016-17

Plants	Generation
BSP	4,184
DSP	7,173
RSP	1,600
BSL	4,882
ISP	386
<b>Total</b>	<b>18,225</b>

## MATERIAL MANAGEMENT

It is certain that rapid economic growth has ushered an epoch of affluence and contributed to the enhanced living conditions for millions and has also increased the burden on already strained resources. We have ensured that we give key consideration to optimal utilization of raw materials and have accordingly enacted our policies and taken up initiatives for the same. This has resulted in reduced material consumption and better recycling of waste. The following details furnish a consumption pattern of raw materials at SAIL's various plants, recycling of steel scrap and use of other wastes generated within the operational units.

#### Raw material Consumption (mt) in SAIL for 2016-17

Iron Ore	Coal	Dolomite	Limestone
25.33	15.32	2.89	4.08
<b>Explosive Consumption (T) in SAIL Mines for 2016-17: 5,569</b>			

It is widely accepted that the future of steel industry will be shaped by the preparedness of the industry to recycle the steel scrap. We have been aware of this and have hence taken effective steps to ensure maximum recycling of internal scrap. The scrap generated within the operational units is completely recycled, and some other wastes are reused in the Sinter Plants, Blast Furnaces and Steel Melting Shops. During the year, about 25 % materials were recycled internally.

**Scrap Utilization (T) in SAIL ISPs for 2016-17**

Scrap Utilization	BSP	DSP	RSP	BSL	ISP
Scrap Used at BF	52,162	31,083	8,978	74,316	Nil
Scrap Used at SMS	767,714	195,542	320,277	338,732	113,090



**High Capacity Dumpers at Mine**

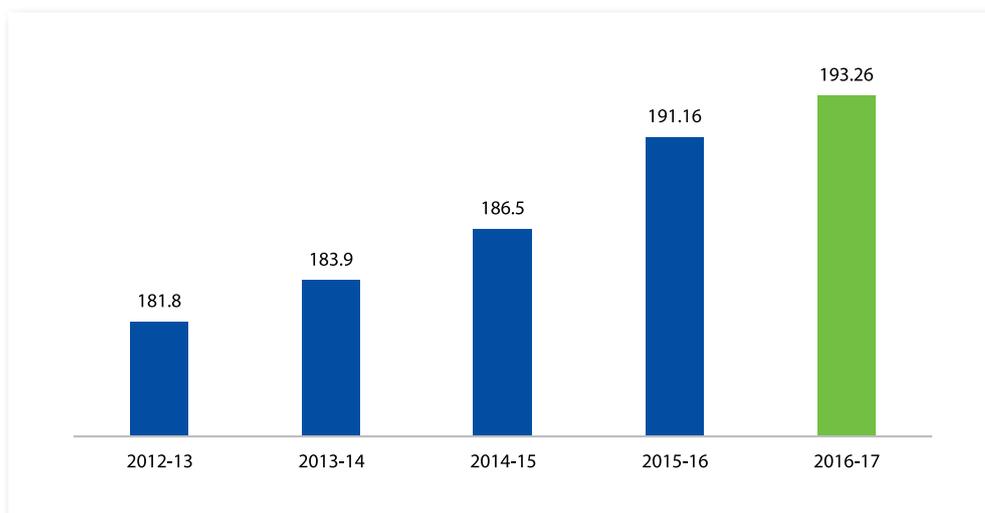
## OUR EFFORTS FOR ECOLOGICAL RESTORATION

We, at SAIL, realize the role of plantation in overall environmental management initiatives. It is a well-known fact that plants play an important role in the eco system and play a role of carbon sink. Widespread afforestation programme has been implemented in all of our Plants and Mines over the years. The basis of choosing the species of plants mainly depends on availability and prevalence of local species, local soil characteristics and prevailing meteorological conditions. We believe that the green belt developed by afforestation adds not only to aesthetic environment but also helps in watershed management, soil protection, erosion control, landslide stabilization and developing windbreaks.

None of the operations of SAIL are in the vicinity of protected areas. There are no IUCN red list of national conservation species with habitats in areas of operation. Our Plants and Units have taken up massive plantation programmes using scientific methods to develop green belts, parks, clean and green surroundings, tree lined avenues and townships. Till year, close to 2 crore trees have been planted in the Plants and Mines locations and regular additions are being made through various plantation drives. During the year, over 2.10 lakh saplings were planted in Steel Plants and Mines.

Our afforestation programmes also has a component of carbon sequestration. In collaboration with the Tropical Forest Research Institute (TFRI), Jabalpur, a project spanning more than 5 years, has been taken up at the Rourkela Steel Plant. Vegetation surveys, identification of high carbon sequestering species, training, development of nursery at site etc. activities have been completed during the Year.

**Cumulative Plantation in SAIL Plants & Mines (Nos. in lakhs)**



The Company took up restoration and rehabilitation of degraded ecosystem for maintaining and enhancing bio-diversity as well as replenishing the eco-system services at Puranpani Limestone & Dolomite Quarry and associated itself with the Delhi University for the same. Long term maintenance of ecologically restored 250 acres Lime Stone mined out area at Purnapani Lime Stone & Dolomite Quarry is a five year project towards sustainability of the restored ecosystems while providing ecological services and goods to the local communities.

### Land Area of Mines (In Ha)

	Lease Area	Land for Mining	Waste Dump Area	Waste Dump Rehabilitated
RMD Mines	15,038.14	3835.848	282.042	145.698
BSP Mines	6,708.00	935.90	139.90	208.89
VISL Mines	44.57	24.87	4.17	6.05

## ENVIRONMENT MANAGEMENT SYSTEM (EMS)

We have been a fore runner in the establishment of the environment management system in the steel industry in the Country. In mid 90's, we started implementation of EMS-ISO 14001 in our Salem Steel Plant. Consequently, our various other units have also been accredited to EMS, resulting in improvement in work zone ambience, reduction of noise, reduction of heat & dust exposure, control of stack and fugitive emissions, improvement in waste management and improved housekeeping. In addition to this, ISO 14001 accredited units have been able to lessen their environmental liabilities, maximize the efficient use of resources, reduce wastes, build awareness of environmental concern among employees, improve environmental performance through more efficient operations and demonstrate a better corporate image.

In addition to the Plants and Mines, our Warehouses under CMO have also been accredited to EMS-ISO: 14001 Standard

### SAIL Units accredited to EMS -ISO 14001

Plants/Units	Certification Status
BSP	Entire Plant & Township
DSP	Entire Plant
RSP	Silicon Steel Mill, Sinter Plant-II, Hot Strip Mill, Plate Mill, ERW Pipe Plant, SW Pipe Plant, Special Plate Plant, Environment Engineering Department and RSP Township
BSL	Entire Plant
SSP	Entire Plant & Township
ASP	Entire Plant
VISL	Entire Plant
CFP	Entire Plant
CMO	Warehouses at Faridabad, Dankuni, Kalamboli, Chennai, Hyderabad, Ahmedabad, Ghaziabad, Delhi, Durgapur, Bangalore, Bokaro and Vizag
Transport and Shipping	BTSO Vizag
<b>MINES</b>	
Dalli Iron Ore Mine	Entire Mine
Kiruburu Iron Ore Mine	Entire Mine
Megatuburu Iron Ore Mine	Entire Mine
Bolani Ores Mines	Entire Mine
Kuteshwar Limestone Mine	Entire Mine
Barsua Iron Ore Mine	Entire Mine



# PRODUCT LEADERSHIP



Change is only constant in ever changing world and we are regularly realigning, re-engineering our products/services/strategies to remain competitive in the global market, aligning ourselves with the customers priority. We, being a customer oriented organization, always try to meet the expectation of our customers with paramount sincerity. We have added special grades having new features such as earthquake resistant, light weight, corrosion resistant TMT rebars etc. to our existing portfolio. Our these additions have helped several domestic and contributed for a valuable infrastructure development.

Our RDCIS (Research and Development Centre for Iron and Steel) centre at Ranchi is leading the way to the strategic product stewardship initiatives in SAIL. RDCIS is, entrusted with planning demonstrating and implementing multi-disciplinary innovative programmes in SAIL Plants to improve their key performance indices related to quality, productivity and yield. RDCIS alliance with Steel Plants and Central Marketing Organization, aspires to trim down product cost, develop value added market centric products and exhibit the application of SAIL products amongst the customers.

In today's competitive world, Corporations and society are aware and attentive towards the origins and use of the materials and products they specify. They are in constant pursuit of assuring that principle of sustainability and responsible sourcing has been take care well in their entire supply chain. We have ensured that robust Quality and Environment policies are in place for production of safe and sustainable products. Our products comply with the quality norms of the Bureau of Indian Standards or with the specific customer requirement depending upon the application. We also have well-established systems and procedures to ensure compliance with requirements related to product labeling, marketing, communications and customer privacy.

## IMPROVEMENT & DEVELOPMENT OF PRODUCT

In order to ensure smooth acquisition and development of suitable technologies for sustainable growth, we have laid down a 'Master Plan for Research & Development'. Centre of Excellence (CoEs), in alliance with our Master Plan, have been created at the Plant level to focus on various product development and improvements in collaboration with key customers and technology suppliers. The said plan duly identifies 'demanding markets' for steel, such as steels for supercritical thermal and nuclear power generation, defence, renewable energy, high strength steel for high rise buildings with seismic and fire resistance, as focus areas for product development. Our corporate R&D set-up at Ranchi is an umbrella organization, overseeing both centralized R&D and the Plant-level CoEs.

During the year, our well equipped R&D team was able to develop 20 new products which are crucial for the growth and developments of Indian economy like construction, railways, defense, etc. Many opportunities are also available for reducing the weight of steel, a key material used for manufacturing of products such as vehicles. Recognizing this, the Company has channelled its research capabilities to come up with higher strength steel products which are light in nature, thus facilitating significant reduction in environmental impacts during their usage phase. We believe in regular interaction with our customers through customer feedback systems as valuable inputs for product development with a view to improve customer satisfaction.

## PRODUCT AND SERVICE LABELING

We believe in Quality and Transparency, the two key principles that are followed during delivery of our products. Our website, which is available for common public, contains all the details with respect to technical product information details on grade, size and application. We strictly adhere to physical dimensions, chemical composition and technical delivery conditions for the associated specifications during production and dispatch of various products. We issue test certificates along with the deliveries to the customers for ease of identification of material and ensuring quality assurance. There was no reported incidence of non-compliance with respect to regulations and voluntary codes concerning product and service information and labeling.

## BRAND MANAGEMENT

Brand management is a paramount task with respect to today's challenging and ever changing environment. Factors like heightened competition, regulations, supply chain issues and manufacturing costs constantly impact business while requiring constant advocacy and reputation management. To manage internal and external factors across multiple locations, Company's brand management practices need to be flexible, approachable, growth-oriented and persuasive.

The Corporate Affairs Division of SAIL is engaged in reputation/ corporate brand management of the Company while the product related branding is managed by the Central Marketing Organization. Our dealers are the vital points of dissemination of our branding initiatives because of their mass outreach and large volume of sales at their locations.

## CUSTOMER SATISFACTION

In this competitive era of Indian Steel industry, it's vital for organizations to have focus on customer satisfaction which is directly related to the company's profit. We, being a customer focused organization, give utmost importance to our customers whose loyalty has helped us to maintain a leading position in the market.

Our Marketing Division, the Central Marketing Organization (CMO), is entrusted for reaching out to all the customers. It carries out a market survey annually and makes forecasts with respect to customer groups and market segments to be served by SAIL and communicates the same to the Plants. We have a well defined Key Account Management (KAM) for customer relationship management which captures the specific requirements of key clientele, and these requirements along with the customer feedback are reviewed monthly in the Plant-CMO meetings. Outcomes of these meetings and orders received from customers help in finalization of the product schedule.

We have a well recognized Customer Satisfaction Index (CSI) systems in place, for receiving the feedback on customer satisfaction. The feedback is gathered every month from all the key customers through personally administered feedback forms that consists various parameters related to quality, supply and service. Average CSI Index for both LP & FP Group as regards to five integrated SAIL Plants is around 95 % on a scale of 100%. CMO's field setup as well as executives of different level also hold direct customer contacts ensuring customer satisfaction of the highest level.

## HEALTH & SAFETY OF CUSTOMERS

In order to provide the premier level of service to our customers, we develop and implement best practices and procedures to achieve and maintain high standards of customer health and safety. Since steel products are generally environment-friendly and do not create any health or safety hazard during their use, procedures for preserving customer health and safety during the use of these products are not specifically required. However, material handling is always a safety concern for the customers and use of safety appliances is mandated in the warehouses accordingly. There has been no incidence of non-compliance with respect to regulations and voluntary codes concerning health and safety impacts of products and services during the year. All products conform to BIS Standards.

## COMMUNICATION AND MEDIA RELATIONS

Our Corporate Affairs Division (CAD) mainly focuses on building a positive image of the organization among various Stakeholders- both internal and external. It is also the nodal agency of the company that share and disseminate company information to various stakeholders. SAIL has always been proactive taking its brand name further and corporate communication activities are an important part of this image building exercise of SAIL.

Corporate communication activities for 2016-17 have also been centered towards building up the image of 'Brand SAIL' wherein our Company utilized strategic tools of communication whilst reaching out to stakeholders. We participated in a number of high profile events and exhibitions during the year to reinforcing the brand SAIL. To strengthen our association with our customer, we regularly kept ourselves in touch with our target audience through different channels as well as regularly informed our stakeholders about various initiatives through press releases, press meets, one to one interactions with media within India and globally.

Our Chief of Corporate Affairs is the official spokesperson of the Company who also keeps a regular touch with the media houses. Key highlights of our achievements throughout the year, such as, milestones for Company's MEP, production and sales records, development of value added products, engaging our customers, etc. were some of the news items that fostered positive coverage for the Company.

In addition to this, we featured in various regional publications across India, which have helped us to increase Company's visibility among stakeholders. The prestigious events - "like commissioning of new Universal Rail Mill at Bhilai, Annual General Meeting, ramping up of new facilities etc." were carried out during the year.

The Corporate Communications department also regularly monitors news regarding the steel industry to keep abreast of any latest developments in the steel sector.

In keeping with the belief that our social responsibilities are an essential part of our business, we identify & sponsor a number of events and activities including sports, educational and cultural events. Various goodwill initiatives also generate substantial publicity for SAIL and help reinforce brand awareness.

Advertising in different media formats like print, outdoor, television and internet is a major focus of corporate communication activities at SAIL. SAIL's advertising and visibility efforts aim to highlight the core features of SAIL's products, which stand for quality, durability, endurance, dependability and nation building.

CAD also publishes the Company's newsletter 'SAIL News' which serves as a major source of encouragement and motivation for SAIL personnel and Collaterals such as SAIL Calendar and Diary which help disseminate the Company's credo, mission and vision through texts and visuals.

SAIL News – a theme based corporate magazine, features important activities of the organization with 'SAIL employee' being the focal point of each edition. 'SAIL News' plays a key role in building relationships between personnel and management with a lasting effect on employee motivation. We also regularly conduct internal communication exercises in order to convey thoughts, long term vision & strategy and expectations' of the top management to each and every employee based at various locations, down to the shop floor level. Face to face interactions, video conferences, in-house television programmes, newsletters, e-portal, intranet & web alerts are some of the internal communication tools that we regularly utilize to convey a message to our SAIL family. Our website is constantly revamped with a new layout and design with a 'order booking' feature which is an innovative and interactive method of engaging with the end users of our products. We are actively engaged in digital & social media and efforts have been undertaken to strengthen the Company's brand image through our presence at Facebook, Twitter, Flickr and Instagram. Other core initiatives of our Company during the year have been in line with various ongoing initiatives which include Swacch Bharat Abhiyan, Make in India, and Digital India.

## **ON – LINE PUBLICATION AND DATA PRIVACY**

We recognize our responsibility towards protecting the information collected in the course of our business, from our various stakeholder and we endeavor to maintain the privacy of such sensitive information. Our corporate policies on data privacy, confidentiality and security are designed to uphold the trust of the individual and organizations who share the information. The digital version of all PR publications has been initiated at all the units of SAIL. No incident have been reported on non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion and sponsorship. No complaint has been received regarding any breach of customer privacy and loss of customer data during the year. No fine has been imposed on us for noncompliance with laws and regulations concerning the provision and use of products and services during the year 2016-17.



**Rail Wheels**

## SUPPLY CHAIN MANAGEMENT

We at SAIL are a large family consisting not only of the Iron and Steel Plants but also the forward linkages like suppliers and other important stakeholders. Our extended family accordingly helps us in our goal to accomplish cleaner environment. All those involved in the product lifecycle actively participate towards sharing responsibility for maximizing the overall value and minimizing any negative impacts across commercial, social and environmental attributes that result from the production, use and disposal of the product. We realize that our products have a long processing-cycle and life-cycle; therefore we aim to have an integrated programme of actions to ensure that all materials, processes, goods and services are managed throughout the life in a socially and environmentally responsible manner. Our responsibility towards environmental conservation even outside our operational boundaries is always ensured. We engage Railway transportation in our logistics; not only for reception of raw material at our facilities, but also for dispatch of finished goods to our godowns or the end customers. Given the enormous amount of raw materials and finished products being handled as a result of our activities, we prefer rail over roads for transportation of material. This meticulous planning has improved our operational efficiency and the rail transportation, being an environmental friendlier option, has helped minimize the impact on environment. However, in order to cater to market demands, we also engage road transportations from our warehouses to customers' sites. Necessary measures are taken towards compliance of regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle and hence there has been no incidence of non-compliance during the year 2016-17. Care has also been taken to ensure that our products do not have any adverse effect on the environment.

### STRIVING TOWARDS ZERO EFFECT ON ENVIRONMENT

Once steel has been produced, it has no adverse impact on the environment. Yet, we assess our products, processes as well as associated services in this regard. SAIL warehouses have been accredited with ISO 14001 as an effort towards mitigation of environmental impacts and till now 12 no. of warehouses have been accredited. Maintenance of proper road and hardstands, replacement of wooden railway sleepers with concrete sleepers, recycle/ reuse of used oil, afforestation drive, conversion of vacant plots into flower gardens, use of energy efficient lightings, hygienic toilets, rain water harvesting mechanism, DG Sets with acoustic covers, etc are some of our measures in this regard. Education and propagation of use of environment friendly and energy efficient processes to local SSI/ MSME vendors based around each Plant is one of our regular features. All handling equipment are checked for periodical maintenance to ensure a healthy & safe environment within warehouses. Packaging materials are usually dispatched to customers along with consignments in packed condition. Subsequently, packing materials recovered from finished products dispatched in loose conditions are disposed-off sustainably from warehouses in regular intervals. Except for pollution resulting from deployment of vehicular traffic like trucks & trailers in the warehouses, no significant negative environmental impact is noticeable in supply chain. All vehicles get checked for compliance with respect to pollution control.

# ENSURING SAFETY & HEALTH



Road Safety Week  
18 वर्ष से कम आयु के व्यक्तियों का वाहन चलाना कानूनी अपराध है।

सुरक्षा अभियंता विभाग, रेल / लोकसेवा स्टेशन पर्यट

**सुरक्षा रथ**  
**सड़क सुरक्षा सप्ताह**

Road Safety Week सुरक्षा अभियंता विभाग, रेल / लोकसेवा स्टेशन पर्यट SAFE DRIVE SAVE ALIVE

BPU  
9306

All our operations, including steel making, are conceded by adopting a safe, sound, healthy and eco-friendly approach which has always been the prime focus areas for ensuring a sustainable business. We know the importance of maintaining a healthy & safe work environment and our safety & health objectives are effectively achieved through well established OH&S management programmes. Safety & Health issues are monitored from the apex level of management i.e. our Board/ Board Sub-committee and all pertinent issues are discussed and deliberated as opening item at all appropriate forums.

We have an adroitly and comprehensively designed Safety Policy at the Corporate level, and fully aligned with this, our individual Plants are having their respective OH&S Policy. Our well-established OH&S management programmes, in line with company's Safety Policy and the objectives, steer us in fulfilling our diverse requirements and maintaining a safe and healthy working atmosphere. Deploying state-of-the art technology and latest equipment have also been instrumental in efficient operations, thus minimising human exposure to process hazards and ensuring safety of our workforce as well as of surroundings. Inclusion of safety in design phase and giving due thrust to the Safety matters during execution & commissioning of the new projects have yielded positive impact and enhanced our safety performance.

Our Safety Policy and Safety Vision Statement are equipped to provide a safe and conducive work environment to all our employees engaged in the steelmaking as well as in mining processes, including regular and contractual employees engaged within our premises as well as neighbouring society at large. In order to broaden awareness level and inculcate safe working practices, various new initiatives and drives are undertaken at regular intervals by us. Bi-partite forums like Central/ Apex Safety Committees, Departmental Safety Committees etc. exist with involvement of our top management, trade union representatives & employees. Meetings of these Committees are convened on a regular basis in which all the issues pertaining to health and safety are discussed in a collaborative manner for bringing continual improvement of the OH&S Standards. These Committees facilitate the monitoring & re-assessment of promotional activities undertaken and ensure effective employment of Occupational Health and Safety agenda across the Company. A unique bipartite forum - Joint Committee on Safety, Health & Environment in the Steel Industry (JCSSI) operates at national level having representation from key central trade unions and management of main steel producers of the country who interact on regular basis and jointly develop recommendations/ action plans for ensuring safe & healthy work culture at workplace.

Annual meetings of the Committee and award functions, for recognising and rewarding distinguished safety performance of the member organisations, are organized at Ranchi as well as at member Plant locations. A thrust is always laid on sharing and learning the finest practices of various steel producers through various Seminars/ Workshops. The website of JCSSI [www.jcssi.com](http://www.jcssi.com) also facilitates in active sharing of essential information among members. Some of the functions of JCSSI include:

- Analysis of causes of accidents and sharing views on remedial measures.
- Dissect major issues on Safety, Occupational Health & Environmental pollution.
- Spread awareness among Committee members through sharing of best practices by organising seminars, meetings, workshops etc.
- Support and encourage workers participation in Safety, Health & Environment
- Print and publish information material like booklets, manuals, films etc. on Safety, Health & Environment.

We have achieved a notable progress on Safety and Occupational Health parameters at our workplace by way of establishing far-sighted systems, procedures & improved work practices. Whole hearted involvement of management as well as of our workforce is ensured for effective health & safety drives/ operations. We also consider views of bi-partite forums for revising the Hazard Identification and Risk Assessment (HIRA) documents and Occupational Health and Safety Policy of ours. For ensuring a Safe & Healthy work environment, both Management and Workers' Representatives reiterate their pledge to extend and implement the best standards for Safety, Occupational Health and Environment protection and maintain specified Standards of OHSAS 18001, ISO 9001 & ISO 14001. In pursuit of excellence, we have signed an MoU with National Safety Council, Mumbai for mutual engagement and collaboration in the areas of Safety Audits, Training etc.

Due emphasis is effectively laid upon adhering to Safe Commissioning Procedures for our new and upcoming facilities, identification of every type of associated hazards and assessment & control of work related risks, strict adherence to approved protocols / work permits & SOPs/ SMPs/ SWPs, organising training on Fatality Risk Control and Behavioural Based Safety for mitigating risk.



## SAFETY AUDITS CONDUCTED DURING 2016-17

Safety Audits conducted by SSO in BSP (Project Site, Sinter Plant – III, SMS – II, BFs # 1 to 7); DSP (Sinter Plant, CO&CC, Wheel & Axle Plant, Raw Material Handling Plant and Fire Safety Audit); RSP (Hot Strip Mill, Coke Ovens); BSL (SMS – I, CRM – III, SMS – II & CCS, By-Product Plant); ISP, Burnpur (Wire Rod & Bar Mill, COB # 10, Sinter Plant), Chasnalla & Jitpur collieries.

## OUR SAFETY SETUP

At SAIL, we are committed towards accident-free working and prevention of occurrence of accident in our operations. Safety performance is regularly monitored at the highest level of management i.e. Board, Chairman and Directors’ level as well as by the Chief Executives of respective Plants & Units. A Board Sub Committee (BSC) on Safety, Health and Environment guides and monitors the efforts of the Company towards achieving a safe and healthy environment. At the Corporate level, SAIL Safety Organisation (SSO) coordinates, monitors and guides the Safety and Fire service activities where as at each Plant/ Unit, full-fledged Safety Engineering Deptt. (SED) functions to ensure operational safety as well as fire prevention related aspects. Respective SEDs carry out awareness generation drives and campaigns in their Plant/ Unit at regular intervals. In each department/ shop, adherence to laid down standards & safe working procedures is ensured by Departmental Safety Officer (DSO) & Safety Steward/ Captain of the Plant/ Unit who monitor safety aspects on day-to-day basis while working in close coordination with respective SEDs.

## OUR SYSTEMS AND PROCEDURES

Safety aspects are incorporated in our SOPs, SMPs & WIs which serve as vital guidance documents and ensure that necessary technological discipline is ensured as well as statutory rules & regulations are also duly and fully adhered to. These documents are reviewed periodically with changing technology / process requirements and updated accordingly. For ease of reference, the updated copy of these documents are uploaded and made available on respective Plants’ web-portals /KM portals and can be easily accessed and referred by any employee. We religiously follow ‘Permit to Work’ & ‘Protocol’ Systems having safety provisions during execution of hazardous & critical jobs involving multiple agencies and we ensure their strict adherence too. Extra precaution is duly taken during major capital repairs/ shut down jobs through safety surveillance & intensive monitoring for ensuring safe completion. ‘Inter Plant Standards in the Steel Industry (IPSS)’ in the area of safety also help in augmenting our safety standards.

## WORKERS’ INVOLVEMENT IN SAFETY MANAGEMENT

Our Health and Safety Committees, having joint representation of management & workers, facilitate to maintain a sustainable health and safety culture. All our employees are covered by the formal joint management-worker Health and Safety Committees at Plant/ Units and are duly engaged and conversed on Health & Safety issues. These committees are normally called for meeting once a month in all the departments. In these meetings, every issue related to health & safety, maintenance of good health, safe working environment, welfare, security of Plant etc. are discussed in detail. Before deployment of the contractual workers, compulsory safety and work environment related training is duly provided to each



worker. Mass Employee involvement initiatives are being undertaken to ensure each individual employee's engagement for enhancing safety culture and achieving 'zero accident' in his respective workplace, parent deptt. and organisation as a whole.

## SAFETY TRAINING & EDUCATION

Education is an important element of Safety Management System in SAIL out of the 3 E's, the other two being Engineering & Enforcement. We regularly organise education, training, counselling, prevention and risk-control programmes for our regular & contractual employees, their families and other neighbourhoods to equip them with requisite skills. A wide variety of training/ workshops are also being organised for skill enhancement and awareness of all concerned on first aid, occupational hygiene and health, stress management, preventive care for occupational diseases, awareness on HIV/ AIDS etc. For effective learning 'Learning from Each Other' workshops covering salient issues of concern, 'Large Group Interactions' etc. are organised for different work zones/ areas such as Iron & Steel, Rolling Mills, Maintenance wing & Support Services etc.

Job specific safety training is imparted on regular basis to our workers. For better learning, tailor-made training rigs such as height working rigs, roof sheet changing rigs are utilised for imparting practical training to the workmen. TV networks at Plant townships also play an important role by broadcasting safety related information to larger cross-section of people. Central Industrial Security Force (CISF) workforce, deployed for ensuring security in and around the Plants, are also imparted training on safety. Occupational health and safety related training is also provided to the other security staff. All CISF personnel are trained on Human Rights aspects at their individual training camps as per standard training procedure of Government of India (GoI) for security personnel. With meaningful efforts, we have developed safe & healthy working environment for all of our employees and those living in the neighbourhood of our installations.

## LEVERAGING IT BASED SYSTEMS

For leveraging information technology in the area of Safety & Health, IT tools & systems have been deployed. SSO as well as





Plants have their online safety portals for sharing of safety related information amongst wider cross section of employees. The web portals have served as an effective tool in strengthening important information sharing across the organisation. As a result of these online systems, employees can contribute safety suggestions for bringing improvements in safety standards as well as submit near miss cases. Regular publications, electronic newsletters/ magazines are brought by SSO & Plants/ Units which contain wide range of useful information pertaining to Safety & Health from professionals across the steel industry.

## OUR SALIENT GOOD SAFETY INITIATIVES & PRACTICES:

- For the first time, a 'Workshop on Safety' was organised in association with World Steel Association at Ranchi during January 2017 and the same was attended by 45 senior leaders & safety professionals from 25 organisations including all SAIL Plants/ Units, RINL, Tata Steel, Essar Steel, JSW Steel, Bhushan Steel, NINL, BPSL, Usha Martin etc. Mr. Henk Reimink, Director (Industry Excellence) & Ms. Anu Hirvonen, Fellow (Safety & Health Programme), Worldsteel Association were the main speakers.
- Renewed thrust laid by organising special training programmes on 'Process Safety Management', 'Hazard Prediction techniques for Zero Accident', 'Fatality Risk Control' etc. and framing new standards & revising existing Standards.
- e-SCAN i.e. electronic version of SSO's in-house magazine is being published on regular basis and circulated among all executives & uploaded on SSO Portal.
- Workshops on 'Roles and Responsibilities of GMs / HODs' were organized at Plant locations of all the integrated steel Plants, Mines under RMD as well as BSP group of Mines of SAIL.
- Quantitative Risk Assessment (QRA) and Safety Report for MAH units (i.e. CCD, EMD, OP-2 & Propane Plant) was prepared at BSP.
- World Steel Safety Day celebrated across various Units.
- Special campaigns conducted for Road Safety.



- January – 2017 observed as 'Safety Month' at BSP.
- Suraksha Chakra concept implemented at DSP for enhancing employee participation in Safety Management, more than 533 teams covering 6,900 regular employees in Works area formed.
- Installation of fixed & PTZ cameras exclusively for road traffic monitoring.
- Safety exhibitions held at various Units with display of working models on safety theme.
- New training centre for contract workers started with height testing rig facility.
- Enforcement of speed limit for roads and checking of vehicles as per checklist.
- 'Jagruti' - a mass communication exercise targeted to cover all the employees of works area launched at RSP to increase effectiveness of Suraksha Chakra.
- 'Daksh' – an awareness programme for skill and knowledge enhancement of Contract Labours launched as a new initiative at RSP.
- Safety skit organized for spreading safety awareness among employees.
- CCTV cameras installed at different busy roads for monitoring traffic & road safety violations.
- 'Safety Tableau' presented at BSL during Republic Day Parade for generating mass awareness about 'Material handling'.
- 'Safety Rig for Height work' at SED Premises and a 'New Safety Training Hall' at BSL inaugurated.
- 'Road Safety Week' celebrated by organising activities like Heavy Vehicle Checking/ Bike Rally/ Road Show/ Safety Skit in township including Crash Helmet checking/ Counselling, Essay, Drawing & Slogan & Speech Competition for employees and School children.
- Comprehensive safety audit of whole ISP conducted by National Safety Council (NSC).
- Introduced award for 'Zero Accident' & 'Safety Excellence' award at ISP.
- Safety Audit of entire ASP conducted by National Safety Council, OHSAS 2<sup>nd</sup> Surveillance Audit conducted by BSI.
- Free Cardiac Health & Eye check-up camps organised by OHSC in coordination with reputed outside agencies at VISL.
- Bhopal Gas Tragedy Remembrance day, Chemical Accident Prevention day, Road Safety Week & National Safety day observed.



- Safety Induction Training imparted to outside truck drivers, cleaners and loading/unloading labourers on monthly basis at CFP for raising Safety consciousness.
- PA system being used at Security Gate and FAD to address safety related issues.
- Anti-collision devices fitted on experimental basis at Bolani Mines.
- Roko-Toko drives conducted in every month to discourage persons riding on tippers etc. inside mining area at Kuteshwar Mine.
- Risk assessment committee formulated for different sections responsible for identifying hazards in respective areas/ sections at Bolani Mines.
- Regular Inspection being conducted by Workmen Inspectors & personnel from Safety deptt. at BSP Mines.
- Quarterly Joint inspection with Fire Services deptt. of Rajhara Mines being carried out.
- Installed safety cones, retro reflective delineator reflectors & convex mirrors at restricted places in quarry to enhance safety.
- Statutory pit safety committee meetings conducted on monthly basis and measures taken to improve safety standards in the mines.
- Noise & air borne dust survey conducted as per CMR, DGMS guidelines at Collieries.
- Gas monitoring of the underground workings done by regular sampling and mine air analysis.
- 'Swachh Bharat Abhiyaan' organised at most of the warehouses.
- Usage of polyester slings being made for handling coils and packets at warehouses.

## OUR OCCUPATIONAL HEALTH MANAGEMENT

Occupational Health Management has always been of prime importance to us and we have established full-fledged and well equipped OHS centres with modern healthcare equipment at all our Plants & Mines. Our entire workforce is covered under various OHS programmes meticulously conducted by our OHS centres which are working tirelessly towards improving workers' health. Our Bhilai Steel Plant's multi-disciplinary, multi-dimensional OHS centre has emerged as the National OHS Centre for SAIL and functions as a Central Nodal Agency to monitor Occupational Health activities in different SAIL Units. Health Information System (HIS) – a computer based software tool is successfully utilized which includes organized collection, compilation, analysis, retrieval and dissemination of necessary information.

Comprehensive health care is provided by way of adopting an integrated approach to provide preventive, curative, promotive and rehabilitative health services and creating a conducive work environment through conformity to the requirements of OHSAS 18001 & SA 8000 Certifications.

We promote awareness on health issues up to the grass root level including contractual workforce by celebrating Special Days like World Health Day, Occupational Health Day, Doctors' Day, AIDS Awareness Day, World TB Day, Diabetes Day, World Kidney Day, World Malaria Day, International Women's Day etc. We also organise focused programmes for our regular and contracted female employees. Experience sharing seminars, workshops such as All India Steel Medical Officers' Conference (AISMOC) are held every year wherein good performers in the area of OHS are recognised and doctors / medical professionals from the steel hospitals interact, discuss and deliberate on important issues. Annual meetings of OHS heads are organised by SSO to share individual good practices being followed as well as deliberate matters/ issues requiring concern.





## OUR INFRASTRUCTURE & FACILITIES

**Preventive:** Occupational Medicine Clinic, Periodical Medical Examination, Industrial Hygiene Survey setup, Computerized Health Information System (HIS).

**Promotive:** Awareness programmes, Training on Industrial Hygiene and First Aid, Stress Management, AIDS Control, Life Style Diseases, Special programmes for working women, Celebration of Special Days.

**Curative:** General OPD, Pharmacy, Plant Casualty services with Disaster Management facilities. Round-the-clock Ambulance services, Eye wash Fountains, Minor OT.

**Rehabilitative:** Disability assessment following any work injury through Disability Medical Board, Redressal of complaint cases from work places / deptts., Job rotation based on deviation found in PME & recommendations of DMB being implemented by redeployment Committee, documenting follow up & feedback.

**Facilities:** Lung Function Test, Biochemical investigation, Clinical Pathology, Digital X-Ray, Vision Test, Health Education & Training, OHS Library, ECG, Psychology, Health Information System, Audiometry etc.

## SALIENT ACTIVITIES UNDERTAKEN BY OUR OHS CENTRES

- Online "e-Shubchintak" released, Occupational Health Day Celebrated and a Quiz on Health & Safety organized at BSP.
- Periodic Medical Examination of 8,990 employees working in hazardous areas and Occupational Hygiene Survey in 2,055 locations conducted at BSP.
- Under Health Education, 20 nos. training programmes covering 456 participants conducted at NOHSC, BSP.
- Special Days like World Day for Safety & Health at Work, World Malaria Day, National Occupational Health Day, World No Tobacco Day, World Diabetes Day & World AIDS Day celebrated.



**Safety Statistics (Plants and Mines)**

Year	Injury Rate (per 200,000 hours worked)
2014	0.091
2015	0.058
2016	0.070

Year	Mandays Lost
2014	5,403
2015	4,576
2016	1,729

*\*Excluding Mandays lost on account of fatal accidents*

**Accidents by Category (Nos.)**

Year	Regular employees	Contractor worker	Total
2014	105	84	189
2015	59	57	116
2016	84	46	130

**Accidents by Type (Nos.)**

Year	Fatal	Reportable	Non-Reportable
2014	26	89	74
2015	20	53	43
2016	11	31	88

**Total Nos. of Safety Training Imparted**

Year	Total nos. trained
2014	205,629
2015	174,543
2016	131,143

**Rendering Medical Services**



# HUMAN RESOURCE MANAGEMENT



Loyal, committed, dedicated workforce is the backbone of any great successful organization. We totally believe in this philosophy that happy workforce is engaged workforce and hence we dedicated our growth story to our motivated skilled efficient Human Resource. We provide positive and vibrant work environment to our human capital for better optimization. Our philosophy of mutual trust, synergy and group cohesiveness runs from top to down across the organization.

In today's competitive world, importance of skilled and trained human capital is well known and appreciated. We being champion of best human resource practices take our human capital as valuable asset and regularly organize skill enhancement and competency development programmes for our entire workforce. As a socially conscious corporate citizen we take care of our local community. We firmly affirm to the Principle of providing equal opportunities to every section of society and do not encourage any gender biasness.

We have adopted a well structured and transparent recruitment process to take care the need of manpower planning. We believe in inclusion of local people in various kinds of jobs. It is taken care by the regular recruitment process. We believe in providing equal and uniform benefits to our esteemed workforce. Wages of all employees, irrespective of gender, are based on negotiated agreement under NJCS/as per government guideline, and are above the minimum wages. The contractors make payment to workers engaged by them over and above the minimum wages fixed by the respective State government for that location, without any gender differentiation. Contract Labours are engaged by the contractors in the composite Job Contracts awarded to them by Plants and Units of SAIL for jobs of specialized and intermittent nature as well as for various project activities.

By the end of Year 2016-17, the total number of employees in all the Plants, Units and Mines of SAIL across India was 82,964. The ratio of employees in the gender category (Female/Male) is 6:94. The percentage of employees in minority groups is around 8.46%.

Closing Manpower	2014-15	2015-16	2016-17	Gender Profile	2014-15	2015-16	2016-17
Executive	14,648	13,968	12,840	Male	87,931	83,499	78,182
Non-Executive	78,704	74,687	70,124	Female	5,421	5,156	4,782
<b>Total</b>	<b>93,352</b>	<b>88,655</b>	<b>82,964</b>	<b>Total</b>	<b>93,352</b>	<b>88,655</b>	<b>82,964</b>

#### Recruitment & Attrition during the year 2016-17

Plant/Unit	Recruitment			Attrition
	Executive	Non-Executive	Total	
BSP	7	512	519	162
DSP	0	225	225	24
RSP	0	107	107	57
BSL	1	309	310	70
ISP	5	201	206	149
ASP	0	0	0	8
SSP	0	0	0	10
VISL	0	10	10	7
RMD	0	37	37	16
CFP	0	0	0	6
SRU	3	15	18	7
Collieries	0	3	3	1
RDCIS	0	0	0	0
CET	0	0	0	2
CMO	0	0	0	12
SSO	0	0	0	0
Corp. Office	0	0	0	3
<b>SAIL [Total]</b>	<b>16</b>	<b>1,419</b>	<b>1,435</b>	<b>534</b>

Age Profile	2014-15	2015-16	2016-17
<30 (Upto)	9,657	9,834	9,304
31-50	43,709	41,324	38,503
>51 (above)	39,986	37,497	35,157

Minority Representation	2014-15	2015-16	2016-17
Total Minority Employees	8,020	7,604	7,022
Total Employees	93,352	88,655	82,964
%	8.59	8.58	8.46

Contractual Workers	2014-15	2015-16	2016-17
Closing Nos.	69,961	56,055	59,606

	SC			ST			OBC		
	2014-15	2015-16	2016-17	2014-15	2015-16	2016-17	2014-15	2015-16	2016-17
Total	14,356	14,448	13,604	12,089	12,580	12,018	10,447	10,768	10,578

## ENSURING CORDIAL WORK PLACE

Giving paramount importance to innovation, involvement and creative work culture for all human resources has been part of our Human Resource Policy. We are a firm believer in providing equal employment opportunities at work place irrespective of gender, caste, religion or marital status. We always believe in informing our employees or their representatives for smallest modification as part of Human Resource Policy.

## ENGAGED WORK CULTURE

We have adopted collective bargaining vigorously for maintaining the participative culture in the organization; hence it has become an integral part of an overall governance framework that contributes to responsible management. We have covered all employees by collective bargaining agreements. Collective bargaining for non executive employees is taken care by National Joint Committee for Steel Industry (NJCS) which is a unique bipartite forum consisting of workers representatives from major Central Trade Union Organizations, representatives from recognized unions of SAIL Steel Plants and RINL and management representatives of SAIL Steel Plants & RINL.

We believe in workers participation and hence recognized unions for non-executive employees exist in all Plants/Units. The Steel Executives' Federation of India (SEFI) - the apex body representing the executives in SAIL, carries out the collective bargaining in case of Executives. We have tried to maintain peaceful industrial relation ambience with trade unions/workers' representatives which is enabled by a healthy practice of sorting out and settling issues through participative discussions. Bipartite forums like National Joint Committee for Steel Industry (NJCS), Joint Committee on Safety, Health & Environment in Steel Industry (JCSSI), etc. with representation from major Central Trade Unions as well as representative Unions of Plants/Units meet periodically and jointly evolve recommendations / action plans for ensuring a safe & harmonious work culture.

## HR SYSTEM AND PROCESSES

Monetary and non monetary benefits are an essential part of compensation and no company can deny their importance to its work force. Workers' participation at SAIL, at different levels, right from National level up to shop-floor level, is ensured through an established system. National Joint Committee for the Steel Industry (NJCS), which is a bipartite forum comprising of members representing both the employers as well as employees, decides wages and benefits of non-executive employees. All regular non-executive employees are covered under the purview of this collective bargaining forum. Fair dealing & compliance on labour issues are ensured by the designated Labour Welfare Officers of the respective Plant/Unit/Mines.

Our personnel department regularly monitors fairness in activity and services as we do not encourage any discrimination towards any section/category of employees. We encourage Freedom of Association, as enshrined under the Constitution of India and envisaged in the Trade Union Act in addition to the Right to exercise the Freedom of Association and Collective Bargaining in all our operations.

We religiously support protection of Fundamental Rights described in the Constitution of India. We have always tried to protect the human rights of our employees and hence there was no recorded case during the reporting year on any violation of human rights. We have always tried to manage succession planning and career development aspect of our employees. Regular performance and career development reviews are done for all the employees.

We understand the importance of communicating to our employees on a regular basis hence we have maintained a structured system for communication with employees on a wide range of issues impacting the Company's performance as well as those related to employee's welfare. At CEO / senior level officer's level, we conduct mass communication exercise to carry out detailed discussion with large group of employees which is the best example of employee communication and engagement. These sessions help employees to align their working with the goals and objective of the Company leading to enhanced productivity and sense of belongingness to the Company. Our well structured exit policy, where employee has to serve 3 month notice period after putting in the resignation is one of those example of well defined HR system in place.

We are a firm believer in the philosophy of providing quality of work life for maintaining harmony at workplace and outside; hence we have appropriate leave policies for our employees. All our regular employees enjoy benefits like Health care, Disability / Invalidity coverage, Maternity Leave, Retirement Benefits, etc. We also provide maternity leave up to 180 days and 730 days child care leave to women employees. Workmen engaged by the Contractors in establishments of SAIL, are covered under the ESI Benefits. As a responsible corporate, we have also given various social benefits to our employees in the form of housing, education, civic amenities, sports & recreation and social welfare. We have developed full-fledged townships over the years at all our Plant locations with the modern infrastructural facilities along with premier schools, super speciality hospitals, shopping malls, multiplexes, parks, gymnasium, stadiums, etc.

We communicate aspects of human rights to all our vendors & suppliers through implementation of SA 8000. We also provide training & awareness workshops for employees on different aspects of SA 8000 pertaining to child labour, forced labour, non-discrimination, freedom of association, safe work environment and health & safety. The SA 8000 clause on child labour that includes employment of persons of age 18 and above as a precondition to partnering with SAIL, and that, in the event of any kind of violation by vendors within or outside the Company premises, liabilities for the education of the child until the completion of high school accrue to the defaulting party. We communicate this aspect to all our vendors and suppliers during engagement with them.

We avail the inclusive support and services of Central Industrial Security Force (CISF) for ensuring security in and around our Plants and Mines. Training on aspects of safety and human rights is duly provided to CISF personnel.

## **GRIEVANCE REDRESSAL MECHANISM**

We have a 3-stage grievance handling system at our Plants /Units and our employees are given an opportunity at every stage to raise grievances relating to wage matters, working conditions, leave, work assignments and welfare amenities, etc. Majority of grievances are redressed informally in view of the participative nature of environment existing in the Plants/ Units. The system is inclusive, simple and flexible and has proved effective in promoting harmonious relationship between employees and management. There are no known cases of discrimination as well as any violations of human rights in SAIL.

## **WELL BEING OF OUR EMPLOYEES**

SAIL has always tried to make consistent efforts towards the holistic health of our employees and this philosophy is visibly reflected through our well defined medical polices, which are available to all workforce even post retirement. Our employees are part of our one extended family and we believe in supporting them during service as well as after superannuation.

## **PROVIDENT FUND, GRATUITY & EMPLOYEE PENSION SCHEME**

The total contribution made by the Company to SAIL Gratuity Trust up to 31<sup>st</sup> March 2017 was 3,349 crore. The fund size has grown to 5,836 crore as on 31<sup>st</sup> March 2017, net of settlement done towards payment of Gratuity. The gratuity liabilities of the employees are valued by a professional Actuary at the end of each Financial Year and based on the actuarial valuation, the contribution to the Gratuity Trust is made. The PF and Employee Pension is being paid as per the statutory requirement.

## **MEDICAL FACILITIES TO SERVING EMPLOYEES**

SAIL being a conscious corporate citizen believe truly in taking care of its employee at the time of need. We firmly believe in extending world class medical facility to all our manpower along with their entitled dependent family members. The Health Policy of SAIL states that: "SAIL, the largest steel producer of India, in its endeavor to maintain a healthy workforce shall focus on promoting and maintaining the health of its employees by providing them a conducive and healthy environment to work, and an efficient and advanced health care system with a balance of preventive, promotive and curative measures." We have a huge medical setup comprising of 18 multi-specialty Hospitals and more than 33 Primary Health Centres, located across our Plants / units. For treatment not available at SAIL hospitals, the employees (& their dependants) are referred to hospitals located pan-India as per rules and requirement. For the city based employees and their dependents, where we do not have our own hospital, employees are provided comprehensive medical facilities in empanelled hospitals. The facility of reimbursement of medical expenditure is also permissible for expenses incurred in non-empanelled setups as per rules & approved provisions. Total medical expenditure incurred during FY 2016-17 was around ₹ 565 crores.

## **MEDICAL FACILITIES TO RETIRED EMPLOYEES**

We believe in taking care of our employees even after retirement hence we are seen as a champion of best practice of after-retirement benefits which include providing medical benefits and health care to all employees and their spouses even after their superannuation. We extend medical facilities to our ex-employees & their spouses at our Plant Hospitals at par with serving employees, free of cost. In addition, we have also been operating a Mediclaim Scheme for our retired employees and their spouses since 1991. The premium applicable to the said scheme is highly subsidized by the Company. We are proud to say that SAIL Mediclaim Scheme is amongst the largest group Mediclaim Schemes in India and at present it covers around 1.17 lakh members located pan-India.

## **LIFE COVER SCHEME**

SAIL is operating a Life Cover Scheme (LCS) in lieu of statutory scheme called Employees Deposit Linked Insurance (EDLI) Scheme, 1976. The monetary benefits under LCS are given to the nominee of the PF member in case of death of PF member while in service. Additionally SAIL is also extending the benefit to those who suffering from Permanent Total Disablement (PTD) on and above provision of EDLI.

## **EMPLOYEE FAMILY BENEFIT SCHEME (EFBS)**

EFBS scheme is very well appreciated not only within the Organization but also outside. As a champion of best human resource practices, we believe in taking care of our employees at the time of distress. According to this scheme, in case of death of an employee while in service or on account of Permanent Total Disablement, an amount equal to his last drawn Basic Pay + DA is paid to his/her nominee or the employee (as the case may be), on monthly basis till his notional date of superannuation. Benefits are extended if the nominee/employee deposits an amount equivalent to his/her PF and Gratuity amount with the Company. This amount is returned back to nominee/employee after attainment of notional date of superannuation.

## **SAIL EMPLOYEES SUPERANNUATION BENEFIT FUND (SESBF)**

Our Employees Superannuation Benefit Fund also exhibits our commitment towards our employees even after their retirement. SAIL employees are contributing @ 2% of their Basic Pay plus DA towards SAIL Employees Superannuation Benefit Fund (SESBF). The SESBF Fund is managed by a Trust representing Unions, SEFI and Management.

# TRAINING & DEVELOPMENT



PLEASE KEEP WORKERS  
IN SILENT MODE

Our human resource capital is constantly developed by way of training at our facilities and knowledge sharing, as also motivating the workforce by linking their growth in the Company with their performance. This mechanism keeps them on the move to update their knowledge and chase excellence.

We, at SAIL, have devised methods of systematic and thorough analysis pan-organization to help assess current levels of skills and competence of the employees in various positions as against the required skills to improve performance. The work profiles of all the roles/positions are analysed and any gap between the job requirements and employee skills are identified and improved through training programmes. Our customized programmes that target specific workgroups and skill sets help us in delivering effective training to all SAIL employees. Our training programmes are aimed at strengthening the organization's capabilities to excel in every field and to achieve and maintain market leadership. We base our HR Policy on the business thrust areas in accordance with our Vision Statement.

To continue excellence in our work-force, we have inculcated policy of providing training to add to the knowledge of every employee at least once in three years. Based on this, Annual Training Plan (ATP) is prepared for each Plant/Unit under the following major categories:

- New Entrants
- Competence Enhancement
- Workshops and Special Areas and
- Other Areas

Annual Training Need Assessment (TNA) for executive level employees is done through online Executive Performance Management System (EPMS). Our executives get to choose the required technical and managerial training in order to meet their KPAs as per the demands of their jobs. Management reviews these needs and training programmes are devised/modified based on these identified needs. The analysis from these multiple sources are compiled and used for preparing ATP and nominating executives for different training programmes. A training coordinator/engineer, responsible for each department, imparts department/shop based training in various areas with the support of identified trainers.

#### Types of Training hours breakup for the year 2016-17

(in hrs)

Average Hour of Training	Executive	Non-Executive	Total
<b>External Training (including MTI/CPTI)</b>	79,992	14,952	94,944
<b>Foreign Training</b>	680	192	872
<b>Specific Areas</b>	53,856	268,664	322,520
<b>Managerial Competence Enhancement</b>	59,768	57,536	117,304
<b>Technical Competence Enhancement</b>	43,720	3,14,352	358,072
<b>Fresh/New Entrants</b>	268,616	6,148,200	6,416,816
<b>Other Areas</b>	3,448	1,985,680	1,989,128

#### Nurturing Human Resource

(103-1, 103-2, 103-3, 404-2)



Our line managers are made responsible for the training needs of non-executive employees at the shop floor with the help of Training Engineers. This assessment is done through:

- Competency Mapping
- Skill-Gap Analysis and
- Requirement for Multi-skill training

Based on the training needs, suitable training programmes are crafted to bridge competence gap of the employees. We follow a system of mentoring while imparting training to “Management Trainee” that helps not only in building confidence leading to individual growth necessary for MTs but also in delivering managerial excellence in their field of operations. Due importance is also given to provision of training to non-executive employees. Special Performance Improvement Workshops (PIWs) involving root cause analysis, brain storming and building an action plan regarding issues like production and productivity, cost reduction, maintenance, housekeeping and safety are planned every year for the non-executive employees and frontline executives of the respective shops. We provide training to at least one-third of employees every year at various locations. We also publish various technical and managerial journals which are easily available to every employee.

Our training programmes are designed to provide lifelong learning and skill development, support our employees during their career in the SAIL, as also in their retired life. Specialized technical training and vocational training programme for college students too are organised every year.

Performance Indicator	2016-17
Percentage of employee trained	40.7 %
Training man-hours per employee	104.8
No of employees trained	36,059

# SOCIAL RESPONSIBILITIES



For any organization, CSR begins by being aware of the impact of its business on society. The Credo of SAIL specifically highlights the commitment towards society at large which states, inter-alia "making a meaningful difference in people's life". SAIL's social objective is synonymous with Corporate Social Responsibility (CSR). Apart from the business of manufacturing steel, the objective of our Company is to conduct business in ways that give social, environmental and economic benefits to the communities in which it operates.

Since inception of SAIL's Plant/Unit, the developmental activities have been carried out in the area of education, medical & health care, sanitation, infrastructure development, women empowerment, sustainable income generation, creation of self help groups etc. in and around all steel Plant/Unit locations under the aegis of peripheral development.

Our CSR initiatives with immense outreach have enabled numerous small rural neighbourhoods translate into large industrial centres. We focus on the holistic development of local communities by ensuring 100% engagement with them in our CSR programmes

We are dedicated to consistently improve our social responsibilities, environment and economic practices to make positive impact on the society. We undertake CSR activities as per SAIL CSR Policy, framed in compliance with the provisions of Companies Act, 2013.

Various Social Challenges associated with our operations and their mitigation strategies adopted by us are listed below:

## SOCIAL CHALLENGES

- Maintain Plant/Units/Mines activities in sync with societal responsibilities
- Uphold ethical transactions across supply chain
- Retain talent and motivate employees
- Ensure outreach and relevance of development programmes in villages

## MITIGATION STRATEGIES

- Appropriate need assessment and community engagement programmes
- Adherence to ethical business traditions
- Focus on professional growth
- Focus on social up-liftment by investing on community and its development

## CSR INITIATIVES

Some of the significant activities undertaken in various fields during the year 2016-17 are:

### Healthcare

Good health contributes to a better economic growth, as healthy populations live longer and are more productive. Keeping this in mind, we have been providing specialized and basic healthcare to people living in the vicinity of our Plants/Units through our extensive & specialised Healthcare Infrastructure. During 2011-2016, around 99 lakh people have been benefitted. We also deliver good quality healthcare at the doorsteps of the deprived people by organising regular health camps in various villages in the periphery of Plants/Units, Mines & far-flung areas. During the year 2016-17, more than 6,000 Health Camps were organized benefitting over 1,25,000 villagers. 7 Mobile Medical Units running in the Plant's peripheries have benefitted around 28,000 villagers at their doorsteps. Around 1,10,000 villagers were given free medical care and medicines through 24 exclusive Health Centres at Plants/Units.

### Extending Healthcare



(103-1, 103-2, 103-3, 413-1)



## Provision of Mid-Day Meal

### Education

SAIL understands the value of education which leads to a lifelong learning. SAIL is providing modern education to more than 55,000 children by supporting over 145 schools in the steel townships. Over 3,100 BPL category students at our integrated steel plants are availing facilities of free education, mid-day meals, uniform including shoes, text books, stationery items, school bags, water bottles etc. in our 20 Special Schools (Kalyan & Mukul Vidyalayas), which are running under our CSR initiatives.

SAIL fully supports the Mid Day Meal flagship programme of the Government of India that aims at enhancing enrolment, retention and attendance and simultaneously improving nutritional levels among children. We have been associated with the Akshya Patra Foundation in this endeavour for many years now. During 2016-17, the Company provided mid-day meal to 68,000 students of over 500 Government schools in Bhilai and Rourkela.

### Women Empowerment and Sustainable Income Generation

We are providing sustainable income generation training programmes in areas such as Nursing, Physiotherapy, LMV Driving, Computers, Mobile repairing, Welder, Fitter & Electrician, Improved Agriculture Techniques, Mushroom Cultivation, Goatery, Poultry, Fishery, Piggery, Achar/Papad/Agarbatti/Candle Making, Screen Printing, Handicrafts, Sericulture, Yarn Weaving, Tailoring, Sewing & Embroidery, Gloves, Spices, Towels, Gunny-bags, Low-Cost-Sanitary Napkins, Sweet Box, Soap, Smokeless Chullah Making, etc. to youths and women of peripheral areas. During 2016-17, such vocational and specialised skill development trainings were imparted to 2,070 youths and 2,461 women folks. We have also sponsored about 683 youths for ITI training at ITCs Bolani, Bargaon, Baliapur, Bokaro Pvt. ITI and Rourkela, etc. and 31 youths in Plastic Engineering through CIPET at Bokaro.

### Water facilities and Connectivity in Rural Areas

Over 78 Lakh people across 435 remote villages have been connected to mainstream since inception by constructing and repairing of roads/pathways. Easy access to drinking water have been provided to 46.46 lakh people living in far-flung areas through installation of over 7,940 water sources during last five years.

### Promotion of Sports, Art & Culture

SAIL supports all major national sports events & tournaments by regularly organizing inter-village sports tournaments. We also support and coach aspiring sportsmen and women through our residential sports academies at Bokaro (Football), Rourkela (Hockey) - with world class astro-turf ground, Bhilai (Athletics for boys), Durgapur (Athletics for girls) and Kiriburu, Jharkhand (Archery).

We also organize Cultural events like Chhattisgarh Lok Kala Mahotsav, Gramin Lokotsav etc. every year.

### Support to Divyangs (Differently abled) & Senior Citizens

SAIL has been supporting Divyang children/people through provision of equipment like- tricycle, motorized vehicles, calipers, hearing aids, artificial limbs, etc. Some of the centres supporting differently-abled & senior citizens at our Plants, include:

- “Sneh Sampada”, “Prayas” and “Muskaan” at Bhilai
- “Schools for blind, deaf & mentally challenged children” and “Home and Hope” at Rourkela
- “Ashalata Viklang Kendra” at Bokaro
- “Durgpaur Handicapped Happy Home” at Durgapur
- “Cheshire Home” at Burnpur

We also provide support to NGOs like TAMANNA, DEEPALAYA, etc. Old age homes are also being supported at different Plant townships like “Siyam Sadan” at Bhilai, Acharya Dham and Badshah at Durgapur, etc.

## Disaster Relief

As a responsible corporate citizen, we supported the rehabilitation initiatives for the people affected by Natural Calamities, the recent being flood ravaged Jammu & Kashmir, Phyllin cyclone in Odisha, Flash Floods in Uttarakhand, etc.



Promoting Sports



Restoring Ecology

## INNOVATIVE CSR PROJECTS

### 1. Project Vasundhara – Development of Bio-Diversity Environment Theme Park

Our Durgapur Steel Plant has undertaken the mission project for development of the 409 acres Bio-Diversity Environment Theme Park with a large water body and plantation of up to 400 different species of plants and trees to attract migratory birds facilitating avian diversity, propagation of rare and medicinal plants, harvesting of rain-water and soil conservation for maintaining ecological balance and environmental sustainability. The park site is enriched with 75,000 native species.

In addition to the above unique initiative, we are also carrying out maintenance of parks, water bodies & botanical gardens in our townships and plantation and maintenance of over 4 lakh trees at various locations.

## 2. Saranda Forest Development

SAIL in association with Govt. of Jharkhand and Ministry of Rural Development, Govt. of India actively participated in the development process of Saranda forest, Jharkhand in an effort to bring the marginalized masses of the remote forest areas to the mainstream of development. We provided ambulances, 7000 each of bicycles, transistors, solar lanterns and established an Integrated Development Centre (IDC) at Digha village in Saranda forest. IDC comprises of facilities like Bank, Panchayat Office, Ration shop, Telecom office, Anganwadi Centre, Meeting room, etc. for the local populace.

Our Rourkela Steel Plant has also initiated a project to promote comprehensive Water Supply and Sanitation by covering 897 households in 10 villages of Kuarmunda block. Each household is being provided potable water through a ground water source, storage tank and supply network of pipelines with 3 tap points and Sanitation unit with RCC roof on partnership model. The villagers have been mobilized and empowered for their active participation in the project. Village level committees have been formed for long-term sustenance of the project.

On similar lines, Bolani Ore Mines has initiated a project to provide continuous drinking water supply and sanitation facility in the remote village of Barik Sahi (Kuni Sahi) under Bolani Panchayat connecting it with the water source: Jhinkaria Spring, on south of Bolani through a network of G.I. pipelines. All the 300 natives of Barik Sahi (Kuni Sahi), who had to travel upto 2 kms daily to fetch water from the springs, have been benefitted with this facility.

## 3. Swachh Bharat Abhiyan-Swachh Vidyalay Abhiyan

We have been actively participating in the "Swachh Bharat Abhiyan" initiated by the Honble Prime Minister of India. Under the campaign, construction of 672 toilets falling within the periphery of our Plants & Mines in the States of Chhattisgarh, West Bengal, Odisha, Jharkhand, Madhya Pradesh & Tamil Nadu; as allocated to us by the Ministry of HRD, had been undertaken and completed. Facilities like squatting units, urinals, washbasin and overhead water storage have been provided.



Promoting Sanitation and Hygiene

#### 4. Model Steel Villages

In order to bridge the gap between rural and urban areas and to provide comprehensive development of both physical and social infrastructure, 79 villages were identified as “Model Steel Villages” across the Country (in eight states). The developmental activities undertaken in these villages include medical & health services, education, roads & connectivity, sanitation, community centers, livelihood generation, sports facilities, etc. The facilities developed at these MSVs are being run and maintained regularly.





Self Employment Training

## Monitoring Mechanism

We have a well-structured mechanism in place for planning, monitoring and reporting of CSR activities. Each of our Plant/Unit has a separate CSR Group/Cell which is headed by a senior level officer and is supported by field staff as well as officers from Finance discipline. Each Plant/Unit has a High Level Committee which recommends the projects to be taken up by the respective Plant/Unit and allocate fund against each of the activities every year. The same Committee monitors the progress and implementation of these projects.

## Reporting on CSR

The Annual Report of SAIL for 2016-17 includes reporting on CSR as per the format prescribed under the Companies (Corporate Social Responsibility Policy) Rules, 2014. The Annual Report is shared with stakeholders and is also available on the Company's Website.

## Impact Assessment of SAIL CSR Projects

The CSR quality in SAIL is measured both by Professional Agencies and by internal evaluation on a regular basis.

## CSR SCORECARD

No. of Model Steel Villages developed	<b>79</b>
No. of people given specialized and basic healthcare during 2011-16	<b>9,900,000</b>
No. of Health Camps during 2016-17	<b>&gt;6,200</b>
No. of Water Resources Installed during past five years	<b>&gt;7,900</b>
No. of Beneficiaries provided with access to drinking water	<b>&gt;4,600,000</b>
No. of Villages connected by construction and repair of roads since inception	<b>435</b>
No. of Schools supported by the Company	<b>&gt;145 (with more than 55,000 students)</b>
No. of Govt. Schools being provided assistance through Mid Day Meals	<b>&gt;500 (with about 68,000 students)</b>
No. of Special Schools (Kalyan/Mukul Vidyalayas) exclusively for BPL families	<b>20 (benefitting over 3,100 Students)</b>
No. of Tribal children including 'Birhors' in extremist affected areas adopted for holistic development through education	<b>331</b>
No. of Youths provided with specialised skill development training during 2016-17	<b>2,070</b>
No. of Women provided with specialised skill development training during 2016-17	<b>2,461</b>
No. of rural youths sponsored for ITI training during 2016-17	<b>683</b>



# GRI

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# GRI CONTENT INDEX



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## ABBREVIATIONS

AGM	Annual General Meeting
AIMA	All India Management Association
AIOE	All India Organisation of Employers
AOD	Argon Oxygen Decarburization
ARS	Alizarin Red S
ASP	Alloy Steels Plant
ASSOCHAM	Associated Chamber of Commerce and Industry of India
ATP	Annual Training Plan
BDL	Below Detectable Level
BF	Blast Furnace
BIS	Bureau of Indian Standards
BOD	Biochemical Oxygen Demand
BOF	Basic Oxygen Furnace
BPL	Below Poverty Line
BPTG	Back Pressure Turbine Generator
BSC	Board Sub-Committee
BSL	Bokaro Steel Plant
BSO	Branch Sales Offices
BSP	Bhilai Steel Plant
CCO	Customer Contact Offices
CCS	Continuous Casting Shop
CCTV	Close Circuit Television
CDC	Consultancy Development Centre
CEMDE	Centre for Environment Management of Degraded Ecosystem
CEO	Chief Executive Officer
CET	Centre for Engineering and Technology
CFP	Chandrapur Ferro Alloy Plant
CII	Confederation of Indian Industries
CISF	Central Industrial Security Force
CMO	Central Marketing Organisation
CO	Coke Oven
CO <sub>2</sub>	Carbon Dioxide
COB	Coke Oven Battery
CoD	Centre for Organisational Development
COD	Chemical Oxygen Demand

CoE	Centre of Excellence
CPP	Captive Power Plant
CPSE	Central Public Sector Enterprises
CPTI	Central Power Training Institute
CR	Cold Rolled
CREP	Corporate Responsibility for Environment Protection
CRM	Cold Rolling Mill
Crore	Ten Millions
CSI	Customer Satisfaction Index
CSR	Corporate Social Responsibility
CTC	Carbon Tetra Chloride
CVC	Central Vigilance Commission
DG	Diesel Generator
DMB	Disability Medical Board
Dolo	Dolomite
DPC	Delhi Productivity Council
DPE	Department of Public Enterprises
DSP	Durgapur Steel Plant
EAF	Electric Arc Furnace
EBITDA	Earnings before interest, tax, depreciation and amortization
ECG	Electrocardiography
EMD	Environment Management Division
EMS	Environment Management System
EPMS	Executive Performance Management System
ESI	Employee State Insurance
ETPs	Effluent Treatment Plants
FICCI	Federation of Indian Chambers for Commerce and Industry
FP	Flat Product
FTA	Free Trade Agreement
GCal	Giga Calorie
GCP	Gas Cleaning Plant
GD	Growth Division
GHG	Green House Gas
GoI	Government of India
GRI G4	Global Reporting Initiative Fourth Generation

HEMM	Heavy Earth Moving Machineries
HIP	High Impact Projects
HIRA	Hazard Identification and Risk Assessment
HIS	Health Information System
HR	Human Resource
HRD	Human Resource Development
HRM	Hot Rolling Mill
HSM	Hot Strip Mil
ICVL	International Coal Venture Limited
IDC	Integrated Development Centre
IICCI	The Indian Iran Chamber of Commerce and Industry
IIM	Indian Institute of Metals
IIPE	Indian Institute of Plant Engineers
IISCO	Indian Iron & Steel Company
IIT	Indian Institute of Technology
ILO	International Labour Organization
INDCs	Intended Nationally Determined Contributions
IPE	Institute of Public Enterprises
IPSS	Inter Plant Standard - Steel
IRCON	Indian Railway Construction Company Limited
IRT	Institute of Rail Transport
ISO	International Organization for Standardization
ISP	IISCO Steel Plant
ISPs	Integrated Steel Plants
ISTD	Indian Society for Trade and Development
IUCCI	Indo USSR Chamber of Commerce and Industries
IUCN	International Union for Conservation of Nature
JCSSI	Joint Committee on Safety, Health and Environment in the Steel Industry
JEE	Joint Entrance Examination
JV	Joint Venture
JVC	Joint Venture Company
KAM	Key Account Management
KL	Kilo Litres
KPI	Key Performance Indicators
kWh	Kilo Watt Hour
kWp	Kilo Watt Peak
Lakh	Hundred Thousand

LCS	Life Cover Scheme
LD	Linz Donawitz
LED	Light Emitting Diode
LMV	Light Motor Vehicle
LODR	Listing Obligations and Disclosure Requirements
LP	Long Product
m <sup>3</sup>	Cubic Meter
MEP	Modernization and Expansion Programme
MKWH	Million Kilo Watt Hour
MODEX	Modernisation-Expansion
MOEFCC	Ministry of Environment, Forest and Climate Change
MoU	Memorandum of Understanding
MSME	Micro, Small & Medium Enterprise
MSVs	Model Steel Villages
MT	Millions Tonnes
MTI	Management Training Institute
MTPA	Million Tonnes Per Annum
MTs	Management Trainees
MwP	Mega Watt
NGO	Non-Governmental Organization
NH <sub>3</sub> -N	Ammonical Nitrogen
NINL	Nilanchal Ispat Nigam Limited
NJCS	National Joint Committee for the Steel Industry
NMDC	National Mineral Development Corporation
NOHSC	National Occupational Health Service Centre
NOx	Oxides of Nitrogen
NSDC	National Skill Development Corporation
NTPC	National Thermal Power Corporation
OBC	Other Backward Class
ODS	Ozone Depleting Substances
OH&S	Occupational Health & Safety
OHF	Open Hearth Furnace
OHP	Ore Handling Plant
OHS	Occupational Health Service
OHSAS	Occupational Health and Safety Management System
OPD	Out Patient Department
OT	Operation Theatre

PAT	Profit After Tax
PCB	Polychlorinated BiPhenyls
PIWs	Performance Improvement Workshops
PM	Particulate Matter
PMA	Project Management Association
POPs	Persistent Organic Pollutants
PPEs	Personal Protective Equipment
PPM	Part per Million
PSE	Public Sector Enterprise
PSU	Public Sector Undertaking
PTZ	Pan Tilt Zoom
QMS	Quality Management System
R&D	Research & Development
RDCIS	Research & Development Centre for Iron & Steel
RH	Reheating
RINL	Rashtriya Ispat Nigam Ltd.
RITES	Rail India Technical and Economic Service
RMD	Raw Materials Division
RMP	Refractory Material Plant
RSP	Rourkela Steel Plant
RTI	Right to Information
₹	Rupees
SA	Social Accountability
SAIL	Steel Authority of India Limited
SC	Scheduled Caste
SCL	Steel Complex Limited
SCOPE	Standing Conference of Public Enterprises
SD	Sustainable Development
SEBI	Securities & Exchange Board of India
SED	Safety Engineering Department
SEFI	Steel Executives Federation of India
SER	South Eastern Railway
SESBF	SAIL Employees Superannuation Benefit Fund
SGL	Shot Grinding Line
SGW	SAIL Growth Works
SHA	Shareholders Agreement

SMPs	Standard Maintenance Practices
SMS	Steel Melting Shop
SO <sub>2</sub>	Sulphur Dioxide
SOPs	Standard Operating Practices
SP	Sinter Plant
SPV	Special Purpose Vehicle
SRU	SAIL Refractory Unit
SS	Suspended Solids
SSI	Small Scale Industry
SSO	SAIL Safety Organization
SSP	Salem Steel Plant
ST	Scheduled Tribe
SWP	Safe Work Procedure
TB	Tuberculosis
tcs	Tonnes of Crude Steel
TERI	The Energy and Resources Institute
TFRI	Tropical Forest Research Institute
THF	Twin Hearth Furnace
TJ	Tera Joule
TM	Technology Missions
TMT	Thermo Mechanically Treated
TRT	Top Pressure Recovery Turbine
TRTG	Top Recovery Turbine Generator
tss	Tonnes of Saleable Steel
UNDP	United Nations Development Programme
UNGC	United Nations Global Compact
UNIDO	United Nations Industrial Development Organisation
VFD	Variable Frequency Drive
VISL	Visvesvaraya Iron and Steel Plant
VVVF	Variable Voltage Variable Frequency
WCPS	World Confederation of Productivity Science
WIs	Working Instructions
WIPS	Forum of Women in Public Sector
WMD	Water Management Department
WSA	World Steel Association
ZLD	Zero Liquid Discharge

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- We uphold highest ethical standards in conduct of our business.
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- We chart a challenging career for employees with opportunities for advancement and rewards.
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