

CHAIRMAN & MANAGING DIRECTOR'S ADDRESS

अध्यक्ष एवं प्रबंध निदेशक का सम्बोधन

58th

Annual General Meeting

वार्षिक आम बैठक



29th September, 2022

29 सितम्बर 2022



Dr. Nalin Shinghal
Chairman & Managing Director

Dear Shareholders,

On behalf of the Board of Directors & employees of BHEL, it gives me immense pleasure to welcome you all to the 58th Annual General Meeting of your Company. It is an honour and a privilege for me to present the 58th Annual Report of the company to our valued shareholders.

The report of the Directors and Audited Accounts for the year ending 31st March 2022, with the reports of Auditors and comments of Comptroller and Auditor General has already been circulated to the shareholders, and with your permission, I shall take them as read.

The past year has been challenging, with the first quarter severely impacted by the devastating second wave of COVID-19 affecting operations of manufacturing and EPC companies across the country. Operations were further worsened by pandemic induced global supply chain disruptions as well as geo-political



2x660 MW Maitree Supercritical Power Project being executed by BHEL in Bangladesh

developments in the fourth quarter, leading to drastic increase in input costs, particularly metals. However, sustained demand during the year from both private and government sectors as well as improved industrial production activity has helped economic recovery with India's GDP growing by 8.7% during FY2021-22—the highest amongst the major economies of the world.

Despite these challenging circumstances, sustained efforts made by the company over the past two years towards reorientation of the company's operational ideology, from 'Revenue Centric' to 'Project Centric', business diversification and prudent financial management, have started bearing fruit, resulting in the highest erection tonnage at project sites in the past five years, highest ever project closures, lowest number of outstanding project punch points, highest ever order booking in nuclear power and defence businesses, signing of highest ever number of long term spares supply and service agreements, as well as reduction in other expenses to decadal lows.

Key performance highlights

- Your company achieved revenue from operations of ₹21,211 Crore in FY 2021-22, an increase of 23% as against ₹17,308 Crore in the previous year
- The company made a profit after tax (PAT) of ₹410 Crore in FY 2021-22 against a loss of ₹2,717 Crore in the previous year, marking a turnaround
- Trade receivables are at their lowest in the last 10 years, at ₹6,229 Crore against ₹7,213 Crore, in the previous year. The cash & bank balance (net of short term borrowings) have also improved to ₹2,409 Crore from ₹1,868 Crore in the previous year
- Your company secured orders worth ₹23,693 Crore amidst subdued market conditions and intense competition
- The company continues to retain its leadership position in nuclear power segment and emission control business. BHEL received the largest ever orders in nuclear segment under fleet mode, valued at over ₹12,000 Crore.



5 x 800 MW Yadadri Super Thermal Power Station under commissioning by BHEL in Telangana



RCF MEMU rake

- The company received the first order for two upgraded SRGMs (main gun on Indian warships) for which BHEL is the sole supplier in the country
- Your company has booked the maiden order for flexible operation of a thermal power plant, an important requirement in future years for grid stabilization, considering the increasing share of renewables in the energy mix. This order is in advanced stage of execution. Further, I am pleased to share that BHEL has recently received two more orders for flexible operations from West Bengal Power Development Corporation Ltd. reinforcing BHEL's leadership in this area.
- The company also received the maiden order for propulsion electrics of 'Vande Bharat Express' (Trainsets), marking BHEL's entry into semi-high speed rail segment.
- With over 150 MW floating solar power plants commissioned till date including the country's largest floating solar power plant of 100 MW at Ramagundam, BHEL has become the largest EPC player in floating solar segment in the country, with design and engineering capabilities to address a range of complex



100 MW Floating Solar PV Plant at NTPC, Ramagundam

site requirements including lakes, ponds, canals and reservoirs, amongst others. Such solutions provide the twin benefit of clean electricity generation as well as conserving water by reducing evaporation

- During the year, your company achieved capacity addition/ synchronization of 3,305 MW in utility power projects segment

COVID Response & Contribution

As a responsible corporate citizen, your company extended vital support to not just its employees and their families but also to various stakeholders and society at large during the devastating second wave of COVID-19 pandemic. BHEL assisted national efforts with all resources at its command for dealing with the acute shortage of oxygen for saving precious lives. The manufacturing

and piping facilities at various plants were quickly converted into oxygen cylinder filling facilities with BHEL Haridwar and Bhopal units supporting almost the entire Uttarakhand, western UP, parts of NCR as well as city of Bhopal in this critical time. Over 80,000 cylinders of medical oxygen were supplied and many emergency situations responded to, resulting in saving of countless lives. Vaccination drives were carried out across manufacturing units, divisions and project sites covering not just BHEL employees & their families, but also labour deployed by contractors and society at large with more than 1,30,000 doses administered. Your company also developed and supplied oxygen generating plants based on CSIR-IIP technology to hospitals, amongst many other initiatives to deal with the pandemic. Despite all-out efforts to minimize the impact of COVID-19 on the employees and their families, the company lost 155 employees due to the pandemic. The Directors of your company deeply regret this loss and are grateful to each and every employee and their families for their efforts during this pandemic. Your company also launched a 'COVID Assistance Scheme' for providing aid & support to the dependents of employees who unfortunately succumbed to COVID-19.



Medical Oxygen plant at BHEL, Haridwar

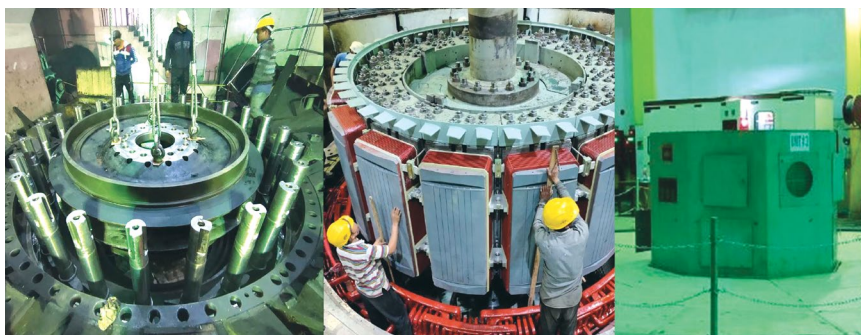
Going forward

The recent geopolitical events and supply chain disruptions have brought the need for self-reliance in sharp focus. This would require to swiftly set up a domestic ecosystem for indigenous design, development and manufacturing of a wide range of equipment and systems to meet national requirements. The AatmaNirbhar Bharat initiative of Government of India, with focus on Making in India for India as well as Making in India for the World has opened up big opportunities to Indian manufacturing industry, especially in critical sectors like Energy, Defence, Aerospace, Transportation, etc.

The rise in crude oil prices, as well as the recent energy crisis across Europe has further highlighted the importance of energy security for the nation, and underlined the need for India to rely on utilizing its vast coal reserves for reducing dependence on hydrocarbon imports. Technologies for cleaner use of coal are, therefore, likely to gain traction in the coming years.



IOCL Paradip Captive Power Plant



Hydro R&M completed for Unit 3 of 3x60 MW Baira Siul, Himachal Pradesh

Nuclear power is expected to come to the forefront and together with hydro power, they are expected to contribute in attaining India's net-zero targets. Additionally, emission control equipment segments will continue to offer business, albeit in an intensely competitive market. Demand for transmission related products and systems is expected to continue growing—irrespective of the source of power generation. Modernization program of the Railways and Defence sectors will further provide new growth opportunities in the future.

In this emerging situation, cost competitiveness with timely and high-quality delivery and execution will be the key to survival in the short and medium term, while the company's engineering and technological prowess will be the key differentiators for long term sustainable growth.

In this perspective, the Strategic Plan 2022-27 formulated by the company focuses on:

1. **In the short term:** Turning the company around through initiatives and enablers for timely, cost effective and quality project execution as well as creating an order book pipeline by enhancing its market share in traditional business, while intensifying diversification initiatives to create a foothold in new businesses

2. **In the long term:** Building capabilities as well as markets for areas such as defence, aerospace, urban mobility including rail transportation, as well as for futuristic business based on emerging technologies such as carbon capture, hydrogen value chain, additive manufacturing, IIoT based solutions, etc.

Clearly, India with its huge coal reserves and limited oil & gas reserves, will have no option but to continue to utilize coal to fuel its economic growth. At the same time, the country is acutely conscious of its role and contribution required as a responsible citizen of planet earth and has made major commitments in this direction in COP 26. In this situation, technologies for cleaner use of coal will have to take centre stage.

The Advanced Ultra Supercritical (AUSC) power plant technology, successfully developed by your company in collaboration with NTPC and IGCAR, provides best in class efficiency in coal based power generation with a potential to reduce CO₂ emissions by 20% as compared to subcritical technology. This gains significance considering that over 145 GW of installed capacity in the country is



Pumping units for Kaleshwaram Lift Irrigation Scheme (LIS), Telangana - world's largest LIS project



Hon'ble Union Minister of Heavy Industries, Dr. Mahendra Nath Pandey, addressing employees at Corporate R&D division, BHEL Hyderabad

based on subcritical technology of which over 45 GW is more than 20 years old. Coal gasification is another technology in focus on account of the potential to convert syngas derived from coal into a variety of chemicals which are currently imported, as well as power generation from Integrated Gasification & Combined Cycle (IGCC) power plants. Your company has been a pioneer in the area of coal gasification and its most significant technology development effort in recent times resulted in the successful demonstration of indigenously developed 0.25 TPD coal to methanol plant – first of its kind using high ash Indian coal, at Hyderabad in the last year. This will enable your company to capitalize on the upcoming opportunities under the Government of India's National Coal Gasification Mission which aims to achieve 100 MT coal gasification by 2030. Work on commercial scale development is moving ahead rapidly. Your company will shortly sign an MoU with M/s Coal India Ltd for JV formation for project of producing 2000 TPD Ammonium Nitrate from coal at commercial scale.

Carbon capture is an emerging area which is expected to gain traction with continued use of coal based technologies. The company is positioning itself appropriately for the future, to address this opportunity.

BHEL continues to be a leader in the emission control business and is making concerted efforts to improve the project execution timelines as well as economics. These efforts include engineering optimization, indigenisation of critical FGD equipment, and deployment of Integrated Project Management System and Site Data Digitization which has already been implemented for major power projects over the past year.

BHEL has been a pioneer in the Indian nuclear power sector. It is the only company to be part of all the three stages of India's nuclear program and is the sole indigenous supplier of Nuclear Turbines and Generators. With nuclear power expected to gain importance in the coming years to meet India's net zero commitments, the company is strengthening and expanding its position in design, development and manufacture of nuclear equipment meeting a range of national requirements.



42nd Nuclear Steam Generator despatched to NPCIL, to be installed for a 700 MWe unit at NPCIL's Rajasthan Atomic Power Project (RAPP)



Dedicated state of art manufacturing facilities for Naval Gun manufacturing with a wide variety of CNC machines and test equipment at BHEL Haridwar

Indian Railways (IR) have initiated one of the most important modernization programs in their history with a large scale shift from conventional trains to trainsets, deployment of high HP locos and modernization of signalling systems. BHEL has been an important supplier to Indian Railways with a substantial share of the locomotives and EMUs carrying a range of BHEL equipment. Marking its entry into semi-high speed rail segment, the company has received its first order for supply of underslung propulsion equipment for Vande Bharat Trainsets. Your company is making focused efforts to maintain its leadership position, in rail transportation field, through technology and manufacturing tie-ups with major international and national players.

In the defence sector, your company has been supplying a wide range of specialized equipment and systems for various applications for the past five decades. Your company has taken up indigenization initiatives for upgraded SRGM—the main gun on Indian warships, heat exchangers for fighter aircraft and helicopters, permanent magnet motor technology based products, and propulsion systems for strategic vessels and warships, amongst others. Your company has recently signed an MoU with a leading international OEM for manufacturing state-of-the-art Electric

Propulsion System for Indian Navy ships, which are more efficient and offer several tactical advantages. With the recent geopolitical developments creating a number of challenges for the defence forces in procurement and operation of various equipment, your company has come to the fore to support indigenous development and supply of various spares and components.

To address the opportunities in upcoming areas of EV chargers and hydrogen value chain, dedicated business groups are making concerted efforts with all stakeholders such as government agencies, customers and research institutes etc., for building partnerships & ecosystem in these areas.

Your company has pioneered the Quality movement in the country and a number of initiatives have been taken in the past two years to regain this position under the overarching 'Quality First' initiative. These include enhancing Quality System maturity as per 'Quality 360' model, and best practices sharing through



EV charging station commissioned by BHEL at Delhi-Chandigarh highway



BHEL has achieved a major milestone in its journey of business excellence with four of its major units (Haridwar, Bhopal, Hyderabad & Trichy) winning accolades under the "CII-EXIM Bank Award for Business Excellence 2021"

Quality Conversation 'Qonverse', amongst others. Continuous and sustained focus on quality is reflected in HEEP Haridwar and HEP Bhopal receiving coveted Platinum recognition, and HPBP Trichy and HPEP Hyderabad receiving Gold Plus recognition under 'CII EXIM Bank award for Business Excellence 2021'.

Human resources are the most important contributor to the success of any organization and your company continues its efforts towards enhancing employee skills, engagement and productivity as well as making the workforce agile in the ever changing business environment. Various initiatives underway include focus on manpower development for upgrading skills and capabilities of its executives, supervisors and workers, assessment & development centres for leadership development, deployment of e-Modules for online training, etc.

Capitalizing on AatmaNirbhar Bharat initiative

Your company is looking to indigenize various equipment imported by the company as well as engineering imports of the country. During the year, several equipment used in FGD systems have been successfully indigenized. Developmental orders have been received for equipment in the Oil & Gas segment, displaying the company's strong resolve towards contributing to AatmaNirbhar Bharat initiative of the Government of India.



Loco Shop at BHEL, Jhansi

Sustainable Development & Governance

Your company manages its environmental impact across the entire manufacturing value chain. Internally, various initiatives are in place to optimally manage key aspects of materials, water, energy, emissions and biodiversity in the larger interest of society. Internal operations are guided by philosophy of 3-R (Reduce-Recycle-Reuse). BHEL also facilitates its customers in managing their environmental and social impact throughout the entire operational lifecycle of the power plants & other industrial products by offering them state-of-the-art engineering and technology



Training on raising community nursery in different villages of Kandhamal, Odisha - Financial Support to the "Professional Assistance for Development Action (PRADAN)" for the project

inputs for reducing emissions, water consumption, auxiliary power consumption and offering better heat rates with less fuel requirement.

Your company has established a total of 29 MWp of Solar Photo Voltaic (SPV) power plants including rooftop & ground based SPV systems, solar water heaters, solar street lighting etc., within BHEL premises, resulting in generation of 27.17 million units of electricity and carbon footprint avoidance of 25,540 MT CO₂ -e during FY 2021-22. To fight plastic pollution, BHEL has made tremendous efforts to ensure that all our fourteen townships stay 'Single Use Plastic Free' and have them re-certified from third party agencies.

With a strong commitment of repaying back to the society, your company actively contributes towards socio-economic upliftment of communities located in the vicinity of its manufacturing plants and project sites spread across the country, and has taken various initiatives in thrust areas including education, health, cleanliness, disaster relief and inclusion.

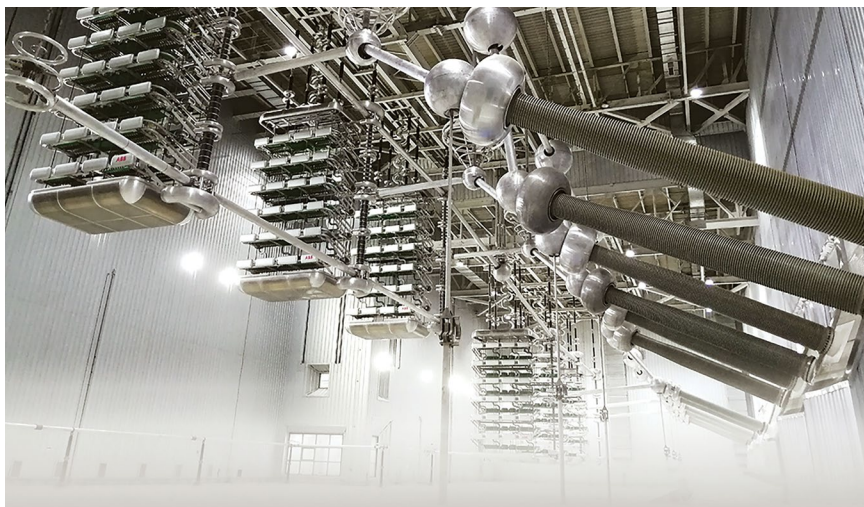


***The prestigious 'EEPC India Northern Region Award' for Engineering Export Excellence in the category of Top Exporter for the year 2017-18-
"Top exporters for the year 2017-18, Silver Trophy - Large Enterprise"***

Your company believes that 'results are important' but it is equally mindful of 'how it achieves these results'. Commitment to this principle is the foundation of your company's Corporate Governance Policy which rests upon the four pillars of transparency, full disclosure, independent monitoring and fairness to all. With a clear vision and purpose based on a solid foundation of values, your company is committed to ensuring optimised returns and satisfaction levels accruing to all its stakeholders.

Continuing the tradition of securing prestigious national and international recognitions, the organization and its employees have won several awards during the year. Notable awards include Prime Minister's Shram Awards (PMSA) 2018; Vishwakarma Rastriya Puraskar (VRP) 2018; Golden Peacock Innovative Product/ Service Award 2021; Clarivate South and South East Asia Innovation Award 2021; Excellence in Financial Reporting 2020-21 by Institute of Chartered Accountants of India; among many others.

Towards the end, I am happy to say that the company is working in a focused and targeted manner to overcome challenges posed due to liquidity issues resulting from adverse payment terms and competitive pricing in projects under execution through improved project execution, tight financial control, focus on quality and development of manpower resources and at the same time, working towards its vision of becoming a Global Engineering Enterprise by capitalizing on emerging opportunities in traditional as well as new business areas.



±800 kV, 6,000 MW Ultra High Voltage Direct Current (UHVDC) Link between the Western Region Grid (Raigarh, Chattisgarh) and the Southern Region Grid (Pugalur, Tamil Nadu) successfully commissioned by BHEL



Dr. Nalin Shinghal
Chairman & Managing Director



Shri Subodh Gupta
Director (Finance)



Ms. Renuka Gera
Director (Industrial
Systems & Products)



Shri Upinder Singh Matharu
Director (Power)
Addl. Charge - Director (HR)
w.e.f 22.04.2022



Shri Jai Prakash Srivastava
Director
(Engineering, R&D)

Government Directors/Part-time Official Directors



Shri Shashank Priya
Special Secretary & Financial Adviser
Ministry of Heavy Industries



Shri Vijay Mittal
Joint Secretary
Ministry of Heavy Industries

Independent Directors



Shri Raj Kamal Bindal
Independent Director



Shri Manish Kapoor
Independent Director



Dr. K Sivaprasad
Independent Director



**Dr. Lekhasri
Samantsinghar**
Independent Director

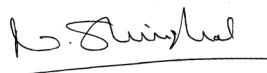
Acknowledgement

The success of these efforts is possible only through constant support and encouragement of various stakeholders. I would like to express sincere thanks and gratitude to our valued customers, as well as business partners for reposing their confidence, our employees for their engagement, passion and perseverance, members of Board for their guidance, and you, our esteemed shareholders for support and trust in the company. I would like to thank various Ministries of Government of India, particularly the Ministry of Heavy Industries, for their valuable guidance and support in all our endeavours.

I am confident that multiple initiatives currently under implementation will help us build a strong base for long-term sustained and profitable growth of your company.

Thank you.

With best wishes,



New Delhi
September 29, 2022

(Dr. Nalin Shinghal)
Chairman & Managing Director



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Corporate Identity Number : L74899DL1964GOI004281

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