



**3rd April, 2008**

Press Conference Address by

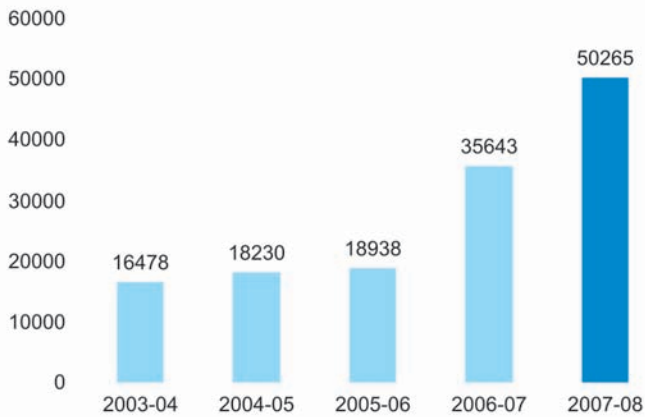
**Shri K. Ravi Kumar**

Chairman & Managing Director, BHEL

on Company's Performance  
during 2007-08

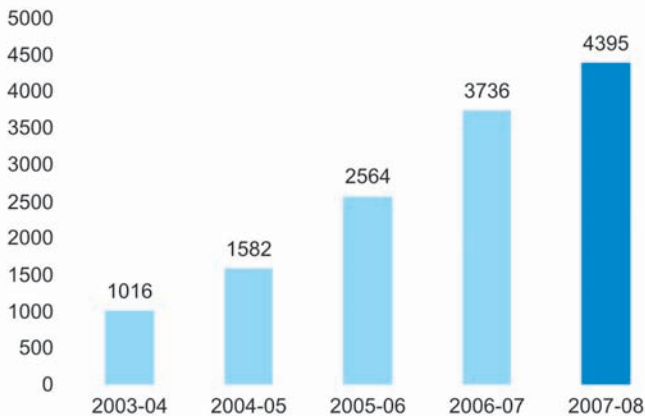
*Powering progress    Brightening lives  
Touching Every Indian Home*

Orders inflow (Rs. Crore)



**Highest-ever  
Order Booking  
at +50,000 Crore  
in the year**

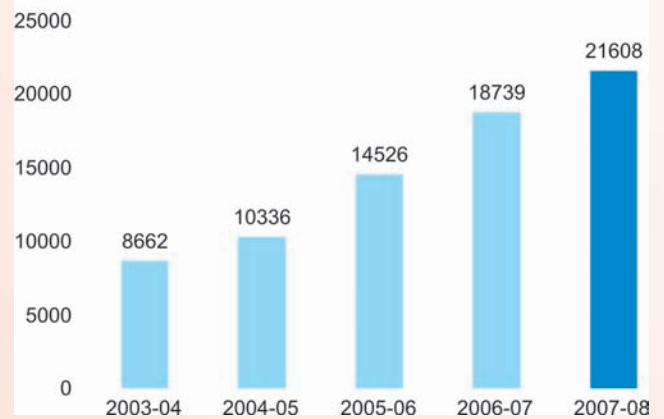
Profit Before Tax (Rs. Crore)



**R&D Expenditure  
Jumps 83%  
on top of 68%  
growth in 2005-06**

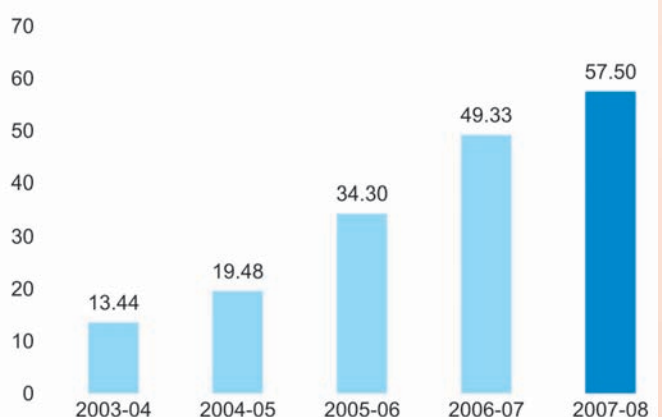
**Turnover Crosses  
20,000 Crore Mark  
and Profit  
4,000 Crore Mark**

Turnover (Rs. Crore)



**Capital  
Expenditure  
Doubles in One Year**

Earning Per Share (Rs.)



**Order inflows surpass Rs. 50,000 Crore mark**  
**BHEL enters supercritical league**  
**Manufacturing Capacity enhanced to 10,000 MW per annum**

	2006-07	2007-08 (Prov.)	Change (%)
<b>Turnover</b> (Rs. Crore)	18,739	21,608	↑ 15%
<b>Profit Before Tax</b> (Rs. Crore)	3,736	4,395	↑ 18%
<b>Net Profit</b> (Rs. Crore)	2,415	2,815	↑ 17%
<b>Net worth</b> (Rs. Crore)	8,788	10,573	↑ 20%
<b>Orders Inflow</b> (Rs. Crore)	35,643	50,265	↑ 41%
<b>Earnings Per Share</b> (Rs.) #	49.30	57.5	↑ 17%
<b>Value Added per employee</b> (Rs. Lakhs)	17.05	19.10	↑ 12%
<b>Capital Investment</b> (Rs. Crore)	362	726	↑ 100%

# (On Post Bonus Equity)

- Forays made into new areas, enhancing energy security through more efficient sets, expanding global footprints and building capabilities for large size sets:
  - Supercritical thermal sets :
    - First order for Supercritical Boilers (2x660 MW) from NTPC for Barh Stage-II
    - JV with TNEB for the first 2x800MW Supercritical Thermal Power Project in Tamil Nadu
  - First 500 MW Nuclear set order for Fast Breeder Reactor (Bhavini)
  - Advanced-class gas turbines (Fr.9FA) with orders for four such machines
  - Export orders from 26 countries received during the year with maiden entry into New Caledonia.
  - Largest ever rating Transformer & Reactor in India – 400MVA 400KV Transformers and 125 MVAR 400KV Shunt Reactor
  - BHEL and NTPC sign a MoU to form a JV for jointly executing EPC projects and power equipment manufacturing.
- BHEL joins an elite group of select companies with a market capitalisation of over One Trillion rupees; selected for MoU Award for the highest growth rate in market capitalisation among listed PSEs for 2006-07.
- Manufacturing Capacity of 10,000 MW per annum in place; further augmentation to 15,000 MW per annum underway for completion by December, 2009.
- Significant landmark achieved with cumulative projects installed worldwide crossing 1,00,000 MW; 7150 MW of power projects commissioned during the year.
- BHEL's R&D spend at Rs.464 Crore amounting to 2% of the turnover - a 83% growth on top of 68% growth achieved in 2005-06.
- Significant growth in Intellectual Capital; one Patent/Copyright filed every alternate working day.
- BHEL's fifth Centre of Excellence – Centre of Excellence for Intelligent Machines and Robotics being established at Corporate R&D.
- All thermal orders placed by NTPC and its JVs and hydro orders from NHPC during the year bagged by BHEL through International Competitive Bidding.
- MoU signed with MMTC for enhancing export of power plant equipment and projects leveraging counter trade & bulk buying.
- New rating thermal sets of 270 MW, 525 MW & 600 MW introduced in subcritical range.



- Major strides towards globalisation – Rs. 2311 Crore export orders from twenty six countries.
- All-time high Operating Availability of BHEL thermal sets; several sets operated at record PLF of 100%.
- 12 out of the 13 power stations awarded with the Ministry of Power's Meritorious Productivity Awards for 2006-07, are equipped with BHEL sets, reaffirming the quality and reliability of BHEL's equipment.
- Breakthrough in transportation business with bulk order for 50 nos. 25 KV Electric Locomotive type WAG 7 from Indian Railways.
- BHEL makes entry into coach building for Indian Railways with developmental order for 9 AC EMU coaches.
- Highest value order of Rs. 1065 Crore (4 x 80 MW) received in Industry segment from M/s Hindustan Zinc Ltd. for a Captive power plant on EPC basis.
- HVDC Disc insulators of rating 320kN/420kN developed for the first time in the country for use in +/- 800kV HVDC application.
- BHEL's performance once again recognised by the prestigious publication 'Forbes Asia', which features BHEL in its third annual 'Fabulous 50' list.
- Children from a special school for challenged children at BHEL Hyderabad, win medals in Special Olympics (World Summer Games) held in Shanghai, China.

***In 2007-08, BHEL further built on the growth momentum achieved in the year before, completing yet another successful year, which saw the company reiterate its commitment to the country's power development programme and other infrastructure sectors.***

## **FINANCIAL PERFORMANCE**

- BHEL notched up its highest-ever turnover of Rs. 21,608 Crore, crossing the Rs.20,000 Crore mark for the first time and registering a growth of 15 % over the previous year. Profit Before Tax (PBT) surged 18 % at Rs. 4395 Crore, during the year, moving past the Rs.4,000 Crore mark for the first time.
- Net Profit (PAT) rose 17 % at Rs. 2815 Crore against Rs.2,415 Crore in the previous year. An interim equity dividend of 90% on the enhanced equity capital post-bonus was paid for fiscal 2007-08, maintaining the track record of paying dividends uninterruptedly for the last 32 years.
- Earnings Per Share (EPS) on the post-bonus equity capital was Rs. 57.5 – an increase of 17 % over that of 2006-07.
- Net Asset Value (NAV) per share stood at Rs. 216, post-bonus, reflecting the intrinsic strength of the company.
- Economic Value Added (EVA) witnessed a jump 8 % at Rs. 1,795 Crore over that of Rs.1,657 Crore in 2006-07 - commendable performance for an engineering company.
- Value Added per employee increased to Rs. 19.10 lakh from Rs.17.05 lakh in 2006-07.
- Total export turnover (Physical + Deemed) touched Rs. 4,891 Crore. Physical exports at Rs. 1,132 Crore witnessed a jump of 5 % compared to the previous year.
- BHEL's inherent potential coupled with its consistent performance resulted in the company joining an elite group of select companies with a market capitalization of more than Rupees one trillion.

## **ORDERS INFLOW**

Despite intense competitive pressure, BHEL secured all-time high orders worth Rs. 50,265 Crore during the year, from domestic and overseas markets. At the end of the year, outstanding orders in hand for execution in 2008-09 and beyond, stand at about Rs. 85,500 Crore – the highest-ever both in physical as well as financial terms.

- In the Power Sector business segment, BHEL secured orders worth Rs. 41,064 Crore during the year. In terms of power plant equipment, the orders amounted to 14,556 MW. Major highlights of the year included the first-ever orders for new rating thermal sets of 270 MW, 525 MW, 600 MW in subcritical range, 660 MW supercritical boilers, and receipt of all thermal orders finalised by NTPC and its JVs as well as all hydro orders placed by NHPC, during the year. Also, order booking of Rs. 2,352 Crore for the supply of spares and services was recorded.

**Significant orders received in the Power Sector include:**

- First order for 2 x 660 MW Supercritical (SG Package) for NTPC Barh Stage-II.
  - First order for 600 MW from TNEB for North Chennai
  - Largest number of 500 - 600 MW sets in a year - 17 Nos. from NTPC and its JVs; DVC; UPRVUNL; GSECL; Maithon Power Ltd. and TNEB.
  - Turbine Generator and Secondary Piping for Kalpakkam (500 MW) - first order for Nuclear set for Fast Breeder Reactor ( Bhavini).
  - Indira Gandhi STPP (Jhajjar) (3x500 MW) - largest single order of 3 units of 500MW
  - GPPC Pipavav CCPP (700 MW); GSECL Hazira CCPP (350 MW) and RIL Nagothane CCPP (346 MW) - Entry into Advance Class 9FA (255 MW) Gas Turbine business.
  - SMHPCL Maheshwar HEP (10x40 MW) - bulk order for 10 hydro sets.
  - NTPC Tapovan Vishnugad HEP (4x130 MW) - against stiff international competitive bidding.
  - RGPPL Ratnagiri Block I and III - repair, spares and services following successful start-up of Block II.
- In its Industry Sector business segment also, BHEL secured record orders worth Rs. 7,860 Crore (a growth of 20% over last year) for a wide variety of products and systems for application in Captive Power, Transportation, Transmission and other industrial sectors.

**Significant orders received in the Industry Sector include:**

- Highest value order ever received in Industry Sector from HZL for a CPP on EPC basis.
- Largest-ever order from SAIL for Integrated Power and Blowing station for IISCO Steel plant, Burnpur on EPC basis.
- Cogeneration plants on EPC basis from IOCL Baroda (2xFr.6) and BPCL Kochi Refinery (1xFr.6) and STG and GTG sets from RINL, Vizag; West Coast Paper Mills; Vadinar Power Company Ltd. and EID Parry.



*2X77MW CPP by BHEL for Hindustan Zinc Ltd.*

- 2x50 MVAr Controlled Shunt Reactor at Dhule from MSETCL – success in the area of new indigenous technologies in the Transmission sector.
- BHEL's leadership in transformer business reaffirmed with NTPC placing an order for 22 nos. 400 kV transformers totalling 3,398 MVA – the largest order for power transformers ever placed in India.
- Bulk order for 50 nos. 25 kV Electric Locomotives type WAG 7 from Indian Railways
- Single-largest rate contract for supply of HT motors finalized with Essar Construction and with ONGC for supply of Well Heads and X-mas trees.
- Highest-ever orders for Compressors including; single-largest order from BPCL Kochi Refinery for supply of 3 Compressors and largest capacity Wet Gas Compressor order from IOCL Baroda.
- Developmental orders for 2 Nos. 600 kW Induction Generators from Vestas RRB and 1 Rake (9 Coaches) of AC EMU from Indian Railways.
- First order for 7 nos. New Design vertical Synchronous motors (4000 kW each) from WPIL.
- Machining of Satellite components from ISRO and development of a RO based Desalination Plant for use in Submarines from the Indian Navy.

- In International Business, BHEL achieved a physical export order inflow of Rs. 2,311 Crore during the year. The year marked significant steps towards globalisation with successful forays in new markets and new product areas, apart from firmly establishing the company's presence in existing markets and areas.

### **Significant orders received in International business included:**

- Entry into new market – New Caledonia, an island in the south-west Pacific Ocean, with an order for 2x135 MW environment friendly CFBC Boilers from Koniambo Nickel SAS, an overseas Joint Venture of Extrata, Switzerland. This is also the first ever overseas order for CFBC Boiler for utility application.
- First ever order for Power Generating equipment from UAE – secured from Ras Al Khaimah Investment Authority for supply and supervision of 2x42 MW Gas Turbine Generator sets for their Al Ghail Power Plant in Ras Al Khaimah, one of the seven emirates of UAE. This path breaking achievement is expected to pave the way for more opportunities not only in UAE but also in other Middle East and North African countries.
- Second consecutive order for Gas Turbine-based power plant from Libya – 300 MW Gas Turbine based power plant on EPC basis at Western Mountain Extension, Libya from General Electric Company of Libya. This project is an extension of recently commissioned 600 MW Western Mountain Power Plant by BHEL. The extension order has been awarded to BHEL based on the excellent performance of this plant, which is the highest capacity Gas Turbine based Power Plant installed by BHEL.
- First ever order for Steam Turbine and Generators from Ethiopia – three orders from Tendaho Sugar Factory (2x20MW & 2x40MW) and Finchaa Sugar Factory (2x12 MW) for cogeneration application. This is also the largest overseas order for cogeneration application secured by BHEL.
- Repeat export order for Steam Turbine Generators (1x15 MW) and CFBC Boilers secured from Indonesia – received from PTIBR, Indonesia for their captive power and steam requirement.
- Order for 2 x 126 TPH CFBC Boilers for Mine Mouth Power Plant in Indonesia.
- Maiden export orders for motors from UAE & Kuwait and maiden order for Soot Blowers for New Zealand & UAE
- First-ever export order for Well Heads for Myanmar and for transformers from Azerbaijan
- Other notable export orders include Hydrogen Recycle Gas Compressor from Iran, Wellheads from Oman and Reactors from Greece.
- Continued focus on After Sales Services led to orders for Spares & Services from Oman, Kazakhstan, Malaysia, Sri Lanka, Indonesia, Cyprus, Libya, Kenya, New Zealand, Thailand, Saudi Arabia, UAE, France, Jordan, Philippines and Iran.

## **STRATEGIC BUSINESS INITIATIVES**

Aimed at maximising business through mutually beneficial strategic tie-ups, BHEL signed three MoUs during the year:

- Aimed at synergizing their respective core strengths in the power sector, BHEL and NTPC have signed an MoU to form a Joint Venture Company (JVC) to jointly execute EPC projects and manufacturing.
- BHEL and MMTC have signed an MoU to provide impetus to the export of power plant equipment and projects from India. The MoU envisages using opportunities as a result of counter trade/ bulk buying by MMTC to promote the export of BHEL equipment in overseas markets.
- BHEL has made its entry into the area of executing thermal power projects with supercritical technology with the signing of an MoU to form a JVC with TNEB. The JVC is being set up for the execution of the first 2x800 MW Supercritical Thermal Power Project at Udangudi in Tamil Nadu, with principal equity stake from BHEL and TNEB.



*BHEL signs MoU with TNEB for JV for setting-up Supercritical Thermal Power Project in Chennai*



## PROJECT COMMISSIONING

- BHEL commissioned 7150 MW of power plant equipment during the year comprising 6772 MW Utility & Captive/Industrial sets in the country and 378 MW in overseas markets.
- Utility sets totaling to 5,014 MW were put under Commercial Operation.
- A major milestone of the year was the commissioning of one non-BHEL Nuclear set of 220 MW at Kaiga in a record time of about 16 months, besides recommissioning of 740 MW Gas-based Ratnagiri Block III (Dabhol), which had been lying inoperative for many years.
- The installed capacity of BHEL supplied Utility sets went up to 85,786 MW and BHEL maintained its share of 64% in the country's total installed capacity of 1,34,697 MW.
- BHEL has so far contracted 26 large size Gas Turbine Generating sets of 100 MW and above ratings to a number of countries including Oman, China, Bangladesh, Vietnam, Italy, Iraq, Libya and Sri Lanka – the forte of only a few manufacturers in the world in this size of gas turbines.

### Major power projects commissioned include:

- 1x500 MW thermal sets for Birsingpur TPS
- 1x500 MW thermal sets for Sipat STPS
- 1x500 MW thermal set for Kahalgaon STPS
- 1x500 MW thermal set for Bellary TPS
- 3x250 MW thermal set for Raigarh TPS
- 1x250 MW thermal set for Mejia TPS
- 1x250 MW thermal set for Santaldih TPS
- 1x210 MW thermal set for Bakreswar TPS
- 1x210 MW thermal set for Rayalaseema TPS
- 110 MW gas turbine & 110 MW steam turbine for Dholpur CCPP
- 4x76 MW hydro sets for Maneribhali HEP
- 2x125 MW GTG for Mukhaizana, Oman
- 1x125 MW GTG for Qarn Alam, Oman
- 1x126 MW GTG supplied to Kurdistan
- 1x126 MW GTG supplied to Bangladesh
- 2x42 MW GTG supplied to UAE
- 1x125 MW thermal set for JSL Duburi.
- 1x80 MW thermal set for Hindustan Zinc Ltd.
- 1x77MW thermal set for Bhushan Steel & Strips Ltd.
- 1x45 MW STG set for Hooghly, Metcoke.
- 1x45 MW STG set for Monnet Ispat.
- 2x23 MW STG sets for Rajasthan spinning & Weaving Ltd.



2x125 MW GTG for Mukhaizana, Oman

## EQUIPMENT PERFORMANCE

- During the year, BHEL-built power generating sets generated an all-time high 454.59 Billion Units of electricity: 73% of the total power generation in the country.
- Consistently exceeding the national average efficiency parameters, BHEL built thermal sets achieved the highest-ever Plant Load Factor (PLF) of 79.9%; Operating Availability (OA) was also the highest-ever at 86.4%.
- BHEL make 200-500 MW thermal sets, which form the backbone of the country's thermal generating capacity, operated at the highest-ever PLF and OA of 85% and 90.4%,



Vindhyachal STPS equipped with BHEL built 500 MW sets

respectively. Notably, 70 sets achieved PLF of over 90%. In addition, 7 BHEL make thermal sets of various ratings operated at a record PLF of 100%.

- Of the 13 power stations awarded with the Ministry of Power's Meritorious Productivity Awards for 2006-07, as many as 12 are equipped with generating equipment manufactured and supplied by BHEL, reaffirming the quality and reliability of BHEL's equipment.

## CUSTOMER FOCUS

- BHEL reinforced its commitment to providing prompt and efficient customer service aimed at facilitating uninterrupted power supply and keeping power plants in good running condition. During the year, BHEL overhauled 97 thermal utility/industrial and 22 hydro sets.
- Reblading of LP rotor and Generator overhauling work for 210 MW Ib Valley Unit 2 of OPGCL, Orissa was taken up on war footing and the Unit was brought back to grid within 39 days of site mobilization.
- Following successful restoration of Unit 2 at Muzaffarpur TPS and Unit-6 at Barauni TPS, the units, which were not consistently operating for the past several years, are now generating up to 80-85 MW each. In the second phase, these stations are being taken up for comprehensive R&M and upgrading under Govt. of India's Rashtriya Sam Vikas Yojana.

## TECHNOLOGY DEVELOPMENT

- BHEL's products and systems are highly technology intensive and R&D and technology development are of strategic importance to the company. During the year, BHEL spent Rs.464 Crore on R&D efforts – nearly 83% higher than the previous year which is on top of 68% growth over 2005-06. A turnover of Rs.2,936 Crore was achieved through products and systems developed in-house. BHEL also filed 175 patents and copyrights, enhancing the company's intellectual capital to 664 patents and copyrights filed, which are in productive use in the company's business.

### *Some of the significant developments during the year include:*

- Reinforcing its commitment to conservation of natural resources, BHEL has developed a new variant of 500 MW Steam Turbine. This design improves efficiency and saves coal consumption by around 8200 Tonnes annually. This design is being commercialised in 11 sets of 500 MW being supplied and commissioned countrywide.
- Consistently offering tailor-made designs to suit customer needs, BHEL has developed a new Steam Turbine model for rating range of 30-45 MW for application in the Paper industry. The Turbine provides a large quantity of controlled extraction steam for the paper mill.
- For the benefit of its customers by way of developing more efficient products/technologies, BHEL is establishing a Centre of Excellence for Intelligent Machines and Robotics (COE-IMAR) – the fifth in the series. The centre will focus on implementation of computer integrated manufacturing, advanced radio frequency identification technology for material identification and tracking and paperless manufacturing. Pilot projects are underway for integration of computer aided design, manufacturing, numerical controls and inspection. Consignment and vehicle tracking using global positioning system (GPS) and GSM technologies have also been taken up.
- In line with its developmental work in futuristic areas, BHEL realised the immense potential of Nanotechnology and initiated several programmes to accelerate development in this area. For the first time in the country, BHEL has commissioned a Gas-fired Spray Pyrolysis System for pilot-scale synthesis of tailor-made nano materials with a production capacity of 0.5-1 kg/hour. The system is specifically designed for different metal oxide nano materials. Areas of application include nano structured coatings, additives for improving wear resistance in metals, development of nano composites, nano porous membrane coatings, etc.
- As its contribution to the armed forces, BHEL has designed, manufactured and supplied 15 nos. Cooling Systems for Travelling Wave Tube, an electronic device for use in one of BEL's strategic projects for the Indian Army. The mobile cooling systems are compact, self sufficient and operate under stringent conditions over a wide range of ambient temperatures and orientations for operation in adverse environmental conditions.
- As part of its customer-centric product upgradation process, BHEL has designed and manufactured, India's largest rating (7161 kW) Pressurised Squirrel Cage Induction Motor for HPCL Vizag. The motor offers enhanced



safety features and is designed for driving Blower with very high Inertia and meeting stringent starting current limitation of 450%.

- Continually striving to improve the economies of solar PV systems, BHEL has developed its largest size 220-Watt PV Module. This will meet customer demand for larger wattage modules, especially for grid-connected applications, as it will reduce the number of modules required per system thereby improving reliability.
- BHEL has developed a new non-electrical UHF-PD (Ultra High Frequency-Partial Discharge) measurement technique for assessing the condition of Transformer Insulation. The method is important for High Voltage (800-1200 kV) transmission systems.
- Reinforcing its position as a total solution provider, BHEL has developed and successfully commissioned a Maintenance Controller (an Integrated Asset Management and Decision Support System) at the Western Mountain Power Project, Libya. Based on PowerPac-G, a software jointly developed by BHEL and TCS, this is a system for complete power plant maintenance for Combined Cycle Power Plant application and takes care of all the maintenance needs of a power station.
- As part of BHEL's efforts to provide modern and more efficient transportation solutions, BHEL has successfully developed, manufactured and tested for the first time, a Traction Motor for 350 HP Diesel Electric Multiple Unit (DEMU), against an export order of 20 numbers, to be supplied to Angolan Railways.
- Aimed at enhancing value for customers in the oil sector, BHEL has designed for the first time a higher rating 1430 kVA Brushless Alternator for oil rig application against an order from ONGC. The alternator will offer self start facility in rigs located in remote areas which was not possible in the existing 1215 kVA alternators.
- To augment its range of disc insulators for meeting customer requirements, BHEL has developed HVDC Disc Insulators of 320kN / 420kN rating for the first time in the country. For application in  $\pm 800$  KV HVDC transmission systems, BHEL will be the first manufacturer to develop and test these insulators in the world.

## **CAPACITY AUGMENTATION & ASSET MODERNISATION**

- BHEL incurred a capital investment of Rs. 726 Crore during 2007-08 towards augmentation of manufacturing capacity and modernisation of facilities in manufacturing units and at power project sites, as against Rs.362 Crore invested during 2006-07, registering an increase in capital investment of about 100 %.
- Focused attention was given on rebuilding and retrofitting of existing facilities to enhance their life, accuracy and productivity through an additional investment of Rs. 56 Crore.
- With the completion of targeted implementation of investment schemes in the first phase of capacity augmentation, BHEL has achieved manufacturing capacity of 10,000 MW per annum for power plant equipment in December 2007.
- During the 11<sup>th</sup> plan period, a capital investment of Rs.4,200 Crore has been envisaged. BHEL is further enhancing its manufacturing capacity to 15,000 MW per annum to be completed by December 2009 to meet the power requirement of the Eleventh plan. Besides capacity augmentation of existing products in the areas of Thermal, Gas, Hydro and Nuclear, other major areas of investment include facilities for higher rating Nuclear sets, 765kV transformers and other associated distribution and transmission equipment and capacity augmentation of transformers from 20,500 MVA to 45,000 MVA.

## **HUMAN RESOURCE**

- Starting with small stand-alone systems for HR inventory, BHEL has now graduated to a full fledged implementation of ERP in HR. Initially, processes pertaining to 'Organisation Management and Personnel Administration' have been implemented and the other modules will be implemented in the next phase. This will help in synergizing and integrating the HR function across the organisation.
- In line with changing market requirements, the knowledge and skills of BHEL employees are continuously upgraded. Each employee on an average was exposed to developmental programmes for 14.86 mandays during the year. In addition, 726 customer personnel were trained at various units; besides around 3,800 Technical/ Management students underwent vocational training.
- Manpower is also being ramped up in a commensurate and timely manner and recruitment of 18-20,000 people has been planned over a 5 year period. As a part of this, around 4,000 persons have been recruited in 2007-08.
- Industrial Relations continued to remain cordial contributing to production and productivity. The apex level Joint Committee was reconstituted as planned.

- A number of personnel policies have been reviewed with a view to keeping employees fully motivated to fulfill customer commitments.

## CORPORATE SOCIAL RESPONSIBILITY

- As part of its Corporate Social Responsibility (CSR), BHEL has formulated a CSR Policy comprising eight thrust areas. During the year, BHEL undertook socio-economic and community development programmes in various villages located in the vicinity of its manufacturing plants and project sites spread across the country, in the areas of Education, Health Management, Drinking Water Facilities, Non-Conventional Energy Management, Support to Physically/Mentally challenged children, Disaster Management and Contribution to PM's Relief Fund, besides Area development including Environment Conservation.
- BHEL reiterated its commitment to the United Nations' Global Compact Programme on CSR and continued to play a lead role in promoting its ten principles, under the aegis of the Global Compact Society formed by Indian Corporates, Institutions/Organisations committed to the UNGC programme.
- Two children from Abhilasha Vocational Centre, a special school for challenged children at BHEL's Hyderabad unit participated in the Special Olympics (World Summer Games) held in Shanghai, China, from October 2<sup>nd</sup> to 12<sup>th</sup>, 2007. Both the athletes brought laurels to the country by winning a Gold Medal in Badminton and 4 Bronze Ribbons in Cycling. 7,291 athletes from 169 countries took part in the international event for challenged children.
- As part of social commitment, 4,016 Act Apprentices were trained in the company.

## QUALITY

- Continuing its winning streak in the CII Exim Award Scheme for business excellence as per the globally recognised model of European Foundation for Quality Management, BHEL has become the first Public Sector Company in the country whose three major units at Trichy, Bhopal and Hyderabad have won the 'Commendation for Significant Achievements in TQM'. In addition, its Jhansi unit and Power Sector Northern Region have received the 'Commendation for Strong Commitment to TQM'.
- With its Human Resource Development Institute getting ISO-9001:2000 Certification, all Manufacturing Units, Business Sectors, Engineering Centres, Power Sector Regions and Corporate Office of BHEL have been accredited to ISO Certification for Quality Management System.
- BHEL's hydro turbine Model Test lab has been accorded the prestigious NABL accreditation as per ISO standards, establishing its position as one of the best in the world.
- Three Quality Circles from BHEL units at Trichy, Haridwar and Hyderabad won Gold Medals at the International Quality Circle Conference (ICQCC – 2007) held at Beijing.

## GREEN INITIATIVES

- BHEL is one of the few companies worldwide, involved in the development of Integrated Gasification Combined Cycle (IGCC) technology which would usher in clean coal technology. BHEL has set up Asia's first 6.2 MW IGCC power plant with an indigenously designed pressurised fluidised bed gasifier. Efforts are underway in scaling this up to a 125MW IGCC power plant.
- In conformity with its concern for the environment, BHEL has been contributing to the national effort for developing and promoting renewable energy based products on a sustained basis. During the year, a major order was received for the supply and installation of 57 nos. of Solar PV powered systems (5.94 kWp



*Integrated Gasification Combined Cycle demonstration Plant, Tiruchirappalli*

each), for dispensing petrol at HPCL retail outlets, located all over India. This is the first ever large-scale order of its kind released by any PSU in the petroleum sector in the country and the system offered by BHEL will enable HPCL to illuminate and run the company owned and operated petrol pumps smoothly irrespective of Grid power outage.



- BHEL's commitment towards environment conservation continued with the completion of several Environment Improvement Projects (EIPs). These projects helped in creating a pollution-free environment, conservation of precious resources like energy, water, fuel oil, coolant, lubricant beside installation of proper system for storage/handling of chemical waste, using state-of-the-art technologies. Major EIPs included tree plantation in and around units/sites, bringing the cumulative figure of tree plantation to over 31 lakh, rainwater harvesting plants and energy and resources conservation projects. BHEL has also initiated Carbon Disclosure Projects (CDP) with a focused approach.

## AWARDS

- Continuing its tradition of bagging prestigious national/international awards, the organisation and its employees won several awards during the year. Notable among these included; Prime Minister's Shram Awards, Vishwakarma Rashtriya Awards, National Safety Awards and Infraline Jury Award for Service to the Nation in the Equipment Manufacturing category.
- BHEL selected for MoU Award for the highest growth rate in market capitalisation among listed CPSEs for the year 2006-07.
- EEPC's Top Export Award for Project Exports for the seventeenth year in succession.
- SCOPE Meritorious Award for R&D and Innovation 2005-06 for commendable contribution in the area of R&D and Innovation.
- BHEL's Hyderabad unit received the Award for Excellence in Energy Management from CII, Green Business Centre and the Greentech Silver Safety Award.
- In recognition of his contribution to the field of mechanical engineering, particularly his pioneering work in computational fluid dynamics and turbomachinery, Dr. A.L. Chandraker, the Head of Corp. R&D, was bestowed the 'Mechanical Engineering Design Award 2007', by the National Design and Research Forum of the Institution of Engineers.

## PLANNING FOR THE FUTURE

- Sustained growth has been witnessed in the Indian economy in the last few years and as per latest estimates, the economy is expected to grow at 8.7 per cent in 2007-08 and average at 9 per cent during the XI plan. The XI Plan envisages a capacity addition of 78,577 MW to the installed power generating base of the country. Riding on this growth, BHEL plans to be a Rs.45,000 Crore turnover company by 2011-12.
- BHEL has tied up technology for higher-rating thermal sets based on supercritical technology. Though the focus is presently on coal-based projects in view of the volatility in gas prices, BHEL is introducing Advanced-class gas turbines for which orders have already been bagged against international competitive bidding.
- Associated with the growth agenda will be the strengthening of the engineering and technology character of the organisation with enhanced focus on innovation and R&D. BHEL plans to increase its R&D spend to at least Rs.900 Crore by 2011-12.
- BHEL's nuclear sets account for 80% of the country's installed nuclear generating capacity and the largest nuclear set manufactured by BHEL so far is of 540 MWe rating. The company is now gearing up for manufacture of higher rating Nuclear turbines & generators and is in discussions with Nuclear Power Corporation for a possible Joint Venture to take up EPC activities for the nuclear power plant business.
- While the Power business will continue to be the most important constituent of BHEL's portfolio in the coming years, the Industry sector is also expected to exhibit continued growth momentum. Railway Transportation is expected to expand in a big way and initiatives like IGBT-based propulsions systems, manufacturing of metro coaches, etc., are being put in place to gain from the emerging opportunities in this business segment. In the T&D segment, focus will be on introduction of products and systems for 765 kV Transmission projects and development of 1200 kV transformers and circuit breakers.
- BHEL has established its footprints in 70 countries of the world and further stimulation in the growth of BHEL's international business will be achieved through consolidation in existing markets, widening the export base through expansion of its existing basket of products and services, and by entering new markets, with the EPC business being the key driver of its exponential growth plans.

***BHEL's performance in the year gone by was made possible by the confidence reposed by its stakeholders including the Government of India. I thank BHEL's stakeholders, our friends from the media and my colleagues for enabling BHEL to scale new heights.***



**Note: Company results for 2007-08 are provisional, subject to audit**

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