





# Chairman's Address 46<sup>th</sup> Annual General Meeting of BHEL 17<sup>th</sup> September 2010

# Ladies and Gentlemen,

On behalf of the Board of Directors, I extend a very warm welcome to all of you to the 46th Annual General Meeting of your company. The report of the Directors and Audited Accounts for the year ending 31st March 2010, with the reports of Auditors and comments of Comptroller and Auditor General of India have already been circulated to the shareholders, and with your permission, I shall take them as read.

On September 30, 2009 Shri K. Ravikumar demitted office after having ably led this organization to a position of strength. I place on record the excellent contribution made by him in guiding the growth of the company.

After the global meltdown of 2008, the world economy in 2009-10 showed signs of recovery, even if it was patchy. Indian economy showed considerable resilience and exhibited enviable growth rate next only to China. The overall GDP growth of India is estimated at 7.4% in 2009-10, representing an increase from a level of growth of 6.7% during 2008-09. On the back of strong domestic demand, the outlook for the economy remains firmly positive for coming years.

I am pleased to report that in 2009-10, BHEL recorded another successful year with excellent results. Your Company managed to capitalize on the continuing demand from power and other infrastructure sectors and, thanks to strong competitive positioning and better execution, was once again successful in achieving record turnover and profits.

I take this opportunity to share with you some of the highlights of the year gone by.

### **Record Results during FY2009-10**

Your company has increased its turnover by three times and net profit by four times in the last five years. The top line in 2009-10 grew by 22% with turnover reaching ₹ 34,154 Crore. Profit Before Tax was ₹ 6,591 Crore, a 36% yoy growth and Net Profit rose to ₹ 4,311 Crore, a 37% yoy growth. There have been a number of significant achievements and these include:

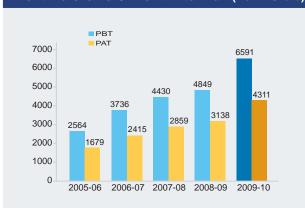
In the utility segment, the company secured highest ever orders from Private Sector in 2009-10. Out of the total orders of 16,489 MW for power plant equipment received by BHEL during the year, the orders received from Private Power Utilities alone accounted for 14,689 MW



constituting nearly 90% of the total orders booked in Power Sector

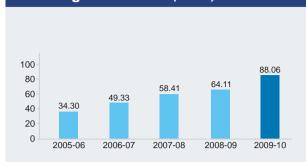
As a result of increased customer focus and sustained efforts for entry into new business areas, Industry Sector order booking recorded an all-time high growth of 40% over the previous year. Out of the total order booking of ₹ 59,037 Crore by BHEL in 2009-10, its Industry business segment contributed an order inflow of ₹ 14,366 Crore

# Profit Before Tax/ Profit After Tax (Rs. in Crore)



- First supercritical order from the private sector for 3x660 MW Bara, Prayagraj Power Generation Company Ltd. of the Jaypee Group was received
- Company registered a 27% growth in its Intellectual Capital in the year with filing of 263 patents & copy rights, marking filing of one patent/copyright every working day

# Earnings Per Share (in Rs.)



In 2007-08 bonus shares were issued in the ratio of 1:1, figures (charts) are restated based on enhanced share capital for comparison.

- BHEL invested ₹ 829 Crore on R&D- 20% higher than the previous year. With the spend amounting to 2.43% of the turnover, BHEL is the highest spender on R&D in India in its kind of industry
- Economic Value Addition (EVA) reached ₹ 2670 Crore, a
   33% increase over that of ₹2008 Crore in the year before
- EPS increased to ₹88.06 against previous year's ₹64.11



Union Minister of Heavy Industries & Public Enterprises handing over BHELs final dividend cheque to the Union Finance Minister

- A final dividend of 123% has been recommended by Board, in addition to the interim dividend of 110% for the year, making a highest ever total of 233% for the year
- The company successfully concluded a ten year wage agreement with its employees valid from 01.01.2007

# **Equipment Performance**

During the year, BHEL-built power generating sets generated an all-time high 488 Billion Units of electricity which was 74% of the total power generation in the country. Consistently exceeding the national average efficiency parameters, BHEL built thermal sets achieved an impressive Operating Availability (OA) of 87%. BHEL coal based sets registered Plant Load Factor (PLF) of 78.4% which was higher than the national average by 0.9%.

BHEL made 200-500 MW thermal sets, which form the backbone of the country's thermal generating capacity, operated at a PLF and OA of 82.2% and 90.1%, respectively. Significantly, some of these sets have been achieving an availability of more than 90% consistently for the last three

years. Notably, 72 sets achieved PLF of over 90% and 136 thermal sets achieved operational availability higher than or equal to 90%.

All the 8 thermal power stations awarded with the Ministry of Power's Meritorious Performance Awards for 2008-09 are equipped with generating equipment manufactured and supplied by BHEL, reaffirming the quality and reliability of BHEL's equipment.



Simhadri STPS (1000 MW)- winner of National Award for Meritorious Performance

#### Commissioning

BHEL synchronized/commissioned 6,703 MW of power plant equipment during the year which includes 5,220 MW for Utility, 754 MW for Captive/Industrial sets and 729 MW in overseas markets.



Dadri TPS Stage-II with BHEL-built state-of-the-art 2x490 MW Units, designed to reduce coal consumption by 12,000 tonnes per annum per unit

#### **Performance of Subsidiary Company**

BHPV, Vishakhapatnam, a fully owned subsidiary of your company, is in the process of revival. The company achieved a sales turnover of ₹ 104 Crore in FY 2009-10 registering a growth of 23.6% over previous year. During the year, 'Board of Directors of BHPV' has been reconstituted with appointment of Managing Director and two functional directors from BHEL cadre. Your company is helping BHPV in turnaround by extending all round support like direct placement of orders, deputation of senior executives for managing critical functions, infusion of working capital, alignment of policies and procedures with BHEL, training of manpower, augmentation of human resource through fresh recruitment and capital investment for upgradation of manufacturing facilities.



### **Emerging Economic Environment**

The improvement in global macroeconomic conditions since fourth quarter of 2009 has resulted in the turnaround of Indian economy driven largely by domestic demand, improving exports and return of capital flows. Concerns about domestic output growth are now subdued as the recovery is getting more broad-based. This is the result of a rebound in industrial output, better prospects for the agriculture and continuing resilience of the services sector. Output growth during 2010-11 is expected to gain further momentum.

Industrial output, which was affected by the cyclical slowdown and international commodity price shocks in 2007-08 and the global recession in 2008-09, recovered substantially in 2009-10. The Index of Industrial Production (IIP) driven by the manufacturing sector registered double digit growth during October 2009 - February 2010. Thirteen out of seventeen industries in the IIP recorded higher growth than in the previous year indicating broad-based recovery.

Output growth in 2010-11 is expected to be higher than in 2009-10, assuming a normal monsoon. Domestic drivers of growth are robust. However, they are subjected to a number of upside and downside risks like faltering of global recovery, slowdown in capital inflows and inflation.

#### **Power Sector Opportunities**

Indian power sector is plagued with peak demand deficit of about 13-16% and T&D losses of around 27%. This has the potential of hampering Indian growth story. Fully realizing the criticality of this sector, the Government of India has set the ambitious target of adding power generation capacity of 78,700 MW during 11<sup>th</sup> plan and about 1,00,000 MW during 12th plan periods. With a lot of path-breaking initiatives on the legal, regulatory and business environment front, today power sector is witnessing a lot of vibrancy and action on all fronts offering growth opportunities for all stakeholders. Therefore currently Indian power sector is characterised by emergence of new players resulting in intense competition, advent of environment friendly technology solutions and squeezed delivery schedules.



Contract signing between BHEL and M/s Abhijeet Infra Ltd. for installing 2x270 MW PH-I & PH-II thermal sets at Matrishri Usha Jayaswal Mega Power Plant at Jharkhand

Your company was able to withstand all these competitive pressures and market forces by winning ₹ 41,982 Crore worth orders in 2009-10, including orders from Private Sector customers worth 14,689 MW from Abhijit, ACC, Adhunik, Avantha, Hindalco, Indiabulls, Jaypee Group, Jindal Power, Sterlite, Tatas, Videocon, among others.

### **Industry Sector Opportunities**

Indian industry exhibited resilience in 2009-10 by responding promptly and positively to the challenges of global economic crisis by pursuing the process of consolidation and restructuring of their operations. This was also supported by various stimulus packages given by the government. Your company swiftly acted to capture the rebound in industry demand by increasing customer focus for entry into new business areas.

As a result, your company's Industry Sector business segment recorded an all-time high growth of 40% over the previous year with order inflow of ₹ 14,366 Crore. This increase further reinforces the company's focus on balanced growth through expansion of activities in the segments of industry, transportation, transmission, defence, oil & gas, etc., in addition to its core area of power.

BHEL's sustained focus on customer satisfaction has paid rich dividends in securing repeat orders. During fiscal 2009-10, major successes included the highest value captive power plant order of ₹ 3,348 Crore from IOCL for its Cogeneration Power Plant at Orissa, major repeat orders from Hindalco for 6x150 MW BTG package for its Orissa project and Chennai Petroleum Corporation Limited (CPCL) for a 20 MW Cogeneration plant at its Chennai Refinery.

Significantly, in the transportation segment, BHEL bagged the single largest order valued at ₹ 990 Crore for 150 numbers 5000 HP 25 kV AC mainline electric locomotives from Indian Railways.

These orders are testimony to the confidence reposed by customers in BHEL's technological excellence and reinforce its status in providing state-of-the-art solutions for a wide array of products and systems for application in Captive Power, Transportation, Transmission, Oil & Gas, Renewable Energy and other industrial segments.

#### **Globalization Efforts**

Bucking the uncertainties surrounding the global economic recovery, BHEL has maintained its thrust with references in more than 70 countries across the world and is poised to expand its footprints in new market segments. These references encompass almost the entire range of BHEL products and services.

A major milestone of the year was the commissioning of four power plants in overseas markets – the maximum in a single year. The company has secured 21st consecutive order since 1995 from Greece for transmission equipment totaling over 3000 MVA, an unparalleled achievement.



2x42 MW GTG commissioned by BHEL in Al Ghail, Ras Al Khaimah - the first ever power plant by BHEL in UAE



The order for supply of 126 MW Gas Turbine-based Grodno-II cogeneration projects in Belarus has marked the first ever overseas order for supply of HRSG and Gas Turbine for a Cogeneration project in a new market.

The company is taking a number of strategic business initiatives to fuel further growth in overseas business. Strategic alliances have been established in target export markets positioning BHEL as a regular EPC service provider. Reference for largest ever order for a hydro power plant has been created by securing order of 1200 MW Puntasangchhu Hydro Power plant from Bhutan.

#### **Innovation to Product to Market**

Products and systems of your company are technology intensive and technology innovations are of strategic importance to the company. During the year, BHEL invested ₹829 Crore on R&D efforts: 20% higher than the previous year. This corresponds to 2.43% turnover of the company. A turnover of ₹6723 Crore was achieved through products and systems developed in-house.

BHEL also filed 263 patents and copyrights, enhancing the company's intellectual capital to 1126 patents and copyrights filed, which are in productive use in the company's business. The year witnessed a massive growth in grant of patents and copyrights. A total of 145 patents and copyrights were granted which is 60% higher than last year.

Some of the significant developments during the year include successful development of 80 MVAR Controlled Shunt Reactor, Condenser for 660 MW steam turbines, 310 MVA Single Phase Generator Transformer (GT) for the 5x800 MW Mundra UMPP, a new Primary Air Fan variant for 600 MW thermal set as import substitution, and an operation optimization and scheduling software package for hydro electric power plants.

Your company successfully developed and type tested IGBT based 3-phase drive systems for Electric Loco, ACEMU and DEMU. IGBT Drive system for Electric Loco has already been installed in the 6000 HP electric Loco. An order worth ₹400 crores has been received for IGBT based drives for ACEMU and Electric Loco from Indian Railways.

Continually striving to improve the economies of solar PV systems, BHEL has developed its largest size 220-Watt PV Module using 156-mm Size Multi Crystalline Silicon Solar Cells resulting in production throughput to increase by approximately 60%. Your company developed 70 V high voltage space-grade Solar Panels for high power applications jointly with ISRO for deployment in GSAT-4 satellites of ISRO. Significantly, 12 Satellites launched by ISRO are powered by BHEL manufactured Solar Panels & 7 Satellites with BHEL manufactured Batteries.

As part of its initiative to increase its portfolio of products, BHEL has designed and developed an IGBT-based three-level diode clamped inverter for Induction Motor Drive for ID fan application, Current Transformer (CT) design for 765 kV ultra high voltage (UHV) transmission substations and a complete control system on the state-of-the-art metso-DNA DCS platform for steam generators, turbines, balance of plant equipment and SCADA.

In line with its developmental work in futuristic areas, a more efficient and safe High Temperature Superconducting (HTSC) Power Transformer using liquid nitrogen has been developed and tested. BHEL is also actively working on a number of

projects in the area of Nano Technology, Fuel Cells and Clean Coal technology etc to advance the development of technologies for power and industry sector.

In its endeavours to strengthen R&D in the area of rotational dynamics, BHEL has established a Centre of Excellence for Machine Dynamics (COE-MDF) – the sixth in the series at its Corp R&D Hyderabad.

Your company is continuing with its innovation led business strategy by focusing on development, acquisition and absorption of new technologies with a missionary zeal to become an Indian multinational engineering enterprise.

# **Awards & Recognition**

Continuing its tradition of bagging prestigious national and international awards, your company and its employees won several awards during the year.

Business Standard, leading business daily, recognised BHEL for the second time as the Star Public Sector Company of the year 2009. Dainik Bhaskar Group recognized the immense contribution of your company to the steady economic growth of the country in the Heavy Industries Category by conferring India Pride Gold Award to BHEL.



CMD, BHEL receiving the 'Business Standard Star PSU of the Year Award' from the Union Home Minister

For the fourth consecutive year, BHEL's performance was recognised by the prestigious publication 'Forbes Asia', which featured BHEL in its fifth annual 'Fabulous 50' list of the best of Asia-Pacific's publicly-traded companies with revenues or market capitalisation of at least US\$ 5 billion, having highest long-term profitability and sales & earnings growth. Notably, BHEL is the only Indian PSU to figure on the elite list.



CMD, BHEL receiving the SCOPE MoU Excellence Award for Highest Growth Rate in Market Capitalisation from the Prime Minister of India



Your company won EEPC's Top Export Award for Project Exports for the nineteenth year in succession. Continuing its winning streak in the CII Exim Award Scheme for business excellence, your company has become the first Public Sector Company in the country, whose six units got recognition certificates; 'Commendation for Significant Achievements in TQM' and 'Commendation for Strong Commitment to TQM' from CII.

Our employees were awarded five Prime Minister's Shram Awards including one Shram Bhushan.

## The Way Forward

Acknowledging the pivotal role played by infrastructure sector in growth of the economy, government is continuing its thrust on infrastructure development in the country. Government is targeting to add power generation capacity of around 1,00,000 MW each in 12th and 13th plan periods. Transportation, nuclear, solar and various industry segments have also been accorded priority in national development plans. Therefore, today your company finds itself at an inflexion point. The tremendous growth opportunities coupled with associated challenges arising due to fast changing market forces in recent years mean that BHEL has to adapt its strategy and operations to meet the challenges of the future. These are exciting times. I am very pleased to say that the employees of your company possess a high degree of expertise and motivation in tackling these opportunities and challenges.

When I took over as CMD of your company, I set a five point agenda for myself and the company. These were:

#### 1. Timely Project Delivery

Your company has put in place various enablers for accelerating project execution. As a result we were able to commission 4095 MW of coal based projects in domestic markets and another 1162 MW of projects were made ready but capacity addition could not be affected due to customer constraints. We are targeting to commission around 12,000 MW of power projects in FY 2010-11.

# 2. Capacity Expansion to 20,000 MW

During the year, 'Board of Directors' of your company approved expansion of manufacturing capacity from 15,000 MW to 20,000 MW with the investments of ₹ 1593 Crore. All associated schemes are under implementation and all major facilities have been ordered.

#### 3. Product Cost Competitiveness and Quality

Realizing the criticality of cost competitiveness and quality in today's increasingly competitive and borderless world, your company has taken various integrated and crossoperational approaches for reduction in direct material, variable conversion and quality costs.

# 4. Diversification

Besides upgrading our product range in power sector, your company is swiftly moving to capture emerging growth opportunities in nuclear power, transmission, transportation and renewable energy by jointly working with NPCIL, Toshiba, GE and Alstom and BEL respectively.

#### 5. Engineering and Technology

Engineering and Technology has been the core capability of your company. Your company will continue to upgrade existing products to contemporary levels and develop new products through continuous in-house efforts as well as through acquisition of new technologies from leading engineering organizations of the world.

We would continue to pursue these priority areas relentlessly.

#### **Future Growth Strategies**

BHEL is well on its track to become a \$10-11 billion turnover company by FY12 exceeding its strategic plan target. It is expected that the share of private sector projects and the share of supercritical thermal power projects would be much higher in the XII & XIII Plan periods.

Capacity Augmentation: Your company adopted 'Capacity and Capability' enhancement strategy and accordingly capability to deliver 15,000 MW p.a. has been realised. Further expansion to 20,000 MW p.a. by March 2012 is in progress. By ensuring that investments are timely, well planned and scalable, the company is getting ready for harnessing opportunities in domestic Power sector.

Joint Ventures: To maintain a balanced growth, BHEL intends to increase its focus on transportation, transmission, nuclear power and renewable energy segments for business portfolio diversification. As part of this strategy, the company will pursue strategic alliances by way of Joint Ventures to harness emerging opportunities in these areas.

Your company had signed JV agreements with TNEB and KPCL for the total of five sets of 800 MW each in FY 2008-09. Continuing with the same strategy of leveraging our equipment sales through joint ventures with State GENCOs in the year 2009-10, BHEL and Maharashtra State Power Generation Company Limited (Mahagenco) have signed an MoU for setting up a JV Company to build, own and operate a 1500-1600 MW Power Plant at Latur in Maharashtra. Similarly, BHEL and Madhya Pradesh Power Generation Company Limited (MPPGCL) have formed a JV Company to build, own and operate a 2x800MW Thermal Power Plant with Supercritical parameters at Khandwa in Madhya Pradesh.



CMD, BHEL & Corporate Executive VP, Toshiba Corp. exchaning MoU documents for establishing a JV Company for T&D business

BHEL and Toshiba Corporation, Japan have signed an MoU to explore the possibility of establishing a Joint Venture Company to address Transmission and Distribution (T&D) business in India and other mutually agreed countries. The JV company will undertake marketing, designing, engineering, supply, erection, testing and commissioning of equipment and projects in Extra High Voltage Alternating Current (EHVAC) and Ultra High Voltage Alternating Current (UHVAC) range including 765 kV transformers and reactors and Gas



Insulated Switchgear (GIS), in addition to other products and systems.

Your company has also signed MoUs with Alstom for participating in the tender for setting up a factory for Electric Loco components at Dankuni, West Bengal and with GE for participating in the tender for setting up a Diesel Loco factory at Marhowra, Bihar.

<u>Technology Collaborations:</u> During the year, your company successfully processed for signing of technology licensing agreement with GE Oil & Gas's Italian entity Nuovo Pignone for manufacturing of advanced range of high performance and high efficiency centrifugal compressors at our Hyderabad unit.

Further your company has signed technology transfer agreement with Sheffield Forgemasters International Ltd., UK for manufacture of large size Forgings for Turbines and Generators up to 1000 MW rating at our CFFP Haridwar.

International Operations: Focus on consolidation in existing international markets and tapping opportunities in new markets will be the drivers for BHEL to expand its international footprint. Manufacturing and service presence in export markets will be explored for geographical diversification.

Integrated Operations Improvement: To achieve time cycle reduction, BHEL is implementing companywide SAP/ERP covering technical, commercial and HR areas. Further, appropriate organization structures are planned to be put in place with a focus on key functions like project engineering and project management. Product cost competitiveness is a prerequisite for maintaining leadership position. Capability-building initiatives like Design to Cost (DTC), Lean Manufacturing and Purchase & Supply Management (PSM) would continue to be pursued.

Agenda for Climate Change: Against the backdrop of Climate Change, there would be increased focus of BHEL on low Carbon Path Technologies such as Ultra Supercritical, IGCC, Solar Power etc. BHEL proposes to play a lead role in 'development and deployment' of advanced Ultra Supercritical Power Plant under the proposed National Mission for Clean Coal (Carbon) Technologies.

BHEL has been contributing to the national effort for developing and promoting renewable energy based products on a sustained basis. As its contribution to the Jawaharlal Nehru National Solar Mission, BHEL is in the process of setting up two eco-friendly Grid-Interactive Solar Photovoltaic (SPV) Power Plants of 2 MW & 1 MW, on turnkey basis, for KPCL in Karnataka.

<u>Human Resource:</u> Towards enhancing and strengthening manpower, an induction of 18000-20,000 personnel has been planned up to year 2012. During 2007-10 around 12,000 personnel have been recruited.

Focus on R&D: Associated with the growth agenda, the engineering & technology character of the organization will be enhanced with increased focus on innovation and R&D. BHEL targets to increase R&D spend to at least ₹ 1200 crore in 2011-12. Greater standardisation of components and subsystems that will drive cost competitiveness and faster delivery is being pursued.

<u>Strategic Planning:</u> Your company will be developing a new 'Strategic Plan' valid for the period 2012-17 which will address market challenges through differentiated strategies to enable your company in maintaining its leadership position.

### **Corporate Governance**

Your Company's philosophy is to conduct business with highest ethical standards for the growth and prosperity of all stakeholders on a sustainable basis. The Company strives to achieve all its goals through sound business decisions, prudent financial management and high standards of ethics throughout the organization in letter and in spirit.

#### **Community Partnership**

Your company in its endeavor to serve the community continues to contribute to various socio-economic and community development programmes to promote education, improvement of living conditions and hygiene in villages and communities located in the vicinity of its manufacturing plants and project sites spread across the country.

During the year, nine social welfare projects were completed by various units of BHEL. These include construction of community facilities in villages, upgradation of schools, scholarship schemes for underprivileged children, providing water facilities, organising eye camps, and creation of self employment opportunities for unemployed women from the downtrodden community.

Reaching out to the distressed victims in the flood-ravaged areas of Andhra Pradesh and Karnataka, BHEL has made a humble contribution to help alleviate their suffering.

BHEL reiterated its commitment to the United Nations' Global Compact Programme and continued to play a lead role in promoting the set of core values enshrined in its ten principles on human rights, labour standards, environment and anticorruption. Company intends to advance these principles within its sphere of influence and has made it a part of its strategy, culture and day-to-day operations.

Your company is in process of setting up an ITI at Bolpur near Shantiniketan in West Bengal in association with DVC and Coal India which will provide learning opportunities and fulfill the manpower needs of the power sector. This ITI 'Kabiguru Industrial Training Centre' will provide high quality technical education to the students which will give a fillip to the economic and developmental needs of the region.

In addition to this, Welding Research Institute of your company at Trichy is being leveraged to train high pressure welders of contractors as part of skill enhancement measurements in power sector.

As part of social commitment, 3626 numbers of Act Apprentices and 7011 numbers of students/ trainees from various professional institutions were trained in the company.



A cheque of Rs.2.5 Crore contributed by BHEL & its employees, was handed over to the Chief Minister of Andhra Pradesh by the Minister of HI&PE for rehabilitation of flood victims



# **Acknowledgements**

I am grateful to my fellow Directors on the Board and the members of the Management Committee for their support. I would also like to extend a special thanks to each and every shareholder of BHEL, whose trust and confidence have been the motivating force in all our endeavours. I thank all our customers and business associates in India and abroad for their unstinted loyalty and steadfast patronage of our products and services. Various ministries of Government of India particularly the Department of Heavy Industry have been providing valuable guidance and support in all our efforts. Finally, a word of thanks to more than 46,000 employees of BHEL who are making these successes happen. I am extremely proud of their high level of commitment to the company & their outstanding performance over this period and have full confidence in their ability to deliver even greater success going forward.

With all the ingredients of success; dedicated people, engineering and technological excellence and right business strategies in place, your company is well poised to meet the demands of a growing industry and deliver consistent results for which your company is known for.

I look forward to your unwavering support while continuing the company's growth momentum in coming years too.

With best wishes,

New Delhi September 17, 2010 **(B. Prasada Rao)** Chairman & Managing Director



Powering progress Brightening lives
Touching Every Indian Home



# **Bharat Heavy Electricals Limited**

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