

POWERING GROWTH

With demand for electricity soaring in India, the power equipment manufacturing industry is expected to grow briskly over the next five years. All the leading international players are making their presence felt in this sector, notes **R. Nagesh**.



THE power sector is one of the fastest growing in India, as demand for electricity is huge. Consequently, the power equipment manufacturing industry is also undergoing a transformation, as the requirements of power producers – both state-owned and independent – for crucial equipment is growing by leaps and bounds.

India has an installed power capacity base of 143,000 MW at present, which is still short of the needs of industrial and retail consumers. The government has envisaged a capacity addition of 78,500 MW in the current (11th) Five Year Plan

(2007-2012), and at least 100,000 MW each in the subsequent two plan periods (12th and 13th).

Many of the new power plants that will start operations over the coming years are ultra mega power plants (UMPPs), which need sophisticated equipment such as super-critical technology, an environment-friendly technology that ensures more power generation per unit of coal.

With growing global concerns about climate change, India's ambitious power generation plans are being closely watched by several international bodies. The use of super-critical and other environment-friendly technologies (including non-con-

ventional plants and even nuclear plants) assumes paramount importance in such an atmosphere.

"Besides the addition of huge equipment manufacturing capacities, demand for power will also lead to the upgrade of technology," points out Arvind Mahajan, executive director, KPMG advisory services. "Many of the private players are building super-critical plants, which assume importance in view of the concerns regarding climate change."

In fact, the Indian power sector is now attracting international equipment manufacturers, who are keen on setting up joint ventures in India with top Indian

BHEL SEEKS TO RETAIN ITS DOMINANT SHARE

BHARAT Heavy Electricals Ltd (BHEL), a public sector undertaking, has dominated the power equipment business in India so far. The company has the capacity to manufacture equipment that can generate over 10,000 MW of power every year.

BHEL, which now plans to raise capacity to 16,000 MW in the next 12 months, is confident of maintaining its dominant position for a few more years. "We are aiming for a 60 to 65 per cent share of the power equipment market," says K Ravi Kumar, chairman and managing director, BHEL.

The government-owned firm has recently won several major orders. These include a US\$310 million order for a 600 MW thermal plant in Chhattisgarh and a nearly US\$150 million order for a 270 MW plant in Maharashtra.

During financial year 2008-09, BHEL won orders worth almost US\$9.3 billion, including those from private producers such as the Tatas, Jindal Power, Jaiprakash Power Ventures, GVK Power, Hindalco and Adani Power. It won orders for 800 MW super-critical boilers, 660 MW super-critical turbine generators and eight orders for 600 MW - capacity plants. The company can also manufacture thermal sets of up to 1,000 MW rating.

BHEL, which has overseas orders worth US\$1.6 billion, plans to raise exports to US\$2.15 billion by 2012.

The public sector major is also looking at the possibility of getting international partners for new forays. BHEL, which has a technology transfer agreement with Siemens, plans to form a joint venture with the German major for manufacturing super-critical and ultra-super-critical steam turbines.

It is also in talks with Siemens and Alstom for a joint venture – with the Nuclear Power Corporation – for manufacturing turbines for nuclear power plants. With competition in the domestic market heating up, BHEL is now looking at alliances with global majors to retain its market share.



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Anil Razdan
former power secretary

business groups in cognizance of the country's growing power needs and the requirement for superior technology.

At least half-a-dozen international power equipment manufacturers are evaluating the possibility of setting up manufacturing facilities in India. "The country has the potential to become a manufacturing hub for world-class energy-efficient thermal equipment," notes Anil Razdan, former power secretary. "We need world-class players in power equipment manufacturing. We are consciously promoting super-critical technology for coal-based thermal power stations. We can, in fact, emerge as a major hub for such equipment in the years to come."

Some of the projects that are in the pipeline, along with equipment capacity, include:

- BHEL – 5,000 MW

- Larsen & Toubro-Mitsubishi – 4,000 MW
- Alstom-Bharat Forge – 5,000 MW
- Ansaldo Caldie-GB Engineering – 1,500 MW
- National Thermal Power Corporation-BHEL Power Projects – 5,000 MW
- Toshiba-JSW – 3,000 MW
- Reliance Infrastructure-Shanghai Electric – 10,000 MW

Looking at the growing international interest in India's power equipment manufacturing sector, the government is planning to formulate guidelines to ensure that only serious players enter the fray. For instance, international firms planning to set up manufacturing facilities for super-critical power equipment should hold 75 per cent of the land for the project before bidding for the same, according to a proposal by a high-powered government committee.



Another important measure would ensure that the winning bidder would adhere to a phased manufacturing programme with milestones for indigenisation.

India's power equipment manufacturing industry currently has a capacity of over 10,000 MW. State-owned Bharat Heavy Electricals Ltd (BHEL) is the dominant player in the power equipment sector at present, accounting for virtually all the manufacturing capacity.

According to the Central Electricity Authority (CEA), the industry regulator, at least 33,000 MW of capacity is expected to be added by 2015. The four-fold increase in capacity will need investments to the tune of US\$6.3 billion.

The CEA recently gave its clearance for the acquisition of power equipment worth US\$4.4 billion for new public sector

projects, including nine by the NTPC and two by the Damodar Valley Corporation. The equipment would be required by nearly a dozen super-critical thermal power units of 660 MW each.

Besides BHEL, many of the new joint ventures (including L&T-Mitsubishi, Alstom-Bharat Forge, Toshiba-JSW and Ansaldo Caldie) will be bidding for the bulk tender for super-critical equipment for these public sector power projects.

India's engineering major L&T is among those that are entering the power equipment business in a big way. Besides its joint venture with Mitsubishi, it has also roped in Japan's Toshiba Corporation, for its ambitious plans to build equipment for nuclear power plants.

L&T has tied-up with Westinghouse Electric Co (now part of Toshiba and the world's largest nuclear power equipment

maker) to build pressurised water reactors for nuclear power plants. According to M V Kotwal, senior executive vice-president, L&T, Westinghouse technology powers more than 40 per cent of the world's nuclear plants. L&T estimates business opportunities worth more than US\$16 billion will fructify by 2020 in the nuclear power equipment sector.

In May 2009, L&T also signed a memorandum of understanding for cooperation in the boiling water reactor (BWR) and advanced boiling water reactor (ABWR) nuclear power plant technology with GE Hitachi Nuclear Energy.

"The agreement with L&T is an important step in gearing up to meet the country's power needs through nuclear energy," said Kishore Jayaraman, ceo, GE Energy, India, Sri Lanka and Bangladesh.

Another major power sector player in



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India, the Anil Dhirubhai Ambani Group (ADAG), also plans to get into the power equipment manufacturing business. Reliance Infrastructure, a part of ADAG, recently signed a framework agreement for long-term cooperation with Shanghai Electric Corporation Ltd, China, to set up manufacturing facilities for boilers, turbines and generators in India.

Another major group that is keen on entering the power equipment business is the GVK Group. "There are no power equipment manufacturers and suppliers

who are in a position to deliver power generation equipment within 30 months," notes G V Krishna Reddy, chairman, GVK Group. "We found an attractive business opportunity in this segment."

GVK Power and Infrastructure Ltd, a group company, is now looking at the possibility of a tie-up with a foreign partner for its power equipment foray. The group has interests in power generation (existing capacity: 2,140 MW; projected capacity in 10 years: 15,000 MW), infrastructure, airports, roads and special

economic zones.

According to Reddy, leading power equipment manufacturers around the globe have their order books full for the next five to 10 years. "This is leading to substantial delays in delivery equipment, resulting in delayed implementation of power facilities in the country."

Given the huge demand for power in India – and the numerous power projects that are in the pipeline – equipment manufacturers can expect robust business over the next decade or two. 🌟