

# Jindal Steel & Power Limited

Jindal Steel & Power Limited (JSPL), part of the US\$ 4 billion Jindal Organisation; redefines dynamism. JSPL with its obsession for excellence, is increasing its portfolio of value-added products, bringing the world's best to India and making an international mark. Production Capabilities expanded to serve the infrastructure sector, catalysing economic, development and growth. JSPL has the integrated steel plant (as approved by Joint Plant Committee) at Raigarh in the state of Chhattisgarh, India. The facilities include world's largest coal-based Sponge Iron Plant with a capacity of 1.37 million TPA using ten indigenously developed rotary kilns. The company has achieved complete backward integration with its captive iron & coal mines making it one of the lowest-cost producers of sponge iron. The steel making capacity has been expanded from 400,000 TPA to 1.15 million TPA. JSPL also has 265 MW power generation facility based on Waste Heat Recovery from rotary kilns, washery rejects & coal fines, with a capacity expansion to 350 MW, on anvil. Jindal Power Limited, a company promoted by JSPL, is in the process of setting up a 1000 MW Pithead Power Plant at Raigarh, with an investment of over Rs.4500 Crore.

JSPL today is the largest private sector investor in Chhattisgarh with a total investment of Rs.10,000 crores. JSPL has recently signed an MoU with the State Government of Orissa to set up a 2 million tonne steel plant with an investment of Rs.13,500 crores which would be expanded to 6 million tonne and another MoU has been signed with the State Government of Jharkhand to set up a 5 million steel plant with an investment of Rs.12,000 crores.

Jindal Steel & Power Limited was nominated as one of the Emerging Companies of the Year 2001 by The Economic Times, and as the top 20-investor friendly companies in the Year 2004 by Business Today. An ISO-9002 and ISO 14001 certified company, JSPL is committed to conducting business safely, ethically and in an environmentally responsible manner that protects the natural resources and environment. The company has been felicitated with a number of awards for its efforts towards ensuring safety and energy conservation. These primarily include the National Safety Award 2004, by the Ministry of Labour, National Energy Conservation Awards for 2001, 2002 and 2003 by the Ministry of Power, IIM Quality Award for 2000-01 and 2002-03 by the Indian Institute of Metals, the Golden Peacock Environment Management Award 2002-03 by the Institute of Directors, Rajiv Gandhi National Quality Commendation Certificate 2001 instituted by the Bureau of Indian Standards and Greentech Environment Excellence Award 2002-03 and Greentech Safety Award, 2002-03 by the Greentech Foundation.

With a view to benefit from the latest innovations in information technology tools, an Enterprise Resource Planning (ERP) SAP R/3 Version 4.66 has been implemented in all the units by Siemens Information Systems Limited. Apart from integrating various functions, the ERP programme seeks to improve coordination, increase productivity and lower cost of production. The attention is focused on quality improvement, cost reduction and customer satisfaction. This will further strengthen the competitiveness of the products and enhance their marketability in domestic and global markets.

At Raigarh, a tribal district in the state of Chhattisgarh, JSPL has always taken its role as a responsible corporate citizen very seriously. Giving back to the community at large has been an objective from the very beginning. The company has been quietly trying to make a difference through ongoing programmes specially instituted to improve the lot of the underprivileged. One of the key priority areas has been education, as this is the field where impact is the most productive. The 10+2 co-educational Jindal School, with an investment of over Rs 50 million, has been operational at Raigarh. The oldest girls' school has been renovated. A total of 42 villages have been adopted, contributing to the development of a region through a more holistic effort. Here, it is community building that takes place: providing sewage and sanitation facilities to building and maintaining roads and parks to healthcare and education. Improvement of medical facilities through the setting up of charitable clinics and hospitals is yet another field of endeavor. The ICU unit at the General Hospital at Raigarh was set up. Medical camps are organised three times a week. These have benefited more than 30,000 people in the district. JSPL's scope of social activities extends beyond healthcare and welfare to the cultural and sports arena, too. The Kamla Nehru Park in the city has been developed and is being maintained by JSPL. Roads have been built and developed. The initiation of a social accountability system, the SA 8000, is a measure towards becoming an increasingly aware and conscientious corporate member of society. JSPL is making all possible efforts to create a clean and healthy environment, giving back in a small measure what JSPL receives from the community.

## World's longest & India's only 120m long Rails

As a step towards forward integration, JSPL has set-up a Rail and Universal Beam Mill producing world's longest 120 meter long finished rails for the first time in India. These long rails apart from being more economical due to drastic reduction in weld joints also result in enhanced safety,



service life, and increased reliability. Further, integrated Flash-butt Welding plant has been installed enabling supply of long welded panels from 240m to 480m lengths. Rails produced are of superior surface finish, closer section tolerance and conforming to "A-Class: quality especially in terms of end-straightness through 4-way Laser measurement. Rails produced are subjected to routine mechanical and chemical tests as per laid down norms besides total product monitoring in terms of profile straightness, surface defects and internal flaws through on-line reports generated from the Non-Destructive Testing Line comprising of eddy current, ultrasonic testing & straightness measurement using Lasers. Further rails are produced under ongoing Technical Collaboration Agreement with JFE (earlier known as NKK Corporation), Japan ensuring world-class product quality.

## Universal Beams & Columns

The Mill is also producing Hot Rolled Parallel Flange Beams & Columns for the first time in India. Typically known as H-Beams, these beams and columns are well accepted by consultants, designers and fabricators and is the material of choice internationally; because of their better statical properties such as section modulus, radius of gyration and higher load carrying capacity under direct compression coupled with substantial cost benefits over conventionally available taper flange beams or built-up sections. Produced under Technical Services Assistance Agreement with JFE (earlier known as NKK Corporation), Japan employing Universal Rolling Technology; these sections meet exacting end-user requirements with substantial saving in steel consumption vis-a-vis conventional Beams. These H-Beams & Columns are now available in steel grades with yield strength ranging from 250 Mpa to 450 Mpa. These sections are ideally suited for construction of multi-storeyed buildings, bridges, flyovers, offshore structures, car parks, material handling systems, industrial systems and other industrial applications.

These Universal Sections provide:

- Superior statical properties
- Greater flexibility to designers
- Better value for money to end-user

Product Range encompasses H- Beams & Columns viz. NPB/ WPB Beams (conforming to IS:12778 -Indian Standard), UB/ UC Sections (as per BS:4-1:1993 -British Standard) and IPE Sections (as per Euronorm 19-57), Steel Grades in yield strength from 250-450 Mpa as per IS:2062 Gr B / IS:8500

## Steel

Supporting the production of Finished Products, JSPL has a most modern steel-making capacity presently to the tune of 1.15million TPA through one 60 ton Electric Arc

Furnace, For obtaining clean refined steel one Ladle Refining Furnace (LRF) and one Vacuum De-gassing (VD) unit are installed. One 351m<sup>3</sup> mini-blast Furnace has been added for improving productivity and reduces cost of production of steel by using Hot Metal and sponge Iron mix. Further, a new steel melting shop is now commissioned adjacent to the Rolling Mill comprising of one 100 ton LRF, 100 ton VD unit and one Bloom-cum-Beam Blank Continuous Caster as Phase-I. Under Phase-II, One 100 ton EAF has also been added to produce 1.15 million TPA of steel.

## Power

JSPL generates power from waste hot gases & washery rejects to meet its captive requirements. The surplus power is supplied to the Chhattisgarh State Electricity Board. The current generation of power is 265 MW. Work on another 75 MW plant is under installation.

## Sponge Iron

At Raigarh, coal-based sponge iron is manufactured using 10 indigenously developed rotary kilns, with a capacity of 1.37 MTPA, making JSPL the largest manufacturer in the world.

## Mining - Iron Ore, Coal & Coal Washing

Jindal Steel & Power Limited has its own captive Iron Ore Mines at Tensa, District Sundergarh, Orissa, which produces 555,000 TPA of Iron Ore to meet the part requirement of its Sponge Iron Plant. The Company has its captive Coal Mines at Dongamahua, District Raigarh, Chhattisgarh with a present capacity of 2.0 MTPA. Since the coal is of very poor grade and quality it has to be beneficiated. Hence a coal washery with a capacity of 2.5 MTPA to wash 47-48% coal ash to 26% has been commissioned and is operating successfully. The washery meets the requirements of Sponge Iron Plant. The captive mine is the core strength of the company. To meet the increased requirement a new 3.5 million tonne coal washery has been installed.

## Ferro Chrome

Ferro Chrome, an essential component in the production of stainless and special steel, is manufactured at Raigarh using a Submerged Arc Furnace (SAF) with a present capacity of 36,000TPA. Continuous smelting of chrome ore, coke and quartz at temperature of 1600-1700° C ensures consistent quality of Ferro Chrome. Throughout the manufacturing process, the focus is on quality assurance, Almost the entire production of Ferro Chrome is committed to India's leading manufacturer of stainless steel. An increase in production capacity is on the anvil and global markets are being tapped to sell the increased production

