Azadi Ka Amrit Mahotsav

सेल SAIL
50
स्थापना के 50 साल
50 YEARS OF INCORPORATION
स्वर्ण जयंती • SWARNA JAYANTI

GRI Sustainability Reporting Standards
in accordance Core option

Sustained Leadership
Sustainable Growth

Corporate Sustainability Report 2021-22

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.

September 2022

Smt. Soma Mondal
Chairman

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Message from Chairman's Desk

Dear Stakeholders,

I am happy to present to you all our 12th Sustainability Report for the year 2021-22 featuring our performance on various fronts viz., economic, environmental, societal and governance. This Report, prepared in accordance with the GRI Sustainability Reporting Standards, reflects our objectives and plans in making the organization more sustainable, efficient, and helps to manage change more effectively.

It is indeed a matter of pride for all of us that in the just concluded financial year, FY 2022, our Company, SAIL, has achieved the best ever production - hot metal at about 18.73 million tonnes, crude steel at about 17.37 million tonnes and saleable steel at about 16.90 million tonnes. The Company also clocked its best ever performance in mining by producing of about 34.15 million tonnes.

The marketing Division also achieved the best ever sales performance at 16.2 million tonnes. This helped the Company enter the list of One lakh crore turnover companies for the first time clocking a turnover of ₹ 1,02,805 crore during FY 2021-22. The buoyancy in the market coupled with the measures taken by the Company for improvement in its operational efficiency parameters helped the Company achieve the highest ever profitability. The Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) stood at ₹ 22,364 crore, while Profit Before Tax (PBT) and Profit After Tax (PAT) stood at ₹ 16,039 crore and ₹ 12,015 crore respectively.

Our Research and Development Centre for Iron & Steel (RDCIS) provides innovative technological inputs to different Plants of SAIL, with special emphasis on productivity and quality improvement, product development and commercialization, energy conservation and automation, etc. Efforts in the area product development led to 11 new Steel Products during FY 2021-22.

I am also pleased to inform that the Company continued the trend of contributing in various nation building Infrastructure Projects and projects of Strategic Importance. The major projects include Regional Rapid Transport System, Delhi Meerut Expressway, Eastern Dedicated Freight Corridor Corporation, Western Dedicated Freight Corridor Corporation, HPCL Rajasthan Refinery Limited Barmer, Bullet Train Project from Ahmedabad to Mumbai for National High Speed Railway Corporation Limited, India's longest river road bridge of 19 km at Dhubri to Foolbari over River Brahmaputra, etc.

For a clean and sustainable environment, the Company carried out strict surveillance of the key environmental parameters as per the statutes through real time monitoring of environmental parameters with the help of online monitoring systems and the same is linked with the servers catering to the State Pollution Control Boards as well as the Central Pollution Control Board.

In line with Government of India's enhanced ambitions at COP26, SAIL re-affirmed its commitment to substantially reduce CO_2 emission and increase share of renewable/non-conventional energy by 2030 as well as to achieve net zero emission by 2070. SAIL participated in World Steel Association LCI data collection programme and shared data from three of its Integrated Steel Plants viz., BSP, RSP and BSL, covering 73.54% of crude steel production.

(102-14, 102-32)

SAIL has been front runner in the field of water conservation and through consistent efforts; specific water consumption has been reduced considerably by around 14% in last five years. Actions are being taken across all SAIL Plants to achieve the long-term goal of "Zero Liquid Discharge" through adequate treatment and recycling of effluent being discharged through the outfalls at the Plant boundary.

Resource efficiency and circularity are of utmost importance for us. SAIL has associated itself as an industry partner with the Ministry of Steel, GoI in R&D project of steel slag based cost effective eco-friendly fertilizers through ICAR-Indian Agricultural Research Institute (IARI), Delhi for enhancing utilization of LD Slag.

In compliance with Stockholm convention of phasing out of poly-chlorinated biphenyl (PCB), SAIL in partnership with MoEFCC and UNIDO has initiated a project for environment friendly disposal of PCB at Bhilai Steel Plant. The project will not only help SAIL in achieving the mandated timeline of phasing out PCB but also help other nearby units to meet the international obligation.

SAIL scripted an altogether new story when the over burden dump and mine void of abandoned Purnapani Lime Stone Mine has been converted to a sprawling three storeyed vegetation grown on 250 acres and aquaculture spread over 200 acres of mine void. Further to that, SAIL has engaged the Institute of Forest Productivity, Ranchi for eco-restoration of mined out area and waste dumps separately for Kiriburu Iron Ore Mines and Meghahatuburu Iron Ore Mines. Since inception 215.42 lakh trees have been planted in SAIL. During 2021-22, more than 3.28 lakh saplings were planted.

SAIL's Social Objective is synonymous with Corporate Social Responsibility (CSR). SAIL CSR initiatives are undertaken in conformity to the prevalent statutes like 'The Companies Act, 2013' and Rules framed there under as amended from time to time. During FY 2021-22, SAIL has incurred an expenditure of ₹ 94 crore, which is in excess of the mandatory CSR requirement under the Companies Act.

Climate change has already shown its ugly presence through sharp rise in extreme climate conditions world over. **Jay Inslee** rightly quoted "We are the first generation to feel the sting of climate change, and we are the last generation that can do something about it".

Before I end this note, I would like to share my heartfelt gratitude towards all our stakeholders including the employees. All the stakeholders have, directly or indirectly, contributed to the cause of the Company in the past and I am sure, shall continue to do so in the future in our endeavour to be counted as one of the conscientious and sustainable steel companies in the world. SAIL was and will continue to be in the path of Social inclusion to ensure that benefits of our business reach to the most marginal element of our society.

Nature has been most generous in giving human the best of its possession and now it is our turn to pay back and leave a better world for the generations to come.

Jai Hind.

With best compliments

Soma Mondal

(Chairman)

(102-14)

OUR VISION

To be a respected world class corporation and the leader in Indian steel business in quality, productivity, profitability and customer satisfaction.

OUR CREDO

We build lasting relationships with customers based on trust and mutual benefit.

We uphold highest ethical standards in conduct of our business

We create and nurture a culture that supports flexibility, learning and is proactive to change.

We chart a challenging career for employees with opportunities for advancement and rewards.

We value the opportunity and responsibility to make a meaningful difference in people's lives.

SAIL NETWORK

SAIL Organisational Network in India

(102-4, 102-6, 102-9)

12th Annual Corporate Sustainability Report

Period

SAIL has been publishing corporate level Annual Sustainability Reports since the Financial Year 2010-11. The Corporate Sustainability Report for the year 2021-22 is twelfth in the succession. The current report covers sustainability activities from the period April 1, 2021 to March 31, 2022 and is in continuation to our earlier report published for the Financial Year 2020-21.

The report covers the Economic, Environmental and Social topics of our business activities. This is in accordance with our beliefs of transparent reporting for our stakeholders, who are linked with our operations directly or indirectly.

Framework

All Corporate Sustainability Reports of SAIL have followed the framework, set out by the Global Reporting Initiative (GRI). The top management has once again decided to use the GRI Standards for 2021-22 report. This report has been prepared in accordance with the GRI Standards: Core Option. Keeping the focus on Stakeholder Inclusiveness, Sustainability Context, Materiality and Completeness, the report has been prepared to disclose Company's performance on Economic, Environmental and Social topics to our stakeholders.

Scope

For presenting financial details in the economic performance section of the report and other important details on social and environmental performances of Plants, Units and Mines in the respective sections, the information has been taken from the Annual Report of the Company for FY 2021-22, ending March 31, 2022. Page 9 of the report gives information on the boundary of the report covering details on products and services of Plants, Units and Mining operations. No Unit has been divested or closed during the Financial Year. We are transparent in sharing all significant events of the past, and the projections of their impacts to occur in future. Data quality of the report is maintained while ensuring accuracy, balance, clarity, comparability, reliability, and timeliness.

Standards

For reporting on Financial performance of the Company, the Company Law guidelines are referred. Regular statutory audits as well as internal audits ensure commitment to Economic and Financial systems. The systems are open to verification and review by the government authorities. For reporting on Quality, Environment, Health & Safety management and Socially acceptable practices in the organization, International Standards such as ISO 9000, ISO 14001, ISO 45001 and SA 8000 are used. For reporting on Carbon Dioxide (CO_2) emissions from our Integrated Steel Plants (ISPs), World Steel Association (WSA) guidelines and calculation methodologies are used. Our work environment and safety regulations are followed as per the requisite regulations issued from time to time by the Ministry of Environment, Forest and Climate Change (MOEFCC) and the Factories Act 1948. Materiality Assessment has definitely helped us in prioritizing issues pertaining to economic, environment and social topics of sustainability and stakeholder engagement process. The material topics, explained in the respective chapters, are established through the materiality assessment process.

Distribution and Feedback

Full report has been written in English language. The report is available at SAIL website (www.sail.co.in) and can be requested via email too. Stakeholder feedback on the report shall be reported to the relevant department upon its receipt via email. Any other additional information about SAIL's efforts on sustainable development can be sought at sailsustainability@gmail.com

Assurance

No External Assurance was carried out for this report.

(102-10, 102-48, 102-49, 102-50, 102-51, 102-52, 102-53, 102-54, 102-56)

SAIL's Accomplishments

The Financial Year 2021-22 began in the midst of the second wave of Covid pandemic, resulting to localized lockdowns and consequent manpower shortage at Plant locations. Despite all odds, buoyant market conditions coupled with focused approach on ramping up of new units, catapulted the production levels to new heights during the reporting period. All-time best records were achieved in the production of Hot Metal, Crude Steel and Saleable Steel and many other areas of operation.

The Company also achieved the best sales turnover during the FY 2021-22, which is higher by 50% as compared to corresponding period of last year. During the FY 2021-22, there has been significant improvement in the performance of the Company mainly on account of increase in saleable steel production (16%), NSR of saleable steel (41%), better techno–economic parameters, power usage, and increase in saleable steel sales volume (8%).

Some of the performance highlights of SAIL are presented below:

Financial

All values are in ₹ Crore

Key Performance Indicators	2019-20	2020-21	2021-22
Turnover	61,024.88	68,452.34	1,02,805.13
Net Sales	61,024.88	68,452.34	1,02,805.13
Profit Before Tax	3,170.66	6,879.03	16,038.72
EBITDA	11,184.23	13,739.40	22,364.18
Capital Expenditure	4,070.17	2,997.70	6,013.00
Total Assets	1,25,097.81	1,15,732.00	1,17,741.14
Export Sales	3,743.26	6,240.59	7,104.83
Profit After Tax	2,021.54	3,850.02	12,015.04
CSR Budget	33.00	50.00	80.47

Production

All values are in MT

Key Performance Indicators	2019-20	2020-21	2021-22
Plants			
Hot Metal	17.438	16.582	18.7333
Crude Steel	16.15	15.215	17.366
Pig Iron	0.57	0.58	0.564
Total Saleable Steel	15.08	14.602	16.897
Semi-Finished Steel	2.99	3.76	3.171
Finished Steel	12.01	10.805	13.727
Mines			
Iron Ore Production	28.84	30.06	34.15
Flux Production	2.42	1.77	1.89

SAIL, a leading steel maker and a responsible corporate entity carries out all its operations with an aim to promote clean, green and sustainable growth. Energy conservation, resource optimization, biodiversity protection and eco-restoration are the measures taken by SAIL on continual basis towards environment management at all its Plants & Mines. Regular monitoring of environmental parameters are fostered to ensure non-occurrence of any untoward environmental incident.

(102-7)

In order to assess its performance on social fronts company has mechanisms in place to monitor the social impact indicators such as labour productivity, employee training, and spending on CSR etc. The environmental and social performance of the Company against Key Performance indicators is provided in tables below:

Environmental

Key Performance Indicators	Unit	2019-20	2020-21	2021-22
Specific CO_2 Emission	t/tcs	2.54	2.55	2.51
Particulate Matter Emission Load	kg/tcs	0.68	0.63	0.59
Specific Effluent Load	kg/tcs	0.82	0.080	0.062
Specific Effluent Discharge	m^3/tss	1.83	1.62	1.35
Specific Water Consumption	m^3/tcs	3.50	3.37	3.12

Social

Key Performance Indicators	Unit	2019-20	2020-21	2021-22
Labour Productivity	tcs/man/year	400.00	396.00	474.00
Training	Man-hours/employee/year	56.0	37.62	66.66
Spending on CSR	₹ Crore	27.56	47.18	94.00
Female Employees	% of total employees	6.0	6.0	6.00

Chairman SAIL Planting a Sapling

SAIL : The Leading Steel Maker

Steel Authority of India Limited (SAIL), a Government of India Undertaking and a Maharatna Central Public Sector Enterprise, is the premier steel-making organization of India. The Company's headquarter is at New Delhi, India. SAIL is a fully integrated iron and steel maker, producing both basic and special steels for domestic construction, engineering, power, railway, automotive & defence industries and for sale in export markets thereby responsible for driving the industrial revolution of modern India for more than six decades. The Company is among the eleven Maharatnas of the Country's Central Public Sector Enterprises. SAIL produces iron and steel at five Integrated Plants and three Special Steel Plants, located principally in the eastern and central regions of India and situated close to its captive iron ore, limestone and dolomite mines which are domestic sources of raw materials.

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

UNITS

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

MINES

JHARKHAND GROUP- IRON ORE MINES

- Kiriburu Iron Ore Mines
- Meghahatuburu Iron Ore Mines
- Gua Iron Ore Mines
- Manoharpur Iron Ore Mines

ODISHA GROUP - IRON ORE MINES

- Bolani Ores Mines,
- Barsua – Taldhi –
- Kalta

BSP GROUP - IRON ORE MINES

- Rajhara Group
- Dalli Group
- Rowghat

BSP FLUX MINES

- Nandini Limestone Mines
- Hirri Dolomite Mines
- Baraduar

VISL FLUX MINES

- Bhadigund Limestone Mines
- Kenchapura Dunite Mines

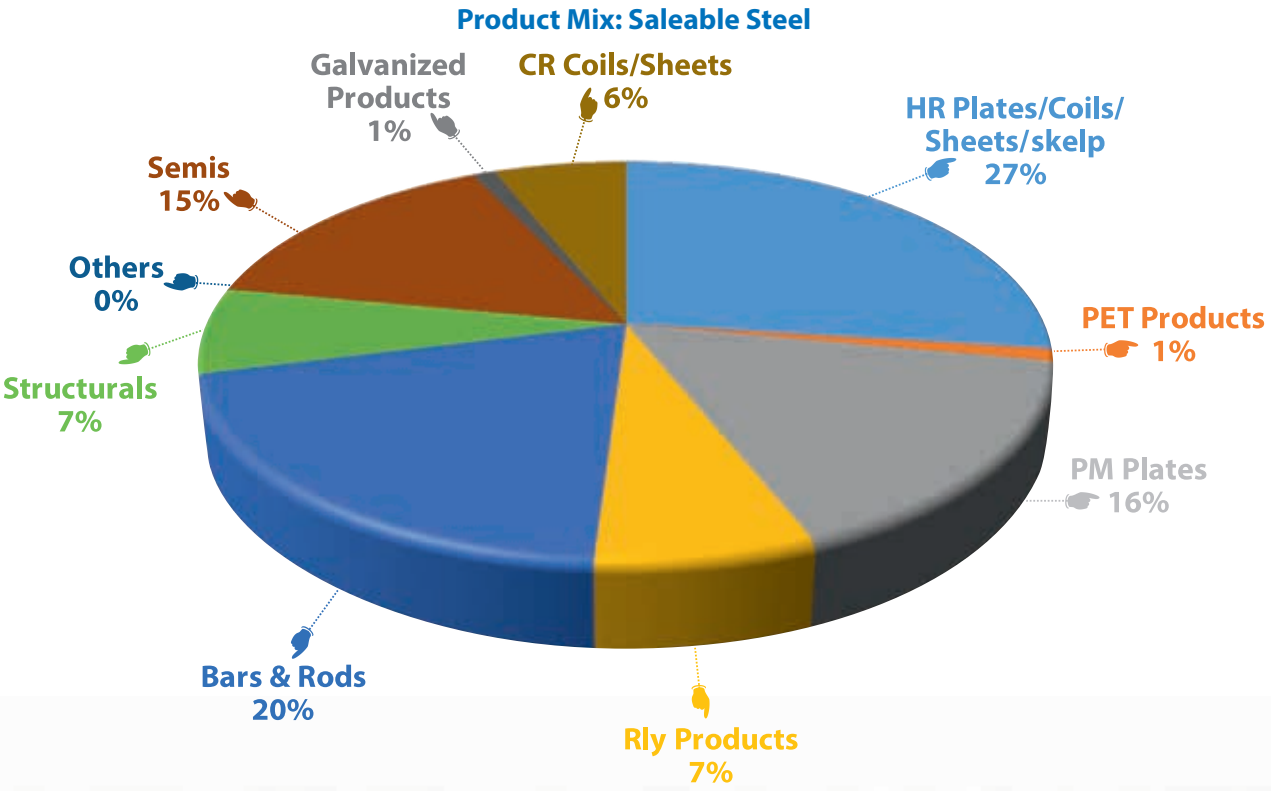
OTHER FLUX MINES

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

(102-1, 102-2, 102-3, 102-7, 102-45)

SAIL has the largest marketing network among all domestic steel producers. As on 1st April, 2022, SAIL's functional network of marketing offices consist of 37 Branch Sales Offices, 4 active Customer Contact Offices, 19 Departmental Warehouses and 18 functional Consignment Agency yards. Marketing efforts are further supplemented through SAIL's Retail Channel that reaches the products of mass consumption to remote corners of India.

SAIL also as an extensive dealership network comprising of more than 4,000 dealers spread across the Country with 41 Distributers already in place in the 2-tier distribution network as on 1st April 2022, this channel of retail sales is being further strengthened. SAIL has also introduced Tier-I distributor system to improve the system of servicing demand of small consumers, B2B industrial segments and to provide single window servicing of small customers including value added services and has 13 distributors as on 1st April, 2022. This huge network spread across the Country helps in meeting the requirements of a wide range of customers spread through length and breadth of the Country.



SAIL Steel Usage: Wheels for Indian Railways

(102-6)

Product Basket

Company's rich product basket covers an unmatched range of mild steel, both in long and flat categories, as well as wide variety of special and stainless steel. Entire product gamut comprise of more than 50 products, 500 grades and 5,000 dimensions. This rich range produced by the Company finds its wide application in projects of national/international importance and in almost all possible sectors of the society viz Construction and Infrastructure. Defence, Railways, Automobiles, Engineering and Fabrication, Capital Goods, Pre-Engineered Buildings, Earth Moving Equipment, Construction Equipment, Pipes & Tubes, Wind Mills, Drum & Barrels, White Goods, Transport (Oil, Gas & Water) Tower Transmission Lines (TLT), Power Distribution, Telecom, Thermal & Hydel Power Electrical Equipment, Agricultural Equipment's etc.

Our Products

1

Long Products

TMT Bars (Earthquake Resistant, (EQR), High Corrosion Resistant (HCR) & Coils, Parallel Flange Section (NPB*WPB-SAIL NEX), Angles, Channels, Beams, Wire Rods, Rounds, RCS, Crane Rails, Special Steel

2

Flat Products

HR Coils, Sheet & Plates, CR Coils & Sheets, GP Sheets & Coils and GC Sheets, Electrical Sheets

3

Railway Products

Rail, Wheels, Axels & Wheel Sets

4

Special Steel

Stainless Steel, Alloy Steel

5

Tubler

Electric Resistance Welded Pipes, Spiral Welded Pipes

6

Rerollables

Blooms, Billets, Slabs

7

Pig Iron

(102-2)

Chairman visiting SAIL Growth Works, Kulti


सेल SAIL

Sustainability at SAIL

SAIL is committed to carry out its operation at all its Plant, Mines and Units in socially, ethically and environment friendly manner. Sustainable Development Policy of the Company endows the vision & reference for different work facet; Business integrity, Governance, Product, Social and Environment Responsibility. Moreover, in order to institutionalize sustainability into all its operations, the Company constantly undertakes various initiatives & programs. The business roles and responsibilities of the employees are synced with mission and values of the Company to ensure symbiotic overall well-being of its employees and society.

The sustainability priorities and associated strategies are arrived at considering the feedback of its stakeholders, changing industry norms and statutory mandates. The identified stakeholder's and society's expectations are embedded into organisation sustainability framework. The operating model in turns helps in implementation of the sustainability framework and promotes accountability within the system. The Company also work in tandem with its supply chain and strive towards improvement of product portfolio & product quality to pave path for societal development. The supply chain processes, logistic and technologies are simultaneously monitored whenever there is any diversification in product-mix or quality or modification in process modalities. The approach has enabled SAIL to build, improve and sustain its reputation; meet customer's expectations; identify new growth opportunities and create good working atmosphere.

The Company is committed to giving back to the society and this sense of social responsibility has not only helped the company in engaging with stakeholders in a constructive way, but also placed it in a leading role in the global commitment towards Sustainability. This has been only possible on account our well designed community initiatives and innate dedication and commitment of our corporate family.

Sustainability Strategic Priorities of SAIL

- To pilot the business of Steel
- To conduct business with high ethical standards
- To develop growth strategies for achieving continuous expansion in the market
- To benchmark operations with the global best practices and achieve excellence across the value chain
- To excel in the area of environmental management by adopting 'state-of-the-art' technologies
- To monitor and incorporate functional improvements in the all-inclusive business-model of our Company viz-a-viz mining, steel making, marketing, human resource management and peripheral services including community development
- To remain socially responsible Company by fulfilling social commitments towards society
- To device participative mechanisms for all our stakeholders such as employees, customers, suppliers and community so that "development with sustainability" remains our focus area
- To keep the business sustainable by adopting multidimensional 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 meet the future global and domestic demands through accelerated investment in new products and processes

Strengths

- SAIL continues to be among the leading steel producers of the Nation
- Most diversified product range offered by any domestic steel company
- Environment friendly operations through newer technology and modernized efficient units
- Nationwide well established marketing and distribution network enabling reach of SAIL products across the Country
- Renowned in-house research establishment in form of RDCIS
- Land availability for future expansions
- Captive iron ore resources provide input security

(102-15)

- Highly qualified professionals with experience in steel making and well-established systems and procedures
- Multi located production units give an edge over other domestic steel players

Weaknesses

- Dependence on external sources for key input i.e. coking coal leads to exposure of the Company to the market risk
- Ageing employee mix along with a high manpower cost and relatively low manpower productivity

Opportunities

- Government policies for growth of steel intensive sectors such as infrastructure, capital goods, construction, stepping up capital expenditure, the outlook for the steel industry looks bright in the coming years
- High export potential for European and South East Asia markets
- Newly commissioned mills oriented towards products required to cater to the infrastructure development
- Ministry of Mines entrusting SAIL with responsibility to make available 25 percent of its total mineral production of the previous year in the open market
- Potential for improving product quality and reducing cost through operational efficiency and utilization of the new and modernized units
- A sharp rebound in growth is expected after the Covid-19 pandemic is over and steel demand is expected to remain buoyant

As various Economic, Social and Environmental risks are associated with the operations, some of the envisaged risks and associated mitigation measures along with the strategies for the growth of the Company are appended below:

Risks

- Increased competition from domestic and international steel companies located in India
- Volatility in Coking Coal Prices and Exchange Rate and rising Crude Oil prices
- Cheap sourcing of steel from countries with whom India has Free Trade Agreement (FTA)
- Low domestic demand and poorer sales realization of products
- Diminishing ore and coal reserves in India leading to dependence on external sources for key input - coking coal and Higher Royalty rate on Iron Ore
- Delays in ramping up of production from the new Units due to initial stabilization factors
- Elevated manpower cost and poor employee age-mix
- Fulfillment of social responsibilities concurrently with Plant/Units/Mines activities
- Motivation of employees and talent retention
- Increased global concern for climate change prompting adoption of challenging targets
- 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

Risk 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, explore the rural markets
- Securing long-term contracts with suppliers and establishing relationship with customers
- Development of new mines and exploring international partnerships
- Rationalization of workforce
- Compliance with the norms as well as preparing for beyond compliance scenario

(102-15)

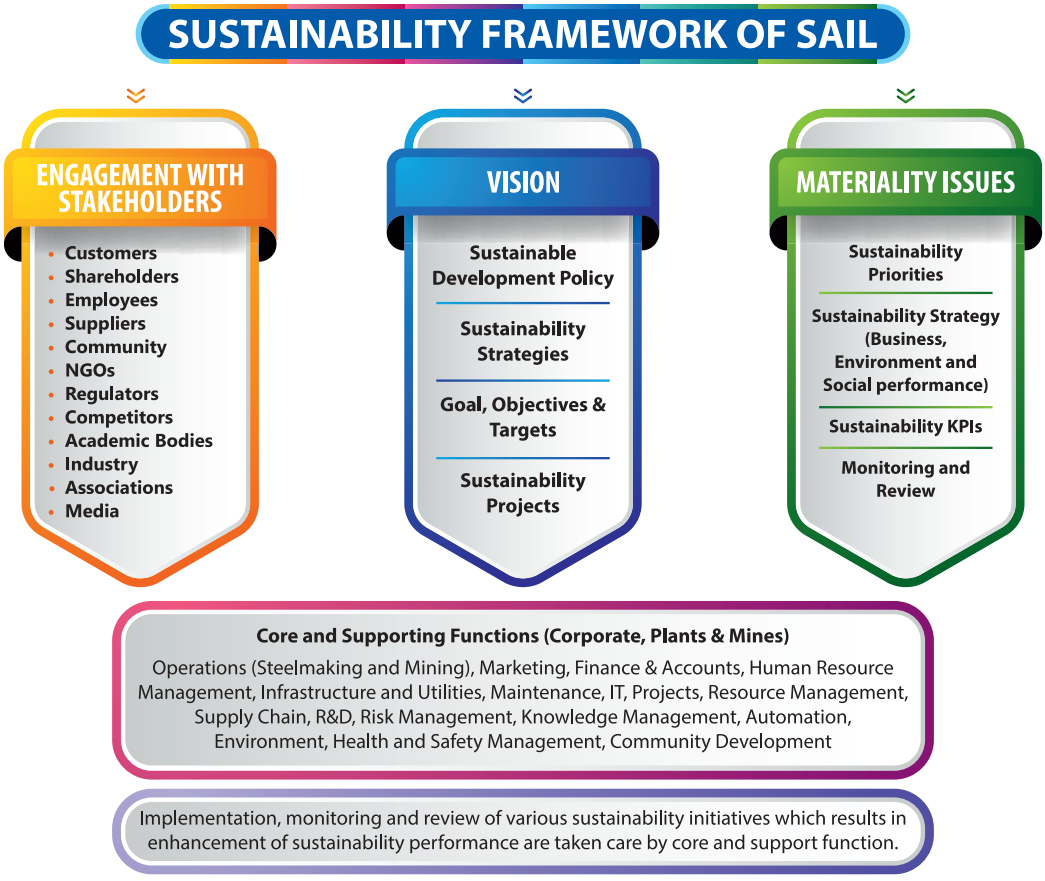
- Appropriate need assessment and community engagement programmes
- Ensure professional growth
- Social up-liftment by investing on community and its development
- Regular adoption of clean technologies to reduce CO_2 emissions
- Venturing in environmental protection measures and in the process of fixing up internal carbon price to offset this risk
- Developing strategies for proper handling, recycling and reuse of waste
- Preparing for beyond compliance scenario, greenery development and interaction with statutory bodies

Growth Strategies

- Consolidation of leadership position through capacity enhancement
- Strategic alliances for further supporting the growth initiatives
- Developing new mines for ensuring raw material security
- Improving quality of input material
- Increased focus on value added steel
- Continual enhancement in operational efficiencies
- Cost optimization

Sustainability Assessment Mechanism

Sustainability assessment mechanism may be distinct for each organisation; broadly on account of having marginal relevance or tending to focus on only one particular feature of sustainability, or is too complicated for implementation in the organisation. At SAIL, we firmly believe that stakeholder's and society's expectations plays a leading role in identification of materiality issues for the Company. The formulation of the Company's vision, goals, policies and strategies are as per the outcome of the materiality assessment. The Sustainability Framework of SAIL is presented below:



(102-15)

Partnerships, Associations and Memberships

World Steel Association (WSA)

SAIL measures and reports on GHG emissions as per WSA methodology and is also Climate Action member.

Montreal Protocol

The use of Ozone Depleting Substances (ODS), viz. Carbon Tetrachloride (CTC) has been stopped in operation. Presently, Trichloroethylene (TCE) is used as cleaning solvent the 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 in letter as well as in spirit.

Stockholm Convention on Persistent Organic Pollutants (POPs)

SAIL in partnership with the MoEF&CC and UNIDO has initiated a project for setting-up of an environment-friendly facility for disposal of Poly Chlorinated Bi-Phenyls (PCBs), using 'PLASCON' technology. The facility will have provision for destruction of pure PCB and PCB containing wastes along with facility for decontamination/treatment of PCB contaminated equipment, transformer oil and wastes. The organic pollutant is mandated to be phased out by 2028 in compliance with Stockholm Convention on PoPs.

Charter on Corporate Responsibility for Environment Protection (CREP)

At SAIL, we have voluntarily subscribed to the action points defined under the Charter on Corporate Responsibility for Environmental Protection (CREP), an MOEF&CC initiative. As a responsible corporate citizen, we strive to go beyond the statutory compliance and try to make a significant mark in this Charter through various measures including waste minimization, in-plant process control & adoption of clean technologies etc.

Standing Conference of Public Enterprises (SCOPE)

SAIL has been actively involved in the proceedings of SCOPE, a prominent body of the Central Government of India.

Other Association & Members

- All India Management Association (AIMA)
- Centre for Organization Development (COD)
- Consultancy Development Centre (CDC)
- Federation of Indian Chambers for Commerce and Industry (FICCI)
- Forum of Women in Public Sector (WIPS)
- Indian Institute of Metals, Kolkata (IIM)
- Indian Institute of Plant Engineers (IIPE)
- Indian Steel Association (ISA)
- Indian Society for Training 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)
- PHD Chamber of Commerce (PHDCCI)
- Indian Iron and Steel Sector Skill Council (IISSSC)
- World Steel Association & International Stainless Steel Forum (ISSF)

Key Joint Venture Collaborations

- NTPC-SAIL Power Company Limited
- Bokaro Power Supply Company Limited
- mjunction services limited
- International Coal Ventures Private Limited
- SAIL-RITES Bengal Wagon Industry Pvt. Ltd.
- SAIL Bansal Service Centre Limited
- Bhilai Jaypee Cement Limited
- SAIL SCL Kerala Limited
- SAIL Kobe Iron India Private Limited
- Prime Gold-SAIL JVC Limited
- VSL SAIL JVC Limited
- Romelt-SAIL (India) Limited
- Bastar Railway Private Limited
- GEDCOL SAIL Power Corporation Limited

(102-12, 102-13)

Awards and Accolades

SAIL

- 6 Prime Minister's Shram Awards (involving 31 employees) for the year 2018.
- 11 Vishwakarma Rashtriya Puraskar (involving 52 employees) for the Performance Year 2018.
- Winner of "Golden Peacock Environment Management Award - 2021" in steel sector, by the Institute of Directors.
- 3rd joint winner of coveted 3rd National Water Award 2020 in the 'Best Industry' Category by the Ministry of Jal Shakti for showcasing exemplary work and efforts towards water conservation.
- Winner of the "21st Annual Greentech Environment & Sustainability Award 2021" for outstanding achievements in "Environment Protection" Category, by the Greentech Foundation.
- 3rd Place in the 17th National Awards for Excellence in Cost Management, 2019 in the Manufacturing Category-Public, having Turnover more than ₹10,000 crore.
- "Engineering Personalities Award" at the 36th Indian Engineering Congress and Centenary Celebrations by The Institute of Engineers (India).

PLANT AND UNITS

DSP

- ENCON Award 2021 for Energy Conservation by CII Eastern Region for achieving 4.25 star energy rating.

RSP

- Winner of the "21st Annual Greentech Environment & Sustainability Award 2021" for outstanding achievements in "Environment Protection" Category, by the Greentech Foundation.
- ENCON Award 2021 for Energy Conservation by CII Eastern Region for achieving 4.75 star energy rating.

BSL

- Winner of the "21st Annual Greentech Environment & Sustainability Award 2021" for outstanding achievements in "Eco Friendly Products" Category, by the Greentech Foundation.
- 5-star rated awards for sustainable Mining practices and all round performance in the Iron Ore category at the 5th National Conclave on Mines & Minerals for performance of Kiriburu Iron Ore Mines(KIOM) for the year 2017-18 & 2018-19 and Meghataburu Iron Ore Mines (MIOM) 2018-19 and 2019-20.

ISP

- ENCON Award 2021 for Energy Conservation by CII Eastern Region for achieving 4.50 star energy rating.

Glimpses of various Awards won by SAIL Plants/Units

Corporate Governance

Corporate Governance is the system of Policies, Rules, Procedures, Processes and Practices by which a Company is governed, directed or controlled with the ultimate objective of maximizing the value for all of its stakeholders viz. Government, Investors, Shareholders, Customers, Vendors, Employees, Environment and the Society. SAIL's philosophy in relation to Corporate Governance is to ensure transparency, disclosures and reporting that confirms fully to laws, regulations, guidelines including DPE guidelines and robust Policies formulated over the years, and to promote ethical conduct throughout the Organization, with the primary objective of enhancing shareholders value. We, as a responsible corporate citizen, are committed to confirming to the highest standards of Corporate Governance in the Country. It recognizes that the Board is accountable to all shareholders and that each member of the Board owes his/her first duty for protecting and furthering the interest of the Company.

SAIL believes in building trust that will enhance its reputation and boost the confidence of its investors & stakeholders. In line with this, SAIL has been proactively and regularly sharing key information with all stakeholders through use of different communication channels.

Our Vision and Credo also plays an important role in steering our Board of Directors to conduct business in an economically, socially and environmentally sustainable manner.

Our Board

Our Board is at the Apex of the Governance Framework and is accountable to all stakeholders and for protecting and furthering the interest of the Company. The Board of Directors being at the core of our corporate governance practice, are entrusted with the responsibility of management, direction, performance of the Company and ensuring that the long term interest of the stakeholders is protected and stakeholders' value enhanced. The Board reviews and approves management's strategic plans and business objectives and monitors the Company's strategic direction. The Board of Directors functions in accordance with the powers delegated under the Companies Act, 2013, SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, Corporate Governance Guidelines issued by DPE and other guidelines issued by the Government of India from time to time, as applicable to the Company.

SAIL has robust protocols such as independent internal audit, documented policies, guidelines, procedures, regular review by Audit Committee, CAG Audit of Corporate Governance, Independent Audit by Auditors etc. which help in efficient functioning of the Board.

In terms of the SEBI Regulations, the Board has laid down a Code of Conduct for all Board Members and Senior Management of the Company. The Code of Conduct has been posted on the website of the Company - www.sail.co.in. All the Board Members and Senior Management Personnel have affirmed compliance with the Code. Adherence to Code of Conduct has ensured faith of our stakeholders in the Company.

The Agenda, including compliance reports of all the laws applicable to the Company, along with Explanatory Notes is provided to the Board Members in advance. The Board Members take active part in the deliberations in the Board and Board Sub-committee meetings by providing valuable suggestions, advice and guidance on various areas of the Company's Business thus adding value to the decision making process. Additional information as sought are provided to the members. The recommendations of the meetings of the Board Sub Committees are placed before the Board for necessary approval. As an effective post meeting follow-up system, action taken on its decisions is apprised to the Board.

Not only these but specialized Committees also, led and supervised by Independent Directors having valuable and varied experience, enable our Company to have an independent perception on various governance issues before the same are considered by the Board of Directors. Some of the key committees and their objectives are as follows:

Board Committees & Objectives

Audit Committee

The primary function is to assist the Board of Directors in fulfilling its oversight responsibilities by reviewing the Financial Reports; the Company's systems of internal financial controls and Risk management systems, Accounting and Legal compliance that Management and the Board have established; review Related Party Transactions in accordance with the Related Party Transaction Policy of the Company; and the Company's Auditing, Accounting and Financial Reporting process generally.

(102-16, 102-18, 102-22, 102-26, 102-27)

The Audit Committee reviews the reports of the Internal Auditors, meets Statutory Auditors, reviews the Auditors' independence, performance and effectiveness of audit process, discusses their findings, suggestions and other related matters and reviews Accounting Policies followed by the Company. The Audit Committee reviews with the Management, the Quarterly and Annual Standalone and Consolidated Financial Statements and the Auditors' thereon, before their submission to the Board.

Nomination & Remuneration Committee

SAIL, being a Government Company, the nomination and fixation of terms & conditions for appointment of its Directors, are made by the Government of India. However, the Company has constituted a Nomination & Remuneration Committee (NRC), in order to look into various HR issues, matters prescribed under the Companies Act, 2013 and SEBI Regulations; to finalize Performance Related Pay (PRP) for the executives of the Company in terms of DPE Guidelines on Corporate Governance for Central Public Sector Enterprises; etc.

Stakeholders' Relationship Committee

Its function is to consider and resolve the grievances of the security holders of the Company including complaints related to non-receipt of balance sheet, non-receipt of dividend, transfer/transmission of shares, etc.

Risk Management Committee

The Committee's objective is establishment of a risk management system; formulation, adoption and implementation of the Risk Management Policy; setting standards for risk documentation; to review the Enterprise Risk Management framework to assess its continuing effectiveness; to monitor emerging issues and oversee the risk management.

Corporate Social Responsibility Committee

Corporate Social Responsibility is the Company's commitment to its stakeholders to conduct business in an economically, socially and environmentally sustainable manner, whereby organizations serve the interests of the society, by taking responsibility for the impact of their activities.

During the year, besides, these mandatory Committees, various other Board Sub-Committees (BSC) such as BSC on Strategic Issues & Joint Ventures, Projects, Health, Safety and Environment are also there to strengthen the systems at SAIL.

S. No.	Board Sub Committee	Objective of BSC
1.	Strategic Issues & Joint Ventures Committee	To examine and recommend to the Board the issues relating to formation of Strategic Alliance(s) and Joint Ventures of the Company and review their performance.
2.	Projects Committee	To monitor and recommend to the Board the matters regarding taking up of new projects, monitoring implementation of major capital projects vis-a-vis approved plan, etc.
3.	Health, Safety & Environment Committee	To review the policy, procedures and systems on Health, Safety and Environmental matters in respect of Plants & Mines.
4.	Share Transfer Committee	To consider (i) transmission, rejection, issue of duplicate share certificate and split share certificates; and (ii) transfer of shares for which request was received before 31st March, 2019 but was rejected earlier on account of discrepancies, and resubmitted after duly rectifying the objections.

SAIL has been proactively and regularly sharing key information with all stakeholders through use of different communication channels. The Annual General Meetings (AGM), wherein the annual report of the Company together with Audited Accounts for Financial Year is presented by the Directors, is one such platform where the suggestions, comments and feedback of our shareholders are highly appreciated. The proceedings of the AGM are duly recorded and the concerns of the shareholders are deliberated at the Board Meeting and after evaluation, these are integrated into the management's business decision.

For management of diverse issues, pertaining to economic, environmental and social areas, various Corporate Office Divisions/ Departments regularly assimilate, compile and monitor the status reports in conjunction with the agenda papers. These reports are prepared with the valuable inputs provided by the respective Plants/Units, on the economic, environment and social performances including legal compliance and are regularly and methodically put up to the Board

(102-18, 102-19, 102-20, 102-21, 102-22, 102-26, 102-29, 102-31, 102-33)

for examination, comments and recommendations. The inputs and observation of the Board are examined and analyzed by the top management and subsequently envisioned for business decision-making.

There were no transactions by the Company of material nature with Promoters, Directors or the Management, Subsidiaries, relatives during the year, thereby eliminating any potential conflict of interests between the Company and its stakeholders.

SAIL being a Government Company, the nomination, appointment and fixation of terms and conditions of Independent Directors is made by Government of India. No other pecuniary benefit is granted to the Non-Executive Directors (other than the Government Nominee Directors). Independent Directors are paid only sitting fee for each Board/ Board Sub-Committee Meeting attended by them. The salary and pay scales of the Whole Time Directors is fixed in accordance with the prevailing rules of the Government. There is a well laid down procedure for evaluation of Functional Directors and CMD by the Administrative Ministry.

Board Composition

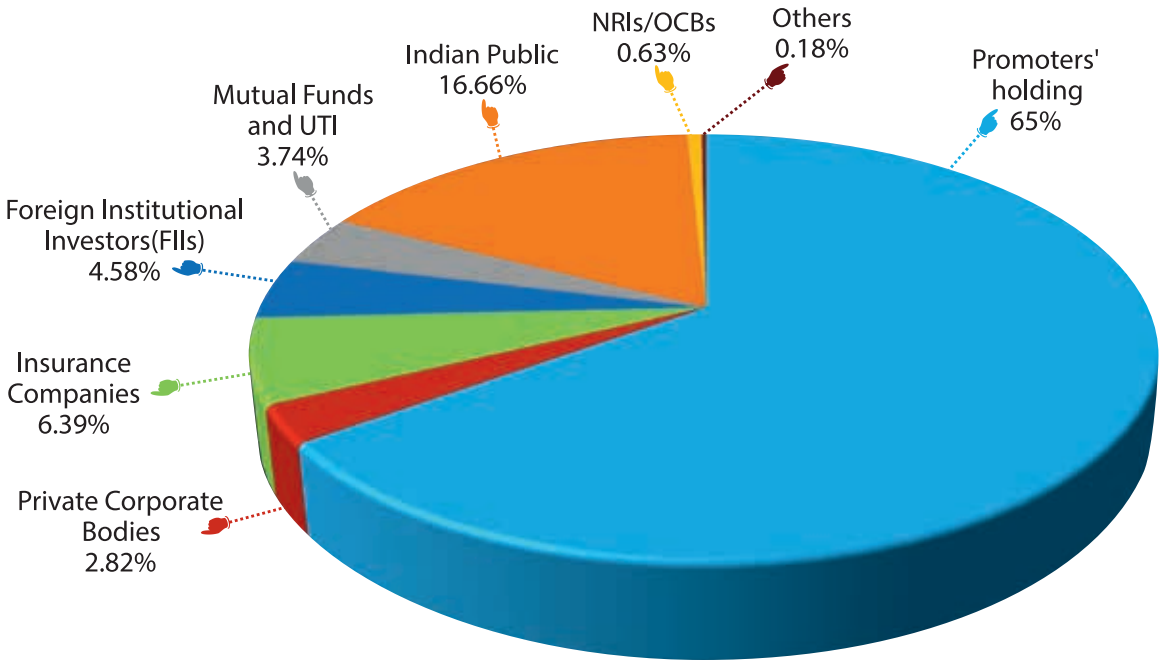
SAIL Board is a mix of full time Executive Directors, Non Executive Directors and Independent Directors, conforming to the provisions the Company's Act, SEBI (LODR) and DPE Guidelines. As on 31st March, 2022, the Board of Directors comprised of a full time Chairman, 5 Whole Time Directors (i.e. Executive Directors) and 8 Non-Executive Directors (consisting of 2 Government Nominee Directors and 6 Independent Directors).

During part of the FY 2021-22, the composition of the Board of Directors in respect of minimum number of Independent Directors, Woman Independent Director and Non-Executive Directors was not as per the requirement of Regulation 17 (1) (a) of the SEBI (Listing Obligations and Disclosure Requirements), 2015 Regulations.

During the year, 9 Board meetings were held and the gap between any two board meetings did not exceed 120 days and the requisite quorum was present in all the meetings held during the Financial Year 2021-22. In addition to the physical mode, the board meetings during the Financial Year 2012-22 were also held through video conference.

There was no complaint pending for redressal as on 31st March, 2022. Number of shareholders' complaints received during the year from 1st April, 2021 to 31st March, 2022 was 42. All the 42 complaints were resolved and no complaint was pending for redressal as on 31st March, 2022.

The Government of India owns about 65% of SAIL's equity and retains voting control of the Company. However, SAIL, by virtue of its 'Maharatna' status, enjoys significant operational and financial autonomy.



Shareholding Pattern

(102-5, 102-7, 102-18, 102-19, 102-20, 102-22, 102-23, 102-24, 102-25, 102-29, 102-31, 102-33, 102-34, 102-35, 102-36, 102-37)

Corporate LEADERSHIP

Board of Directors as on 10th October 2022

SMT. SOMA MONDAL
Chairman

SMT. SUKRITI LIKHI
Additional Secretary and Financial Advisor,
Ministry of Steel, Government of India

SHRI ABHIJIT NARENDRA
Joint Secretary,
Ministry of Steel, Government of India

SHRI ANIRBAN DASGUPTA
Director in-charge (Bhilai Steel Plant)

SHRI AMARENDU PRAKASH
Director in-charge (Bokaro Steel Plant)

SHRI VIJENDLA SRINIVASA CHAKRAVARTHY
Director (Commercial)

(102-18)

SHRI ATANU BHOWMICK
Director in-charge
(Rourkela Steel Plant)

SHRI BRIJENDRA PRATAP SINGH
Director in-charge
(Burnpur and Durgapur Steel Plant)

SHRI ANIL KUMAR TULSIANI
Director (Finance)

SHRI KRISHNA KUMAR SINGH
Director (Personnel)

SHRI ARVIND KUMAR SINGH
Director (Technical, Projects
& Raw Materials)

SHRI N. SHANKARAPPA
INDEPENDENT DIRECTOR

SHRI ASHOK KUMAR TRIPATHY
INDEPENDENT DIRECTOR

SHRI KANHAIYA SARDA
INDEPENDENT DIRECTOR

SMT. NEELAM SONKER
INDEPENDENT DIRECTOR

SHRI SAGI KASI VISWANATHA RAJU
INDEPENDENT DIRECTOR

DR. GOPAL SINGH BHATI
INDEPENDENT DIRECTOR

PROF. (DR.) K. JAYAPRASAD
INDEPENDENT DIRECTOR

(102-18)

Enterprise Risk Management (ERM)

Enterprise Risk Management (ERM) is a strategic business discipline that supports the organization's objectives by addressing its risks and managing the impact of these risks. It is the practice of planning, coordinating, executing and handling the activities of an organization in order to minimize the impact of risk on investment and earnings and also strategic, financial and operational risks. The Risk Management Policy was approved by the SAIL Board much before the same became a statutory requirement and since then, the risk management in SAIL has grown and developed in line with internal and external requirements.

The Policy provides guidance for the management of the business risks across the organisation. It focuses on ensuring that the risks are identified, evaluated and mitigated. The risks identified are being addressed regularly and actions are being taken in a time bound manner to mitigate them which is an ongoing process. Currently, the architecture of Enterprise Risk Management in SAIL comprises a well-designed multi-layered organization structure, with each Plant/Unit having its own perceived risks which are under the constant monitoring by the Risk Owners / Risk Champions who frame and implement the mitigation strategy and take it to its logical conclusion.

Risk Management Committee (RMC) of the Plant/Unit is chaired by the Head of the Plant /Unit that periodically reviews the risks, devises its mitigation plans and takes corrective actions / measures to reduce them and reports the same to the Chief Risk Officer (CRO) of SAIL.

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.

Policies at SAIL

SAIL has formulated various policies which ensure transparency, accountability, disclosures and reporting. Policy and Strategy formulation is a well-structured process guided by Company's Vision and Credo. The basket of policies that are available on SAIL website include Policies on Anti-Bribery Management (Vision Statement), MOU, Enterprise Risk Management, Corporate Social Responsibility, SAIL Mediclaim Scheme For Retired Employees, Inter Plant Standardization in Steel Industry (IPSS), Safety, Quality, Corporate Environment, Human Resource, HIV/AIDS, Information Technology Security and Sustainable Development.

The policies on Human Resource, Occupational Health and Safety, Communication, Maintenance, Township, Energy Management and Social Accountability, etc. at the Plant level also promote concept of transparency and accountability.

(102-30)

Anti-Bribery Management Policy (Vision Statement) of SAIL

SAIL is committed to be a respected world class corporation and the leader in Indian steel business in quality, productivity, profitability customer satisfaction, and will carry out all its activities in a manner that ensures effective Anti-Bribery Management System in the organization

SAIL is committed to achieve continual improvement of its 'Anti-Bribery Management System (ABMS)' through:

- Identification of Contexts, Risks & Opportunities on Anti-Bribery in the organization
- Identification of needs & expectations of internal & external interested parties
- Compliance with applicable Anti-Bribery Laws
- Establishing a Management System which prohibits bribery in the organization while complying with all applicable legal requirements
- Establishing a Management System that encourages raising concerns in good faith or on the basis of a reasonable belief in confidence, without fear of reprisal
- Establishing a Management System explaining the authority and independence of the Anti-Bribery Compliance Function
- Establishing a Management System explaining the consequences of not complying with the Anti-Bribery Policy
- Establishing a System for setting, reviewing and achieving Anti-Bribery Objectives.
- Involvement of and contribution from all Interested Parties (e.g. employees, stakeholders and business associates)

SAIL is also committed to review the effectiveness of this Policy Periodically.

Smondal

(Soma Mondal)
Chairman
Steel Authority of India Limited

Date 08.04.2022

(102-16)

Corporate Integrity

SAIL has institutionalized numerous Policies/Rules/Mechanisms to curb the chances of corruption/ bribery in the organization. The Company has dedicated Vigilance Departments across all Plants/ Units to carry out preventive, proactive and punitive functions. The main purpose is to facilitate an environment that enables the employees to work with integrity, efficiency and transparency; upholding the highest ethical standards. In order to prevent corruption, all operations of SAIL are subject to scrutiny by Vigilance Department.

The full-fledged Vigilance team of around 130 employees is headed by a Chief Vigilance Officer, who is appointed by the Central Government on tenure basis. The Vigilance team carries out its work independently and the Chief Vigilance Officer reports to the Central Vigilance Commission directly on the aspects of corruption.

All executives of the Company are governed by the Conduct, Discipline and Appeal (CDA) Rules which prescribe the code of Conduct/ Misconduct whereas most of the non-executive workmen are covered under the Code of Conduct/ Misconduct as mentioned in the Standing Orders of respective Plants/ Units of SAIL. The Company has an important document and approach, namely, Integrity Pact that covers all Contracts/ Procurement with value of ₹ 20 Crores and above; and also all tenders related to handling contracts in CMO departmental warehouses, irrespective of threshold value. Guidelines on banning business dealings with bidders/ contractors/ agencies dealing with SAIL have been implemented in the Company and are made part of the Integrity Pact wherein it has been envisaged that appropriate action shall be taken against the signatories of Integrity Pact, if they are found involved in unethical practices including corruption and bribery.

SAIL has formulated detailed guidelines for procurement of material and services wherein the tenets of equity, fairness, accountability and compliance to directions issued by CVC are taken into consideration. For instance, the Purchase / Contract Procedure of SAIL spells out the steps to be followed by all Plants / Units of SAIL right from raising the indent till making payments on first in first out basis. Similarly, Reverse Auction guidelines ensure transparency in the price discovery process and Standard Bidding Document has been developed for uniformity in processing of Turnkey Projects. Further, a dedicated 'SAIL Tenders' website emanates all the relevant information regarding the tenders floated by SAIL.

As per the directives of the Central Vigilance Commission (CVC), SAIL has identified sensitive areas/ sensitive posts in the organization. Executives posted in these sensitive posts for more than three years are identified and rotated annually.

Further, SAIL has also decided to implement the Anti-Bribery Management System (ABMS) in SAIL as per ISO 37001:2016. SAIL Board has approved the Anti Bribery Management Policy (Vision Statement) and the 1st Phase ABMS is being implemented in Corporate Office and Bokaro Steel Plant. The Anti-Bribery Management System seeks to establish, implement, maintain and enhance an anti-bribery program that prevents, detects and addresses bribery risk in the organization.

The ABMS Policy (Vision Statement) as approved by Chairman, SAIL is also available at SAIL Website – www.sail.co.in.

SAIL Vigilance, which is ISO 9001:2015 certified, undertakes several Preventive/ Participative Vigilance activities to prevent corruption in all the operations of SAIL; inter-alia including:

- Conducting Surprise Checks/File Scrutiny/Joint Surprise Checks in various areas
- Identification of Thrust Areas and focussing Vigilance activities towards these areas
- Undertaking Intensive Examinations and System Improvement Projects in various Plants / Units of SAIL
- Coordinating with Central Bureau of Investigation and other Central Agencies in anti-corruption matters
- Conducting training and awareness programmes to sensitize officials
- Periodically publishing SAIL Vigilance journal
- Laying emphasis on updation of existing systems & procedures
- Ensuring Job rotation in Sensitive areas
- Giving Preventive & Administrative recommendations on case to case basis as per requirement
- Handling of movable and immovable property returns with respect to executives
- Providing Vigilance Status / Clearance for various purposes like Promotion, completion of Probation period, final settlement of dues for Superannuation, conferment of Award, selection for PESB posts, etc.

(102-16, 102-17, 103-1, 103-2, 103-3)

- Monitoring the implementation of Integrity Pact
- Maintaining List of Officers of Doubtful Integrity and an Agreed List of suspect officials
- Laying emphasis on technology leverage for increasing e-tendering and e-payment etc.

To bring uniformity and clarity regarding acceptable modes of lodging complaints and processing of the same, a complaint handling policy for SAIL Vigilance has been implemented from 01.01.2022. The complaint handling policy of SAIL Vigilance seeks to ensure that complaints about corruption, malpractice or misconduct by officials of SAIL are received, recorded and acted upon in a manner consistent with the complaint handling policy of CVC. Now the complainants can also lodge Vigilance related complaints through SAIL Website – www.sail.co.in.

SAIL follows a very effective channel of Whistle Blower Mechanism, which establishes comprehensive protection for reporting persons. The Government of India has authorized the Central Vigilance Commission (CVC) as the designated agency to receive written complaints for disclosure on any allegation of corruption or misuse of office and recommend appropriate action under the Government resolution "Public Interest disclosure and Protection of Informer", which is also known as "Whistle Blower Resolution". In addition, the Chief Vigilance Officers of the Ministries or Departments of the Government of India are also authorized as designated authority to receive written complaint or disclosure of any allegation of corruption or misuse of office by any employee of that Ministry or department.

Complaints under the Whistle Blower Resolution are received by Central Vigilance Commission (CVC) / concerned Ministry of the Government of India; and the relevant complaints are forwarded to SAIL for investigation after duly concealing identity of the complainant. The objective of the Whistle Blower Mechanism is to provide necessary safeguard for protection of employees from reprisal or victimization.

In addition to the above, the Vigilance Department also provides inputs on existing systems to respective administrative authorities for ensuring greater transparency. Fourteen cases were taken up for Intensive Examination during the year at different Plants/ Units. During these Intensive Examinations, high value procurement/ contracts are scrutinized comprehensively and necessary recommendations are forwarded to concerned departments for implementing suggestions for improvement.

The Vigilance Department receives and investigates complaints as per guidelines of CVC. During the year 2021-22, 664 complaints were received in SAIL Vigilance and 670 complaints were disposed off (including carry forward complaints); out of which 172 complaints were found anonymous/ pseudonymous, 165 complaints were forwarded to other departments, 219 complaints were closed as the allegations had no vigilance angle/ were not substantiated, 98 complaints were closed with preventive/ administrative recommendations whereas regular departmental actions were initiated in 16 complaints. A total of 2,282 surprise checks/file scrutiny were conducted by Vigilance Department in the vulnerable areas/departments of different Plants/Units.

In the year 2021-22, 102 vigilance awareness workshops/ trainings were organized at different Plants/ Units, covering 1,686 participants to create awareness among the employees on aspects such as Whistle Blower Policy, PIDPI, Purchase/Contract Procedures, Preventive Vigilance, Conduct and Discipline Rules, Common Irregularities, System and Procedures followed in SAIL etc.

With reference to the Vigilance Awareness workshops as mentioned above, it is noteworthy that during the FY'2021-22, 45 dedicated two-day Preventive Vigilance training programs (as per guidelines of CVC and MoS) were organized wherein a total of 829 mid-level executives of SAIL and 160 fresh entrants of SAIL were covered.

The following three thrust areas were identified and pursued by SAIL Vigilance during the year:

- Scrutiny of procurement files within approving powers delegated to CGM & below level executives, with special thrust on powers delegated to dealing officers.
- Scrutiny of cases of final settlement of dues after superannuation as per extant guidelines / statutory provisions with special emphasis on adherence to prescribed timelines.
- Scrutiny of Repeat Orders and related quantity variation for orders valuing ₹ 50.00 Lakh and more.

(102-17, 205-1)

Every year, as per the guidelines of Central Vigilance Commission, Vigilance Awareness Week is observed in SAIL. This year, the week (from 26th October to 1st November 2021) started with administering the Integrity pledge and reading out of messages of dignitaries at SAIL Corporate Office and all other Plants/Units of SAIL. During the week, workshops/sensitization programmes, customers meet, events like quiz, essay, slogan & drawing/poster, debate competition etc. were organized for SAIL employees. As outreach measures, various events like Speech/Oratory competition, Essay/Slogan competition etc were organized for School / College students in SAIL townships.

To enhance Vigilance awareness, 22nd Issue of an in-house journal 'Inspiration-Prerna' having case studies and informative articles was also published by SAIL Vigilance Department.

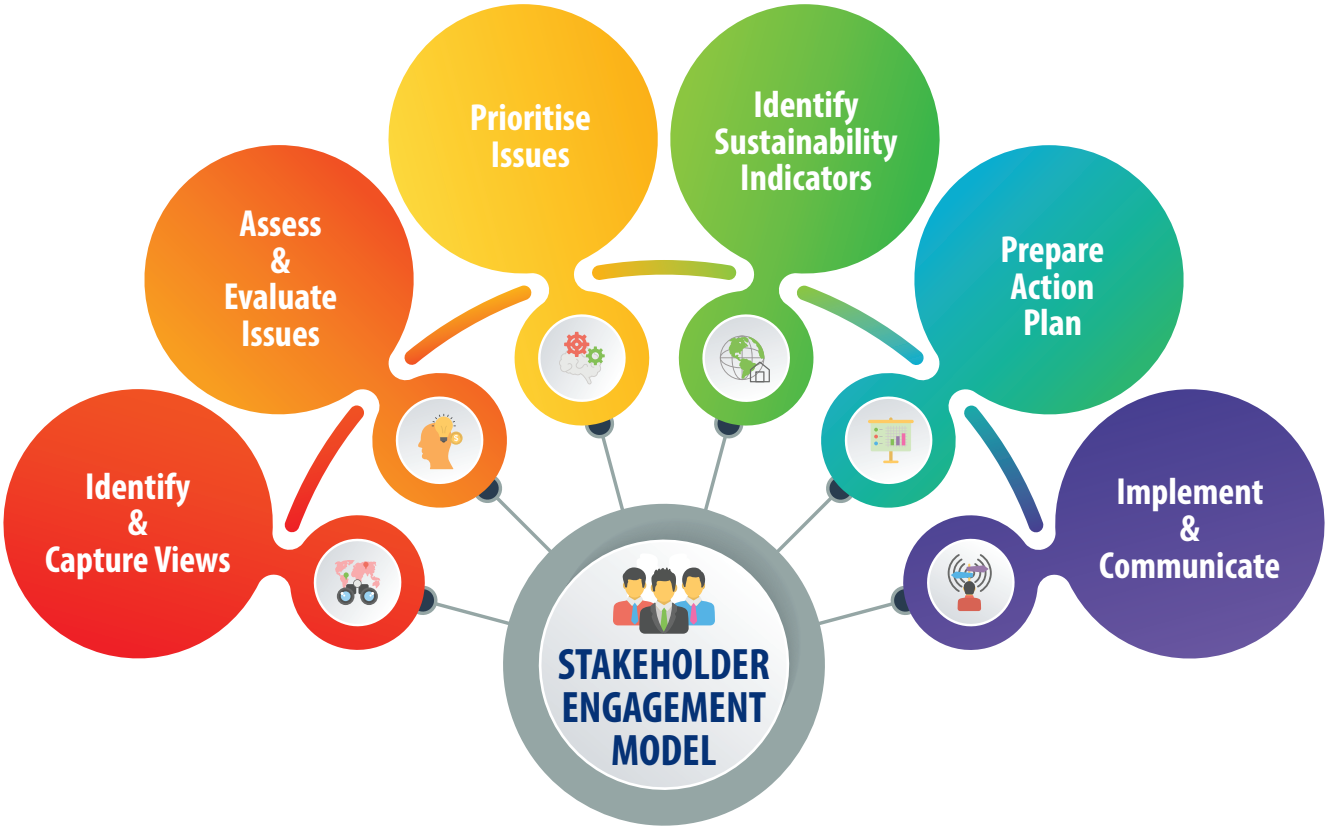
Celebration of Vigilance Awareness Week

Integrity Pledge Being Taken

Bonding with Stakeholders

Chairman SAIL interacting with Stakeholders

Stakeholder Engagement Model



Multi-stakeholder engagement initiatives are an integral part of the Company's growth strategy, as well as an effective communications channel. The well framed stakeholder engagement activities provide opportunities to identify risks and develop management plan for integration into Company's strategy.

The identification of the various stakeholders is largely based on their material influence on the business strategy and sustainability vision of the Company. The desk research (documentary analyses) of the by and large context, community need assessment, benchmarking against peers, interviews with key personnel within the organization are also done to identify the vulnerable and marginalised stakeholders. SAIL heartily search to strengthen the alliance with stakeholder groups like government, shareholders, employees, customers, suppliers, community, NGOs, academics, consultants, competitors, financial institutions etc.

Over the period of several decades the stakeholder feedback mechanisms at SAIL have evolved and grown in to a robust one. The occurrence of engagement with the stakeholder groups varies from daily interaction with employees to Annual General Meetings (AGM) for shareholders.

Engagement with Stakeholder

COMPLETENESS	MATERIALITY	RESPONSIVENESS
• Knowing & Understanding Stakeholders • Transparent & Balanced Reporting	• Assessing Significance to Stakeholders & Management • Deciding what to report	• Connecting & responding • Providing Access to Information

(102-42)

Stakeholder Engagement Process at SAIL

Stakeholder Groups	Sub-Groups	Engagement Mechanism	Concerns / Perceptions	Accrued Benefits
Shareholders	• Government • Institutions • Insurance Companies • Individuals	Annual General Meetings, Quarterly and half-quarterly reports to shareholders, investors meets, investor grievance redressal, etc.	Profitability of the Company, Creation of wealth, Stock Price, Grievances and Complaints	Creation of wealth for Shareholders
Employees	• Regular • Contractual	Labor Unions, Bipartite & Tripartite Meetings, Departmental & Zonal Committee Meetings, Various Platforms for Dialogues & Communication, Chairman and D I/c 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
Suppliers	• Ancillaries • Bulk Suppliers • Vendors	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
Customers	• Institutional • Retail	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
Community	• Urban • Rural • Indigenous Communities	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
NGO's	• Local • National	Visit 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
Regulators	• Central Government • State Government • Local Bodies	Meetings with Central and State Govt./ 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
Competitors	• Local • International	Knowledge sharing, Partnership with value creation, Anti competitive behaviour, Consumer privacy	Fair business, Partnership, Public policy advocacy	Knowledge sharing, Best practices, Ethical Business
Industry Associations	• WSA • CII • FICCI • IIM, etc.	Conferences, Workshops, Seminars	Industry Policy, Regulations, Technology, Environment, CSR, Business Excellence, Climate Change	Knowledge sharing, Public policy advocacy, Best practices
Academic Bodies	• Institution • Research Labs	Conferences, Workshops, Seminars	Knowledge Management, R&D activities, Partnership for value creation	Knowledge sharing, New Technology
Professionals / Consultants	• Local • International	Visit to Plants, Seminars, Conferences, Interactions	Partnership with value creation, Training and development	Knowledge building, Value creation, Collaboration
Media	• Local • National	Press Meets, Interactions with Plants & Corporate Communications	Economic, Environmental and Social performance Achievements	Transparency and communication

Feedback from Stakeholders

SAIL uses numerous modes to engage with it's both internal and external stakeholders in a constructive manner and to consciously captures their expectations. Interaction with suppliers allows the Company to recognize focus areas and strengthen relationship with them. Customer Satisfaction Index and Employee Satisfaction are few of the metrics methodologies are adopted to gauge and quantify the stakeholder feedbacks. The outcomes of the feedbacks received is integrated into the organisation's medium- and long-term strategy and planning. The Company effortlessly strive to meet the identified goals for the shared growth of the Company and society.

(102-40, 102-43, 102-44)

On the other hand, customer feedback goes into forming basis for product improvement, products and services development necessary for customer retention, market penetration and growth.

Materiality Assessment Process

The identified material issues during the previous year are retained for the current reporting period, the last materiality assessment was done through the survey forms. For inclusivity, most pertinent internal and external stakeholders from Plants, Mines and Unit were approached and due importance was paid to the views of the stakeholders with regard to looming sustainability challenges (viz. climate change, the environmental impact of the operations, the importance of diversity within businesses, the welfare policies for employees in pandemic catastrophic situation as well as the growing and strategic importance of digital innovations for business continuity etc.) for mapping materiality issues. For the present report, the reporting boundary for all topics has been restricted to the operations of SAIL.

The material issues identified in materiality assessment exercise and their corresponding linkage to GRI topics and reference are mapped in the following table:

Issues identified during Stakeholder Engagement	Linkage with GRI Topic	Page in Report
Enhancing profitability & growth	Economic Performance	38
Increasing customer satisfaction	Marketing & Labeling	64
Providing fair and equal wages	Market Presence	80
Enhancing employee productivity	Training & Education	84
Curtailing operating cost and encouraging cost saving	Economic Performance	38
Managing resources and conserving minerals	Materials	57
Conserving biodiversity and land rehabilitation	Biodiversity	58-59
Conserving water by recycling and reusing	Water & Effluents	52-54
Reducing greenhouse gas emissions & carbon footprint	Emissions	50-52
Health and safety of employees, process safety and emergency preparedness	Occupational Health & Safety	67
Managing waste by recycling, reusing, recovering and reducing	Waste	55
Enhancing energy efficiency and adopting renewables	Energy	42-44
Preventing corruption	Anti-Corruption	28
Enhancing employee satisfaction	Labor/Management Relations	79
Providing healthcare to Community	Local Communities	88

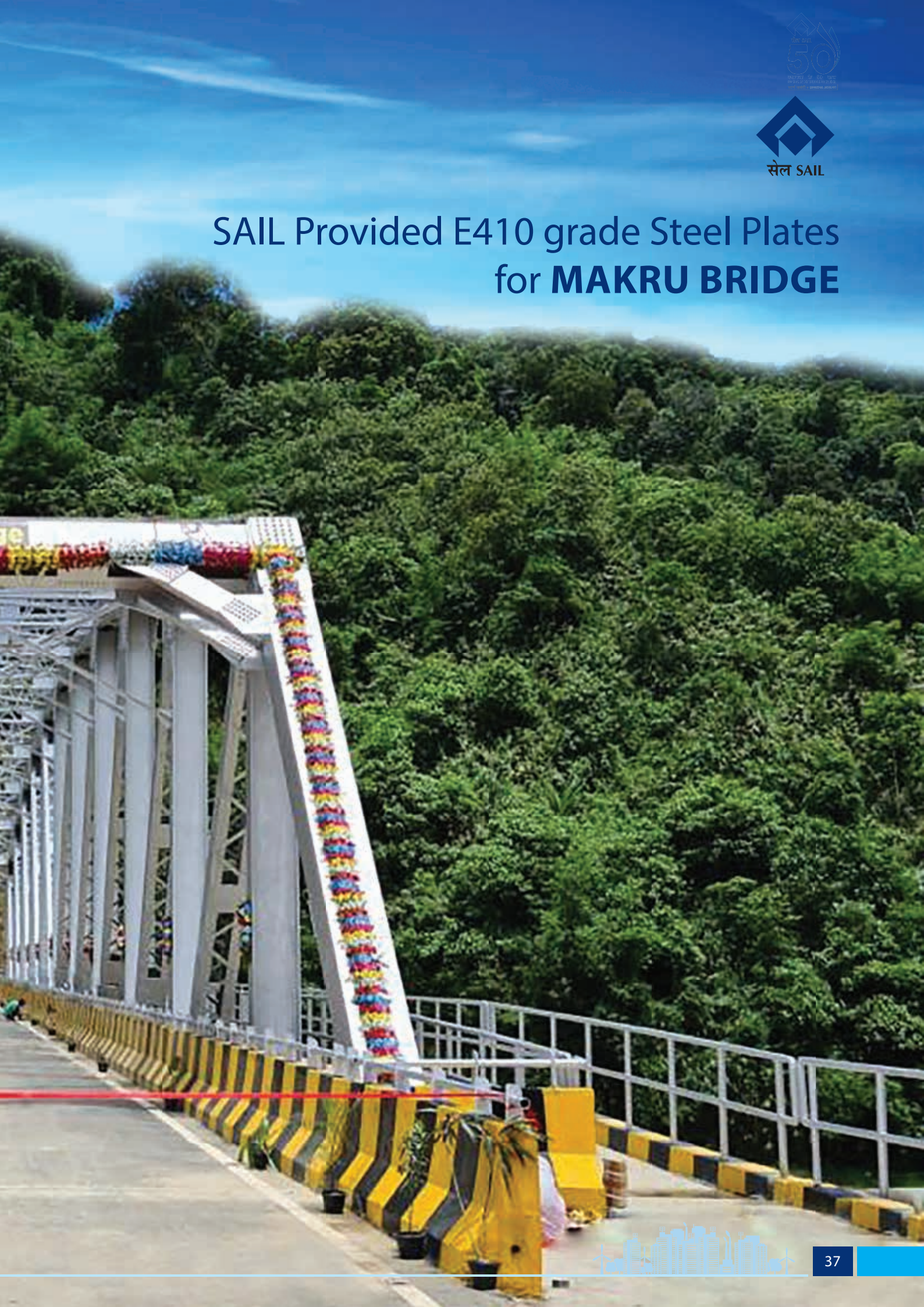
View of Bhilai Steel Plant

(102-46, 102-47)

Materiality Matrix

(102-47)


Makru



SAIL Provided E410 grade Steel Plates for **MAKRU BRIDGE**

Economic Sustainability

In 2021, recovery from the pandemic shock turned out to be stronger than expected, despite continuing supply chain issues and Covid waves. The world finished steel demand grew by 2.7% to reach 1833.7 MT. However, a sharper than anticipated deceleration in China steel demand dampened the steel demand growth in the same period. The World Steel Association forecasts that steel demand will grow by 0.4% in 2022 to reach 1,840.2 MT and shall be 1,881.4 MT in 2023 with envisaged growth rate of 2.2%.

The expectation of a continued and stable recovery for world steel industry from the pandemic, has been shaken by the war in Ukraine and rising inflation. The unending Russia-Ukraine war has changed market dynamics and has led to supply gaps, resulting into widespread volatility in the commodities market and also given rise to inflationary pressures across most economies. However, still it is also believed that steel demand shall continue to grow, though continuing Covid impact and geopolitical tensions have presently slowed the growth rate.

The Financial Year 2021-22 was a historic year for Indian Steel industry. India's domestic steel prices hit record levels during the year, backed by high international steel prices, increased export opportunities and also due to high cost of production due to rising raw material prices. As per WSA Short Range Outlook, April, 2022 India's Finished Steel Consumption, which had touched 106.1 MT in 2021, is expected to reach 114.1 MT in 2022, growth of 7.5% and then to 120.9 MT in 2023, with a growth of 6%. As per JPC, Indian Finished Steel Exports during the Financial Year 2021-22 were a record at 13.49 MT, up by 25.1% as compared to previous financial year. India's finished steel consumption during the year was also up by more than 11.1% as compared to CPLY.

For the future, economic recovery programs across the Globe are expected to drive infrastructure investment and construction activities. India will continue to get opportunities to service the gap, more so since geo-political leanings are currently in favour of the Country. Withdrawal of Covid restrictions and normalisation of the economy has led to a broad based recovery in most sectors. Infrastructure and manufacturing initiatives by the Governments are also supportive of the growth. Realignment of global supply chains will provide opportunities to grow exports. To support the pandemic-hit economy, the Government of India approved a relief package of ₹ 6.29 lakh crore and has stepped up the budget for FY 2022-23 by 35.4% to ₹7.50 lakh crore for strengthening the Infrastructure sector .

Considering the dynamic in steel business environment, the Government of India launched the National Automobile Scrappage Policy for end of life vehicles which in one hand will help in abatement of environmental pollution & also support the increase of domestic availability of scrap . To focus on strengthening of domestic manufacturing under 'Atmanirbhar Bharat Abhiyan', the Government of India introduced 'Production Linked Incentive Scheme' to encourage the manufacturing industries. PLI schemes in steel sector will increase the presence of Indian Steel makers in Speciality Steel Segment.

In India, from fiscal year 2020 to fiscal year 2025, sectors such as energy, roads, urban development and railways will take up around 70% of the projected capex. This fresh investment in power, railways, and water, coupled with renewed interest in the automobile sector is bound to bring in fresh demand for steel. Moreover, the wide range of ongoing infrastructure projects and unveiling National Infrastructure Pipeline (NIP) projects spreading across 18 states are likely to keep up the steel demand in the Country.

SAIL took various initiatives during the FY 2021-22 for sustaining and consolidating its position as the leading steel producer of the Country by delivering world class products.

Several strategic actions in key areas such as optimizing coal blend, improvement in yields, reduction in coke rate, enhanced concast production, maximizing use of in-house engineering shops resulted in improvement economic indicators during the year. Positive outlook of credit ratings is an outcome of robust fund management practices. The comparative performance of major financial parameters of last three during the financial years is given below:

All Value in ₹ Crore

Particulars	2019-20	2020-21	2021-22
Gross Turnover (Direct Economic Value Generated)	61,024.88	68,452.34	1,02,805.13
Net Turnover	61,024.88	68,452.34	1,02,805.13
Cost of Material consumed including bought out goods	29,212.87	23,136.17	42,776.46

(103-1, 103-2, 103-3, 201-1)

Particulars	2019-20	2020-21	2021-22
Employee Wages & Salaries	8,781.32	10,445.94	12,846.24
Payments to Providers of Capital			
Interest (Finance Cost)	3,487.00	2,817.00	1,697.88
Interest (Capital-Expenditure During construction)	740.00	549.00	193.53
Dividends	0.00	1,157.00	3,614.21
Community Investments (CSR Expenditure)	27.56	47.18	94.24
Contribution to Government / Exchequer	12,541.00	12,947.00	24,302.00
Operating Profit	7,429.00	9,638.00	18,090.01
Profit After Tax	2,021.54	3,850.02	12,015.04
Income Retained in Business	2,021.54	2,694.00	8,400.83

During the Financial Year 2021-22, the Company achieved its best ever Saleable Steel sales volume of around 16.152 million tonnes (MT), registering a growth of about 8% over previous year and 13% over 2019-20. Continuing its efforts to enhance presence in the international markets, the Company exported about 1.349 MT of various product categories, gaining access to several new markets, besides retaining existing markets. During the FY 2021-22, the Company has achieved significant reduction in borrowings of the Company; which was ₹ 17,284 crore as on 31st March 2022 vis-à-vis ₹ 37,677 crore as on 31st March 2021. (INDAS)

Growth Opportunities and Challenges

As per Indian Steel Association, amid the Russia-Ukraine crisis, coking coal prices will see a steady increase, which will in turn impact the cost of steel production. Both Russia and Ukraine are net exporters of steel, cumulatively to the tune of almost 40-45 MTPA which will affect international steel availability and give a chance to Indian steel producers to increase exports and will also support domestic steel prices in the short term. However, imposition of export duties by Government of India to bring the stability in the domestic steel market on exports of Iron Ore/ Pellets, Pig Iron and Finished Steel, has created new uncertainties for Indian Steel Producers. The move has affected Indian exports and domestic steel prices. No tax has been imposed on exports of semi-finished steel, which has given some leeway for steel exports, and also abolition of import duties on Coking Coal is a relief measure to domestic steel industry.

The cost push from volatile raw material prices shall continue to remain a concern for the industry and will need to be watched carefully. The need to transition to lower carbon routes of steel production shall drive technological upgradation, innovation and investment across the Globe, as will the increasing demand for electric mobility solutions.

The accelerated push from the policies proposed by the new Government regarding steel intensive segments such as infrastructure, capital goods and construction, stepping up capital expenditure, the outlook for the steel industry remains bright.

From the forecast of leading rating agency it can be inferred that the construction sector is major driver of steel demand, increase in government spending on infrastructure projects and growth in real estate segment will further drive it up. The automobile sector and consumer durables segment are expected to see healthy demand further enhancing the steel demand. Moreover, steel demand from capital goods, construction machinery, mining equipment, and electrical machinery is expected to show strong recovery. The growth in the railways, important steel using sector for SAIL, has been strongest in last few years and the trend is expected to continue in coming few years.

While there will be efforts for economic revival in 2022, there are some challenges the steel industry may face like high logistics costs, high finance costs, and levies outside GST, including royalty, District Mineral Fund, Electricity Cess, and Clean Energy Cess. Environmental costs are getting higher with gradual stringency in environmental regulations & norms and monitoring requirements like implementation 'Zero Liquid Discharge', limiting dust emission to 30 mg/Nm^3 from stacks and installation of online continuous emission/effluent monitoring systems (OCEMS) & linking to servers of regulatory agencies.

Moreover, as the threats posed by the global climate change are more visible and prominent, it has become eminent to gradually move towards net zero carbon emissions from steel making. This shall require huge investment in R&D and installation of low carbon emission technologies like hydrogen steel making and carbon capture utilisation and storage (CCUS).

(103-1, 103-2, 103-3, 201-1)

Research & Development

Research and Development Centre for Iron & Steel (RDCIS) of the Company is India's premier research organization in the field of ferrous metallurgy. Recognizing that development and assimilation of new technologies & process innovations are basic tenets for sustainable growth, SAIL has given thrust for its R&D efforts through its well equipped R&D Centre located at Ranchi. It has more than three hundred diagnostic equipment and adequate pilot facilities under fifteen major laboratories. The Centre undertakes research projects encompassing the entire spectrum of iron & steel starting from raw materials to finished products. In the year 2021-22, 62 R&D projects were completed with substantial benefits to the Organization.

Apart from Annual Performance Plan projects, 32 Short Term Assignments (STAs) were also carried out by RDCIS to investigate technical issues and suggest remedial measures for key concern areas in the Coal, Sinter Plant, Blast furnace, Steel, Refractory and Rolling Mills, etc. RDCIS also pursues pioneering work in the area of development of niche products as per market requirements aiming at superior performance based on application. In its pursuit for excellence in various research fi elds, RDCIS enters into collaboration mode of research in specific areas with renowned research institutions and academia. During the year 2021-22, on collaboration assignment have been completed with C-DAC, Thiruvananthapuram, where model was developed and implemented for breakout prediction system for Continuous Casters.

During the year 2021-22, eleven products have been developed and some of the noteworthy products include high strength high GSM galvanised steel, low carbon (Si killed) formable quality electrical stamping steel, API X 70 line pipe hot rolled steel coils, high strength high toughness quenched and tempered wear and abrasion resistant steel plates, export quality (CE marked) structural steel, high phosphorous CRNO electrical steel, special quality wire rod for cable armour and automotive components.

The efforts of RDCIS engineers and scientists have culminated in filing of 14 patents and 9 copyrights (in association with SAIL Plants) during 2021-22. As many as 49 technical papers were presented in seminars/symposia/ conferences and 65 papers were published in prestigious journals.

Modernisation & Expansion Plan

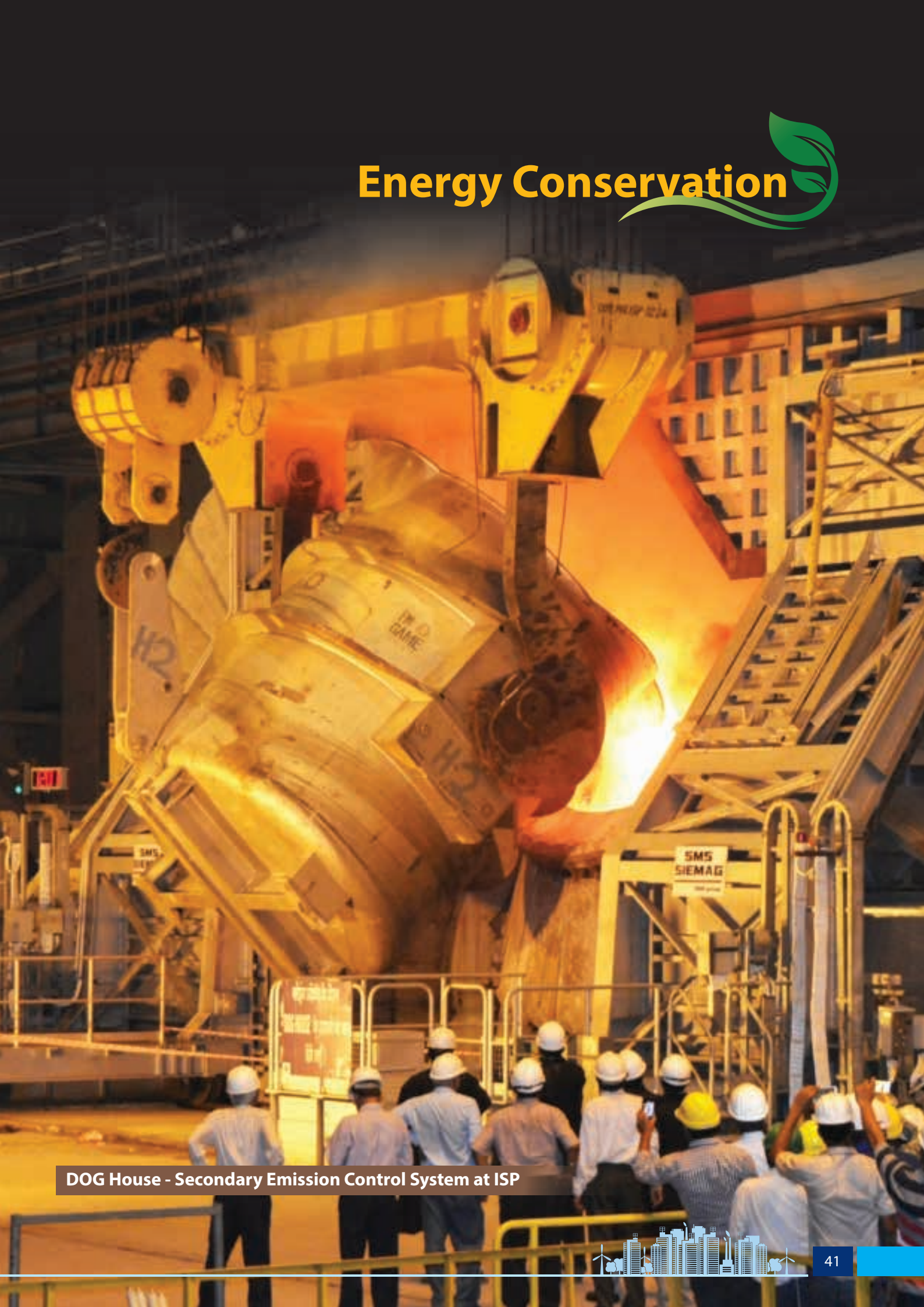
The Modernisation and Expansion Plan (MEP) at Rourkela, Burnpur, Durgapur, Bokaro and Salem Steel Plants and all major facilities under MEP of Bhilai Steel Plant have been completed. The various facilities are under regular operation.

A capital expenditure of ₹ 6,013 crore has been incurred during FY 2021-22 against the revised estimates of ₹ 8,000 crore and capex planned for the Financial Year 2022-23 is also at ₹ 8,000 crore. AMR schemes costing around ₹ 5,000 crore were under implementation during financial year 2021-22 in different Plants of the Company. Further, out of these following projects worth about ₹ 500 crore have been completed during the year 2021-22:

- Upgradation of Stoves for Blast Furnace-4 at BSP.
- Treatment & Recycling of waste water of Outlet-C at BSP.
- Power Evacuation for 2x20 MW New Power Plant at DSP.
- Replacement of Converter shells together with Bottom Stirring System &
- Installation of Secondary Emission Control in all the three Converters of SMS at DSP.

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

Energy Conservation

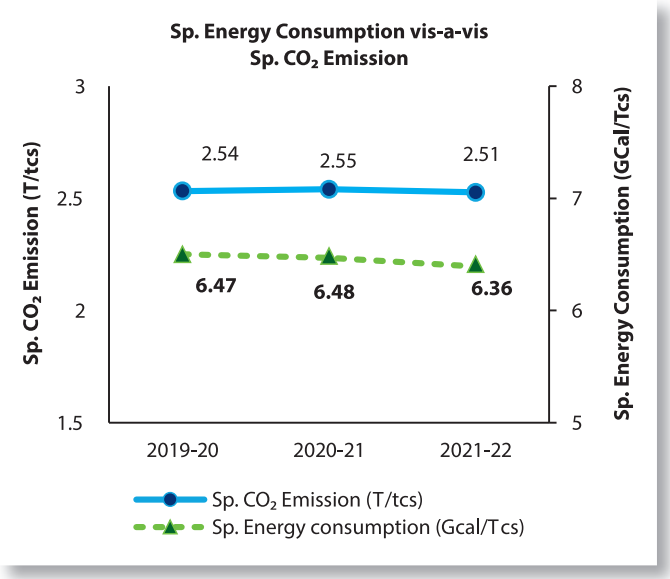


DOG House - Secondary Emission Control System at ISP

Energy efficiency and low carbon growth have emerged as key pathways to reduce the nation's energy intensity and emissions intensity. In consonance with this, the Company is taking relentless efforts to curb impacts of climate change by promoting energy conservation, CO_2 emission reduction and improvement in resource efficiency throughout the entire Iron & Steel making process.

Phasing out of old energy intensive units, maximising Coal Dust Injection, utilisation of By product gaseous fuel, process optimisation initiatives such as ramping up production etc. coupled with adoption of various state-of-the-art clean and energy efficient technologies like Coke Dry Quenching facilities, high capacity Blast Furnaces with Top gas pressure recovery turbine, energy efficient mills with walking beam type reheating furnaces, waste heat recovery from Sinter coolers, energy efficient motors and VVVF drives have resulted in energy efficient operations. During the year, the Company has generated around 39.58 MW of power from waste heat generated from CDQ and TRT facilities.

Research & Development Centre for Iron & Steel (RDCIS) of SAIL is continually exploring different avenues for energy efficiency. Every Plant of SAIL has dedicated "Energy Management Department" to minutely monitor, analyze the energy consumption of sub-process/operations and to envisage Plant specific energy conservation measures for implementation. The efforts have resulted in significant savings in terms of cost as well as energy.



In line with Government of India's recent enhanced ambitions at COP26, SAIL re-affirms its commitment to substantially reduce CO_2 emission and increase share of renewable/non-conventional energy by 2030 through implementation of phase wise decarbonisation road map, primarily focussing on energy efficiency, resource efficiency and energy transition through maximising renewable energy in the energy mix.

SAIL recorded the best ever specific energy consumption at 6.36GCal/tcs for the period 2021-22 owing to continual concerted efforts during the reporting period.

SAIl has a target to reduce its CO_2 emission intensity by more than 25% by 2030 from the base year of 2005-06.

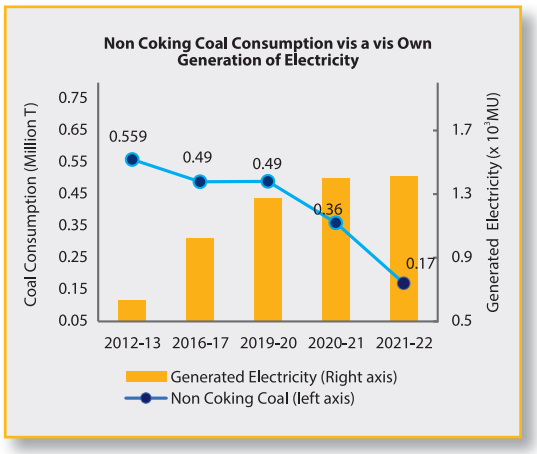
BOF Gas Holder at ISP

(103-1, 103-2, 103-3, 302-1)

Power and Fuel consumption

(This include the energy consumption in SAIL Integrated Steel Plants, Special Steels Plants, SRU and Mines)

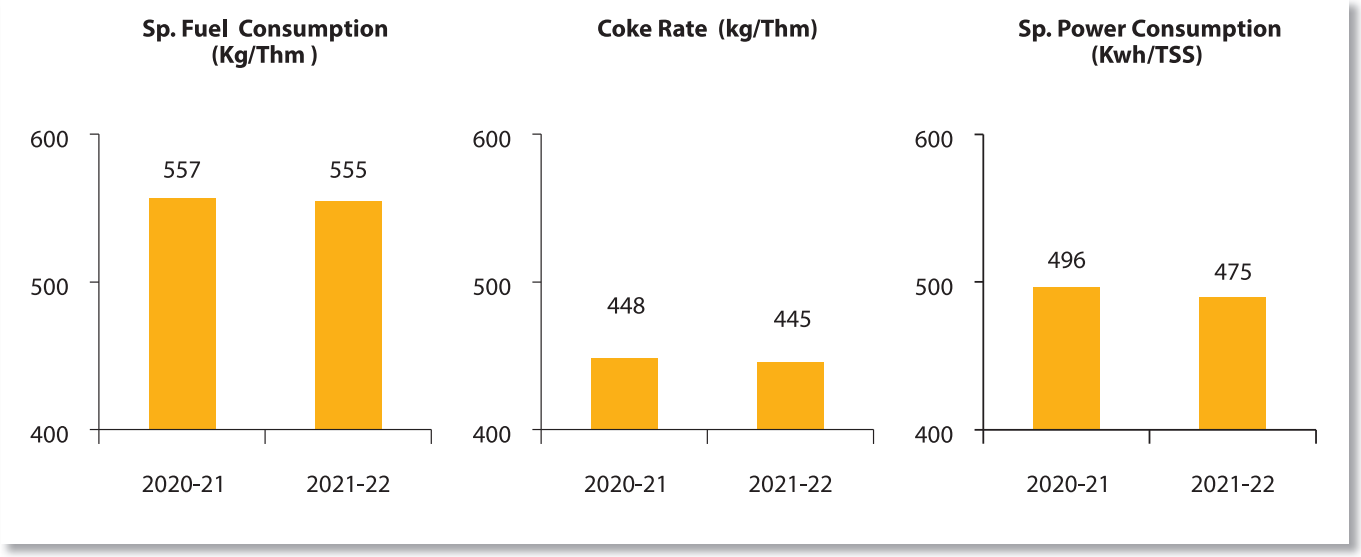
Power & Fuel Consumption	2021-22	
	Quantity	Energy in TJ
Electricity		
Purchased Electricity (MUs)	9,264	1,19,042
Generated Electricity (MUs)	1,412	18,144
Coal		
Coking Coal including CDI (Million Tonne)	15.92	4,48,944
Non Coking Coal(Million Tonne)	0.175	3,325
Furnace Oil (1000 KL)	16.45	684



Over the years SAIL is giving emphasis on maximising recovery of By product gaseous fuel and use it for Power Generation and supply of heat for internal use.

Details of Total Energy Consumption (in Terra Joules) and Energy Intensity (TJ/ ₹ Crs.)

Parameter	2020-21	2021-22
Total Electricity Consumpiton– (A)	1,24,940	1,37,186
Total Fuel Consumption (Coking Coal including CDI) B1	4,02,696	4,48,944
Total Fuel Consumption Non Coking Coal (B2)	6,840	3,325
Energy Consumption through other sources (C)	946	684
Total Energy Consumption (A+B+C)	5,35,422	5,90,139
Turnover (₹ In cr)	68,452	1,02,805
Energy Intensity per ₹ of Turnover (TJ/ ₹ Crs)	7.82	5.74



Carbon Dioxide (CO_2) Emission Intensity

CO_2 is the major Greenhouse gas emissions from Iron & Steel Making. SAIL has been calculating CO_2 emissions as per the methodology developed by the Worldsteel Association. The methodology is devised as per the published international standard ISO 14404:2013 – calculation method of CO_2 emission intensity from iron and steel production.

(103-1, 103-2, 103-3, 302-1)

Scope 1 and Scope 2 Emissions & its intensity

Parameter	Unit	2021-22	2020-21
Total Scope 1 emissions	Million Tonne	45.31	40.42
Total Scope 2 emissions	Million Tonne	3.3	2.4
Total Scope 1 and Scope 2 and other credit related emissions from co-products per rupee of turnover	T/₹ in Cr.	418.8	560.9
Total emission intensity (Scope 1, Scope 2 and credits from Co-products)	T/Tcs	2.51	2.55

Efforts Towards Renewable Source of Energy

As a responsible corporate house, SAIL has laid adequate emphasis on development and usage of renewable power sources. SAIL has implemented many schemes for promotion of renewable energy in its Plants, Mines and Peripheral villages/areas. Most of the SAIL guest houses and hospitals are equipped with solar water heaters/solar lighting systems. Following solar power projects have already been implemented in recent years:

- 1 MW ground mounted Solar Power Plant connected with electrical grid system of the State Electricity Board at RSP
- Grid connected 2 MW roof-top solar units have also been set-up in BSL plant premises by M/s BSPCL (JV Company of SAIL and DVC)
- 0.360 MW Roof top solar power units on Guest house and Hospital building of BSP & ISP respectively.

In addition, following renewable energy projects/schemes are presently under progress:

- 10 MW Hydel Power Plant at Mandira Dam of RSP
- 6.195 MW roof-top solar units on different buildings of SAIL plants, warehouses and offices under Ministry of New and Renewable Energy (MNRE) scheme. Installation of 2.04 MW solar units has already been completed

Many other schemes are under installation at Plants and Mines and expected to be completed shortly.

Solar Energy Projects across India

(103-1, 103-2, 103-3, 302-1)

Switching over to LED Illuminating System

SAIL Plants and Units are gradually shifting to more energy-efficient and durable LED lighting system from conventional lighting system in consonance with the Government of India's initiative "UnnatJyoti by Affordable LEDs for All (UJALA) Scheme". More than 1.75 lakh LED lights have already been installed all across SAIL.

Perform Achieve & Trade (PAT)

Under National Mission for Enhanced Energy Efficiency (NMEEE), the scheme of Perform Achieve and Trade (PAT) is a regulatory instrument to reduce specific energy consumption in energy intensive industries. Perform Achieve and Trade in its first cycle ((2012-13- 2014-15) was designed to reduce the specific energy consumption (SEC) in energy intensive sectors under which 478 DCs from 8 sectors viz. Aluminium, Cement, Chlor- Alkali, Fertilizer, Iron & Steel, Paper & Pulp, Thermal Power Plant and Textile have been included.

PAT Cycle II was notified with effect from 1st April, 2016 and was completed on 31st March 2019. Under this cycle, SEC reduction targets were notified to 621 DCs from 11 energy intensive sectors (eight sectors and three new sectors namely Refineries, Railways and DISCOMs). SAIL has taken up all necessary actions to comply with the PAT Targets and cooperated for conducting smooth auditing/verification process.

Energy Conservation Rules, 2012 (PAT Rules 2012) notified on 30th March 2012 by Ministry of Power, has specified that the ESCerts to be issued/entitled to purchase will be in electronic form and tradable on Power Exchange. Escerts issued to SAIL after successful verification of PAT Cycle II amounts to 92,662.The trading shall be completed soon.

SAIL is geared up to improve the energy efficiency and meet individual targets assigned to Integrated Steel Plants in PAT Cycle –VII, that has been notified in October 2021 for the period 2022-23 to 2024-25.

Participation in Worldsteel Life Cycle Inventory Study

During the year the Company has participated in the Worldsteel Association LCI study data collection Programme that provide support on the environmental credentials of steel products. It also helps the steel producers to develop a baseline for a system's overall resource requirements for benchmarking efforts, Identify components of the process that are good targets for resource-reduction efforts, aid in the development of new products or processes that will reduce resource requirements, emissions,improves energy efficiency etc.

Major Energy Conservation Measures during 2021-22

Bhilai Steel Plant (BSP)

a) Waste heat recovery from hot coke in Coke Dry Cooling Plant (CDCP) facility, resulting in generation of 11.28 GWh power from Back Pressure Turbine Generator (BPTG) in Coke Oven Battery (COB) 11.

b) Increase in conversion of high top-gas discharge pressure to electrical energy in Blast Furnace (BF) # 8 resulting in highest ever generation of 89.53 GWh of power through Top-pressure Recovery Turbine (TRT). Previous best TRT power generation of 78.95 GWh was achieved in 2020-21.

c) Best ever production of crude steel from SMS-3 at 2.726 Mt, surpassing previous best of 2.213 Mt achieved in 2020-21.

d) Best ever average power generation in Power & Blowing Station (PBS) 2 of 22.8 MW surpassing previous best of 19.0 MW in 2020-21, resulting in increased generation of captive power of 313.8 GWh from Captive Power Plants (PP 1 & PBS 2 together) compared to 301 GWh in 2020-21.

e) Best ever average Coal Dust Injection (CDI) rate of 83.8 kg/thm achieved in BFs 1-8.

f) Installation of Variable Voltage Variable Frequency Drives (VVVFDs) in 3 nos. of Combustion Air blowers of BF-6 has resulted in annual energy saving of 3.54 GWh

Durgapur Steel Plant (DSP)

a) Maintaining the feed material for Wheel & Axle Plant from Bloom and Round Caster rather than through ingot route, resulting in second highest ever ratio of Crude Steel production through CC route of 97.4 %. Previous best ratio of Crude Steel production through CC route was 97.5 %, achieved in 2020-21.

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

b) Annual Best Medium Structural Mill production of 0.437 Mt resulting in lowest ever Specific Energy Consumption for the shop.

c) Successful completion of shell and hood changing at Converters #1 & #3 enabled achievement of highest ever Crude Steel production of 2.23 Mt

d) Replacement of conventional 2 nos. 400 W HPSV lights with 350 W LED fittings in 6 nos. Himast towers, replacement of 300 nos. 250 W / 150 W street lights with 120 W LED fittings, conversion of lighting of 4 nos. substations to LED lighting and revival of defunct HPSV Tower lights of PCM with LED Flood lights,resulting in saving of an equivalent amount of power consumption.

e) Installation of Variable Voltage Variable Frequency Drives (VVVFDs) in following areas:

- One no. of 30 kW motor of Ram Car-9 Leveller at Coke Ovens
- One no. of 80 kW motor of Ram Car-9 Pusher at Coke Ovens
- Four nos. of 15 kW motor of Charging Car 2 LT at Coke Ovens
- Two nos. of 18.5 kW motor of Charging Car 2 Screw Feeder at Coke Ovens
- Two nos. of 18.5 kW motor each of 1 Mt & 1.6 Mt CHK Screens at Coke Ovens
- 7.5 kW VVVFDs in stand #2, #3, #4 & #5 (total 16 drives) of Billet Caster #1

Rourkela Steel Plant (RSP)

a) Waste heat recovery from hot coke in Coke Dry Cooling Plant (CDCP) facility, resulting in generation of 30.64 GWh power from Back Pressure Turbine Generator (BPTG) in Coke Oven Battery (COB) – 6 along with increased generation of 0.388 Mt (compared to 0.375 Mt in 2020-21) of medium pressure steam.

b) Increased conversion of high top-gas discharge pressure to electrical energy in Blast Furnace (BF) # 5 resulting in increased generation of 117.8 GWh of power through Top-pressure Recovery Turbine (TRT) (compared to 107 GWh in 2020-21).

c) After modification in BF gas pipeline to increase BF gas collection at BF – 5 and also to increase BF gas flow from the old zone to COB # 6 in the expansion unit, BF gas utilisation increased to an estimated 172 x 106 Nm3 from 90 x 106 Nm3 in 2020-21.

d) Repair and replacement of vertical skid post of reheating furnace of New Plate Mill resulting in reduction of fuel consumption by 12 Mcal/t of slab rolled.

e) Up-gradation of 6 nos of cooling tower in in Site-A and Site-C of Coal Chemicals Department (CCD) resulting in power saving of 473 MWh.

Bokaro Steel Plant (BSL)

a) Complete phasing out of Slabbing Mill; thereby eliminating production through the energy-inefficient ingot route. A saving of 0.045 Gcal/tcs of energy is estimated.

b) Commissioning of energy efficient SMS 1 and LD gas holder system of SMS 2.

c) Replacement of inefficient recuperators of Reheating Furnaces #2, #3& #4 and insulation of corresponding hot air lines.

d) Reclamation of around 1,000 T tar from coal-tar storage tank of By-product Recovery Plant.

e) Two Induced Draught Fans and other high rated drives of SMS 1 were commissioned with Variable Voltage Variable Frequency Drives (VVVFDs)

f) Additional VVVFDs installed in all drives of Emulsification and Hydraulics system at Tandem Mill 1 of CRM – 1 & 2.

g) Replacement of more than 1,000 nos. of Sodium Vapour Lamps of 250 W each with 150 W Light Emitting Diode lights

h) Liquidation of 30 nos of steam leakages, insulation of 400 m long steam line & replacement of 40 nos steam traps.

IISCO Steel Plant (ISP)

a) A dedicated CO gas pipeline has been laid to utilise excess CO gas from old plant into reheating furnaces of mills in the new plant. This has resulted in highest ever utilization of excess available CO Gas and reduction of purchased CBM gas consumption by an estimated 19.33 x 106 scm.

b) Installation of 100 kWp, Rooftop Solar Photo-Voltaic system, resulting in reduction of not only an equivalent amount of purchased power, but also the carbon footprint of steel thus produced.

c) Increase in conversion of high top-gas discharge pressure to electrical energy in Blast Furnace (BF) # 5 resulting in highest ever generation of 97.95 GWh of power through Top-pressure Recovery Turbine (TRT).

d) Increase in waste heat recovery from hot coke in Coke Dry Cooling Plant (CDCP) facility, resulting in highest ever steam generation of 0.586 Mt in Coke Oven Battery (COB) 11.

Coil Rolling at RSP

SAIL is signatory to ***Sustainable Development Charter*** that affirms commitment of worldsteel members to adopt sustainability as a core business practice.

worldsteel ASSOCIATION

Steel Authority of India Ltd. (SAIL)

CLIMATE ACTION Member
worldsteel ASSOCIATION
5-year member recognition

In recognition of your participation in the worldsteel CO_2 data collection programme 2020-2021.

Edwin BASSON
Director General

YU Yong
worldsteel Chairman

Environmental Performance

SAIL, a leading steel maker and a responsible corporate entity is carrying out all its operations with an aim to promote clean, green and sustainable growth. **SAIL's Corporate Environmental Policy advocates to "Protect the environment by integrating sound environmental practices for control and prevention of pollution from all its activities" and to "Contribute towards mitigation of climate change through the adoption of measures to reduce emission of greenhouse gases, enhancing green coverage, adopting energy efficient technologies, enhancing use of green energy."** SAIL Plants and Units have the robust environment management systems and adopted the latest technologies for conservation of energy and prevention of environmental pollution.

Energy conservation, resource optimization, biodiversity protection and eco-restoration are the measures taken by SAIL on continual basis towards environment management at all its Plants & Mines.

SAIL gives emphasis on environment along with production and profitability and considers clean environment practice as mandatory for its every industrial activity. SAIL Plants and Mines operate its processes without disturbing the ecological balance and within the ambit of notified environmental standards for air emission, water discharge and noise pollution and rules pertaining to eco-friendly management of various wastes generated inside the factory premises and the townships as well. The Corporate Environmental Policy emphasizes conducting our operations in an environmentally responsible manner to comply with applicable regulations and striving to go beyond.

None of the operations at SAIL is carried out without having a valid Environmental Clearance (EC) and Consents. All efforts are put for compliance to the conditions stipulated in the EC & Consents. Six monthly EC compliance report is submitted to the Ministry of Environment, Forest and Climate Change (MoEF&CC) and also uploaded on the company's web portal on regular basis.

Strict surveillance of the key environmental parameters as per the statutes is carried out through NABET accredited environmental laboratories as well as through real time monitoring of environmental parameters with the help of online monitoring systems and same is linked-up with the servers catering to the State Pollution Control Boards as well as the Central Pollution Control Board.

Creating environmental awareness and regular monitoring of environmental parameters are fostered to ensure non-occurrence of any untoward environmental incident. Deviations with respect to the commitments laid down in the Corporate Environmental Policy and stipulated conditions in the are reported to the SAIL Board, on quarterly basis.

Various management practices like ISO 9001, ISO 14001, ISO 45001 and SA 8000 have also been introduced at most of the SAIL Steel Plants, Mines and Units.

Meanwhile, SAIL has foreseen and identified key environmental risks and their mitigation strategies, which are appended below:

ENVIRONMENTAL RISKS	MITIGATION STRATEGIES
• Increased global concern for climate change prompting adoption of challenging targets by the Regulators	• Regular adoption of clean technologies to reduce CO_2 emissions
• Operational and Financial risk to the industry in form of carbon taxes, emission caps etc.	• Venturing in environmental protection measures and in the process of fixing up internal carbon price to offset this risk
• Increasing quantity of waste requiring proper management and disposal	• Developing strategies for proper handling, recycling and reuse of waste
• Deteriorating air and water quality as a result of increasing concentration of industries in the vicinity	• Preparing for beyond compliance scenario, greenery development and interaction with statutory bodies.

(102-11)

SAIL is committed to continuously improving its social responsibilities, environmental and economic practices to make a positive impact on the society. The commitment of SAIL towards sustainable development is evident from its conformance to Charter on Corporate Responsibility for Environmental Protection (CREP) requirements. This is a voluntary commitment between industry and MoEF&CC, Government of India and helps steel plants reduce their environmental footprint across the operations. Further as per the Sustainable Development Guidelines issued by Department of Public Enterprises (DPE), the Company has put in place a **Sustainable Development (SD) Policy** and taken up specific SD projects across its Plants, Units and Mines. The Company also strives to integrate its business values and operations in an ethical and transparent manner to demonstrate its commitment towards sustainable development and to meet the interest of its stakeholders.

The technology plan of SAIL lays stress on Clean Technology. During the **Modernization & Expansion Program (MEP)**, SAIL Plants have implemented an array of energy-efficient technologies and state-of-the-art pollution control equipment to further improve upon environmental performance in and around the Plants and Units. Some of these are Coke-Dry Quenching (CDQ) in coke oven batteries, Top Gas Pressure Recovery Turbine (TRT), Cast House Slag Granulation Plants and Cast House De-fuming System at blast furnaces, waste-heat recovery from blast furnace stoves and sinter machines, Secondary Emission Control System in steel melting shops, Walking Beam Reheating Furnace with rolling mills, energy efficient motors and VVVF drives in plant machineries etc.

The environmental organization in SAIL has a specialized and multi-layered infrastructure catering to the diverse environmental implications arising from its multifarious operations ranging from mineral extraction to rolling out finished steel. **The Environment Management Division (EMD),** a corporate unit of SAIL, has been entrusted with the responsibility to monitor and facilitate the environment management and pollution control activities in SAIL Plants, Mines and units. In addition to this, each Plant and Mine has its own environmental set up, manned with qualified officers, for implementation of environmental protection measures.

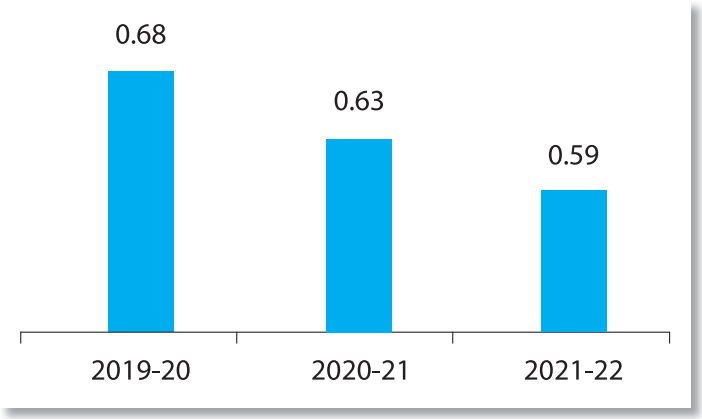
Nodal agency EMD also deals with the issues pertaining to Climate Change, matters related to **Nationally Determined Contribution (NDC)** and solid waste management. SAIL is participating in the **World Steel Association (WSA) CO_2 data collection system** through Global Steel Sector Approach to contain its carbon footprints.

Worldsteel LCI Data Collection Programme: Data from BSP, RSP & BSL, covering 73.54% crude steel production were provided to Worldsteel. LCI data with cradle to gate approach will help to formulate strategy to minimise the environmental footprint of the steel products.

Environmental Performance Indicators

SAIL is committed to contribute towards a clean and sustainable environment and to continually enhance its environmental performance. Curtailing the stack emissions from chimneys has been one of focus areas of action for SAIL. New pollution control equipment of higher capacity is being installed in place of older and obsolete equipment to meet the stricter statutory norms. All the Plants and Units put its sincere efforts towards regular maintenance and consistent operation of pollution control equipment/facilities. As a result, particulate matter emission was limited to 0.59 kg/tcs in the year 2021-22.

Specific Particulate Matter Emission Load (kg/tcs)



(103-1, 103-2, 103-3, 102-11)

Emission of SO_2 is curbed through use of low sulphur coal and desulphurized coke oven gas. For controlling NOx emission, specially designed burners are installed along with implementation of some process related changes. Measures taken to control the emission within the applicable environmental norms has yielded in clean environment in and around the Plants and Townships. The work-zone air quality and ambient air quality of the Plants for the period 2021-22 is given below:

Table: Fugitive Emission of Benzo (a) Pyrene (BaP) (Unit: µg/m³)

Plant	Benzo (a) pyrene (BAP)	
	Battery Area (Top of Battery)	Other units in Coke Oven Plant
Norm	**5**	**2**
BSP	0.30-1.81	0.02-1.80
DSP	0.41-2.12	0.16-0.95
RSP	0.18-0.82	0.17-0.42
BSL	1.99-4.01	0.24-0.68
ISP	0.002-0.006	0.001-0.003

Table: Work-Zone Air Quality at Blast Furnace (Unit: µg/m³)

Plant	Parameters				
	PM	SO_2	NO_x	CO	Lead as Pb in fugitive dust at Cast House
Norm	**3000[1]/4000[2]**	**150[1]/200[2]**	**120[1]/150[2]**	**5000[3]/10000[4]**	**2**
BSP	-/317-2090	-/30-41	-/40-60	920-1728/-	0.10-0.37
DSP	-/204-2370	-/23-43	-/38-53	-/2170-3140	0.07-0.19
RSP	1178-2012/1048-2208	14-43/13-46	36-46/24-47	-/2224-3045	0.05-0.21
BSL	-/1792-3806	-/34-67	-/20-35	-/3728-5532	0.31-0.52
ISP	477-649/-	49-63/-	56-72/-	-/1400-1900	0.02

Note: [1] Norm for new units of Blast Furnace, [2] Norm for Existing units of Blast Furnace
[3] Norm for monitoring on 8 hourly basis, [4] Norm for monitoring on 1 hourly basis

Table: Work-Zone Air Quality at Steel Melting Shop (Unit: µg/m³)

Plant	Parameters				
	PM	SO_2	NO_x	CO	Lead as Pb in dust at Converter Floor
Norm	**3000[1]/4000[2]**	**150[1]/200[2]**	**150**	**5000[3]/10000[4]**	**2**
BSP	-/430-1980	-/35-45	40-56	936-1724/-	0.10-0.39
DSP	-/142-2810	-/25-46	35-52	-/2040-3570	0.10-0.21
RSP	-/1124-3367	-/12-46	34-92	-/2019-3432	0.07-1.02
BSL	-/1615-3877	-/28-62	21-44	-/4862-6012	0.40-0.50
ISP	423-582/-	41-56/-	49-64	-/500-900	<0.02

Note: [1] Norm for new units of BOF converters, [2] Norm for Existing units of BOF converters
[3] Norm for monitoring on 8 hourly basis, [4] Norm for monitoring on 1 hourly basis

Table: Ambient Air Quality (Unit:µg/m³, except BaP, As, Ni for which unit is ng/m³)

Plant	$PM_{2.5}$	PM_{10}	SO_2	NO_2	NH_3	CO	C_6H_6	O3	Pb	As	Ni	BaP
Norm	**60**	**100**	**80**	**80**	**400**	**4000[1]**	**5**	**180**	**1.0**	**6**	**20**	**1**
BSP	18-33	46-61	12-20	12-22	2-4	210-688	0.3-3.8	41-74	0.02-0.11	BDL	BDL-12	BDL-1
DSP	17-52	44-82	6-16	20-37	7-18	370-1280	<2.0	7-18	<0.1	<0.1	<5.0	<0.5
RSP	22-56	36-85	5-22	11-35	8-14	269-1320	BDL	9-16	BDL	BDL	5-9	0.12-0.35
BSL	11-53	27-89	5-38	8-42	5-69	330-1440	0.1-4.3	4.5-21.0	0.18-12	0.01	0.8-19	0.1
ISP	25-57	63-99	9-68	10-66	52-93	400-1800	BDL-<2.08	18-35	BDL-<0.02	BDL-<1.0	4.6-5.0	BDL-<0.40

Note: [1] Norm of 2000 µg/m³ for BSL, BDL - Below Detection Limit

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

Journey Towards Carbon Neutrality

India ratified the Paris Agreement and steel industry being a high CO_2 emission sector has firmed-up an ambitious CO_2 emission reduction plan by submission of process-wise NDC targets through the Ministry of Steel. SAIL has fixed up a target of 2.30 T of CO_2 emissions per ton of crude steel production by 2030. Subsequently, India has committed enhanced ambitions, called Panchamrit, during the COP26 of UNFCCC held at Glasgow during November, 2021.

- Enhance non-fossil energy capacity to 500 GW by 2030
- Reduce economy's carbon intensity down to 45% by 2030
- Fulfil 50% of energy requirement through renewable energy by 2030
- Reduce 1 billion tonnes of carbon emissions from the total projected emissions by 2030
- Achieve net-zero emissions by 2070

In line with Government of India's enhanced ambitions at COP26, **SAIL re-affirms its commitment to substantially reduce CO_2 emission and increase share of renewable/non-conventional energy by 2030 as well as to achieve net zero emission by 2070.**

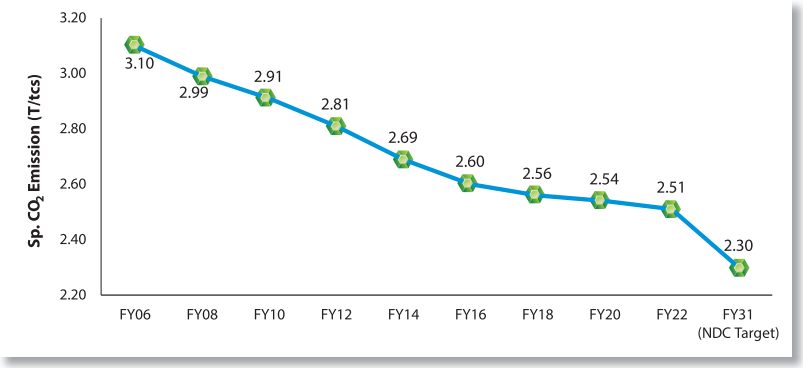
SAIL has already initiated decisive actions to minimise impact of its operations on global climate change. Decarbonisation strategy of SAIL is broadly classified into three distinct zones in time scale based on the existing architecture & logistics, established technology, product basket & market dynamics, technology infusion rate and availability of fund, future expansion plan with an eye on future market, green technology of tomorrow, government policies, carbon sequestration, shadow carbon pricing and over and above, social commitment of the Company.

In phase – I, decarbonisation process took momentum at SAIL during Modernisation and Expansion (MODEX) programme started in 2008. An array of energy saving clean technologies introduced in process resulted in achieving 19% CO_2 emission reduction during 2021-22 from 2005 level. Further improvement will be achieved with ramping up of capacity of MODEX facilities.

In phase – II, carbon abatement will be achieved through implementation of energy-efficient technologies in future expansion as per the Vision 2030 of SAIL, enhancing energy efficiency of existing units through retrofitting/revamping, phasing out hard to abate old energy intensive units, raw material quality improvement, study of development and acclimatization of break through iron making & carbon capture facilities.

The phase – III, deep decarbonisation at SAIL is expected in the post 2030 scenario, with an aim to achieve carbon neutrality by 2070, through gradual shift to alternate steel-making, adoption & propagation of Hydrogen Steel making, availing full renewable energy generation potential and wide coverage of Carbon Capture Utilisation and Storage across SAIL.

Specific CO_2 Emission (T/TCS)



Conserving Water – A Priceless Resource

Water is a crucial resource for Country today. It is thus essential to not only conserve water but also use it effectively. In view of these, "Management of Water Resource" is considered to be one of the important sustainability challenges in SAIL. The corporate Environmental Policy of SAIL emphasises to integrate principle of "reduce, recover, recycle and reuse" in its operations for conservation of natural resources, including water. Several regulatory requirements also mandate industries to ensure conservation of water resources. To ensure sustainable future and for continual improvement of environmental performance SAIL is setting challenging targets, transparent reporting system and robust review mechanism. The setting of target for water consumption is part of the Company's Annual Business Plan.

(103-1, 103-2, 103-3, 303-1, 305-4)

All the SAIL Plants except CFP draw fresh water required for industrial use from surface water sources, primarily perennial rivers, because they are located strategically to ensure availability of surface water. No water was drawn from the areas with water stress. With the structured management approach, awareness and technological intervention, SAIL has been able to provide better water resources for industrial as well as human use within its operations.

Water Sources for the Plants and Units

Plant/Unit	Water Source
BSP	River Mahanadi
DSP	River Damodar
RSP	River Brahmni
BSL	River Damodar
ISP	River Damodar
ASP	River Damodar
SSP	River Kaveri
VISL	River Bhadra
CFP	Groundwater (borewells)
SGW	River Barakar

Even though the steel industry uses large quantity of water for the purpose of cooling, gas cleaning, de-scaling, dust scrubbing and other process operations, a small amount of water is actually consumed, since almost entire waste water is reused and recycled. Over a period of time, various initiatives for reduction in water consumption for its operation have been taken up and implemented. Such water conservation initiatives include identification of sources of leakage and plugging of them, setting up of Effluent Treatment Plants (ETPs), assessment & analysis of discharged water from various units to identify areas, where fresh make-up water demand can be reduced.

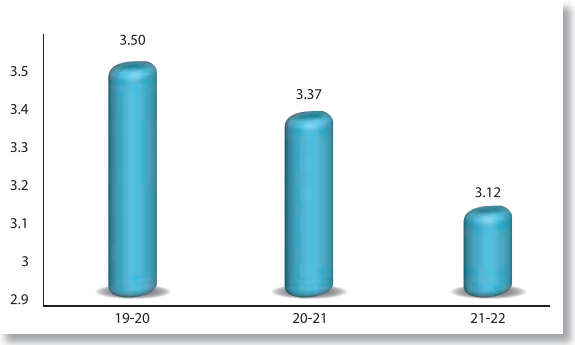
However, to conserve this precious resource further, water conservation has now become a priority area both in its works and the townships and the society as a whole. This noble endeavour is being continued on sustained basis. SAIL Plants and Units observe "Water Conservation Month" during a particular month of a year when various events and seminars are organised to build awareness about water conservation and formulate action plans for water conservation.

Following initiatives for water conservation are adopted across SAIL Plants and Units:

- Awareness campaigning
- Revamping of localized recirculation systems
- Water auditing by third party
- Online monitoring of quality and quantity of effluent discharged from shops as well as outfalls
- Rainwater harvesting schemes
- State-of-the-art effluent treatment plants in upcoming units

SAIL has been front runner in the field of water conservation and through consistent efforts, sp. water consumption has been reduced by around 14% in last five years. This bears the testimony of the Company's efforts towards efficient water management, resulting in protection of precious environmental resources. During 2021-22, water consumption at SAIL was 53509 mega litres.

Specific Water Consumption (m^3/tcs)



Harvesting Rain Water

SAIL has taken-up a number of schemes for roof-top rain water harvesting and use of harvested water for industrial purpose. Annual recharge potential of 291 million litres has been created through rain water harvesting systems installed in Plants, Mines and Townships. Further, in consonance with 'Catch the Rain' campaign of Ministry of Jal Shakti, rain water harvesting facility is envisaged during conceptualization of any upcoming project and is incorporated in the technical specifications of the proposal

(103-1, 103-2, 103-3, 303-1, 303-5)

Managing Waste Water

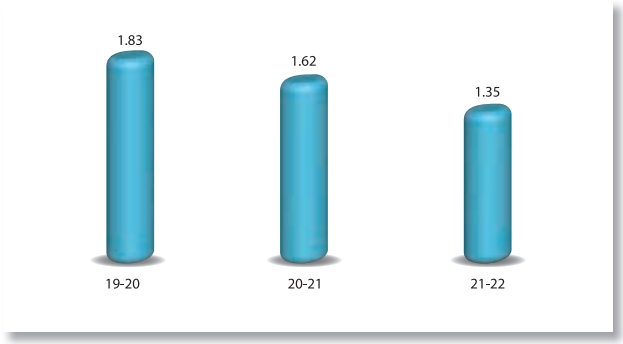
The effluent discharged from various operations in steel industry can have detrimental effect on the ecology of the local biosphere as well as on the natural resources and water bodies. In an effort to preserve water quality of natural water bodies, the quality of effluent discharged from SAIL Plants and Mines is maintained through meticulous operation of effluent treatment plants. SAIL always shows its commitment to strictly monitor the effluent discharged from its operations and treat the water properly, so that the quality of water conforms to the applicable standards specified by the regulatory agencies. In view of the above, online effluent quality monitoring systems have been installed at our Plants and these systems are uplinked with the servers at the State Pollution Control Boards and Central Pollution Control Board.

Environment Impact Assessment (EIA) studies have been carried out for our production facilities to identify its impact on the environment and society. No adverse impact was observed on the water sources or the nearby water bodies because of our operations.

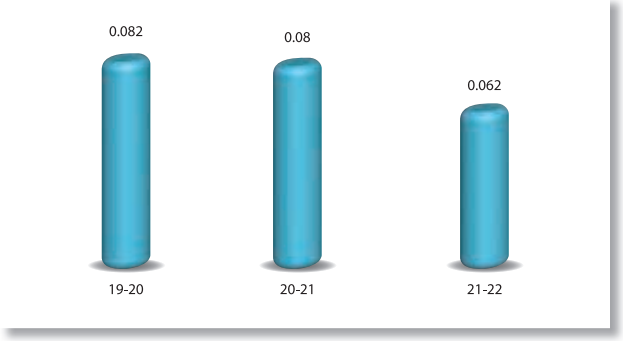
All across SAIL Plants, actions are taken to achieve the long-term goal of "Zero Liquid Discharge" through adequate treatment and recycling of effluent being discharged through the outfalls at the Plant boundary. Chandrapur Ferro Alloy Plant is maintaining zero liquid discharge since 2013. All the SAIL Plants have been pursuing different schemes for achieving this goal on mission mode and schemes are at various stages of implementation. During 2021-22, two waste water treatment and recycling plants of total capacity 2,900 m^3/hr. have been commissioned at BSP.

Specific Effluent Discharge and Specific Effluent Load of SAIL Plants during 2021-22 are represented in the following graphs:

Specific Effluent Discharge (m^3/tss)



Specific Effluent Load (kg/tcs)



Effluent Discharge Quality

For the Integrated Steel Plants (ISPs)

[Unit: mg/l except pH]

Parameters	pH	SS	BOD	COD	Phenol	Cyanide	Oil & Grease	NH_3-N
Norm	6.0-8.5	100	30	250	1.0	0.2	10	50
BSP	7.1-8.0	24-66	13-18	40-54	BDL-0.09	BDL-0.07	0.8-3.6	2-6
DSP	6.7-8.3	11-42	6-18	36-132	0.14-0.52	0.01-0.12	1.0-5.1	2-32
RSP	7.1-7.8	11-22	10-13	29-46	0.02-0.22	0.01-0.04	1.6-2.8	1-15
BSL	6.3-8.3	19-42	1-8	21-86	0.02-.45	0.004-0.03	0.5-1.8	1-12
ISP	7.0-7.8	4-42	13-16	8-209	0.03-0.21	0.03-0.10	1.0-1.2	1-30

For the Special Steel Plants (SSPs)

[Unit: mg/l except pH]

Parameters	pH	SS	BOD	COD	Fluoride	Iron	Oil & Grease
Norm	5.5-9.0	100	30	250	2.0	3.0	10
ASP	6.9-8.6	09-61	05-12	7-67	<0.2-<0.2	0.13 - 0.18	2.0-7.7
SSP	6.7-8.5	4-8	<2-2.2	16-16	0.01-0.60	0.02-0.20	4-4
VISL	No discharge from Plant outlet. Major production units like BF & SMS are out of operation.						

(103-1, 103-2, 103-3, 303-1, 303-2, 303-5)

For the Ferro Alloy Plant

[Unit: mg/l except pH]

Parameters	pH	SS	BOD	COD	Fluoride	Iron	Oil & Grease
Norm	**5.5-9.0**	**100**	**30**	**250**	**2.0**	**3.0**	**10**
CFP	7.2-8.2	28-86	47-76	151-239	NA	0.16-0.73	BDL - <4

NA: Not Applicable

During 2021-22, 22,149 mega litres of treated effluent was discharged by the Plants to the surface water bodies. All the effluent quality parameters monitored regularly were well within the norms stipulated by the statutory bodies like SPCB, CPCB and MoEF&CC.

Managing Wastes – A Tool for Circular Economy

Business, governments and citizens all around the world is recognizing the challenges caused by our "take-make-dispose" approach to production and consumption. The resulting waste from manufacturing sector is taking its toll on the environment and human health. The circular economy concept prioritizes the creation of circular loops of materials, products, energy, and waste flows. The circular economy is a new way of creating value, which promotes the elimination of waste and the continual safe use of natural resources.

Steel is 100% recyclable, losing none of its unique properties when properly processed. However, steel making process results in generation of solid wastes like mill scale, flue dust, BF & BOF slag and waste refractory bricks etc, which substitute for natural resources in other sectors and contribute to resource efficiency and circular economy. During 2021-22, total solid wastes generation rate was around 667 kg/tcs and out of this, generation rate of BF slag and BOF slag was 454 kg/tcs and 127 kg/tcs respectively.

SAIL has adopted the "4R's Policy" (Reduce, Recover, Recycle and Reuse) across all its processes related to steel-making in order to improve sustainability of the industry. Management of solid wastes in our Company is aimed to extract maximum practical benefits from waste products and to generate minimum amount of waste to comply with the environmental legislation & regulations and economics of disposal in the present scenario.

Overall utilization of solid wastes in 2021-22 was around 95%, out of which BF slag is completely utilised in cement making process and BOF slag utilization is about 69%. BOF slag is recycled back in the process through the Sinter Plant, BF, SMS and used as aggregates in the construction of road and as Railway ballast within the Company. The solid wastes like mill scale, BF flue dust, BF slag and waste refractory bricks are utilised fully.

With an objective to enhance the utilisation of BOF slag, following R&D based initiatives are being undertaken either through in-house research wing or in association with other research centres or academies of national repute:

- Utilisation of Steel Slag in construction of rural roads under the Pradhan Mantri Gramin Sadak Yojna (PMGSY)
- Study on use of composite slag (mix of BF slag and BOF slag) for making of Portland Slag Cement (PSC)

Besides the above, it is noteworthy to mention here that for promotion of circular economy, the Ministry of Steel, GoI has recently taken up a R&D project proposal "Development of steel slag based cost effective eco-friendly fertilizers for sustainable agriculture and inclusive growth" through ICAR-Indian Agricultural Research Institute (IARI), Delhi. SAIL as an industry partner is intimately associated with this project. The project will be concluded within a time period of three years. About 49 million hectare of land out of 157 million hectare of arable land in India is acidic. BOF slag which is rich in lime content along with micronutrient like potassium, silicon and phosphorous can gainfully be utilised as soil fertilizer. Remediation of the effect of hexavalent chromium to make BOF slag for agriculture use is in the scope of the project.

Apart from the above, Steel Plants have taken initiatives for utilisation of legacy BOF slag in the secondary market. Around 14 lakhs tonnes of BOF slag has been auctioned at SAIL Plants and same is being utilised in construction of roads.

(103-1, 103-2, 103-3, 306-1, 306-2, 306-3)

Solid Waste Generation and Utilisation

For the Integrated Steel Plants (ISPs)

Type of Waste	Generation (T)	Utilisation (%)
BF slag	77,90,925	102.0*
LD BOF slag	21,84,328	68.9
BF Flue dust	1,77,033	129.9*
BF Sludge	1,19,187	1.8
LD /BOF Sludge	1,58,553	78.0
Mill scale	2,93,056	95.6
Lime/Dolo Fines	6,78,220	100.0
Refractory Wastes	35,690	78.2
TOTAL	**1,14,36,992**	**94.6**

** Excess utilisation from old stock*

For the Special Steel Plants (SSPs)

Plant	Generation	Utilisation (%)
ASP		
EAF / AOD Dust	117	255*
EAF Slag	2,379	2
Grinding Dust	509	100
Mill scale	1,693	92
Refractory Bricks	449	65
Total	**5,147**	**52**
SSP		
SGL Swarf	7	98.4
Boiler Ash	2,531	0.0
Steel Shot Dust	402	68.4
Mill Scale (HRM & APL)	2,469	96.0
SMS Slag	45,564	0.0
EAF Dust	2,504	0.0
AOD Dust	2,828	0.0
Grinding Swarf& Dust	380	0.0
Torch Cutting Bag house Dust & Caster Scale Pit	139	0.0
Refractory wastes	3,534	0.0
Other wastes	0	0.0
TOTAL	**60,358**	**4.4**
VISL(Operation of production units suspended during 2021-22)		

**Utilisation from old stock*

For the Ferroalloy Plant (CFP)

Plant	Generation	Utilisation (%)
CFP		
MnO Slag	0	>100*
Si Mn Slag	77,715	46.5

(306-3)

Plant	Generation	Utilisation (%)
MCFeMn Slag	7,256	0.0
Mn Ore Fines	26,289	47.1
Coke Fines+Charcol fines	9,421	5.8
Quartz Fines	189	0.0
Flux Fines	415	0.0
Iron Ore Fines	162	16.7
GCP Sludge	7,056	0.0
Total	**1,28,503**	**88.8**

**Utilisation from old stock*

Solid Waste Generation from Mines

Apart from the above mentioned solid wastes, some wastes which are hazardous in nature by reasons of their physical and/or chemical characteristics are also generated. Inventorisation and quantification of the hazardous wastes have been done at the Plants/Units and the identified wastes are managed as per the Management of Hazardous Wastes governed by the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. These wastes are safely disposed either in the Secured Landfill Facility or through the authorized agency dealing with treatment, storage and disposal of hazardous wastes. During 2021-22, BSP has developed a new secured landfill for safe disposal of hazardous wastes.

Managing Raw Materials

SAIL's main raw materials are iron ore, limestone, dolomite and coal. The Company understands finite nature of natural resources and simultaneously depletion of high-grade ore deposits. The forthcoming demand for additional raw material as an input to growing operations has also greatly increased the need to optimise raw material consumption and its conservation.

SAIL has ensured that it gives major attention to optimal utilization of raw materials and thus has enacted policies and taken up initiatives in this regard. At SAIL, there is always an eagerness to adopt modern technologies and practices to reduce material consumption and also to improve the recycling of waste materials. At SAIL, for gainful utilisation of the accumulated low grade iron ore micro-fines/tailings, sludge and ESP dust, at the steel plants, use of pelletizing technology is being encouraged, in order to promote circular economy. Following projects are in the pipeline:

Plant/Mine	Capacity of Micro Pellet Plant/Pellet Plant
RSP	2 MTPA
ISP	0.25 MTPA Micro Pellet Plant
Gua Ore Mines	4 MTPA
Dalli Mines	1 MTPA

Increasing the recycling of wastes has reduced the consumption of coal, iron ore and flux materials like dolomite and lime stone, thus optimizing the use of raw materials. It is widely accepted that the future of steel business will be shaped by the preparedness of the industries to recycle the steel scrap. SAIL has been aware of this and has 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. The raw material consumption and steel scrap utilisation in the Plants and Mines are as under:

Raw Material Consumption (MT) during 2021-22

Iron ore	Coal	Dolomite	limestone
31.03	17.23	4.30	5.68

Scrap Utilization during 2021-22

Plant	BSP	DSP	RSP	BSL	ISP
Scrap Utilised (T)	4,58,191	1,31,629	3,78,056	4,06,143	1,02,488

(103-1,103-2,103-3, 301-1, 306-3)

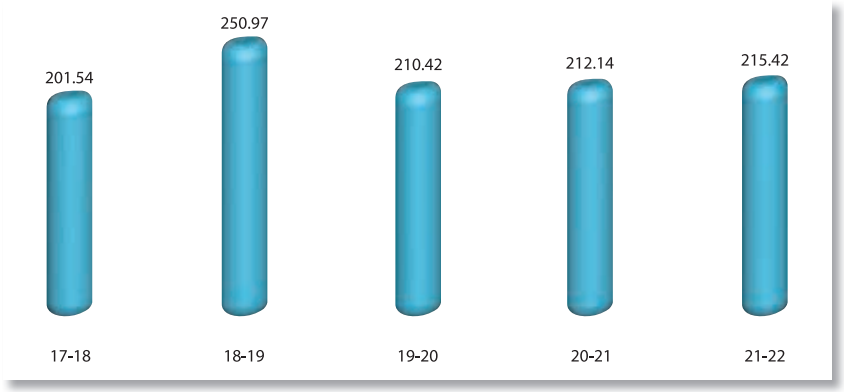
Developing Greenery–Creation of Carbon Sink

SAIL realizes the immense benefits of plantation in overall environment management. It is a well-known fact that trees play an important role in the eco system and function as a carbon sink. Not only do trees produce oxygen and sequester carbon dioxide, but also do provide homes for animals, recharge groundwater, replace soil nitrates, and prevent erosion and more.

Structured plantation programmes are carried out every year in all the Plants and Mines depending on availability and prevalence of local species, local soil characteristics and prevailing meteorological conditions. Biodiversity forms the basis of human survival on earth. Living resources (plants, animals and microbes) and their habitats form an integral component of the biodiversity. Zoological and botanical parks are being maintained in townships of Steel Plant for preservation of several species of flora and fauna. SAIL has developed a "Bio Diversity Park-Vasundhara" spreading over a landscape of 409 acres at DSP and "Ispat Nandan Vihar" over an area of 1.5 acres at RSP. This park adds to the natural wealth of the city and ensures that ecological goods and services continue to flow to people and are available for posterity.

During 2021-22, more than 3.28 lakh saplings were planted. An aggregate of 215.42 lakh trees have been planted since inception. In SAIL, around 34.2% of land area is under green cover. The detailed tree plantation during last five years is given below:

Cumulative Plantation (No. in lakhs)



In addition, SAIL intend to assess the carbon footprint of its products, processes and activities in one hand and estimate the potential for carbon sequestration on the other, considering both existing and proposed plantations. For this, M/s Tropical Forest Research Institute, Jabalpur, was engaged as the sequestration partner to carry out the study on carbon sequestration through afforestation and same has been implemented at the site of Rourkela Steel Plant.

Eco-restoration of Abandoned Mines

Mining activity causes degradation of natural ecosystems through removal of soil and vegetation, thus mining activity changes the land use pattern in large areas. Restoration of mine areas is amelioration of physical and chemical characteristics of substrate and ensuring the return of vegetation cover. The restored ecosystem, after extraction of geo-resources, has not only brought back the ecological services lost during mining but also provided sustainable livelihoods to the locals. SAIL considers its core value in giving the earth back the forest cover that has been taken off during mining.

Mined out area and water body of mine voids of Purnapani Limestone & Dolomite Quarry situated in Odisha has been ecologically restored. Over the years, about 250 acres of old barren overburden dumps and water voids in 200 acres of limestone mined out area in Purnapani have been successfully restored to fully functional ecosystem that generates ecosystem services & goods and sequesters CO_2. The area today harbours thousands of host plants of tasar silkworm and lac, edible mushrooms because of high organic matter and leaf litter, and opportunity for apiculture due to presence of nectariferous flowers which attract honey bees. In addition, the restored mine void has a variety of fishes. Training on practicing of silviculture, apiculture, pisciculture etc. was also imparted to the villagers mostly of tribal community in Purnapani and its neighbouring villages. This unique sustainable development project is pioneering initiative in the steel industry of the Country.

As a part of All India Co-Ordinated Research Project for "Combating Desertification by enhancing vegetation cover and people livelihood in degraded dry lands and deserts of India", SAIL has engaged "Institute of Forest Productivity, Ranchi" for eco-restoration of mined out area and waste dumps separately for Kiriburu Iron Ore Mines and Meghahatuburu Iron Ore Mines.

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

SAIL is not operating its activity in the vicinity of protected areas. No species from the International Union for Conservation of Nature (IUCN) Red List has habitat in the area of operation.

Environmental Management System (EMS)

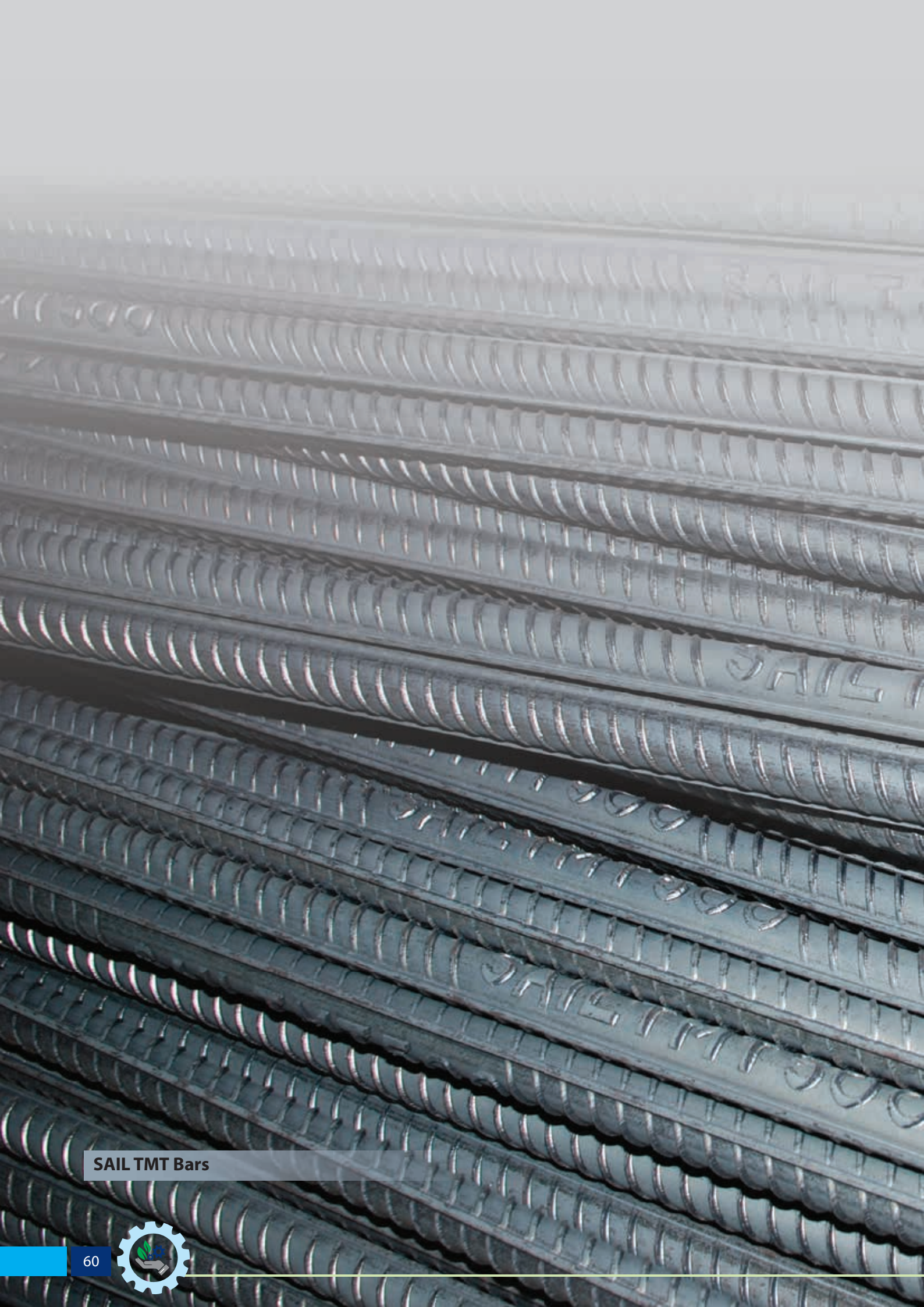
Environmental Management System (EMS) linked with ISO:14001 is a voluntary approach to manage the immediate and long term environmental impacts of an organisation's products, services and processes. SAIL has been a fore bearer in the establishment of the EMS in the steel industry in the Country. In mid 90's, SAIL started implementation of EMS-ISO 14001 in its Salem Steel Plant. Now, all the Integrated Steel Plants, major Units and Warehouses of SAIL are compliant with EMS ISO: 14001 Standard. Implementation of EMS has helped SAIL Plants and Units to ensure their performance being always within the applicable regulatory requirements.

Plants and Units accredited to EMS-ISO 14001

Plants	Certification Status	Mines/Units	Certification Status
BSP	Entire Plant & Township	Kiruburu I/o Mine	Entire Mine
SSP	Entire Plant & Township	Megatuburu I/o Mine	Entire Mine
BSL	Entire Plant	Bolani Ores Mines	Entire Mine
ISP	Entire Plant	Barsua I/o Mine	Entire Mine
ASP	Entire Plant	Gua I/o Mine	Entire Mine
DSP	Entire Plant	Manoharpur Ore Mines	Entire Mine
VISL	Entire Plant	Dalli (Mech.) I/o Mine	Entire Mine
CFP	Entire Plant	Transport and Shipping	BTSO Vizag
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 Township	Warehouses under CMO	Faridabad, Dankuni, Kalamboli, Chennai, Hyderabad, Ahmedabad, Ghaziabad, Delhi, Durgapur, Bangalore, Bokaro,Vizag and Kanpur

Plantation Drive by EMD SAIL

(304-1)



SAIL TMT Bars

Product Leadership

SAIL has a leadership position in consumer mind space and is striving sincerely to bridge the ever changing expectation gaps with improved services, products and processes, while fulfilling its responsibility towards safeguarding the environment at the same time.

The Company has been contributing in nation building since inception by servicing the requirement of various infrastructure projects and also projects of strategic importance. During the year, SAIL has supplied significant quantity of Steel to Power Projects, Road, Rail, Airport & Port Infrastructure Projects, Metro Rail Projects, Irrigation & Drinking Water projects, Fertiliser Industry, Oil & Gas Sector, etc., the major projects being Regional Rapid Transport System, Delhi Meerut Expressway, Eastern Dedicated Freight Corridor Corporation, Western Dedicated Freight Corridor Corporation, HPCL Rajasthan Refinery Limited Barmer, Bullet Train Project from Ahmedabad to Mumbai for National High Speed Railway Corporation Limited, India's longest river road bridge of 19 km at Dhubri to Foolbari over river Brahmaputra, etc.

The Research and Development Centre for Iron & Steel (RDCIS) of the Company is India's premier research organization in the field of ferrous metallurgy. Recognizing that development and assimilation of new technologies & process innovations are basic tenets for sustainable growth, SAIL has given thrust for its R&D efforts through its well equipped R&D Centre located at Ranchi. The continuous activities in respect of product development have led to development of 11 new Steel products during FY 2021-22. The centre works in tandem with Steel Plants and Central Marketing Organization (CMO) of SAIL to develop value-added market centric steel products and demonstrate their application to the customers.

Protecting and nurturing the environment has always been at the core of all business activities of SAIL. SAIL has introduced a number of innovations in steel processing technology, which have significantly lower carbon footprint. The concerted efforts of the SAIL fraternity have also resulted in providing the much needed thrust to the "Make in India" initiative.

Product Development and Improvement

SAIL's Corporate R & D set-up is entrusted with responsibility of overseeing entire product development activity across SAIL. Backed by the entrepreneurial spirit of the industry and the policy measures taken by the Government, the Indian steel industry is becoming more vibrant, competitive & environment-friendly. SAIL, being a customer-oriented organization, continuously undertakes development of new special steel products and upgrades its existing products and provides value addition. Several new products, particularly special steels, having superior product quality attributes have been developed and commercialized through concerted efforts of Plants, RDCIS and CMO for meeting stringent requirement of various market segments. Principle of cost effective alloy design and optimization of process parameters were the prime consideration for development of the new market oriented products.

During the year 2021-22, eleven products have been developed and some of the noteworthy products include high strength high GSM galvanised steel, low carbon (Si killed) formable quality electrical stamping steel, API X 70 line pipe hot rolled steel coils, high strength high toughness quenched and tempered wear and abrasion resistant steel plates, export quality (CE mark) structural steel, high phosphorous CRNO electrical steel, special quality wire rod for cable armour and automotive components.

SAIL is the only domestic producer catering to the forged steel wheel requirements of Indian Railways. Over the years, a number of wheel profiles have been developed by SAIL, which have substituted imports, thereby, furthering the cause of Atmanirbhar Initiative of Government of India. In this regard, all-time best supply of 16,529 nos. of WAG-9 locomotive wheels to railways was achieved during the FY 2021-22. Further, SAIL has also developed LHB axle in FY 2021-22, also an import substitution item, and supplied 3,872 nos. to Indian Railways. in addition to this, best ever supply of 2,146 nos. of WDG-4 Loco wheels, also an import substitution item, was achieved in FY 2021-22.

Moreover, in order to facilitate acquisition and development of appropriate technologies for sustainable growth, SAIL has aligned its focus on product development through collaboration with key customers and technology suppliers. SAIL has adopted and implemented necessary quality and environmental policies for production of safe and sustainable products. In addition, product labelling, marketing, communications and customer confidentiality are also ensured through a well-established framework of systems and procedures.

The products developed during 2021-22 are as follows:

Sl. No.	Product Details	Plant	Application
1	High phosphorus based 500530 grade CRNO coils	RSP	Electrical Machinery
2	SAIL WR400 wear resistant Q&T steel plates (16 & 20 mm)	RSP	Earth Moving Equipment (EME)

(102-11)

Sl. No.	Product Details	Plant	Application
3	High strength galvanized plain coils with YS: 350 MPa and 450 GSM coating	BSL	Grain Storage Silos
4	Customised IS 513 CR2DSiK CR coils	BSL	Electrical Stamping
5	API X70 PSL2 HR coils	RSP-BSL Route	Line Pipe for Oil & Gas Industry
6	SAE 1006 AIK (Si 0.03% max) HR coils	BSL	Galvanizing industry
7	IS 7887 Grade 2 wire rod coils (5.5/6 mm dia)	BSP	Cable Armour
8	Fe550D grade TMT rebars	BSP	Infrastructure & Construction
9	High Carbon wire rod coils in HC82 grade and above (53, 7, 8 & 10 mm dia)	ISP	High Tensile Wire
10	EN8M grade free cutting wire rod coils (16 mm dia)	ISP	Automotive Machined Components
11	IS 2062 E450 BR Structural (NPB300, 400, 500 & 600 Parallel Flange Structural)	ISP	Construction
12	Special Quality Semis - Customised low carbon and restricted SI bloom, IS 14650 Gr513 CR2D in 300x150 BRC - BRC rounds in 340 mm dia in SA105 grade through VAD/ EMS Route	DSP	Tractor/ Tube/ Cycle Industry Forging Industries

SAIL manufactures steel products, the design of which incorporates social, environmental concerns, risks and opportunities. The Company also interacts with international bodies like ASME/ASTM, ROHS etc. for developing technologies and code/ certification related products that are environment friendly, safe and conforming to International Standards. SAIL's products comply with the quality norms of the Bureau of Indian Standards or International Standards as per specific customer requirements.

The Company believes in regular interactions with its customers through regular customer feedback system and uses the same as valuable inputs for product development.

Product and Service Labelling

The Company website www.sail.co.in hosts detailed product information. At designated sales office, warehouses hard copies of catalogues containing details on grade, size and application are also available for costumers.

The two key principles of Quality and Transparency are followed during delivery of the products. In order to ensure quantity and quality of the material in supply, the Company issues test certificates along with the deliveries to the customers. All norms for physical dimensions and chemical composition are strictly adhered to during production and dispatch of various products manufactured by SAIL.

There was no incidence of non-compliance with respect to regulations and voluntary codes concerning product and service information and labeling.

Brand Management

The Corporate Affairs Division (CAD) of SAIL is entrusted with the responsibility of corporate brand management of the Company while the product related branding is managed along with the Central Marketing Organization (CMO). All marketing communication is governed by the guidelines of the Corporate Manual.

To strengthen the Company's image amongst key stakeholders, the Corporate Affairs Division disseminate the information through effective means of communications such as press releases, press meets, one on one interaction with media personnel etc. In addition, CMO also organizes presentations on product development to various project customers like CPWD, DMRC, NHPC, L&T, etc. for communicating the advantages of SAIL products over competitors' products. The other brand building initiatives undertaken by CMO for promotion of SAIL steel during the year includes circulation of product brochures, wall paintings, hoardings at important locations (viz. highways, major airports, in metros & tier-II cities) across the Country. As dealers are the main points of proliferation of Company's branding initiatives, regular meetings with dealers are organized for promotion of SAIL steel. CMO regularly conducts outreach programs to connect with various stakeholders that enhance the brand presence in the market. Dealer distributor meet has been organized extensively throughout the Country, mason meet and "Gaon ki ore" programs are conducted for rural connect by retail group, ASD (Architect, structural & designers) meets are conducted in Tier 1 & 2 cities. The brand promotions are done systematically by wall painting, Flex boards and radio jingles on FM channel (of eastern part of the Country specifically).

(103-1, 103-2, 103-3, 417-2)

The Company has been organizing physical as well as virtual meetings with user groups like architects, builders, civil engineers, structural designers, end consumers, etc. SAIL is actively involved in promotion of the steel usage in the Country. While undertaking sales through its Distributor/Dealer Network, various outdoor/indoor media campaigns are being regularly done for brand promotion as well as to promote steel usage. Apart from servicing the regular customers, our Company is also making efforts to tap the potential of rural India for which regular workshops are conducted under its rural outreach program "Gaon Ki Ore".

Despite the challenges from COVID, during FY 2021-22, 130 such workshops were conducted across the Country. In the MSME segment, SAIL, under the aegis of "Mission Poorvodaya" programme of the Government of India, has introduced an incentivisation scheme "Ispati Ilakon ka Vikas – SAIL ke Saath" for the development of MSMEs based in the districts in which its Integrated Steel Plants are located. Around 142 MSMEs have joined under the Scheme till FY 2021-22.

Customer Satisfaction

The customers serve as the foundation of any business success. Identifying and meeting customer needs and goals is, therefore, one of the primary goals of any business strategy. Meeting the expectations of the customers require in-depth understanding of their expectations along with unfaltering delivery of business commitments leading to a strong relationship with the customer and long-term growth of business.

To enhance customer satisfaction, Customer Order Tracking System and Customer Self Service Portal have been implemented, which includes registration of complaints, Customer Satisfaction Index (CSI) and printing of invoices and test certificates.

SAIL carries out market research and customer engagement programs to identifying the definite needs of its customers and accordingly refines business strategies for providing better service to its customers. The Company values its customers' voice and also collect their feedback at regular intervals. These feedbacks give us an insight into what is working well about our products and what should be done to make our customers experience better. Besides, SAIL regularly host institutional conclaves for sectoral events, events for increasing usage of steel and trade fairs for energy, railways and related sectors. SAIL engages with customers by organizing customer meets as well as participating in the vendor meets organized by its clients.

SAIL's Marketing Division, the Central Marketing Organization (CMO), is responsible for reaching out to all the customers. The Company has a well defined Key Account Management (KAM) for customer relationship management that captures the specific requirements of Key customers, 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.

The Company is reaching out to its customers through implementation of following means:

- Key Account Management programs for High Value Customers
- 2-Tier Distributor- Dealer Network for Retail Customers, being ramped up for enhancing reach and penetration
- Sale Force Effective (SFE) program to focus on medium/small sized account through branch network
- Ramping up of Sales and Operations Planning (S&OP) system

Health & Safety of Customers

The Company develops and uses best practices, procedures to achieve & maintain high standards of customer's health & safety. Measures for preserving customer health & safety during the use of steel products are not specifically required as there is no identified health risks associated with the products.

However, material handling is a safety concern for the customer and use of safety appliances is mandated in all our warehouses. All of SAIL's products conform to the applicable regulations and standards as prescribed by the Bureau of Indian Standards. 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 reporting period.

SAIL has a large variety of products in its basket for marketing. The Technical Certificate (TC) is issued as per the Standards prescribed by the Bureau of Indian Standards. Since steel products are generally environment-friendly and do not pose any

health or safety hazard during their use, specific procedures for preserving customer health and safety during the use of its products are not required. However, use of safety appliances like safety helmets, boots, gloves etc. is mandatory.

Hazardous waste handling is done as per the Hazardous Waste Management Rules, 2016. SAIL Plants, Units and Mines have received authorization for the same. 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 their lifecycle.

Online Publication and Data Privacy

The Company's corporate policies on data privacy, confidentiality and security are suitably designed to maintain the trust of the individuals and organizations who share their information. The privacy related to consumer information, such as specifications of special products developed for specific consumers, are protected through confidentiality agreements.

During 2021-22, no incident has 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 non-compliance with laws and regulations concerning the provision and use of products and services during reporting period.

Supply Chain Management

SAIL is aware of its responsibility towards environmental conservation even outside its operational boundaries and the same is duly reflected in its Corporate Environmental Policy. SAIL also has a structured framework for 'Corporate Environmental Responsibility' along with several inbuilt integrated programmes to ensure that all materials, processes, goods and services are managed in a socially and environmentally responsible manner.

We engage with our suppliers, vendors and with all those involved in the product lifecycle through various business meets to sensitize them on issues of environmental impact, social impact and ethics of doing business. The engagements helps in building a better understanding towards our share of protecting the environment by minimizing negative impacts across commercial, social and environmental attributes that result from the production, use and disposal of the product.

SAIL has also established extensive rail network for transporting raw materials but also for dispatch of finished goods to the godowns or the end customers. However, in order to cater to the market demands, SAIL also engages road transportations from its warehouses to customers' sites. In general, this has not only improved the operational efficiency but also the environment in and around the Plants and Mines.

The Company has taken necessary measures 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 2021-22.

Striving Towards Zero Impact on Environment

Steel industry has often been subjected to critique for its environmental performance, it has nevertheless been making efforts to innovate and to improve its environmental performance. We assess all our products, processes as well as associated services periodically for environmental impacts, if any.

In order to ensure a healthy & safe environment within warehouses, the Company has in place procedures and manuals pertaining to health and safety. Accordingly, all handling equipment are subjected to periodical maintenance and checks. A total 13 no. of SAIL warehouses are accredited with ISO 14001.

The 3-R principles of resource efficiency are fully imbibed in our work culture. Usually packaging material is dispatched along with consignment to customers; the loose/left over packaging after dispatching of products are disposed-off sustainably from warehouses at regular intervals. Besides, the Company also regularly interacts with local SSI/ MSME vendors to apprise them about environment friendly and energy efficient processes. No significant negative environmental impact (s) is/are noticeable in supply chain as vehicles (trucks & trailers) complying with statutory pollution norms are engaged in transport of material at the warehouses.

The other measures for positive environment impact in place at warehouses include recycle/ reuse of used oil, harnessing of solar energy, use of energy efficient lightings, use of concrete railway sleepers, afforestation activities, provisions of acoustic covers for DG Sets etc.

Safety and Health

Road Safety Drive at DSP

SAIL believes that excellence in Safety and Health yields excellent business results, therefore at SAIL nothing is more important than the Safety and Health of the people working in and around Steel Plants. To ensure this, SAIL has been continually & consistently improving its safety and health management systems & practices with the ultimate aim to have safe and healthy workplace. Safety is fully adhered in all processes and operations inside Plants/ Units premises. Safety & Health issues are monitored and guided from the apex level of management i.e. our Board as well as Board Sub-committee on Health, Safety & Environment. All pertinent issues related to safety & health are discussed and deliberated as opening item at all appropriate forums in various levels of management hierarchies.

SAIL aspires to be one of the industry's leaders in safety performance. To realize this vision, SAIL has a Corporate Safety Policy and guiding Principles aiming at providing a safe and conducive work environment to all its employees, contractors and all stakeholders / people associated in its operations including those living in the neighborhood of its Plants, Mines and Units. All safety activities & measures are planned in consonance with the safety policy.

With the aim of continuous improvement, the safety & health objectives are planned and set well in advance and successfully achieved through well established OH&S management programmes. SAIL has achieved consistent improvement and steady growth in Safety and Occupational Health parameters as a result of proper systems, procedures and improved work practices. Internationally established standards - OHSAS 18001/ ISO 45001, ISO 9001 and ISO 14001 are followed religiously for Safety, Occupational Health and Environment protection. Internal as well External audits are conducted periodically to bring improvements and check compliance. Partnership with reputed bodies in the area of safety is made in the form of MoU signed with National Safety Council, Mumbai for mutual engagement and collaboration in the areas of Safety Audits, Training etc.

It is increasingly being recognized that Safety being a cultural issue, change in behavior or mindset of individuals will take place by bringing attitudinal change towards safety, which will help in improving safety culture at the company level. With this objective, a safety consultant of repute has been deployed at Bhilai Steel Plant for strengthening the safety management systems apart from addressing behavioural related issues. Based on the feedback, it would be deployed in other plants phase wise. Apart from this, Behavioural Based Safety (BBS) is being implemented at Plants to improve at-risk behavior of people which is the root cause of many incidents.

Safety Setup

Effective leadership is critical in achieving and sustaining a positive Safety culture that supports the goal of zero harm. Safety performance is regularly monitored at the highest level of management i.e. Board, Chairman and Directors' level. The efforts of the Company for achieving a safe and healthy environment are guided and monitored by a Board Sub Committee on Health, Safety & Environment (BSC on HSE). Directors In-charges, Chief Executives & Executive Directors of respective Plants & Units closely monitor safety aspects. At the Corporate level, SAIL Safety Organisation (SSO) coordinates and guides the Safety and Fire service activities. A full-fledged Safety Engineering Deptt. (SED) functions at each Plant/ Unit to assist in compliance of safety standards and procedures in operations, maintenance and repair jobs. Fire Services

(103-1, 103-2, 103-3, 403-1, 403-2, 403-7)

Deptt., fully equipped with necessary resources & facilities, remains on alert for meeting various emergency requirements, relief & rescue operations as well as monitoring fire prevention related aspects.

In each department/ shop, Departmental Safety Officer (DSO) & Safety Steward/ Captain / Warrior ensures adherence to laid down standards & safe working procedures. DSOs play an important role by monitoring safety aspects at the shop floor on daily basis and working in close coordination with SED. In Project & expansion areas, Safety Officers are deployed to monitor safety during various phases of project / construction work.

Systems and Procedures

Steel manufacturing involves processes with intrinsic hazards that need to be carefully managed as measures needed to manage these hazards are often complex. Safety is a blend of engineering, operation and management skills focused on preventing accidents. Systematic approach is adopted by following 3 E's of Safety Management i.e. Engineering, Enforcement & Education in all spheres of working.

Safety is incorporated in the very design & development stage and state-of-the-art technology is adopted which helps in minimizing human exposure to hazards and ensures safety of the workforce along with surroundings. Adequate emphasis is given towards safety during execution & commissioning of new projects / facilities by adhering to Safe Commissioning Procedures & Protocols.

All the statutory provisions pertaining to safety are being adhered to. Safety aspects have been incorporated in SOPs, SMPs & WIs which helps in maintaining necessary technological discipline. These documents provide vital guidance to the workmen and are reviewed periodically with changing technology / process requirements and updated accordingly. The updated version of the documents is made readily available on web portals /Knowledge Management (KM) portals and can be easily accessed and referred by all employees.

'Permit to Work' & 'Protocol' Systems, having necessary safeguards, are religiously followed during execution of hazardous & critical jobs involving multiple agencies. The practice of taking extra precaution during major capital repairs/ shut down jobs through intensive safety surveillance & monitoring ensures safe & timely completion. 'Inter Plant Standards in the Steel Industry (IPSS)' in the area of safety also help in augmenting safety standards of the Company. IPSS 1:11 - Standards Committee on Personnel Safety Appliances and Procedures, formulates new standards as well as reviews and updates existing standards by utilizing knowledge & experience of the domain experts as well as core safety professionals. The standards developed are uploaded on IPSS portal which is available in the SAILNet as well as open domain i.e. internet and accessible for the benefit of common user. Emergency preparedness Plan has been prepared for handling emergency situations and mock drills are conducted to assess preparedness with the involvement of all the connected agencies like shop/ deptt. concerned, SED, Fire Services, Gas Safety, OHSC etc. Periodic mock drills are also conducted in association with external expert agencies such as National Disaster Response Force (NDRF) alongwith participation of all the agencies in the plant including Central Industrial Security Force (CISF).

All work related incidents are investigated to find out the root cause and appropriate actions are taken to prevent its recurrence. The needed corrective & preventive actions are taken to minimize the risk as per the hierarchy of controls.

As a new initiative, SAIL played a key role as one of the member of working group which was constituted by Ministry of Steel (MoS), Govt. of India for preparation of comprehensive Code of Practices for enhancing the safety eco-system in the steel producers in the Iron & Steel sector. 25 nos. safety guidelines were finalized and uploaded on the MoS website for reference & use by all stakeholders. Further, 15 nos. of process based safety guidelines finalized and submitted to the MOS.

Workers' Involvement in Safety Management

Joint participation of management & workmen is important for a sustainable health and safety culture which is maintained by the Company's Health and Safety Committees. All of our employees are covered by the formal joint management-worker Health and Safety Committees at Plant/ Units and are duly involved and consulted on Health & Safety issues including in identification & mitigation of workplace hazards. Bi-partite forums like Central/ Apex Safety Committees, Departmental Safety Committees, Pit safety committee etc. function at Plants/ Units / Mines with participation of Company's top management, trade union representatives & employees. Meetings of these Committees are held in a scheduled manner in which all health and safety issues are deliberated for bringing continuous improvement of the OH&S Standards. Employee

(103-1, 103-2, 103-3, 403-1, 403-2, 403-4, 403-6)

Suraksha Stambh at RSP

engagement initiatives are regularly undertaken to ensure commitment of every employee in enhancement of the safety culture and aiming for achieving 'zero accident' in his respective workplace, department and Company as a whole. Good safety initiatives taken by the employees from all Plants & Mines are identified and suitably rewarded in HazAn.Com - Hazard Analysis Competition organised at whole SAIL level by SSO which gives the employees an opportunity to showcase their work and spread the learning points at organisation level.

Joint Committee on Safety, Health & Environment in the Steel Industry (JCSSI), a unique bipartite forum at national level with representation from major central trade unions and management of major steel producers of the Country acts as a common bridge by jointly evolving recommendations/ action plans for ensuring safe & healthy work environment in the entire steel industry. For recognizing and rewarding good safety performance of the member organizations & their employees, various competitions, annual award functions and meetings of the Committee are organized. Distinguished performance of the individuals is also suitably rewarded. Learning from each other approach is followed for sharing best practices of the participating steel producers through periodic meetings as well as various workshops / seminars, plant visits etc. Sharing of information among members is also facilitated through the JCSSI website - www.jcssi.com.

Safety Training, Education & Awareness

Education is an important element of Safety Management System, which is fulfilled in SAIL by regularly organising training for Company's regular & contractual employees on variety of topics including safe working, accident prevention, risk control etc. This helps in equipping them with requisite skills & knowledge. Apart from variety of skill enhancement training, awareness programmes, trainings/ workshops etc. are organised covering topics like statutory requirements, gas safety, electrical safety, crane safety, conveyor safety, material handling, Behavior Based Safety (BBS) occupational health & hygiene, first aid, stress management, preventive care for occupational diseases, HIV/ AIDS etc. For different work zones/ areas, 'Learning from Each Other (LEO)' workshops with participation of other Indian steel producers covering salient issues of concern as well as 'Large Group Interactions' are organised which helps in greater and effective sharing & learning. BBS approach is practiced to inculcate safe habits in employees and build positive safety culture. Refresher training is regularly imparted in classroom as well as on the specific job. Post-learning test is conducted to ascertain the learning level.

Feedback is taken from the participants which is constructively used to bring further improvements. Safety related information is broadcast by Plant TV cable networks covering larger cross-section of people at Plant townships. Training on safety & health is also imparted to Central Industrial Security Force (CISF) workforce & security staff.

A compulsory safety and work environment related training is duly provided to every contractual worker before deployment on any job. For each contract worker, Induction training of two days duration followed by job specific training covering area specific hazards & associated risks and required control measures is imparted before engaging on the job. To assess learning level, post test is conducted after the training and accordingly, re-training is conducted as well. For undertaking height, roof sheeting jobs etc. which involve greater risk, competence of the workers is assessed on training rig, especially fabricated for the purpose. As a result of dedicated & consistent efforts, a safe & healthy working environment has been achieved by the Company for all of its employees and those living in the neighborhood.

Awareness generation drives and safety campaigns are regularly organised by SEDs in various deptts./ areas of the Plant/ Unit. All important days like National safety day, Steel safety day, World steel safety day etc. are celebrated in a befitting manner by organizing various safety promotional activities.

During COVID-19 pandemic, extensive usage of digital platforms made to conduct various kinds of training programmes. The following webinars / e-SAP (Safety Awareness Programmes) were organised by SSO thru' digital platform to continually spread safety awareness among the plant personnel:

- 'Importance of Leadership Commitment, Employees Engagement & Communication in Safety Management' attended by 160 participants.
- 'Accident Reporting, Investigation and Analysis' attended by 202 participants.
- 'Behaviour Based Safety' on attended by 152 participants.
- 'Testing, Examination and Certification of lifting machine, tools & tackles and pressure vessels' attended by 138 participants.
- 'Safety Audit' attended by 250 participants.

(403-4, 403-5, 403-6)

Fire Safety Drill at BSL

- 'Manual & Mechanical Material Handling' attended by 120 participants.
- Safe Management of Hazardous Chemicals' attended by 109 participants.
- 'Work Permit System in Workplaces' attended by 54 participants.
- 'Prevention & Control of Major Industrial Accidents' attended by 126 participants.
- 'Hazard Identification & Risk Assessment (HIRA)' attended by 155 participants.
- 'Emergency Preparedness, Planning & Response' attended by 167 participants.
- A webinar on 'Fire Safety Management in Steel Industry' attended by 224 participants from Plants and Units.
- Safety Awareness programs for DSOs was organized through online mode which was attended by 62 participants
- Safety Awareness programs for DSOs was organized through online mode which was attended by 32 participants
- One day 'Safety Awareness program for SAIL Warehouses' was organized by SSO through online mode covering Fundamentals of Safety & Accident Prevention with special reference to Material Handling attended by 28 participants.

Practicing IT Based Systems

Technological benefits of latest IT tools & mobile applications have been harnessed by extensive deployment for strengthening Safety & Health systems. Latest safety related information is shared amongst all cross section of employees through online safety portals maintained by SSO as well as Plants / units. These web portals are an effective tool in sharing information across the organisation. Employees can submit suggestions for bringing improvements in safety standards as well as submit near miss cases through these online systems.

SSO & Plants/ Units regularly bring out various publications, electronic newsletters/ magazines, e-books etc., that have wide range of useful information pertaining to Safety & Health from experts in steel industry.

Safety Audits, Inspections & Review

To assess the effectiveness of prevailing OS&H systems, compliance to regulatory requirements and identify areas or improvement, Safety Audits are conducted on regular basis in accordance with Indian Standard IS 14489:1998 i.e. 'Code of Practice on Occupational Safety & Health Audit'. Major departments of all Plants/ Units including Mines and Warehouses are covered during such audits. Emphasis is laid on identifying issues of concern and carries out in-depth system-based audit. Compliance audits are also conducted to verify implementation status of suggested measures. Besides this, inspections, walk around surveys etc. are also conducted to identify gaps and action plans are drawn to bridge the gaps. As a new initiative, training programmes for DSOs were organised on Occupational Safety & Health audit and cross – functional teams of the trained participants conducted an internal audit across the whole plant.

Periodic review of safety performance is made at top management level of respective plants/ units. Structured review meetings are conducted by SSO through scheduled Heads of Safety & Heads of Fire Services of all SAIL plants /units. Issues of concern are discussed and strategic action plans are drawn on priorities for action to bring continuous improvement. Such meetings also serve as an experience sharing platform to the concerned professionals through Learning from Each Other (LEO) approach. Good practices of other plants/ organizations are also shared to promote benchmarking. The decision points are followed up for timely implementation. Recently, Video Conferencing (VC) as modern communication tool is being increasingly utilized for such review meetings and interactions. This helps in efficient resource utilization & effective / better communication. SSO leadership conducts periodic reviews and surprise visits to plants, interacts with cross – section of people such as DSOs, SED collective and submits feedback to ED (works).

Three tier Safety Audits are being conducted at plants & units as mentioned below:

1) Internally by concerned area safety officer of Safety Engg. Department & DSO

2) Safety audit by SAIL Safety Organisation

3) Externals safety audits by third parties as per statutory requirements

Safety inspections are conducted at different levels in Plants & Units.

a) By Safety Engg. Departments associating DSOs

b) By Safety Engg departments associating different departments like Civil Engg Department, Electrical department, Crane Engg Department, Structural Inspection departments etc.

c) Fire safety inspections by Fire services department associating DSOs

d) Apex inspection by line managers, DSOs and HoDs

Safety Pledge at BSL

(403-7)

Road Safety Awareness Rally at BSL

Salient New Safety Initiatives & Practices

SSO

- A system of **Safety Alert Message (SAM)** on issues of immediate concern was introduced by SSO. 13 nos. SAMs were circulated among plants / units as well as uploaded on a separate page in SSO Information Portal
- A new initiative **G-SaP: 'Good Safety Practices'** prevailing in the steel industry, launched by SSO. 15 nos. of G-SaPs were prepared and circulated as well as uploaded on a new page in SSO Information Portal
- A new scheme titled **'Sarvocha Suraksha Puraskar – SAIL Award Scheme or Near Miss Reporting'** was launched to promote/ encourage reporting of Near Miss cases at SAIL level as well as individual plants & units. Near Miss reporting jumped from 1609 in 2020-21 to 4080 in 2021-22
- **'Safety Excellence Award for ISPs'** titled **'i-SEA'** was launched to identify good safety systems & performance and promote internal benchmarking evaluated by Preliminary Assessment Committee (PAC) & Panel of Judges (POJ) in two phases from 11th Feb-26th Feb'2022
- A safety review meeting chaired by Chairman, SAIL was held on 4th September, 2021 at MTI, Ranchi. covering details of ongoing Safety Management Consulting Assignment in BSP & status in other ISPs, Salient new activities of SSO & Plants, accident statistics including Near Miss cases with analysis, RLTIFR trend of SAIL vis-à-vis other steel producers and the Thrust Area
- The 'Heads of Safety & Fire' meet of SAIL Plants and Units held through video conferencing on 24th March 2022 covering Safety Performance, New initiatives, Issues & Concerns and Future Thrust areas

BSP

- New Software titled 'Suraksha Software', developed by M/s Swasya Solutions has been launched and the link for uploading the safety observations has been displayed at BSP Home Page
- 27 inspections Safety Inspections were conducted as per schedule and the observations were fed in 'Suraksha Software'
- Contract was awarded to M/s SWASYA Solutions Pvt. Ltd, for 'Safety Management Consultancy Assignment' at BSP. All the agreed deliverables, scheduled during Quarter (Q3, Q-4 & Q5) completed. Further, deliverables stipulated for Q-6 is under progress
- 54 numbers of Mock-drills were conducted (in-compliance to the Statutory Provisions) during the year, as per the approved EPP & Response Procedure
- Mega Road Safety Awareness Campaign is being organized (as per schedule) in 42 Departments of BSP during start of "G" shift. Concerned CGM's / HOD's along with section/unit Head, DSOs, Non-Exe and other Volunteers
- Contracts awarded to Third Party, regarding 'Competent Person' in fulfillment of Statutory Requirement, stipulated under Section- 28 & 29 (Hoist, Lift & Lifting Machines) and Section-31(Pressure Plant), as per Factories Act 1948 & C.G. Factories Rules 1962

- Planned protocol jobs are approved, only after submission of documents indicating the identified hazards, risk assessment and its mitigation plan, along with the responsibility
- Existing standard on 'Working in confined space has been upgraded (BSP-TS-02)
- New Standard on 'Electrical Safety (BSP-TS-03) prepared and issued
- Structured Refresher Safety Training is being conducted for Contractual workers covering topics on Gas Safety, Electrical Safety, Material Handling, Working at height etc.

DSP

- Training Programs on various safety topics like Work at Height, Confined space, BBSM, Fire Safety, Gas Safety, Electrical and Mechanical safety etc were conducted at a frequency of 3 programs / month throughout the year 2021-22
- Inspection of Oil cellars, cable tunnels and pump houses as carried out every month as per plan by apex team during 2021-22
- Road worthiness of heavy vehicles at Plant Garage, MRD, CSD, FSNL was checked by joint team of ASO & DSO on monthly basis
- A new motivational scheme was introduced for encouraging Near Miss Reporting. Regular and Contract worker were awarded for reporting and department reporting maximum nos. of Near Miss cases is awarded by ED(W) in every 3 months interval
- Joint survey of Rail Road crossing and Slag Bank road done by CGM (S&FS) along with GM (Safety) and HOD (PCE). Road safety
- Shell changing of BOF Converter # 3 completed safely and Converter # 1 started. Safety officers posted round the clock for safe execution of the job
- Honorable Minister of Steel, along with Addl. Secretary & Chairperson SAIL visited Safety Excellence Centre of DSP on 27.08.21. Safety talk was given and dignitaries also spent time in the safety exhibition hall
- Joint inspection of Audio Visual Alarm at Rail road crossings was done along with DSO Traffic Deptt. On 07.08.21
- A Special training cum workshop for Loco operators was organized by Traffic Deptt through external faculty, Shri R C Mohanty, Sr. Yard Master RSP. More than 80 Loco operators were covered

RSP

- Inauguration of Automatic Number Plate Recognition (ANPR) system by ED(W) on 01.01.2022 at SED. The system will capture road safety speed violations round the clock at five locations
- HAZOP study of all the process plants done by M/s BUREAU VERITAS in different department of RSP
- Ghar se Ghar Tak Initiative:- Safety message communication was done through INLAND CARD to employee's family.
- Rakshak- a Near miss Reporting scheme has been introduces for encouraging the employees by awarding them for each near miss reporting. Total 572 Near misses has been reported in the year 2021
- A drive was taken for reassessment and updation of SOPs/ SMPs for all the departments. RSP has total 2907 numbers SOP/SMP after review 1511 Safety points were added and 1190 SOP/SMPs were updated
- Special drive was taken for inspection of Lifting tools & tackles of Deptt and different contractor agencies,
- Healthiness and color coding of gas pipeline, Housekeeping, drain pots, Illumination, Welding machine, tyre of heavy vehicles, condition of mobile crane, mirror condition at various road junctions, Road conditions and other unsafe conditions in various departments

BSL

- 39 Depts. were free of Fatal & Reportable Accidents during the Year 2021-2022
- As part of the Safety Management Consulting Assignment drive, ASK-EHS has been doing a Safety Maturity Survey – Kavach through structured interviews, and via mobile app & web-portal. Focused Group Discussion (FGD) is being conducted. DLSIC (Department Level Safety Implementation Committee) are also constituted
- 19 Mock-Drills were conducted at various critical departments
- Penalty imposed on Contractors for safety violations in 74 cases in FY 2021-22 ₹ 4,13,000/-
- Roko-Toko campaign undertaken to stop unsafe practices and spot correction

- 46 Rail-Road Crossings equipped with AV alarm
- Special Task Force constituted for Road Safety, Electrical Safety and Crane Safety
- CISF (Fire Wing) was inducted in Bokaro Steel Plant on 17.02.2022

ISP

- Recording of near-miss case, safety observations & compliance monitoring through online safety portal has Total Near Miss cases reported in FY 21-22= 636. All employees reporting near miss were awarded with token gifts
- Safe Commissioning of Propane-LPG Reticulation System on 27th Oct'21
- Weekly Training Sessions on "Gas Safety", "Working in Confined Space" & "Safety While Working with Moving Machinery", "Loco Safety:, "PTW" etc. as per MoS guidelines; 683 employees have attended the training
- Safety messages to be delivered at entry/ exit gates during shift changing timings and also at different sites through public address system to create awareness among employees
- Dielectric Painting on Cemented floor in front of Electrical panels implemented at Caster's MCC rooms at Steel Melting Shop and at BOF Gas Holder Electrical panel room
- Hydraulic Lifting Platform for Vehicle Maintenance has been developed through in-house resources by Operation Garage Dept
- Implementation of Taking snaps during unloading of Acid with usage of Acid retardant suit and following all necessary safety precautions at CO&CC Dept
- Enhancing safety management through continual safety inspections like- Conveyor Gallery, Machine Guarding, Oil & Hydraulic Cellars, and Crane & Loco, checking of old / redundant plant, Usage of PPE, Road Safety Surveillance. More than 998 such workplace inspections done
- Surprise checks are conducted to monitor the Heavy Earth Moving Vehicles violating the specified speed limits, spillage of material, fitness of vehicle and availability of helpers, inside Plant premises
- First aid firefighting training video module developed for employees and circulated for broader coverage
- Daily monitoring of traffic movement at various strategic locations across the plant to check usage of Crash Helmet by Bike/ Motor-Cycle driver and pillion rider. Warning letter memos issued to those found not using Crash Helmet, through respective GMs/ HODs
- Mock Drills are conducted regularly twice a month on scenarios e.g.- Gas Leakage & Rescue, Electrical Fire, Gas Fire, Fire in conveying system etc. These are conducted in association with NDRF, CISF, SED, Fire Services

Occupational Health Management

SAIL has established full-fledged and well equipped Occupational Health Services (OHS) centers with required infrastructure & modern healthcare equipment at all Plants & Mines to deliver a comprehensive, multidisciplinary and multidimensional health programme. OHS is committed 'to promote and maintain the physical, mental and social wellbeing of our employees at the highest possible level'. The committed services provided by the OHS in Plants have made them an integral part of the production setup and they've contributed actively to prevent illness & disability as well as to protect & promote the health of the employees. The Company has been giving priority towards improving workers' health by covering 100% employees under various OHS programmes. National OHS Centre (NOHSC) at BSP is a multi-disciplinary, multi-dimensional OHS centre, which functions as a Central Nodal Agency to monitor Occupational Health activities in different SAIL Units.

An integrated approach towards comprehensive health care is followed for preventive, curative, promotive and rehabilitative health services and maintaining a conducive work environment in line with the requirements of ISO 45001/ OHSAS 18001 & SA 8000 Standards. Periodic internal as well as external surveillance audits are conducted to make the systems more effective. Computer based software tool named Health Information System (HIS) is utilised for collection, compilation, analysis, retrieval and dissemination of necessary information.

Health awareness is promoted across the company by celebrating special days like World Health Day, International Yoga 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. Various programmes focused on regular and contracted female employees are also organised. To promote learning & experience sharing among the OHS fraternity, seminars, workshops such as All India Steel Medical Officers' Conference (AISMOC) are held regularly where good performance is recognised & rewarded. Also important issues are deliberated among doctors/ medical professionals belonging to our steel hospitals. OHS bulletin covering vital information are published by NOHSC for the benefit of employees.

(403-1, 403-2, 403-3, 403-6, 403-7)

Infrastructure & Facilities

Preventive

Periodical Medical Examination (PME), shop floor based health & hygiene survey, Departmental health check-up (DHC), Hazard Identification & Risk assessment (HIRA) at shop-floor, fundamental research on occupational health and several programme on health education, Occupational Medicine Clinic, Industrial Hygiene Survey setup, Computerized Health Information System (HIS).

Promotive

Awareness programmes, Training on Ergonomics & work design, Occupational health hazards, Industrial Hygiene, Use of PPEs for dust & noise, First Aid and Emergency care, Stress Management, Yoga at OHS centre, 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 / departments, 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. Occupational Health Research: Fundamental research in various areas of occupational health is considered to be one of the prime activities of OHS centres. Several scientific papers are published and presented on regular basis in the National and International Journals & Conference proceedings on Occupational health & Ergonomics. Several National Institutes & Universities have a close coordination with OHS centres and many post-graduate students have completed their Master's programme thesis under the guidance of OHS professionals.

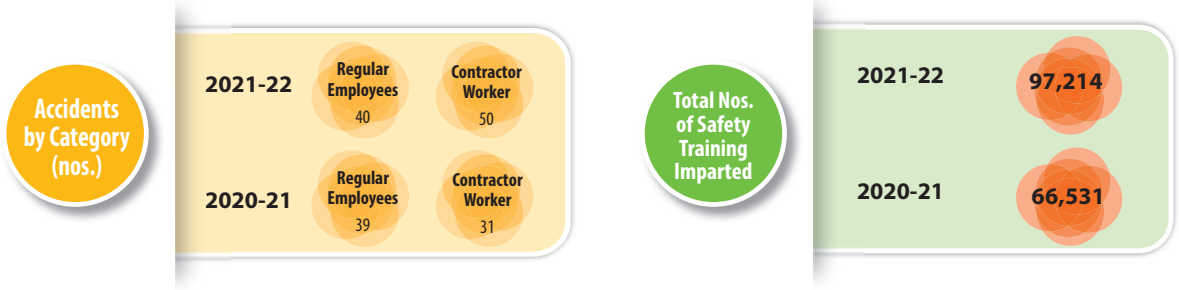
Salient activities undertaken by OHS Centres

- Periodical Medical Examination of 17,394 employees carried out
- OHS OPD services provided to 56,832 employees
- 454 Training programmes conducted by OHSC covering 5,332 participants
- Special Days like World Day for Safety & Health at Work, International Yoga Day, World Malaria Day, International Women's Day, National Occupational Health Day, World No Tobacco Day, World Diabetes Day & World AIDS Day celebrated

Safety Workshop at DSP

(403-2)

Safety Statistics (Plants, Units and Mines)



Work Related Health Data

Sl. No.	DESCRIPTION	DETAILS
A	For Employees	
(i)	Number of fatalities as a result of work related ill health	NIL
(ii)	Number of cases of recordable work related ill health	NIL
(iii)	Main types of work related ill health	NA
B	For all workers who are not employees but whose work place is controlled by the organisation	
(i)	Number of fatalities as a result of work related ill health	NIL
(ii)	Number of cases of recordable work related ill health	NIL
(iii)	Main types of work related ill health	NA
C	Work related hazards that pose a risk of ill health, including	
(i)	Types of Work related hazards	Fuel gases, chemicals, Fire, Noise, illumination, Vibration, Dust, fumes and Heat
(ii)	How these hazards have been determined	The hazards have been identified through techniques such as HIRA (Hazard Identification & Risk Assessment), HAZOP (Hazard and Operability Study), hygiene survey, safety audits, safety inspections etc.
(iii)	Which of these hazards have caused or contributed to cases of ill health during the reporting period	NA
(iv)	Action taken or underway to eliminate these hazards and minimize risks using hierarchy of controls	The hazards & associated risks have been minimized / controlled using hierarchy of controls as mentioned below: • Elimination: by incorporating necessary measures in design stage. • Substitution: by replacing the hazardous substance with lesser ones and reducing human interaction with the machine. • Engineering Controls: by using state of the art technology • Administrative Controls: through training programmes & mock drills etc. • Personnel Protective Equipment: such as safety helmet, safety shoes, ear muffs/ plugs, full body harness, flame retardant garments, gas monitors etc.
D	Whether and if so, why any worker has been excluded from this disclosure, including the types of worker excluded.	NA
E	Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies and assumptions used.	The data of OHS are analyzed through standard statistical methods

(403-10)

Human Resources

Human Resource Management (HRM) involves the management of an organization's workforce to achieve business objectives. This includes fulfilling the organization's staffing needs and maintaining ideal workplace conditions. The HR department accomplishes this by utilizing HR strategies and procedures that focus on the organization's personnel. To achieve its objectives, human resource management uses several disciplines, including psychology, business management, analytics, and sociology. Human resource management employs a comprehensive approach to managing an organization's most asset, its workforce. The role of the HR department encompasses all issues related to people such as hiring, training, compensation, wellness, benefits, communication, administration, and safety.

One of the most valuable assets of a company or organization is its workforce. It is a living, breathing resource that needs to be continuously managed to function effectively. Human resource department goes beyond the hiring process. It plays a crucial role in the day to day operations of a Company. The importance of human resource management can only be quantified by the success of an organization.

The manpower strength of the Company was 62,181 as on 1st April, 2022 across all the Plants, Units and Mines of SAIL in India. The labour productivity during the year was 474 TCS/Man/Year. This enhanced productivity with rationalized manpower could be achieved as a result of judicious recruitments, competency building, encourage learning opportunities, empathize company culture, infusing a sense of commitment & passion among employees to go beyond and excel. The ratio of employees in the gender category (Female/Male) remains at 6:94.

Team Motivation by Director (Technical, Projects & Raw Materials)

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

Name of Plant/Unit	Permanent (Gender-wise Manpower as on 1.4.2022)				Total SAIL Manpower (as on 1.4.2022)	Contract Labour (As on 1.4.2022)
	Executive		Non-Executive			
	Male	Female	Male	Female		
BSP	2,436	230	14,452	738	17,856	14,719
DSP	1100	65	6,634	341	8,140	4,625
RSP	1614	113	10,912	690	13,329	12,067
BSL	1916	178	9,445	541	12,080	11,659
ISP	927	61	4,223	227	5,438	8,637
ASP	139	8	462	26	635	1,100
SSP	151	18	630	28	827	809
VISL	53	5	203	18	279	1,342
CCSO	17	0	44	3	64	16
CMO	454	117	303	76	950	2,375
RDCIS	143	17	34	5	199	199
CET	168	11	11	6	196	41
MTI	18	4	20	5	47	36
CO	154	64	114	28	360	0
GD+SGW	12	0	2	0	14	541
EMD	6	4	10	1	21	5
SSO	12	0	3	0	15	0
SRU	101	8	373	34	516	1,956
CFP	65	3	130	3	201	547
Coll.	110	2	858	44	1,014	1,366
Total	**9,596**	**908**	**48,863**	**2,814**	**62,181**	**62,040**

Harmonious Employee Relations

People, in general, can't work well together without a positive relationship. Our employees, too. Relationship management in the workplace helps build effective teams where employees respect each other, listen to new ideas, and work seamlessly as a team.

A harmonious relationship between employees and employers contributes to economic growth and development, which then leads to an increase in efficiency. Greater efficiency, in turn, leads to higher productivity and growth. Over the years, collective bargaining has become an integral part of the Company's framework and it encourages responsible behaviour on part of workforce and responsiveness on part of the management. To ensure safe and harmonious work culture, bipartite forums like National Joint Committee for Steel Industry (NJCS), Joint Committee on Safety, Health & Environment in Steel Industry (JCSSI) with representation from major Central Trade Unions and representative Unions of Plants/ Units meet periodically. The Company believes in workers' participation and promotes involvement of workers in various organizational activities.

In SAIL, recognized unions for non-executive employees exist in all Plants/Units. NJCS 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. The Collective Bargaining for non-executive employees is carried out at this bi-partite forum. Collective and cordial industrial relation ambience with trade unions/workers' representatives is maintained by a healthy practice of continuous communication and dialogue which helps in settling issues through participative discussions. The recommendations / action plans for wages and benefits for non-executive employees are evolved jointly based on discussions amongst workers representatives and Management. We gain immensely this kind of an environment in the organization. Growth & development, reduction in turnover, exposure to company practices, enhanced motivation, increase in turnover and employee loyalty are some of the takeaways of harmonious employee relations. The discussions and agreement in NJCS also includes and covers issues such as Productivity, Safety, Health and Environment.

The provisions under the NJCS settlement provides for commencement of negotiations for a fresh agreement, six months before date of expiry of the current agreement.

In the case of Executives, the Steel Executives' Federation of India (SEFI) - the apex body representing the executives in SAIL, carries out the Collective Bargaining.

(102-7, 102-8, 102-41, 103-1, 103-2, 103-3)

Recruitment & Remuneration Policy

Defining a remuneration range before advertising a role promotes transparency and equity right from the very beginning of the recruitment process. This should therefore be one of the first steps an organisation takes when planning for a recruitment assignment.

Recruitment & remuneration complement each other. We believe in hiring and retaining the best talent irrespective of sex, caste, creed, or religion. Our selection process is well structured, transparent and follows the decorum of a Government organization Thus, we comply with the Government of India's Presidential Directive for ensuring representation of disadvantaged section of society viz. Scheduled Caste (SC)/ Scheduled Tribe (ST)/ Other Backward Class (OBC), Disability & ex-servicemen and carry out the recruitment with the requisite reservation.

The candidates from the disadvantaged section of society are being provided with relaxation in eligibility criteria like age, educational qualification, qualifying marks, fees etc. It is a part of our Board approved codified Recruitment Policy and Recruitment manual. Interview Committee/ Selection Committee which carry out the Recruitment has the mandatory representation from the said Groups such as SC/ST/OBC/minorities to ensure fairness in selection. Special Recruitment Drive for disadvantaged section of society is also carried out to liquidate any short fall in their numbers vis-à-vis reservation percentage stipulated in Presidential Directive. We also promote inclusion of local people in various kinds of jobs through local employment exchange, and also through open advertisement for recruitment purpose. Locally Displaced People are sponsored for undergoing training at ITI and thus get an opportunity for employment.

SAIL provides equal and uniform benefits to its workforce. Wages of all SAIL employees, irrespective of their gender, are above the minimum wages. The wages of non-executive employees are based on negotiated agreement under National Joint Committee for Steel (NJCS), whereas the salary of Executives is based on applicable government guidelines issued on the subject.

For contract labours, the payment is made to them by the Contractors which is over and above the minimum wages. It would be pertinent to mention that the minimum wages of contract workers are fixed by the respective State government for that location, without any gender differentiation.

HR Systems and Processes

Our human resources management system ensures everyday human resources processes are manageable and easy to access. Human resource information systems provide a means of acquiring, storing, analyzing, and distributing information to various stakeholders. Workers' participation at SAIL, at different levels, right from National level up to shop-floor level, is ensured through an established system of negotiation. Fair dealing & compliance on labour issues are ensured by the designated Labour Welfare Officers of the respective Plant/Unit/Mines.

The three key benefits of having a structured HR system saves energy and time. It also helps the organization to make informed business decisions and engages and reconnects employees.

There is no discrimination between employees and SAIL believes in providing the right opportunity to the most deserving employee. The Personnel department regularly monitors fairness in activity and services as the Company. The Company encourages Freedom of Association, as enshrined under the Constitution of India and envisaged in the Trade Union Act. The Right to exercise the Freedom of Association and Collective Bargaining in our operations is also actively used at SAIL.

SAIL is a Central Public Sector Enterprise with Government having 65% stake. We protect Fundamental Rights of our workforce as described in the Constitution of India. Human Rights are necessarily being complied by SAIL. Our Administrative Ministry ie. Ministry of Steel regularly monitors the performance of SAIL on various parameters. As a result of this, the Company is proud that there was no recorded case during the reporting year on any violation of Human Rights. Efforts have been made to successfully manage Succession Planning and Career Development aspect of all employees. Regular performance and career development reviews are done for all the employees.

Aspects of Human Rights are communicated to all our vendors & suppliers through implementation of SA 8000. SAIL arranges for training & awareness workshops for employees on different aspects of SA 8000 which cover areas relating to child labour, forced labour, non-discrimination, freedom of association, safe work environment and health & safety. The SA 8000 clause on child labour includes employment of persons of age 18 and above as a precondition to partnering with SAIL. In the event of any kind of violation of aforesaid SA 8000 clause by any vendor within or outside the Company premises, liabilities for the education of the child until the completion of high school accrue to the defaulting party. This condition is clearly communicated to all our vendors and suppliers during their engagement with the Company.

(103-1, 103-2, 103-3, 202-1)

Being a large and multi-unit organization, the need for having uniform and codified rules and policies had driven the organization to evolve with significant changes in the personnel policies and rules over the years. In case of transfer from one Plant/ Unit to another, an employee, is extended benefits to cater to all their needs which include travelling allowance for self & family, transportation of personnel effects including packing charges. In addition, the transferred employee is given reasonable time to join their new place of posting i.e. six working days for change of station and one working day within same station. Sufficient time to execute the journey is also provided to the transferred employee. If the employee desires to retain facilities at previous location, permission for retention is also granted as per the Rules.

A well-structured exit policy is also in place at SAIL. An employee has to serve three months' notice period after putting in the resignation as per codified rules of the Company.

SAIL encourages employees to a have a healthy work life balance which creates an environment where everyone is dedicated to the work at hand. Maintaining work-life balance helps reduce stress and helps prevent burnout in the workplace. By creating a work environment that prioritizes work-life balance, employers can save money and maintain a healthier, more productive workforce. To support work life balance appropriate leave policies are available for the employees. All regular employees enjoy benefits like Health care, Disability /Invalidity coverage, Maternity Leave, Retirement Benefits. A female employee may be granted maternity leave for a period of 180 days with pay from the date of its commencement. A women employee may be granted child care leave of 730 days without pay during her entire service period for taking care of two surviving children. Workman engaged by the Contractors in establishments of SAIL, are covered under the ESI Benefits.

SAIL also provides its employees with various social benefits in the form of housing, education, civic amenities, sports & recreation and social welfare. Full-fledged townships have been developed over the years at all Plant locations with modern infrastructural facilities along with premier schools, super specialty hospitals, shopping malls, multiplexes, parks, gymnasium and stadiums which enable employees and their families to lead a comfortable life replete with all modern amenities.

Communication with Employees

Employee communication is vital for the health and strength of a company. Without it, managers would not be able to properly lead the employees they manage. The more effectively a business can execute an employee communication strategy, the more successful it will be. We feel employees who communicate effectively with colleagues, managers and customers are always valuable assets to an organization and it is a skill which can often set people apart from their competition when applying for jobs. Mass communication campaigns are undertaken at Directors I/C / Senior Officers' level involving structured discussion with large group of employees. These interactive sessions help employees to align their working with the goals and objective of the Company leading to higher production and productivity as well as enhancing the sense of belongingness of the employees. It also helps in maintaining workplace harmony, improves employee experience, encourages innovation and increases inter-departmental co-operation.

Large Group Interaction Exercise at ISP

(103-1, 103-2, 103-3, 202-1)

Grievance Redressal Mechanism

A grievance mechanism is a procedure that provides a clear and transparent framework for addressing grievances related to the recruitment process and in the workplace. This typically takes the form of an internal procedure for complaints, followed by consideration and management response and feedback. To achieve consistent treatment in the handling of grievances at the workplace, well laid out procedures have been defined at SAIL to defend employee rights. The employee is empowered raise his or her grievance with the immediate supervisor. If the decision taken by the supervisor is not acceptable to the aggrieved employee, he or she should be made known to whom next in the echelon of management, he or she should refer the grievance. Effective internal grievances redressal machinery has been established at SAIL Plants and Units, separately for executives and non-executives. Joint grievance committees have been set up at Plant/Unit level for effective redressal of grievances.

SAIL Plants/Units maintain 3 stage grievance handling mechanism. The employees are given an opportunity at every stage to raise grievances on areas relating to wage irregularities, working conditions, transfers, leave, work assignments and welfare amenities. Due to the participative nature of environment existing in the steel plants, majority of the grievances are redressed informally. The system is comprehensive, simple and flexible and has proved effective in promoting harmonious relationship between the employees and the management. Against 261 staff grievances received during the FY 2021-22 with 19 grievance pending from previous year, 238 staff grievances were disposed off during the year, achieving 85% fulfillment. SAIL continues to adhere to its human rights objectives and there are no known cases of discrimination or any violations of human rights at SAIL.

Medical Facilities for Employees

SAIL is committed to health and wellbeing of its employees and has made consistent efforts towards the holistic health of its employees. The Health Policy of SAIL states that: "SAIL, the largest steel producer of India, in its endeavour 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." As employees' health and wellness is of paramount importance to the Company, SAIL provides its employees with a range of options for medical policies. These medical policies are available to all employees, even post retirement. The employees are considered as part of one extended family and SAIL believes in supporting them during service as well as after superannuation.

The Company has extended its medical facilities to the serving employees and the entitled dependent family members of the employees. SAIL has a huge medical setup comprising of multi-specialty Hospitals and Primary Health Centres, located across its Plants / units. For treatment that is 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 SAIL's own hospitals are not available, 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.

The Company provides free of cost medical benefits and health care benefits for all its retired employees and their spouses. The medical facilities extended to ex-employees and their spouses at Plant Hospitals are at par with serving employees. A Mediclaim Scheme was also introduced in SAIL in 1991 for all retired employees and their spouses. The Mediclaim Scheme has evolved over the years and is being operated by SAIL. SAIL Mediclaim Scheme is amongst the largest group Mediclaim Schemes in India. The premium payable by the beneficiaries for the SAIL Mediclaim scheme is highly subsidized.

Employee Family Benefit Scheme (EFBS)

SAIL has a novel welfare scheme namely EFBS which establishes that SAIL believes in taking care of the employees at the time of distress. Employee Family Benefit Scheme(EFBS) supports families in cases of death of an employee while in service or on account of Permanent Total Disablement. Under the EFBS, an amount equal to the last drawn Basic Pay + DA is paid to the nominee or the employee (as the case maybe), on monthly basis till his/her notional date of superannuation. Benefits under the EFBS 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 the nominee/employee after attainment of the notional date of superannuation.

Employees Superannuation Benefit Fund

Employees Superannuation Benefit Fund (SESBF) at SAIL exhibits the Company's commitment towards its employees even after their retirement. SAIL employees contribute @ 2% of their Basic Pay plus DA towards SESBF. The SESBF Fund is managed by a Trust representing Unions, SEFI and Management. The Company takes care of its employees during the course of their employment and even after retirement and hence is seen as a champion of best practice pertaining to post-retirement benefits.

Training and Development

Training at DSP

The sudden onset of the COVID-19 global health crisis disrupted work patterns in companies worldwide. One of the work areas most affected was employee learning and development. The mandate to move employees to working from home made it impossible to provide in-person, classroom-based skills training. However, our Company adapted to the changed scenario and moved effortlessly from physical classroom skills training to online programs without affecting the quality of employee skills training.

We at SAIL believe in skill and competency enhancement for organizational goal accomplishment through all its employees and this year wasn't any different. Some of the key highlights for the year were Learning, futuristic Skill development, Competency enhancement and well- being related interventions planned by the T&D department for all its employees which would lead us to the realization of SAIL's Mission.

At SAIL, the training functions are validated by an apex body known as Training Advisory Board (TAB). It is an advisory body on training matters and its key role is to fix the goal and set a direction for focussing on future training needs. TAB is headed by the Chairman and has Directors and CEOs of the Company as its members. At the Plant/Unit level there is a Training Advisory Committee (TAC) to oversee and monitor the implementation of training and development initiatives in line with TAB guidelines. TAC is attended by zonal and departmental heads and chaired by the respective Director In-charge. With this hierarchal set up, these bodies generate several organizational learning needs and thrust areas which are included in the annual development plans.

The Annual Training Plan (ATP) is an important arrangement that forms the basis for enhancing competencies of all employees. Training & Development team at SAIL prepares this Plan for each Plant/Unit to covering the following major categories:

New Entrants: Mentoring helps new entrants to settle into their new role, understand the organization and instil confidence. Newly recruited Management Trainees (MTs) generally undergo a 52-week Management Trainees Training System (MTTS) which starts with Central Induction Programme at one of our Plant HRD centres. The important areas include Competence Enhancement, Workshops and other Special Areas. In addition, as part of training, the new recruits are provided mentoring by high performing senior managers too. This method also allows the mentor to determine what is required to improve mentee's performance and identify training areas. Training modules are continually updated to bridge the gap in competence of the employees based on their training needs.

Executive Level Employees: In order to enhance the skills of executives, an Annual Training Need Assessment (TNA) is carried out through online Executive Performance Management System (EPMS). The executives are imparted need based technical and managerial training which can be opted for in consonance with their KPA fulfilment from among the centralized training modules.

Non-executive Employees: SAIL organizes an equal amount of significant training and development programmes for our non-executive employees. At the shop floor, the line managers identify and advise the Training Engineers about the training needs of non-executive employees. This assessment is done as required through modes like Competency Mapping, Skill-Gap Analysis, requirement for Multi-skill training etc.

Special Performance Improvement Workshops (PIWs) involving root cause analysis, brain storming are also planned and undertaken for the non-executive employees and frontline executives. Action plans are built for addressing issues covering production and productivity, cost reduction, maintenance, housekeeping and safety at the respective area/shops.

College students are also given Specialized Technical Training and Vocational Training every year. For enhancing skills and knowledge of the employees for their continued growth and future performance, technical and managerial journals are also shared through Company's Portal, in-house magazines.

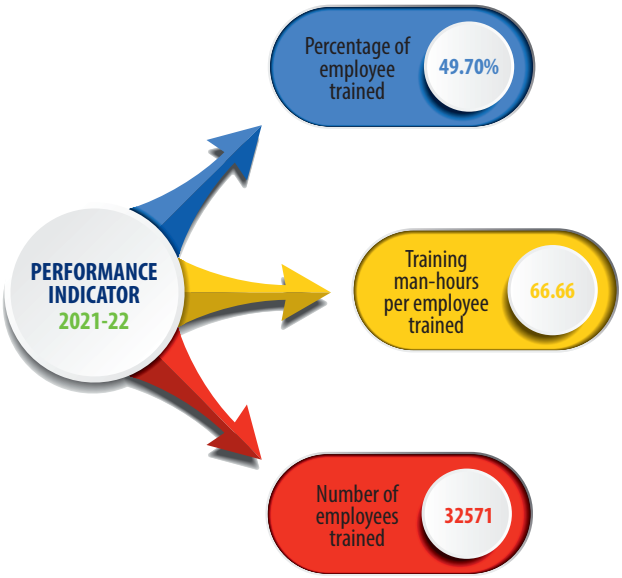
Training programmes at SAIL provide its employees with lifelong learning and skills that not only enables a successful and fulfilling career at SAIL but also benefits them in their retired life.

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

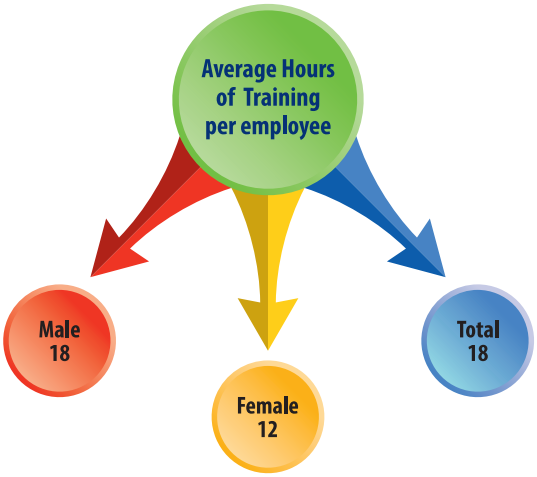
Average Hours Training Profile for 2021-22

Training	Executive	Non-Executive	Total
External Training (including MTI/CPTI)	14,892	6,516	21,408
Foreign Training	0	0	0
Specific Areas	21,474	97,422	1,18,896
Managerial Competence Enhancement	46,614	12,792	59,406
Technical Competence Enhancement	44,814	1,02,810	1,47,618
Fresh/New Entrants	4,32,870	11,53,032	15,85,902
Other Areas	17,880	2,19,654	2,37,534

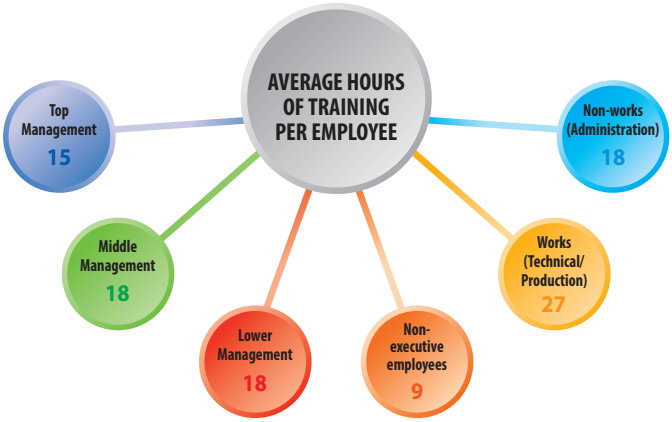
Average hours of training the employees have undertaken during the reporting period



i. Gender



ii. Employee category



Adi Mahotsav, a grand Tribal Fair at RSP

Corporate Social Responsibility

The objective of the Company is not only to manufacture steel, but also to conduct business in ways that result in social, environmental and economic benefits to the communities in which it operates. For any organization, CSR begins by being aware of the impact of its business on society. With the underlying philosophy and a credo to make a meaningful difference in people's lives, SAIL has been structuring and implementing CSR initiatives right from the inception. These efforts have seen the erstwhile obscure villages located around SAIL plants, turn into large industrial hubs today.

SAIL CSR initiatives are undertaken in conformity to the prevalent statutes like 'The Companies Act, 2013', its Schedule-VII, CSR Rules, 2014 and Companies (CSR Policy) Amendment Rules, 2021. SAIL carries out CSR projects in and around steel townships, mines and far flung location across the Country in the area of rural development including maintenance of Model Steel Villages (MSVs), providing Health Care, immunization, Ante/post natal care, education, access to water facilities, roadside tree plantation, environment sustenance, women empowerment, sustainable Income generation through Self Help Groups, Assistance to Sr. Citizens, Divyangs, trainings to promote Sports, promotion of traditional Art and Culture, etc. Various Social initiatives associated with our operations and their mitigation strategies adopted by us are listed below:

SOCIAL RISKS

- Fulfilment of social responsibilities concurrently with Plant/Units/Mines activities
- Maintenance of ethical transactions across supply chain
- Motivation of employees and talent retention
- Ensure development programmes in villages

MITIGATION STRATEGIES

- Appropriate need assessment and community engagement programmes
- Ethical business conduct
- Ensure professional growth
- Social up-liftment by investing on community and its development

A Responsible Strategy

During FY 2021-22, SAIL has incurred an expenditure of ₹ 13.77 crore in excess of the mandatory CSR budget of ₹ 80.47 crore. SAIL focused on CSR activities intertwined with theme projects of national priority, in the areas of Education, Health, Skills Development, Women Empowerment, Assistance to Divyangs and Sr. Citizens, etc. 67% of the total CSR expenditure (₹ 63.25/94.24 crore) was spent on thematic program pronounced by the Government of India, viz. "Health & Nutrition with special focus on COVID related measures including setting up makeshift hospitals and temporary COVID Care Facilities" under CSR. SAIL also contributed an amount of ₹ 50.00 Crore to the Prime Minister's Citizen Assistance and Relief in Emergency Situations (PM CARES) Fund.

The implementation and monitoring of Corporate Social Responsibility Program is in compliance with CSR Objectives and Policy of the Company.

CSR Initiatives for FY 2021-22

The following significant activities in various fields were undertaken:

SAIL CSR Initiatives on CoVID-19

The Corona Virus (CoVID-19) is an expanding pandemic, which has created an unprecedented crisis globally. The nation posed the cumulative risk of CoVID-19 variants, i.e. 'Delta' as well as 'Omicron' which mutated and spread worldwide rapidly, consequently, exponential rise in Covid-19 cases was reported. SAIL activated a scaled response towards management of the pandemic at its Plants, Units, Mines and Townships.

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

In addition, SAIL Hospitals manned by more than 900 qualified doctors and 1,500 para-medical staff to extend round the clock Healthcare, have earmarked 1,000 dedicated CoVID-19 beds with oxygen support and 129 ICU beds with ventilator support in view of surge in cases, created 600 beds Quarantine Facilities and developed CoVID-19 testing facilities like RAT, RTPCR, TRU-NAT in coordination with respective State Governments. Touch-free hand-sanitizers, water dispensers have been installed, spraying disinfectants, using digital thermal recorders at prominent locations, ensuring continuous water supply in all the peripheral villages.

Supply of Liquid Oxygen from DSP

In order to support the vulnerable sections of society, daily-wage earners/labourers, poor peasants and their families, SAIL Plants and Units distributed dry ration packets, Milk packets, Milk powder, Khichdi, routine medicines, daily cooked meals to patients and healthcare workers, sanitary napkins for women, facilitated stitching/distribution of Face Masks, Aprons, and Gloves, etc.

SAIL Employees Rendering Volunteerism & Initiatives for Community Engagement [SERVICE] has been launched to support volunteer activities and community outreach by SAIL employees. It has provided a much needed platform for like-minded employees having a sense of social responsibility to unite in their effort to help the society brace the fallout of the CoVID-19 Pandemic. Over 29,000 volunteers have registered on the SERVICE portal.

Healthcare

Healthy population contributes to a better economic growth. The Company has been providing specialized and basic healthcare to people living in the vicinity of its Plants/Units through extensive and specialised Healthcare Infrastructure. Nearly 177 Lakh people living in the vicinity of its plants and units were benefitted during the period 2011-22. Surgeries like Cataract and lens implant, cleft lip and palate disorder, polio-leg correction, etc. are conducted. Treatment of hearing impaired, anaemia and identification and counselling of Sickle cell and Thalassemia patients, women with gynaecological disorders, Leprosy and Tuberculosis patients were are provided free of cost during the year.

In order to deliver quality healthcare at the doorsteps of the needy, regular health camps in various villages on fixed days are being organized for the people living in the periphery of Plants/Units, mines and far-flung areas. During FY 2021-22, regular Health Camps and 5 Mobile Medical Units (MMUs) extended quality healthcare to approx 64,500 villagers at their doorsteps in the peripheral areas of Plants, Units and Mines.

24 Primary Health centers at Plants exclusively provided free medical care and medicines to above 1,25,000 patients, including 11,300 approx Covid-19 patients, during FY 2021-22.

Education

SAIL firmly believes that education leads to a lifelong learning. To develop the society through education, SAIL is supporting about 77 schools providing modern education to more than 40,000 children in the steel townships and is assisting over 600 Govt. schools in Bhilai and Rourkela with about 63,000 students by providing Mid-day meals and dry ration kits in association with Akshya Patra Foundation.

Nineteen Special Schools (Kalyan and Mukul Vidyalayas) benefitting around 4865 BPL category students at Integrated Steel Plant locations with facilities like free education, mid-day meals, uniform including shoes, text books, stationary items, school bags and water bottles, etc. are running under CSR.

Awareness Campaign on Cleanliness by Students at BSL

More than 441 Tribal children are getting free Education, accommodation, meals and uniforms, textbooks, etc., at Saranda Suvan Chhatravas, Kiriburu; Gyanodaya Chhatravas, BSP School Rajhara, Bhilai; Gyanjyoti Yojna, Bokaro.

Gyan Jyoti Yojana: Bokaro Steel Plant has introduced the initiative for providing education and holistic development for the children of Birhor tribe, which is at the verge of extinction. 15 Birhor children were adopted and provided free Education along with boarding, lodging, nourishing and wholesome food, clothing, free medical treatment, sports and cultural opportunities in a conducive atmosphere. They are the first Matriculates and 12th pass from their community. For skill development and better employability, 9 Matriculate Birhor Boys adopted under Gyan Jyoti Yojana had been sponsored for ITI training in "Welder trade" along with stipend of ₹2500/- each, boarding and lodging facility at Bokaro Pvt ITI.

Inspired from their achievements, new batch of 15 Birhor children has been adopted, who have begun their life in new surroundings.

Women Empowerment and Sustainable Income Generation

Vocational and specialised skill development trainings targeted towards sustainable income generation were imparted to 223 youths. Around 1306 women are undergoing skills trainings, in areas such as Nursing, Physiotherapy, LMV Driving, Computers, Mobile repairing, Welder, Fitter and Electrician Training Improved agriculture, Mushroom cultivation, Goatery, Poultry, Fishery, Achar/Pappad/Agarbati/ Candle making, Screen printing, Handicrafts, Sericulture, Yarn Weaving, Tailoring, Sewing and embroidery, Gloves, Spices, Towels, Gunny-bags, Low-cost-Sanitary Napkins, Sweet Box, Soap, Smokeless chullah making etc. These activities are being carried out at various centres located in and around Steel Plants and Mines locations. SAIL is also instrumental in marketing of the products manufactured at such centres.

Around 418 rural youths from periphery have been sponsored for ITI trainings in industrial trade streams of Electrician, Welder and Fitter, etc. at ITIs Bolani, Bargaon, Baliapur, Bokaro Pvt ITI and Rourkela, etc.

Sewing Training being imparted at RSP

Water facilities and Connectivity in Rural Areas

Over 8176 water sources have been installed and maintained, since inception, thereby enabling easy access to drinking water to over 50 lakh people living in far-flung areas.

Over 79.03 Lakh people across 450 villages have been connected to mainstream by SAIL since its inception by constructing and repairing of roads.

Promotion of Sports, Art and Culture

SAIL regularly organizes inter-village sports tournaments, extending support to major national sports events and tournaments. The Company is also supporting and coaching aspiring sportsmen and women through its residential sports academies at Bokaro (football), Rourkela (Hockey), Bhilai (Athletics for boys), Durgapur (Athletics for girls) and Kiriburu, Jharkhand (Archery). Cultural events like Chhattisgarh Lok Kala Mahotsav, GraminLokotsav are organised every year.

Support to Divyangs (Differently abled) and Senior Citizens

SAIL has been supporting Divyang children/people through provision of equipment like- tricycle, motorized vehicles, callipers, hearing aids, artificial limbs, etc. Various schemes and centres at Plants are being supported by the Company. Some of them include:

- "Schools for blind, deaf and mentally challenged children" and "Home and Hope" at Rourkela
- "Ashalata Kendra" at Bokaro
- "Durgpaur Handicapped Happy Home" at Durgapur and
- "Cheshire Home" at Burnpur

Old age homes are also supported at different Plant townships like 'SiyanSadan' Bhilai, 'AcharyaDham' at Durgapur and 'Sr. Citizens' Home' Rourkela, etc

Programs like "Handicapped Oriented Education Program" (HOPE) at Durgapur are also being conducted by the Company. SAIL has adopted, developed and is maintaining a Lepers Colony at Kajora through Durgapur Steel Plant wherein all the social and infrastructure facilities have been maintained.

More CSR Projects at SAIL

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 CSR activities undertaken in these villages include medical and health services, education, roads and connectivity, sanitation, community centers, livelihood generation, sports facilities, etc. The facilities developed at these MSVs are being run and maintained regularly.

Development of Aspirational Districts

SAIL is implementing CSR projects in 6 Aspirational Districts, viz. West Singhbhum, Bokaro & Ranchi in Jharkhand; Kanker, Narayanpur&Rajnandgaon in Chhattisgarh (also Naxal affected areas). During Financial Year 2021-22, around 16% of the total CSR expenditure has been spent on development of these 6 Aspirational Districts.

Development of Communities in Saranda Forest

In order to bring the marginalized masses of the remote forest areas to the mainstream of 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. SAIL provided ambulances, 7000 each of bicycles, transistors, solar lanterns and established an Integrated Development Centre (IDC) at Digha village in Saranda forest with provision of facilities like Bank, Panchayat Office, Ration shop, Telecom office, AnganwadiCentre etc. for the local populace.

Restoration of Purnapani Mines

Environment Conservation

To promote renewable sources of energy, Solar street lights have been installed in rural areas, Solar Lanterns and smokeless chullahs have been distributed among the rural people of Saranda and other locations. SAIL is regularly maintaining parks, botanical gardens, water bodies and plantation/maintenance of over 5 Lakh trees in its townships.

Disaster Relief

SAIL, as a responsible corporate citizen, supported the rehabilitation initiatives for the people affected by National and Natural Calamities, the recent being Covid-19 pandemic throughout the country, flood ravaged Jammu and Kashmir, Phylin Cyclone in Odisha and Flash Floods in Uttarakhand.

Monitoring Mechanism

In SAIL, every Plant / Unit is having a high level Committee headed by senior EDs/GMs, which recommends the CSR projects to be taken up by the respective Plant / Unit. The same Committee monitors the progress and execution of these projects as well as undertakes audit of social benefits achieved from CSR initiatives undertaken.

In addition, SAIL has a strong internal mechanism to monitor the activities/ initiatives undertaken under CSR and Sustainability. The Board Sub Committee on CSR reviews/ monitors CSR and Sustainability activities on regular basis.

Reporting on CSR

The Annual Report of SAIL for 2021-22 includes reporting on CSR in compliance to the Companies (CSR Policy) Amendment Rules, 2021. 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 internal evaluation and by Professional Agencies from time to time.

CSR Scorecard

No. of Model Steel Villages developed	**79**
No. of People given specialized and basic Healthcare during 2011-22	**>1,77,00,000**
No. of Beneficiaries of Health Camps	**>64,500**
No. of Water Sources Installed	**>8,176**
No. of Beneficiaries provided with access to drinking water	**>50,00,000**
No. of Villages connected by construction and repair of roads since inception	**450**
No. of Schools supported by the Company	**77 (>40,000 Students)**
No. of Govt. Schools being provided assistance through Mid Day Meals in association with Akshya Patra Foundation	**>600 (with about 63,000 Students)**
No. of Special Schools (Kalyan/Mukul Vidyalayas) exclusively for BPL families	**19 (benefitting around 4,865 Students)**
No. of Youths provided with specialised skill development training	**223**
No. of Women provided with specialised skill development training	**1306**
No. of Rural Youths sponsored for ITI training	**418**

Football Match at DSP

GRI Content Index

GRI CONTENT INDEX SERVICE 2022

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For the GRI Content Index Service, GRI Services reviewed that the GRI Content Index is clearly presented and the references for disclosures included align appropriate sections in the body of report.

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Abbreviations

AGM	Annual General Meeting
AIDS	Acquired Immune Deficiency Syndrome
AIMA	All India Management Association
AISMOC	All India Steel Medical Officers' Conference
AOD	Argon Oxygen Decarburization
ASP	Alloy Steels Plant
ATP	Annual Training Plan
BDL	Below Detectable Level
BF	Blast Furnace
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
CAD	Corporate Affairs Division
CCO	Customer Contact Offices
CCP	Continuous Casting Plant
CDA	Conduct, Discipline and Appeal
CDC	Consultancy Development Centre
CDCP	Coke Dry Cooling Plant
CEMDE	Centre for Environment Management of Degraded Ecosystem
CET	Centre for Engineering and Technology
CFP	Chandrapur Ferro Alloy Plant
CHSGP	Cast House Slag Granulation Plant
CII	Confederation of Indian Industries
CMO	Central Marketing Organisation
CO	Coke Oven
CO_2	Carbon Dioxide
CoD	Centre for Organisational Development
COD	Chemical Oxygen Demand
COE	Centre of Excellence
COP	Conference of the Parties
CPP	Captive Power Plant
CPTI	Central Power Training Institute
CPWD	Central Public Works Department
CREP	Corporate Responsibility for Environment Protection
Cr.	Crore (Ten Millions)
CSR	Corporate Social Responsibility
CTC	Carbon Tetra Chloride
DBT	Department of Biotechnology
DG	Diesel Generator
DMB	Disability Medical Board
DMRC	Delhi Metro Rail Corporation
Dolo	Dolomite
DPC	Delhi Productivity Council
DPE	Department of Public Enterprises
DSO	Departmental Safety Officer
DSP	Durgapur Steel Plant
EAF	Electric Arc Furnace
EBIDTA	Earnings Before Interest, Tax, Depreciation and Amortization
ECG	Electrocardiography
ED	Executive Director
EMD	Environment Management Division
EMS	Environment Management System
EPMS	Executive Performance Management System
ETPs	Effluent Treatment Plants
EU	European Union
FICCI	Federation of Indian Chambers for Commerce and Industry
GCal	Giga Calorie
GCP	Gas Cleaning Plant
GD	Growth Division
GHG	Green House Gas
GoI	Government of India
GRI	Global Reporting Initiative
HEMM	Heavy Earth Moving Machineries
HIRA	Hazard Identification and Risk Assessment
HIS	Health Information System
HR	Human Resource
HRD	Human Resource Development
HRM	Hot Rolling Mill
IICCI	The Indian Iran Chamber of Commerce and Industry
IIM	Indian Institute of Metals
IIPE	Indian Institute of Plant Engineers
IITF	India International Trade Fair
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
ITI	Industrial Training Institute
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
JV	Joint Venture

JVC	Joint Venture Company
KAM	Key Account Management
KIOCL	Kudremukh Iron Ore Company Limited
KL	Kilo Litres
KPI	Key Performance Indicators
kWh	Kilo Watt Hour
L&T	Larsen & Toubro
Lakh	Hundred Thousand
LD	Linz Donawitz
LED	Light Emitting Diode
LEO	Learning from Each Other
LHB	Linke Hofmann Busch
IISCO	Indian Iron & Steel Company
LMV	Light Motor Vehicle
LODR	Listing Obligations and Disclosure Requirements
MkWH	Million Kilo Watt Hour
MMUs	Mobile Medical Units
MODEX	Modernisation-Expansion
MOEFCC	Ministry of Environment, Forest & Climate Change
MoU	Memorandum of Understanding
MSME	Micro, Small & Medium Enterprise
MSVs	Model Steel Village
MT	Millions Tonnes
MTI	Management Training Institute
MTs	Management Trainees
MWp	Megawatt Peak
NCQC	National Convention on Quality Concepts
NGO	Non-Governmental Organization
NHPC	National Hydroelectric Power Corporation
NIPM	National Institute of Personnel Management
NJCS	National Joint Committee for the Steel Industry
NMDC	National Mineral Development Corporation
NOHSC	National Occupational Health Service Centre
NOx	Oxides of Nitrogen
NSC	National Safety Council
NTPC	National Thermal Power Corporation
ODS	Ozone Depleting Substances
OH&S	Occupational Health & Safety
OHS	Occupational Health Service
OHSAS	Occupational Health and Safety Management System
OPD	Out Patient Department
OTIF	On Time in Full
PAT	Profit After Tax
PCB	Poly Chlorinated BiPhenyls
PIWs	Performance Improvement Workshops
PM	Particulate Matter
PMA	Project Management Association
PMGSY	Pradhan Mantri Gramin Sadak Yojna
POPs	Persistent Organic Pollutants
PPEs	Personal Protective Equipments
PSC	Portland Slag Cement
PSU	Public Sector Undertaking
QCFI	Quality Circle Forum of India
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
RSP	Rourkela Steel Plant
₹	Rupees
S&OP	Sales & Operations Planning
SA	Social Accountability
SAIL	Steel Authority of India Limited
SCL	Steel Complex Limited
SCOPE	Standing Conference of Public Enterprises
SD	Sustainable Development
SEBI	Securities & Exchange Board of India
SED	Safety Engineering Department
SEF	Sale Force Effective
SEFI	Steel Executives Federation of India
SESBF	SAIL Employees Superannuation Benefit Fund
SGL	Shot Grinding Line
SGW	SAIL Growth Works, Kulti
SHE	Safety, Health and Environment
SMPs	Standard Maintenance Practices
SMS	Steel Melting Shop
SO2	Sulphur Dioxide
SOP	Standard Operating Practices
SRU	SAIL Refractory Unit
SSO	SAIL Safety Organization
SSP	Salem Steel Plant
SWP	Safe Work Procedure
TAB	Training Advisory Board
TCE	Trichlorethylene
tcs	Tonnes of Crude Steel
TERI	The Energy and Resource Institute
THF	Twin Hearth Furnace
TJ	Tera Joule
TMT	Thermo Mechanically Treated
TOLIC	Town Official Language Implementation Committee
TRT	Top Pressure Recovery Turbine
TRTG	Top Recovery Turbine Generator
UNIDO	United Nations Industrial Development Organisation
VC	Video Conferencing
VISL	Visvesvaraya Iron and Steel Plant
VVVF	Variable Voltage Variable Frequency
WCPS	World Confederation of Productivity Science
WIPS	Forum of Women in Public Sector
WSA	World Steel Association
ZLD	Zero Liquid Discharge
ZSOs	Zonal Safety Officers

स्टील अथॉरिटी ऑफ इण्डिया लिमिटेड
STEEL AUTHORITY OF INDIA LIMITED

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