

Power Business

Overview

L&T's Power business offers concept-to-commission integrated business solutions to the thermal and nuclear power industries. It undertakes large EPC projects on a lumpsum turnkey basis in the fields of coal, nuclear and gas based power plants in India and overseas. The business is planning to undertake STG Island contracts in upcoming PHWR nuclear-based power plants.

The business has a track record of executing large-size and complex projects with capabilities that include in-house engineering, state-of-the-art manufacturing facilities, project management expertise and a healthy and encouraging work environment.

The business boasts of a state-of-the-art facility at Hazira (near Surat), where it manufactures ultra-supercritical / supercritical boilers, turbines, generators, pulverizers, axial fans, air-preheaters and electrostatic precipitators. The facility is responsible for adding more than 7GW of supercritical power generation capacity to the Indian Power sector since its inception.

The business has the following subsidiaries:

L&T-MHPS Boilers Pvt. Ltd., a joint venture with Mitsubishi Hitachi Power Systems Limited (MHPS)

Japan, engineers, designs, manufactures, erects and commissions ultra-supercritical / supercritical boilers up to a single unit of 1000 MW in India. The Company is also looking forward to gaining a foothold in the selective catalytic reduction system market in India, which is likely to open during 2018-19.

L&T-MHPS Turbine Generators Pvt. Ltd., a joint venture with Mitsubishi Hitachi Power Systems Limited (MHPS), Japan and Mitsubishi Electric Corp. (MELCO), manufactures STG equipment of capacities ranging from 500 MW to 1,000 MW. The Company is engaged in the engineering, design, manufacture, erection and commissioning of ultra-supercritical / supercritical turbines and generators in India.

The business also has a joint venture with Sargent & Lundy LLC, USA (S&L), a global consulting firm in the power industry, offering complete power plant engineering and consultancy services – from concept to commissioning. Another joint venture with Howden Group, UK, enables the manufacture of fans and air pre-heaters.

Presently, the business is very active at various sites in India for its coal-based power plants, and in Bangladesh for its gas-based power plants.

Business Environment:

The lack of momentum in industrialization and moderate economic growth have directly impacted the power sector in recent times.

The power sector is facing various challenges like shift of focus towards renewables, decline in thermal PLF, financial stress, promoter's inability to infuse equity and service debt,

2x660 MW Supercritical Thermal Power Plant at Nigra in Singrauli district, Madhya Pradesh. L&T executed Boiler and Turbine Island on EPC basis.



falling electricity prices at exchanges, non-availability of long term PPA, coal linkages, water availability, land issues, etc. The Government's focus on renewables has particularly impacted the capacity generation of thermal power plants.

Further, the excess manufacturing capacity in the market continues to put pressure on the prices. During these trying times, the business sees the opportunity to reorganize, consolidate, cut costs and improve efficiencies to make it more competitive in the market to secure future orders. The business will continue its stand of not bidding at margin diluting prices. Instead, it will work in an organized manner to make itself cost-competitive to win and successfully complete such projects.

There is some cause for cheer, despite the challenges being encountered by the power sector in the past few years. The business is confident of revival of capacity enhancement in the thermal power sector to match the projected rise in demand for power, in line with economic growth in the country. In this context, the business will continue to focus on coal and gas-based power projects and its adjacencies like replacement of old power plants, R&M and new business for FGD / SCR systems, sub-critical plants, nuclear STGI plants, etc.

During the year, the business continued its foray into Bangladesh, with one more 400 MW combined cycle gas-based complete EPC contract.

The business has successfully commissioned two gas-based combined cycle power plants in Bangladesh, and has added capacity of more than 600 MW to the grid. Further, two gas-based power plants totalling 800 MW are under

construction, and will be completed well within the contractual period.

The success in Oman in the HRSG segment of gas-based power plants and export jobs through joint ventures continues to mark the business's capability to meet international execution standards, and proves its competitiveness among international players.

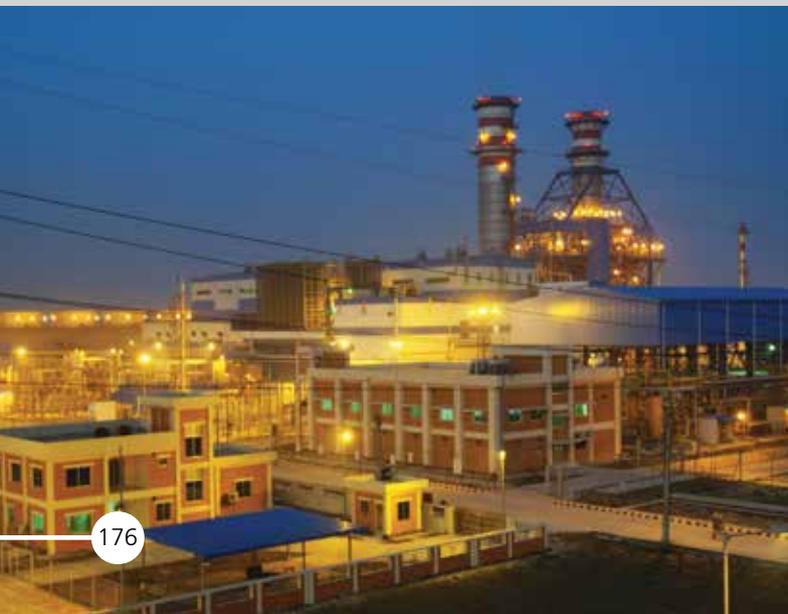
The business is poised to focus on new territories outside India to mitigate the risk of low domestic demand.

The business has also diversified into environmental solutions, actively started to participate in FGDs, and is hopeful of making a breakthrough in the upcoming tenders. It will also participate in the replacement project market, which is estimated to be around 46 GW, and will see the replacement of old and inefficient power plants in the country.

The business continues its operational excellence on the jobs in hand by completing the various milestones of the projects in record time. The dedication of the Mahagenco-Koradi project to the nation (3x660 MW) is an example of this operational excellence. The business, despite its quest to complete project milestones on time, has never lost sight of the safety and quality of execution. The receipt of various national-level awards on safety and quality is a testimony to this.

Nuclear power, being a clean source of energy, is going to play a key role in the Indian power sector in the next few years. The Government has an ambitious plan to increase the nuclear power production to 23 GW by 2031 from the current level of 7 GW. The business sees

360 MW Combined Cycle Power Plant, Bheramara, Bangladesh, built on EPC basis



225 MW Combined Cycle Power Plant, Sikalbaha, Bangladesh, built on EPC basis



large-value opportunities in this segment. The business has incorporated the manufacturing capability to produce turbines of 700 MW capacity related to PHWR nuclear power plants.

Significant Initiatives:

The business has deep-dived into cost-optimization programmes, and is confident of successful implementation in the upcoming tenders. Internationalization and portfolio enhancement continue to remain the focus of the business. Enhancing its capability towards these initiatives, the business is geared to benefit from any opportunity available in these areas.

The business is also giving due importance to digitalization. It aims to achieve cost reduction, carry out smart operations and shorten project timelines through these initiatives.

Smart asset monitoring using IoT and smart manufacturing initiatives have been identified as important digitization measures to improve business processes and optimize equipment utilization.

The business has carried out various initiatives to improve its localization of manufacturing activities.

It regularly reviews its internal control processes, and has ensured an adequate internal control system commensurate with the size, nature and risks of its business operations. It also continues with its risk mitigation initiatives through risk management practices and regular reviews.

Outlook:

Looking ahead, the power sector in the country is set to grow to meet the increased demand due to the expected GDP growth in the country. The growth in industrialisation

is the key to economic growth, which in turn will lead to a major thrust in the power sector, as power is required to support industrialisation.

Government initiatives like Ujwal DISCOM Assurance Yojana, rural electrification programmes, the programme on 24x7 power for all, and centralised purchase of 2500 MW of power from stressed power projects by the Central Government for 3 years are some of the measures being implemented towards raising the power demand so that the power sector embarks on a sustained recovery path. The business sees that the power sector is expected to unfold many more such positive trends in the areas of generation, transmission and distribution to increase the demand.

Coal will continue to be the mainstay of the domestic power sector for providing stable, reliable and robust base load power supply – though the emergence of alternative sources in the form of renewables is another challenge for the business.

The business sees opportunities in the ‘replacement market’ and in ‘FGD systems’ in the near future. The business is ready to capitalise on any opportunity in these diversified areas.

Excess capacity and aggressive pricing will continue to haunt EPC players, and would reflect in the pricing and financials.

South East Asia continues to offer good opportunities for gas-based plants, which are not expected to revive in India in the near future. The business has taken various steps to enter targeted markets like Bangladesh, Sri Lanka, the UAE and Indonesia for gas-based projects.

Boiler manufacturing facility, Hazira, Gujarat.



Turbine manufacturing facility, Hazira, Gujarat

