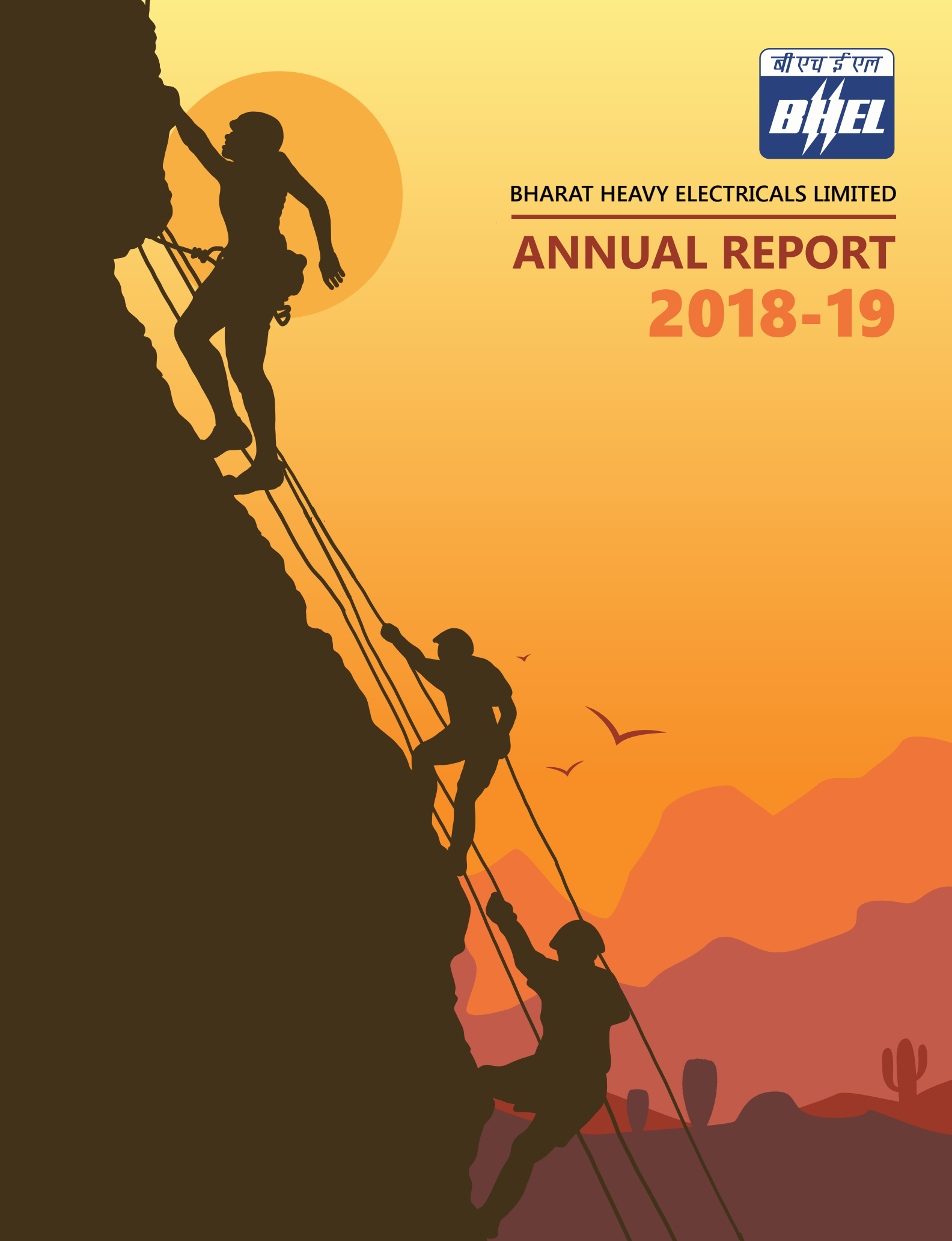




BHARAT HEAVY ELECTRICALS LIMITED

ANNUAL REPORT 2018-19



CREATING A NEW BHEL, A NEW INDIA

WE ARE...



India's largest
engineering and
manufacturing
enterprise of its kind



The largest contributor
to the country's installed
generation capacity with
>53% share



Present pan-India:
16 manufacturing units,
8 service centres



Second largest
employer in Indian
capital goods industry

WE SERVE...



Power



Industry



Transportation



Renewables



Transmission



Defence & Aerospace

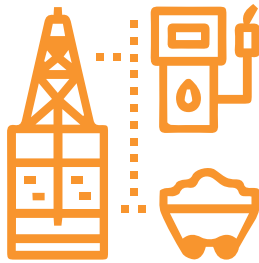


Energy Storage



Oil & Gas

WE HAVE...



Executed **447 Coal, 418 Hydro, 102 Gas, 12 Nuclear** and **40 MW-scale Grid connected Solar PV plants** distributed in **all states** and **6 union territories** of the country



References in **83 countries** in all **6 inhabited continents**



Single source of multiple solutions for energy, industry and infrastructure segments.

The undisputed leader amongst Indian power plant equipment manufacturers.

World class technology and state-of-the-art assets.

Highest investment on R&D and innovation in the Indian engineering field.

Contributing to powering India's neighbourhood.

Focusing on strategic transformation for creating BHEL of tomorrow.

Technologies for Modern Transportation

Made in India !

BHEL has supplied the first in-house manufactured 6000 HP WAG 9H electric locomotives to Indian Railways and has developed 1190 KW traction motor, the highest powered traction motor made in India. BHEL has also developed regenerative braking system which has been retrofitted in 5000 HP, WAG7 electric locomotives of the Indian Railways for the first time.





Having been a long standing supplier to the Indian Railways, BHEL is now making new forays in the transportation segment with manufacturing of metro coaches, rolling stock for high speed railways, railway electrification and environmentally friendly and efficient rolling stock for Indian Railways.

With its engineering and product development capabilities, BHEL is fully geared-up to provide innovative solutions to address the upcoming requirements of rail transportation.

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LETTER TO SHAREHOLDERS



Dear Shareholders,

It is an honor and a privilege to present the 55th Annual Report to our valued shareholders. While contributing to the nation-building endeavours, your company has registered profitable growth during 2018-19. This performance is remarkable in the face of continuous decline in the market for the company's traditional product lines, and the moderate performance of the domestic capital goods industry.

Key Performance Highlights

- Recorded turnover of ₹29,349 Crore, as against ₹27,850 Crore in the previous year, an increase of 5.4%.
- Achieved Profit Before Tax (PBT) of ₹2,058 Crore compared to ₹1,585 Crore in the year before, registering an increase of 30%.
- Achieved Profit After Tax (PAT) of ₹1,215 Crore compared to ₹807 Crore in the year before, registering an increase of 51%.
- Firmly established itself as the leader in the domestic emission control equipment market with a long list of project wins.

- Took significant steps in new business areas like transportation, solar power, energy storage business, and nuclear power.

Economic & Business Environment

Global economic growth, which has remained subdued for the past three years, is expected to continue to be moderate in the near term. In this scenario, Indian economy has become one of the fastest-growing major economies in the world. Indices of major core industries, such as steel, cement and electricity have increased consistently over the last few years. India has become the second largest producer of steel and cement and the third largest producer of electricity in the world. The government's vision of India as a US \$5 Trillion economy by 2025 is presenting new growth opportunities to engineering and manufacturing companies like BHEL. Most segments of India's manufacturing sector, which will be a key contributor towards the achievement of this vision, will require capacity expansion as well as continuous and dependable electricity supply.

The government's focus on '24x7 Power for All' is expected to unlock the dormant potential for demand for electricity. Other significant initiatives, such as implementation of emission

control norms for thermal power plants, push for augmentation of nuclear power generation capacity, optimization of use of natural resources in power plants, and modernization of transmission and distribution network are providing newer avenues of growth to the industry. For our existing product lines, which were seeing contraction for the past few years, this holds promise for improved growth.

Your company has already begun to capitalize on some of the opportunities arising out of the investments in transportation infrastructure such as rail track electrification, etc. While building further on these successes, we will also focus on other areas, such as urban metro rail and high speed rail projects. The government's thrust on indigenization of manufacturing in aerospace and defence sector also holds significant growth potential for your company with its past record as a longstanding and dependable defence supplier.

Future investments in core industries like cement, coal, petrochemical and steel, and developments in urban infrastructure such as smart-cities, waste-to-energy, sea-water desalination, sewage treatment, etc. are encouraging developments for us to chart out new areas for growth.

Foundations for Growth

BHEL, with its large, rich and diversified talent pool, strong engineering and manufacturing base, and technology depth, is well positioned to harness the present as well as emerging opportunities. In the coming year, the company is focusing on consolidation to strengthen foundations for future growth through:

- 1. Focus on Execution:** Your company will be focusing on reviewing and tightening up of the execution methodology for expeditious completion of projects. This has a twofold objective – on the one hand this will help the company to promptly realize the outstanding dues in projects where large proportion of work is done but dues are not realized due to some pending milestones. On the other hand, it will help the company to formulate a strategy for cost and time efficient execution in the increasingly competitive environment.
- 2. Working Capital:** Your company is making focused efforts for recovery of long due amounts to improve the working capital position and generate funds for future growth.
- 3. Quality:** World class quality and ruggedness of products and systems supplied by your company have always been a great source of competitive strength. To keep the company aligned with the increasingly stringent quality requirements in the market, a companywide *Quality First* movement is being taken up.
- 4. Investing in People:** BHEL has always believed that its employees are its biggest asset and drivers for growth of the company. In this direction, the company is taking up a major HR Excellence initiative for sharpening the skills of

its people and preparing them for the emerging market scenario.

5. Expansion & Diversification:

- Your company is working on a range of new products/systems for diversification into areas like transportation, defence, E-vehicles, water business, coal-to-methanol, etc. to build new drivers of growth.
- We are geared to garner maximum share in the existing portfolio of power business and are upgrading the product profile to harness new opportunities in emission control equipment/systems, development of digital technologies and optimization of natural resources like fuel and water.

- 6. Technology Development:** BHEL, along with NTPC and IGCAR is developing the world's most efficient Advanced Ultra Supercritical technology (AUSC) for coal fired power plants. Further, BHEL along with NTPC will be setting up an AUSC based 1x800 MW technology demonstration power plant. This will create a new stream of opportunities for your company.

We are confident that the above initiatives will further strengthen the base for your company and set the stage for rapid growth in years to come.

Acknowledgement

I would like to express my deep gratitude and appreciation for the continued faith of our esteemed shareholders, customers, business associates, and all others partners in our journey. Engagement and support from each member of the BHEL family, and my fellow directors on the Board remains our source of strength. I would like to thank various ministries of the Government of India, particularly the Department of Heavy Industry, for their continuous guidance and support in our efforts.

I am confident that with your continued support, we will continue to grow and contribute towards building a 'New India'.

With best wishes,



(Dr Nalin Shinghal)
Chairman & Managing Director

New Delhi
August 9, 2019

LEADERSHIP AT **BHEL**

Board of Directors

(As on 20.07.2019)





Sitting from left to right

Shri D. Bandyopadhyay

Director (Human Resources)

Shri Amit Varadan

Joint Secretary, DHI : Part-time Official Director

Dr. Nalin Shinghal

Chairman & Managing Director

Shri R. Swaminathan

Independent Director

Shri Desh Deepak Goel

Independent Director

Standing from left to right

Shri Rajesh Sharma

Independent Director

Shri Kamalesh Das

Director (Engineering, R&D)

Shri Manoj Kumar Varma

Director (Power)

Shri Subodh Gupta

Director (Finance)

Shri Ranjit Rae

Independent Director

Shri S. Balakrishnan

Director (Industrial Systems & Products)

LEADERSHIP AT BHEL

Management Team / (As on 20.07.2019)



Dr. Nalin Shinghal
Chairman & Managing Director



D. Bandyopadhyay
Director (Human Resources)



Subodh Gupta
Director (Finance)



S. Balakrishnan
Director (IS&P)



Manoj Kumar Varma
Director (Power)



Kamalesh Das
Director (Engineering, R&D)



S.V.N. Jithin Sundar
ED (Corporate R&D)
Hyderabad



D.K. Thakur
ED (HEP), Bhopal



D.K. Dikshit
ED (TP), Jhansi



A.K. Mukhopadhyay
ED (IO), New Delhi



S. Chaturvedi
ED (TBG), Noida
Addl. Charge (IS-CFP, IPE & IPM)



G.K. Hedaoo
ED (PS-MKTG, T&G)
PS-WR, Delhi/ Nagpur



K.K. Khurana
ED (PS-PEM), Noida



Rana Basu
ED (PCSG), Noida



G. Uday Kumar
ED (HPEP), Hyderabad



A.M. Gupta
ED (HBG), Noida



C. Murthy
ED (BAP), Ranipet



Sanjay Gulati
ED (HEEP), Haridwar



Anil Kapoor
ED (HR&CC), New Delhi
Addl. Charge (PSG, CLD)



C. Ananda
ED (EDN), Bengaluru
Addl. Charge (EPD)



Ajit Kumar Sinha
ED (IS-CPP & PMG)
New Delhi



Surinder Singh
ED (PS-ER), Kolkata



Gautam Chaklader
ED (FSIP), Jagdishpur



Gyan Shankar Srivastava
ED (PS-TS), Noida



R. Padmanabhan
ED (HPBP), Tiruchirappalli
PPPU, Thirumayam
& Piping Centre, Chennai



P. Nagamanickam
ED (PS-SSBG), Noida



P. P. Yadav
ED (NBG), Noida



P. Jagadiswara Reddy
ED (PE&SD), Hyderabad
Addl. Charge (HPVP)



Jai Prakash Singh
ED (CFFP), Haridwar



Manoj Shah
ED (CSM), New Delhi
Secretary, Mgmt. Committee



A.K. Jain
ED (TBSG), New Delhi
Addl. Charge (DABG)



Shakil Kumar Manocha
ED (ISG), Bengaluru



Renuka Gera
ED (ESS), New Delhi



Anil Joshi
ED (CDT), New Delhi



Tarsem Lal
GM & Head, (PS-SR)
Chennai



A.B. Gupta
GM & Head, COM, New Delhi
Addl. Charge (CQ&BE)



Koushik Acharya
GM & Head (PS-NR), Noida



Alka Tuteja
GM & Head (CTM), Delhi



Upinder Singh Matharu
GM & Head (PS-PMG), Delhi



S. Seetharaman
GM & Head (EPD),
Bengaluru



T.K. Bagchi
GM & Head (REWB), Delhi



Rajiv Sharma
GM & Head (ROD), Delhi



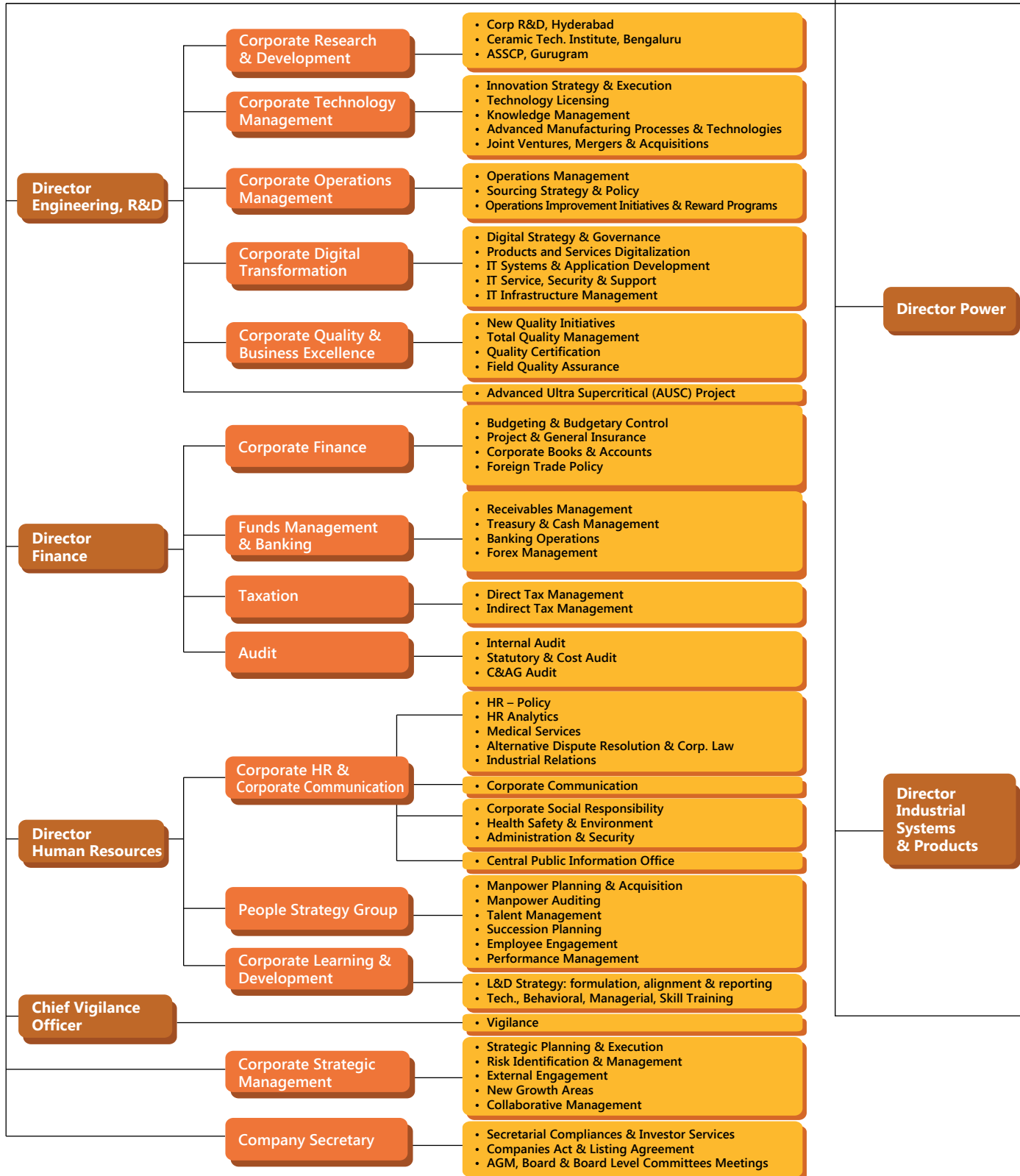
Pankaj Jain
GM (Finance-RM), Delhi

ED : Executive Director
GM : General Manager

BOARD OF DIRECTORS

CHAIRMAN & MANAGING DIRECTOR

COMMITTEE OF FUNCTIONAL DIRECTORS

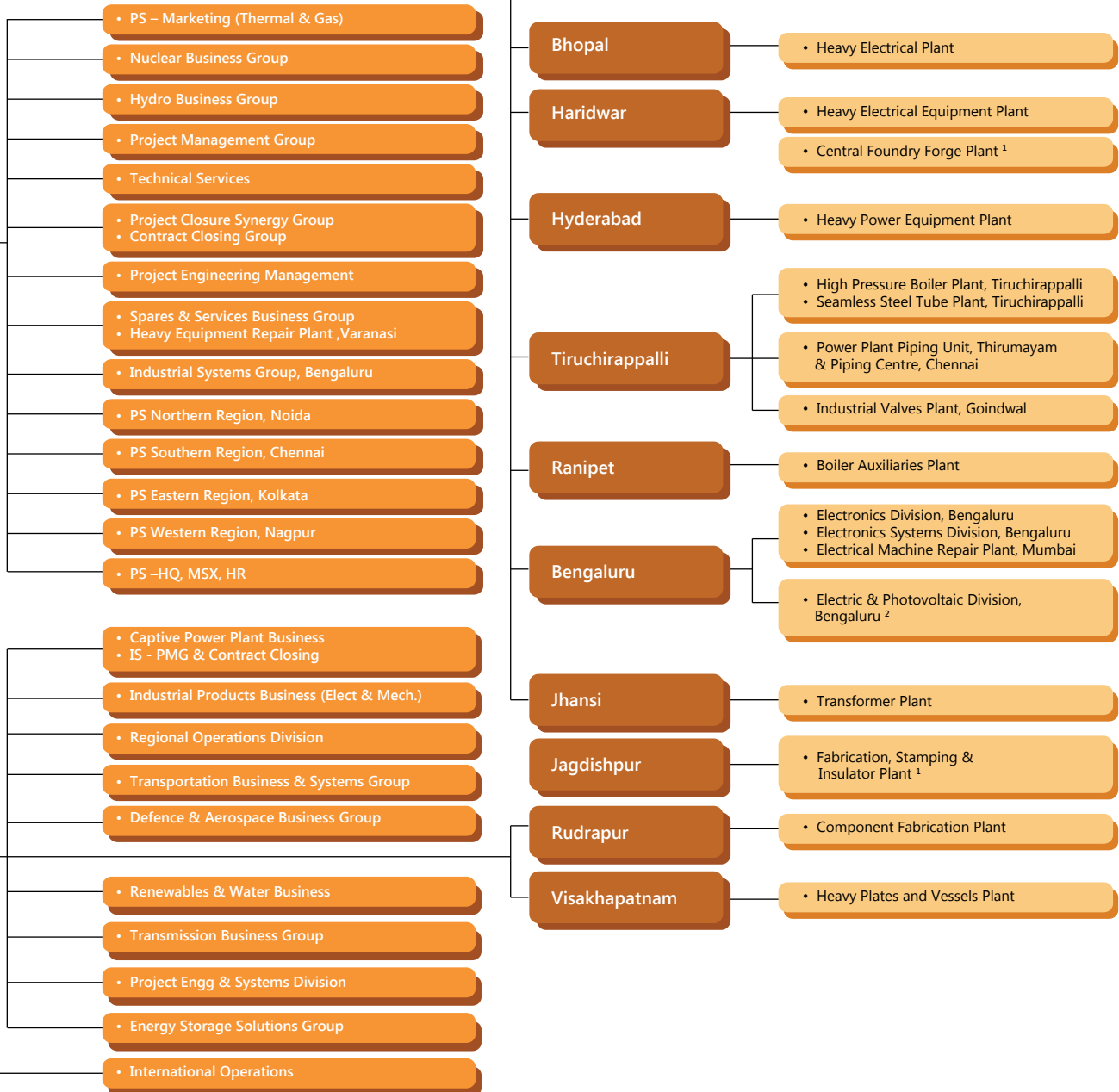


MANAGEMENT COMMITTEE

LEADERSHIP
AT BHEL

Corporate Organisational Structure

(As on 01.07.2019)



1 : Report to Director (Engineering, R&D)

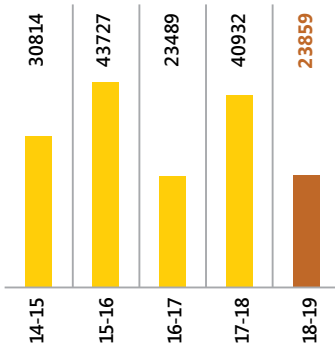
2 : Solar Business at EDN and EPD is consolidated into a single unit at EPD

YEAR | 2018-19

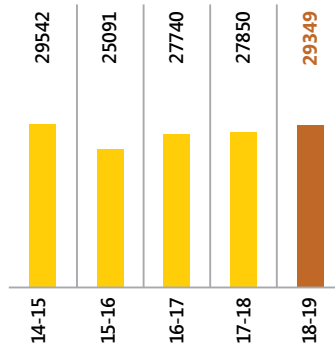
AT A GLANCE

(Figures are in ₹ crore unless otherwise stated)

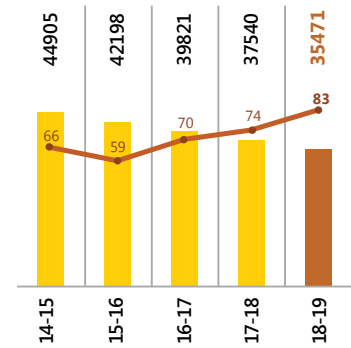
Orders Received



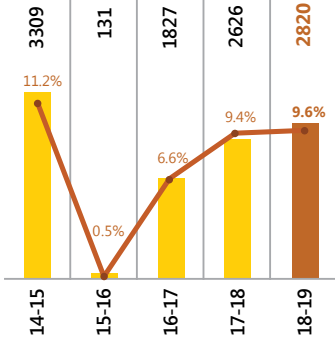
Turnover



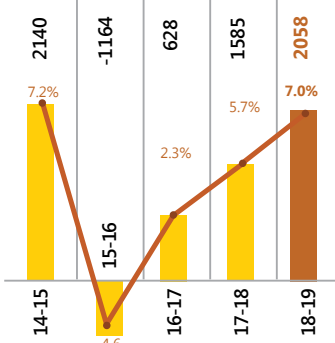
Manpower (in numbers) (Turnover per employee) ₹ Lakhs



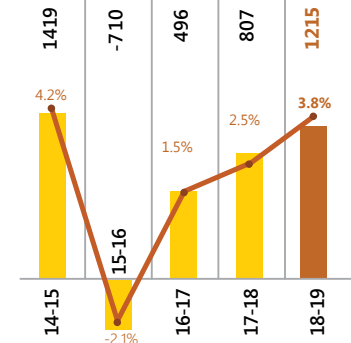
EBIDTA (% to turnover)



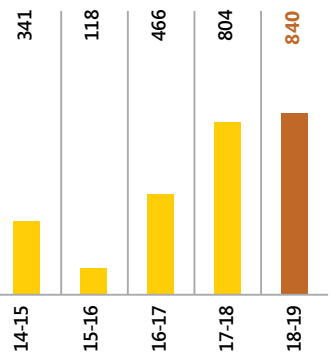
Profit Before Tax (PBT) (% to turnover)



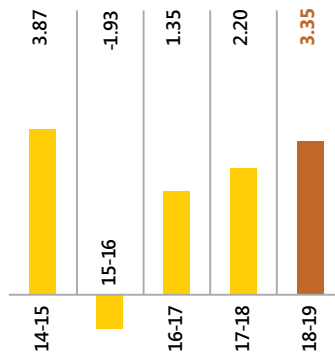
Profit After Tax (PAT) (% to avg. net worth)



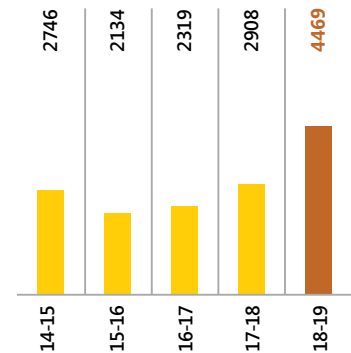
Dividend Payout (Incl. dividend distribution tax)



Earnings per Share (EPS) (in ₹)



Contribution to Exchequer



Figures for FY 2014-15 as per IGAAP and for FY 2015-16 onwards as per Ind AS
Dividend payout is interim dividend and proposed final dividend for the year.



ABOUT BHEL

BHEL, one of India's largest engineering and manufacturing enterprises in the energy and infrastructure sectors and a leading power equipment manufacturer globally, is a celebration of India's industrial achievements. In its journey of over 55 years, it has gained the status of being one of the strongest pillars of Indian industry. BHEL serves the core sectors of the economy and provides a comprehensive portfolio of products, systems and services to customers in power, transmission, transportation, renewables, water, defence & aerospace, oil & gas, and industry. BHEL has created value for its stakeholders due to the scale and depth of its operations, rich experience, competent manpower, innovative ecosystem,

diverse product-mix and focus on sustainable business solutions. BHEL's greatest asset- its highly skilled and committed workforce of more than 35,000 employees is the cornerstone of its success.

BHEL's commitment to nation building reflects in many ways- in its contribution to the country's installed power generation capacity; bringing the latest state-of-the-art technology to the country; consistent highest expenditure of more than 2.5% of its turnover on R&D and innovation in the Indian engineering segment; pan-India presence; establishment of world-class assets, and contribution to the society at large through initiatives in skilling youth, health & hygiene, education, cleanliness and environment protection, to name a few.



Ultra High Voltage Lab at BHEL, Bhopal

With a widespread network of 16 manufacturing facilities, 2 repair units, 4 regional offices, 8 service centres, 1 subsidiary, 3 active joint ventures, 15 regional marketing centres, 3 overseas offices and current project execution at more than 150 project sites across India and abroad, BHEL manufactures a wide range of high quality & reliable products adhering to national and international standards.

The worldwide installed base of power generating equipment supplied by BHEL exceeds 185 GW - making it the undisputed leader amongst Indian power plant equipment manufacturers.

Considering thermal, nuclear, hydro & gas based power plants, BHEL has installed more than 1000 power generating sets in the country.

BHEL has a widespread footprint in all the inhabited continents of the world with references in 83 countries including Bangladesh, Bhutan, Nepal, Indonesia, Oman, Iraq, Sudan, Afghanistan, United States and New Zealand. Till date, BHEL has installed around 11 GW power generating capacity in overseas markets, and an additional 6 GW is under execution.



POWER SECTOR

BHEL is one of the few companies in the world having the capability to manufacture the entire range of power plant equipment, with proven capabilities for executing thermal, gas, hydro and nuclear power projects. Offerings include:

- Steam turbines, generators, boilers and auxiliary equipment for fossil-fuel applications upto 1000 MW unit size
- Emission control equipment including Flue Gas Desulphurisation systems for SO_x emission control, high efficiency Electrostatic Precipitators for particulate emission control and Selective Catalytic Reduction systems for NO_x emission control
- Gas turbines and generators upto 297 MW unit size
- Hydro turbines and generators up to 400 MW unit size
- 220/235/540/550/700 MWe nuclear turbine generator sets
- Plant performance improvement through renovation, modernization, uprating, residual life assessment, health diagnostics and life extension of plants



Hon'ble Prime Minister, Sh. Narendra Modi being briefed about Panki TPS by the then CMD, BHEL in the presence of Shri Yogi Adityanath, Hon'ble Chief Minister of Uttar Pradesh



INDUSTRY SECTOR

BHEL is a name to reckon with in various sectors of the industry. More than half of the rolling stock of Indian Railways is equipped with BHEL made traction equipment. BHEL has commissioned 200+ electric substations and 5 major HVDC projects in the country, and is one of the largest manufacturers and suppliers of electrical AC machines in the country.

BHEL is a leading manufacturer of a variety of Industrial Systems & Products for the core sectors of the economy. Major areas of operation and offerings include:

- **Transportation:** IGBT based propulsion equipment (traction converter/auxiliary converter/VCU), 25 KV AC locos, EMU coaches, electric locomotives upto 6000 HP and diesel electric locos upto 3000 HP
- **Renewables:** EPC solutions from concept to commissioning for grid connected and standalone PV applications ranging from KW to MW sized plants, space grade solar panels and space grade batteries
- **E-mobility:** Electric vehicle chargers, electric power train, lithium ion battery packs, electric vehicles, power conditioning system, emery management system, containerized solutions for energy storage systems, EPC solutions for railway rack electrification
- **Defence & Aerospace:** Strategic equipment for Indian defence forces including Super Rapid Gun Mount & Integrated Platform Management System for naval ships, Heat exchangers for LCA, Turret castings for T72 tanks, castings for ships, and simulators etc.
- **Water:** Complete water management solutions for power

plants, industries and municipal applications including Pre Treatment plants, Seawater Reverse Osmosis plants, Demineralization plants, Effluent Treatment plants, Sewage Treatment plants, Tertiary Treatment Plants and Zero Liquid Discharge systems

- **Transmission:** EHV & UHV substations ranging from 132 KV to 765 KV & HVDC converter stations up to ± 800 KV, power transformers, shunt reactors, vacuum & SF₆ switchgear, gas insulated switchgears, ceramic insulators, Flexible AC Transmission system devices etc.
- **Industrial products:** Range of industrial products including oil rigs, wellheads & Xmas tree valves, mechanical packages, fabricated equipment & boiler feed pumps, compressors & AC machines
- **Captive Power projects:** Steam and Gas Turbine based Captive Power Plants

All Indian satellites launched by ISRO are equipped with BHEL supplied solar panels and batteries. BHEL's solar portfolio of more than 700 MW spread across the country includes ground mounted, rooftop, canal top and floating PV plants. BHEL is a trusted supplier of naval guns to Indian navy for their warships.



Air-conditioned AC EMU, equipped with BHEL supplied electrics



State-of-the-art Solar Photovoltaic manufacturing facility at BHEL, Bengaluru



1200 KV Bina Sub-station equipped with BHEL supplied Transformers

BHEL is building on its technology capabilities and committed workforce to create new sources of strength enabling its transformation. Company's 35,000+ strong workforce is focusing on new business opportunities to grow, develop and realize their full potential. One of the major enablers of company's success in its transformation initiatives is its focus on developing innovative technological solutions to drive competitiveness in its businesses.

BHEL is well on its way to realize its vision of 'Creating BHEL of tomorrow'. The journey is filled with exciting opportunities and gruelling challenges. Company's resolute focus and efforts towards ensuring success of its initiatives will be the key to thrive in the future.



Employees committed towards creating the BHEL of tomorrow



BHEL shop floors, where the foundations for building a 'New India' are laid

Pan-India Presence

	CORPORATE OFFICE
	CORPORATE R&D
	MANUFACTURING UNITS
	SERVICE CENTRES
	BUSINESS OFFICES
	REGIONAL OFFICES (Power Sector)



The graphical representation does not purport to be the political map of India



16
Manufacturing
Units



08
Service
Centres



15
Business
Offices



150+
Project Sites
in India & abroad



04
Regional
Offices



02
Repair
Units

Manufacturing Plants / Unit Locations

BHEL Manufacturing Units

Bengaluru

Bhopal

Goindwal

Haridwar

Hyderabad

Jagdishpur

Jhansi

Rudrapur

Ranipet

Tiruchirappalli

Thirumayam

Visakhapatnam

BHEL Repair Units

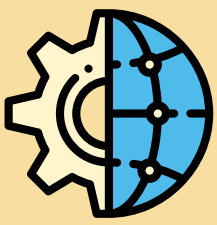
Mumbai

Varanasi

BHEL Subsidiary

Kasaragod

1. Electronics Division (EDN)
 2. Electronics Systems Division (ESD)
 3. Electric & Photovoltaic Division (EPD)
 4. Heavy Electrical Plant (HEP)
 5. Industrial Valves Plant (IVP)
 6. Heavy Electrical Equipment Plant (HEEP)
 7. Central Foundry Forge Plant (CFFP)
 8. Heavy Power Equipment Plant (HPEP)
 9. Fabrication Stamping Insulator Plant (FSIP)
 10. Transformer Plant (TP)
 11. Component Fabrication Plant (CFP)
 12. Boiler Auxiliaries Plant (BAP)
 13. High Pressure Boiler Plant (HPBP)
 14. Seamless Steel Tube Plant (SSTP)
 15. Power Plant Piping Unit (PPPU)
 16. Heavy Plates & Vessels Plant (HPVP)
1. Electrical Machine Repair Plant (EMRP)
 2. Heavy Equipment Repair Plant (HERP)
1. BHEL Electrical Machines Ltd. (BHEL-EML)



The World of BHEL



Vision

A global engineering enterprise providing solutions for a better tomorrow

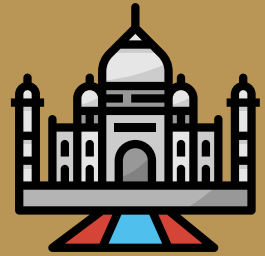
Mission

Providing sustainable business solutions in the fields of Energy, Industry & Infrastructure



A National Institution

- One of the largest engineering & manufacturing companies in India serving core sectors of the economy
- Pan India presence with more than 150 project sites
- Contributing to powering India's neighbourhood



Did you Know



BHEL will set up first-of-its-kind solar power plant on Railways land for feeding power directly to the traction system

NPCIL's Kaiga Unit-1 (220 MW) equipped with BHEL supplied sets has created a world record for longest continuous operation for 962 days

BHEL has successfully poured world's heaviest casting for Alloy 625 for any application, weighed at 50 T

BHEL commissioned 800 MW supercritical plant at Kothagudem in 46 months - a record in the country

BHEL has designed, manufactured and commissioned largest rating (116 MW each) vertical pump-motor sets for Kaleshwaram Lift Irrigation Scheme

BHEL has commissioned 200+ Electrical Substations across the country till date

BHEL is the largest Indian supplier of electrical AC machines

BHEL is the first company in the country to develop regenerative braking system for retrofitting in electric locomotives

Global Presence

- Footprints in 83 countries
- 11 GW power generation capacity built beyond the shores of the country; 6 GW in progress
- ~3000 MW hydro projects in Bhutan, 900 MW hydro projects in Nepal under execution
- 1320 MW supercritical thermal plant in Bangladesh under execution



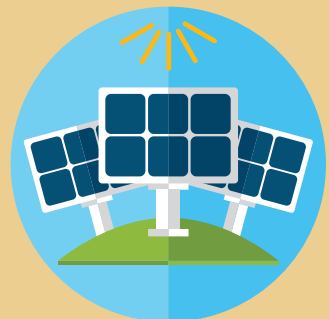
Energizing India

- 185+ GW power generating equipment installed in India and abroad
- Single largest contributor to the country's total installed electric utilities with 1000+ commissioned utility sets
- 700+ MW - company's total solar portfolio
- 47% of nuclear power generation (conventional island) and 45% of hydro power generation in the country comes from BHEL manufactured equipment

Unparalleled contribution in other core sectors



- 6,30,000+ MVA transmission equipment
- 31,500+ AC machines
- 380 Electric Locos
- 330+ Diesel Electric Locos
- 400+ Compressors and 90 Oil drilling Rigs
- 40+ Super Rapid Gun Mount for Indian Navy ships





Powering Progress ... Brightening Lives

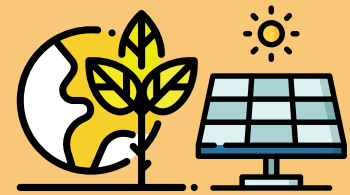


Valuing People

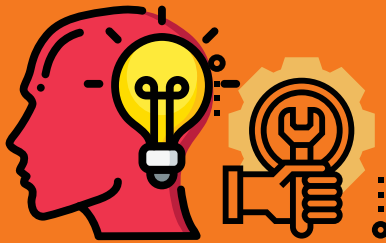
- Second largest employer amongst Indian capital goods industry (>35000 work force)
- Participative management culture since 1973
- 2000+ female employees

Technologies for a Sustainable Future

- In house development of Advanced Ultra Supercritical (AUSC) and Coal to Methanol technologies on track
- Spearheading the development and installation of emission control equipment for coal based power plants in India
- 27 MW+ in house solar power installations
- Higher efficiency EHV Transmission systems and products (including ±800 kV HVDC)



Innovation



- R&D Expenditure consistently >2.5% of turnover-highest in Indian engineering field
- 6 technology collaboration agreements signed in last two years
- Five research institutes
- 14 Centres of Excellence
- In-house R&D Centres of 12 manufacturing units & divisions recognized by Department for Scientific & Industrial Research (DSIR)

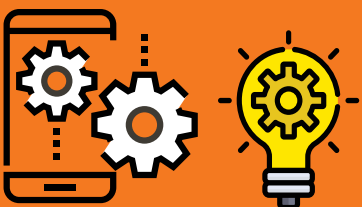
Growing with society



- Committed to Principles of UN Global Compact
- Signatory to Integrity Pact of Transparency International
- Active contributor to Healthy India, Educated India, Green India and Clean India initiatives
- In-house green coverage of 4.7 million square meters



Going Digital



- Improving performance through remote monitoring and diagnostics systems in power plants
- Enhancing productivity of operations



Making in India since 1964

RECOGNITION OF EXCELLENCE

Continuing its tradition of winning prestigious national/international recognitions, the organization and its employees won several awards during the year. Notable among these include:

- **17 Vishwakarma Rashtriya Puraskars** to 82 BHEL employees for their innovative suggestions leading to cost reduction, improvement in quality, productivity and working conditions, etc.
- **Six National Safety Awards** for outstanding achievements in terms of longest accident free period and lowest accident frequency rate.
- **Award by Ministry of MSME** for supporting SC/ST Entrepreneur in Maharatna Category.
- **EEPC National Award** for Export Excellence in the category 'Star Performer for the year 2016-17 in the product group – Project Exports - Large Enterprise'.



EEPC National Award for Export Excellence in the category 'Star Performer for the year 2016-17

- Recognized as one of the top 12 innovators in India and conferred the Clarivate Analytics **India Innovation Award 2018** in the 'Corporations' category
- **Dun & Bradstreet Corporate Award 2018** in the 'Engineering Projects/Capital Goods' category.



Vishwakarma Rastriya Puraskar awardees felicitated at a function in Vigyan Bhawan, New Delhi

- **CBIP Award 2019** for 'Best Power Equipment Manufacturing Organization' for New & Renewable Energy & Power.



CBIP Award 2019 for 'Best Power Equipment Manufacturing Organization' for New & Renewable Energy and Power

- **ICAI National Award** for Excellence in Cost Management 2017.



ICAI National Award for Excellence in Cost Management 2017

- **Safety Innovation Award 2018** for performance years 2016 & 2017 from The Institution of Engineers.
- **Governance Now PSU Award 2019** for being 'Best PSE in Strategic Performance' among all State and Central Public Sector Enterprises, and the 'Best PSE in Digitalization'.
- **Excellence in Manufacturing of Rolling Stock Components and New Innovations by Rail Analysis.**

- **ICC PSE Excellence Award – Felicitation of CMD, BHEL** for outstanding contribution to Public Sector Industry.
- **Indian Chamber of Commerce (ICC) PSE Excellence Award – Runner Up Trophy for HRM Excellence, CSR & Sustainability and R&D, Technology Deployment & Innovation.**
- **SKOCH Order of Merit** in the category of Corporate Excellence for Technology Deployment in battery energy storage system.



6 National Safety Awards for outstanding achievements in terms of longest accident-free period and lowest accident frequency rate



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Report of the Board of Directors

Dear Members,

The Board of Directors have pleasure in presenting the 55th Annual Report on the business and operations of your Company and the Audited Financial Statements for the year ended March 31, 2019.

Financial Results

(₹ Crore)

	For the year ended		
	March 31, 2019	March 31, 2018	Growth
Turnover	29349	27850	5.4%
Revenue from operations	30349	28813	5.3%
EBIDTA	2820	2626	7.4%
Operational EBIDTA	2142	1932	10.9%
Profit before tax	2058	1585	29.8%
Profit after tax	1215	807	50.6%
Total comprehensive income	1096	890	23.1%
Dividend (including interim dividend) paid	653	485	34.6%
EPS (in ₹)	3.35	2.20	52.3%

Note:

Dividend includes final dividend for the previous year and interim dividend for the current year.

"Your Company has delivered an improvement in operational EBIDTA and significant growth in profit for the year, which could be achieved through various operational improvement initiatives leading to reduction in expenses".

State of Company Affairs

Turnover in FY 2018-19 was ₹29349 crore against ₹27850 crore in FY 2017-18, a growth of 5.4% over previous year. Revenue from operations increased by 5.3% in FY 2018-19 over FY 2017-18.

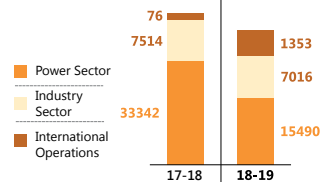
EBIDTA was ₹2820 crore in FY 2018-19 against ₹2626 crore in FY 2017-18, a growth of 7.4%. The Company registered profit before tax (PBT) of ₹2058 crore in FY 2018-19 against ₹1585 crore in FY 2017-18, a growth of 29.8%. Net profit (PAT) stood at ₹1215 crore in FY 2018-19 against ₹807 crore in FY 2017-18, a quantum jump of 50.6%. This was achieved through operational improvements, vacation of provisions on settlement of contractual issues with customers etc.

The Company secured orders worth ₹23859 crore in FY 2018-19. This comprises orders worth ₹15490 crore in power sector, ₹7016 crore in industry sector and ₹1353 crore in international operations. In the Power sector, the Company

continues to maintain its market leadership, and has secured the only order for main plant package of a thermal power plant which was ordered in the nation in the year. In addition, various tenders where BHEL is favourably placed are expected to be finalized in 2019-20. The order book outstanding at the end of March 31, 2019 was around ₹109000 crore (executable order of ₹87000 crore) against ₹118000 crore (executable order of ₹99000) as on March 31, 2018. The order book figures are inclusive of applicable taxes.

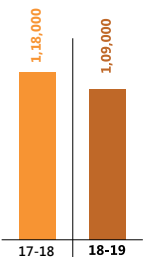
Orders Received

(in ₹ crore)



Order in Hand

(in ₹ crore)



Change in Share Capital

The Board, in its meeting held on October 25, 2018 approved a proposal for the Company to buyback of its 18,93,36,645 fully paid up equity shares of the face value of ₹2 each representing 5.16% of the total issued and paid-up equity share capital from the eligible equity shareholders of the Company, for an amount not exceeding ₹1628.30 crore at a price of ₹86 per equity share. The buyback offer size was upto 5% of both the standalone and consolidated paid-up equity share capital and free reserves of the Company for the financial year ended March 31, 2018 which was well within the statutory limit of 10% of the aggregate of the fully paid-up share capital and free reserves of the Company for the financial year ended on March 31, 2019 with record date November 06, 2018. The buyback offer opened on December 13, 2018 and closed on December 27, 2018 through tender offer route. Total equity shares of 18,93,36,645 were bought back at ₹86 per equity share (including premium) with total outflow of ₹1628.30 crore paid in January 2019. Consequently, the paid-up share capital has reduced from ₹734.28 crore in FY 2017-18 to ₹696.41 crore in FY 2018-19.

Transfer to Reserve

The Company has transferred ₹37.87 crore to "Capital Redemption Reserve" for buyback of its fully paid-up equity shares during FY 2018-19. The Company has utilized General Reserve of ₹1628.30 crore for the buyback of equity shares during FY 2018-19.

Dividend

Your Company has paid an interim dividend of ₹0.80 per equity share (@40% on equity share of ₹2/- each) amounting to ₹278.57 crore on the paid up share capital of ₹696.41 crore, in February 2019. Further, the Board of Directors has recommended, in its meeting held on May 27, 2019, a final dividend of ₹1.20 per equity share (@ 60 % on equity share of ₹2/- each) amounting

to ₹417.85 crore, out of profit for FY 2018-19, subject to your approval. With this, the total dividend for FY 2018-19 amounts to ₹696.42 crore (excluding dividend distribution tax) and ₹839.58 crore (including dividend distribution tax).

The Company has in place a dividend distribution policy in pursuance to the requirements of Regulation 43A of the Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015 ("LODR"). Dividend distribution policy is available on the Company's website at www.bhel.com and is also provided separately in the Annual Report.



BHEL presents a cheque towards interim dividend for the year 2018-19 to Sh. Anant Geete, then Hon'ble Union Minister of HI & PE and Sh. Babul Supriyo, then Hon'ble Minister of State for HI & PE

"The Company is committed to enhance shareholder value and has a track record of paying dividend uninterruptedly since 1976-77. The dividend this year is the highest in last six years. In addition, the Company has also bought back shares in FY 2018-19."

Deposits

The Company has not accepted deposits from the public falling within the ambit of Section 73 of the Companies Act, 2013 during FY 2018-19.

MoU Rating

Your Company has been rated as 'Excellent' on MoU performance for FY 2017-18 by Government of India.

Credit Rating

The credit ratings of your Company at the end of FY 2018-19 were:

Rating Agency	Date of Rating	Long Term Rating	Outlook	Short Term Rating
CRISIL	6 th Nov, 2018	CRISIL AA+	Stable	CRISIL A1+
INDIA RATINGS	29 th Nov, 2018	IND AA+	Stable	IND A1+
CARE	15 th Feb, 2019	CARE AA+	Stable	CARE A1+

CRISIL has upgraded outlook from Negative to Stable in FY 2018-19. Outlook by INDIA RATINGS and CARE remains at Stable.

Material Changes and Commitments Affecting the Financial Position

There are no material changes and commitments affecting the financial position of the Company between the end of the financial year and the date of this report of FY 2018-19.

Directors' Responsibility Statement

Pursuant to section 134(5) of the Companies Act, 2013, the Board of Directors confirms that:

- a) In the preparation of the Annual Accounts, the applicable Accounting Standards (Ind AS) have been followed along with proper explanations relating to material departures;
- b) The Directors have selected such accounting policies and applied them consistently and made judgments and estimates that are reasonable and prudent so as to give a true and fair view of the state of affairs of the Company at the end of financial year and of the profit of the Company for that period;
- c) The Directors have taken proper and sufficient care for maintenance of adequate accounting records in accordance with the provisions of this Act for safeguarding the assets of the Company and for preventing and detecting fraud and other irregularities;
- d) The Directors have prepared the Annual Accounts on a going concern basis;
- e) The Directors have laid down internal financial controls to be followed by the Company and that such internal financial controls are adequate and operating effectively;
- f) The Directors have devised proper systems to ensure compliance with the provisions of all applicable laws and that such systems were adequate and operating effectively.

Management Discussion & Analysis

The Indian economy grew at a slower pace in the second half of 2018-19. The country registered GDP growth of 6.8% in FY 2018-19 compared to the projected growth of 7.4%, but macro fundamentals of the domestic economy remain strong. The government's vision of making India a US \$5 trillion economy by 2024 is expected to invigorate economic activity, stimulating growth in core sectors.

Business environment at present continues to be difficult. Despite various challenges, the company has maintained its leadership in its core business. Aggressive focus on diversification initiatives in the areas of solar, transportation, defence & aerospace, e-mobility & water businesses are bearing results and are set to drive growth in the future.

In the journey of "Creating BHEL of tomorrow", which BHEL embarked on with focus on its seminal strategy framework of Survive, Revive and Thrive and their respective enabling nine elements (NEEV), many important initiatives have already been

taken so far, and many others are in the pipeline. Maintaining profitable growth, asserting leadership in the core business, and diversification by harnessing emerging opportunities continue to be the cornerstone of our business strategy. **For further details, please refer Annexure-I to the Board's Report.**

Corporate Governance

Pursuant to Regulation 34 of the SEBI (Listing Obligations & Disclosure Requirements) Regulations, 2015, a report on Corporate Governance (including Board/Committee meeting details) together with the following, is given at **Annexure-II to the Board Report**

- (i) Certificate of Non-Disqualification of Directors under Schedule V of the Listing Regulations.
- (ii) Auditors certificate on Corporate Governance under Listing Regulations & DPE guidelines on Corporate Governance.
- (iii) Secretarial Audit Report u/s 204(1) of the Companies Act, 2013.
- (iv) Extracts of Annual Return pursuant to section 92(3) of the Companies Act, 2013 read with rule 12(1) of the Companies (Management and Administration) Rules, 2014.

Declaration under section 149(6) of the Companies Act, 2013 pertaining to criteria of independence has been given by Independent Directors to the Board of Directors.

Links to Company Websites:

1. Familiarisation Programme of Independent Directors: http://www.bhel.com/index.php/ind_dir
2. Policy Determining Material Subsidiaries and Policy Dealing with Related Party Transactions: http://www.bhel.com/pdf/Policy_with_regard_to_Related_Party_Transactions_010419.pdf
3. Extract of Annual Return: http://www.bhel.com/index.php/notice_announce

Audit Committee

The Company has in place a Board Level Audit Committee in terms of the requirements of the Companies Act, 2013 read with rules made thereunder and Regulation 18 of the SEBI (Listing Obligations & Disclosure Requirements) Regulations 2015, the details in respect of which are given at Point 3 of the Corporate Governance Report. Further, there has been no instance where the Board of Directors have not accepted the recommendation of Audit Committee.

Compliance with Secretarial Standards

The Company has complied with applicable Secretarial Standards.

Changes in Directors & Key Managerial Personnel

Appointment

Shri R. Swaminathan, who was appointed as Part-time Non-official (Independent) Director on December 18, 2015, ceased

to be a Director of the Company on completion of his tenure on November 30, 2018. He has been re-appointed as Part-time Non-official (Independent) Director w.e.f. December 1, 2018.

Shri Manoj Kumar Varma has been appointed as Whole Time (Functional) Director w.e.f. December 19, 2018 to take charge of the office of Director (Power).

Shri Rajesh Sharma has been appointed as Part-time Non-official (Independent) Director w.e.f. February 20, 2019.

Shri Kamalesh Das has been appointed as Whole Time (Functional) Director w.e.f. March 1, 2019 to take charge of the office of Director (E, R&D).

Shri Amit Varadan, Joint Secretary, Department of Heavy Industry, Ministry of Heavy Industries & Public Enterprises has been appointed as Part-time Official Director w.e.f. March 27, 2019.

Dr. Nalin Shinghal who was appointed as Chairman & Managing Director (CMD) on July 3, 2019 has assumed charge of the post of CMD, BHEL w.e.f. July 8, 2019. Further, pursuant to DHI order dated July 1, 2019, Shri D. Bandyopadhyay, Director (HR), BHEL was entrusted with additional charge of the post of CMD in addition to his existing duties w.e.f. July 2, 2019 till the period Dr. Nalin Shinghal joined as CMD.

In accordance with Section 161 of the Companies Act, 2013 and Article 67(iv) of the Articles of Association of the Company, S/Shri Manoj Kumar Varma, Rajesh Sharma, Kamalesh Das, Amit Varadan and Dr. Nalin Shinghal, having been appointed as additional directors, shall hold directorship upto the 55th Annual General Meeting of the Company and are eligible for appointment as Directors at the Meeting. Further, pursuant to the aforementioned Section 161 and Article 67(iv) read with Section 149 (10) of the Companies Act, 2013, Shri R. Swaminathan shall hold directorship upto the 55th Annual General Meeting of the Company and is eligible for reappointment as an Independent Director at the Meeting by a special resolution.

Cessation

Shri Akhil Joshi, who was appointed as Director (Power) on August 10, 2016, ceased to be a Director of the Company on attaining the age of superannuation on September 30, 2018.

Shri Rajesh Kishore, who was appointed as Part-time Non-official (Independent) Director on December 18, 2015, ceased to be a Director of the Company on completion of his tenure on November 30, 2018. He was re-appointed as Part-time Non-official (Independent) Director on December 1, 2018 and subsequently ceased to be a Director due to his sad demise on December 19, 2018.

Shri Keshav N. Desiraju, who was appointed as Part-time Non-official (Independent) Director on December 18, 2015, ceased to be a Director of the Company on completion of his tenure on November 30, 2018.

Shri Subrata Biswas, who was appointed as Director (E, R&D) on September 24, 2015, ceased to be a Director of the Company on attaining the age of superannuation on February 28, 2019.

Shri Pravin L. Agrawal, Joint Secretary, Department of Heavy Industry, Ministry of Heavy Industries & Public Enterprises, who was appointed as Part-time Official Director on May 18, 2018, ceased to be Part-time Official Director on March 27, 2019.

Ms. Surama Padhy who was appointed as Part-time Non-official (Independent) Director on February 2, 2017, ceased to be a Director of the Company due to her resignation on March 31, 2019.

Shri Atul Sobti, who was appointed as Chairman & Managing Director on January 1, 2016, ceased to be CMD of the Company on attaining the age of superannuation on June 30, 2019.

Dr. Subhash Chandra Pandey, former Special Secretary & Financial Adviser, Department of Industrial Policy and Promotion, Ministry of Commerce & Industry, who was appointed as Part-time Director on March 31, 2016, ceased to be a Director of the Company on attaining the age of superannuation on June 30, 2019.

The Board of Directors place on record their deep appreciation for the valuable services rendered as well as advice and guidance provided by S/Shri Akhil Joshi, the late Sh. Rajesh Kishore, Keshav N. Desiraju, Subrata Biswas, Pravin L. Agrawal, Ms. Surama Padhy, and Dr. Subhash Chandra Pandey during their tenure. The Board of Directors also place on record their deep appreciation for the visionary leadership and strategic direction provided by Shri Atul Sobti during his tenure as CMD, BHEL.

Further, pursuant to Section 152 of the Companies Act, 2013 and Article 67(i) of the Articles of Association of the Company, Shri Subodh Gupta and Shri S. Balakrishnan will retire by rotation at the Annual General Meeting and being eligible, offer themselves for re-appointment.

In compliance with Regulation 36(3) of the SEBI (Listing Obligations & Disclosure Requirements) Regulations, 2015, brief resume of the Directors proposed for appointment and re-appointment alongwith the nature of their expertise in specific functional areas and names of companies in which the person also holds directorship alongwith the membership of the Committees of the Board are given in the explanatory statement/ annexure to the Notice.

Shri Rajeev Kalra was appointed as Company Secretary and Key Managerial Personnel w.e.f. December 17, 2018 consequent to the relinquishment of charge by Shri I.P. Singh.

CEO/CFO Certificate

CEO/CFO certificate as per Regulation 17(8) of the SEBI (Listing Obligations & Disclosure Requirements) Regulations, 2015 is placed at **Annexure- III to the Board's Report**.

Loans and Investments

Details of loans and investments covered under the provisions of Section 186 of the Companies Act, 2013 form part of financial statement. Loan of ₹3 crore towards working capital was given during FY 2015-16 to M/s BHEL EML, BHEL's subsidiary Company, and has been already provided for impairment.

Consolidated Financial Statements

The brief on consolidated financial statements prepared pursuant to section 129 (3) of the Companies Act, 2013 and Regulation 34 of the SEBI (Listing Obligations & Disclosure Requirement) Regulations 2015, is given in para 1.5.4 under Management Discussion & Analysis.

Sustainable Development

Tenets of sustainability are ingrained in our business processes which is reflected in our mission statement "Providing sustainable business solutions in the fields of Energy, Industry & Infrastructure". BHEL is always looking for avenues to minimise the environmental footprint across the entire value chain. Development of cleaner products, reduction in consumption of natural resources in our products/ processes, sustainable waste management based on principle of reduce-recycle-reuse (3R), enriching the environment through development of greenery in our premises, managing carbon footprint responsibly through use of cleaner fuel and renewable energy, energy conservation/ efficiency measures, and promoting inclusive growth through our CSR programme are some of the approaches employed to meet the objective of sustainable development in BHEL. The details of various initiatives taken under these areas are given in

Annexure – IV to the Board's Report.



In-house solar installation at Corporate R&D, BHEL Hyderabad

Business Responsibility Report

In line with the requirement of the listing regulations, Business Responsibility Report describing the initiatives taken by the Company from environmental, social and governance perspectives is enclosed at **Annexure V to the Board's Report**.

Achievements of R & D and Technological Development

BHEL's Innovation strategy, R&D structure and infrastructure is geared up to meet the technological challenges of present and future business requirements. The R&D expenditure of the Company for 2018-19 was ₹820 crore which is approx. 2.8% of the turnover. This includes expenditure incurred on R&D efforts made at manufacturing units for major modifications/ improvements in products/ designs/ against customer requirements apart from R&D projects. The Company filed 558 patent and copyright applications during the year,

enhancing the Company's intellectual capital to 4561. Approx 19.6 % of the Company's turnover, amounting to ₹5761 crore has been achieved from its in-house developed products. Further details have been provided in **Annexure-VI to the Board's Report**.



Electromagnetic Resonance Fatigue (ERF) test machine at Corp. R&D, Hyderabad

Implementation of Official Language

Continuous efforts are being made for propagation and effective implementation of Rajbhasha in all units of the Company and the progress is reviewed and monitored continuously. Committee of Parliament on Official Language appreciated the efforts being made in BHEL during their inspection in various Units. Department of Heavy Industries also carried out inspection in certain units.

12 units of the Company were awarded by the Chairman and Managing Director on May 15, 2018 for excellent Rajbhasha implementation. Hindi Diwas / Week / fortnight / Month were celebrated in all the units/ divisions including Corporate Office, during which various events such as competitions, seminars, cultural programs and Kavi-sammelans were organized. Rajbhasha Ullas Parva was organized in the offices based in Delhi / NCR. In Corporate Office, Hindi Diwas function was held under the chairmanship of Director (HR) on Sept. 14, 2018. Prof. Vishnu Datt Rakesh, Vice Chancellor of Gurukul Kangadi Vishvavidyalaya, Haridwar was invited as the Chief Guest.

Your Company is playing an active role in Town Official Language Implementation Committees located in different cities. Many interesting competitions, seminars, conferences and programs are organized under the auspices of these committees. 17 magazines in Hindi are published in the Company. During the year 2018-19, 30 employees were awarded cash prize for their excellent articles published in Corporate office's Hindi magazine **Arunima**.

Meeting of Hindi Advisory Committee of the Ministry of Heavy Industries and Public Enterprises was held in Munnar, Kerala and Havlok, Andman & Nicobar Islands on May 18, 2018 and November 29, 2018 respectively under the chairmanship of the Minister of Heavy Industries and Public Enterprises.



Hindi Advisory Committee Meet of Ministry of Heavy Industries & Public Enterprises on May 18, 2018

Vigil Mechanism

Vigilance Department of BHEL is headed by the Chief Vigilance Officer (CVO) appointed by Department of Heavy Industry (DHI), Ministry of Heavy Industry & Public Enterprises, Govt. of India. Major manufacturing Units/ Power Sector Regions of BHEL have a vigilance set-up headed by a senior vigilance executive reporting to the CVO.



A motorbike rally in Delhi-NCR, on the occasion of Vigilance Awareness Week 2018, for spreading the message of anti-corruption

Preventive Vigilance has always remained the focus area of BHEL Vigilance. Deficiencies noticed during the inspections were shared with Management, and systemic improvements advised so as to reduce use of discretionary powers, and increase transparency. Other deviations are brought to the knowledge of Management from time to time for issuance of circular/guidelines and systemic improvements in such areas. Some of the major measures undertaken in the year were:

- Action was initiated to review and update the Policies, Guidelines and Manuals, covering all critical and important activities in order to align them with Govt. Policies and guidelines, to minimize discretionary powers and bring clarity in provisions where there is a scope for different interpretation.
- Standard Operating Procedure for adoption of Integrity Pact

was reviewed as per the advice of CVC and revised procedure notified on July 16, 2018.

- Surprise inspections, routine inspections and CTE (Chief Technical Examiner) type inspections were conducted across all the units, regions and offices of the Company.
- Based on the observations and feedback, systems improvements were implemented in various areas such as revised policy on exigency engagement of retired employees on fixed tenure basis, strict following of instant guidelines while opening Letter of Credit, guidelines for issue of experience certificates, instructions regarding maintenance of Hindrance Register across all BHEL Units / Regions to avoid contractual disputes with contractors, amendment to guidelines for suspension of business dealings with suppliers/ contractors, etc.

Annual Property returns of 4524 employees were scrutinized during the financial year 2018-19.

Vigilance took up 31 cases for investigation. Wherever lapses/irregularities directly attributable to Company officials were established by investigation, suitable disciplinary proceedings were recommended which resulted in imposition of penalties. Based on the findings in the investigations, advice was rendered by Vigilance and the respective Disciplinary Authorities imposed 34 penalties (25 minor and 9 major) during the year. Further, 18 warning/advisory letters were issued. 232 Complaints (including 03 from CVC and 02 from DHI) were received during the year and 224 complaints were d of. Recoveries of ₹4.49 crore have been made by BHEL from vendors/contractors on the advice of Vigilance. On the advice of Vigilance, action against 05 vendors was taken in line with 'Guidelines of Suspension of Business Dealings with Suppliers / Contractors'. Commission forwarded 01 complaint under PIDPI Resolution on which a report was submitted within the time limit. 67 reports (3419 paras) of Internal Audit have been scrutinized for vigilance angle. In 03 paras, vigilance angle was observed and detailed investigation was recommended.

Vigilance Awareness Week was observed from 29th October to 3rd November, 2018 in the Corporate Office, manufacturing units, divisions, Power Sector regions and project sites of BHEL on the theme '**Eradicate Corruption – Build a New India**'. To spread awareness about ill effects of corruption amongst younger generation, activities such as lectures, panel discussions, debates, quiz, essay writing, slogans and poster competitions on moral values, ethics, good governance practices etc. were organized among students of 59 schools covering 6159 students and 26 colleges covering 8615 students across the country.

Training programmes/ workshops on Preventive Vigilance were conducted across the Units and Regions. In all the Management Programmes organized by Corporate Learning & Development (CLD) department of BHEL, a session on preventive vigilance is being included. During the period, about 120 training programmes/ workshops were conducted for about 2956 non-vigilance officers. With a view to creating awareness about procurement policy, rules and procedures etc., disseminating instructions and guidelines issued by CVC and Government of India from time to time, and sharing best practices and case

studies, Vigilance Department publishes Quarterly e-Newsletter 'DISHA'. Twenty-three issues of the newsletter have so far been published.



Inauguration of BHEL Learning Week in Corporate Office, New Delhi on Sept 5, 2018

In addition, regular review meetings were conducted, and as a part of capacity building, workshops for BHEL Vigilance Officers were also organized at units and Corporate Office.

Health, Safety & Environment (HSE)

Occupational Health, Safety and Environment is a focus area for BHEL Management. Utmost importance is given to ensure a safe working environment and to inculcate safety awareness among employees and stakeholders.

BHEL has a multi-tier structure for managing occupational health, safety and environment by way of organizational set-ups at the corporate, sector, unit, division, project site and location levels. HSE related issues are reviewed in various forums like risk management committee, joint committee, plant level apex committee, central safety committee, shop councils etc.

At BHEL units and sites, integrated HSE Management system certified to HSE standards has been established, which has attained a high level of maturity. An established system of conducting internal audits by trained internal auditors as well as third party auditors is there. Height permit and height work check list are implemented to ensure safety of workers while working at heights. Adequate numbers of qualified safety officers are posted at all units/sites as per statutory rules and provisions to look after safety of men and materials.

For strict compliance & enforcement of safety norms and practices by our sub-contractors, "HSE plan of site operations by sub-contractors" has been established and is made a part of contracts. For enhancing and sustaining HSE awareness amongst employees and stakeholders, awareness campaigns on fire safety, road safety, general safety, health, environment, and chemical safety were held.

All townships of BHEL units eschew use of single use plastic. More than 21500 saplings have been planted in township, factory and surrounding areas during the reporting period. Campaigns such as "Swachhata Pakhwada" were observed from 16.08.2018 to 31.08.2018 and Swachhata Hi Seva

from 15.09.2018 to 02.10.2018 to inculcate the culture of cleanliness and good hygiene in BHEL. A total of 9.63 Lakh man hours were contributed by BHEL employees in such efforts.



Cleanliness drive undertaken at Corporate Office, New Delhi, under *Swachh Bharat Abhiyan*

As a recognition of good safety practices and performance, BHEL has been conferred with many awards in safety, including 6 National Safety Awards (Trichy unit), Safety Innovation Award 2018 etc. Further, our EDN Bengaluru unit's team of artisans won the state level safety quiz for the seventh consecutive year.

Data and Cyber Security

BHEL has deployed endpoint security across its IT assets comprising of PCs, laptops and servers and the same has been integrated with its Cyber Security Operations Centre to ensure protection against advanced threats and attacks. This approach provides advanced anti-malware techniques, enabling data security for every device managed by a single console. The successful integration provides BHEL with significant benefits, including protecting the company's geographically distributed endpoints and servers under a single umbrella.

The "Cyber Swachhta Kendra, CSK" (Botnet Cleaning and Malware Analysis Centre) is a part of the Government of India's Digital India initiative under the Ministry of Electronics and Information Technology (MeitY) to create a secure cyber space by detecting botnet infections in India and to notify, enable cleaning and securing systems of end users so as to prevent further infections. The CSK is set up in accordance with the objectives of the "National Cyber Security Policy", which envisages creating a secure cyber ecosystem in the country, and is being operated by the Indian Computer Emergency Response Team (CERT-In) under provisions of Section 70B of the Information Technology Act, 2000. Public IP range of BHEL has been integrated with the CSK.

Other disclosures

Information in accordance with the provisions of Section 134(3) (m) of the Companies Act, 2013 read with Companies (Accounts) Rules, 2014 regarding conservation of energy, technology absorption and foreign exchange earnings and outgo is given at **Annexure-VII to the Board's Report**.

As per provisions of section 197 of the Companies Act, 2013 read with the Rule 5 of the Companies (Appointment and Remuneration of Managerial Personnel) Rules, 2014, every listed Company is required to disclose the details of the remuneration of the Directors etc. in the Board's Report. However as per Notification No. GSR 463(E) dated June 5, 2015 issued by the Ministry of Corporate Affairs, Government Companies are exempted from complying with provisions of section 197 of the Companies Act, 2013. BHEL being a Government Company, such particulars are not included as part of Board's Report.

Statement pursuant to Section 129 of the Companies Act, 2013 (Form AOC-1) relating to subsidiary companies & joint ventures and Form AOC-2 pursuant to section 134(3)(h) of the Companies Act read with Rule 8(2) of the Companies (Accounts) Rules, 2014 is given at **Annexure-VIII to the Board's Report**.

Auditors

The Statutory Auditors of your Company are appointed by the Comptroller and Auditor General of India. Three firms of statutory auditors were appointed as joint statutory auditors and five firms were appointed as branch auditors. The names of audit firms appointed for FY 2018-19 are given separately in the Annual Report.

Auditors' Report on the Accounts

The Auditors' Report and comments of the Comptroller & Auditor General of India on Standalone and Consolidated Financial Statements for FY 2018-19 of the Company are given at **Annexure- IX to the Board's Report**. There is no qualification in the Auditors report on the Financial Statements of the Company. The Comptroller & Auditor General of India has also given 'NIL' comment on the Financial Statements of the Company after conducting supplementary audit under Section 143 (6) (a) read with Section 129 (4) of the Companies Act, 2013.

Secretarial Audit

In terms of section 204(1) of the Companies Act, 2013, the Company engaged M/s K.K. Sachdeva & Associates, Company Secretaries in whole-time practice, as Secretarial Auditors for conducting Secretarial Audit for FY 2018-19 and their report is forming part of Corporate Governance section.

The observations made by Secretarial Auditor in his Audit report is as under:

The composition of the Board of Directors is not in compliance with Regulation 17(1) of the Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015 and Para 3.1.4 of the DPE Guidelines on Corporate Governance as the Company did not have requisite number of independent directors on its Board.

The Managements' reply on the above observation is as under:

BHEL, being a Government Company, the Independent Directors are selected by the Administrative Ministry viz., Department of Heavy Industry in consultation with the Search Committee of the Department of Public Enterprises. The Company is in constant communication with the

Department of Heavy Industry (DHI) for the appointment of requisite number of Independent Directors on its Board in order to comply with the provisions of the SEBI Listing Regulations and DPE Guidelines.

Cost Auditors

In terms of provisions of Section 148 of the Companies Act, 2013 and as per the Companies (Cost Records and Audit) Rules, 2014 and amendments thereof, the Board, on the recommendation of the Audit Committee, approved the appointment of seven firms of Cost Accountants as Cost Auditors for auditing the cost accounts of your Company for FY 2018-19. Cost accounts and records as specified by the Central Government under sub-section (1) of section 148 of the Companies Act, 2013 have been properly maintained and complied with.

The details of cost auditors appointed for FY 2018-19 are given separately in the Annual Report. The Cost Audit Report for FY 2017-18 has been filed under XBRL mode on August 23, 2018, well within the due date of filing and there was no qualification in the cost audit report.

Appreciation and Acknowledgement

Your Directors gratefully acknowledge all the support and guidance extended by Ministry of Heavy Industries & Public Enterprises and all other departments and agencies of the Government of India in the Company's operations and developmental plans. The Directors also express their gratitude to the Comptroller and Auditor General of India, Chairman and Members of Audit Board, Statutory Auditors, Branch Auditors, Secretarial Auditor and Cost Auditors for constructive

suggestions and continuous cooperation.

The Directors place on record their sincere appreciation towards the Company's valued customers in India and abroad and esteemed shareholders for the support and confidence reposed by them in the management of the Company and look forward to the continuance of this mutually supportive relationship in future.

The Directors also wish to place on record their appreciation for the continued cooperation received from all the technology collaborators, suppliers, contractors and for the support provided by the financial institutions, bankers and stock exchanges.

Your Directors also wish to place on record their sincere appreciation for the diligent efforts, hard work and commitment put in by all BHEL employees to take the organisation to greater heights.

For and on behalf of the Board of Directors of
BHARAT HEAVY ELECTRICALS LTD.



(Dr. Nalin Shinghal)

Chairman & Managing Director

Place: New Delhi

Date: July 26, 2019



Young employees at HPEP, Hyderabad

Annexure – I to the Board's Report

Management Discussion and Analysis

1.1 Economic & Business Overview

World economy has seen significant changes in the past two years. After registering strong growth in 2017 and early 2018, global economic activity started slowing from second half of 2018 onwards. All major indicators of economic activity like industrial production, global trade and Purchasing Managers' Index showed a declining trend. Geopolitical issues, trade tensions between the US and China and other economies, coupled with economic sanctions on some oil exporting countries made a serious impact on many economies.

The pace of economic activity in India also slowed in the second half of FY 2018-19. The country grew at 6.8% in FY 2018-19, with the second half growth dropping to 6.2% as compared to 7.5% of the first half. Macro fundamentals of domestic economy remain strong. During FY 2018-19, infrastructure space (power, telecommunications, roads and others) has witnessed significant and continuous rise in credit deployment by financial institutions which has resulted in capital formation (GFCF) to GDP ratio of 32%, the highest in last five years.

In the domestic power sector, momentum for renewable power addition towards the target of 175 GW by 2022 witnessed a slowdown compared to the previous two years. Renewable market, particularly solar PV based, is maturing as policies continue to be put in place to bring competitiveness and confidence amongst domestic players. Nuclear power plant business has begun to witness growth momentum. Emission control business for thermal plants and replacement of old thermal power plants are also seeing traction.

The national transporter, Indian Railways, has taken several initiatives to decarbonize operations, upgrade & modernize infrastructure, and enhance quality of service.

In the e-mobility space, industry is gearing up to change the way citizens commute and travel. In line with the National Electric Mobility Mission and thrust on e-mobility, rapid growth in both private vehicle and public transport segment is expected along with associated electric infrastructure like charging stations etc. Policy schemes like Fame-II have already been announced by the Government for demand side incentivisation.

The growing infrastructure will need raw materials like steel in large quantities. Keeping this in view, National Steel Policy (2017) envisages creation of 300 million tonnes (MT) of steel manufacturing capacity in the country by 2030-31 against 130 MT in 2017. This has led many capital goods manufacturers to sign MoUs with leading Indian steel companies to reduce country's dependence on imports for setting up steel projects while creating a larger base for manufacture of capital goods in the domestic market.



MoU signed with MECON during Steel Conclave at Bhubaneswar

In the global arena, big players in the capital goods manufacturing sector are undergoing major changes. To bring focus and strengthen their core business, companies have gone for de-conglomeration as well as strategic acquisitions, leading to realignment of their portfolios. Capital goods markets may well witness oligopolistic plays dominating the business scenario in future with such developments.

1.2 Opportunities and Threats

After robust growth in the last four years, Indian economy has grown at a slower pace in 2018-19, primarily due to slow growth in manufacturing & allied sectors, weaker domestic consumption, and slower global growth, among others. As part of its vision of creating a New India, the government aspires India to become a \$US 5 trillion economy by 2024-25 and \$US 10 trillion by 2030 from \$US 2.6 trillion in 2018. Energy and infrastructure sectors are expected to receive major investment and policy support. The reduction in benchmark interest rates are expected to prove beneficial to the infrastructure sector. Railways, ports, urban infrastructure, environmental solutions and core industries like cement, steel, fertilizers, and petrochemicals are slated for growth. Initiatives such as 'Make in India' are likely to strengthen, and further initiatives towards strengthening of manufacturing sector can be expected.

The global economy witnessed a slowdown in the second half of 2018-19 following two years of robust economic growth. World Economic Outlook predicts the global economic growth to moderate from 3.6% in 2018 to 3.3% in 2019 and then return to 3.6% in 2020. The slowdown was attributed to geo-political risks, country-specific factors in advanced as well as emerging economies, along with trade protectionist policies and retaliations. The threat of impact of inward-looking policies of major economies still looms on the global economy. This is detrimental to the integration of global economy and may pose a threat particularly to the emerging and developing economies.

The ever-evolving domestic business environment is challenging on the one hand, while on the other, it presents a host of opportunities. With steps like the SAUBHAGYA scheme, the focus of the government is on providing access to reliable and sustainable '24x7 Power for All'. This, coupled with other drivers such as rapid urbanization, decarbonisation of railway operations, government's thrust on e-mobility and urban transportation development by means of metro rail etc., is expected to contribute significantly to electricity demand growth in the future. This energy demand is envisaged to be met through a balanced fuel mix consisting of clean coal, hydro, nuclear, solar and wind energy. The ordering of coal-based thermal plants has been subdued in the recent years though opportunities continue to emerge in the areas of replacement of old sub-critical plants with supercritical plants and emission control equipment. Development of clean coal technologies is imperative for better utilization of coal and BHEL is already working towards the indigenous development of AUSC technology and development of coal-to-methanol technology. Power generation from renewables has gathered momentum and is expected to continue to do so, subject to the pace of development of battery storage solutions with respect to their scale and cost. Coal based power plants will play an important role specially with the improved generation technology, flexibilization of thermal generation, and deployment of emission control measures.

New opportunities continue to emerge in sectors such as defence, transportation, transmission, renewables etc. as a result of reinvigorated push for the growth of Indian industry under the 'Make in India' initiative. After a challenging phase in the recent years, recovery is expected in corporate capex cycle across sectors including energy and metals sector. Emphasis on boosting infrastructure in the country through various programmes including Sagarmala, e-mobility, rail & road transport modernization through initiatives like Dedicated Freight Corridor & Bharatmala, and smart cities will translate into new business avenues. The government's developmental policies will continue to enthuse growth in investments in the domestic industry. **The opportunities have been discussed in detail in the respective Business Sector sections.**

1.3 Preparing for Growth

BHEL embarked on the journey of "Creating BHEL of tomorrow" in the backdrop of an uncertain business environment, which presented opportunities amidst challenges. We have focused our efforts in this direction through our seminal strategy framework: Survive, Revive and Thrive and its respective enabling nine elements (NEEV). We have already taken important steps in this journey and are resolute to take many more, with focus on building and maintaining profitable growth, asserting leadership in the core business, and diversifying by harnessing emerging opportunities.

Persistent efforts towards expeditious execution of existing orders, strategic consolidation of company's assets & business groups, and simplification of processes & policies enabled us to continue with the momentum of improved performance. We have continuously recorded growth in turnover for the last three financial years including 2018-19, and have registered quantum growth in profitability. As part of our efforts to make BHEL

lean and agile, various initiatives have been taken including consolidation of three units (CSU, FP & IP) as Fabrication, Stamping & Insulator Plant (FSIP) at Jagdishpur, conversion of EMRP into a service centre for Indian Railways at Mumbai, and closure of RMSG at Bhopal.

In the face of continued disruptions in the core business, the company is determined to protect and assert its leadership. Though ordering in the thermal segment has been subdued in the recent years, BHEL has secured 100% of the main plant package orders in the thermal segment for the past two years. The company is strengthening its leadership in emission control equipment business with an existing portfolio of 32 flue gas desulphurisation sets and 11 selective catalytic reductions sets in India and is continuing to grow further, having a significant number of opportunities where it is favourably placed. Resolute focus is being put on maximizing orders from replacement opportunities, enhancing business from primary side capabilities for nuclear cycle, lift irrigation systems, and expanding spares & services business. Simultaneous efforts are on to increase value propositions in power plant business by leveraging digitalization as a driver of new growth opportunities.

Continuing to make a mark beyond the national borders, the company is actively pursuing opportunities in the neighbouring countries and in the African market. In 2018-19, BHEL received the order for Arun-3 Hydroelectric Project which, once commissioned, would be the largest hydro power plant in Nepal, and is on course to execute its first overseas solar project in Chad.

The company is aggressively pursuing its target of increasing the share of non-coal business. Diversification initiatives in various areas such as e-mobility, solar, defence & aerospace, transportation, electricity storage solutions, water etc. have begun to bear results. The company booked the highest ever orders in transportation, solar, and spares and services businesses in 2018-19.



WAG-7 locomotive equipped with BHEL's indigenously developed regenerative braking system, being flagged off from BHEL, Jhansi

Significant developments in the transportation business during the year include the supply of first in-house manufactured 6000 HP WAG-9H electric locomotives to Indian Railways, and successful in-house development of regenerative braking system for 5000 HP WAG-7 electric locomotives for the first



BHEL developed coal gasification facility in Hyderabad

time in the country. In solar business, the Company received its largest single EPC order for 129 MW SPV plants in Telangana from Singareni Collieries Company Limited. Successful execution of the Telibandha lake purification project at Raipur, has opened avenues for entry into lake/water body purification and rejuvenation projects.

New growth areas are being identified further for converting emerging opportunities into potential success stories. BHEL is making forays in many new areas, such as PV plants with battery energy storage, solar floating PV plants, railway electrification, electric vehicle chargers, and municipal water segment, among others. In order to enhance opportunities from developer mode model in solar business, BHEL has already signed an MoU with GAIL, which will enable BHEL to leverage its manufacturing & EPC strengths, with GAIL playing the role of project developer. As a first of its kind project in the world, BHEL is also setting up a 1.7 MW pilot solar power plant for Indian Railways for directly feeding power to the traction system. A rail based logistics terminal is being set up at Haridwar, which will subsequently be developed into a multi-modal logistic facility by adding value-added services like custom clearance facilities and warehousing.



MoU signed with GAIL for setting up Solar Photovoltaic Plants

For laying the foundation of new avenues of business growth for the future, focus on R&D and innovation will be one of the major enablers. Significant progress has been made in major in-house technology development projects underway such as Advanced Ultra Supercritical Technology, Coal to Methanol, propulsion technology for locomotives and electric vehicles etc. Simultaneously, the company is strengthening its technology base through technology collaborations with global industry leaders. Six new technology collaborations have been signed in various areas during the last two years.



Ambient and high temperature tensile and Low Cycle Fatigue (LCF) test facility for metallic materials at Corp. R&D, BHEL Hyderabad

Success of our initiatives depends on our people- our most important asset. The company continues to put resolute focus on policy and structural changes for giving impetus to employee development. Reskilling and redeployment of people in new growth areas is being continuously pursued. Many progressive initiatives have already been implemented and similar efforts are being continued. A lot has been achieved so far in our journey of "Creating BHEL of tomorrow" and there is a lot yet to be achieved. The results of our persistent efforts and initiatives give us the confidence that though the journey ahead continues to be challenging, but, we will build a new BHEL, and a new India.



Profile and Performance of Business Segments

POWER SECTOR



1.4 Profile and Performance of Business Segments

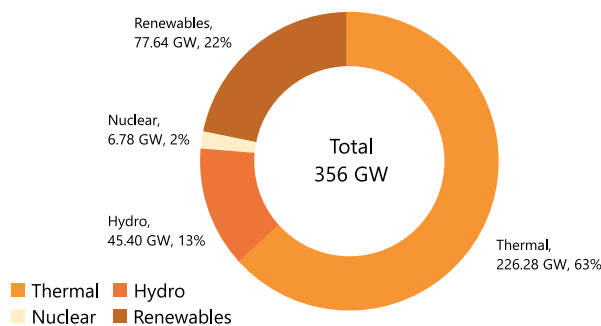
1.4.1 Power Sector

Overview

The Indian economy has successfully faced multiple challenges and has emerged as one of the fastest growing major economies over the last few years. The success story of the nation has been driven by infrastructure development, demographic expansion, digitalization and urbanization and has been aided by a proactive policy framework and government initiatives. As a result, the Indian economy is slated to maintain its status as one of the fastest growing major economies in the world in the foreseeable future as well. However, there's still a long journey to traverse for the nation, navigating through a difficult geopolitical environment and overcoming various challenges, on its road to sustainable development.

The high growth trajectory of a nation's economy is strongly correlated with the growth in its energy sector. Availability of reliable and quality energy for all at affordable rates becomes vital for sustained economic growth. India currently possesses an installed capacity base of over 356 GW and has an annual electricity generation of over 1,372 Billion Units (as on 31st March 2019). The nation witnessed a capacity addition of approx. 6 GW from conventional sources in FY 2018-19, most of which was from thermal power plants.

India's Installed Generation Capacity



[As on March 31, 2019 Source: Central Electricity Authority (CEA), Ministry of Power]

The electricity generation in the nation has grown at a rate of around 5-6% over the past few years, and in 2018-19, there has been almost nil deficit. In the coming years too, the demand is expected to grow significantly, and become almost 1.5 times of the current levels. This is expected to create a significant opportunity for power projects in the coming years.

Current Business Environment

Government initiatives like 'Make in India', 'Smart Cities', '24x7 Power for All', etc. are expected to enhance the demand for power in the country in the coming years. The thrust on electrification of railways and development of e-mobility solutions is expected to further boost the demand for power.

With a positive outlook towards infrastructure development and growth in manufacturing industry, the demand for power is

expected to improve in the near to medium term, making capacity addition in power systems imperative. The 19th Electric Power Survey and the National Electricity Plan of CEA envisage a demand for power of ~2,050 BU by 2027, which underlines the need for substantial augmentation of power generation, transmission and distribution capabilities from the current levels.

Government of India aims to make thermal electricity generation more environment-friendly. Accordingly, the revised emission norms for existing and upcoming thermal power plants were notified in December 2015, which necessitated installation of emission control equipment in thermal power plants. Ordering for emission control equipment by various utilities has gained further steam in 2019-20, and many tenders are in pipeline, both for central and state sector projects, for retrofitting of emission control equipment in existing power plants. Recent thermal power plant tenders have included emission control equipment as part of scope along with main plant equipment, a trend which is expected to continue in upcoming projects. Also, significant opportunities are expected to arise in Renovation & Modernization (R&M) business, when these new environmental norms get enforced for existing plants. In addition, the Government is also encouraging replacement of old and inefficient subcritical plants with new, more efficient, supercritical plants.

Over the past few years, developers have faced constraints in obtaining assured fuel supply, timely clearances and issues related to land acquisition, funding, and securing power off-take agreements with DISCOMs. Few significant reforms undertaken by the government such as the UDAY scheme, facilitating medium term power procurement from commissioned capacities which are lacking a Power Purchase Agreement (PPA), etc. are expected to result in further improvements in the power sector business scenario. Some aspects of the stress faced by coal-based power projects in India have eased significantly with an improvement in coal availability and power demand, but delayed payments by distribution companies, gas supply constraints, stressed assets in the sector, etc. continue to pose challenges to power producers. Resultantly, even though the sectoral outlook has improved in the recent years, the ordering has been mainly in central and state government sectors, with the private sector still grappling with existing capacity issues.

Policy shift towards Renewable Energy Sources (RES) based power, marked by the government's ambitious target of 175 GW RES based installed capacity by 2022, saw RES based capacity addition outpacing capacity addition from conventional sources of power. However, the RES power segment has witnessed a slowdown in growth rate in 2018-19, due to factors like price escalation for solar modules, safeguard duty on solar PV imports, issues in land acquisition, re-negotiation and cancellation of Power Purchase Agreements (PPAs) between RES developers and discoms, etc. Capacity addition of RES based power generating systems also calls for significant enhancement of hydro-electric power capacity, especially of pumped storage, and gas based power plants, to meet the grid balancing and stabilization requirements necessitated by the inherent variability of RES based power systems. Coal based power plants are expected

to remain the mainstay of India's power generating capacity in the coming years, in view of their suitability for continuous, round-the-year operation and significant improvements in efficiency and emission levels through technology advancements enabling coal based power plants to generate cleaner and greener power.

Only about one-third of India's hydropower potential of 149 GW has so far been harnessed. Hydropower generation from conventional and pump storage generating stations can play a significant role in the balancing of generation, which will be a major challenge with the increased share of renewable power generation. This is likely to result in a major thrust to hydro projects. Further, 30% of India's hydropower plants have completed 35 years, thus necessitating requirement of life extension and performance & efficiency upgrades.

"Government initiatives like 'Make in India', Smart cities, 24x7 Power for all, Electrification of Railways and development of e-mobility solutions are expected to boost the demand for power".

Nuclear power, an integral part of Govt. of India's strategy for clean and green energy, is poised for a quantum leap in the coming years. In addition to 2x700 MWe GHAVP 1&2 (Gorakhpur Haryana Anu Vidyut Pariyojna), procurement activities for 10x700 MWe PHWRs have also started on Fleet Mode basis.

Offerings

BHEL is one of the few companies in the world manufacturing the entire range of power plant equipment, with proven capabilities for executing thermal, gas, hydro and nuclear power projects.

BHEL has the capability for concept to commissioning of thermal power plants encompassing steam turbines, generators, boilers and matching auxiliaries up to 1000 MW ratings. The Company is executing numerous prestigious projects with supercritical thermal sets of 660/700/800 MW ratings on EPC basis.



800 MW Generator testing at BHEL's Haridwar plant

BHEL also supplies and executes Circulating Fluidized Bed Combustion (CFBC) boilers for thermal plants, suitable for wide range of low-calorific fuels like pet-coke, lignite, etc. BHEL offers gas turbines and matching generators upto 299 MW (ISO) rating, tailored to meet specific needs, for both open and

combined cycle operation.

In nuclear power sector, BHEL is amongst the few organisations which are associated in all the three stages of indigenous nuclear power programme of the country both on primary and secondary Side. BHEL supplied 220/235/500/540 MWe Nuclear Turbine Generator sets are already under operation and currently, BHEL is also executing 700 MWe sets.

BHEL has the capability for engineering and manufacturing custom-made conventional hydro turbines of Kaplan, Francis and Pelton types with matching generators upto 400 MW, bulb turbine with matching generators up to 10 MW, pump turbines with matching motor-generators up to 250 MW, high capacity pumps along with matching motors up to 150 MW for Lift Irrigation Schemes and small hydro power plants of 10-25 MW capacity.



Hydro model test laboratory is equipped with sophisticated test facilities and data analytics system

In respect of business opportunities arising from the revised emission norms, BHEL offers customized equipment for controlling emissions from thermal power plants. BHEL is also ready to provide retrofit solutions of ESP, FGD, NO_x control equipment and furnace modification solutions. BHEL has supplied Electro-Static Precipitators for control of particulate matter not only for BHEL boilers, but also for boilers of other manufacturers.

The company has proven expertise in plant performance improvement through renovation, modernization and uprating of a variety of power plant equipment, besides specialized know-how of residual life assessment, health diagnostics and life extension of plants. Retrofit packages for ESP and C&I with state of the art technologies are also being offered by BHEL.

Achievements during the Year

Order Booking

In the fiscal year 2018-19, BHEL has successfully confronted various challenges to maintain 100% market share in main plant thermal utility segment. The organization has secured an order inflow of ₹15490 crores in power sector, including the highest-ever ordering levels of ₹3851 crores from spares and services and R&M business segment.



800 MW supercritical set commissioned by BHEL at Kothagudem, Telangana, in a record time of 46 months on EPC basis

Significant utility orders received in the year were:

Thermal

- 1x660 MW WBPDC / Sagardighi Extn #5 (Main Plant Turnkey Package, including FGD & SCR)
- 1x660 MW MAHAGENCO/ Bhusawal #6 (Change Order, incl. FGD & SCR)
- 4x270 MW TSGENCO / Bhadradi (FGD Pkg, Boiler & ESP Modification)
- 1x800 MW TSGENCO / Kothagudem (FGD Pkg)
- 3x660 MW NTPC / Barh Stg. I (FGD Pkg)
- 2x660 MW NTPC / Barh Stg. II (FGD Pkg)
- 3x660 MW NTPC / North Karanpura (FGD Pkg)
- 2x500 MW NTPC / Mauda (FGD Pkg)
- 3x800 MW PVUNL / Patratu (Township Pkg)
- 2x660 MW TANGEDCO / Ennore SEZ (Boiler Modification)

Nuclear

- 2x700 MW NPCIL / GHAVP #1&2 (Supply of Moderator Heat Exchangers)
- 2x700 MW NPCIL / GHAVP #1&2 (Supply of D₂O Heat Exchangers)

Spares and Services

- 1x370 MW KPCL Yelahanka CAPP (Gas Turbine Spares)
- 2x200 MW UPRVUNL Obra TPS Unit-12 & 13 (Rehabilitation Package)
- 4x210 MW CSPGCL Korba West TPS Unit-1 to 4 (C&I Up-gradation)
- NTPC Lot-1 Projects (Combustion Modification Package)
- 2x250 MW TSGENCO Kothagudem TPS Unit-9 & 10 (C&I R&M)
- 1x500 MW CSPGCL Marwa TPS Unit-1 (HPT Module Assembly)

By securing the order for 1x660 MW Sagardighi Extn #5 project from WBPDC, the only main plant order finalized in the country in FY 2018-19, against stiff International Competitive Bidding, BHEL has taken its total order tally of supercritical sets in the country to 56 sets of Steam Generators (SGs) and 49 sets of Turbine Generators (TGs), the highest by any single power equipment supplier in the country. Out of these, 17 SGs and 15 TGs have been commissioned till March 31, 2019.

Building on its accomplishments in the emission control equipment business in previous year, BHEL has garnered orders of FGDs for 17 sets and SCRs for 2 sets during 2018-19, including FGD orders from NTPC for projects totalling ~6.3 GW.



BHEL make FGD will be commissioned at older thermal units such as NTPC Dadri

With this, BHEL has secured orders of FGDs for 32 sets and SCR for 11 sets in the domestic market, and has maintained its status as the manufacturer with the single largest market share in the nation in this domain.

Diversifying its gamut of offerings, BHEL has secured its first ever order for township package for 3x800 MW Patratu STPS Ph-I project from PVUNL.

With new product offerings in the nuclear segment, BHEL has secured the following 2 significant orders from NPCIL for Gorakhpur Haryana Anu Vidyut Pariyojna 1&2:

- 4 Moderator Heat Exchangers
- 18 D₂O Heat Exchangers

Notably, this is the first ever order secured by BHEL for D₂O Heat Exchangers.

In the Spares and Services business, BHEL witnessed a 37% growth over the ordering levels of FY 2017-18. BHEL entered into 6 Long Term Spares Supply Agreements (LTSSAs):

- With NTPC for boiler pressure parts, generator spares and boiler auxiliaries spares
- With Bharat Petroleum Corporation Ltd. for turbine spares, compressor and over speed governor
- With Singareni Collieries for mill spares

Project Revival

Through the collaborative efforts of all the stakeholders, BHEL has been able to revive the 206 MW Shahpur Kandi HEP project of PSPCL (which was put on hold in Sept. 2015).

Project Execution

In the utility segment for conventional power plants, BHEL

achieved a capacity addition of 2,130 MW in FY 2018-19, the highest capacity addition achieved by any single equipment manufacturer during the year.



4x250 MW BRBCL Nabinagar Thermal Power Plant commissioned by BHEL in Bihar

Following projects have achieved capacity addition during FY 2018-19:

- 1X800 MW TSGENCO / Kothagudem TPS
- 1 unit of 2X800 MW NTPC / Gadawara TPS
- 1 unit of 4X250 MW BRBCL / Nabinagar TPS
- 1 unit of 3X250 MW NTPC Bongaigaon / TPS
- 1 unit of 4X30 MW APGENCO / Pullichintala (Hydro)



Bay hall of 4X30 MW Pullichintala hydroelectric project in Telangana, commissioned by BHEL

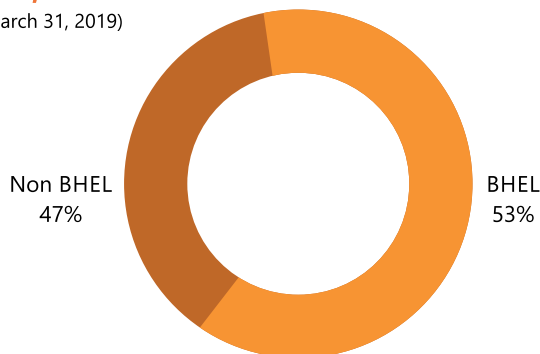
In the year, BHEL also accomplished the milestone of commissioning more than 1,000 utility sets in the country since BHEL's inception in 1964. This includes 447 coal based sets, 418 hydro utility sets, 102 gas based utility sets and 12 nuclear based utility sets in India. Installed capacity of BHEL supplied utility sets in India stands at ~157 GW, including ~125 GW coal based and ~21 GW hydro based equipment.

With this, BHEL maintained its significant share of 53% in the country's total installed capacity of conventional power projects:

Installed capacity - Utility*

2,94,608 MW

(March 31, 2019)



*Includes Coal, Gas & CCP, Diesel, Nuclear & Hydro; Excludes Renewables; Based on rating at the time of installation

In addition, BHEL synchronized utility power projects of 3,480 MW and Lift Irrigation Scheme projects of 957 MW total capacity:

Utility power projects:

- 1x800 MW GSECL / Wanakbori TPS
- 2 Units of 2x660 MW OPGCL / IB Valley TPS
- 1 Unit of 2x660 MW RVUNL / Suratgarh TPS
- 1 Unit of 2x500 MW NLC / New Neyveli TPS
- 1 Unit of 4x200 MW NHPC / Parbati stage-II HEP



Both supercritical units of 2x660 MW Ib Valley project were synchronised in 2018-19 and made ready for capacity addition by BHEL

Lift Irrigation Schemes:

- 5x30MW Gammon / Kalwakurthy LIS Stage- III (1 Unit)
- 7x139 MW I&CAD, Telangana / Kaleshwaram Lift Irrigation Scheme (LIS) Pkg-8 (5 Units)



Turbine Hall of BHEL commissioned 5x30 MW Kalwakurthy Lift Irrigation Scheme (LIS)

- 7x116 MW I&CAD, Telangana / Kaleshwaram Lift Irrigation Scheme (LIS) Pkg-6 (2 Units)

Some of the major project execution milestones for the year are:

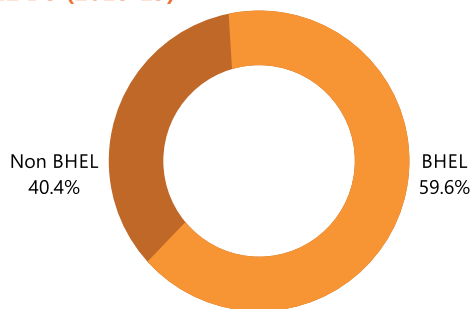
- BHEL commissioned an 800 MW supercritical unit at 1x800 MW TSGENCO / Kothagudem TPS on EPC basis in a record time of 46 months
- 3x110 MW Kishanganga HEP was dedicated to the nation by Hon'ble Prime Minister of India on 19.05.2018 from Srinagar, J&K. The Electro-Mechanical package for the project has been supplied & commissioned by BHEL.
- R&M works at Koradi Unit-6 were successfully completed and the unit was upgraded from 210 MW to 228 MW

Performance of Equipment

59.6% of the country's total generation of 1022 BUs from thermal utility sets (coal based) was contributed by BHEL supplied sets, testifying superior performance of BHEL sets:

Generation-Utility (Coal & Lignite)

1022 BU (2018-19)



Demonstrating BHEL's superior engineering & technical capabilities, Kaiga Unit-1 (220 MW) of NPCIL, a BHEL supplied set, has created a world record amongst all nuclear generating stations for longest continuous operation of more than 940 days.



NPCIL Kaiga equipped with BHEL manufactured Turbine-Generator sets

Focused approach towards completion of Performance Guarantee (PG) tests resulted in completion of PG tests for main plant package for 51 units, the highest ever for BHEL, surpassing the earlier record of 41 Units. Amongst these, BHEL's first ever PG test of a 250 MW rating CFBC boiler was completed at 2x250 MW Neyveli Unit 1&2.

Power plants with BHEL supplied equipment continue to exhibit above par performance in respect of Operating Availability (OA)*, Plant Load Factor (PLF), and outages. Some of the major performance achievements of BHEL sets are:

- Thermal sets generated 6,09,747 MUs against 5,89,513 MUs in 2017-18
- Thermal sets registered PLF of 61.3% and OA of 85.0%

"Your Company maintained its significant share of 53% in the country's total installed capacity of conventional power projects."

- Generation from sets of 195 MW and above (which form the backbone of country's power generation) went up to 594470 MUs with PLF 62.0% and OA of 85.6%
- 154 thermal sets achieved PLF above 70%, 67 thermal sets between 70% and 80%, 65 thermal sets between 80% and 90% and 22 thermal sets above 90%
- 205 thermal sets registered OA above 90%

**Units under low system demand, coal shortage & reserve shut down are considered as available while calculating Operational Availability. For PLF & OA calculation, only stabilized period i.e. after COD is considered.*

Renovation & Modernization (R&M)

During the year, BHEL carried out the renovation & modernization of 6 ESP Sets. Also, 2 C&I R&M projects (NTPC Farakka Unit-4 & 5) were commissioned, Koradi U-6 (which was uprated from 210 MW to 228 MW) achieved full load, and UPRVUNL Obra Unit-12 was synchronized.

Acknowledgement & Recognition of Excellence

BHEL's efforts for providing higher value to customers through timely project completion, improvement in equipment

performance and Service After Sales (SAS) support have been widely appreciated:

- BHEL Power Sector received the Recognition for Active Customer Engagement – Manufacturing (Large Business Organizations) at the 'CII Award for Customer Obsession - 2018'



CII Award for Customer Obsession 2018 for Active Customer Engagement - Manufacturing (Large Business Organisation)

- Project Director-BIFPCL, Maitree STPP, Bangladesh appreciated BHEL for providing unique solution for pile capacity enhancement for foundation design of boiler & chimney
- OHPC appreciated BHEL for in-situ repair and replacement of Door Seals of butterfly valves of Upper Kolab hydro Unit-2 and Unit-4
- BBMB appreciated BHEL for R&M of Generator & Turbine of Dehar hydro Unit-5
- Singareni Collieries appreciated BHEL for Generator Earth Fault Rectification in Unit-2

Preparing for Growth

Utilizing its rich experience of over five decades, BHEL has been spearheading the development of the domestic power sector by not only indigenizing technology from world leaders in various domains but also building state-of-the-art in-house manufacturing infrastructure and capabilities. Through its R&D efforts, BHEL has already indigenized and developed products and technologies suited to Indian conditions. Further, BHEL is also working on the indigenous development of Advanced Ultra Super Critical (AUSC) Technology in the nation.

Substantial activities have been initiated in the emission control equipment business, with the developers aiming to meet the revised emission norms. BHEL possesses capabilities to offer customized emission control solutions for new projects as well as for sets which are already in operation. Through continuous improvements in its processes and technologies, BHEL is extending its market leadership in the FGD domain to the entire spectrum of emission control equipment business.

The government's focus on replacement of old subcritical capacity with new supercritical capacity having higher efficiencies will entail requirements to provide solutions for

Nuclear Energy

for 24x7 Power



Out of the 18 Pressurised Heavy Water Reactors (PHWR) forming the base of Indian nuclear power programme, 12 are equipped with BHEL supplied steam turbine generator sets. BHEL is also partnering in the ongoing 10x700 MWe power projects being set up in the country by NPCIL. BHEL's offerings include equipment in the primary as well as secondary sides of nuclear power plants, such as steam generators, turbine generators, heat exchangers etc.

NPCIL's Kaiga Unit-1 equipped with BHEL-supplied nuclear power equipment has created a world record of continuous operation for 962 days.

BHEL is the only Indian company to be associated with all the three stages of the nuclear power programme.



BHEL setting up NPCIL's Kudankulam Nuclear Power Project Units 3 & 4



Rajasthan Atomic Power Station (RAPS) equipped with BHEL supplied Nuclear Steam Generators



NPCIL Kaiga equipped with BHEL manufactured Turbine-Generator sets

dismantling of older plants. BHEL is equipped to provide optimum techno-economic solutions to developers to meet such requirements.

With large scale influx of RES based power systems in the grid, the need for grid balancing solutions shall create an opportunity for flexibilization solutions for thermal power plants, which may work in consonance with the gas and hydro based projects. Also, lower rating supercritical projects may also be required to be set up, to address the space constraints in expansion projects and the requirement for flexible and two-shift operation of projects. BHEL has developed solutions to meet such requirements and is working towards further optimization of its solutions to provide more value to the customers.

BHEL is already developing indigenously nation's first Advanced Ultra Super Critical (AUSC) Technology based plant, which is a pioneer R&D project undertaken jointly with NTPC and Indira Gandhi Centre for Atomic Research (IGCAR). The R&D phase for the project is on course and BHEL will work with NTPC for installation of the Technology Demonstration Plant. Development of this technology will yield significant improvement in efficiencies, leading to reduction in coal consumption as well as CO₂ emissions.

BHEL offers its experience in renovation & modernization (R&M) and life extension to developers looking to improve the performance of their existing sets. BHEL is also harnessing digital technologies to enhance its value propositions to customers, including in the spares and services business. In this sphere, an initiative for 'Digitalization of Spares & Services Business' has been taken by the company for generating offers through a dynamic on-line system, through which, enquiry generation, offer submission, and Customer order placement have been automated.

The Company's enlarged scope of offerings in the power sector domain includes water management systems, Air Cooled Condenser, BoP systems, Emission Control Equipment like Selective Non-Catalytic Reduction (SNCR), etc.

In hydropower segment, the organization has enhanced its capabilities to manufacture up to 400 MW hydro sets, with efficient runner profiles and reduced hydro turbine weights. BHEL has also emerged as a leading player in large size Pump-Motors segment for Lift Irrigation Scheme projects.

In order to address EPC business opportunity in hydro sector, BHEL has entered into a Memorandum of Understanding (MoU) with NHPC for getting consultancy services for civil & hydro mechanical works and also for joint bidding in EPC hydro projects, with NHPC being responsible for civil & H&M (Hydro-Mechanical) works and BHEL for E&M (Electro-Mechanical) works.

In the nuclear Segment, BHEL is fully geared up to address the 700 MWe TG Island business on EPC basis for the upcoming PHWRs which are being procured by NPCIL under Fleet Mode. BHEL is also expanding its offerings in nuclear projects being set up under foreign co-operation, such as Kudankulam 2x1000 MW Units 3&4.

Ushering the nation to the third stage of the Indian nuclear power programme, BHEL has developed the secondary turbine cycle for 300 MWe Advanced Heavy Water Reactor (AHWR) nuclear power plant in association with Bhabha Atomic Research Centre (BARC). With its strong engineering and manufacturing prowess, BHEL is well positioned to enhance its contribution to nuclear power projects.



BHEL's 40th Nuclear Steam Generator for Rawatbhata Atomic Power Project being dispatched from HEP, Tiruchirappalli

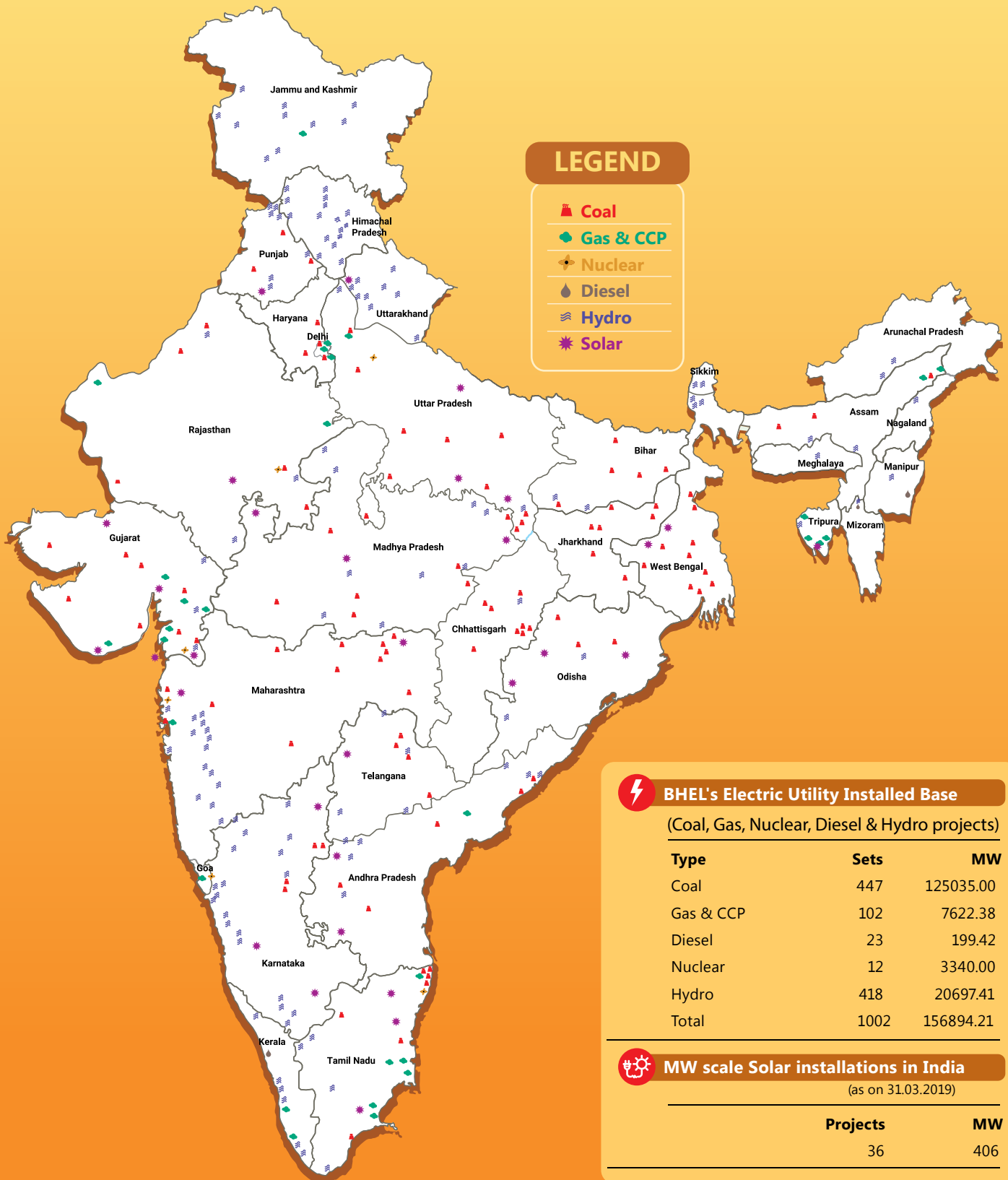
The Indian power sector is in a state of flux, which shall create new challenges and opportunities for the industry. BHEL is continuously working to ensure its preparedness on all fronts, so as to provide higher value propositions to its customers, enabling them in charting their course while meeting the requirements generated by the transitions arising in the sector.



Engineers inspecting the assembly of generator stator in HPEP, Hyderabad

BHEL MAKE ELECTRIC UTILITY INSTALLATIONS

Commissioned as on 31.03.2019



LEGEND

- ▲ Coal
- ◆ Gas & CCP
- ★ Nuclear
- Diesel
- 〰 Hydro
- ★ Solar

⚡ BHEL's Electric Utility Installed Base

(Coal, Gas, Nuclear, Diesel & Hydro projects)

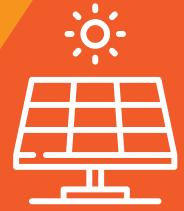
Type	Sets	MW
Coal	447	125035.00
Gas & CCP	102	7622.38
Diesel	23	199.42
Nuclear	12	3340.00
Hydro	418	20697.41
Total	1002	156894.21

☀️ MW scale Solar installations in India

(as on 31.03.2019)

Projects	MW
36	406

Harnessing the bounty of the Sun



BHEL is one of the few companies in India providing end-to-end in-house solutions for all solar power needs. With state-of-the-art manufacturing facilities for solar cells and modules, best-in-class cell efficiency, space-grade panels and the entire range of SPV plant equipment, backed by its core R&D initiatives, BHEL is a one-stop solution in the solar power segment.

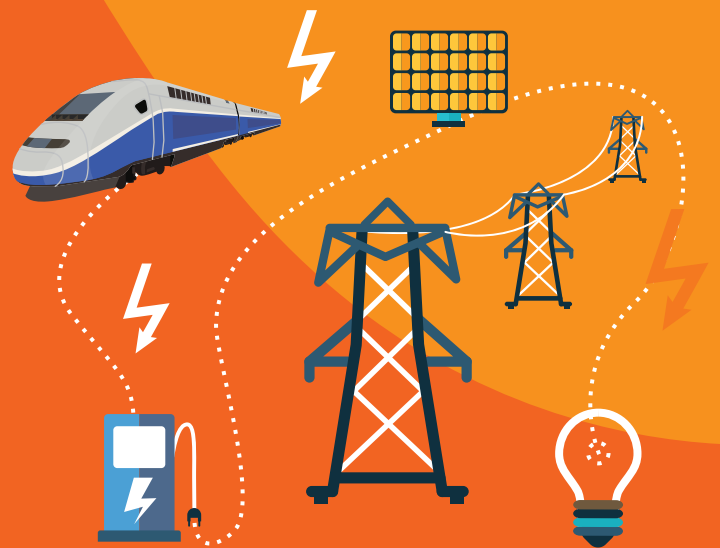
With a portfolio of 700 MW+ across the country, BHEL has made many new forays in the solar business. More than 27 MWp of solar power plants have been established at various manufacturing

units leading to a carbon footprint avoidance of 24,196 MT CO₂-e in 2018.

BHEL is setting up a 1.7 MW pilot solar power plant on the vacant land of the Railways for feeding power to the traction system, which will be a first-of-its-kind project in the world. BHEL is also setting up a floating Solar PV Plant of 5 MW at Sagardighi, West Bengal and is the exclusive supplier of space grade panels and batteries for ISRO satellites.

Profile and Performance of Business Segments

INDUSTRY SECTOR



1.4.2 Industry Sector

Overview

Industry Sector offers a broad range of systems and individual products for major industrial segments of the Indian economy since the 1980s. With focus on growth of non-coal based business of the Company, Industry Sector comprising of market-focused groups, offers comprehensive solutions for Transportation, Railway Track Electrification, E-Mobility, Energy Storage Systems, Transmission, Renewable Energy, Water Management, Defence and Aerospace, Captive Power Generation and Industrial Products (Mechanical & Electrical).

During 2018-19, Industry Sector has secured orders worth ₹7,016 crores, which includes highest ever order booking in Transportation and Solar business segments.

1.4.2.1 Transportation

Business Environment & Opportunities

- Indian Railways plan to accomplish complete route electrification by 2022. As a result, requirement of electric locos and propulsion systems is expected to grow significantly. The increase in freight and passenger traffic is leading to requirement of new types of rolling stock such as train sets, High Horse Power (HHP) Locomotives, Air-Conditioned Electrical Multiple Units (EMUs) and mainline EMUs. Average annual demand of 500-600 EMU / MEMU coaches is foreseen in the next few years.
- Indian Railways are exploring to convert their existing fleet of more than 5000 Diesel locomotives into electric locomotives and also have plans for retro-fitment of re-generative braking system on its entire fleet of about 2000 conventional WAG-7 locomotives.
- Some of the new technologies are also being explored in transportation include Push-Pull locos, High Speed Rail and Advance Signalling System etc.
- In urban transportation, there are plans to set up metros in all cities with population over 2 million and light rail/ monorail is also being explored for smaller cities. Metro projects have already been announced in more than 50 cities.
- Work on Mumbai-Ahmedabad High Speed (HS) Rail Corridor has also started.

Offerings

- **Rolling Stock**
 - Electric locomotives up to 6000 HP
 - Diesel-Electric locomotives up to 3000 HP
- **Traction Machines**
 - Traction motors and alternators
- **Traction Drive System & Controls**
 - IGBT based Propulsion System for rolling stock comprising of Traction Converter & Auxiliary Converter.
 - Train Control Management System & Vehicle Control Unit

- Hotel Load Converter and Composite Converter
- Control gear equipment for conventional rolling stock
- **Traction Transformers for Electric Locomotives and ACEMUs/MEMUs**

Achievements During the Year

Major Orders:

Transportation sector secured highest ever orders during FY 2018-19, some of which are:

- **Maiden developmental orders: -**
 - Upgradation kit for 1 no. 9000 HP Freight loco from CLW
 - 10 nos. Traction Alternator for 3000 HP DE locomotives from M/s Progress Rail India Ltd for their overseas business
 - Provision of regenerative braking features in 2 nos. WAG-7 Locomotives from Eastern Railway, Kancharapara
 - 2 nos. of 6531 KVA Main Transformer with indigenous developed aluminium tank from CLW

"Industry segment witnessed higher ever order booking in transportation and solar business group".

Largest value orders:

- 118 sets of Traction Engine and electrics for Diesel Electric Tower Car from DMW Patiala & ICF Chennai
- 563 nos. Traction Motor from DLW Varanasi
- 95 nos. of 7775 KVA transformer from DLW Varanasi
- 104 sets of 3-phase propulsion system for MEMU from ICF Chennai

Other achievements:

- First BHEL make 6000 HP electric locomotive type WAG-9H was flagged off by Member (Traction) & Ex-Officio Secretary to the Govt. of India, Ministry of Railways in Sep'18 from Jhansi plant



WAG 7 5000 HP locomotive with regenerative braking system under final stages of production at BHEL, Jhansi



WAG-9H locomotive being flagged off from BHEL, Jhansi

- India's first ever state-of-the-art Regeneration System for 5000 HP electric locomotive type WAG-7 developed indigenously by BHEL flagged off by Member (Traction) & Ex-Officio Secretary to the Govt. of India, Ministry of Railways in Feb '19 from Jhansi plant
- First 9000 HP Electric loco equipped with BHEL manufactured highest powered 3 phase Traction Motor type 1192 KW was flagged off from CLW, Chittaranjan in March '19
- Indigenously developed prototype IGBT based Composite Converter has been successfully tested and dispatched to CLW, Chittaranjan
- IGBT based propulsion equipment for 9000 HP electric locomotive of Indian Railways has been successfully developed

"Your Company has delivered first BHEL make 6000 HP Electric Locomotive type WAG – 9H to Indian Railways and indigenously developed India's first ever state of the art Regeneration system for 5000 HP Electric Locomotive type WAG – 7".

Preparing for Growth

• Technology self sufficiency

Complete in-house capability for designing & manufacturing of IGBT based propulsion system for all types of rolling stock. IGBT based propulsion system including Train Control Management System for Air-conditioned AC EMUs has been developed. Development of IGBT based propulsion equipment for DE locomotives, DEMUs and MEMUs, and IGBT based composite converter for 3-phase electric locomotives has also been undertaken by BHEL.

1.4.2.2 Transmission

Business Environment & Opportunities

- Business opportunities in transmission and distribution sector are expected to improve with Government of India's plan to add substation capacity of 2,92,000 MVA during 2017-2022. High capacity corridors for bulk transmission of power over long distances are being planned and executed on Tariff Based Competitive Bidding (TBCB) in tandem with Government schemes for strengthening of power distribution

sector to meet the "Power for All" objective of Government of India. Massive renewable energy capacity addition targeted by 2022 will provide opportunities for evacuation of power, along with energy storage system integration at grid level. Gas Insulated Substation projects will continue to grow on account of effective land utilisation.



BHEL offers a wide range of world-class transmission products and services

Offerings

- Turnkey transmission project execution from concept to commissioning, including EHV & UHV Substations and HVDC converter stations on EPC basis
- Transformers and shunt reactors up to 765 kV, 1200 kV CVT and 1200 kV Auto transformer, Instrument Transformers (CT, PT), Traction Power Transformers, dry type transformers, vacuum and SF₆ switchgear, capacitor banks, circuit breakers, control & protection equipment, thyristor valves, etc.
- Gas Insulated Switchgear (GIS) up to 420 kV
- Ceramic and composite insulators. BHEL has a range of disc insulators for EHV and UHV AC/ DC applications up to 1200 kV AC, ±800 kV DC, solid core insulators up to 400 kV and hollow porcelain insulators up to 765 kV AC.
- Flexible AC Transmission System [FACTS] devices like Fixed Series Compensation for 400 kV lines, Controlled Shunt Reactor (CSR) for dynamic reactive power compensation of long 400 kV transmission lines and Phase Shifting Transformer (PST) for controlling and balancing power flow up to 765 kV applications

Achievements during the year

Major Orders received

- 400/220/132 kV GIS substations at Rasara (Ballia) and Shamli on turnkey basis from UPPTCL. BHEL's maiden entry into EHV GIS EPC segment through direct competitive bidding.
- 400/230/110 kV Vellalaviduthi substation on turnkey basis from TANTRANSCO
- 765/400 kV substation extension at Bara TPP on turkey basis from UPPTCL. Order includes supply of BHEL - make 765 kV Transformers – the first 765 kV Transformer order received through open competitive bidding.
- High rating Power Transformer Packages of total capacity of

32 nos./5920 MVA in aggregation from UPPTCL

- MV Switchgear package of 171 nos. Indoor VCB panels

Milestone achievement

- Successful Dynamic Short Circuit test on 3 Nos 400 kV and 1 No. 220 kV class Power Transformers

Projects Commissioned

- TANTRANSCO Thappkundu Substation (400 kV - 9 bays, 110 kV - 12 bays) fully commissioned
- Commissioned POWERGRID Bhuj substation (765 kV - 10 bays, 400 kV - 7 bays) and Banaskantha Extn (765 kV – 6 bays)



Thappkundu Substation (400kV - 9 bays, 110 kV - 12 bays) for TANTRANSCO commissioned by BHEL in October 2018

- Commissioned POWEGRID Banaskantha substation (765 kV - 10 bays, 400 kV – 12 bays) and Sankhari substation (400 kV - 2 bays)



765 kV class transformer for HVDC applications

Preparing for Growth

UHVAC & UHVDC Systems:

BHEL has successfully designed, manufactured, supplied and commissioned 765 kV class transformers and reactors, and possesses manufacturing facilities for UHVDC equipment such as converter transformers, thyristor valves, filter capacitors etc. For UHV AC & DC applications, 1200 kV transformers, Capacitive Voltage Transformers, and 420 kN & 530 kN disc insulators have also been successfully

commissioned and are under operation.

BHEL has successfully commissioned world's largest ± 800 kV multi-terminal HVDC project (North-East to Agra), which is under commercial operation since September, 2017. BHEL is fully geared up to address future market requirements in UHVAC and UHVDC segments.

Gas Insulated Switchgear(GIS):

BHEL has successfully completed one year of successful field operation of its first own-make 145 kV GIS at TSTRANSCO Vittalwadi in Dec'18 including its O&M.



Aerial view of world's largest ± 800 kV multi-terminal HVDC project (North-East to Agra), supplied and commissioned by BHEL

1.4.2.3 Renewable Energy

Business Environment & Opportunities

Against the target of addition of 100 GW capacity of solar photovoltaic power by 2022 as per Jawahar Lal Nehru National Solar Mission (JNNSM) roadmap, approx. 28 GW has been installed in the country as on March 31, 2019. There is also an increased focus on integration of Battery Energy Storage System (BESS) with the solar PV plants. The growth of this sector is driven by government's thrust on solar power based electricity.

Offerings

- EPC solutions for Solar PV Power Plants (with and without BESS (Battery Energy Storage System))
- Roof top, canal top and floating solar power plants
- Solar-based irrigation pumps

Achievements during the year

- 5 MW Ground Mounted Solar Power Plant successfully commissioned in hilly terrain at Berradol, H.P for Himachal Pradesh Power Corporation Limited

Major Orders received:

- First commercial Floating Solar Power Plant - BHEL has set footprint on the floating solar opportunities with the first commercial scale order of 5 MW from WBDPDCL, Sagardighi
- Largest Single EPC order for 129 MW SPV plant at different locations in Telangana from Singareni Collieries & Corp Limited (SCCL)



BHEL has commissioned solar photovoltaic power plants of cumulative capacity of over 2 MW at various islands in Lakshadweep

- Roof Top Solar orders totalling to 4.6 MW received from various customers such as Rajasthan Electronic and Instrument Ltd (REIL), Cochin Smart City Ltd, Ludhiana Smart City Ltd etc.

Projects commissioned

61 MW SPV plants commissioned during FY18-19 including:

- 25 MW GIPCL, Gujarat
- 15 MW GACL Charanka
- 10 MW BEL Bolangir
- 5 MW HPPCL Berra Dol
- 5 MW WBSEDCL Santhaldih
- 1 MW BEL Medak

With this BHEL's solar portfolio stands at 716 MW as on 31.03.2019, including projects under execution.



65 MW Gujarat Solar Park near Charanka village, Gujarat. BHEL has commissioned 15 MW capacity on EPC basis.

Preparing for Growth

- BHEL is planning further expansion of its module manufacturing capacity to address the growing SPV market
- Pilot project for Indian Railways to establish concept of SPV

projects in close proximity of railway track for feeding power directly to 25 kV traction sub-station

1.4.2.4 Water Business

Business Environment & Opportunities

Water availability per capita in India is declining. Nearly seventy percent of sewage generated in urban areas, and more than half of industrial effluents go untreated, polluting rivers, lakes and other water bodies. Industries are opting for recycling and reuse of waste water to meet their growing water requirements in the face of higher industrial tariff and enforcement of water discharge regulations.



BHEL has successfully completed the purification of Telibandha Lake at Raipur

Offerings

Complete water management solutions for power plants, industries and municipal applications with comprehensive solutions for:

- Pre Treatment Plants (PT)
- Sea Water Reverse Osmosis (SWRO) and Demineralization (DM) Plants
- Effluent Treatment Plants (ETP)

- Sewage Treatment Plant (STP) and Tertiary Treatment Plants (TTP)
- Zero Liquid Discharge (ZLD) Systems

Achievements during the year

- Raipur Smart City Limited has appreciated the timely completion of their Telibandha Lake purification project by BHEL.
- Order secured for 3 MLD Sewage Treatment Plant based on Sequential Batch Reactor (SBR) technology with 10 years of O&M second consecutive order from Raipur Smart City Limited

Preparing for Growth

BHEL has signed an MoU with Raipur Smart City Limited (RSCL) for jointly conceiving and implementing the projects related to water, waste water and waste to energy segment.



Clarifloculator at Bellary TPS. BHEL provides a complete range of water related solutions for power plants.

1.4.2.5 Defence & Aerospace

Business Environment & Opportunities

Government of India (GOI) is promoting procurement of defence equipment through indigenous sources to increase indigenous procurement to 70% from current level of 30% over the next decade. Major initiatives are:

- Defence Procurement Procedure (DPP) 2016 focuses on indigenous design, development and manufacturing of defence equipment to give a boost to 'Make in India' initiative of the Government of India. Buy (IDDM – Indigenously Design, Development & Manufacture) category introduced and given highest priority.
- Draft Defence Production Policy 2018 prepared by MOD, provides a focused, structured and significant thrust to development of defence design and production capabilities in the country. The aim of the policy is to promote domestic production by public sector, private sector and micro, small and medium enterprises (MSMEs). The salient features of the Draft Policy are:
 - Creation of a dynamic, robust and competitive defence and aerospace industry as an important part of the 'Make in India' initiative

- Creation of a tiered defence industrial ecosystem in the country
 - Reducing current dependence on imports and strive to achieve self-reliance in development and manufacture of weapon systems / platforms
- ISRO has plan to increase the launch frequency of GSLV/ GSLV MkIII to 6 nos per annum by 2025. To meet the launch targets, ISRO is looking for alternate/ additional facilities/ infrastructure ISRO plans to offload complete satellite manufacturing in 5- 10 years to the industry.



Super Rapid Gun Mount (SRGM), for Indian Navy being manufactured at BHEL Haridwar plant

Offerings

- 76/62 mm SRGM (Super Rapid Gun Mount), its spares & services for Naval Ships
- Compact Heat Exchangers for defence & aerospace applications
- In-house Capability for hot forming of Cryogenic Tanks, Titanium Shell/Domes, welding & machining of Titanium sheet and tubes
- For space applications, BHEL has established state-of-the-art facility for the assembly and testing of Space Grade Solar Panels & Batteries of various capacities

Achievements during the year

Order Book

- Development order of Air to Air Heat Exchanger (AAHE) for Sukhoi Su-30MKI aircraft application received from HAL.

1.4.2.6 Captive Power Plants

Business Environment & Opportunities

- Expansion in various sectors of economy are pushing the demand of Captive power and steam. Expansion plans of major state owned refineries shall augment the demand for GTG based Combined Cycle Power Plant package. Major players of process industries viz. cement sector, are also planning to augment their capacities, thus contributing towards enhanced demand for Captive power business.
- National Steel Policy 2017 envisages expansion of steel manufacturing capacity from 130 MT to 300 MT by 2030.

Demand for captive generation requirements in steel segment is expected to pick up in the coming years.

Offerings

- Steam Turbine based Captive Power Plants
- Gas Turbine based Open, Cogeneration and Combined Cycle Captive Power Plants



150 MW steam turbine for captive power plant at BHEL works at Hyderabad

Achievements during the year

Major orders received

- 1 no. 120 MW BTG package for TATA Kalinganagar. Order for Gas Fired Boiler
- 9 STGs (sub 50 MW)

Projects Commissioned

More than 160 MW CPP projects commissioned in 2018-19

- 40 MW Tata Steel Ltd, Jamshedpur
- 36 MW Sarda Energy & Minerals Ltd. Unit-2
- 27 MW Shree Cement Ltd for Karnatak Cement Project
- 20 MW CPCL, Chennai Unit-5
- 16.75 MW Rohit Sulfactants Pvt. Ltd (RSPL) Unit-1
- 16.75 MW Rohit Sulfactants Pvt. Ltd (RSPL) Unit-2
- 12 MW Tata Projects Ltd, Kalinganagar

1.4.2.7 Industrial Products (including Oil & Gas and Electrical Machines)

Business Environment & Opportunities

- The government is planning to invest US\$ 2.86 billion in the upstream oil and gas production to double the natural gas production to 60 BCM and drill more than 120 exploration wells by 2022. This would increase business prospects for Oil field equipment, Well Heads & X-Mas Trees, Compressors, Fired Heaters, Columns and Air separation units in the coming years.
- Capacity expansion projects of approx. 32 MTPA by IOCL, NRL & CPCL are in pipeline in coming years which includes brown-field expansion at IOC Barauni, IOCL Panipat, IOCL Gujarat, CPCL Nagapattinam, NRL Expansion etc. and

Green-field refineries at Barmer which are likely to yield good business potential for Compressors, Fired Heaters, Columns and Air separation units etc.

- India's finished Steel consumption is anticipated to increase to 230 MT by 2030 from 100 MT in Apr'19. Demand would be supported by growth in the domestic market. The Government has taken various steps to boost the sector including the introduction of National Steel Policy 2017. The anticipated growth in the steel sector present opportunity to BHEL for making inroads in the Steel industry as an indigenous steel making equipment manufacturer.

Offerings

- **Oil Rigs** - A variety of on-shore drilling rigs with AC-VFD and AC-SCR technology for drilling up to depths of 9,000 metres, work-over rigs for servicing up to depths of 6,100 metres and mobile rigs for drilling up to depths of 3,000 metres. Beside complete rig package, supplies of on-shore drilling rig mechanical and electrical equipment such as draw works, mast & substructure, AC & DC PCR, Motors etc. Refurbishment and up gradation of aged Oil Rigs is also being done.



EV-2000 Oil Rig at ONGC Ankleshwar, manufactured and supplied by BHEL

- **Well heads and X-mas Trees** - Up to 10,000 psi Mud Line Suspension, Choke and Kill manifold, CBM Wellheads, DSPM H-Manifold Assembly, Mud valves, ESP hangers, Block type X-mas Trees & Landing Bases for Casing Heads.
- **Compressors**- Design, engineering, manufacturing and supply of various types of Multi-stage Centrifugal Compressors as per API 617 for application in Fertilizers, Refineries, Petrochemicals, Pipelines, Gas processing, Steel industries etc. BHEL has the capability to execute contracts for Centrifugal Compressor Stations on EPC/LSTK (Lump sum turnkey) basis also.
- **Mechanical Packages**- Cryogenic Air separation units, Fired Heaters, Columns, Reactors, Pressure Vessels, Heat Exchangers, Fired Heaters and Purge Gas Recovery Unit.
- **Electrical Machines**- AC squirrel cage, slip ring, synchronous motors for safe and hazardous area applications, variable speed motors, industrial alternators and special purpose machines.

Achievements during the year

Orders Received

- 1st LSTK (Lump sum turnkey) /EPC order for 1 no. Lean Gas Centrifugal Compressor from ONGC Uran
- 1 no. Recycle Gas (RGC) & 1 no. Net Gas Compressor order from BPCL Kochi. This (RGC Compressor) will be the Biggest Barrel Type Compressor (BCL 800 series) being manufactured by BHEL
- Rate Contract for supply of Well Head & X-Mas Trees finalised with ONGC and Oil India Ltd.
- 10 nos. 6 MW, Squirrel Cage Induction Motors (SCIM) from M/s KSB Ltd, Pune for NPCIL, 2x700 MWe, Gorakhpur Haryana Anu Vidyut Pariyojana (GHAVP)

Preparing for Growth

- Efforts are on to enter into the business of 15000 psi Well Heads & X-Mas Trees in the oil & gas sector and axial compressors for blast furnace application in the Steel Industry.

1.4.2.8 Energy Storage Solutions Group

Electric Mobility

Business Environment & opportunities

- FAME-2 scheme has been notified and is effective from 01st April 2019, for period of 3 years with total outlay of ₹10,000 Crore to incentivize EVs and develop Charging Infrastructure.
- Some STUs (State Transport Undertakings) have already initiated floating tenders/ deploying electric buses under Fame-I
- Ministry of Power has issued guidelines and standards for charging infrastructure of EVs with at least one charging stations to be installed in a grid of 3km x 3km and on every 25km on both sides of highways.
- DHI issued Phased Manufacturing Program (PMP) on 6th March 2019 to promote indigenous manufacturing of electric vehicles, its assemblies/sub-assemblies/parts through graded duty structure over a period of time.

Offerings

- EV Charging Stations
- E-Buses
- EV Components – Power trains and battery packs

Achievements during the year

- In-house development successfully completed for:
 - 50 KW EV charger
 - 67 KW induction motor
 - 130 KW Induction Motor
 - 125 KW Permanent Magnet Synchronous Motor (PMSM)
 Developmental work on EV power train, EV chargers and E-bus are under progress.

- BHEL has successfully commissioned first Solar based EV charging station along Delhi-Chandigarh Highway at Ethnic Resort, Rai, Sonapat (Haryana)
- 12 metre Electric Bus Prototype developed



BHEL's first solar powered EV charging station inaugurated by Dr. A. R. Sihag, Secretary, DHI at Ethnic India Tourist Resort, Rai, Sonapat (Haryana)

Major Orders Received

- Maiden order for supply, installation & commissioning and AMC of 40 nos. DC-001 Chargers from EESL
- Installation of Solar Based EV Chargers across Delhi-Chandigarh highway under FAME scheme from DHI

"Your Company has successfully commissioned 1st solar based EV charging station along Delhi-Chandigarh highway".

Preparing for Growth

BHEL is committed to nation's e-mobility mission with a vision to provide end to end integrated e-mobility solutions. In this direction, BHEL has taken up several in-house developments and also entered into strategic partnership with renowned companies.

Energy Storage System

Business Environment

- The government has set up a target of adding 175 GW of renewable energy by 2022 to the grid. With the increase in share of renewable energy, energy storage is set to become an integral part of power system to ensure grid stability and power availability. The market potential for energy storage market is expected to reach 2- 3.5 GWh by 2022.
- Companies such as NTPC, SECI, NLC have floated tenders for energy storage systems to support PV plants.
- As a part of the National Mission on Transformative Mobility and Battery Storage, government is considering a plan to establish battery making capacity of 40 gigawatts (GW) to give a boost to its electrical vehicles and renewable energy initiatives with an expected investment of \$40 billion.

Offerings

- PCS (Power Conditioning System)
- EMS (Energy Management System)
- Complete Containerized solutions

Achievements during the year

- Successful commissioning of 1 MWh Battery Energy Storage System (BESS) pilot project. The BESS is integrated with existing PV plant, to demonstrate the functionality of three different battery chemistries viz. Lithium ion, Lead-acid and Flow battery with in-house developed PCS and EMS.

Preparing for Growth

- BHEL envisages to offer complete solution for grid interactive BESS

Railway Track Electrification

Business Environment & opportunities

- Indian Railways has a target of electrifying approximately 30,000 RKM (Route KMs) by 2022 by way of tenders in EPC mode

- Through Central Organization for Railway Electrification (CORE), Indian Railways has already floated tenders for 7 sections totaling around 6266 RKM on EPC basis

Offerings

- Complete EPC solution for Railway Electrification

Major Orders received

- Maiden order for electrification of 386 Route Kilometers (RKM) of railway line on EPC basis

Preparing for Growth

- BHEL has leveraged its rich project execution experience to execute railway electrification projects by actively participating in all the opportunities of railway electrification.



Solar PV based electric vehicle charging stations commissioned along Delhi-Chandigarh highway

Profile and Performance of Business Segments

International Operations



1.4.3 International Operations

Overview

The world has increasingly become unpredictable and uncertain with escalation of trade disputes, regional conflicts, abrupt tightening of global financial conditions and climate concerns bringing about a paradigm shift in business environment, disrupting globally connected value chains. This has led to market consolidation, intense competition and protectionist tendencies among companies and countries worldwide.

While financial conditions remain generally benign, these factors have resulted in capital inflow reductions, higher financing costs and exchange rate pressures, more acute in countries with weaker fundamentals or higher political risks.

With the first ever export order in the early seventies, the company's presence has now been established in 83 countries across 6 continents. Outside India, BHEL has executed close to 11 GW of power plant equipment and the number continues to grow. After-sales support is a key focus area of BHEL and the company is committed to provide quality services to its overseas customers in the form of spares and services.

Orders Received

During the year, BHEL secured the following overseas orders:

- Prestigious order for electro-mechanical package of 4x225 MW Arun-3 Hydroelectric Project which, once commissioned, would be the largest hydro power plant in Nepal.
- First ever export order for expert O&M supervision of 4x28 MW coal-fired power plant, PT Amman minerals, Indonesia[non-BHEL machines]- Entry into new market segment
- Orders for motors from Indonesia, Japan & Oman
- Orders for Major Inspection (MI) of Gas Turbines to ORPIC, Oman; complete balanced rotor for Fr-6B GTG from M/s. JBA International FZC, UAE; complete balanced rotor for 57 MW Steam Turbine from M/s. Sojitz Kelanitissa (PVT) Ltd., Sri Lanka, etc.
- Orders for spares & services from various countries including Australia, Belarus, Bhutan, Indonesia, Iraq, Jordan, Kazakhstan, New Caledonia, Oman, Senegal, Sri Lanka, Thailand & United Arab Emirates

Overseas Project Execution

• Thermal Power Project commissioned in Africa

1x125 MW Sendou thermal power project, Senegal has been commissioned successfully. This provides a significant reference for BHEL in the African market and would be instrumental in harnessing future opportunities in the continent.



1x125 MW Sendou Thermal Power Project, Senegal

• Project completion

BHEL successfully completed the 220/20 kV Charikar & Doshi substations in Afghanistan. Ministry of Energy & Water, Islamic Republic of Afghanistan has placed on record their appreciation for successful completion of the project under difficult conditions and challenging environment.



Erection work in progress at 2x660 MW Maitree project in Bangladesh

• BHEL's first overseas Supercritical project execution

Boiler Erection started for both units of the 2x660 MW Maitree Super Thermal Power Project, Bangladesh.

BHEL's Global Footprints

83 with presence in
in all six inhabited continents

NORTH AMERICA

Canada
United States of America

SOUTH AMERICA

Chile
Suriname
Trinidad & Tobago

EUROPE

Belarus
Belgium
Bulgaria
Cyprus
Estonia
Finland
France
Georgia
Germany
Greece
Ireland
Italy
Malta
Poland
Romania
Russia
Sweden
Switzerland
Turkey
Ukraine
U.K.

AFRICA

Algeria
Benin
Comoros
D.R. Congo
Egypt
Eswatini
Ethiopia
Ghana
Kenya
Libya
Malawi
Mauritius
Mozambique
Nigeria
Rwanda
Senegal
South Africa
Sudan
Tanzania
Togo
Uganda
Zambia
Zimbabwe



- ### ASIA
- Afghanistan
 - Azerbaijan
 - Bangladesh
 - Bhutan
 - China
 - Hong Kong
 - Indonesia
 - Iran
 - Iraq
 - Japan
 - Jordan
 - Kazakhstan
 - Kuwait
 - Laos
 - Malaysia
 - Myanmar
 - Nepal
 - Oman
 - Philippines
 - Saudi Arabia
 - Singapore
 - South Korea
 - Sri Lanka
 - Syria
 - Taiwan
 - Tajikistan
 - Thailand
 - U.A.E.
 - Vietnam
 - Yemen

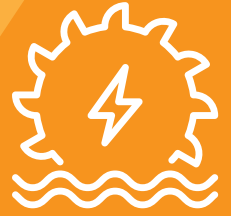
- ### OCEANIA
- Australia
 - New Caledonia
 - New Zealand
 - Samoa

■ Country with BHEL presence

This graphical representation does not purport to be the political map of the world

Powering Bhutan

Energising our neighbourhood



In addition to its commissioned capacity of overseas power plants standing at about 11 GW, BHEL is executing projects totalling more than 5 GW in the neighbouring countries of Bangladesh, Nepal and Bhutan.

BHEL has a predominant presence in Bhutan's power generation segment with Chhukha (336 MW), Kurichhu (60 MW) and Tala (1020 MW) hydroelectric projects.

On commissioning of the 6x200 Punatsangchu I, 6x170 MW Punatsangchu II and 4x180 MW Mangdechhu project, BHEL will have contributed to 93% share in Bhutan's installed power generation capacity.

BHEL is also executing 1320 MW supercritical thermal project in Bangladesh – its largest ever export order, and 900 MW Arun-III hydroelectric power project in Nepal.



336 MW Chhukha HEP project executed by BHEL



Turbine Hall of 4x180 MW Mangdechhu HEP project



Awards & Appreciations

- EEPC National Award for Export Excellence for the Category 'Star Performer Award for the year 2016-17 in the product group – Project Exports - Large Enterprise' at the 49th EEPC INDIA National Award for Export Excellence.
- EEPC India Northern Region Award for Engineering Export Excellence in the category of Top Exporter for the year 2015-16 "Special Trophy for Excellence in Exports of High – Technology Products - Large Enterprise".
- Appreciation letter from Bangladesh Power Development Board (BPDB), Bangladesh for services rendered by BHEL for 100 MW Baghabari GTPP's generator.

Preparing for Growth

Globalization is a key element of BHEL's growth strategy. We are adopting a prudent approach of aligning the new requirements of market with BHEL's commercial interest and leveraging its core competence in coal, gas and hydro in potential markets. The opportunities include our conventional sectors of coal, hydro & gas based power plants, besides renewables, products & after-sales support. Effective project management, faster adoption & assimilation of technology and enhanced cooperation amongst CPSEs are some of the strategies being pursued to further strengthen and expand BHEL's global presence.



BHEL manufactured Condensate Extraction Pump (left) and Booster Pump (Right) ready for dispatch for BIFPCL Maitree project, Bangladesh

1.5 Analysis of Financial Performance

1.5.1 BHEL Standalone

Financial Results

1. Revenue from operations

(₹ Crore)

Particulars	2018-19	2017-18
Sales less returns	22402	21888
Income from external erection & other service	6947	5962
Turnover	29349	27850

Growth in turnover was 5.4% in FY 2018-19 over FY 2017-18.

Other operational income

(₹ Crore)

Particulars	2018-19	2017-18
Other operational income	1000	963

There was a growth of 3.8% in FY 2018-19 over FY 2017-18. For details of other operational income Note 29 to standalone financial statements may be referred.

2. Other income

(₹ Crore)

Particulars	2018-19	2017-18
Interest income	599	591
Profit on sale of units of mutual funds	17	26
Dividend on investment in joint venture - BGGTS	16	15
Dividend on investment in mutual funds	-	11
Profit on sale of items of PPE, Govt. grants & others	46	51
Total	678	694

Interest income excluding interest on income tax refund was ₹512 crore in FY 2018-19 against ₹539 crore in FY 2017-18. Though yield on investment was higher as compared to previous year, reduction in quantum of investments made during the year due to decline in cash & bank balances during the year, resulted in this marginal dip in interest income.

3. Expenses

a) Material consumption, erection and engineering expenses

(₹ crore)

Particulars	2018-19	2017-18
Consumption of raw material & components	15030	12096
Civil, erection & engineering expenses	3866	3418
Sub total	18896	15514
Changes in inventories of finished goods and work in progress	(1073)	736
Total	17823	16250

Direct material cost as % to turnover has gone up from 58.3% in FY 2017-18 to 60.7% in FY 2018-19. This is mainly due to change in composition of turnover, project / product mix, higher content of imported bought outs due to conditions stipulated under DJU (Deed of Joint Undertaking) and depleting margins.

b) Employee benefits expenses

(₹ crore)

Particulars	2018-19	2017-18
Employee benefits expenses	6261	6067
No. of Employees	35471	37540

Pay revision in respect of executive cadre was finalized in FY 2017-18 and impact of the same was included in the last year employee benefits expenses. In FY 2018-19, impact due to finalization of wage revision of other cadres is also included in these expenses. However, there was only marginal increase in employee benefits expenses mainly due to decrease in defined benefits liabilities as per actuarial valuation and savings consequent to reduction in manpower during the year.

c) Manufacture, administration, selling & distribution expenses

(₹ crore)

Particulars	2018-19	2017-18
Manufacture, administration, selling & distribution expenses	2761	2522
Exchange rate variation loss / (gain)	(67)	(520)
Total	2694	2002

Manufacture, administration, selling and distribution expenses were ₹2761 crore in FY 2018-19 against ₹2522 crore in FY 2017-18. The increase was primarily due to increase in R&D expenses from ₹48 crore in FY 2017-18 to ₹123 crore in FY 2018-19 mainly due to AUSC project and adjustment of excise duty (net) (-) ₹113 crore in FY 2017-18. With these adjustments, the expenses as percentage to revenue was lower at 8.9% in FY 2018-19 against 9.3% in FY 2017-18.

Exchange rate variation gain was ₹67 crore in FY 2018-19 against ₹520 crore in FY 2017-18, the decline in gain was mainly due to (a) appreciation in INR v/s EURO by 3.5% in FY 2018-19 against depreciation by 15.8% in FY 2017-18 (b) depreciation in INR v/s USD by 6.1% in FY 2018-19 against appreciation by 0.4% in FY 2017-18. Better forex management and hedging strategies during the year has resulted in a gain of ₹42 crore.

d) Provisions (Net)

(₹ crore)

Particulars	2018-19	2017-18
Doubtful debts, liquidated damages and others	1640	2031
Bad debts, LD & losses written off	93	42
Provision for expected credit loss (Time value)	150	251
Contractual obligations	(51)	70
Impairment of investment in JVs	4	44
Subtotal	1836	2438
Provision for wage revision	(760)	(156)
Total	1076	2282

Provisions have been made in line with accounting guidelines and policies of the Company. Decline in provision during the year were due to: a) withdrawal of provision (₹760 crore) for wage revision created last year for cadre other than executives; b) vacation of provisions consequent to settlement of contractual issues in certain projects; c) lower creation of provision for expected credit loss (ECL) as a result of better collection from opening outstandings and other factors.

4. Finance costs

(₹ crore)

Particulars	2018-19	2017-18
Borrowing cost	191	220
Interest expense	87	35
Discount on commercial papers	9	-
Total	287	255

Borrowing cost represents unwinding of interest impact on long term provisions. Increase in interest expense was mainly due to short term borrowings (PCFC loan, loan against FDs and commercial paper) made in FY 2018-19 to meet short term operational cash requirements. However, the Company has managed its treasury operation effectively, thereby minimising the interest outgo and earning higher returns on intermittent surplus. PCFC loan has also provided the natural hedging benefit to the company.

5. Depreciation & amortisation expenses

(₹ crore)

Particulars	2018-19	2017-18
Depreciation & amortisation expenses	475	786

Para 51 of Ind AS 16 requires annual review of estimated useful life of Property, plant & equipment. Accordingly, the estimated useful life of items of Property, plant & equipment was reviewed and for certain items where estimated useful life was lower than the life prescribed in Schedule II of Companies Act 2013 as well as estimated economic useful life, the same were aligned as per Companies Act. This has resulted in lower depreciation by ₹201 crore for the year.

6. Tax expenses

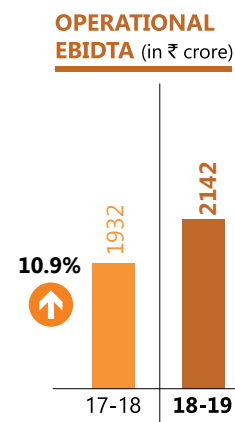
(₹ crore)

Particulars	2018-19	2017-18
Current tax - Current year	719	552
-Earlier years	16	27
Deferred tax -Current year	7	(63)
-Earlier years	100	262
Total	842	778

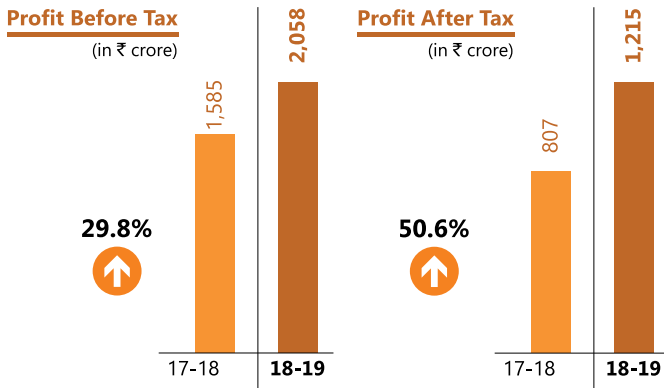
Tax expense represents the sum of current tax and deferred tax. The current tax is created in accordance with the provisions of Income Tax Act 1961, subject to adjustment of deferred tax. The current tax as %age to Profit before tax was 35.7% in FY 2018-19 against 36.5% in FY 2017-18. The tax expense including deferred tax was 40.9% in FY 2018-19 against 49.0% in FY 2017-18 consequent to the reassessment of deferred tax assets.

7. Profitability

Operational EBIDTA was ₹2142 crore in FY 2018-19 against ₹1932 crore in FY 2017-18, a growth of 10.8%.



Net profit (PAT) stood at ₹1215 crore in FY 2018-19 against ₹807 crore in FY 2017-18, a quantum jump of 50.6%. This has been achieved through stringent budgetary control, expense management and various other strategic initiatives. Accordingly, return on average net worth increased from 2.48% in FY 2017-18 to 3.79% in FY 2018-19.



8. Other comprehensive income

(₹ crore)

Particulars	2018-19	2017-18
Re-measurement of defined employee benefits (gain)/loss	183	(127)
Income tax related to above item	(64)	44
Total	119	(83)

Other comprehensive income, which represents re-measurement (gain) / loss on defined benefit plan such as gratuity, PF, Post-Retirement Medical Benefit (PRMB) etc. was loss of ₹119 crore in FY 2018-19 against gain of ₹83 crore in FY 2017-18.

Fund Position

9. Fund flow position and liquidity

(₹ crore)

Particulars	2018-19	2017-18
Cash generated from Operations before working capital changes	3839	4221
Net cash inflow / (outflow) from operating activities after working capital changes	(3881)	991
Net cash inflow / (outflow) from investing activities	1915	964
Net cash inflow / (outflow) from financing activities	(7)	(671)
Total net cash inflow (outflow) for the year	(1973)	1284

Net cash outflow from operating activities in FY 2018-19 was ₹3881 crore against cash inflow of ₹991 crore in FY 2017-18,

due to: a) high level of inventory built up (increased by ₹1944 crore) to enhance shop production; and b) increase in trade receivables including contract assets (by ₹4593 crore) due to change in composition of customer profile and change in payment terms. Further, Company has paid pay revision arrears in FY 2018-19. This was offset to some extent by cash generated from operations and short term borrowings. In addition during FY 2018-19, the Company had paid ₹1628 crore towards buyback of equity shares.

Financial position

10. Property, plant and equipment (PPE), intangible assets and capital WIP

(₹ crore)

Particulars	As at					
	March 31, 2019			March 31, 2018		
	PPE	Intangible	Total	PPE	Intangible	Total
Gross carrying value	5746	250	5996	5404	222	5626
Less: Accumulated dep./ amortisation	2862	167	3029	2427	131	2558
Net carrying value (net block)	2884	83	2967	2977	91	3068
CWIP & intangible assets under development	223	12	235	195	8	203
Total			3202			3271

The net carrying value of PPE and intangible assets is after adjustment of depreciation /amortization and capitalization during the year. Brief on capital investments are given separately under para on "Capital Investment".

The company had opted for exemption under Ind AS 101 and accordingly carrying value as on March 31, 2015 was considered as deemed cost on Ind AS transition.

11. Equity investments

(₹ crore)

Particulars	As at					
	March 31, 2019			March 31, 2018		
	Investment	Impairment	Net	Investment	Impairment	Net
Investment in joint ventures	723	57	666	741	53	688
Investment in subsidiary Company	5	5	-	5	5	-
Investment in other equity instruments	6	3	3	6	3	3
Total	734	65	669	752	61	691

Investment in joint ventures (JV) and subsidiary Company

were accounted at cost after considering impairment loss, if any in line with Ind AS. During the year an impairment loss of ₹4.40 crore has been provided against investment with M/s. NBPPPL, a joint venture. A sum of ₹17.30 crore has been received in FY 18-19 against investment of ₹22.50 crore M/s. Dada Dhuniwale Khandwa Power Projects Ltd and Impairment loss of ₹5.20 crore (withdrawal of ₹0.30 crore in FY 2018-19) was retained.

Investment in other equity instrument are accounted at fair value through profit and loss and changes in carrying value has been made based on fair value on the reporting date.

12. Trade receivables (Net)

(₹ crore)

Particulars	As at					
	March 31, 2019			March 31, 2018		
	Non-current	Current	Total	Non-current	Current	Total
Trade receivables	3935	12010	15945	3437	14064	17501

As per the requirement of Ind AS 115, the amount billed to customers and contractually due for payment is shown as Trade receivables. These figures are net of provisions created as per the policy/guidelines of the Company. Due to increase in cash collection during FY 2018-19 over FY 2017-18, 14% higher than the last year, there was reduction of ₹1556 crore in Trade receivables (Trade receivable as no. of days of revenue from operations in FY 2018-19 is 167 days as against 194 days in FY 2017-18). Non-current trade receivables constitutes trade receivables where realisation may take longer period due to contractual issues like settlement of time extension or where legal action has been initiated for realisation of debts.

13. Cash & cash equivalents and bank balances

(₹ crore)

Particulars	As at	
	March 31, 2019	March 31, 2018
Cash & cash equivalents	796	2769
Deposits having maturity more than 3 months but not more than 12 months	6700	8400
Earmarked bank balances & FD against margin money	7	7
Total	7503	11176

The cash & bank balance broadly represents advances received from customers, secured against bank guarantees, to be adjusted progressively during execution of the project.

The main reason for the decline in Cash & Bank Balances

were: a) Higher level of inventory built up to enhance shop production; b) increased level of contract assets due to the nature of business; c) outgo of ₹1628 crore towards buy back of shares and d) payment of pay revision arrears in FY 2018-19.

14. Deferred tax assets (net)

(₹ crore)

Particulars	As at	
	March 31, 2019	March 31, 2018
Deferred tax assets (net)	3515	3626

The deferred tax assets (net) represents the tax impact on item of expenses which are in the nature of temporary differences, to be adjusted against the taxable profit of future periods.

15. Other assets

(₹ crore)

Particulars	As at					
	March 31, 2019			March 31, 2018		
	Non-current	Current	Total	Non-current	Current	Total
Contract assets (net of provision)	14392	7904	22296	10264	7728	17992
Input tax credit receivable	-	1188	1188	-	1009	1009
Claim recoverable	-	735	735	-	708	708
Deposit with tax authorities & others	160	496	656	145	512	657
Advances & others	170	258	428	110	435	545
Less: Provision	51	187	238	49	270	319
Total	14671	10394	25065	10470	10122	20592

Contract assets (deferred debtors and unbilled revenue) represent the amount not yet due for payment as per contract terms/agreed schedule with customers. The same will be contractually due on completion of related activities/milestones.

The increase in contract assets by ₹4304 crore in FY 2018-19 over FY 2017-18 was mainly due to the change in the customer profile, State utilities portion being higher than last year, skewed payment terms in certain contracts with higher portion of milestone linked payment etc.

The increase in input tax credit receivable was mainly on account of GST, which will get adjusted in due course.

16. Inventories

(₹ crore)

Particulars	As at	
	March 31, 2019	March 31, 2018
Raw material & components	3930	3075
WIP	3220	2284
FG	1092	950
Stores & spare parts	238	248
Other inventory	188	168
Sub total	8668	6725
Less: Provision for non-moving inventory	555	466
Inventories	8113	6259

The Inventory as no. of days of turnover in FY 2018-19 was 101 days as against 82 days in FY 2017-18. The built up of inventory was to meet increased level of operations in line with the project requirements and to address the long lead time to speed up execution of projects.

17. Current tax assets / liabilities (Net)

(₹ crore)

Particulars	As at	
	March 31, 2019	March 31, 2018
Current tax assets / liabilities (net of provisions)	(91)	223

This represents tax deducted at source and advance tax net of provision for tax.

18. Share Capital

(₹ crore)

Particulars	As at	
	March 31, 2019	March 31, 2018
Authorised share capital	2000	2000
Issued, subscribed & paid up share capital	696	734

During FY 18-19, Company has bought back its 18.93 crore equity shares @ ₹86 per equity share. Consequently, the paid-up share capital has reduced from ₹734.28 crore in FY 2017-18 to ₹696.41 crore in FY 2018-19.

19. Other equity

(₹ crore)

Particulars	As at	
	March 31, 2019	March 31, 2018
Opening balance	31867	31805
Add: Total comprehensive income for the year	1096	890
Add: Ind AS 115 - transition adjustment	126	-
Less: Buyback of shares	1599	-
Less : Dividend (incl. interim dividend) paid during the year	653	485
Less : Corporate Dividend Tax	134	98
Less: Bonus share issued	-	245
Closing balance	30703	31867

Decrease in other equity by ₹1164 crore during FY 2018-19 was mainly on account of buyback of shares out of General Reserves, offset by total comprehensive income for the year net of final dividend for the previous year and interim dividend for the current year and dividend tax thereon. The Company has implemented Ind AS -115 from April 01, 2018 with transitional impact adjusted in opening retained earnings as on April 01, 2018 in line with notification issued by Ministry of Corporate Affairs. This has increased opening retained earnings by ₹126 crore.

20. Borrowings

(₹ crore)

Particulars	As at					
	March 31, 2019			March 31, 2018		
	Non-current	Current	Total	Non-current	Current	Total
Borrowings	-	2457	2457	-	-	-
Maturities of finance lease obligation	95	63	158	57	46	103
Total	95	2520	2615	57	46	103

The short term borrowing in the form of PCFC loan, Loan against FDs and commercial paper were availed to meet short term operational requirements at the lowest possible interest rate. For repayment schedule of borrowings, Note 24 to financial statements may be referred to.

21. Financial liabilities

(₹ crore)

Particulars	As at					
	March 31,2019			March 31,2018		
	Non-current	Current	Total	Non-current	Current	Total
Trade payables	703	11375	12078	479	10587	11066
Other financial liabilities	92	2005	2097	115	2224	2339
Total	795	13380	14175	594	12811	13405

The increase in trade payables were in line with operations of the Company. Other financial liabilities include liability towards employee's dues, other dues, deposits from contractors and others.

22. Provisions

(₹ crore)

Particulars	As at					
	March 31,2019			March 31,2018		
	Non-current	Current	Total	Non-current	Current	Total
Provision for contractual obligation	3844	1443	5287	3478	1854	5332
Provision for employee benefits	1303	781	2084	1260	1563	2823
Other provisions	305	242	547	184	336	520
Provision for CSR	2	19	21	1	30	31
Total	5454	2485	7939	4923	3783	8706

This decrease of ₹767 crore in total provisions was mainly due to withdrawal of provision for pay revision created last year for cadre of employees under supervisors and workers.

23. Other liabilities

(₹ crore)

Particulars	As at					
	March 31,2019			March 31,2018		
	Non-current	Current	Total	Non-current	Current	Total
Advances from customers (incl. valuation adjustments)	3578	3261	6839	3610	3963	7573
Statutory dues	-	1311	1311	-	1296	1296
Govt. grants	38	6	44	27	8	35
Total	3616	4578	8194	3637	5267	8904

Advances from customers gets adjusted progressively during execution of the project. The decline in advances was also due to nil / lower advances in recent orders from state utilities and CPSEs. Statutory dues mainly comprises GST liabilities to be discharged on due dates. Corresponding input credit available is also shown under other assets in item serial number 15 above.

24. Segment performance

The Company has two operating segments power and industry. The performance of segments was as below:

(₹ crore)

Particulars	2018-19		2017-18	
	Power	Industry	Power	Industry
Segment revenue	23405	5944	22881	4969
Segment results	2812	437	2792	180
Segment capital employed	20362	4121	16271	3724
Segment results as % of segment revenue	12%	7%	12%	4%

Power segment revenue increased by 2.3 % in FY 2018-19 over FY 2017-18 with segment profit as %age to segment revenue remaining at 12%. Industry segment revenue increased by 19.6% in FY 2018-19 over FY 2017-18 with segment profit to segment revenue improved from 4% in FY 2017-18 to 7% in FY 2018-19 due to enhanced share of transportation and transmission business.

1.5.2 Financial Review of Subsidiary Company

BHEL Electrical Machines Ltd.

A subsidiary company was incorporated on January 19, 2011 as "BHEL Electrical Machines Ltd", with BHEL holding majority stake of 51% with an equity investment of ₹5.36 crore. Government of Kerala retained 49% stake.

Board of Directors has approved on May 29, 2018 the transfer of BHEL's 51% stake in BHEL Electrical Machines Limited to Government of Kerala which is subject to approval of Department of Heavy Industry, Government of India.

The brief financials of BHEL– EML are tabulated below:

(₹ crore)

Particulars	2018-19	2017-18
BHEL Share (%)	51%	51%
BHEL's Investment in Equity	5.36	5.36
Revenue from Operations	18.65	14.42
Loss for the year	5.46	6.02

1.5.3 Financial Review of Joint Ventures Companies

a. BHEL-GE Gas Turbine Services Private Limited (BGGTS):

BHEL-GE Gas Turbine Services Private Limited (BGGTS) is a Joint Venture Company of BHEL and GE, USA formed to take up repair & servicing of GE designed gas turbines. The brief financials are tabulated below:

(₹ crore)

Particulars	2018-19	2017-18
BHEL share (%)	One share less than 50%	One share less than 50%
BHEL's investment in equity	2.38	2.38
Revenue from operations	675.07	631.87
Profit after tax	60.73	53.64
Net worth	298.83	277.08

For FY 2018-19, BGGTS has paid interim dividend at 490% and proposed final dividend at 195% on the equity share capital of ₹4.76 crore.

b. NTPC BHEL Power Projects Private Limited (NBPPL):

NTPC BHEL Power Projects Private Limited (NBPPL) is a Joint Venture Company of BHEL and NTPC Limited promoted to execute EPC contracts for Power Plants and manufacture power plant equipment. The JVC has a manufacturing facility for Balance of Plant (BoP) equipment at Mannavaram in Andhra Pradesh.

The brief financials are tabulated below:

(₹ crore)

Particulars	2018-19*	2017-18
BHEL share (%)	50%	50%
BHEL's investment in equity	50.00	50.00
Revenue from operations	73.52	139.90
Loss for the year	53.02	70.54

* based on provisional unaudited figures

The provision for impairment in value of investment in NTPC-BHEL Power Projects Private Limited has been made to the extent of ₹50.00 crore (up to previous year ₹45.60 crore) based on the net financial position. In principle approval for pursuing the winding up of NBPPL has been accorded by the Board of Directors in its meeting held on February 8, 2018.

c. Raichur Power Corporation Limited (RPCL):

Raichur Power Corporation Limited (RPCL) is a Joint Venture Company of BHEL, Karnataka Power Corporation Limited (KPCL) and IFCI Limited promoted for setting up of 2x800 MW supercritical thermal power plant at Yeramarus, Raichur, Karnataka and 1x800 MW supercritical thermal power plant at Edlapur, Raichur, Karnataka on build, own and operate basis. The paid up equity capital as on March 31, 2019 was ₹2373.76 crore with contribution of ₹1277 crore from KPCL, ₹664.04 crore from BHEL and ₹432.72 crore from IFCI Limited. The financial highlights of the Company are as under:

(₹ crore)

Particulars	2018-19*	2017-18
BHEL share (%)	27.97%	27.97%
BHEL's investment in equity	664.04	664.04
Revenue from operations	1030.96	719.97
Loss for the year	1254.24	1562.76

* based on provisional unaudited figures

The paid up share capital as on June 3, 2019 was ₹2373.76 crore with contribution of ₹1709.72 crore from KPCL, post-acquisition of equity contribution of IFCI by KPCL. The equity contribution of BHEL remains at ₹664.04 crore.

d. Dada Dhuniwale Khandwa Power Limited (DDKPL):

Dada Dhuniwale Khandwa Power Limited (DDKPL) is a Joint Venture Company of BHEL and Madhya Pradesh Power Generating Company Limited (MPPGCL) promoted for setting up of 2x800 MW supercritical thermal power plant at Khandwa, Madhya Pradesh on build, own and operate basis.

Due to non-availability of coal linkage and problems being faced in land acquisition, both the promoters approved for voluntary winding up of the JVC. An amount of ₹17.30 crore has been received during FY 2018-19 against investment in JVC of ₹22.50 crore. The provision for impairment in value of investment has been retained to the extent of ₹5.20 crore (previous year ₹5.50 crore) based on the net financial position. The JVC is under liquidation.

e. Powerplant Performance Improvement Private Limited (PPIL):

Powerplant Performance Improvement Private Limited (PPIL) is a Joint Venture Company of BHEL and Siemens AG, Germany promoted for plant performance improvement of old fossil fuel power plants.

Since sufficient business to ensure viability of the Company was not forthcoming, the promoter partners mutually agreed to gradually wind up the Company. All the pending contracts of the JVC have been closed and the process of winding up has been initiated during FY 2018-19. The JVC is under liquidation.

1.5.4 Consolidated Financial Statement (CFS)

Consolidated Financial Statements have been prepared in accordance with Ind AS-110 on "Consolidated Financial Statements" and Ind AS 28 "Investments in Associates and Joint Ventures".

The financial statements of subsidiary Company is combined on a line by line basis after fully eliminating the intra group balances and intra-group transactions and for joint ventures, Equity method is adopted in line with Ind AS. M/s. DDKPL and NBPPL were not considered for CFS as they are under liquidation.

A summary of the results on financial performance, in line with the aforementioned Ind AS are as under:

Financial performance

(₹ crore)

Particulars	For the year ended	
	March 31, 2019	March 31, 2018
Revenue from operations	30368	28827
Profit before tax	1850	1215
Profit after tax	1009	438
Other comprehensive income/(expenses)	(119)	83
Total comprehensive income	890	522

The Group's revenue from operations increased by 5.4% in FY 2018-19 over FY 2017-18. The profit before tax and profit after tax increased by 52.2% and 130.3% respectively in FY 2018-19 over FY 2017-18. The share of loss in respect of joint ventures was ₹185.60 crore in FY 2018-19 as against ₹390.76 crore in FY 2017-18.

The joint venture companies (NBPPL and RPCL) have incurred losses in 2018-19. The group has recognised accumulated losses equal to the cost of investment as at March 31, 2019 in consolidated financial statements 2018-19.

Financial position

(₹ crore)

Particulars	As at	
	March 31, 2019	March 31, 2018
Assets		
Property, plant and equipment, intangible assets and CWIP (net carrying value)	3206	3276
Investment accounted for using equity method	149	409
Non-current financial assets	4021	3543
Deferred tax assets (net)	3523	3632
Noncurrent other assets	14671	10471
Current assets	38349	42143
Total	63919	63474
Equity and Liabilities		
Equity share capital	696	734
Other equity	30176	31601
Non-controlling interest	(7)	(4)
Non-current liabilities	9973	9275
Current liabilities	23081	21868
Total	63919	63474

The decrease in other equity by ₹1425 crore during FY 2018-19 was on account of buyback of shares which has resulted decrease by ₹1599 crore. This was offset by total comprehensive income for the year after adjustment of final dividend for the previous year and interim dividend for the current year.

1.6 Capital Investment

Paving the way towards diversification, BHEL has invested a sum of ₹272 crore during FY 2018-19 on building capabilities for new growth areas coupled with modernization of the existing assets and building enabling infrastructure for execution of projects.

The focus of Capital Investment during the year has been on manufacturing capability building by setting up the facilities for new growth areas such as Li-Ion based Space Grade Cells, Large Sized Gates & Dampers and strengthening the facilities to meet the growing demands of transmission sector of country.

1.7 Quality Performance

BHEL has well established Quality Management systems to realize the objective of its Quality Policy.

Various initiatives for continual improvement in process & product quality and enhancement of Quality Management System effectiveness were taken up during the year.

- Twenty-two divisions were subjected to Quality Management Effectiveness Review - an indigenous copyright quality

model of BHEL- by internal cross functional teams. Around 100 product/ process quality audits were carried out at Manufacturing Units/ Engineering Centres and 29 quality audits at different project sites with an objective to enhance product & service quality.

- Around 820 executives were trained in Quality Management topics conducted by Corporate Quality & Business Excellence function over around 2000 man-days.



With more than 35,000 trained and dedicated employees, BHEL ensures quality products and services

- Quality Circle (QC) movement in BHEL driven by workers & supervisors is a role model in the country. Every year inter-unit annual QC summit is held in BHEL where Quality Circles showcase their case studies. 29th BHEL Annual Quality Circle Summit was organized at HEEP Haridwar on 26th April 2019 in which 48 Quality Circles from 15 units participated. Quality Circle no. 582 of HPBP Trichy was awarded with Shri S R Udpa trophy for best Quality Circle 2018-19.
- Major thrust is given to Root Cause Analysis (RCA) of quality issues at manufacturing shops and erection sites. Intra-unit standing RCA committees and Inter-Unit Special RCA committees analyse the issues and recommend corrective actions. RCA findings are shared with customers as well as with Top Management. RCA initiative has been institutionalized in the organization.
- **Quality Certifications and Business Excellence Awards:**
 - M/s American Petroleum Institute (API) awarded Monogram Licensing permission to HPEP Hyderabad unit with validity up to June 18, 2021.
 - HPBP Trichy and HPVP Vizag recertified by American Society of Mechanical Engineers (ASME) for "S", "U", "U2" and National Board "R" certification The new certificates are valid up to 17th June 2021 for HPBP Trichy and 31st July 2021 for HPVP Vizag.
 - On 12th Feb'19, Bhopal unit was awarded with prestigious Quality Council of India – D L Shah Silver Award for its project "Quality and Productivity improvement and Upgradation of load carrying capacity of Thrust & Guide bearing assemblies used in vertical AC motors".
 - Hyderabad unit was conferred as "Best Organisation for pioneering Quality Circle movement in India and contributing to its growth" award by Quality Circle Forum

of India (QCFI), Hyderabad Chapter in its 32nd Chapter Convention on Quality Concepts (CCQC-2018) held in September 2018.

- 32nd National Convention Quality Circles meet (NCQC-2018) was organized by QCFI at Gwalior from 21st-24th Dec. 2018. 57 Quality Circles from different units of BHEL participated out of which 53 Quality Circles awarded in Par Excellence/ Excellence categories.

1.8 Internal Financial Control System

The Internal Financial Control (IFC) of BHEL is designed in the form of well documented policies and procedures for ensuring the orderly and efficient conduct of its business, including adherence to Company's policies, the safeguarding of assets, the prevention & detection of frauds and errors, the accuracy & completeness of the accounting records, and the timely preparation of reliable financial information.

The source of implementation and maintenance of IFC are Manuals, Guidelines, Delegation of Powers, IT system & controls and are effected through well-defined organizational structure i.e. people operating in various departments within the Company at different levels at each stage of the processes.

BHEL has an in-house Internal Audit Department commensurate with its size of operations and nature of its business. Apart from Corporate Internal Audit, 12 Internal Audit Cells are set up across BHEL to cover internal audit activities at all locations of BHEL. With a view to assess the adequacy and effectiveness of IFC, Internal Audit carries out continuous audit of risk focussed areas and critical appraisal of the functioning of the processes and systems designed at respective locations.

Audit assignments are conducted as per Annual Audit Programme approved by Board Level Audit Committee (BLAC). Highlights of Internal Audit activities are presented to senior executives at various forums and shared with all Units and Regions. BLAC also reviews major Internal Audit observations and C&AG audit findings and issues directions, wherever required, to strengthen the IFC, keeping in view the dynamic environment in which the Company is operating.

BHEL has a process in place to continuously monitor the action to be taken towards improvement of the systems and processes and strengthening of the governance mechanism. The Company continues its efforts to align all its processes and controls with the best global practices.

Internal Financial Controls in BHEL has been evaluated at all locations by the Internal Audit during the year by applying test of controls and the controls tested have been found in place and operating effectively within the company.

1.9 Human Resource

1.9.1 Learning and Development

Aligned to the changing needs of the organization, knowledge transfer, skill development and behavioral interventions were facilitated for BHEL employees. During the year, an average of 3.58 Training Man Days per employee was achieved across the organization.

Seven Advanced Management Programs in collaboration with IIM-Calcutta were conducted for 217 executives at senior management level. There was thrust on technical programs which were organized for existing business areas as well as for emerging areas. There is a strong focus on eLearning in the Organization. BHEL has been developing e-Learning modules meeting business requirements and has a full-fledged integrated in house e-learning platform UNNAYAN that caters to a wide variety of training courses following the model of content creation through crowd sourcing.

As part of behavioral/managerial initiatives, redesigned core programs have been conducted followed by impact analysis to measure the effectiveness of these programs for the first time. Programs like "Leader as Coach", "Influencing through Assertiveness" & "Winning Together for supervisors" have been facilitated in the organization. Workshops were also conducted to initiate collaborative thinking and creative approach. Knowledge sharing sessions were conducted for superannuating senior executives across the company. Orientation programs for successful on-boarding of newly recruited medical doctors & law officers were also held.



More than 6,000 ITI apprentices of different trades trained under skill development initiatives at various BHEL units

BHEL was also actively involved in skill development initiatives of the GoI, and about 20,000 non-BHEL individuals were imparted training under various schemes like NAPS & NATS of apprenticeship & industrial visits.

1.9.2 Performance and Career Development

People Capability Maturity Model (PCMM) Assessment was carried out in the organization through QAI India Ltd. who certified that BHEL has broadly implemented the P-CMM level 2 process areas up to the desired level, with a few improvement areas.

To meet the career development aspirations of young executives and to build a systematic pipeline of high potential executives to feed into the succession planning scheme for key positions, High Potential (HiPo) Employees Scheme is in place for identifying and grooming suitable candidates. Under the HiPo scheme, 1210 mid-level executives have been identified. Grooming process for such executives as envisaged in the scheme is underway in all the Units, with an online platform to

track the grooming process also in place.

With a view to encourage and motivate employees to attain higher level of excellence and to contribute towards growth and development of the organization and to provide thrust to BHEL's initiatives towards enhancing engagement levels of employees, an Employee Recognition Scheme was also launched in the organization



BHEL employees - always motivated to innovate and contribute towards organizational growth

Behavioral competencies of around 1000 executives have been assessed through SHL psychometric tool. The inputs from this exercise has helped in preparing individual development plan and is being used to identify High Potential Employees and potential successors.

To continuously evolve our well established performance management system, a Performance Improvement Plan has been launched in BHEL for employee development and ensuring a high performance culture. In order to simplify the process of performance evaluation, the number of competencies being evaluated has been rationalized.

Core programmes like Young Managers Programme, General Management Programme, Strategic Management Programme, Advanced Management Programme, various technical and function specific programmes on quality, material management, etc. and behavioural programmes ensure commitment towards talent management process.

Disclosure under section 134 (3)(p) of the Companies Act

As per Section 134 (3) (p) of the Companies Act 2013, the Board's Report of a Listed Company shall include a statement indicating the manner of formal annual evaluation of Board, individual Directors etc. Ministry of Corporate Affairs has, vide its notification dated June 5, 2015, notified the exemptions to Government Companies from the provisions of the Companies Act, 2013 which inter-alia provides that Sec. 134(3)(p) regarding statement on formal annual evaluation shall not apply to Government Companies in case the Directors are evaluated by the Ministry which is administratively in-charge of the

Company as per its own evaluation methodology. Further, in line with above exemptions, sub-sections (2), (3) & (4) of Sec. 178 regarding appointment, performance evaluation and remuneration shall not apply to Directors of Government Companies.

In a CPSE, the MoU signed between the Company and the Government of India details out the parameters and initiatives that the Company is required to undertake during that financial year. This MoU is evaluated at the end of the year by the Government and a performance rating is assigned to BHEL based on the performance on the spelt out parameters. Further, there is a well laid down procedure for performance evaluation of Chairman & Managing Director and Functional Directors. Department of Public Enterprises (DPE) has designed a format and laid down a procedure for evaluation of Functional Director's performance. The tenure of Functional Directors as spelt out in their Terms and Conditions of Appointment is five years or the date of their superannuation, whichever is earlier. In respect of Independent Directors, their appointment and tenure (normally a period of three years) is decided by the Government of India. The terms of reference of Board Level Committees are approved by the Board. The minutes of Board Level Committees are placed before the Board for its perusal.

Further, DPE in May, 2018, through our Administrative Ministry (DHI) has started the exercise of performance evaluation/assessment of non-official (Independent) Directors on the Board of the Company.

1.9.3 Industrial Relations

Industrial Relations in various manufacturing units, divisions and offices of the Company remained harmonious and peaceful during FY 2018-19. A meagre 0.022% mandays were lost during the year on account of strike call given on 28th February, 2019 by 3 participating unions at Trichy Unit to protest against wage revision settlement.

Five meetings of the apex level bipartite forum, namely "Joint Committee" were held during the year. There were 60 meetings of Plant Councils and 552 meetings of Shop Councils. In addition, meetings were also held with the representatives of executives and supervisors on business prospects & challenges, company level issues, etc. The focus of discussions in the various fora centered on improvement of the overall performance of the company by increasing the productivity, cost reduction, quality and delivery improvement in order to meet customer commitments.

Pay revision of Executives and Supervisors w.e.f. 01.01.2017 was implemented during the year. A Memorandum of Understanding (MoU) regarding wage revision of workmen w.e.f. 01.01.2017 was reached in the apex level bipartite forum namely "The Joint Committee for BHEL" on 10.01.2019 after several rounds of negotiation. Subsequently, wage revision of workmen w.e.f. 01.01.2017 was also implemented.

The employees of BHEL expressed solidarity with their fellow citizens distressed by natural calamity which struck in Kerala during the year by contributing an amount of ₹ 5.24 Crore.



Health and Safety are important to us - at our manufacturing plants, offices as well as project sites

Annual workshop on 'Reservation Policy' for SC/ST/OBC Liaison Officers and SC/ST/OBC Association representatives was held at Tiruchy from 20.11.2018 to 21.11.2018.

Policy on compensation in cases of death/ permanent incapacitation of person due to unintended/ unforeseen occurrences during manufacturing/ operations and works incidental thereto at BHEL factories/ offices and precincts thereof, project execution, erection and commissioning, services, repairs and maintenance, trouble shooting, serving, overhaul, renovation and retrofitting, trial operation, performance guarantee testing undertaken by the company or during any works / during working at BHEL Units/ Offices/ townships and premises/ Project Sites has been issued.

1.9.4 Manpower Strength

BHEL's greatest strength is its highly skilled and committed workforce of 35471 employees.

1.9.5 Status on Presidential Directives

1.9.5.1 Directives on Reservation Policy for Reserved Category Persons

Presidential Directives on reservation policy issued by Central Government from time to time provide for certain percentages of reservation in direct recruitment as well as promotion in specified posts and for specified reserved category of candidates, i.e. SCs, STs, OBCs and Persons with Disabilities(PwD). Besides, the Directives also contain provision for certain concessions and relaxations for specified category of employees in direct recruitment and promotion. The Presidential Directives on the subject are being strictly complied with and reservation percentages are ensured through maintenance of Post Based Roster system as prescribed by Govt. However, there is no direct impact of these guidelines on the financial position of the company.

Other relevant information on the subject is furnished below:

i. Representation of SC/ST/OBC employees

The overall representation of SC/ST/OBC employees in total manpower as on 31/12/2018 was 20.47%, 7.05% and 33.15% for SCs, STs and OBCs respectively. The percentages in direct recruitment during the year 2017 were 10.99%, 5.50% and

20.88% for SCs, STs and OBCs respectively.

The Annual Statement in the prescribed format showing the representation of SCs, STs and OBCs as on 31/12/2018 and number of appointments made during the preceding calendar year, as furnished to the Government, is given at **Annexure - A**.

ii. Manpower strength of PwD employees as on December 31,2018

Total number of PwD employees as on 31/12/2018 is 894. In the year 2018, 2 Persons were appointed under PwD Category. The group wise manpower strength of PwD employees in the Company as on 31/12/2018 is given at **Annexure - B**.

1.9.5.2 Safeguard of Women at Workplace

An Act to provide protection against sexual harassment of women at workplace and for the prevention and redressal of complaints of sexual harassment and for matters connected therewith or incidental thereto called "The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013", has come into force from 9th December 2013 with notification of rules by Government of India, Ministry of Women and Child Development called "The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Rules, 2013".

The provisions of the Act and the rules thereon are being strictly complied with. In accordance with the Act, Internal Committee has been constituted in all units of BHEL and their constitution and contact details have been hosted on unit's website. Posters highlighting the key provisions of the Act, Duties of the Employer, Complaints Redressal Mechanism, Action for Malicious Complaints & various misconceptions about Sexual Harassment have been displayed at conspicuous places in all units in Hindi, English and regional languages. 5 workshops were conducted by Corporate Office for ICC members across units through Video Conferencing. At unit level, 32 Workshops / awareness programmes were conducted on gender sensitization, self defence and awareness about the Act. In addition, women employees are also nominated for suitable programs conducted by external agencies.

The annual report on number of complaints of sexual harassment received during the year 2018-2019 and status thereof as on 31.03.2019 is given at **Annexure - C**.



Celebration of Women's Day 2019 at BHEL Corporate Office, New Delhi

Annexure - A

Groups	Representation of SCs/STs/OBCs (As on December 31,2018)				No. of appointments made during the calendar year 2018											
					By Direct Recruitment				By Promotion*			By Deputation/Absorption				
	Total No. of Employees	SCs	STs	OBCs	Total	SCs	STs	OBCs	Total	SCs	STs	Total	SCs	STs	OBCs	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Group A	11276	1965	869	2650	54	7	4	11	NIL							
Group B	8089	1606	642	1915	35	2	1	7								
Group C	16174	3671	1018	7200												
Group D (Excl. SW)	382	77	5	156	2	1	0	1								
Group D (SW)	47	42	1	1	0	0	0	0								
Total	35968	7361	2535	11922	91	10	5	19	0	0	0					

* In BHEL, no appointments are made at induction level by promotion

Annexure - B
Statement showing number of persons with disabilities appointed during the calendar year 2018

Group	Number Of Employees				Direct Recruitment*							Promotion**						
	Total number of employees	VH	HH	OH	No.of vacancies reserved			Total	No.of appointments made			No.of Vacancies reserved			Total	No.of appointments made		
					VH	HH	OH		VH	HH	OH	VH	OH	HH		VH	HH	OH
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Group A	11276	6	18	227	0	1	1	54	0	1	1							
Group B	8089	3	14	203	0	0	0	35	0	0	0							
Group C	16174	17	31	363	0	0	0	1	0	0	0							
Group D	429	1	6	5	0	0	0	1	0	0	0							
Total	35968	27	69	798	0	1	1	91	0	1	1							

Note: (i) VH stands for Visually Handicapped (persons suffering from blindness or low version)
 (ii) HH stands for Hearing Handicapped (persons suffering from hearing impairment)
 (iii) OH stands for Orthopaedically Handicapped (persons suffering from locomotor disability or cerebral palsy)

**There is no reservation in Promotion from Group C to B, Group B to A and within Group A. In BHEL within Group C & D, except in cadre change promotion, seniority-cum-merit promotion policy is followed, wherein all employees on completion of prescribed eligibility period in a Grade and subject to attaining satisfactory levels in conduct and performance are promoted to the next higher grade.

Annexure- C

Annual Report on Safeguard of Women at Workplace

1	No. of complaints received during the year 2018-19	5
2	Number of complaints disposed off during the year 2018-19	4
3	Number of cases pending for more than ninety days	2**
4	Number of workshops or awareness programme against sexual harassment carried out	37
5	Nature of action taken by the employer on recommendations of ICC.	
-	Complaint was made by three female Apprentices against BHEL employee for misbehaving and indulging in wrongful acts during change of shifts. However, the complainants could not identify the respondent and the case was closed.	Case closed
-	Complaint was made by a female employee in February 2019 against a male employee for passing sexually coloured remarks, stalking her and staring at her at workplace and canteen. Chargesheet has been issued to the respondent in March 2019.	Case pending
-	Complaint was made by a female employee of one unit against a male employee of another unit for misbehaving with her including indulging in unwelcome physical contact. Based on the statement of witnesses, documentary and circumstantial evidence, the respondent was found guilty and penalty of reduction to a lower time scale was imposed for a period of one year. However, the case could not be closed within 90 days.	Case closed
-	Complaint was received from a female employee against a male employee for misbehaving with her including indulging in unwelcome physical contact. Chargesheet was issued to the respondent and on enquiry, out of three charges, one was proved and two were partially proved. Penalty of reduction to a lower stage in the time scale of pay for a period not exceeding 2 years without cumulative effect and not adversely affecting his terminal benefits was imposed on the respondent and he was also transferred from the Unit.	Case closed
-	An anonymous complaint was received in May 2018 against a male employee for indecent behaviour. From the contents, it appeared that the complaint was made by female apprentice of 2017-18 batch. Since all apprentices were relieved on the date of receipt of complaint, all apprentices, working under the respondent, were contacted on phone. Respondent was interrogated and regular & contract female employees working with him were also questioned by the ICC. The authenticity of the complaint could not be ascertained and therefore, the case was closed. However, the case could not be closed within 90 days.	Case closed

** 1. Non-availability of ICC members due to exigencies of work & of the complainant for a week;

2. Due to anonymous nature of complaint, the investigation took longer time.

1.10 Right To Information Act, 2005

In consonance with the provisions of the Right to Information Act, 2005 (the Act) BHEL works towards promoting transparency and accountability. A Central Public Information Officer (CPIO) at Corporate Office, along with 20 other CPIOs at each of the major administrative units are functioning in the Company. 21 First Appellate Authorities are also functioning in the Company to dispose of first appeals filed under the Act.

As a measure to facilitate citizens in filing their RTI applications and first appeals online, BHEL has adopted the Online RTI web portal (<https://rtionline.gov.in>) launched by Department of Personnel & Training. Consequently, RTI applications and RTI first appeals filed on this online RTI portal are being replied through the online mode.

Section 4 (1) (b) disclosures have been made available on BHEL's website. In addition, certain guidelines & proforma(s) indicating procedure for obtaining information and for filing RTI first appeals under the Act have been placed on BHEL's website.

The CPIOs and other internal stakeholders involved are sensitised about their obligations under the Act through training and workshops.

BHEL being a member of Steering Committee on RTI constituted by Standing Conference of Public Enterprise (SCOPE) actively participates in its meetings and discussions related to RTI matters organised by SCOPE.

Quarterly RTI Returns for all the four (4) quarters have been submitted to the Central Information Commission. There was an opening balance of 47 RTI applications and 65 RTI appeals at the beginning of the year. During 2018-19, 1117 applications and 231 appeals were received, and 1064 applications and 228 appeals were disposed off.

1.11 Risks and Concerns

BHEL has in place a Board approved Risk Management Charter & Policy to implement a structured and comprehensive enterprise risk management system. This charter is intended to establish a common understanding, language and methodology for identifying, assessing, responding, monitoring and reporting risks and to provide assurance to the management that key risks are being properly identified and effectively managed in the company.

A 'Board level Risk Management Committee' (BLRMC) is assigned responsibility of reviewing the company's Risk Governance structure, Risk Assessment & Risk Management framework, Guidelines, Policies and Processes. The Board/ BLRMC regularly review major risk areas.

Key risks faced by the company are analysed in detail by Risk Management Steering Committee (RMSC), which is responsible for adopting & implementing the risk management framework and leading the risk management initiative across the company.

Chief Risk Officer (CRO), the convener of BLRMC & RMSC, is responsible for periodic reporting on risk management to Board/ BLRMC.

Risk management committees at unit level analyse the risks concerned to their respective areas, prepare mitigation plans, ensure their implementation and also inform the top management, if required.

Some of the key risks the company faces and corresponding strategies for mitigation are mentioned in the table below:

Risk Statement	Mitigation Strategies
Online data & information security breach leading to loss and critical information infrastructure breakdown	<ul style="list-style-type: none"> Established organizational level Cyber Security Operations Centre (SOC), a facility in which an information security team continuously monitor and improve organization's security posture Enhancement of Cyber SOC by integrating 23000+ end points across BHEL under the SOC Consolidation of Internet Gateways to minimize chances of data leakage points Enhancing BHEL- Computer Emergency Response Team (B-CERT) in-line with CERT-In
Excess domestic manufacturing capacities, changes in business mix due to policy changes and increasing competition leading to lower order book	<ul style="list-style-type: none"> Focus on development of non-coal based business Expanding offerings and diversification
Technology readiness to meet current/ future market requirements	<ul style="list-style-type: none"> In house development of new products/ Technologies Technology collaboration agreement with suitable partners
Rising debtors	<ul style="list-style-type: none"> Formation of special groups to accelerate cash collection Swift closure of punch points with customers Better scheduling of supplies Flagging the issues with government in case of state utilities

For and on behalf of the Board of Directors of
BHARAT HEAVY ELECTRICALS LTD.



(Dr. Nalin Shinghal)

Chairman & Managing Director

Place: New Delhi
Date: July 26, 2019

Contributing to the Urban Transportation of the future!



BHEL has geared up to address upcoming opportunities in the areas of e-Mobility such as electric vehicle charging infrastructure and electric vehicles for urban transportation. BHEL is also developing solutions in the field of energy storage for renewables power generation.

As part of the maiden order from EESL for installation of solar based EV chargers along the 250 km Delhi-Chandigarh highway, BHEL has commissioned the first charging station at Rai, Haryana. Work is in progress on the other charging stations.

The first 12 metre e-bus is undergoing testing as per statutory norms.



12 metre electric bus, currently under performance testing as per statutory norms



Annexure-II to the Board's Report

Corporate Governance

2.1 Our Philosophy on Corporate Governance

BHEL functions within a sound framework of Corporate Governance which underlines its commitment to quality of governance, transparency in disclosures, consistent stakeholders' value enhancement and corporate social responsibility. BHEL endeavours to transcend beyond the regulatory structure and basic requirements of corporate governance, focusing consistently towards building confidence of its shareholders, customers, employees, suppliers and the society at large. BHEL's corporate governance framework rests upon the cornerstones of transparency, full disclosure, independent monitoring and fairness to all, especially minority shareholders.

The following principles strengthen Corporate Governance in BHEL:

- i. Independence and versatility of the Board
- ii. Integrity and ethical behaviour of all employees
- iii. Recognition of obligations towards all stakeholders – Shareholders, Customers, Employees, Suppliers and the Society
- iv. High degree of disclosure and transparency levels
- v. Full Legal and Regulatory compliance in all areas in which the Company operates
- vi. Achievement of goals with compassion for people and environment

The Company believes in conducting business in a manner that complies with the Corporate Governance procedures and Code of Conduct, exemplifies each of the core values and positions BHEL to deliver long-term returns to the shareholders, favourable outcomes to the customers, attractive opportunities to the employees, giving an opportunity to the suppliers to partner the Company in progress and enrichment of society.

2.2 Board of Directors

i. Composition & Category of Directors

Pursuant to Section 2(45) of the Companies Act, 2013, BHEL is a 'Government Company' as 63.17% of the total paid-up share capital of the Company is held by the Central Government through the President of India.

The composition of Board of Directors of BHEL has an appropriate mix of Executive Directors represented by Functional Directors including CMD and Non-Executive Directors represented by Government Nominees & Independent Directors, to maintain the independence of the

Board and to separate the Board functions of management and control. As the Chairman is an Executive Director, Independent Directors comprise 50% of the composition of the Board.

The composition of the Board of Directors as on March 31, 2019 is as follows:

Category of Directors	Board Structure	Actual Strength as on March 31, 2019
Chairman & Managing Director	1	1
Whole-time Executive (Functional) Directors	5	5
Part-time Official Directors (Government Nominees) representing the Ministry of Heavy Industries & Public Enterprises, Government of India	2	2
Part-time Non-official (Independent) Directors	8	5
TOTAL	16	13

As on March 31, 2019, there exist three vacancies of Part-time Non-official (Independent) Directors on the Board of BHEL. The matter of filling up of these vacancies is under consideration of Department of Heavy Industry, Ministry of Heavy Industries & Public Enterprises, Government of India.

ii. Attendance of each Director at the Board Meetings held during 2018-19 and the last AGM

Director's Name S/ Shri	No. of Board Meetings		Last AGM (held on 19.09.2018)
	Held	Attended	
Executive Directors			
Atul Sobti, Chairman & Managing Director @	8	8	Yes
D. Bandyopadhyay, Director (HR)	8	7	Yes
Amitabh Mathur, Director (IS&P) (upto May 31, 2018)	2	2	*
Subrata Biswas, Director (E, R&D) (upto February 28, 2019) #	8	8	Yes
Akhil Joshi, Director (Power) (upto September 30, 2018)	4	4	Yes

Director's Name S/ Shri	No. of Board Meetings		Last AGM (held on 19.09.2018)
	Held	Attended	
Subodh Gupta, Director (Finance) (w.e.f. April 18, 2018)	7	6	Yes
S. Balakrishnan, Director (IS&P) (w.e.f. June 1, 2018)	5	5	Yes
Manoj Kumar Varma, Director (Power) (w.e.f. December 19, 2018)	1	1	*
Kamalesh Das Director (E, R&D) (w.e.f. March 1, 2019)	0	0	*
Part-Time Official Directors – Govt. Nominees			
Dr. Subhash Chandra Pandey, Special Secretary & Financial Adviser, Department of Industrial Policy and Promotion, Ministry of Commerce & Industry	8	6	No
Bhaskar Jyoti Mahanta, Joint Secretary (JS), Department of Heavy Industry (DHI), Ministry of Heavy Industries & Public Enterprises (upto May 18, 2018)	1	0	*
Pravin L. Agrawal, Joint Secretary (JS), Department of Heavy Industry (DHI), Ministry of Heavy Industries & Public Enterprises (w.e.f. May 18, 2018 upto March 27, 2019)	7	7	Yes
Amit Varadan, Joint Secretary (JS), Department of Heavy Industry (DHI), Ministry of Heavy Industries & Public Enterprises (w.e.f. March 27, 2019)	0	0	*
Part-Time Non-Official (Independent) Directors			
Rajesh Kishore (1 st term upto November 30, 2018) (2 nd term w.e.f. December 1, 2018 upto December 19, 2018)	7	5	No
Keshav N. Desiraju (upto November 30, 2018)	6	3	Yes

Director's Name S/ Shri	No. of Board Meetings		Last AGM (held on 19.09.2018)
	Held	Attended	
R. Swaminathan (1 st term upto November 30, 2018) (2 nd term w.e.f. December 1, 2018)	8	6	Yes
Ms. Surama Padhy	8	4	Yes
Desh Deepak Goel	8	6	Yes
Ranjit Rae	8	5	Yes
Rajesh Sharma (w.e.f. February 20, 2019)	0	0	*

Held additional charge of Director (Finance) upto April 17, 2018.

@ Held additional charge of Director (Power) from October 1, 2018 to December 18, 2018.

* denotes the respective person was not a Director of BHEL as on last AGM date.

iii. A. Details of Directorships, Committee Memberships and Committee Chairmanship in other companies as on March 31, 2019

Director's name S/ shri	Details of Directorships in other Companies	Details of Committee Memberships and Committee Chairmanship in other Companies*
Atul Sobti, Chairman & Managing Director	-NIL-	-NIL-
D. Bandyopadhyay, Director (HR)	1. Dada Dhuniwale Khandwa Power Ltd. 2. NTPC BHEL Power Projects Pvt. Ltd.	Audit Committee: NTPC BHEL Power Projects Pvt. Ltd (Member)
Subodh Gupta, Director (Finance)	-NIL-	-NIL-
S. Balakrishnan, Director (IS & P)	Bharat Pumps and Compressors Ltd.	-NIL-
Manoj Kumar Varma, Director (Power)	Raichur Power Corporation Ltd.	-NIL-
Kamalesh Das, Director (E,R&D)	-NIL-	-NIL-

Director's name S/ shri	Details of Directorships in other Companies	Details of Committee Memberships and Committee Chairmanship in other Companies*
Dr. Subhash Chandra Pandey, Part-time Official Director	1. HMT Ltd. 2. National Textile Corporation Ltd. 3. India International Convention & Exhibition Centre Ltd. 4. MMTC Ltd. 5. Invest India 6. India Trade Promotion Organization 7. National Jute Manufactures Corporation Ltd. 8. National Jute Board 9. The State Trading Corporation of India Ltd.	Audit Committee: India Trade Promotion Organisation (Member)
Amit Varadan, Part-time Official Director	-NIL-	-NIL-
R. Swaminathan, Independent Director	-NIL-	-NIL-
Ms. Surama Padhy, Independent Director	-NIL-	-NIL-
Desh Deepak Goel, Independent Director	-NIL-	-NIL-
Ranjit Rae, Independent Director	-NIL-	-NIL-
Rajesh Sharma, Independent Director	-NIL-	-NIL-

*Only Chairmanship/ Membership of the Audit Committee and Stakeholders' Relationship Committee has been considered.

No Director of the Company holds office at the same time as Director in more than twenty (20) companies. No Director of the Company is a member in more than ten (10) Committees or acts as Chairperson of more than five (5) Committees across all companies in which he is a Director.

Disclosure of relationship between Directors inter-se: NIL

B. Details of Directorships in Listed Entities & Category of Directorship

As on March 31, 2019, only Dr. Subhash Chandra Pandey, Part-time Official Director held Directorship in listed entities, as under:

Name of Listed Entity	Category of Directorship
1. HMT Ltd.	Nominee Director
2. MMTC Ltd.	Nominee Director
3. The State Trading Corporation of India Ltd.	Director

iv. No. of Board Meetings held, dates on which held

The meetings of the Board are normally held at the Company's Registered Office in New Delhi and are scheduled well in advance. The Company Secretary, in consultation with the Chairman & Managing Director, sends a written notice of each Board meeting to each Director.

The members of the Board have access to all information of the Company and are free to recommend inclusion of any matter for discussion in agenda which is usually sent in advance. In case of need, the senior management is invited to attend the Board Meetings to provide additional inputs relating to the items being discussed and/ or to give presentation to the Board. The Board meets at least once in a quarter to review the quarterly results and other items on the agenda. Additional meetings are held, when necessary.

During the year under review, the Board met eight times on the following dates:

(i) April 18, 2018	(ii) May 29, 2018	(iii) June 1, 2018
(iv) July 25, 2018	(v) October 3-4, 2018	(vi) October 25, 2018
(vii) December 19, 2018	(viii) February 5, 2019	

v. List of core skills /expertise/competence

As BHEL is a government company, all directors on its board viz. Functional Directors, Government Nominee Directors and Independent Directors are selected and appointed by the

government as per a well laid down process for each category of directors. The requirements of core skills, expertise and competence required for the board to function effectively, in context of business segment BHEL operates in, forms an integral part of the government's process of selection of these directors. Therefore, the board of BHEL by itself does not identify any such core skills or competence required for the job.

vi. Board's Responsibilities

The Board's mandate is to oversee the Company's strategic direction, review and monitor corporate performance, ensure regulatory compliance and safeguard the interests of the shareholders.

vii. Independent Directors

The Independent Directors play an important role in deliberations at the Board and Committee meetings and bring to the Company their expertise in the fields of engineering, finance, management, law, public policy etc.

The Independent Directors are part of important Committees constituted by the Board such as the Audit Committee, Nomination & Remuneration Committee, Stakeholders Relationship Committee and CSR Committee. In terms of Companies Act, 2013 and Listing Regulations, the Audit Committee and the Nomination & Remuneration Committee are chaired by an Independent Director and function within their respective defined terms of references.

Further, in line with DPE OM dated December 28, 2012 on Model Role & Responsibilities of Non-Official Directors for CPSEs, the Board had constituted a Committee of Independent Directors. The said Committee is in compliance with the requirements of Listing Regulations and the Code of Independent Directors under Companies Act, 2013. The minutes of all the Board Level Committee Meetings are circulated and discussed in the Board Meetings.

Details regarding familiarization programme of Independent Directors are available on the website of the Company 'www.bhel.com' at web link 'http://www.bhel.com/index.php/ind_dir' under the heading 'Familiarisation Programme for Independent Directors {under Independent Director Related Information}'.

In the opinion of the Board, the Independent Directors fulfill the conditions specified in the Listing Regulations and are independent of the Management.

Ms. Surama Padhy, Independent Director, tendered her resignation from BHEL's Board of Director w.e.f. March 31, 2019 as she is contesting assembly elections from Ranpur, Odisha. Further, she has also provided a confirmation that there are no other material reasons other than those provided by her for resignation.

viii. Information placed before the Board of Directors

The agenda placed before the Board *interalia* includes the following:

- Annual operating plans and budgets and any updates.
- Capital budgets and any updates.
- Quarterly results for the Company and its operating divisions or business segments.
- Minutes of meetings of Audit Committee and other Committees of the Board.
- Minutes of Board Meetings of unlisted subsidiary companies.
- Statement of all significant transactions and arrangements entered into by unlisted subsidiary companies.
- The information on recruitment of senior officers just below the Board level.
- Details of any Joint Venture or R&D project or technical collaboration agreement requiring approval of Board of Directors.
- Significant labour problems and their proposed solutions. Any significant development in Human Resources/ Industrial Relations front like signing of wage agreement, implementation of Voluntary Retirement Scheme etc.
- Sale of subsidiaries.
- Purchase and Sale of material tangible/ intangible assets not in the ordinary course of business.
- Quarterly details of foreign exchange exposures and the steps taken by management to limit the issues of adverse exchange rate movement, if material.
- Action Taken Report on matters desired by the Board.
- Disclosure of Interest by Directors about directorships and Committee positions occupied by them in other companies.
- Quarterly report on compliance of various laws.
- Information relating to major legal disputes.
- Status of Arbitration cases.
- Short term investment of surplus funds.
- Any contract(s) in which Director(s) are deemed to be interested.
- Status of shareholders' grievances on quarterly basis.
- Significant Capital Investment proposals.
- Changes in significant accounting policies & practices and reasons for the same.
- Performance of various units/ functions.
- Any other information as required under Listing

Regulations, DPE guidelines and SS-1 etc., to be presented to the Board either for information or approval.

ix. Selection of New Directors

As per Articles of Association of BHEL, the President of India through Department of Heavy Industry, Ministry of Heavy Industries & Public Enterprises, appoints the Chairman & Managing Director and Functional Directors on the Board of BHEL and also appoints Part-time Non-official (Independent) Directors on the Board of BHEL. Two Part-time Official Directors viz. Additional Secretary/ Joint Secretary, Department of Heavy Industry, Ministry of Heavy Industries & Public Enterprises and Special Secretary/ Additional Secretary & Financial Adviser, Ministry of Commerce and Industry are nominated by the Government of India on the Board of BHEL.

The Independent Directors are selected by the Department of Heavy Industry in consultation with the Search Committee of the Department of Public Enterprises which maintains a panel of eminent personalities having wide experience in the field of Management, Finance, Engineering, Administration, Industry etc.

x. Membership term & Retirement policy

The appointment of Chairman & Managing Director and Functional Directors shall be for a period of five years from the date of their assumption of charge of the post, or till the date of their superannuation or until further orders, whichever is the earliest. The Part-time Official Directors continue to be on the Board of BHEL at the discretion of the Government of India. The tenure of Part-time Non-official (Independent) Directors is decided by the Department of Heavy Industry. Normally, an Independent Director is appointed for a period of three years.

xi. Code of Conduct

As part of BHEL's persisting endeavour to set a high standard of conduct for its employees, BHEL Board in 2005 laid down a 'Code of Business Conduct and Ethics for Board Members and Senior Management personnel' in line with clause 49 of the erstwhile Listing Agreement. The Code was subsequently revised from time to time in line with changes in the regulatory framework & changing business dynamics and to incorporate other relevant provisions to strengthen the Code. The Code is in compliance with the current Listing Regulations. The Code encompasses:

- General Moral Imperatives;
- Specific Professional Responsibilities; and
- Specific Additional Provisions for Board Members and Senior Management Personnel.

A copy of the Code has been placed on the Company's

website 'www.bhel.com'.

xii. Charter of the Board of Directors

For the purpose of clearly defining the roles and responsibilities of the Board and individual Directors, the Board has laid down a Charter of the Board of Directors. The Charter also articulates our corporate governance objectives and approach.

In line with the DPE guidelines, listing agreement and with the objective of providing the Directors a) insight into guidelines and procedures for successful discharge of their statutory duties, b) better understanding of the business environment to envision the future and develop strategies and c) need based training to meet the Specific requirements of the board members, BHEL Board has approved a policy for Training of Directors. It covers both general and specific trainings more tuned towards Company specific areas.

xiii. Certificate by Company Secretary in Practice

The Company has received a certificate from a company secretary in practice that none of the directors on the board of the company have been debarred or disqualified from being appointed or continuing as directors of companies by the Board/Ministry of Corporate Affairs or any such statutory authority. The same is enclosed.

xiv. CEO/ CFO certification

CEO / CFO certification pursuant to Listing Regulations is enclosed at **Annexure-III of the Board's Report.**

2.3 Board Level Audit Committee

i. Terms of reference

The terms of reference of the Board Level Audit Committee specified by the Board are in conformity with the requirements of Section 177 of the Companies Act, 2013 as well as Listing Regulations and are as follows:

1. Oversight of the Company's financial reporting process and the disclosure of its financial information to ensure that the financial statement is correct, sufficient and credible;
2. Recommendation for appointment, remuneration and terms of appointment of auditors of the Company;
3. Approval of payment to statutory auditors for any other services rendered by the statutory auditors;
4. Reviewing, with the management, the annual financial statements and auditor's report thereon before submission to the board for approval, with particular reference to:
 - i. Matters required to be included in the Director's Responsibility Statement to be included in the Board's report in terms of clause (c) of sub-section 3 of section 134 of the Companies Act, 2013;

- ii. Changes, if any, in accounting policies and practices and reasons for the same;
 - iii. Major accounting entries involving estimates based on the exercise of judgment by management;
 - iv. Significant adjustments made in the financial statements arising out of audit findings;
 - v. Compliance with listing and other legal requirements relating to financial statements;
 - vi. Disclosure of any related party transactions;
 - vii. Qualifications in the draft audit report;
5. Reviewing, with the management, the quarterly financial statements and auditor's report thereon before submission to the board for approval;
 6. Reviewing, with the management, the statement of uses/ application of funds raised through an issue (public issue, rights issue, preferential issue, etc.), the statement of funds utilized for purposes other than those stated in the offer document/ prospectus/ notice and the report submitted by the monitoring agency monitoring the utilization of proceeds of a public or rights issue and making appropriate recommendations to the Board to take up steps in this matter;
 7. Review and monitor the auditor's independence and performance, and effectiveness of audit process;
 8. Approval or any subsequent modification of transactions of the Company with related parties;
 9. Scrutiny of inter-corporate loans and investments;
 10. Valuation of undertakings or assets of the Company, wherever it is necessary;
 11. Evaluation of internal financial controls and risk management systems;
 12. Reviewing, with the management, performance of statutory and internal auditors, adequacy of the internal control systems;
 13. Reviewing the adequacy of internal audit function, if any, including the structure of the internal audit department, staffing and seniority of the official heading the department, reporting structure coverage and frequency of internal audit;
 14. Discussion with internal auditors of any significant findings and follow up there on;
 15. Reviewing the findings of any internal investigations by the internal auditors into matters where there is suspected fraud or irregularity or a failure of internal control systems of a material nature and reporting the matter to the board;
 16. Discussion with statutory auditors before the audit commences, about the nature and scope of audit as well as post-audit discussion to ascertain any area of concern;
 17. To look into the reasons for substantial defaults in the payment to the depositors, debenture holders, shareholders (in case of non-payment of declared dividends) and creditors;
 18. To review the functioning of the Whistle Blower/ Vigil mechanism;
 19. To review the Audit paras referred to BLAC by the Internal Audit / Board and / or Government of India and to provide its suggestions / guidance / comments on the issues referred to it;
 20. Discussion with Statutory Auditors/ Internal Auditors periodically about internal control systems;
 21. To seek professional advice from external sources in appropriate cases, wherever required;
 22. The Audit Committee shall also review the following information:
 - a. Management discussion and analysis of financial condition and results of operations;
 - b. Statement of significant related party transactions;
 - c. Management letters / letters of internal control weaknesses issued by the statutory auditors; and
 - d. Internal audit reports relating to internal control weaknesses;
 23. Carrying out any other function as is mentioned in the terms of reference of the Audit Committee.
- ii. Composition of Committee, name of Members & Chairperson**
- The Audit Committee comprises of at least 2/3rd members as Independent Directors as mandated by the Listing Regulations. Further, the Committee is chaired by an Independent Director. The member directors comprise of professionals of repute and standing with background in commerce, finance, administration and governance.

The Audit Committee was last reconstituted on March 27, 2019. The Committee comprises of the following directors:

Name of the Director S/ Shri	Position	No. of meetings	
		Held during their tenure	Attended
Rajesh Kishore, Independent Director (upto December 19, 2018)	Chairperson (upto December 18, 2018)	3	3
	Member (w.e.f. December 19, 2018)	0	0
R. Swaminathan, Independent Director	Chairperson (w.e.f. December 19, 2018)	1	1
	Member (upto December 18, 2018)	3	3
Bhaskar Jyoti Mahanta, JS, DHI, Part-time Official Director (upto May 18, 2018)	Member	0	0
Pravin L. Agrawal, JS, DHI, Part-time Official Director (upto March 27, 2019)	Member (w.e.f. May 18, 2018)	4	4
Amit Varadan, JS, DHI, Part-time Official Director	Member (w.e.f. March 27, 2019)	0	0
Ms. Surama Padhy, Independent Director	Member	4	4
Desh Deepak Goel, Independent Director	Member (w.e.f. December 20, 2018)	1	1

Director (Finance) is permanent invitee. Company Secretary acts as Secretary to the Committee.

Head of Internal Audit and a representative of the Statutory Auditor may be present as invitees for the meetings of the Audit Committee. The Auditors of the Company and the Key Managerial Personnel shall have a right to be heard in the meetings of the Audit Committee when it considers the Auditor's Report but shall not have the right to vote.

iii. Meetings and Attendance

The Audit Committee met four times on May 28-29, 2018, July 25, 2018, October 25, 2018 and February 5, 2019 during the year under review. The details of attendance of each member is given in the above table.

2.4 Nomination and Remuneration Committee

i. Remuneration policy

BHEL being a Public Sector Undertaking, the appointment and remuneration of Chairman & Managing Director/ Functional Directors are decided by the Government of India. The terms of appointment of Chairman & Managing Director/ Directors, as approved by the President of India, provide for fixation of certain perks and benefits like leased accommodation, payment of HRA, furnished accommodation, productivity linked incentive etc., as per rules of BHEL. The part-time non-executive directors are not paid any remuneration except sitting fees to Independent Directors for attending meetings of the Board or Committee thereof.

ii. Terms of Reference

In line with the requirements of Section 178 of the Companies Act, 2013 and Clause 49 of the erstwhile Listing Agreement (now Listing Regulations), the Board constituted the Nomination & Remuneration Committee (NRC) w.e.f. March 30, 2015 having the following terms of reference:

- To identify persons who are qualified to become directors and who may be appointed in senior management in accordance with the criteria laid down and recommend to the Board for their appointment and removal and to carry out evaluation of every director's performance. Senior Management means personnel of the company who are members of its core management team, excluding Board of Directors, comprising all members of management one level below the executive directors, including the functional heads.
- To formulate the criteria for determining qualifications, positive attributes and independence of a Director

and recommend to the Board a policy, relating to the remuneration of the Directors, key managerial personnel and other employees in compliance with the provisions of Act/ Listing Regulations/ DPE guidelines.

- c) Formulation of criteria for evaluation of Independent Directors and the Board.
- d) Devising a policy on Board diversity.
- e) To recommend to the Board, nomination of BHEL officials in the Boards of its subsidiaries and other Government organizations which are required to be approved by the Board of BHEL before further submission to DHI.
- f) Oversight of the Company's policy on specific remuneration packages, perquisites for Whole-time Directors including pension rights and any compensation payment, which are not fixed by the President of India.
- g) Approve certain perquisites for Whole-time Directors which are within the powers of Board. Review of the elements of remuneration package of individual Directors summarized under major groups, such as incentives/ benefits, bonus, stock options, pension etc.
- h) Finalization of policies on perks and benefits and other related matters which are not fixed by the President of India but within the powers of Board.
- i) Approval of fixed component and performance linked incentives based on the performance criteria.
- j) Finalization of the criteria of making payments to Non-Executive Directors.
- k) Recommendation of fees/ compensation/ stock options, if any, to be paid/ granted, to non-executive Directors, including Independent Directors, to the Board of Directors/ Shareholders.
- l) To decide the bonus/ variable pay pool and policy for its distribution across the executives and non-unionised supervisors.
- m) Carrying out any other function related to the terms of reference of the NRC.

MCA vide Notification dated June 5, 2015 provided that Section 178 (2) of the Companies Act, 2013 with regard to performance evaluation of Directors shall not apply to Government Company.

iii. Composition of Committee, name of Members & Chairperson

The Nomination & Remuneration Committee was last reconstituted on March 27, 2019. The Committee comprises of the following directors

Name of the Director S/Shri	Position	No. of meetings	
		Held during their tenure	Attended
Keshav N. Desiraju, Independent Director (upto November 30, 2018)	Chairperson	2	2
Rajesh Kishore, Independent Director (upto December 19, 2018)	Chairperson (w.e.f. December 19, 2018)	0	0
	Member (upto December 18, 2018)	2	2
R. Swaminathan, Independent Director	Chairperson (w.e.f. December 20, 2018)	2	2
Dr. Subhash Chandra Pandey, SS & FA, DIPP, Part-time Official Director	Member	4	4
Bhaskar Jyoti Mahanta, JS, DHI, Part-time Official Director (upto May 18, 2018)	Member	0	0
Pravin L. Agrawal, JS, DHI, Part-time Official Director (upto March 27, 2019)	Member (w.e.f. May 18, 2018)	4	4

Name of the Director S/Shri	Position	No. of meetings	
		Held during their tenure	Attended
Amit Varadan, JS, DHI, Part-time Official Director	Member (w.e.f. March 27, 2019)	0	0
Ranjit Rae, Independent Director	Member (w.e.f. December 20, 2018)	2	2
Rajesh Sharma, Independent Director	Member (w.e.f. March 27, 2019)	0	0

Director (HR) is permanent invitee. Company Secretary acts as Secretary to the Committee.

iv. Meetings and Attendance

The Nomination & Remuneration Committee met four times on May 28, 2018, October 24, 2018, January 7, 2019 and March 14, 2019, during the year under review. The details of attendance of each member is given in the above table.

v. Details of remuneration of Functional Directors during the year 2018-19 are given below:

(in ₹)

Sl. No.	Name of the Director S/ Shri	Salary	Retirement Benefits	Other Benefits	Total	Service Contract/ Notice Period Severance Fee
1.	Atul Sobti	5607622	857706	40200	6505528	
2.	D. Bandyopadhyay	5046899	794615	599306	6440821	Liable to retire by rotation
3.	Subodh Gupta (w.e.f. April 18, 2018)	4359153	741051	258571	5358775	Liable to retire by rotation
4.	S. Balakrishnan (w.e.f. June 1, 2018)	3953333	651253	340137	4944723	Liable to retire by rotation
5.	Manoj Kumar Varma (w.e.f. December 19, 2018)	2121025	233655	11284	2365964	Liable to retire by rotation
6.	Kamalesh Das (w.e.f. March 1, 2019)	1165384	64702	21378	1251464	Liable to retire by rotation

(in ₹)

Sl. No.	Name of the Director S/ Shri	Salary	Retirement Benefits	Other Benefits	Total	Service Contract/ Notice Period Severance Fee
7.	Subrata Biswas (Upto February 28, 2019)	6623675	693730	810872	8128277	--
8.	Akhil Joshi (Upto September 30, 2018)	4069918	356646	671840	5098403	--
9.	Amitabh Mathur (Upto May 31, 2018)	3106582	118858	371372	3596812	--

Note: Salary includes leave encashment and pay revision arrears.

vi. Details of payments made to Independent Directors during the year 2018-19 are given below: -

(in ₹)

Name of the Independent Directors	Sitting Fees		Total
	Board Meeting	Committee Meeting	
Shri Rajesh Kishore	130000	165000	295000
Shri Keshav N. Desiraju	80000	75000	155000
Shri R. Swaminathan	170000	210000	380000
Ms. Surama Padhy	110000	265000	375000
Shri Desh Deepak Goel	170000	135000	305000
Shri Ranjit Rae	140000	155000	295000
Shri Rajesh Sharma	-	-	-

The Independent Directors were entitled for sitting fee of ₹20,000/- per Board Meeting and ₹ 15,000/- per Board Level Committee Meeting attended by them upto the Meetings held on May 29, 2018. The Board of Directors subsequently revised the sitting fees to ₹ 30,000/- per Board Meeting and ₹ 20,000/- per Board Level Committee Meeting applicable for Meetings held after May 29, 2018.

Independent Directors are not entitled to Stock Option.

vii. Equity Shares held by Directors

Except as stated hereunder, none of the Directors hold any

Equity Shares in BHEL (as on March 31, 2019):

Name of the Director	No. of shares held
Shri Atul Sobti	2250

The Company has not issued any stock options during the year 2018-19.

2.5 Shareholders Committees

2.5.1 Stakeholders Relationship Committee

i. Terms of Reference

The Board of Directors on May 12, 2014 reconstituted the Shareholders'/ Investors' Grievance Committee as the Stakeholders Relationship Committee, in line with the requirements of Companies Act, 2013 and erstwhile Listing Agreement. The Committee is also in compliance with the Listing Regulations. The Committee looks into the redressal of grievances of shareholders including complaints related to transfer of shares, non-receipt of balance sheet, non-receipt of declared dividends etc.

ii. Composition of Committee, name of Members & Chairperson

The Stakeholders Relationship Committee was last reconstituted on March 27, 2019. The Committee comprises of the following directors:

Name of the Director S/ Shri	Position	No. of Meetings	
		Held during their tenure	Attended
R. Swaminathan, Independent Director	Chairperson	4	4
Bhaskar Jyoti Mahanta, JS, DHI, Part-time Official Director (upto May 18, 2018)	Member	0	0
Pravin L. Agrawal, JS, DHI, Part-time Official Director (upto March 27, 2019)	Member (w.e.f. May 18, 2018)	4	2
Amit Varadan, JS, DHI, Part-time Official Director	Member (w.e.f. March 27, 2019)	0	0

Name of the Director S/ Shri	Position	No. of Meetings	
		Held during their tenure	Attended
Ms. Surama Padhy, Independent Director	Member	4	4
Director (HR)	Member	4	4
Director (Finance)	Member	4	4

Company Secretary acts as Secretary to the Committee.

Shri Rajeev Kalra, Company Secretary is the Compliance Officer in terms of the SEBI (Listing Obligations & Disclosure Requirements) Regulations, 2015.

iii. Meetings and Attendance

The Committee met four times on May 28, 2018, July 24, 2018, October 24, 2018 and February 4, 2019 during the year under review. The details of attendance of each member is given in the above table.

Detail of shareholders' complaints

As reported by Karvy Fintech Private Limited (RTA) to SEBI, 1094 complaints were received from the shareholders during the year under review and all complaints were redressed up to March 31, 2019. No complaint was pending at the end of the period under report.

2.5.2 Share Transfer Committee

The Board constituted a Share Transfer Committee on March 25, 1992. The Board of Directors revised the terms of reference of the Committee w.e.f. August 1, 2014. The Share Transfer Committee considers and approves share related issues pertaining to transposition, sub-division, consolidation, issue of duplicate share certificate etc. in physical mode. The Share Transfer Committee was last reconstituted on September 1, 2017 and comprises Director (HR) as Chairperson, Director (E, R&D) and Director (Finance) as Members.

Meetings during 2018-19

The Share Transfer Committee met 8 times during the year. The minutes of the Share Transfer Committee meetings are periodically placed before the Board of Directors.

2.6 Board Level Committee for Corporate Social Responsibility

i. Terms of Reference

Pursuant to the DPE Guidelines on Corporate Social Responsibility for CPSEs, the Board constituted the Board

Level Apex Committee for CSR on November 25, 2010 for proper & periodic monitoring of CSR activities. The Committee is presently christened as the Board Level Committee for Corporate Social Responsibility. The Board of Directors in its meeting held on May 12, 2014 reconstituted the Committee in line with requirements of Companies Act, 2013. In line with the amendment to Section 135 of the Companies Act, 2013 pertaining to CSR Committee, the terms of reference of the Committee were revised are as under:

1. Formulation and recommendation to the Board the Corporate Social Responsibility Policy which shall indicate the activities to be undertaken by the Company in areas or subject, specified in Schedule VII to the Companies Act, 2013;
2. Recommendation of the Projects, Programs and amount of expenditure to be incurred on the activities referred to in clause (1);
3. Monitoring the Corporate Social Responsibility activities of the Company from time to time;
4. Ensuring compliance with guidelines on Corporate Social Responsibility and Sustainable Development issued by the Government of India from time to time.

ii. Composition of Committee, name of Members & Chairperson

The Committee was last reconstituted on March 27, 2019. The Committee comprises of the following directors:

Name of the Director S/ Shri	Position	No. of Meetings	
		Held during their tenure	Attended
Rajesh Kishore, Independent Director (upto December 19, 2018)	Chairperson	2	2
Ranjit Rae, Independent Director	Chairperson (w.e.f. December 20, 2018)	1	1
	Member (upto December 19, 2018)	2	2

Name of the Director S/ Shri	Position	No. of Meetings	
		Held during their tenure	Attended
Bhaskar Jyoti Mahanta, JS, DHI, Part-time Official Director (upto May 18, 2018)	Member	0	0
Pravin L. Agrawal, JS, DHI, Part-time Official Director (upto March 27, 2019)	Member (w.e.f. May 18, 2018)	3	2
Amit Varadan, JS, DHI, Part-time Official Director	Member (w.e.f. March 27, 2019)	0	0
Ms. Surama Padhy, Independent Director	Member (w.e.f. December 20, 2018)	1	1
Rajesh Sharma, Independent Director	Member (w.e.f. March 27, 2019)	0	0
Director (HR)	Member	3	3
Director (Finance)	Member	3	3

Head (CSR)-ED/GM In-charge, Corporate Office is Permanent Invitee. Company Secretary acts as Secretary to the Committee.

iii. Meetings and Attendance

The Committee met three times during the year on May 28, 2018, July 24, 2018 and February 4, 2019. The details of attendance of each member is given in the above table.

2.7 HR Committee

i. Terms of Reference

The Board constituted the HR Committee on May 31, 2006 specifically to look into the following matters:

- a. Review of present policies with respect to promotion and reward/ incentive to the Executives.

- b. Suggest both short term and long term changes in the policies to prepare BHEL for the changed/ emerging business environment.

ii. Composition of Committee, name of Members & Chairperson

The Committee was last reconstituted on December 20, 2018. The Committee comprises of the following directors:

Name of the Director S/ Shri	Position	No. of Meetings	
		Held during their tenure	Attended
Rajesh Kishore, (upto December 19, 2018)	Chairperson	1	1
Desh Deepak Goel, Independent Director	Chairperson (w.e.f. December 20, 2018)	1	1
Ranjit Rae, Independent Director	Member	2	2
Director (HR)	Member	2	2
Director (Finance)	Member	2	2

Head (HR)-ED/ GM In-charge, Corporate Office is Permanent Invitee. Company Secretary acts as Secretary to the Committee.

iii. Meetings and Attendance

The Committee met two times during the year on July 24, 2018 and February 4, 2019. The details of attendance of each member is given in the above table.

2.8 Committee of Independent Directors

i. Terms of Reference

The Board, in line with DPE OM dated December 28, 2012 on Model Role & Responsibilities of Non-Official Directors for CPSEs, constituted a Committee of Independent Directors, which is also in compliance with the requirements of Schedule IV of the Companies Act, 2013 and Listing Regulations.

ii. Composition of Committee, name of Members & Chairperson

The Committee comprises of the following Independent Directors:

Name of the Director S/ Shri	Position	No. of Meetings	
		Held during their tenure	Attended
Rajesh Kishore Independent Director (upto December 19, 2018)	Chairperson & Lead Independent Director	1	1
R. Swaminathan	Chairperson & Lead Independent Director (w.e.f. December 20, 2018)	0	0
	Member (upto December 19, 2018)	1	1
Keshav N. Desiraju (upto November 30, 2018)	Member	1	1
Ms. Surama Padhy	Member	1	1
Desh Deepak Goel	Member	1	1
Ranjit Rae	Member	1	1
Rajesh Sharma	Member (w.e.f. February 20, 2019)	0	0

iii. Meetings and Attendance

The Committee met once during the year on October 24, 2018. The details of attendance of each member is given in the above table.

2.9 Board Level Risk Management Committee

i. Terms of Reference

In line with erstwhile Listing Agreement (now Listing Regulations), the Board of Directors on November 14, 2014 constituted the Board Level Risk Management Committee. The terms of reference of the Committee are as under:

- To review the Company's risk governance structure, risk assessment and risk management frame work,

guidelines, policies and processes for risk assessment and risk management.

- ii. To review the Company's risk mitigation strategies relating to identified key risks as well as the processes for monitoring and mitigating such risks.
- iii. Report to the Board on the Committee's activities for information and recommend proposed changes, if any, to the Board for approval.

ii. Composition of Committee, name of Members & Chairperson

The Committee was last reconstituted on December 19, 2018. The Committee comprises of the following members:

Name of the Director S/ Shri	Position	No. of Meetings	
		Held during their tenure	Attended
SS & FA, DIPP, Part-time Official Director	Chairperson	1	1
Keshav N. Desiraju, Independent Director (upto November 30, 2018)	Member	1	1
Desh Deepak Goel, Independent Director	Member (w.e.f. December 19, 2018)	0	0
Director (IS&P)	Member	1	1
Director (Finance)	Member	1	1
Director (Power)	Member	1	1
Chairman, Risk Management Steering Committee	Member	1	1
Chief Risk Officer	Member & Convener	1	1

iii. Meetings and Attendance

The Committee met once during the year on July 24, 2018. The details of attendance of each member is given in the above table.

2.10 Committee on Arbitration & Major Legal Disputes

i. Terms of Reference

The Board of Directors in its meeting held on May 26, 2015 constituted the Committee on Arbitration & Major Legal Disputes for detailed review of arbitration cases as well as major legal disputes and thereafter apprising the Board accordingly.

ii. Composition of Committee, name of Members & Chairperson

The Committee was last reconstituted on March 27, 2019. The Committee comprises of the following directors:

Name of the Director S/ Shri	Position	No. of Meetings	
		Held during their tenure	Attended
Ms. Surama Padhy, Independent Director	Chairperson	4	4
Bhaskar Jyoti Mahanta, JS, DHI, Part-time Official Director (upto May 18, 2018)	Member	0	0
Pravin L. Agrawal JS, DHI, Part-time Official Director (upto March 27, 2019)	Member (w.e.f. May 18, 2018)	4	2
Amit Varadan, JS, DHI, Part-time Official Director	Member (w.e.f. March 27, 2019)	0	0
Desh Deepak Goel, Independent Director	Member	4	4
Director (HR)	Member	4	4

Head-Law is convener of the Committee and furnishes the required information for review by the Committee.

iii. Meetings and Attendance

The Committee met four times during the year on May 28, 2018, July 24, 2018, October 24, 2018 and February 4, 2019. The details of attendance of each member is given in the above table.

2.11 Board Level Committee on Mergers & Acquisitions

i. Terms of Reference, Composition of Committee, Name of Members & Chairperson

The Committee was formed to examine the feasibility of the proposals relating to mergers, acquisitions and takeover of entities and was last reconstituted on March 27, 2019. The Committee comprises of the following directors:

Name of the Director S/ Shri	Position
Bhaskar Jyoti Mahanta, JS, DHI, Part-time Official Director (upto May 18, 2018)	Chairperson
Pravin L. Agrawal, JS, DHI, Part-time Official Director (upto March 27, 2019)	Chairperson (w.e.f. May 18, 2018)
Amit Varadan, JS, DHI, Part-time Official Director	Chairperson (w.e.f. March 27, 2019)
Keshav N. Desiraju, Independent Director (upto November 30, 2018)	Member
Desh Deepak Goel, Independent Director	Member
Director (HR)	Member
Director (Finance)	Member
Director (IS&P)	Member
Director (Power)	Member
Director (E, R&D)	Member

Head of M&A Department is permanent invitee. Company Secretary provides secretarial support to the Committee.

ii. Meetings and Attendance

No Meeting of the Board Level Committee on Mergers & Acquisitions took place during the year under review.

2.12 Board Level Committee on Alternative Dispute Resolution

i. Terms of Reference, Composition of Committee, Name of Members & Chairperson

The Board of Directors in its Meeting held on May 29, 2018 constituted the Board Level Committee on Alternative Dispute Resolution to act as the Competent Authority for accepting/ rejecting the draft settlement agreement under the BHEL Conciliation Scheme, 2018. The Committee was last reconstituted on March 27, 2019. The Committee comprises of

the following directors:

Name of the Director S/ Shri	Position
Ms. Surama Padhy, Independent Director	Chairperson
Rajesh Sharma, Independent Director	Member (w.e.f. March 27, 2019)
Director (Finance)	Member
Director (E, R&D)	Member

The Committee, shall Co-opt the concerned Functional Director as an additional member, whenever required.

ii. Meetings and Attendance

No Meeting of the Board Level Committee on Alternative Dispute Resolution took place during the year under review.

2.13 Buy back Committee

i. Terms of Reference, Composition of Committee, Name of Members & Chairperson

The Board of Directors in its Meeting held on October 25, 2018 constituted the Buyback Committee and delegated the powers of the Board in respect of Buyback of shares to the Committee. The Committee was also authorized to do all such acts, deeds, matters and things as it may, in its absolute discretion deem necessary, expedient, usual or proper, as the Buyback Committee may consider to be in the best interests of the shareholders for the implementation of the Buyback. The Committee comprises of the following directors:

Name of the Director S/ Shri	Position	No. of Meetings	
		Held during their tenure	Attended
Director (HR)	Chairperson	6	5
Director (Finance)	Member	6	5
Director (E,R&D)	Member	6	5

Company Secretary/Dy. Company Secretary acts as the Secretary to the Buyback committee.

ii. Meetings and Attendance

The Committee met six times during the year on October 26, 2018, October 31, 2018, November 30, 2018, January 3, 2019, January 8, 2019 and January 10, 2019. The details of attendance of each member is given in the above table.

There was no instance where the Board had not accepted any recommendation of any Committee of the Board which is mandatorily required, during the year under review.

2.14 General Meetings

i. Location and time of last three AGMs:

Year	Location	Date	Time
FY 2015- 16 (52 nd AGM)	Manekshaw Centre, Parade Road, Khyber Lines, Delhi Cantt., Delhi-110010	September 22, 2016	10.00 a.m.
FY 2016- 17 (53 rd AGM)	Manekshaw Centre, Parade Road, Khyber Lines, Delhi Cantt., Delhi-110010	September 22, 2017	10.00 a.m.
FY 2017- 18 (54 th AGM)	Manekshaw Centre, Parade Road, Khyber Lines, Delhi Cantt., Delhi-110010	September 19, 2018	10.00 a.m.

ii. Details of Special resolutions passed in previous three AGMs

In line with the provisions of Section 14 of the Company Act, 2013, a Special Resolution was passed in the 54th Annual General Meeting held on September 19, 2018, for amendment in the Articles of Association by insertion of Article 5A regarding Buy-Back of shares.

iii. Postal Ballot

No special resolutions were passed through postal ballot in the previous year. No such resolution is proposed to be conducted through postal ballot.

2.15 Disclosures

i. Disclosures on materially significant related party transactions that may have potential conflict with the interests of Company at large

The Company has not entered into any materially significant related party transactions (RPTs) that may have potential conflict with the interests of the Company at large. Nonetheless, transactions with related parties have been disclosed in Note 47 to standalone financial statements 2018-19 in the Annual Report.

ii. Non-compliances/ penalties & strictures imposed on the Company related to capital markets during the last

three years

No such non-compliance has occurred nor any penalty or stricture has been imposed on the Company in the last three years. The Company has set the highest standards with respect to observance and conformity with laws and all compliances are made before the deadlines, stipulated by statute.

iii. Whistle Blower Policy

In pursuance of the DPE Guidelines on Corporate Governance for Central Public Sector Enterprises and Clause 49 of the Listing Agreement between listed Companies & the Stock Exchanges and Section 177 of the Companies Act, 2013, a detailed Whistle Blower Policy was drafted by the Company and it was duly approved by the Board of Directors in its 464th meeting held on August 12, 2014. The policy is also in line with Listing Regulations. Subsequent to this, a Circular notifying the Whistle Blower Policy and informing the contact details of the Competent Authority and of Chairman, Audit Committee was issued for the notice of all employees.

A copy of the Whistle Blower Policy has also been placed on the website of the Company 'www.bhel.com' for wide publicity. Changes in address, contact number(s) and email address of the Competent Authority and Chairman, Audit Committee are being notified from time to time.

The complaints received under the Policy are being processed as per the guidelines in this regard and no employee has been denied access to the Audit Committee.

iv. Details of compliance with the requirements of DPE Guidelines on Corporate Governance, compliance with mandatory requirements and adoption of the non-mandatory Corporate Governance requirements of Listing Regulations

All mandatory requirements of the DPE Guidelines on Corporate Governance for CPSEs and SEBI (Listing Obligations and Disclosure Requirements), 2015 have been duly complied with by the company except those relating to required number of Independent Directors on the Board. With regard to non-mandatory requirements under the Listing Regulations, BHEL is already in the regime of financial statements with unmodified audit opinion.

No expenditure has been debited in books of accounts which is not for the purpose of business and no expenses incurred and accounted which are personal in nature and incurred for the Board of Directors and Top Management.

v. Presidential Directives

During the last three years i.e. 2016-17, 2017-18 & 2018-19, one Presidential Directive was received, vide letter bearing

reference No. 3(06)/2016-PE.XI dated December 27, 2017 regarding revision of scales of pay w.e.f. January 1, 2017 for Board level, Below Board Level Executives and Non-unionised Supervisors. The same has been implemented.

vi. Risk Management

In compliance with SEBI Regulations 2015 and DPE guidelines on Corporate Governance for CPSEs, BHEL has in place a Board approved Risk Management Charter & Policy laying down procedures to inform Board members about the risk assessment & minimization. An important purpose of the Charter is to implement a structured and comprehensive risk management system across the company which ensures that the risks are being properly identified and effectively managed. The risk management process includes risk identification, risk assessment, risk evaluation, risk mitigation and regular review & monitoring of risks.

A Board Level Risk Management Committee (BLRMC) is in place with assigned responsibility of reviewing the company's risk governance structure, risk assessment & risk management framework, guidelines, policies and processes at Board level.

The Risk Management Steering Committee (RMSC) leads the risk management initiative across the company. The RMSC, comprising of Functional Heads from Corporate Functions and Business Sectors are responsible for adopting & implementing the risk management framework. Risk Management Committees (RMCs) at Business Sectors/ Regions/ Units level are responsible for review of risk profiles & risk mitigation plans and their implementation for the respective Units/ Regions.

vii. Sexual Harassment of Women at Workplace (Prevention, Prohibition & Redressal) Act, 2013

The information on disclosure in relation to Sexual Harassment of Women at Workplace (Prevention, Prohibition & Redressal) Act, 2013 is part of Board's Report and is available as Annexure I to Para 1.9.5.2 "Safeguard of Women at Workplace".

viii. Details of utilization of funds raised through preferential allotment or qualified institutions placement as specified under Regulation 32 (7A)

NIL

ix. Total fees for all services paid by the listed entity and its subsidiaries, on a consolidated basis, to the statutory auditor and all entities in the network firm/ network entity of which the statutory auditor is a part

Total fees for all services paid to the statutory auditors and

branch auditors are disclosed in Note 34 to the financial statements FY 2018-19. The auditors of subsidiary company and joint venture companies were appointed separately by them and were not same auditors who have conducted audit of financial statements of BHEL.

x. Compliance Certificate on Corporate Governance

Compliance Certificate on Corporate Governance is enclosed.

2.16 Means of Communication

As required under the Listing Regulations, the Company issues a notice in advance, to the Stock Exchanges, of the Board Meetings in which the unaudited/ audited financial results are due for consideration. Further, the said results are intimated immediately after they are taken on record/ approved, to the Stock Exchanges. These approved financial results are published within 48 hours of conclusion of the Board or Committee meeting in at least one English daily newspaper circulating in the whole or substantially the whole of India and in one daily newspaper published in the language of the region, where the registered office of the Company is situated and also uploaded on the Company's website (www.bhel.com).

Other information pertaining to shareholders viz. changes in directorship, details of unpaid dividend, Annual Reports etc., are also displayed on the Company's website. Official news releases including important events like receipt of major orders, major projects commissioned, important collaborations, other material events etc. are posted on the website of the Company and simultaneously sent to the Stock Exchanges. During 2018-19, while BHEL has not made any presentation on financial results to analysts or investors, conference calls were held quarterly post financial result declaration, with prior intimation to the stock exchanges and posting the same on their websites. BHEL has also participated in various investor conferences/ meetings in addition to regular face-to-face interactions.

In compliance with Regulation 46 of the Listing Regulations, the Company disseminates on its website information which inter-alia contains, details regarding composition of various committees of Board of Directors, code of conduct, policy dealing with RPTs, contact information of the designated officials of the Company responsible for assisting and handling investor grievances etc.

In pursuance of the "Green Initiatives" of the Ministry of Corporate Affairs, Government of India, the Company sends the Annual Report and the Notice convening the Annual General Meeting through email to those shareholders who have registered their email ids with the Depository Participants/RTA and have not opted for a physical copy of the Annual Report. For continued success of this initiative, shareholders are requested to register their email ids with their Depository Participants/RTA.

2.17 General Shareholder Information

S.N.	AGM Date	Time	Venue
i	September 19, 2019	10:00 AM	Manekshaw Centre, Parade Road, Khyber lines, Delhi Cantt., New Delhi-110010
ii	Financial year	April 01, 2018 to March 31, 2019	
iii	Dates of Book Closure	September 13, 2019 to September 19, 2019 (Both days inclusive)	
iv	Dividend payment date	On or before October 18, 2019	

v. Dividend History:

BHEL has been paying dividend consistently since 1976-77. The details of dividend paid by BHEL in the last eight years are summarized as under:

Year	Rate of Dividend	Total Amount of Dividend Paid (₹ in Crore)	Date on which Dividend was Declared
2011-2012 (Interim)	136%	665.75	02.03.2012*
2011-2012 (Final)	184%	900.72	19.09.2012
2012-2013 (Interim)	106%	518.89	01.02.2013*
2012-2013 (Final)	164.50%	805.26	20.09.2013
2013-2014 (Interim)	65.50%	320.64	05.02.2014*
2013-2014 (Final)	76%	372.04	19.09.2014
2014-2015 (Interim)	27%	132.17	12.02.2015*
2014-2015 (Final)	31%	151.75	22.09.2015
2015-2016 (Final)	20%	97.90	22.09.2016
2016-2017 (Interim)	40%	195.81	07.02.2017*
2016-2017 (Final)	39%	190.92	22.09.2017
2017-2018 (Interim)	40%	293.72	08.02.2018*
2017-2018 (Final)	51%	374.48	19.09.2018*
2018-2019 (Interim)	40%	278.57	05.02.2018*
2018-2019 (Final)	60%	417.85	**

* Date of meeting of Board of Directors in which interim dividend was declared.

** The Board in its 505th meeting held on 27.05.2019 recommended final dividend for 2018-19, subject to approval of shareholders in AGM.

Note:

- Pursuant to split w.e.f. 04.10.2011, Number of shares of BHEL increased from 48.952 Crore of ₹10/- each to 244.76 Crore shares of ₹2/- each.
- During 2017-18, the Company has allotted Bonus Equity Shares to its Shareholders on 03.10.2017 in the ratio of 1:2 i.e. one fully paid up new bonus equity share of ₹2 each for every two fully paid up equity shares. Consequently, the total number of shares have been increased from 244.76 Crore to 367.14 Crore.
- During 2018-19, the Company has made Buy Back of 18,93,36,645 fully paid up equity shares representing 5.16% of the total issued and paid-up equity share capital of the Company from its shareholders as on the record date (i.e. Tuesday, November 06, 2018), on a proportionate basis, through the "Tender Offer" process at a price of ₹86 (Rupees Eighty-Six Only) per Equity Share payable in cash for an aggregate consideration of ₹1628.30 crore. Consequently, the total number of shares have decreased from 367.14 crore to 348.21 crore.
- In case a shareholder has not claimed/received dividend for any of the last seven years and the same has not yet been transferred to the Investor Education & Protection Fund (IEPF), he /she can claim this unpaid dividend by following the procedure uploaded on the company's website (www.bhel.com). Unclaimed dividend for the year 2010-11 (Interim) and 2010-11 (Final) has already been transferred to Investor Education & Protection Fund (IEPF) during the year 2018-19. Further, unclaimed dividend for the year 2011-12 (Interim), 2011-12 (Final) and 2012-13 (Interim) are due for transfer to IEPF on 06.04.2019, 24.10.2019 & 03.03.2020 respectively.
- In respect of dividend/Shares which have been transferred to IEPF, shareholders can claim the same from IEPF authority by following the procedure prescribed under IEPF Authority (Accounting, Audit, Transfer and Refund) Rules, 2016. These Rules are available on the website of IEPF (www.iepf.gov.in) and company's website (www.bhel.com)

vi. a) Listing on Stock Exchanges and Stock Code

BHEL's shares are listed on the following Stock Exchanges for which listing fees for 2018-19 has been paid:

Name of the Stock Exchange	Stock Code
1. BSE Limited Phiroze Jeejeebhoy Towers, Dalal Street, Mumbai - 400 001	500103
2. National Stock Exchange of India Limited Exchange Plaza, Plot no. C/1, Block - G, Bandra Kurla Complex, Bandra (East), Mumbai - 400 051	BHEL

b) Payment of Annual Custodian Fee to Depositories

The Annual Custodian fee has been paid to NSDL and CDSL for the financial year 2018-19.

vii. The High, Low, Close & Volume of BHEL shares and market index during each month in the financial year 2018-19 at BSE & NSE are indicated below:

Market Price Data: High, Low, Close during each month in the financial year 2018-19										
Months	BSE				NSE				Market Index (Close)	
	High	Low	Close	Volume	High	Low	Close	Volume	S&P BSE	NSE
	(in ₹)			(No. of shares in crore)	(in ₹)			(No. of shares in crore)	SENSEX	NIFTY
Apr-18	91.10	81.65	87.75	0.70	91.15	81.55	87.80	9.67	35160.36	10739.35
May-18	89.55	73.95	83.35	1.62	89.50	73.70	83.65	20.98	35322.38	10736.15
Jun-18	84.00	69.45	71.75	1.17	83.55	69.10	71.75	15.45	35423.48	10714.30
Jul-18	78.30	64.50	73.95	1.80	78.35	64.45	74.05	19.01	37606.58	11356.50
Aug-18	82.65	71.80	80.60	1.48	82.65	71.70	80.60	16.60	38645.07	11680.50
Sep-18	83.25	67.70	68.40	1.53	83.30	67.50	68.50	15.46	36227.14	10930.45
Oct-18	77.55	66.35	68.85	1.99	77.65	66.35	68.75	25.91	34442.05	10386.60
Nov-18	73.90	65.25	68.80	1.71	73.95	65.10	68.15	31.99	36194.30	10876.75
Dec-18	73.55	61.55	73.00	2.08	73.50	61.70	73.10	26.44	36068.33	10862.55
Jan-19	74.75	63.00	64.70	1.71	74.80	63.20	64.70	19.62	36256.69	10830.95
Feb-19	65.95	56.25	64.55	1.49	66.00	56.20	64.45	19.05	35867.44	10792.50
Mar-19	75.40	64.70	74.90	2.56	76.35	64.65	74.95	32.14	38672.91	11623.90

Source: www.bseindia.com / www.nseindia.com

viii. Policy on Insider Trading

BHEL endeavours to preserve the confidentiality of unpublished price sensitive information and to prevent misuse of such information. For this purpose and in line with the SEBI (Prohibition of Insider Trading) Regulations, 1992, the Company had adopted "Code of Conduct for Prevention of Insider Trading" on 26th August, 2002 which was subsequently revised w.e.f. 29th January, 2009.

The Board, in its 469th meeting held on 6th April, 2015, approved the 'Code of Conduct for Regulating & Reporting Trading by Insiders and for Fair Disclosure, 2015' in line with SEBI (Prohibition of Insider Trading) Regulations, 2015. In pursuance to SEBI (Prohibition of Insider Trading) (Amendment) Regulations, 2018, the Board had also approved the revised BHEL Code of Conduct for Regulating & Reporting Trading by Designated Persons & their Immediate Relatives and for Fair Disclosure effective from 01.04.2019. The objective of the Code is to regulate, monitor and report trading by Designated Persons and Immediate Relatives of Designated Persons towards achieving compliance with SEBI (Prohibition of Insider Trading) Regulations, 2015, as amended. The Code also provides for practices and procedures for fair disclosure of Unpublished Price Sensitive Information. Head – CSM is the Chief Investor Relations Officer (CIRO) of the company under this code.

ix. Registrar & Share Transfer Agent (RTA)

Delhi Address	Hyderabad Address
Karvy Fintech Private Limited (Formerly known as Karvy Computershare Private Limited) UNIT: BHEL 305, New Delhi House, 27, Barakhamba Road, New Delhi – 110 001 Tel. : 011- 43681700 Fax: 011-43681710	Karvy Fintech Private Limited (Formerly known as Karvy Computershare Private Limited) UNIT: BHEL Karvy Selenium Tower B, Plot 31-32, Gachibowli, Financial District, Nanakramguda, Hyderabad – 500 032 Tel.: 040-67162222 Fax : 040-23001153 Email: madhusudhan.ms@karvy.com einward.ris@karvy.com Website: www.karvyfintech.com

RTA's performance in servicing shareholders has been satisfactory. All the investor grievances have been promptly attended to.

x. Share Transfer System

The share transfer system with respect to physical shares consists of activities like receipt of shares along with transfer deed from transferees, its verification, approval and dispatch of duly

endorsed share certificates to the respective transferees within the prescribed time as per the Listing Regulations. In line with Listing Regulations, share certificates are being issued within the timeline prescribed for transfer, sub-division and consolidation. All share transfer activities under physical segment like receipt/dispatch of documents and their verification are being carried out by M/s. Karvy Fintech Private Limited.

Shareholders are requested to note that as per SEBI (Listing Obligations and Disclosure Requirements (Fourth Amendment) Regulations, 2018 notified on 08.06.2018 and applicable from 01.04.2019, requests for effecting transfer (except in case of transmission or transposition of securities) of securities shall not be processed unless the securities are held in the dematerialized form with a depository.

xi. Distribution of Shareholding

i Distribution of shares according to size of holding as on March 31, 2019

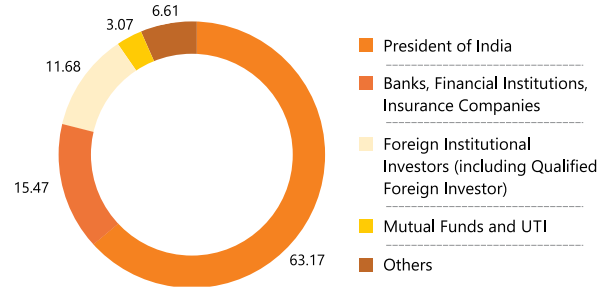
No. of equity share(s) held	No. of Share-holders	% of Share-holders	No. of Shares	% of Share-holding
1-500	439766	86.91	52455847	1.51
501-1000	34853	6.89	25968758	0.75
1001-2000	18280	3.61	26125523	0.75
2001 -3000	5650	1.12	14612374	0.42
3001-4000	1999	0.39	7072179	0.20
4001-5000	1468	0.29	6733737	0.19
5001-10000	2310	0.46	16358825	0.47
10001 and above	1675	0.33	3332736112	95.71
Total	506001	100.00	3482063355	100.00

ii. Shareholding Pattern as on March 31, 2019

Category	2019		2018	
	Voting strength (%)	No. of Shares held	Voting strength (%)	No. of Shares held
Promoters Holding				
Indian Promoters-				
President of India (POI)	63.17	2199650402	63.06	2315178000
Total Promoter holding	63.17	2199650402	63.06	2315178000
Non-promoters Holding				
Banks, Financial Institutions, Insurance Companies	15.47	538614388	15.54	570575233
Foreign Institutional Investors (including Qualified Foreign Investor)	11.68	406746839	13.04	478725147
Mutual Funds and UTI	3.07	106944845	2.96	108739531
Others				
Individuals	4.66	161941594	4.10	150369894
Bodies Corporate	0.80	27954095	0.90	32995668
NRIs	0.25	8714644	0.22	8109847
Trust	0.10	3616635	0.13	4722943
Clearing Members	0.79	27641632	0.05	1800754
IEPF	0.01	236031	0.00	180718
Directors & Relatives	0	2250	0	2265
Total Non-promoter holding	36.83	1282412953	36.94	1356222000
Grand Total	100.00	3482063355	100.00	3671400000

Note: During 2018-19, the Company has made Buy Back of 18,93,36,645 fully paid up equity shares representing 5.16% of the total issued and paid-up equity share capital of the Company from its shareholders as on the record date (i.e. Tuesday, November 06, 2018), on a proportionate basis, through the "Tender Offer" process at a price of ₹ 86 (Rupees Eighty Six Only) per Equity Share payable in cash for an aggregate consideration of ₹ 1628.30 Crore. Consequently, the total number of shares have decreased from 367.14 Crore to 348.21 Crore.

Shareholding Pattern as on March 31, 2019



iii. List of shareholders who are holding more than 1% of the shares of the Company as on March 31, 2019

Category & Shareholder's Name	March 31, 2019	
	Voting strength	No. of shares held
Promoters		
1. PRESIDENT OF INDIA	63.17	2199650402
Non-promoters		
1. LIFE INSURANCE CORPORATION OF INDIA	10.07	350647914
2. LIC OF INDIA MARKET PLUS 1 GROWTH FUND	1.01	35024598

xii. Dematerialisation of shares and liquidity

In accordance with the directions of the Securities & Exchange Board of India (SEBI), trading in BHEL shares by all categories of investors in demat form has been made compulsory w.e.f. 5th April, 1999. BHEL has executed agreement with both the depositories of the country i.e. National Securities Depository Limited (NSDL) and Central Depository Services (India) Limited (CDSL) for admission of its securities under demat mode. As on 31st March, 2019, 99.96% (NSDL: 98.15%, CDSL: 1.81%) of the total equity share capital of BHEL is being held in demat mode by the shareholders. Shares held in physical mode by the shareholders are 0.04%. Shareholding of Hon'ble President of India (being the Promoter of the company holding 63.17% of the paid-up share capital of the company) is also held in dematerialized form. The International Securities Identification Number (ISIN) allotted to Company is INE257A01026.

xiii. Outstanding GDRs/ADRs/Warrants or any convertible instruments, conversion date and likely impact on equity:

Nil

xiv. Details of credit ratings:- Given at Page No. 26

xv. Foreign Exchange risk or Commodity price risk and hedging activities

Hedging activities/transactions during the financial year 2018-19 has been undertaken by the Company in line with the Board approved Foreign Exchange Risk Management Policy.

Exposure of the listed entity to commodity and commodity risks faced by the entity throughout the year:

a) Total exposure of the listed entity to commodities in INR: ₹ 3500 Cr. (approx.)

b) Material exposure of the listed entity to various commodities:

Commodity Name	Exposure in INR towards the particular commodity (in ₹ Cr.) (approx.)	Exposure in Quantity terms towards the particular commodity (in MT) (approx.)	% of such exposure hedged through commodity derivatives				
			Domestic market		International market		Total
			OTC	Exchange	OTC	Exchange	
Steel	3030	592000			-	-	
Copper	431	8200					

c) Major Industrial commodities like Steel, Copper, Aluminum etc. are being procured centrally by one of the identified units by bulking the requirements of various BHEL units, to the extent possible, to derive price advantage. To insulate the Company against price fluctuations, Framework Agreements are finalized periodically.

xvi. Plant locations

BHEL Manufacturing Units	
Bengaluru	1. Electronics Division (EDN) 2. Electronics Systems Division (ESD) 3. Electro Porcelain Division (EPD)*
Bhopal	4. Heavy Electrical Plant (HEP)
Goindwal	5. Industrial Valves Plant (IVP)
Haridwar	6. Heavy Electrical Equipment Plant (HEEP) 7. Central Foundry Forge Plant (CFFP)
Hyderabad	8. Heavy Power Equipment Plant (HPEP)
Jagdishpur	9. Insulator Plant (IP)* 10. Centralized Stamping and Fabrication Plant (CS&FP)*
Jhansi	11. Transformer Plant (TP)
Rudrapur	12. Component Fabrication Plant (CFP)
Ranipet	13. Boiler Auxiliaries Plant (BAP)
Tiruchirappalli	14. High Pressure Boiler Plant (HPBP) 15. Seamless Steel Tube Plant (SSTP)
Thirumayam	16. Power Plant Piping Unit (PPPU)
Visakhapatnam	17. Heavy Plates & Vessels Plant (HPVP)
BHEL Repair Units	
Mumbai	1. Electrical Machine Repair Plant (EMRP)
Varanasi	2. Heavy Equipment Repair Plant (HERP)
BHEL Subsidiary	
Kasaragod	1. BHEL Electrical Machines Ltd. (BHEL-EML)

*On 1st April 2019, IP and CS&FP are merged and renamed as Fabrication, Stamping Insulator Plant (FSIP). Also EPD is renamed as Electric & Photovoltaic Division.

xvii. Address for correspondence

Shareholders can send their queries regarding transfer of shares, non-receipt of dividend, revalidation of dividend warrants and any other correspondence relating to the shares of the Company either to:

KARVY FINTECH PVT. LTD.

(Formerly known as Karvy Computershare Pvt. Ltd.)

UNIT: BHEL**Delhi:**

305, New Delhi House
27, Barakhamba Road
New Delhi – 110 001

Phone: 011-43681700
Fax: 011-43681710

Hyderabad:

Karvy Selenium Tower B,
Plot 31-32, Gachibowli,
Financial District,
Nanakramguda,
Hyderabad – 500 032

Phone: 040-67162222
Fax : 040-23001153
Email:
madhusudhan.ms@karvy.com
einward.ris@karvy.com

OR

Shri Rajeev Kalra
Company Secretary
BHEL

Phone: 011-26001046
Fax : 011-66337533
Email shareholderquery@bhel.in

Regd. Office:
BHEL House, Siri Fort,
New Delhi – 110 049

Note: Shareholders holding shares in electronic mode should address all correspondence to their respective depository participants.

Declaration: Pursuant to Listing Regulations, it is hereby declared that all Board members and Senior Management personnel have affirmed compliance with BHEL's "Code of Business Conduct and Ethics" for the financial year 2018-19.

**For and on behalf of the Board of Directors of
BHARAT HEAVY ELECTRICALS LTD.**



(Dr. Nalin Shinghal)
Chairman & Managing Director

Place: New Delhi
Date: July 26, 2019

CERTIFICATE OF NON-DISQUALIFICATION OF DIRECTORS

(Pursuant to Regulation 34(3) and Schedule V Para C clause (10) (i) of the SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015)

To,
The Members of
Bharat Heavy Electricals Limited,
BHEL House, Siri Fort, New Delhi-110049.

We have examined the relevant registers, records, forms, returns and disclosures received from the Directors of **Bharat Heavy Electricals Limited** having CIN: **L74899DL1964GOI004281** and having registered office at **BHEL House, Siri Fort, New Delhi-110049** (hereinafter referred to as 'the Company'), produced before us by the Company for the purpose of issuing this Certificate, in accordance with Regulation 34(3) read with Schedule V Para-C Sub clause 10 (i) of the Securities & Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015.

In our opinion and to the best of our information and according to the verifications (including Directors Identification Number (DIN) status at the portal www.mca.gov.in) as considered necessary and explanations/ representations furnished to us by the Company & its Director/ officers, We hereby certify that none of the Directors on the Board of the Company as stated below for the Financial Year ending on 31st March, 2019 have been debarred or disqualified from being appointed or continuing as Directors of companies by the Securities and Exchange Board of India, Ministry of Corporate Affairs, or any such other Statutory Authority:

Sr. No.	Name of Director	DIN	Date of appointment in Company
1	Atul Sobti	06715578	01.01.2016
2	Subhash Chandra Pandey	01613073	31.03.2016
3	Amit Varadan	08401348	27.03.2019
4	Ramachandran Swaminathan	01811819	01.12.2018
5	Surama Padhy	07681896	02.02.2017
6	Desh Goel Deepak	07739221	23.09.2017
7	Ranjit Rae	07942234	23.09.2017
8	Rajesh Sharma	01586332	20.02.2019
9	Debashis Bandyopadhyay	07221633	01.08.2015
10	Subodh Gupta	08113460	18.04.2018
11	Subramanian Balakrishnan	07804784	01.06.2018
12	Manoj Kumar Varma	08308714	19.12.2018
13	Kamalesh Das	08376769	01.03.2019

Ensuring the eligibility of the appointment/ continuity of every Director on the Board is the responsibility of the management of the Company. Our responsibility is to express an opinion on these based on our verification. This certificate is neither an assurance as to the future viability of the Company nor of the efficiency or effectiveness with which the management has conducted the affairs of the Company.

For Agarwal S. & Associates,

Company Secretaries,



CS Sachin Agarwal

Partner

FCS No. : 5774

C.P. No. : 5910

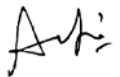
Place: New Delhi
Date: May 18, 2019

AUDITORS CERTIFICATE ON CORPORATE GOVERNANCE

The Members,

Bharat Heavy Electricals Limited

1. I have examined the compliance conditions of Corporate Governance by **Bharat Heavy Electricals Limited** (CIN L74899DL1964GOI004281) for the year ending 31st March 2019 as stipulated in the Securities Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015 and as stipulated in the guidelines on Corporate Governance for Central Public Sector Enterprises issued by Department of Public Enterprises in May 2010.
2. The compliance of conditions of Corporate Governance is the responsibility of the Management. My examination was limited to procedures and implementations thereof, adopted by the Company for ensuring the compliance of the conditions of the Corporate Governance. It is neither an audit nor an expression of opinion on the financial statements of the Company.
3. In my opinion and to the best of my information and according to the explanations and assurance given to me, I certify that the Company complied with all applicable conditions of Corporate Governance except the composition of the Board with the required Independent Directors as required under Regulation 17(1)(b) of SEBI (LODR) 2015 and Guideline 3.1.4 of DPE.
4. I further state that such compliance is neither an assurance as to the future viability of the Company nor the efficiency or the effectiveness with which the management has conducted the affairs of the Company.



(Ashu Gupta)

Practicing Company Secretary

COP. No. : 6646

Place: New Delhi

Date: May 3, 2019

Form No. MR-3

SECRETARIAL AUDIT REPORT

FOR THE FINANCIAL YEAR ENDED MARCH 31, 2019

[Pursuant to Section 204(1) of the Companies Act, 2013 and Rule 9 of the Companies (Appointment and Remuneration of Managerial Personnel) Rules, 2014]

To,

The Members,

Bharat Heavy Electricals Limited

We have conducted the Secretarial Audit of the compliance of applicable statutory provisions and the adherence to good corporate practices by **Bharat Heavy Electricals Limited, CIN: L74899DL1964GOI004281** (hereinafter called "the Company"). The Secretarial Audit was conducted in a manner that provided us a reasonable basis for evaluating the corporate conducts/statutory compliances and expressing our opinion thereon.

Based on our verification of the Company's books, papers, minute books, forms and returns filed and other records maintained by the Company and also the information provided by the Company, its officers, agents and authorized representatives during the conduct of secretarial audit, we hereby report that in our opinion, the Company has, during the audit period covering the financial year ended on **31st March, 2019** complied with the statutory provisions listed hereunder and also that the Company has proper Board-processes and compliance-mechanism in place to the extent, in the manner and subject to the reporting made hereinafter:

We have examined the books, papers, minute books, forms and returns filed and other records maintained by the Company for the financial year ended on **31st March, 2019** according to the provisions of:

- i) The Companies Act, 2013 (the Act) and the Rules made thereunder;
- ii) The Securities Contracts (Regulation) Act, 1956 ('SCRA') and the Rules made thereunder;
- iii) The Depositories Act, 1996 and the Regulations and Bye-laws framed thereunder;
- iv) The Foreign Exchange Management Act, 1999 and the Rules and Regulations made thereunder to the extent of Foreign Direct Investment, Overseas Direct Investment and External Commercial Borrowings;
- v) The following Regulations and Guidelines prescribed under the Securities and Exchange Board of India Act, 1992 ('SEBI Act'):
 - a) The Securities and Exchange Board of India (Substantial Acquisition of Shares and Takeovers) Regulations, 2011;
 - b) The Securities and Exchange Board of India (Prohibition of Insider Trading) Regulations, 2015;
 - c) The Securities and Exchange Board of India (Issue of Capital and Disclosure Requirements) Regulations, 2009 and the Securities and Exchange Board of India (Issue of Capital and Disclosure Requirements) Regulations, 2018;
 - d) The Securities and Exchange Board of India (Share Stock Option Scheme and Employee Stock Purchase Scheme) Guidelines, 1999 (Not Applicable to the Company during the audit period);
 - e) The Securities and Exchange Board of India (Issue and Listing of Debt Securities) Regulations, 2008 (Not Applicable to the Company during the Audit period);
 - f) The Securities and Exchange Board of India (Registrars to an Issue and Share Transfer Agents) Regulations, 1993 regarding the Companies Act and dealing with client;
 - g) The Securities and Exchange Board of India (Delisting of Equity Shares) Regulations, 2009 (Not Applicable to the Company during the Audit period);
 - h) The Securities and Exchange Board of India (Buyback of Securities) Regulations, 1998 and the Securities and Exchange Board of India (Buyback of Securities) Regulations, 2018; and
 - i) The Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015.
- vi) We further report that having regard to compliance system prevailing in the Company and on examination of the relevant documents and records in pursuance thereof, on test-check basis, the Company has complied with all the specific applicable Laws to the Company. Some of the important laws complied with are as follows:
 - a) The Factories Act, 1948;

- b) The Indian Boilers Act, 1923;
- c) The Manufacturing, Storage and Import of Hazardous Chemical Rules, 1989;
- d) The Atomic Energy (Radiation Protection) Rules, 2004; and
- e) Batteries (Management and Handling) Rules, 2001.

We have also examined compliance with the applicable clauses of the following:

- i) Secretarial Standards with regard to Meetings of the Board of Directors (SS-1) and General Meetings (SS-2) issued by the Institute of Company Secretaries of India; and
- ii) Corporate Governance Guidelines issued by the Department of Public Enterprises vide their OM No. 18(8)/2005-GM dated 14th May, 2010.

During the period under review the Company has complied with the provisions of the Act, Rules, Regulations, Guidelines, Standards, etc. mentioned above subject to the following observation:

The composition of the Board of Directors is not in compliance with Regulation 17(1) of the Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015 and Para 3.1.4 of the DPE Guidelines on Corporate Guidelines as the Company did not have requisite number of independent directors on its Board.

The Company has explained that BHEL, being a Government Company, the nomination/ appointment of the Independent Directors is made by the Govt. of India. The Company has already requested the Department of Heavy Industry in the Ministry of Heavy Industries, Govt. of India for nomination of requisite number of Independent Directors on the Board.

We further report that the changes in the Board of Directors that took place during the period were carried out in due compliance with the provisions of the Act.

Generally adequate notice is given to all Directors to schedule the Board Meetings, agenda and detailed notes on agenda were sent at least seven days in advance, and a system exists for seeking and obtaining further information and clarifications on the agenda items before the meeting and for meaningful participation at the meeting.

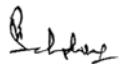
As per the minutes of the meetings duly recorded and signed by the Chairman, the decisions of the Board were unanimous in all cases and no dissenting views have been recorded.

We further report that based on the review of compliance mechanism established by the Company and on the basis of Certificates of Legal Compliance taken on record by the Board of Directors at their meetings. We are of the opinion that there are adequate systems and processes in the Company commensurate with the size and operations of the Company to monitor and ensure compliance with applicable laws, rules, regulations and guidelines.

We further report that during the audit period,

- a) Special Resolution was passed in the Annual General Meeting held on 19th September, 2018 for alteration of Articles of Association by insertion of Article 5A regarding Buyback of Shares after Article 5.
- b) the Company carried out Buyback of Shares in compliance with Companies Act, 2013, the Companies (Share Capital and Debentures) Rules, 2014 and the Securities and Exchange Board of India (Buyback of Securities) Regulations, 2018.

for **K K Sachdeva & Associates**
Company Secretaries



K.K.Sachdeva

Proprietor

FCS No. 7153, CP No. 4721

Place: New Delhi
Date: May 30, 2019

Form No. MGT-9 EXTRACT OF ANNUAL RETURN

as on the financial year ended on March 31, 2019

[Pursuant to section 92(3) of the Companies Act, 2013 and rule 12(1) of the Companies
(Management and Administration) Rules, 2014]

I. REGISTRATION AND OTHER DETAILS

i) CIN	:	L74899DL1964GOI004281
ii) Registration Date	:	13 th November, 1964
iii) Name of the Company	:	Bharat Heavy Electricals Limited
iv) Category/ Sub-Category of the Company	:	Public Company/ Government Company/ Limited by shares
v) Address of the Registered office and contact details	:	BHEL House, Siri Fort, New Delhi-110049 Tel: 011-66337000 Fax: 011-66337428 Email: shareholderquery@bhel.in
vi) Whether listed Company (Yes / No)	:	YES
vii) Name, Address and Contact details of Registrar and Transfer Agent, if any	:	Karvy Fintech Private Limited (formerly known as Karvy Computershare Private Limited) Karvy Selenium Tower B, Plot 31-32, Gachibowli, Financial District, Nanakramguda, Hyderabad-500032 Tel: 040-67162222 Fax: 040-23001153 Website: www.karvyfintech.com Email: madhusudhan.ms@karvy.com inward.ris@karvy.com

II. PRINCIPAL BUSINESS ACTIVITIES OF THE COMPANY

All the business activities contributing 10% or more of the total turnover of the Company shall be stated:-

Sl. No	Name and Description of main products/ services	NIC Code of the Product/ service	% to total turnover of the Company
1	Construction of Power Plant	4220	30%
2.	Manufacture of Steam Generators including auxiliary plant for use with steam generators	2513	28%
3.	Manufacture of Turbine, Generator sets including auxiliaries	2811	21%
4.	Manufacture of electric motors, transformers and electricity distribution and control apparatus etc.	2710	10%

III. PARTICULARS OF HOLDING, SUBSIDIARY AND ASSOCIATE COMPANIES

Sl. No.	Name and address of the Company	CIN/ GLN	Subsidiary/ Associate	% of shares held	Applicable Section
1.	BHEL Electrical Machines Ltd. 283/1&2, Village Puttur, Post Bedradka, Kasargod, Kerala- 671124	U31909KL2011GOI027440	Subsidiary	51%	2(87) of Companies Act, 2013
2.	Raichur Power Corporation Ltd. # 22/23, Sudarshan Complex, Sheshadari Road, Bengaluru- 560009	U40101KA2009PLC049582	Associate	27.97%	2(6) of Companies Act, 2013
3.	Dada Dhuniwale Khandwa Power Ltd. Shed No. 7, MPSEB Complex, Rampur, Jabalpur- 482008	U40100MP2010PLC023131	Associate	50% (JV under liquidation)	2(6) of Companies Act, 2013
4.	BHEL-GE Gas Turbine Services Pvt. Ltd. Quadrant No.1, 7th Floor, Module – A1,A2,A3, Cyber Towers, Hitech City, Madhapur, Hyderabad-500081	U51505TG1997PTC040657	Associate	50% less one share	2(6) of Companies Act, 2013
5.	NTPC BHEL Power Projects Pvt. Ltd. NTPC Bhawan, SCOPE Complex, 7 Institutional Area, Lodhi Road, New Delhi-110003	U40102DL2008PTC177307	Associate	50%	2(6) of Companies Act, 2013
6.	Powerplant Performance Improvement Pvt. Ltd. E-20, 1st& 2nd Floor, Hauz Khas, New Delhi-110016	U28991DL2003PTC120915	Associate	50% less one share (JV under liquidation)	2(6) of Companies Act, 2013

IV. SHAREHOLDING PATTERN (Equity Share Capital Breakup as percentage of Total Equity)
(i) Category-wise Shareholding

Category of Shareholders	No. of Shares held at the beginning of the year (as on 01.04.2018)				No. of Shares held at the end of the year (as on 31.03.2019)				% Change during the year*
	Demat	Physical	Total	% of Total Shares	Demat	Physical	Total	% of Total Shares	
A. Promoters									
(1) Indian									
a) Individual/ HUF	0	0	0	0.00	0	0	0	0.00	0.00
b) Central Govt	2315178000	0	2315178000	63.06	2199650402	0	2199650402	63.17	0.11
c) State Govt (s)	0	0	0	0.00	0	0	0	0.00	0.00
d) Bodies Corp.	0	0	0	0.00	0	0	0	0.00	0.00
e) Banks / FI	0	0	0	0.00	0	0	0	0.00	0.00
f) Any Other....	0	0	0	0.00	0	0	0	0.00	0.00
Sub-total (A)(1):-	2315178000	0	2315178000	63.06	2199650402	0	2199650402	63.17	0.11
(2) Foreign									
a) NRIs -Individuals	0	0	0	0.00	0	0	0	0.00	0.00
b) Other – Individuals	0	0	0	0.00	0	0	0	0.00	0.00
c) Bodies Corp.	0	0	0	0.00	0	0	0	0.00	0.00
d) Banks / FI	0	0	0	0.00	0	0	0	0.00	0.00
e) Any Other....	0	0	0	0.00	0	0	0	0.00	0.00
Sub-total (A)(2):-	0	0	0	0.00	0	0	0	0.00	0.00
Total shareholding of Promoter (A) = (A)(1)+(A)(2)	2315178000	0	2315178000	63.06	2199650402	0	2199650402	63.17	0.11
B. Public Shareholding									
(1) Institutions									
a) Mutual Funds/ UTI	108715531	24000	108739531	2.96	106921845	23000	106944845	3.07	0.11
b) Banks/ FI	190546296	6000	190552296	5.19	157185871	5000	157190871	4.51	-0.68
c) Central Govt	0	0	0	0.00	0	0	0	0.00	0.00
d) State Govt(s)	0	0	0	0.00	0	0	0	0.00	0.00
e) Venture Capital Funds	0	0	0	0.00	0	0	0	0.00	0.00
f) Insurance Companies	380019937	3000	380022937	10.35	381421517	2000	381423517	10.96	0.61
g) FIIs	478711647	13500	478725147	13.04	406742339	4500	406746839	11.68	-1.36
h) Foreign Venture Capital Funds	0	0	0	0.00	0	0	0	0.00	0.00

Category of Shareholders	No. of Shares held at the beginning of the year (as on 01.04.2018)				No. of Shares held at the end of the year (as on 31.03.2019)				% Change during the year*
	Demat	Physical	Total	% of Total Shares	Demat	Physical	Total	% of Total Shares	
i) Others (specify)									
Qualified Foreign Investor	0	0	0	0.00	0	0	0	0.00	0.00
Sub-total (B)(1):-	1157993411	46500	1158039911	31.54	1052271572	34500	1052306072	30.22	-1.32
(2) Non-Institutions									
a) Bodies Corp.									
i) Indian	32342263	7000	32349263	0.88	27862206	2500	27864706	0.80	-0.08
ii) Overseas	0	0	0	0.00	0	0	0	0.00	0.00
b) Individuals									
i) Individual shareholders holding nominal share capital upto ₹1 lakh	141895635	1621461	143517096	3.91	154214412	1309890	155524302	4.47	0.56
ii) Individual shareholders holding nominal share capital in excess of ₹ 1 lakh	6852798	0	6852798	0.19	6417292	0	6417292	0.18	-0.01
c) Others (specify)									
Clearing Members	1795799	4955	1800754	0.05	27636677	4955	27641632	0.79	0.74
Directors	2265	0	2265	0.00	2250	0	2250	0.00	0.00
IEPF	180718	0	180718	0.00	236031	0	236031	0.01	0.01
NBFC	646405	0	646405	0.02	89389	0	89389	0.00	-0.02
Non Resident Indians	8091097	18750	8109847	0.22	8695894	18750	8714644	0.25	0.03
Trusts	4722943	0	4722943	0.13	3616635	0	3616635	0.11	-0.02
Sub-total (B)(2):-	196529923	1652166	198182089	5.40	228770786	1336095	230106881	6.61	1.21
Total Public Shareholding (B)=(B)(1)+(B)(2)	1354523334	1698666	1356222000	36.94	1281042358	1370595	1282412953	36.83	-0.11
C. Shares held by Custodian for GDRs & ADRs	0	0	0	0.00	0	0	0	0.00	0.00
Grand Total (A+B+C)	3669701334	1698666	3671400000	100.00	3480692760	1370595	3482063355	100.00	0.00

*With regard to percentage shareholding in the total shares of the Company.

(ii) Shareholding of Promoters

Sl. No.	Shareholder's Name	Shareholding at the beginning of the year(as on 01.04.2018)			Shareholding at the end of the year(as on 31.03.2019)			% change in share holding during the year*
		No. of Shares	% of total Shares of the Company	% of Shares Pledged/ encumbered to total shares	No. of Shares	% of total Shares of the company	% of Shares Pledged/ encumbered to total shares	
1	President of India	2315178000	63.06	0.00	2199650402	63.17	0.00	0.11
	TOTAL	2315178000	63.06	0.00	2199650402	63.17	0.00	0.11

*With regard to percentage shareholding in the total shares of the Company.

(iii) Change in Promoters' Shareholding

Sl. No.	Name	Shareholding at the beginning of the year (01.04.2018)/ end of the year (31.03.2019)		Date wise Increase/ Decrease in Shareholding during the year specifying the reasons for Increase/ Decrease			Cumulative Shareholding during the year (01.04.2018 to 31.03.2019)	
		No. of shares	% of total shares of the Company	Date	Increase/ Decrease in Shareholding	Reason	No. of shares	% of total shares of the Company
1	President of India	2315178000	63.06					
				11.01.2019	-115527598	Buyback	2199650402	63.17
		2199650402	63.17	31.03.2019			2199650402	63.17

(iv) Shareholding Pattern of top ten Shareholders (other than Directors, Promoters and Holders of GDRs and ADRs)

Sl. No.	Name	Shareholding at the beginning of the year (01.04.2018)/ end of the year (31.03.2019)		Date wise Increase/ Decrease in Shareholding during the year specifying the reasons for Increase/ Decrease			Cumulative Shareholding during the year (01.04.2018 to 31.03.2019)	
		No. of shares	% of total shares of the Company	Date	Increase/ Decrease in Shareholding	Reason	No. of shares	% of total shares of the Company
1	Life Insurance Corporation of India	345680880	9.42					
				29.03.2019	4967034	Purchase	350647914	10.07
		350647914	10.07	31.03.2019			350647914	10.07
2	Pinebridge Investments GF Mauritius Limited	37875005	1.03					
				11.01.2019	-3545357	Buyback	34329648	0.99
		34329648	0.99	31.03.2019			34329648	0.99

Sl. No.	Name	Shareholding at the beginning of the year (01.04.2018)/ end of the year (31.03.2019)		Date wise Increase/ Decrease in Shareholding during the year specifying the reasons for Increase/ Decrease			Cumulative Shareholding during the year (01.04.2018 to 31.03.2019)	
		No. of shares	% of total shares of the Company	Date	Increase/ Decrease in Shareholding	Reason	No. of shares	% of total shares of the Company
3	LIC of India Market Plus 1 Growth Fund	37409820	1.02					
				22.03.2019	-910222	Sale	36499598	1.05
				29.03.2019	-1475000	Sale	35024598	1.01
		35024598	1.01	31.03.2019			35024598	1.01
4	Pinebridge Global Funds - Pinebridge India Equity	34613206	0.94					
				08.06.2018	1000000	Purchase	35613206	0.97
				15.06.2018	-532032	Sale	35081174	0.96
				06.07.2018	977340	Purchase	36058514	0.98
				20.07.2018	226165	Purchase	36284679	0.99
				27.07.2018	1547877	Purchase	37832556	1.03
				07.09.2018	2200000	Purchase	40032556	1.09
				11.01.2019	-3920083	Buyback	36112473	1.04
		33612473	0.97	22.02.2019	-2500000	Sale	33612473	0.97
5	LIC of India Money Plus Growth Fund	33610222	0.92					
				22.03.2019	-3340000	Sale	30270222	0.87
				29.03.2019	-6586485	Sale	23683737	0.68
		23683737	0.68	31.03.2019			23683737	0.68
6	Fidelity Puritan Trust-Fidelity Low-Priced Stock Fund	30750000	0.84					
				11.01.2019	-970000	Sale	29780000	0.81
				11.01.2019	-4779710	Buyback	25000290	0.72
				18.01.2019	-1000000	Sale	24000290	0.69
				01.02.2019	-2600000	Sale	21400290	0.61
				15.02.2019	-100000	Sale	21300290	0.61
				22.02.2019	-100000	Sale	21200290	0.61
				01.03.2019	-2200000	Sale	19000290	0.55
				08.03.2019	-5413600	Sale	13586690	0.39
		9000290	0.26	15.03.2019	-4586400	Sale	9000290	0.26
7	Life Insurance Corporation of India P & GS Fund	28354485	0.77					
		28354485	0.81	31.03.2019		No Change but % increase w.r.t. total shares of the Company due to reduction in paid-up share capital on account of buyback	28354485	0.81
8	LIC of India Market Plus Growth Fund	27580762	0.75					
				22.03.2019	-3380000	Sale	24200762	0.70
				29.03.2019	-2255913	Sale	21944849	0.63
		21944849	0.63	31.03.2019			21944849	0.63

Sl. No.	Name	Shareholding at the beginning of the year (01.04.2018)/ end of the year (31.03.2019)		Date wise Increase/ Decrease in Shareholding during the year specifying the reasons for Increase/ Decrease			Cumulative Shareholding during the year (01.04.2018 to 31.03.2019)	
		No. of shares	% of total shares of the Company	Date	Increase/ Decrease in Shareholding	Reason	No. of shares	% of total shares of the Company
9	LIC of India Profit Plus Growth Fund	26071882	0.71					
				22.03.2019	-1331000	Sale	24740882	0.71
				29.03.2019	-1655000	Sale	23085882	0.66
		23085882	0.66	31.03.2019			23085882	0.66
10	Reliance Capital Trustee Co. Ltd. - A/C Reliance Tax Saver (ELSS) Fund	18900000	0.51					
				13.04.2018	4499990	Purchase	23399990	0.64
				20.04.2018	10	Purchase	23400000	0.64
				14.09.2018	-2700000	Sale	20700000	0.56
				26.10.2018	-9900000	Sale	10800000	0.29
		10800000	0.31	31.03.2019			10800000	0.31
11	JP Morgan Indian Investment Company (Mauritius) Ltd.	17153584	0.47	26.10.2018#				
				11.01.2019	-1680544	Buyback	15473040	0.44
		15473040	0.44	31.03.2019			15473040	0.44
12	Integrated Core Strategies Asia PTE Ltd.	23968150	0.65	07.12.2018#				
				14.12.2018	-9386378	Sale	14581772	0.40
				21.12.2018	-520170	Sale	14061602	0.38
				11.01.2019	-282980	Buyback	13778622	0.40
				08.02.2019	277357	Purchase	14055979	0.40
				15.02.2019	832071	Purchase	14888050	0.43
				22.02.2019	-106733	Sale	14781317	0.42
				01.03.2019	-204777	Sale	14576540	0.42
				08.03.2019	-311319	Sale	14265221	0.41
				15.03.2019	-600356	Sale	13664865	0.39
				22.03.2019	-319839	Sale	13345026	0.38
				29.03.2019	-832087	Sale	12512939	0.36
		31.03.2019			12512939	0.36		
13	BNP Paribus Arbitrage	17346816	0.50	11.01.2019#				
				25.01.2019	-1921104	Sale	15425712	0.44
				01.02.2019	-2883000	Sale	12542712	0.36
				08.02.2019	-42957	Sale	12499755	0.36
				15.02.2019	-292500	Sale	12207255	0.35
				01.03.2019	-2692500	Sale	9514755	0.27
				08.03.2019	-38306	Sale	9476449	0.27
				15.03.2019	4047803	Purchase	13524252	0.39
				22.03.2019	1006500	Purchase	14530752	0.42
				29.03.2019	53142	Purchase	14583894	0.42
		31.03.2019			14583894	0.42		

Sl. No.	Name	Shareholding at the beginning of the year (01.04.2018)/ end of the year (31.03.2019)		Date wise Increase/ Decrease in Shareholding during the year specifying the reasons for Increase/ Decrease			Cumulative Shareholding during the year (01.04.2018 to 31.03.2019)	
		No. of shares	% of total shares of the Company	Date	Increase/ Decrease in Shareholding	Reason	No. of shares	% of total shares of the Company
14	ICICI Prudential Value Discovery Fund	24332375	0.70	25.01.2019#				
				01.02.2019	1500000	Purchase	25832375	0.74
				08.02.2019	2980499	Purchase	28812874	0.83
				15.03.2019	-2302941	Sale	26509933	0.76
				22.03.2019	-2701932	Sale	23808001	0.68
				29.03.2019	-23430980	Sale	377021	0.01
		377021	0.01	31.03.2019			377021	0.01
15	Amundi Funds SBI FM Equity India	19874815	0.57	01.03.2019#				
				22.03.2019	2163021	Purchase	22037836	0.63
				29.03.2019	8707579	Purchase	30745415	0.88
		30745415	0.88	31.03.2019			30745415	0.88
16	Invesco Perpetual Asian Fund	20458766	0.59	08.03.2019#				
				15.03.2019	2493880	Purchase	22952646	0.66
				22.03.2019	932835	Purchase	23885481	0.69
				29.03.2019	2866943	Purchase	26752424	0.77
		26752424	0.77	31.03.2019			26752424	0.77

Note: Details of JP Morgan Indian Investment Company (Mauritius) Ltd., Integrated Core Strategies Asia PTE Ltd., BNP Paribus Arbitrage, ICICI Prudential Value Discovery Fund, Amundi Funds SBI FM Equity India and Invesco Perpetual Asian Fund have been shown only from the date of entering into list of top ten shareholders

(v) Shareholding of Directors and Key Managerial Personnel

Sl. No.	Name S/shri	Shareholding at the beginning of the year (01.04.2018)/ end of the year (31.03.2019)		Date wise Increase/ Decrease in Shareholding during the year specifying the reasons for Increase / Decrease			Cumulative Shareholding during the year (01.04.2018 to 31.03.2019/ till cessation)	
		No. of shares	% of total shares of the Company	Date	Increase/ Decrease in Share holding	Reason	No. of shares	% of total shares of the Company
1	Atul Sobti, Chairman & Managing Director	2250	0.00		No Change		2250	0.00
		2250	0.00	31.03.2019				
2	Dr. Subhash Chandra Pandey, Part-time Official Director	0	0.00		No Change		0	0.00
		0	0.00	31.03.2019				
3	Bhaskar Jyoti Mahanta, Part-time Official Director (upto 18.05.2018)	0	0.00		No Change		0	0.00
		0	0.00	18.05.2018				
4	Pravin L. Agrawal, Part-time Official Director (w.e.f. 18.05.2018 upto 27.03.2019)	0	0.00		No Change		0	0.00
		0	0.00	27.03.2019				
5	Amit Varadan, Part-time Official Director (w.e.f. 27.03.2019)	0	0.00		No Change		0	0.00
		0	0.00	31.03.2019				
6	Rajesh Kishore, Independent Director (upto 19.12.2018) ⁵	0	0.00		No Change		0	0.00
		0	0.00	19.12.2018				
7	Keshav N. Desiraju, Independent Director (upto 30.11.2018)	0	0.00		No Change		0	0.00
		0	0.00	30.11.2018				
8	R. Swaminathan, Independent Director ⁵	0	0.00		No Change		0	0.00
		0	0.00	31.03.2019				
9	Ms. Surama Padhy, Independent Director	0	0.00		No Change		0	0.00
		0	0.00	31.03.2019				
10	Desh Deepak Goel, Independent Director	0	0.00		No Change		0	0.00
		0	0.00	31.03.2019				
11	Ranjit Rae, Independent Director	0	0.00		No Change		0	0.00
		0	0.00	31.03.2019				
12	Rajesh Sharma, Independent Director (w.e.f. 20.02.2019)	0	0.00		No Change		0	0.00
		0	0.00	31.03.2019				

Sl. No.	Name S/shri	Shareholding at the beginning of the year (01.04.2018)/ end of the year (31.03.2019)		Date wise Increase/ Decrease in Shareholding during the year specifying the reasons for Increase / Decrease			Cumulative Shareholding during the year (01.04.2018 to 31.03.2019/ till cessation)	
		No. of shares	% of total shares of the Company	Date	Increase/ Decrease in Share holding	Reason	No. of shares	% of total shares of the Company
13	D. Bandyopadhyay, Director (HR)	0	0.00		No Change		0	0.00
		0	0.00	31.03.2019				
14	Amitabh Mathur, Director (IS&P) (upto 31.05.2018)	0	0.00		No Change		0	0.00
		0	0.00	31.05.2018				
15	Subrata Biswas, Director (E,R&D) (upto 28.02.2019)	0	0.00		No Change		0	0.00
		0	0.00	28.02.2019				
16	Akhil Joshi, Director (Power) (upto 30.09.2018)	15	0.00		No Change		15	0.00
		15	0.00	30.09.2018				
17	Subodh Gupta, Director (Finance) (w.e.f. 18.04.2018)	0	0.00		No Change		0	0.00
		0	0.00	31.03.2019				
18	S. Balakrishnan, Director (IS&P) (w.e.f. 01.06.2018)	0	0.00		No Change		0	0.00
		0	0.00	31.03.2019				
19	Manoj Kumar Varma, Director (Power) (w.e.f. 19.12.2018)	0	0.00		No Change		0	0.00
		0	0.00	31.03.2019				
20	Kamalesh Das, Director (E, R&D) (w.e.f. 01.03.2019)	0	0.00		No Change		0	0.00
		0	0.00	31.03.2019				
21	I.P. Singh, Company Secretary (upto 16.12.2018)	0	0.00		No Change		0	0.00
		0	0.00	16.12.2018				
22	Rajeev Kalra, Company Secretary (w.e.f. 17.12.2018)	0	0.00		No Change		0	0.00
		0	0.00	31.03.2019				

\$ Shri Rajesh Kishore and Shri R. Swaminathan, Independent Directors were reappointed w.e.f. 01.12.2018 for a period of one year. Their earlier tenure ended on 30.11.2018.

V. INDEBTEDNESS
Indebtedness of the Company including interest outstanding/ accrued but not due for payment

(in ₹ crore)

	Secured Loans excluding deposits	Unsecured Loans	Deposits	Total Indebtedness
Indebtedness at the beginning of the financial year	Nil	57.18	Nil	57.18
i) Principal Amount				
ii) Interest due but not paid				
iii) Interest accrued but not due				
Total (i+ii+iii)	Nil	57.18	Nil	57.18
Change in Indebtedness during the financial year				
• Addition	957.27	1538.27	0.00	2495.54
• Reduction				
Net Change	957.27	1538.27	0.00	2495.54
Indebtedness at the end of the financial year				
i) Principal Amount	957.27	1595.45	0.00	2552.72
ii) Interest due but not paid				
iii) Interest accrued but not due				
Total (i+ii+iii)	957.27	1595.45	0.00	2552.72

VI. REMUNERATION OF DIRECTORS AND KEY MANAGERIAL PERSONNEL
A Remuneration to Managing Director, Whole-time Directors and/or Manager

(in ₹)

Sl. No.	Particulars of Remuneration	Name of MD/ WTD/ Manager (S/shri)				
		Atul Sobti CMD	D. Bandyopadhyay Director (HR)	Amitabh Mathur Director (IS&P) *upto 31.05.18	Subrata Biswas Director (E,R&D) *upto 28.02.19	Akhil Joshi Director (Power) *upto 30.09.18
1.	Gross Salary					
	(a) Salary as per provisions contained in section 17(1) of the Income-tax Act, 1961	6465328	5841515	3225440	7317405	4426563
	(b) Value of perquisites u/s 17(2) Income-tax Act, 1961	40200	599306	371372	810872	671840
	(c) Profits in lieu of salary under section 17(3) Income-tax Act, 1961					
2.	Stock Option					
3.	Sweat Equity					
4.	Commission - as % of profit - others, specify...					
5.	Others, please specify					
	Total	6505528	6440821	3596812	8128277	5098403

A Remuneration to Managing Director, Whole-time Directors and/or Manager

(in ₹)

Sl. No.	Particulars of Remuneration	Name of MD/ WTD/ Manager (S/shri)				Total Amount
		Subodh Gupta Director (Finance) *w.e.f. 18.04.18	S. Balakrishnan Director (IS&P) *w.e.f. 01.06.18	Manoj Kumar Varma Director (Power) *w.e.f. 19.12.18	Kamalesh Das Director (E,R&D) *w.e.f. 01.03.19	
1.	Gross salary					
	(a) Salary as per provisions contained in section 17(1) of the Income-tax Act, 1961	5100204	4604586	2354680	1230086	40565808
	(b) Value of perquisites u/s 17(2) Income-tax Act, 1961	258571	340137	11284	21378	3124960
	(c) Profits in lieu of salary under section 17(3) Income-tax Act, 1961					
2.	Stock Option					
3.	Sweat Equity					
4.	Commission - as % of profit -others,specify..					
5.	Others, please specify					
	Total (A)	5358775	4944723	2365964	1251464	43690768
	Ceiling as per the Act	NA				

Note: Salary includes leave encashment and pay revision arrears.

B. Remuneration to other Directors

(in ₹)

Sl. No.	Particulars of Remuneration	Name of Directors (S/ shri)							Total Amount
		Rajesh Kishore *upto 19.12.18	Keshav N. Desiraju *upto 30.11.18	R. Swaminathan	Ms. Surama Padhy	Desh Deepak Goel	Ranjit Rae	Rajesh Sharma *w.e.f. 20.02.19	
1.	Independent Directors								
	• Fee for attending board/ committee meetings	295000	155000	380000	375000	305000	295000	-	1805000
	• Commission	-	-	-	-	-	-	-	-
	• Others, please specify	-	-	-	-	-	-	-	-
	Total (1)	295000	155000	380000	375000	305000	295000	-	1805000
2.	Other Non-Executive Directors								
	• Fee for attending board/ committee meetings	-	-	-	-	-	-	-	-
	• Commission	-	-	-	-	-	-	-	-
	• Others, please specify	-	-	-	-	-	-	-	-
	Total (2)	-	-	-	-	-	-	-	-
	Total (B)=(1+2)	295000	155000	380000	375000	305000	295000	-	1805000
	Total Managerial Remuneration (A+B)								45495768
	Overall Ceiling as per the Act	Section 197 of the Companies Act, 2013 pertaining to ceiling on Managerial Remuneration including sitting fees paid to Directors is not applicable on BHEL, being a Government Company.							

C. Remuneration to Key Managerial Personnel other than MD/ Manager/ WTD

(in ₹)

Sl. No.	Particulars of Remuneration	Key Managerial Personnel (S/shri)				
		CEO	I.P. Singh Company Secretary *upto 16.12.18	Rajeev Kalra Company Secretary *w.e.f. 17.12.18	CFO	Total Amount
1.	Gross salary	As per table VI (A)			As per table VI (A)	
	(a) Salary as per provisions contained in section 17(1) of the Income-tax Act, 1961		3763883	1801007		5564890
	(b) Value of perquisites u/s 17(2) Income-tax Act, 1961		14138	2380		16518
	(c) Profits in lieu of salary under section 17(3) Income-tax Act, 1961					
2	Stock Option					
3	Sweat Equity					
4	Commission - as % of profit - others, specify...					
5	Others, please specify					
	Total		3778021	1803387	5581408	

Note: Salary includes leave encashment and pay revision arrears.

VII. PENALTIES/ PUNISHMENT/ COMPOUNDING OF OFFENCES

Type	Section of The Companies Act	Brief Description	Details of Penalty/ Punishment/ Compounding fees imposed	Authority [RD/ NCLT/ COURT]	Appeal made, if any (give Details)
Penalty					
Punishment					
Compounding					
Other Officers in Default			NIL		
Penalty					
Punishment					
Compounding					

Annexure-III to the Board's Report


CEO and CFO Certification

(in terms of Regulation 17(8) of SEBI (LODR) Regulations 2015)

To,

The Board of Directors
Bharat Heavy Electricals Ltd.,
New Delhi.

- (a) We have reviewed Financial Statements and the Cash Flow statement of Bharat Heavy Electricals Limited for the year ended 31st March, 2019 and that to the best of our knowledge and belief:
- (i) These statements do not contain any materially untrue statement or omit any material fact or contain statements that might be misleading;
 - (ii) These statements together present a true and fair view of the Company's affairs and are in compliance with the applicable Ind AS, laws and regulations.
- (b) There are, to the best of our knowledge and belief, no transactions entered into by the company during the year 2018-19 which are fraudulent, illegal or violative of the Company's Code of Conduct.
- (c) We accept responsibility for establishing and maintaining internal controls for financial reporting and that we have evaluated the effectiveness of the internal control systems of the Company pertaining to financial reporting and we have disclosed to the Auditors and the Audit Committee, deficiencies in the design or operation of such internal controls, if any, of which we are aware and the steps we have taken or propose to take to rectify these deficiencies.
- (d) We have indicated to the Auditors and the Audit Committee:
- (i) Significant changes, if any, in internal control over financial reporting during the year 2018-19;
 - (ii) Significant changes, if any, in the accounting policies during the year 2018-19 and the same have been disclosed in the notes to the financial statements; and
 - (iii) Instances of significant fraud of which we have become aware and the involvement therein, if any, of the management or an employee having a significant role in the company's internal control system over financial reporting.



(Subodh Gupta)
Director (Finance)



(Atul Sobti)
Chairman & Managing Director

Place: New Delhi
Date: May 27, 2019

Caring for the environment

Controlling emission



BHEL has emerged as the single largest player in the emission control equipment domain in the country, with its offerings of flue gas desulphurization systems (FGD) for SO_x emission control, high efficiency electrostatic precipitators for particulate control and selective catalytic reduction systems (SCR) for NO_x emission control.

In 2018, BHEL received orders for 17 sets of FGDs - the highest by a single manufacturer and 2 sets of SCRs. With this, BHEL has secured orders for 32 FGD sets and 11 SCR sets, maintaining its leadership status.

Collaborations with technology leaders in the world along with in-house manufacturing capabilities, provide BHEL the competitive edge in the business.



Seawater FGD system for Trombay 1x250 MW

3x660 MW Lalitpur Thermal Power Station,
equipped with BHEL make supercritical sets



Sustainable Development



Annexure-IV to the Board's Report

Sustainable Development

4.1 Sustainability Performance –Environmental

The concept of Sustainable Development is ingrained in the management processes of BHEL and the same is reflected in our mission statement "Providing Sustainable Business Solutions in the fields of Energy, Industry & Infrastructure". Sustainability is a value proposition in itself for BHEL as it helps us in the business facets like - exploring new horizons for cost reduction and improving efficiency, creating & enhancing brand value, identifying & mitigating the regulatory as well as business risks, spurring innovation, and instil sense of pride among the employees.

The triple bottom line approach for Sustainable Development ensure that our management decisions are made keeping natural environment, good governance, inclusive development of society – the pillars of sustainable development in right perspective and attain business growth in an ethical manner.

To address the consideration for natural environment, our efforts towards environmental enrichment are aimed to restore the environment to its pristine self and reduce our environmental footprint to the extent feasible. In our value chain this is reflected in our efforts towards development of cleaner products through R&D efforts aimed at reducing the overall environmental footprint associated with their life cycles. In our internal processes, efforts in this area is amply reflected in our enhanced use of renewable energy, increase in activities aimed at improving energy efficiency of the machines and

systems, conserving natural resources through principles of reduce-recycle-reuse (3R), use of cleaner fuels, and responsible waste management.

To spur inclusive growth of the society at large and populace near our physical presence in particular, the organization strives to make a positive impact on the society through its CSR programme and creation of social infrastructure. To achieve multiplier effect in its efforts towards environmental management, the organization is creating awareness amongst the families of our employees, students, people residing in the vicinity and other stakeholders as to how they can contribute towards protection of environment as an individual, by celebrating World Environment Day / week / fortnight (WED), Earth Day etc. with wide participation. Various competitions organised during WED – 2018 included mass tree plantations, competitions for students like - poster making, quiz, slogan writing, elocution, environmental march for creating awareness about environment etc.

The glimpse of the journey which the organization has undertaken during 2018-19 while traversing the path of sustainability is given under the following heads.

4.1.1 Material & Natural Resource Management

BHEL puts significant thrust on efficient & effective use of natural resources and managing them sustainably. During



5 MW Solar Power Plant including ground mounted fixed, motor tracking and passive tracking enabled modules of BHEL make at Haridwar plant premises

the year 2018-19, some of the specific activities carried out for material and resource management included in-house recycling of ferrous scrap generated at units wherever feasible and despatch of ferrous scrap to CFFP Haridwar for recycling in making large castings & forgings, recycling and reuse of packing wood for packaging, making storage cup-boards etc., reuse of waste oil after reclamation, recirculation of hydraulic oil in machines, use of project site returned cables and cut pieces for in house electrical works, reduction of use of single use plastic across the factories, recycling of 32.4 KL of coolant at HEP Bhopal, recycling of 1574 MT of sand in the process at HEP Bhopal etc.

4.1.2 Energy Management

Managing energy requirements for our establishments in an efficient manner has always been a hallmark of our energy management process. Regular energy audits, sharing of good practices amongst the units for use of modern energy efficiency fixtures, certification of energy intensive unit to ISO 50001, use of cleaner fuels to attain sustainable energy mix are the processes put in place which enables managing our energy requirement in a sustainable manner. During the year 2018-19, specific activities carried out at our units pertaining to energy conservation and energy efficiency included reduction in lighting load by installation of LED bulbs through replacement of conventional lighting fixtures; installation of time controlled switch in coolers, auto on – off water level control system in main water tank for energy saving, use of sensors for electrical appliances, centralised control panel for all equipment and accessories in some of the offices; laying of solar panels on the roof of buildings inside factory for generation of electricity used for lighting purpose at EDN – Bengaluru; use of turbo ventilators inside the factory sheds for improved ventilation etc.

In the past couple of years, use of renewable energy has become a vital part of energy management strategy of the organization. It has helped us in generating clean energy inside our premises, reducing dependency on DG set for power, and avoid carbon footprint associated with the use of electricity. We have now 27 MWP of land based major solar installations. Further, we have many roof-top based solar installation existing at our units and some more plants are under installation.

Total electricity generated through various renewable energy systems stood at 27.6 Million Units during 2018-19 as compared to 15.61 Million units during 2017-18 which is a 76.8% increase compared to the last year.

4.1.3 Water and Biodiversity Management

Managing water and wastewater sustainably has been a core strength of our organization. Most of the units are using treated sewage for horticulture purpose thereby saving freshwater resources. Overall we have 12 Effluent Treatment Plants (ETPs)

and 12 Sewage Treatment Plant (STPs) working in our units for treatment of trade effluent and sewage. BHEL is making every effort to conserve water and striving towards making its factories Zero Liquid Discharge (ZLD) entities so as to conserve water resources as well as reduce the pollution load of water bodies. Many of our factories viz. HEEP & CFFP Haridwar, HEP Bhopal, HPEP Hyderabad, Trichy, BAP Ranipet, CFP Rudrapur, IP Jagdishpur, and PPPU Thirumayam have been declared as Zero Liquid Discharge (ZLD) entities. At other places, work on establishment of STPs, ETPs and water recycling systems is in progress so as to eventually make the units ZLD. At HEEP Haridwar unit, a 7 Million Litre Per Day (MLD) capacity STP is under installation. At HEP Bhopal unit 2 sumps of cumulative capacity of 5200 M³ have been constructed for rain water harvesting. All the parameters of effluents are checked periodically and found to be within the prescribed limit as specified by respective State Pollution Control Boards.



Rose Garden in BHEL Bhopal township

At our units, more than 21500 saplings were planted during tree plantations carried out during the year including on the occasion of world environment day (WED) 2018. Further, it is a standard practice to get saplings planted by retiring employees on the day of their superannuation to appreciate their contribution to the organization. During 2018-19, 8000 saplings were planted at HEP Bhopal, 8276 at Trichy, 500 at HEEP & CFFP Haridwar, 100 at CFP Rudrapur, 1500 at TP Jhansi, 170 at CSUFP Jagdishpur, 300 at IP Jagdishpur, and 200 at PPPU Thirumayam. In EDN Bengaluru unit 2500 saplings were distributed within city to enhance the green cover. So in this way more than 21500 saplings were planted by our units in and around their locations. These saplings and existing inventory of trees has been acting as a carbon sink, mitigating the air pollution and helping in recharging of ground water as well.

4.1.4 Carbon Management

Our concerted efforts towards energy management in a sustainable manner through energy conservation / efficiency

measures, use of renewable energy, and switching to cleaner fuels have helped us in reducing our carbon footprint considerably. Due to use of green energy inside our premises generated from the solar systems installed in-house, we have achieved a carbon footprint avoidance of nearly 26499 Metric Tonnes of carbon dioxide equivalent (MT CO₂-e) during 2018-19 which is nearly 71.5% more as compared to 2017-18 figure.

4.1.5 Waste Management

Managing the waste generated out of our operation in a sustainable manner has been an important part of our business practices. Efforts are made to reduce the generation of waste, reuse and recycle the waste generated out of our operations. Better nesting plan for cutting of metal sheets for reducing waste, recycling of ferrous scrap in CFFP Haridwar unit, and local reuse and recycling of various scrap generated at units help us in managing our waste through the principle of 3R (reduce-recycle-reuse).

Some of the examples of specific activities carried out for sustainable waste management across BHEL during 2018-19 include composting of organic waste at HEEP Haridwar, IP Jagdishpur, HERP Varanasi, and HPBP Trichy units; providing different bins for storage of different types of scrap like iron, plastic, used oil, chemicals etc. at IP Jagdishpur and EDN Bengaluru; making different bins out of waste material in EDN Bengaluru; reuse of 300 drums as tree guards in HEP Bhopal; reuse of 1000 MT of MS and 47 MT Copper scrap in foundry of HEP Bhopal; use of construction debris for in-house civil works and landfilling at EDN Bengaluru; use of discarded insulators for making pavement / platform for stacking of material in IP Jagdishpur; reclamation of 67.5 Kilo Litre of oil at HPBP Trichy etc.

Across BHEL, solid waste/scrap having resale value was collected, segregated, stored and sold to authorised recyclers. Hazardous waste / E-waste was disposed off as per the stipulations of relevant statutes.

4.2 Sustainability Performance – Social

During the year BHEL was conferred with following CSR awards:

1. **“CSR TIMES Awards-2018”** in the category “Livelihood”.
2. **“PSE Excellence Awards -2017”** for CSR & Sustainability by Indian Chamber of Commerce.
3. **“SKOCH Order of Merit Award”** for our CSR intervention in Khargone District, MP.
4. **Hemophilia Federation (India)** felicitated BHEL twice during the year.

CSR activities undertaken in 2018-19

BHEL has identified seven thrust areas for CSR interventions.

Brief description of some key interventions in these thrust areas are given below.

Clean India



The then CMD, BHEL inaugurating a modern Public Utility Complex for general public in Sec 17, Noida

- BHEL provided 3 five seater Mobile Toilets Vans to Satna Nagar Nigam (MP).
- BHEL approved financial support for construction of toilets in five primary schools located in the Gram Panchayat Chaurawan, Block- Siyar in Ballia district (UP).



Bio-digester toilets on the banks of river Ganga near Haridwar & Rishikesh, installed by BHEL

- BHEL continued its program for constructing 25 Bio-digester toilets in Haridwar & Rishikesh. Out of these 18 clusters have been completed and made operational for public.

Educated India

- BHEL supported Latika Roy Memorial Foundation, a Dehradun based NGO for its program “LATIKA VIHAR- EVERYBODY’S WELCOME”. It is a unique program for holistic development and inclusion of children and young adults with intellectual impairment.
- BHEL has approved a CSR project for constructing a mid-day meal shed in Upper Primary School, Kunda Basti, Jhalana Mahal, Jhalan, Jaipur.

- BHEL has taken up a project for constructing compound wall for Girraj Govt. Degree College, Nizamabad, Telangana. It



Major BHEL units have facilities to provide computer education to the economically weaker sections

will help in developing a safe and secure environment in the college, particularly for the girls hostels.

- BHEL has taken up a CSR project for constructing Boys & Girls Hostel Buildings at Govt. Polytechnic, Nizamabad, Telangana. This will bring great relief to poor students needing hostel accommodation during their course in the Polytechnic.
- BHEL provided financial support to orphans, wards of widows & differently abled students through educational scholarships at Bhopal.
- BHEL provided Computer Lab in three Govt. High School in Bengaluru, Karnataka.
- BHEL manufacturing units and other divisions under took many other CSR initiatives aimed at promotion of education such as renovation of class rooms, construction of sheds, supply of furniture, distribution of books, construction of toilets, providing IT infrastructure, improving water supply, providing play items, providing RO, renovation of auditorium etc. in various schools in vicinity of BHEL's establishments at Haridwar, Bhopal, Hyderabad, Chennai, Jhansi, Goindwal, Jagdishpur, Delhi-NCR, Kolkata and Trichy.



Livelihood initiatives & skill development programmes, empowering women, supported by BHEL, at its manufacturing units

Healthy India

- BHEL has extended the services of Mobile Medical Units being run in Raigad district, Maharashtra for one more year and has started a similar service for rural areas of Ratnagiri districts, Maharashtra for a period of one year.



Day care facilities for wards of BHEL employees of Delhi NCR at BHEL township premises in Noida

- A unique CSR project for retraining and capacity building of ASHA workers of Kalyan Block, Thane District, Maharashtra was taken up through "Rambhau Mhalgi Prabodhini", Mumbai.
- Free Medical Camps and Yoga Classes were organised in villages in vicinity of BHEL's establishments at Bhopal, Haridwar, Nagpur and Surat.

Responsible India, Inclusive India & Disaster Relief

- BHEL has approved a CSR project for installing LT lines and LED street lights at the confluence of Alaknanda and Mandakini rivers at Rudraprayag, Uttarkhand.
- A unique CSR initiative named "Connect & Change Program", for developing change makers through Entrepreneurship & Ideation for Inclusive Growth & Societal Development, has been taken up in Palghar, Rajgarh, Thane & Mumbai districts of Maharashtra.



A cheque of ₹5.24 Cr. was handed over to Sh. Pinarayi Vijayan, Hon'ble Chief Minister of Kerala by BHEL as a contribution to the Chief Minister's distress relief fund of Kerala

- BHEL Bhopal unit undertook a CSR initiative to provide free tuition to EWS Tribal Children.
- BHEL Haridwar unit continued its program for skill development of EWS women in various trades like beautician, tailoring, music, English speaking etc.
- BHEL RC Puram, Hyderabad supported needy Divyangjan by providing tricycles and wheelchairs for children, wheelchairs for adults, elbow crutches, axillary crutches, walking sticks, Braille canes, MSIED Kits, BTE Digital Hearing Aids and other items.
- BHEL's R&D unit at Hyderabad provided financial support to AARAMBH – Association for autism effected children, Ashray-Akruti – Centre for the hearing impaired & SriVidhya Centre for Special Children at Hyderabad.



BHEL's CSR initiatives spreading smiles

4.3 Annual Report for CSR Activities

[As per the requirement of The Companies (CSR Policy) Rules, 2014]

S.No.	Particulars																																
1.	Period for which CSR is being reported:	From 01.04.2018	To 31.03.2019																														
2.	Information does not include any CSR data / information regarding any BHEL's subsidiary or Joint Venture.																																
3.	No information is included about any other entity pertaining to CSR activities.																																
4.	A brief outline of the company's CSR policy, including overview of projects or programs undertaken and a reference to the web-link to the CSR policy and projects or programs is attached as Annexure – A to this report.																																
5.	<p>The composition of CSR committee at BHEL: CSR Committee at BHEL is called Board Level Committee (BLC) for CSR and consists of Director (HR), Director (Finance), one Part-time Official Director and at least one Independent Director (Part-time Non-Official Director). Chairman of the Committee is an Independent Director. Decision with regard to change in composition or re-constitution of CSR Committee is done with approval of the Board. The constitution of the BLC for CSR during Financial Year 2018-19 is given below.</p> <table border="1"> <thead> <tr> <th>Name (S/Sri)</th> <th>Designation</th> <th>Position in CSR Committee</th> </tr> </thead> <tbody> <tr> <td>Rajesh Kishore</td> <td>Independent Director</td> <td>Chairperson (up to 19.12.2018)</td> </tr> <tr> <td>Ranjit Rae</td> <td>Independent Director</td> <td>Chairperson (w.e.f. 20.12.2018) Member (up to 19.12.2018)</td> </tr> <tr> <td>Bhaskar Jyoti Mahanta, JS, DHI</td> <td>Part-time Official Director</td> <td>Member (up to 18.05.2018)</td> </tr> <tr> <td>Pravin L. Agrawal, JS, DHI</td> <td>Part-time Official Director</td> <td>Member (from 18.05.2018 to 27.03.2019)</td> </tr> <tr> <td>Amit Varadan, JS, DHI,</td> <td>Part-time Official Director</td> <td>Member (w.e.f. 27.03.2019)</td> </tr> <tr> <td>Ms. Surama Padhy</td> <td>Independent Director</td> <td>Member (from 20.12.2018 to 31.03.2019)</td> </tr> <tr> <td>D. Bandyopadhyay</td> <td>Director (HR)</td> <td>Member</td> </tr> <tr> <td>Subrata Biswas</td> <td>Director (E,R&D) and (Finance)</td> <td>Member (up to 17.04.2018)</td> </tr> <tr> <td>Subodh Gupta</td> <td>Director (Finance)</td> <td>Member (w.e.f. 18.04.2018)</td> </tr> </tbody> </table>			Name (S/Sri)	Designation	Position in CSR Committee	Rajesh Kishore	Independent Director	Chairperson (up to 19.12.2018)	Ranjit Rae	Independent Director	Chairperson (w.e.f. 20.12.2018) Member (up to 19.12.2018)	Bhaskar Jyoti Mahanta, JS, DHI	Part-time Official Director	Member (up to 18.05.2018)	Pravin L. Agrawal, JS, DHI	Part-time Official Director	Member (from 18.05.2018 to 27.03.2019)	Amit Varadan, JS, DHI,	Part-time Official Director	Member (w.e.f. 27.03.2019)	Ms. Surama Padhy	Independent Director	Member (from 20.12.2018 to 31.03.2019)	D. Bandyopadhyay	Director (HR)	Member	Subrata Biswas	Director (E,R&D) and (Finance)	Member (up to 17.04.2018)	Subodh Gupta	Director (Finance)	Member (w.e.f. 18.04.2018)
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Subodh Gupta	Director (Finance)	Member (w.e.f. 18.04.2018)																															
	Particulars	Amount ₹ crore																															
6.	Average net profit of the company for last three financial years (2015-16, 2016-17 & 2017-18), calculated in accordance with Section 198 of the Companies Act, 2013.	₹ 333.29 crore																															
7.	Prescribed CSR Expenditure (2% of the amount as in point 6 above).	₹ 6.67 crore																															
8.	CSR Budget approved by the Board for FY 2018-19.	₹ 6.70 crore																															
9.	Details of CSR spent during the year																																
	a. CSR Budget approved for FY 2018-19	₹ 6.70 crore																															
	b. Total committed but unspent amount carried forward from previous years	₹ 31.14 crore																															
	c. Total amount available for expenditure during FY 2018-19 [a+b]	₹ 37.84 crore																															
	d. Total CSR expenditure during FY 2018-19 #	₹ 16.01 crore																															
	e. Total committed but unspent amount carried forward to next Financial Year [c-d]	₹ 21.83 crore																															
	Manner in which the amount spent in 2018-19 is detailed at Annexure-B .																																
	# Considering expenditure of ₹ 19.83 crore during FY 2018-19 on schools located in BHEL establishments, which is eligible as CSR expenditure and spent over and above the budgeted CSR expenditure, the total amount spent on CSR during FY 2018-19 turns out to be ₹ 35.84 crore. Taking this into account, the gap between the amount to be spent based on statutory 2% CSR allocation and the actual spent turns out to be ₹ 2.00 crore.																																

10.	<p>Reason for not spending the amount</p> <p>a) Many projects taken during the year and others continued from previous years stretch beyond 2018-19. Fund required for completing these projects shall be met from the fund already allocated to them from the CSR budget.</p> <p>b) In line with CSR Policy of BHEL, the unspent amount will not lapse and the same will be carried forward to FY 2019-20 and beyond for CSR projects only.</p>
11.	<p>We, hereby, declare that the implementation and monitoring of CSR Policy, is in compliance with CSR objectives and Policy of the company.</p>



Chairman & Managing Director
BHEL



Chairperson
CSR Committee

New Delhi

Date: July 26, 2019

Annexure-A

BHEL Corporate Social Responsibility (CSR) Policy Outline

CSR Vision: A responsible corporate citizen working towards a better tomorrow.

CSR Mission:

To sincerely & effectively discharge company's responsibility in the identified CSR thrust areas and other areas listed out in the Companies Act, 2013.

Objectives of the Policy:

- To define CSR projects or programs which BHEL plans to undertake and which fall within the purview of the Companies Act 2013, the Companies (CSR Policy) Rules, 2014 and the prevailing DPE Guidelines.
- Modalities of execution of such CSR projects or programs.
- Monitoring process of such CSR projects or programs.
- To make the stakeholders aware about CSR practices in BHEL.
- To work keeping in mind the larger objective of sustainable development in conduct of business and in pursuit of CSR agenda.

Salient Features of the Policy:

- It covers the requirements stated in the Companies Act-2013, the Companies (CSR Policy) Rules-2014 and DPE Guidelines on CSR & Sustainability;
- It defines the thrust areas for CSR activities, which are based on the activities mentioned in Schedule VII of the Companies Act, 2013.
- It specifies that 2% of average net profit during the three immediately preceding financial years will be allocated for CSR activities.
- The company shall give preference to the local areas for spending at least 75% of the amount earmarked for CSR activities.
- A project having total value equal to or more than ₹ 2 crore will be termed as Mega project and Impact assessment of such projects will be mandatorily got done through an external agency.
- There is a provision to reserve 5% of the annual CSR budget as Emergency Fund to take up relief activities for any disaster/ calamity.
- It stipulates that 5% of total CSR expenditure for the year shall be kept as a reserve for capacity building including administrative overheads.
- It provides information about organizational structure for CSR in BHEL.

Web-Link to CSR Policy: BHEL CSR Policy is hosted on www.bhel.com under CSR section and can be accessed through the link http://www.bhel.com/CSR/pdf/BHEL_CSR_Policy_July%202017.pdf

ANNEXURE-B

(In ₹ Lakh)

Sl. No.	CSR project or activity identified	Sector in which the project is covered (Item No. of Schedule VII) & BHEL Thrust Area	Project or Program (1) Local area or other (2) State and district where projects or programs were undertaken	Amount outlay (budget) project wise	Amount spent on the project or programs in 2018-19	Cumulative-expenditure upto the reporting period	Amount spent directly (D) or through implementing agency (IA)	Name of Implementing Agency
1.	Projects aimed at promotion of education with value of individual project ≤ ₹ 5.0 lakh.	2, Educated India	Local & Others Projects taken mostly near BHEL establishments in Uttarakhand (Haridwar, Udham singh Nagar), UP (Amethi, Varanasi, Jhansi, GB Nagar MP (Bhopal), Telangana (Hyderabad & adjoining districts), AP (Vizag), TN (Trichy, Thirumayam Vellore, Chennai),Karnataka (Bengaluru), Maharashtra (Nagpur, Mumbai & adjoining districts) Delhi/ NCR, Punjab (Taran Taran), WB (Kolkata)	82.25	73.61	73.61	D/IA	BHEL/ Various IAs
2.	Projects for promotion of health and health care with value of individual project ≤ ₹ 5.0 lakh.	1, Healthy India		20.81	17.21	17.37	D/IA	BHEL/ Various IAs
3.	Projects aimed at women empowerment, old age homes, relief & rehabilitation works, helping people with disabilities etc. with value of individual project ≤ ₹ 5.0 lakh.	3 Responsible India		27.84	25.57	25.57	D/IA	BHEL/ Various IAs
4.	Projects aimed at skill/vocational training of people from EWS, support to tribal people, support to EWS for education etc., with value of individual project ≤ ₹ 5.0 lakh.	2 Inclusive India		10.19	10.09	10.09	D/IA	BHEL/ Various IAs
5.	Projects aimed at promotion of literature, art, culture with value of individual project ≤ ₹ 5.0 lakh.	5 Heritage India		1.42	1.42	1.42	D/IA	BHEL/ Various IAs
6.	Projects aimed at providing toilets/ urinals in schools with value of individual project ≤ ₹ 5.0 lakh.	1 Clean India		6.62	6.04	6.04	D/IA	BHEL/ Various IAs
7.	Skill Development Expenses	2 Inclusive India		198.98	198.98	198.98	D	BHEL

(In ₹ Lakh)

Sl. No.	CSR project or activity identified	Sector in which the project is covered (Item No. of Schedule VII) & BHEL Thrust Area	Project or Program (1) Local area or other (2) State and district where projects or programs were undertaken	Amount outlay (budget) project wise	Amount spent on the project or programs in 2018-19	Cumulative-expenditure upto the reporting period	Amount spent directly (D) or through implementing agency (IA)	Name of Implementing Agency
8.	Running of Mobile Medicare Unit in rural areas	1 Healthy India	Local, MP (Bhopal)	66.00	3.65	54.82	IA	PHDRDF, New Delhi
9.	Installation of Solar Utilities in the Rural Area	4 Green India	Local, MP (Bhopal)	70.00	3.22	67.75	D	BHEL
10	Mobile Toilet Vans to Nagar Nigam, Satna	1 Clean India	Local, MP (Satna)	10.00	10.00	10.00	IA	Nagar Nigam, Satna
11	Beautification/ Maintenance of Pathways between Nayandalli Circle & Bus Depot	3 Responsible India	Local, Karnataka (Bengaluru)	7.20	4.22	6.66	D	BHEL
12	Community Bio-digester Toilets in Haridwar & Rishikesh	1 Clean India	Local, Uttarakhand (Haridwar)	565.00	27.43	413.06	IA	FICCI, New Delhi
13	Latika Vihar- Everybody's Welcome	3 Inclusive India	Local, Uttarakhand (Dehradun)	19.00	12.38	12.38	IA	Latika Roy Memorial Foundation
14	Construction of two Community halls	3 Responsible India	Other, UP (Siddharthnagar)	51.18	20.59	50.59	IA	RED, Siddharthnagar, UP
15	Udayan Shaini-Scholarship to Girls students	2 Educated India	Local, Uttarakhand (Haridwar)	99.10	0.05	69.87	IA	Udayan Care, New Delhi
16	Financial support for running Mobile Science Labs	2 Educated India	Local, Uttarakhand (Haridwar)	56.19	1.82	45.15	IA	AGASTYA Int. Foundation New Delhi
17	Procurement of Rp-HPLC machines	4 Responsible India	Local, Bihar (Patna)	19.80	13.86	17.62	IA	AN College, Patna
18	Construction of Blocks in the King George Hospital	1 Healthy India	Local, AP (Vizag)	1500.00	800.00	1200.00	IA	APMSIDC, Vizag

(In ₹ Lakh)

Sl. No.	CSR project or activity identified	Sector in which the project is covered (Item No. of Schedule VII) & BHEL Thrust Area	Project or Program (1) Local area or other (2) State and district where projects or programs were undertaken	Amount outlay (budget) project wise	Amount spent on the project or programs in 2018-19	Cumulative-expenditure upto the reporting period	Amount spent directly (D) or through implementing agency (IA)	Name of Implementing Agency
19	Scholarship to meritorious BPL students and disabled students.	2 Educated India	Local, UP (G.B. Nagar)	600.00	43.44	563.44	IA	FAEA, New Delhi
20	Construction of Community Hall at Choudharpally, Dubbak.	3 Responsible India	Local, Telangana (Medak)	8.01	3.91	8.01	D	BHEL
21	Construction / installation of bore wells, water tanks, solar dual pumps and beautification of area	3 Responsible India	Local, UP (Raebareli)	275.00	29.50	273.71	IA	Zilla Panchayat, Raebareli
22	Eye Checkup and cataract surgery camps	1 Healthy India	Local, UP (GB Nagar)	6.50	6.50	6.50	IA	I Care Hospital, Noida
23	Construction of a Compound wall for Girraj Govt. Degree College	2 Educated India	Other, Telangana, Nizamabad	100.00	20.07	20.07	IA	District Panchayat Raj Engineer
24	Construction of Boys & Girls Hostels at Govt. Polytechnic	2 Educated India	Other, Telangana (Nizamabad)	300.00	52.48	52.48	IA	District Panchayat Raj Engineer
25	Tractor and Trolley for Garbage collection to BDO	1 Clean India	Other, TN (Ramanathanpuram)	6.89	6.03	6.03	D	BHEL
26	Distribution of 5000 educational tablets to students in the Municipal schools	2 Educated India	Local, Maharashtra (Mumbai)	312.50	15.60	312.50	IA	Akanksha, Bandra (E), Mumbai
27	Drinking water plants in villages near Chandrapur TPS	1 Clean India	Other, Maharashtra (Chandrapur)	90.00	90.00	90.00	IA	MAHAGENCO
28	Running of Mobile Medicare Unit in rural areas of Raigad	1 Healthy India	Other, Maharashtra (Raigad)	6.75	6.75	6.75	IA	Wockhardt Foundation

(In ₹ Lakh)

Sl. No.	CSR project or activity identified	Sector in which the project is covered (Item No. of Schedule VII) & BHEL Thrust Area	Project or Program (1) Local area or other (2) State and district where projects or programs were undertaken	Amount outlay (budget) project wise	Amount spent on the project or programs in 2018-19	Cumulative-expenditure upto the reporting period	Amount spent directly (D) or through implementing agency (IA)	Name of Implementing Agency
29	Capacity building of ASHA workers of Kalyan Block, Thane	1 Healthy India	Local, Maharashtra (Thane)	18.00	6.00	6.00	IA	Rambhau Mhalgi Prabodhini
30	Connect & Change Program for developing change makers through entrepreneurship & ideation for Inclusive Growth & Societal Development	2 Inclusive India	Local, Maharashtra (Palghar, Rajgarh, Thane & Mumbai)	18.00	5.00	5.00	IA	Connecting Dreams Foundation (CDF)
31	Relief work for Kerala Flood Victims	3 Responsible India	Local, Kerala (Kochi)	6.43	5.71	5.71	D	BHEL
32	Heal-a-Soul, Distribution of AHF kits to haemophilics and pre-natal test for women	1 Healthy India	Pan India	320.10	0.30	319.97	IA	Haemophilia Federation (India)
33	Capacity/ Administrative overheads	Capacity Building	Pan India	80.07	80.07	80.07	D	BHEL
Total (in ₹ lakh) #					1601.45			

Considering expenditure of ₹ 19.83 crore during FY 2018-19 on schools located in BHEL establishments, which is eligible as CSR expenditure and spent over and above the budgeted CSR expenditure, the total amount spent on CSR during FY 2018-19 turns out to be ₹ 35.84 crore. Taking this into account, the gap between the amount to be spent based on statutory 2% CSR allocation and the actual spent turns out to be ₹ 2.00 crore.

D: Direct

IA: Implementing Agency

Annexure-V to the Board's Report

Business Responsibility Report 2018-19

Section A: General Information about the Company

1.	Corporate Identity Number (CIN) of the Company	L74899DL1964GOI004281
2.	Name of the Company	BHARAT HEAVY ELECTRICALS LIMITED
3.	Registered address	BHEL House, Siri Fort, New Delhi – 110 049
4.	Website	www.bhel.com
5.	E-mail id	shareholderquery@bhel.in
6.	Financial Year reported	2018-19
7.	Sectors that the Company is engaged in	Refer to 'Corporate Profile', Annual Report 2018-19
8.	List three key products/services that the Company manufactures/provides	<p>(a) Construction of Power Plant (NIC Code: 4220)</p> <p>(b) Manufacture of Steam Generators including auxiliary plant for use with steam generators (NIC Code: 2513)</p> <p>(c) Manufacture of Turbine, Generator sets including auxiliaries (NIC Code: 2811)</p> <p>(d) Manufacture of electric motors, transformers and electricity distribution and control apparatus etc. (NIC Code: 2710)</p>
9.	Total number of locations where business activity is undertaken by the Company	<p>a) Number of International Locations (Provide details of major 5)</p> <p>Major locations from where business activity is undertaken by BHEL are Dubai (UAE), Dhaka (Bangladesh), Jakarta (Indonesia), Kathmandu (Nepal).</p> <p>b) Number of National Locations</p> <p>The company has 17* manufacturing units, 2 repair units, 4 regional offices, 8 service centres, and 15 regional marketing centres.</p>
10.	Markets served by the Company	BHEL serves domestic as well as international markets.

*On 1st April 2019, IP and CS&FP are merged and renamed as Fabrication, Stamping Insulator Plant (FSIP).

Section B: Financial Details of the Company (2018-19)

1.	Paid up capital	₹ 696.41 crores
2.	Total Turnover	₹ 29349 crores
3.	Total Profit after Tax	₹ 1215 crores
4.	Total expenses incurred on CSR	₹ 6.70 crore (2% of the average net profits of last 3 years) is expensed during the year 18-19. In addition ₹ 19.83 crores is also incurred during the year on school expenditure, otherwise covered under CSR.
5.	List of activities in which expenditure on CSR has been incurred: Refer Annexure IV on 'Sustainable Development' under Board Report, BHEL Annual Report 2018-19.	

Section C: Other Details
1. Does the Company have any Subsidiary Company/ Companies?

Yes, BHEL has one subsidiary company - BHEL Electrical Machines Ltd. (BHEL-EML), Kasargod as on 31-03-2019

2. Do the Subsidiary Company/Companies participate in the BR Initiatives of the parent company? If yes, then indicate the number of such subsidiary company(s)

BHEL-EML, Kasargod does not participate in the BR initiatives of BHEL. However, BHEL-EML is a Schedule 'C' Central Public Sector Enterprise which adheres to the guidelines issued by Government of India from time to time.

3. Do any other entity/entities (e.g. suppliers, distributors etc.) that the Company does business with, participate in the BR initiatives of the Company? If yes, then indicate the percentage of such entity/entities? [Less than 30%, 30-60%, More than 60%]

In most of the cases, BR initiatives are carried out by BHEL only.

Section D: BR Information
1. Details of Director/Directors responsible for BR

a) Details of the Director / BR Head responsible for implementation of the BR policy/policies

SN	Particulars	Details
i.	DIN Number (if applicable)	07221633
ii.	Name	D. Bandyopadhyay
iii.	Designation	Director (HR)
iv.	Telephone number	011 26001003
v.	e-mail id	db@bhel.in

2. Principle-wise (as per NVGs) BR Policy/policies (Reply in Y/N)

The National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business (NVGs) released by the Ministry of Corporate Affairs has adopted nine areas of Business Responsibility. These briefly are as under:

P1: Businesses should conduct and govern themselves with ethics, transparency and accountability.

P2: Businesses should provide goods and services that are safe and contribute to sustainability throughout life cycle.

P3: Businesses should promote the well-being of all employees.

P4: Businesses should respect the interests of, and be responsive towards all stakeholders, especially those who are disadvantaged, vulnerable and marginalized.

P5: Businesses should respect and promote human rights.

P6: Businesses should respect, protect and make efforts to restore the environment.

P7: Businesses, when engaged in influencing public and regulatory policy, should do so in responsible manner.

P8: Businesses should support inclusive growth and equitable development.

P9: Businesses should engage with and provide value to their customers and consumers in a responsive manner

SN	Questions	P1	P2	P3	P4	P5	P6	P7	P8	P9
1.	Do you have policy/policies for ...	Y	Y	Y	Y	Y	Y	N	Y	Y
2.	Has the policy being formulated in consultation with the relevant stakeholders?	Y	Y	Y	Y	Y	Y	-	Y	Y
3.	Does the policy conform to any national /international standards? If yes, specify? (50 words)	Y	Y	Y	Y	Y	Y	-	Y	Y
4.	Has the policy being approved by the Board? If yes, has it been signed by MD/owner/CEO/appropriate Board Director?	Y	Y	Y	Y	Y	Y	-	Y	Y
5.	Does the company have a specified committee of the Board/Director/Official to oversee the implementation of the policy?	Y	Y	Y	Y	Y	Y	-	Y	Y
6.	Indicate the link for the policy to be viewed online?	Weblinks have been provided wherever applicable								
7.	Has the policy been formally communicated to all relevant internal and external stakeholders?	Y	Y	Y	Y	Y	Y	-	Y	Y
8.	Does the company have in-house structure to implement the policy/policies?	Y	Y	Y	Y	Y	Y	-	Y	Y
9.	Does the Company have a grievance redressal mechanism related to the policy/policies to address stakeholders' grievances related to the policy/policies?	Y	Y	Y	Y	Y	Y	-	Y	Y
10.	Has the company carried out independent audit/evaluation of the working of this policy by an internal or external agency	Y	Y	Y	Y	Y	Y	-	Y	Y

Notes

1. We have various practices established based on these principles, but do not have formal policy document with respect to one of them.
2. Once a policy is approved by the Board, it need not be necessarily signed by CMD/Board Director.
3. Policies and procedures of the organization are subject to audits/reviews during/by ISO 9001, ISO 14001, OHSAS 18001, CAG, Parliamentary Committees, Board of Directors, Committee of Functional Directors, Board Level Committees and/or Management Committee etc.

2a. If answer to S.No. 1 against any principle, is 'No', please explain why: (Tick up to 2 options)

In respect of Principle 7 referring to Policy Advocacy, we have established practices based on 'Policy advocacy in responsible manner'.

3. Governance related to BR

- Indicate the frequency with which the Board of Directors, Committee of the Board or CEO assess the BR performance of the Company. (Within 3 months, 3-6 months, Annually, More than 1 year)

In 2018-19, the Board Level Committee for CSR met three times, while assessment and review of CSR activities in BHEL was done in five Board meetings.

- Does the Company publish a BR or a Sustainability Report? What is the hyperlink for viewing this report? How frequently it is published?

BHEL publishes its Sustainability Report annually. Last 3 years' reports can be accessed on Corporate Webpage through the following link:

http://www.bhel.com/index.php/sustain_report

Section E: Principle-wise performance

Principle 1: Ethics, Transparency and Accountability

The company has a Board approved 'Code of Business Conduct & Ethics' for all Board Members and Senior Management personnel in compliance with the requirements of DPE Guidelines on Corporate Governance for CPSEs and SEBI's Listing Regulations.

http://www.bhel.com/investor_relations/pdf/BHEL-Code-of-Business-Conduct-and-Ethics-w-e-f-01-04-2019.pdf

The Board has laid down Charter of the Board of Directors which clearly defines the roles and responsibilities of the Board and individual Directors. Further, the company endeavors to preserve the confidentiality of unpublished price sensitive information and prevent abuse of such information. Towards this a Board approved policy 'Code of Conduct for Regulating & Reporting Trading by Insiders and for Fair Disclosure - 2015' in line with SEBI (Prohibition of Insider Trading) Regulations - 2015 and Listing Regulations directs that Board members and other Designated Employees of the company have a duty to safeguard the confidentiality of all such information obtained in the course of their work at the company. The Code also provides for practices and procedures for fair disclosure of unpublished price sensitive information.

http://www.bhel.com/investor_relations/pdf/Insider%20Trading%20Code%202019-w-e-f01-04-2019.pdf

In line with the requirements of DPE Guidelines on Corporate Governance and the Listing Regulations, BHEL provides progress reports on quarterly basis to DHI and stock exchanges. Further, with a view to ensure effective implementation of the Insider Trading Code, the Company has also in place Internal Operating Guidelines wherein the concerned HoDs of functions/ manufacturing units are required to ensure timely dissemination of information with regard to the Code to Connected Persons pertaining to their area. In line with the Listing Regulations, all Board members and Senior Management personnel affirm annually that they have fully complied with the provisions of the Code of Business Conduct and Ethics during the relevant financial year and an affirmation to this effect is given by the Chairman & Managing Director in the Annual Report of the Company. For the purpose of the 'Code of Conduct for Regulating & Reporting Trading by Insiders and for Fair Disclosure, 2015', Director (Finance) is the compliance officer of the Company.

In addition, as a part of BHEL's persisting endeavour to set a high standard of conduct for its employees (other than those governed by standing orders), 'BHEL Conduct, Discipline and Appeal Rules, 1975' is in place. This is augmented by Fraud Prevention Policy and Whistle Blower Policy which not only

arm the company against unacceptable practices but also act as a deterrent. The Company is subject to RTI Act 2005, audit by Statutory Auditors and CAG audit under section 139 of the Companies Act, 2013.

<http://www.bhel.com/pdf/BHEL%20Fraud%20Prevention%20Policy.pdf>

<http://www.bhel.com/pdf/Whistle%20Blower%20Policy.pdf>

http://www.bhel.com/assets/downloads/5c35d305718eaWhistle_Blower.PDF

BHEL has signed MoU with Transparency International India (TII) to adopt 'Integrity Pact' to make procurement and contracting more transparent by binding both the parties to ethical conduct. A panel of two Independent External Monitors (IEMs) has been appointed to oversee implementation of Integrity Pact in BHEL, with due approval of Central Vigilance Commission. Within BHEL, accountability is well defined for various functionaries through 'Delegation of Power'. Works Policy, Purchase Policy and other policy documents facilitate transparency in BHEL's working and commitment of highest order of integrity. Three representations received from suppliers during 2018-19 under Integrity Pact have been resolved by the IEMs.

The Company has a Stakeholders Relationship Committee specifically to look into matters related to redressal of shareholders and investors complaints. As reported by M/s Karvy Computershare Private Limited (Registrar & Share Transfer Agent of the company), 1094 complaints were received from the shareholders during the year under review and all complaints were redressed by 31st March, 2019.

In addition, a total of 243 public grievance complaints were received from the general public under the Centralized Public Grievance Redressal and Monitoring Scheme during the year 2018-19. All the grievances were satisfactorily resolved.

Principle 2: Products Life Cycle Sustainability

BHEL is contributing to a greener environment through development of environment friendly technologies and improvement in efficiency of equipments. Continuous improvement in power cycle efficiency and reduced emissions from coal based power plants have been achieved over the time by evolution of technology from sub-critical to supercritical. Attributes of BHEL supplied power plant equipment such as lower auxiliary power consumption, higher plant efficiency, lower design heat rate and higher operating availability help in attaining lower life cycle cost.

Four major product sets which address environmental concerns in their design are power plants operating with steam at supercritical parameters, Flue-gas Desulfurization (FGD) systems, Solar Photovoltaic plants and Electrostatic Precipitators (ESP). There is also conscious effort towards reduction of embodied

carbon in products. Company has opted to replace polluting fuels with cleaner ones, e.g., gas is now used as a source of heat energy (instead of coal earlier) during production of products like ceralin.

BHEL has been supporting Micro and Small Enterprises (MSEs) and local suppliers in and around manufacturing units from various fronts. They are part of BHEL's supply chain. Also, as mandated in Public Procurement Policy for Micro and Small Enterprises (MSEs) Amendment Order, 2018 for MSEs (issued by Ministry of MSME-GoI), 25% of BHEL's total procurement was from MSEs during 2018-19. Regular vendor meets and supplier development programs are organized by BHEL units, specifically for MSEs (including local suppliers) as well as specific to SC/STs, which serves as a platform for identification of needs and formulation of action plan for mutual benefits.

Company's manufacturing processes generate fair amount of metal scrap. Some of the scrap subsequently undergoes recycling within the company and is reused. For example, Central Foundry Forge Plant (CFFP) in Haridwar manufactures Steel Forgings and Castings for which steel scrap is a major raw material. Reusable material is also used in packaging manufactured goods.

Principle 3: Employee's Well-being

BHEL has been a frontrunner in the area of human resource management. The guiding principle for company's HRM policy

is to ensure availability of competent, motivated and effectively contributing human resources and to facilitate achievement of their full potential at all times to realize organizational mission. Company has documented HRM policies and rules in the form of a 'Personnel Manual' to ensure transparency and uniformity of implementation for regulating employment relationship, career growth/ development and employees' emoluments/ benefits, healthcare and well-being. These policies are further complemented by a grievance redressal mechanism through two schemes – one for workers and other for staff & officers. A grievance for the purpose of the scheme means a grievance relating to any individual employee arising out of the implementation of Company policies/rules or management decisions. Both these schemes provide for three tier resolution. Defined timelines are laid down for resolution of grievance at each stage. Besides, an appellate mechanism is also provided under the scheme, in the case of grievance redressal scheme for staff & officers, which an aggrieved employee can approach in case he/she is not satisfied with the resolution of the grievance.

BHEL has a Health, Safety & Environment (HSE) policy which underlies the commitment of the organization to provide safe and healthy work environment to all its employees. The policy conforms to the requirements of ISO 14001 & OHSAS 18001/ ISO 45001 management system certification and can be accessed through the link <http://www.bhel.com/healthsafety/HSE%20POLICY.pdf>. HSE cells at all units/ divisions implement



Heavy Electrical Equipment Plant (HEEP), BHEL - Haridwar

this policy and Corporate HSE department provides strategic guidance related to HSE matters at organization level. The HSE policy is prominently displayed at all workplaces to create awareness amongst the workers about the same and is also translated into local language. Periodic audits by external agencies are carried out to ensure the effectiveness of ISO 14001 and OHSAS 18001 management systems implemented at workplaces which includes the working of the policy and its critical elements.

1. Total number of regular employee as on 31-03-2019: 35,471
2. Total number of employees hired on temporary/ contractual basis: BHEL does not hire employees on temporary/ casual basis. However, BHEL awards job/works contracts to contractors at its various Units/ Divisions/ Departments as per organizational needs. The number of workers with contractors varies from time to time.
3. Number of permanent women employees as on 31-03-2019: 2,053
4. Number of permanent employees with disabilities as on 31-03-2019: 905
5. BHEL has twenty-nine participative trade unions represented in the apex level bipartite body, namely the Joint Committee for BHEL for discussing workers' and Company's interest related issues with the workers' representatives, based on the principle of participative management. Besides the above, there are two employee associations, one each for executives and supervisors in BHEL.
6. All three categories of employees viz. Executives, Supervisors and Workers are represented by their respective association/ trade unions. However, since there is no check-off facility to ascertain the exact membership of executive/supervisory associations and workers' unions, a firm number in respect of the three classes of employees is not available.
7. In 2018-19, the company received a total of five complaints on sexual harassment of which four have been resolved satisfactorily and one pending at the end of the financial year. No complaint of child labour/ forced labour/ involuntary labour/ discriminatory employment has been received.
8. During the year 2018-19, number of average training man-days per employee is 3.58. Company provides training in technical as well as behavioral skills to its employees. Training on Health Safety & Environment (HSE) aspect is one of the essential element of our induction training programme. In addition, separate programmes are also regularly conducted at all BHEL's manufacturing units and project sites to train employees on HSE by both internal and external faculty members. Training on safety is also provided to casual/ temporary/ contractual workers coming through job/ work

contracts with contractors. Percentage of employees who were given safety and skill (both technical and behavioural) upgradation training in 2018-19:

a.	Permanent Employee	43%
b.	Permanent Woman Employee	61%
c.	Casual/ Temporary/ Contractual workers	22%
d.	Employees with disabilities	51%

Principle 4: Stakeholder Engagement

BHEL has identified 'Customers', 'Employees', 'Shareholders', 'Vendors' and 'Society' as its stakeholders. Processes are in place to ensure inclusion of stakeholder expectations and concerns. Key issues are identified through stakeholder engagement and addressed by programmes or action plans with clear and measurable targets. BHEL units regularly organize vendor meets specifically for MSEs (including local suppliers) towards capacity and capability building, which also provides opportunities for open communication, mutual benefit and support. Customers are engaged through several modes like customers meets. Investor community is engaged through meetings, conferences etc and is provided with relevant information pertaining to their investment decisions.

BHEL has clearly identified the disadvantaged, vulnerable, poor, needy & marginalized stakeholders in the vicinity of the BHEL manufacturing units / regions / divisions / sites / offices and their concerns are addressed as per BHEL's CSR Policy which is in compliance with section 135 & Schedule VII of the Companies Act 2013 and rules made thereunder as well as DPE Guidelines on CSR & Sustainability for CPSEs.

http://www.bhel.com/index.php/csr_policy

Principle 5: Human Rights

BHEL policies are in line with the principles of Human Rights, The Constitution of India, and applicable laws. BHEL has special provisions for ensuring safeguard of women employees at the workplace. No instance of human rights abuse has been reported in the Company.

BHEL is a founder member of Global Compact Network, India (GCNI) and is an active participant in its initiatives. The company reports its performance on ten principles of UNGC on annual basis since 2001 through Communication on Progress (CoP) which includes BHEL's commitment towards upholding the principles of UNGC. This CoP is web-hosted on UNGC website and can be accessed through the webpage:

<https://www.unglobalcompact.org/participation/report/cop/create-and-submit/active/419416>

The same CoP can be accessed through:

http://www.bhel.com/index.php/ungc_program

Principle 6: Environment

BHEL has a well-established Environmental Management System (EMS) accredited to ISO 14001:2004/2015 in all major manufacturing units and Power Sector regions. Based on the corporate HSE policy, all manufacturing units and regions have derived their HSE systems in line with the requirement of ISO 14001 'Environmental Management System' standard. The EMS provides an excellent framework to proactively identify and manage the risks related to environment in a systematic manner. HSE cells at all BHEL units as well as Power Sector regions oversee the implementation of HSE policy supported by Corporate HSE department at apex level to provide strategic guidance. Periodic audits are carried out by the certifying body to ensure the compliance to the EMS and requirements of ISO 14001 are met. The company's HSE policy is available on the internet and can be accessed through the web link: <http://www.bhel.com/healthsafety/HSE%20POLICY.pdf>.



5 MW ground mounted Solar PV installation of BHEL make at BHEL, Ranipet

As a responsible global citizen, the organization acknowledges the relation between Green House Gas (GHG) emissions and climate change. To address this global challenge, BHEL has been putting efforts in reducing carbon footprint of its products and services, thereby enabling the customers to generate power in a sustainable manner with reduced environmental footprints over the life cycle of the plant. In internal operations also, the organization is putting a major thrust in energy efficiency and use of renewable energy sources. The company has established a total of 27 MWp of Solar Photo Voltaic (SPV) plants at various BHEL locations. Our inventory of renewable energy generation sources also include kilowatt scale rooftop & ground based SPV system, solar water heaters, solar street lighting etc. As a result of such initiatives, BHEL achieved carbon footprint avoidance of 26,499 MT CO₂-e during 2018-19 which is 71% higher as compared to 2017-18 through various renewable energy based systems. Total energy generated through various renewable energy systems stood at 27.60 Million Units during 2018-19 as

compared to 15.61 million units during 2017-18. The Company has also taken a number of projects related to water and energy conservation, tree plantation, waste management, resource conservation, etc.

Having already introduced supercritical technology in India, the company is working further towards reducing the carbon footprint of BHEL made products during their operational lifecycle. In association with IGCAR and NTPC, BHEL is developing Advanced Ultra Supercritical Technology under the aegis of the National Mission on Clean Coal Technology. The technology will yield targeted efficiency of 45-46% against efficiency of ~38% of subcritical and ~41-42% of supercritical sets. As a result, coal consumption and CO₂ emission will further reduce by about 11% as compared to supercritical power plants and by about 20% as compared to subcritical power plants for single unit of power generation.

BHEL is already offering solutions required to meet the stipulated emission norms which are in force for generation utilities. The company is executing jobs like modification in boiler design, installation of FGD systems for reduction of SO_x emissions and improvement in particulate collection efficiency of ESPs. BHEL has Technology Collaboration Agreement (TCA) with NANO Co. Ltd., Republic of Korea for design & manufacture of SCR Catalysts and with Babcock Power Environmental Inc., USA for SCR system catering to De-NO_x business in Coal fired power plants.



Technology Collaboration Agreement (TCA), for Selective Catalytic Reduction (SCR) catalysts for emission control, signed with Nano Co. Ltd., Republic of Korea

BHEL is working on development of technology for the conversion of high ash Indian coal to methanol. Successful implementation of this technology will help generating methanol at industrial scale for its use in blending with petrol which can significantly curb the rising crude oil import bill of the country and improve the energy security of India.

BHEL has also undertaken development of high efficiency solar cells using Passivated Emitter Rear Contact (PERC) technology at pilot scale. The project includes development of mono and

multi-Si solar cells and shall be commercially deployed for production of higher efficiency solar cells.



Passivated Emitter & Rear Cell (PERC) development facility at BHEL, ASSCP Gurugram

In transportation sector, there is movement towards Electric Vehicle mobility as the future mode of transportation. BHEL is already developing e-Bus, permanent magnet motors, induction motors, IGBT controller for e-Buses, electric charging stations for e-mobility infrastructure.

One show cause notice from Joint Director of Industrial Safety & Health Division, Sathuvachari, Vellore has been received by BAP Ranipet during 2018-19. Explanation has been provided and matter is pending for resolution. The show cause notice received by Trichy manufacturing unit from Directorate of Industrial Safety & Health, Govt. of Tamil Nadu during 2017-18 has been vacated.

One show cause / legal notice received from Central Pollution Control Board (CPCB) / State Pollution Control Board (SPCB) is pending as on 31.03.19. The notice is served by SPCB Bengaluru to ISG Bengaluru during 2018-19. Explanation has been provided and matter is pending for resolution.

Principle 7: Policy Advocacy

BHEL is a member of many industry and trade bodies such as Confederation of Indian Industry (CII), Federation of Indian Chambers of Commerce and Industry (FICCI), Associated Chambers of Commerce and Industry of India (ASSOCHAM), International Chamber of Commerce (ICC), PHD Chamber of Commerce and Industry (PHD), and Standing Conference of Public Enterprises (SCOPE). Company is also member of World Energy Council (WEC) which enables promoting policies that balance Energy Security, Energy Equity and Environmental Sustainability aspects. BHEL uses various mechanisms of interaction with such bodies (e.g. participation in seminars & meetings, participation in working groups etc.) for putting forth its views and opinions in matter related to policy.

Company's interests are represented via inputs to government queries, knowledge sharing, response to surveys, feedback on industry needs, formation of government policies like GST, fiscal budget, foreign trade, Company Law, Industrial Policy, Capital Goods Policy, Export Promotion, etc. Company participates in multilateral bodies for trade promotion and collaboration with countries like the US, France, Sweden, UK, Russia, Japan, Brunei etc. Company also interacts with government bodies like DHI, DPE, DIPP, NITI Aayog and participates in policy formulation like National Electricity Policy, challenges of employment generation, growth and skill development, Make in India, promotion of in-house R&D, Human Resource Management, roadmap for development of CPSEs, etc.

Company has actively contributed in a responsible manner towards development of policies meant for strengthening of technology base in country, skill development, development of Indian power sector, development of capital goods sector and Indian manufacturing industry, exports, growth of Public Sector Enterprises through better governance, etc.

Principle 8: Inclusive Growth

BHEL has a well-structured organizational set-up, policy & procedures through which various CSR programmes are implemented. The CSR policy has identified several activities from Schedule-VII of the Companies Act, 2013 as its thrust areas. These activities have been categorized under seven headings namely Clean India, Green India, Healthy India, Heritage India, Inclusive India, Educated India and Responsible India. The policy is hosted on website link http://www.bhel.com/index.php/csr_policy and is fully in conformance with requirements of Section 135 of the Companies Act 2013.

The policy is implemented through a three-tier structure at the corporate level (Board, Board level committee on CSR and Level-1 committee) along with unit level CSR Committee. Company supports numerous social initiatives across the country targeting poor, needy and economically weaker sections of society through specialized agencies such as NGOs, govt. agencies etc. in line with the CSR Policy. BHEL has undertaken several CSR initiatives in the field of health, education, Swachh Bharat, environment protection, vocational training, skill development programmes, infrastructure development and community development programmes, which ultimately contributed to holistic welfare and inclusive growth of the society. CSR projects are closely monitored and supervised with an objective to provide maximum benefits to the society and to ensure fruitfulness of the initiatives undertaken.

During 2018-19, the CSR activities carried out are listed in **Annexure IV** of Annual Report. Further, project details are listed on the link <http://www.bhel.com/index.php/projects>

Apart from inclusive growth through CSR, the company takes affirmative action in recruitment and promotion for representation of employees from socio-economically backward sections of society as well representation of minorities and women, as mandated by the Govt. of India. The company is an equal opportunity employer and does not discriminate on the basis of gender, race, caste, religion, linguistic, region etc. in recruitment and employment relationship.

Principle 9: Customer Value

Customer value is an integral part of BHEL's culture which is also being reflected in our Vision, Mission and Values statement. Company is constantly working towards creating value for customer through products and services. Every product offering of BHEL is labelled with detailed product labels/ name plates/ test certificates as per the requirement and terms of contracts with customers besides the mandatory requirement of the applicable law.

Given BHEL's diverse and large scale nature of operations, customer complaints get registered and resolved through multiple ways. Two dedicated centralized online complaint systems, i.e., Customer Care Management System (CCMS) and Site Action Request (SAR)/ Commissioning Action Request (CAR) resolution system are in operation. In 2018-19, major quality issues reported were taken up for Root Cause Analysis (RCA) and fourteen cases were resolved. Apart from complaints, customer feedback is taken through customer satisfaction surveys, customers' meets, face-to-face interactions and appreciation letters.

There is no case filed by any stakeholder against the company regarding unfair trade practices, irresponsible advertising and/ or anti-competitive behavior during the last five years and pending as on end of financial year i.e. 31-03-2019.



State-of-the-art turbine blade shop at BHEL Hyderabad unit

Research & Development and Technological Achievements



Annexure-VI to the Board's Report

Research & Development and Technological Achievements

6.1 Innovation

In today's competitive business environment, it is important to offer new products & systems with latest technological features. BHEL is aligning its R&D framework and business strategy to provide reliable products which are not only cost-competitive but also have an edge in efficiency and performance.

In-house Research and Development is extremely important for self-sustenance and growth in today's challenging environment. The company has a strong engineering and R&D base for in-house development of indigenous technologies to address the market requirements.

BHEL has entered into technology collaboration agreement with leading global manufacturing and engineering companies. The company has successfully indigenized these technologies to meet the requirements of Indian customers and establish manufacturing facilities at its own works. Today, with sixteen ongoing collaborations, BHEL is focusing on successful adaptation and timely assimilation of these technologies.

Ongoing Technology Collaboration Agreements

Technology Collaboration with foreign companies

Sl.	Name of Collaborator	Product
1.	Mitsubishi Heavy Industries Ltd, Japan	Pumps
2.	Nuovo Pignone S.R.L, Italy	Centrifugal Compressors
3.	General Electric Technology GmbH, Switzerland	Once Through Boilers and Coal Pulverisers
4.	Vogt Power International Inc., USA	Heat Recovery Steam Generators
5.	Siemens AG, Germany	Steam Turbines, Generators and Lateral/ Axial Condensers
6.	Sheffield Forgemasters International Ltd, UK	Forgings
7.	Oto Melara, Italy** (**Merged with Finmeccanica S.p.A, Italy)	76/62 Super Rapid Gun Mount
8.	Kawasaki Heavy Industries Limited, Japan	Stainless steel coaches and bogies for metros
9.	HLB Power Co. Ltd., Korea	Gates and Dampers
10.	TLT- Turbo GmbH, Germany	Fans
11.	Mitsubishi Hitachi Power Systems Ltd, Japan	Flue Gas Desulphurization

Sl.	Name of Collaborator	Product
12.	Metso Automation Inc, Finland	New Generation C&I Automation
13.	NANO Co. Ltd., Korea	SCR Catalyst for De-NOx applications
14.	Babcock Power Environmental Inc., USA	SCR System De-NOx applications
15.	General Electric Technology GmbH, Switzerland	700 MWe Steam Turbine for Nuclear Power Plants

Technology Collaboration with Indian Entity

1.	Indian Space Research Organisation (ISRO), India	Space Grade Lithium Ion Cells
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6.2 R&D Strategy

BHEL has transformed its R&D and innovation in a structured and focused manner through five pronged approach, consisting of Strategic Direction, Portfolio Management, Partnerships & Alliances, Knowledge Management and Enablers to address the strategic diversified growth.

Strategic Direction

- R&D Advisory Council
- R&D Policy
- R&D Management System
- Technology Mapping

Portfolio Management

- Establishing self Sufficiency in areas of UHV Transmission, Transportation, Advance Ultra Supercritical Plants, Renewable energy, Water etc.

Enablers

- People Capabilities
- Infrastructure development
- Centers of Excellence
- Processes
- Organization support
- Research & Product Development groups

Partnership & Alliances

- Collaborative tie-ups with National/ International R&D laboratories/ institutions/ academia/ companies

Knowledge Management

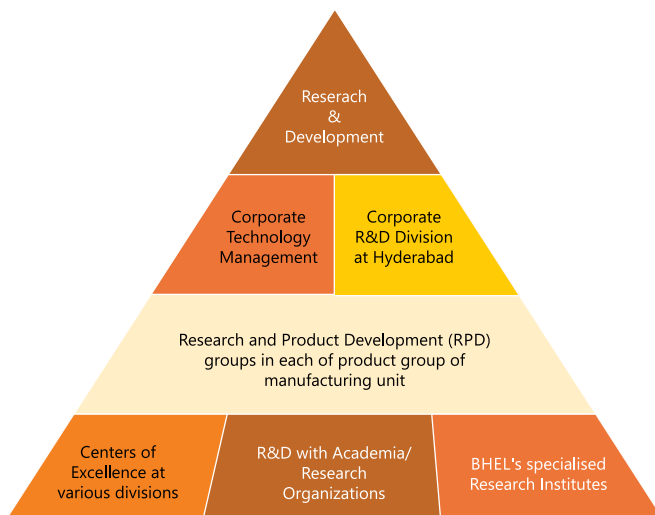
- Implementation of Product life cycle management (PLM) & Knowledge based engineering (KBE)
- System Engineering for offering Total Solutions
- Integrated engineering automation processes

- Development of IPR strategy for their effective conversion into unique product

6.3 R&D Structure

Director (E, R&D) heads the R&D organizational structure of the Company, supported by Corporate Technology Management (CTM) at corporate level, which has been formed to strengthen engineering and R&D capabilities of BHEL in an integrated and focused manner so as to have strong capabilities in product development & engineering guided primarily by responsiveness to the ever-evolving market demands.

Each product group in the Units, has dedicated Research & Product Development (RPD) group well complemented by a centralized Corporate Research & Development Division at Hyderabad.



The Company has structured approach for strengthening R&D infrastructure, consisting of laboratories at Corporate R&D and manufacturing Units, Centres of Excellence, Specialized Research Institutes, etc., well equipped with state-of-the-art R&D infrastructure and benchmarked with the best in the world.

BHEL has 14 Centres of Excellence including:

At Corp R&D Hyderabad

- Intelligent Machines and Robotics
- Machine Dynamics
- Compressors & Pumps
- Nano-technology
- UHV Laboratory
- Simulators
- Computational Fluid Dynamics
- Surface Engineering
- Permanent Magnet Machines
- Advanced Transmission

At Bengaluru

- Power Electronics, IGBT & Controller Technology
- Centre of Excellence for Control and Instrumentation

At Tiruchirappalli

- Coal Research Centre
- Advanced Fabrication Technology

In addition to this, BHEL has five Specialized Research Institutes.

BHEL's Specialized Research Institutes

- Pollution Control & Research Institute (PCRI), Haridwar
- Welding Research Institute (WRI), Trichy
- Ceramic Technological Institute (CTI), Bengaluru
- Centre for Electric Transportation (CET), Bhopal
- Amorphous Silicon Solar Cell Plant (ASSCP), Gurugram

For managing the company's knowledge base, innovation in engineering processes and bench marking of best practices, are identified as key focus area in these centres of innovation & technology development. Continuing its focus on Knowledge Based Engineering (KBE) for reducing design cycle time and design optimization in all its products, BHEL has initiated a number of KBE projects to build expertise and facilitate KBE/PLM activities.

To bridge knowledge gaps, increased collaboration with academia and R&D Institutes for basic as well as applied research is emphasized. Currently, BHEL has Memorandum of Understanding (MoU) with leading academic research institutes. Company is also putting in place all enablers like people capabilities, infrastructure, processes and organization support to succeed in its ambitious technology endeavours.

Collaborative R&D with Academia/ Research Organizations

- Indian Institute of Science, Bengaluru
- Central Institute for Plastics Engineering & Technology, Bhubaneswar
- Indian Institute of Technology Madras, Chennai
- Indian Institute of Technology, Kanpur
- Indian Institute of Technology, Delhi
- Indian Institute of Technology, Kharagpur
- Indian Institute of Technology, Bombay
- Indian Institute of Technology, Roorkee
- Indian Institute Engineering Science and of Technology, Shibpur
- International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Hyderabad
- Mishra Dhatu Nigam Ltd (MIDHANI), Hyderabad
- National Institute of Technology, Warangal
- National Institute of Technology, Tiruchirappalli
- National Institute of Ocean Technology (NIOT), Chennai

6.4 Achievements during the year

Significant developments/ improvements in engineering, processes and products covering various business verticals like Power, Industry, Transportation, Transmission, Renewables and futuristic areas have taken place during the year. Some notable achievements are:

- First time in India, BHEL has successfully developed IGBT based Regeneration System through in-house R&D efforts, for Indian Railways' fleet of WAG7 electric locomotives having DC propulsion system. This IGBT based regenerative braking system will recover the energy from motors and feed to 25 kV AC overhead Catenary. The system will lead to recovery of approx. 15% of energy consumed during motoring.
- Indigenously designed, developed & manufactured low noise, compact 3.5 MW 430 V, 50 Hz Turbo Alternator having water cooled stator winding and frame for strategic applications. The machine has been successfully tested for mechanical run test, Short Circuit Characteristic and Open Circuit Characteristic test.
- Successfully completed process modelling and simulation of syngas to methanol conversion process for pilot plant of Coal to Methanol (CTM) Project.
- Designed, developed and manufactured compact 1095 kW Traction Alternator for 1600 HP DEMU application. The alternator is designed and manufactured with sturdy, lightweight & tubular frame construction for trouble free operation and maximum service life. The developed machine has been successfully tested in presence of customer.
- First time in India, designed, developed and manufactured Super Heater Safety Valve for Advanced Ultra Supercritical (AUSC) application. The detailed design document was vetted by EPRI, USA. Under this project, machining of Inconel 617 and Inconel 740 materials was established along with welding procedure. The assembly and functional testing of safety valve was completed successfully.



CFFP Haridwar has proven its technical prowess for supply of Inconel castings for AUSC applications

- BHEL has developed Alloy 625 M turbine casings (Lower Half & Upper half). The Lower half casing is the world's heaviest casting for Alloy 625 poured for any application (poured weight approx. 50 T). BHEL has proved its technical prowess for supply of quality Inconel castings for AUSC applications.



Furnaces for testing fire side corrosion of alloys and welds at Corp. R&D, Hyderabad

- Fire Side Corrosion Test Rig (FSCTR) has been successfully commissioned at NTPC Dadri thermal Power plant. The facility will be in continuous operation for three years and generate technical data for evaluation of fire side corrosion & steam side oxidation of Inconel boiler tubes at 720°C.
- Successfully designed, developed and tested direct drive compact and efficient 350 kW Permanent Magnet (PM) based Reserve Propulsion Motor & controller for strategic application. The developed motor has been subjected to 100 hrs endurance tests at full load & different partial loads and has passed the testing requirement as per IEC standards.
- Indigenously designed, developed & manufactured compact 67 kW and 130 kW liquid cooled induction motors for electric vehicles. The key features of developed motors included high torque and power density, wide speed range, high efficiency, reliability, low noise and low cost. These motors were tested successfully and certified at ARAI, Pune.
- BHEL has also successfully developed and tested 125 kW Permanent Magnet Synchronous Motor (PMSM) Motor with liquid cooled stator frame for E-Bus application at ARAI, Pune.



Indigenously designed PMM (Permanent Magnet Motor) for electric vehicles at Corporate R&D, Hyderabad

50 kW DC fast charger for Electric Vehicles (EV) has been developed to address the wayside charging infrastructure business. The developed charger has passed all the required tests at ARAI, Pune. Central Management System (CMS) as per OCPP 1.6 protocol is developed to remotely monitor and control all its EV Charging stations installed at various sites and provide information to users/drivers through mobile app regarding available EV charger, state of charge of the battery, etc.

- Solar Panel Cleaning Robot has been indigenously developed for cleaning the dust and other debris on solar panels to mitigate the problem of power lost due to accumulation on the surface of solar panel, thus maintaining the efficiency of the solar panels.
- 1700 HP triplex reciprocating mud pump with maximum pressure of 5000 psi required for deep drilling rigs for oil rig applications has been developed. Test facility for full load testing and demonstration of full load performance of mud pump with the unique feature of requiring no separate test motor has been established.



Indigenously developed solar cleaning panel robot under operation at BHEL Corporate R&D, Hyderabad

- 1 MWh grid connected Battery based Energy Storage System (BESS) with Hybrid Battery Energy Storage System comprising Li-Ion Battery, Flow Battery and Advanced Lead acid Battery has been established in-house. This development will enable BHEL to introduce Energy Storage System (BESS), a new product in Renewable Energy sector.



1 MWh grid-connected Battery based energy storage system (BESS) designed and developed by BHEL, installed at Corp R&D, Hyderabad

- Proton-exchange membrane (PEM) Fuel cell powered 1.25 kW Hybrid Electric Golf cart vehicle for drive range extension of electric vehicles has been developed and demonstrated. This cart can run approx. 130 Km with on board hydrogen storage cylinders.



Fuel cell powered 1.25 kW hybrid electric golf cart vehicle developed by BHEL

- BHEL has indigenously designed largest size butterfly valve (6 meter) and spherical valve (3 meter) for Punatsangchhu, Bhutan Hydro power plant, achieving nearly 20% weight reduction through in-house optimization. The castings have also been developed in-house.
- BHEL has designed, manufactured and commissioned largest rating (116 MW each) vertical pump-motor sets along with associated auxiliaries for 7x116 MW Kaleshwaram Lift Irrigation Scheme. In the project, water is lifted from Sripada Yellampalli reservoir to Medaram reservoir for use for irrigation and water supply in nearby areas.
- BHEL has developed 21.5 MW, 11 kV, 4 Pole Closed Air Circuit Water Cooled (CACW) Boiler Feed Pump motor for North Chennai Project of M/s TANGEDCO. BHEL is the only Indian manufacturer to supply these high rating motors.
- BHEL has indigenously designed and manufactured 22"/3500 special class F 92 Gate Valve benchmarked with the best in the world for material and design features for Main Steam Line of Ultra Super Critical Boiler. The developed gate valve meets ASME standard and IBR requirements.



Kaleshwaram Lift Irrigation Scheme equipped with largest rating vertical pump-motor sets along with associated auxiliaries

- For the first time, BHEL has designed and developed 245 kV Fibre Optic Current Transformer (FOCT) providing both Analog & Digital outputs for digital substation application. This product has been developed and all the major technical parameters have been benchmarked with imported optical CT product available with other global suppliers. This is an important component of a digital substation, which will help transform a conventional power grid into smart grid.
- BHEL has established in-house repair capability of Fr-6FA+e unit rotors. The rotor was re-built with new components, balanced and dispatched to site (Assam Power Generation Corp Ltd, Namrup). This development has enhanced the manufacturing matrix and R&M portfolio of BHEL w.r.t to F-class gas turbines. With this indigenous capability, customers can get their rotors repaired in India itself thereby saving forex.
- 3D printing technology has been used to manufacture a high speed narrow gap, 300 mm diameter rotating 2D compressor impeller in a single piece with complex geometry using Stainless Steel 17-4PH material to reduce cycle time. Heat treatment cycle was also developed for the 3D printed compressor impeller to meet the required metallurgical and mechanical properties.
- BHEL has successfully completed multi-phase simulation of Flue Gas Desulphurization (FGD) system for Maitree (2X600 MW) Bangladesh project using CFD analysis. Under this development, a methodology has been developed to predict and ensure homogeneity in flow of slurry (liquid) and flue gas flow distribution by multiphase simulation to ensure optimum performance of the FGD system.
- Development of indigenous technology to generate Methanol from high ash Indian coal.
- Advanced transmission systems like ± 800 kV HVDC, 765 kV, 1200 kV Transmission systems/ products
- Develop solutions for E-mobility eco system including Power Train, Charging stations, Energy storage systems, etc.
- Establishing technology for Space grade Li-Ion cells manufacturing
- Efficient, reliable and cost effective transportation solutions including IGBT – based applications, three-phase AC drive system for diesel electric locos, MEMU, coach manufacturing for Metro & High speed train-sets
- Development of high efficiency solar cells, grid connected renewable energy Solar PV cell and systems
- Defence products
- Applications based on Nano-technology, Hydrogen energy and fuel cells
- Circulating Fluidized Bed Combustion (CFBC) boilers
- Indigenization of technology of Flue Gas Desulphurization (FGD) systems
- Large size hydro power plants with higher efficiency and longer plant life
- Vibration and noise reduction, residual life assessment studies and simulators
- Surface coatings including ceramic applications
- Advanced Manufacturing Technologies
- Deployment of new technologies including intelligent machines & robotics
- Knowledge Management and specialized engineering software applications
- Total engineering solutions including EPC with focus on design automation/ KBE/ PLM

6.5 Focus areas for R&D & technology development

To achieve growth, BHEL is focusing to build and consolidate capabilities in the following emerging and existing areas:

- Development of Advanced Ultra Super Critical (AUSC) Technology for Thermal Power Plants of future in consortium with NTPC and IGCAR.



Clean coal technologies

GREENING the Black Diamond

BHEL, along with NTPC and IGCAR is developing Advanced Ultra Supercritical (AUSC) technology - a pioneering effort of national importance for high efficiency coal-fired power plants with reduced emissions.

Entrusted with the task of designing and manufacturing the power cycle equipment, BHEL has achieved significant milestones with engineering of the project (Phase-1) nearing completion, including the design of major equipment. For Phase-2, 1x800 MW Technology Demonstration Plant is planned to be setup at NTPC Sipat.

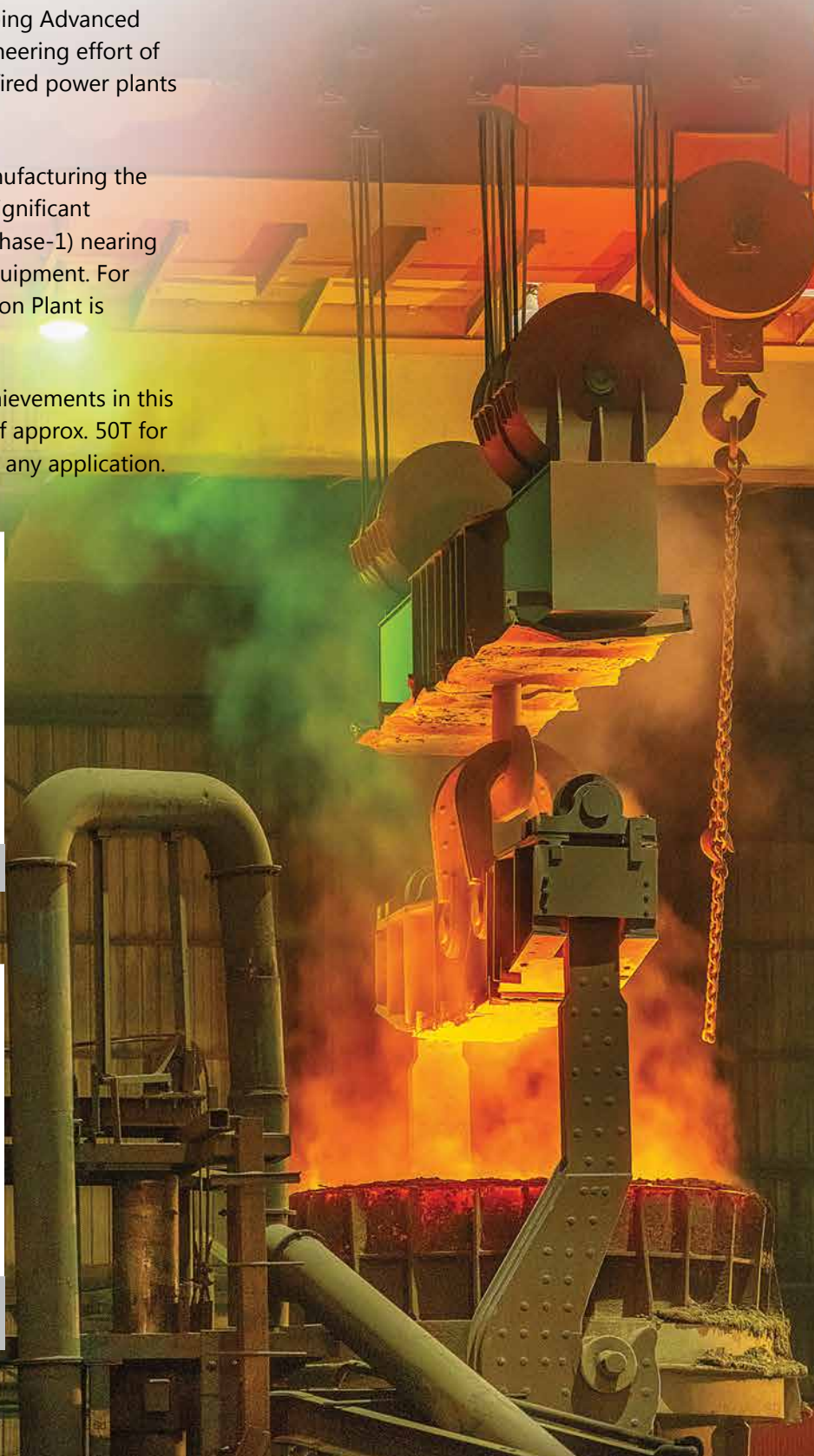
Amongst many others, one of the unique achievements in this journey is the successful pouring of casting of approx. 50T for alloy 625, world's heaviest casting poured for any application.



Creep testing of advanced materials for AUSC power plant applications in progress



Mock-up thick-walled superheater header for AUSC boilers with advance high temperature materials



Annexure –VII to the Board's Report

7.1 Conservation of Energy

BHEL has adopted four-pronged approach towards conservation of energy:

- 1) Awareness Generation;
- 2) Energy Conservation;
- 3) Energy Efficiency;
- 4) Renewable Energy.

Employees across the company were imparted awareness on energy conservation through awareness generation camps organized in BHEL townships for employees & their family members.

A pool of certified Energy Auditors/ Managers has been created for conducting energy audits. Energy Audits were conducted at units at regular periodicity, opportunities for improvement were identified and implemented as energy conservation projects, in a planned manner. Projects implemented include replacement of conventional lights with energy efficient LEDs; replacement of old ACs with energy-efficient 5-star ACs; installation of automatic power factor controller; arresting leakages in compressed air system; waste heat recovery; installation of turbo ventilators; installation of FRP sheets in the shops to harness natural light; harnessing solar energy through Solar PV Plants etc.

To promote energy efficiency, Units have been obtaining ISO 50001:2011 (Energy Management System) certification in a phased manner. CFFP-Haridwar, HEEP-Haridwar, HEP-Bhopal, HPEP-Hyderabad, EPD-Bangalore, HPBP-Trichy, SSTP- Trichy, PPPU-Thirumayam and BAP-Ranipet Units have received ISO 50001 certification. In 2018-19, BAP-Ranipet was also ISO 50001 certified.

Greater impetus was accorded to harness cleaner energy through installation of Solar PV Plants (grid-interactive as well as rooftop) across BHEL's manufacturing Units. Installed capacity of Solar Energy in BHEL stands at 28 MW which translates to 20.81% (average) as compared to national average of 7.91% in FY 2018-19.

7.2 Technology Absorption and Research & Development

1. Specific areas in which R&D carried out by the Company
2. Benefits derived as a result of the above R&D
3. Future Focus areas

Given in the Directors' Report under Annexure- VI "R&D and Technological Achievements"

4.Expenditure on R&D

Total	..	₹819.69 crore
a) Recurring	..	₹810.67 crore
b) Capital		₹9.02 crore
Expenditure as a percentage of total turnover		2.80 %

7.3 Technology Absorption

Details of technology imported during the last 5 years:

Technology	Year of import	Absorption status
Flue Gas Desulphurization (FGD) systems	2013	Technology absorption in progress.
Stainless Steel Metro Coaches & Bogies	2017	
Gates and Dampers	2018	
Selective Catalytic Reduction (SCR) Catalyst	2018	
SCR System	2018	

7.4 Foreign Exchange Earnings and Outgoings

(₹ in Crore)

Particulars	2018-19	2017-18
Foreign Exchange Used	4880	2482
Foreign Exchange Earned	3787	1309

For and on behalf of the Board of Directors of
BHARAT HEAVY ELECTRICALS LTD.



(Dr. Nalin Shinghal)
Chairman & Managing Director

Place: New Delhi
Date: July 26, 2019

Annexure – VIII to the Board Report

Form AOC- I

(Pursuant to first proviso to sub-section (3) of section 129 read with rule 5 of Companies (Accounts) Rules, 2014)

Statement containing salient features of the financial statement of subsidiaries/associate Companies/joint ventures

Part "A": Subsidiaries

(Information in respect of each subsidiary to be presented with amounts in ₹ Crore)

1. Sl. No.	01
2. Name of the subsidiary	BHEL ELECTRICAL MACHINES LIMITED
3. The date since when subsidiary was acquired	19 th January, 2011
4. Reporting period for the subsidiary concerned, if different from the holding company's reporting period	N.A.
5. Reporting currency and Exchange rate as on the last date of the relevant Financial year in the case of foreign subsidiaries.	N.A.
6. Share capital	10.50
7. Reserves & surplus	(24.23)
8. Total assets	21.04
9. Total Liabilities	34.77
10. Investments	NIL
11. Turnover	18.65
12. Profit before taxation	(7.00)
13. Provision for taxation	(1.54)
14. Profit after taxation	(5.46)
15. Proposed Dividend	NIL
16. % of shareholding	51%

Figures given in brackets are negative

Notes: The following information shall be furnished at the end of the statement:

1. Names of subsidiaries which are yet to commence operations	NIL
2. Names of subsidiaries which have been liquidated or sold during the year.	NIL

Board of directors in its meeting held on May 29, 2018 has approved (subject to approval of Department of Heavy Industry, Govt of India) the transfer of Company's 51% stake to Govt. of Kerala.

Part "B": Associates and Joint Ventures

Statement pursuant to Section 129 (3) of the Companies Act, 2013 related to Associate Companies and Joint Ventures

Name of Joint Ventures	BHEL-GE Gas Turbine Services P. Ltd.	NTPC BHEL Power Projects Pvt Ltd	Raichur Power Corporation Ltd.
1. Latest Audited Balance Sheet Date	31.03.19	31.03.18	31.03.18
2. Date on which Associate or Joint Venture was associated or acquired	5th May ,1997	28th April,2008	15th April, 2009
3. Shares of JVs held by BHEL on the year end			
No.	2379999	50000000	664039700
Amount of investment	2.38	50.00	664.04
Extent of Holding %	50% minus one share	50%	27.97%
4. Description of how there is significant influence	Jointly controlled entities		
5. Reason why the associate/ JV is not consolidated	N.A.	N.A.	N.A.
6. Net worth attributable to Shareholding as per latest audited Balance Sheet	149.42	10.17	204.63
7. Profit/ Loss for the year	As per equity method		
i. Considered in consolidation	27.03	(7.38)	(205.25)
ii. Not considered in Consolidation	-	(19.13)	(145.56)

Figures given in () are negative . In RPCL, 300 shares are also held by BHEL in the name of its Nominee.

M/s Dada Dhuniwale Khandwa Power Ltd., and M/s Power Plant Performance Improvement Ltd. are under liquidation and hence both these JVs are not considered in consolidation. The investment in these JV's amounting to ₹5.20 crore and ₹2.00 crore respectively has been fully provided for.

For and on behalf of Board of Directors



(Rajeev Kalra)
Company Secretary
M.No.14567



(Subodh Gupta)
Director (Finance)
DIN:08113460



(Atul Sobti)
Chairman & Managing Director
DIN: 06715578

As per our report of even date attached

For Raj Har Gopal & Co.
Chartered Accountants
FRN 002074N



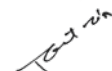
(CA Gopal Krishan)
Partner
M.No.081085

For Tiwari & Associates
Chartered Accountants
FRN- 002870N



(CA Sandeep Sandill)
Partner
M.No.085747

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN- 006228C



(CA. Rajat Jain)
Partner
M.No. 413515

Place : New Delhi

Date : May 27, 2019

FORM AOC-2

(Pursuant to clause (h) of sub-section (3) of section 134 of the Act and Rule 8(2) of the Companies (Accounts) Rules, 2014)

Form for disclosure of particulars of contracts/arrangements entered into by the Company with related parties referred to in sub-section (1) of section 188 of the Companies Act, 2013 including certain arm's length transactions under third proviso thereto

1. Details of contracts or arrangements or transactions not at arm's length basis:

- | | |
|---|-------|
| (a) Name(s) of the related party and nature of relationship | : NIL |
| (b) Nature of contracts/arrangements/transactions | : NIL |
| (c) Duration of the contracts / arrangements/transactions | : NIL |
| (d) Salient terms of the contracts or arrangements or transactions including the value, if any | : NIL |
| (e) Justification for entering into such contracts or arrangements or transactions | : NIL |
| (f) Date(s) of approval by the Board | : NIL |
| (g) Amount paid as advances, if any | : NIL |
| (h) Date on which the special resolution was passed in general meeting as required under proviso to section 188 | : NIL |

2. Details of material contracts or arrangement or transactions at arm's length basis:

- | | |
|--|-------|
| (a) Name(s) of the related party and nature of relationship | : NIL |
| (b) Nature of contracts/arrangements/transactions | : NIL |
| (c) Duration of the contracts / arrangements/transactions | : NIL |
| (d) Salient terms of the contracts or arrangements or transactions including the value, if any | : NIL |
| (e) Date(s) of approval by the Board, if any | : NIL |
| (f) Amount paid as advances, if any | : NIL |

For and on behalf of the Board of Directors of
BHARAT HEAVY ELECTRICALS LTD.



(Dr. Nalin Shinghal)
Chairman & Managing Director

Place: New Delhi

Date: July 26, 2019

Annexure - IX to the Board's Report

INDEPENDENT AUDITOR'S REPORT

To the Members of

Bharat Heavy Electricals Limited

Report on the Audit of the Standalone Financial Statements

Opinion

We have audited the accompanying standalone financial statements of Bharat Heavy Electricals Limited ("the Company"), which comprise the Balance Sheet as at March 31, 2019, the Statement of Profit and Loss (including Other Comprehensive Income), the Statement of Changes in Equity and the Statement of Cash Flows for the year then ended, and a summary of the significant accounting policies and other explanatory information (hereinafter referred to as "the Standalone financial statements") in which are incorporated the returns for the year ended on that date for 16 branches audited by us and 16 branches audited by the branch auditors of the company.

In our opinion and to the best of our information and according to the explanations given to us, the aforesaid financial statements give the information required by the Companies Act, 2013 ("the Act") in the manner so required and give a true and fair view in conformity with the Indian Accounting Standards prescribed under section 133 of the Act read with the Companies (Indian Accounting Standards) Rules 2015, as amended, ("Ind AS") and other accounting principles generally accepted in India, of the state of affairs of the Company as at March 31, 2019, the profit and total comprehensive income, changes in equity and its cash flow for the year ended on that date.

Basis for Opinion

We conducted our audit of the standalone financial statements in accordance with the Standards on Auditing (SAs) specified under section 143 (10) of the Companies Act, 2013. Our responsibilities under those Standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Company in accordance with the Code of Ethics issued by the Institute of Chartered Accountants of India together with the ethical requirements that are relevant to our audit of the standalone financial statements under the provisions of the Companies Act, 2013 and the Rules thereunder, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the Code of Ethics. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on the standalone financial statements.

Key Audit Matters

Key audit matters are those matters that in our professional judgement were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the standalone financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. We have determined the matters described below to be the key audit matters to be communicated in our report.

Key Audit Matter	Auditor's Response
<p>Accuracy of recognition, measurement, presentation and disclosures of revenues and other related balances in view of adoption of Ind AS 115 "Revenue from contracts with Customers" (Revenue Accounting Standard) applicable from 1st April 2018.</p> <p>The application of the new revenue accounting standard from current financial year involves certain key judgments relating to identification of distinct performance obligations, determination of transaction price of identified performance obligations, the appropriateness of the basis used to measure revenue recognized over a period, and disclosures including presentations of balances in the financial statements.</p> <p>Estimated efforts is a critical estimate to determine revenue, as it requires consideration of progress of the contract, efforts incurred till date, efforts required to complete the remaining performance obligation.</p> <p>Refer Notes 49 to the standalone financial statements.</p>	<p>Principal Audit Procedures</p> <p>We assessed the Company's internal process to identify the impact of adoption of the new revenue accounting standard. Our audit approach consisted testing of the design and operating effectiveness of internal controls and procedures as follows:</p> <ul style="list-style-type: none"> • Evaluated the design of internal controls relating to implementation of the new revenue accounting standard. • Selected a sample of existing continuing contracts and new contracts, and tested the operating effectiveness of the internal control, relating to identification of the distinct performance obligations and determination of transaction price. • Tested the relevant information, accounting systems and change relating to contracts and related information used in recording and disclosing revenue in accordance with the new revenue accounting standard. • Reviewed a sample of contracts to identify possible delays in achieving milestones, which require change in estimated efforts to complete the remaining performance obligations. • Performed analytical procedures and test of details for reasonableness and other related material items.
<p>Assessment and recoverability of Trade Receivables and Contract Assets</p> <p>The Company has trade receivables outstanding (net) of ₹15944.77 crore and contract assets (Net) of ₹ 22296.54 crore at the end of March 31, 2019</p> <p>These balances are related to revenue recognized in line with Ind AS 115 "Revenue from contracts with customers" for ongoing contracts and completed contracts. The assessment of its recoverability is a key audit matters in the audit due to its size and high level of management judgment</p> <p>Refer Notes 6,10,12,17,49(d) to the standalone financial statements.</p>	<p>Principal Audit Procedures</p> <p>We have performed the Company's internal process to recognize the revenue and review mechanism of trade receivables and contract assets. Our audit approach consisted testing of the design and operating effectiveness of internal controls and procedures as follows:</p> <ul style="list-style-type: none"> • Evaluated the process of invoicing, verifications, and reconciliations with customers. • Obtained the list of project wise outstanding details and its review mechanism by the management. • Reviewed the guidelines and policies of the Company on impairment of trade receivables and contract assets. • Tested the accuracy of aging of trade receivables and contract assets at the year end on sample basis. • Performed analytical procedures and test of details for reasonableness, recoverability and other related material items.

Information Other than the Standalone Financial Statements and Auditor's Report Thereon

The Company's Board of Directors is responsible for the preparation of the other information. The other information comprises the information included in Management Discussion and Analysis, Board's Report including Annexures to Board's Report, Business Responsibility Report, Corporate Governance and Shareholder's information, but does not include the standalone financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the standalone financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Management's Responsibility for the Standalone Financial Statements

The Company's Board of Directors is responsible for the matters stated in Section 134(5) of the Companies Act, 2013 ("the Act") with respect to the preparation of these financial statements that give a true and fair view of the financial position, financial performance, total comprehensive income, changes in equity and cash flows of the Company in accordance with the Ind AS and other accounting principles generally accepted in India. This responsibility also includes maintenance of adequate accounting records in accordance with the provisions of the Act for safeguarding the assets of the company and for preventing and detecting frauds and other irregularities; selection and application of appropriate accounting policies; making judgments and estimates that are reasonable and prudent; and design, implementation and maintenance of adequate internal financial controls, that were operating effectively for ensuring the accuracy and completeness of the accounting records, relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error.

In preparing the standalone financial statements, Management of Company is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern

basis of accounting unless the Management of Company either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

The Board of Directors are responsible for overseeing the Company's financial reporting process.

Auditor's Responsibilities for the Audit of the Standalone Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with SAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these standalone financial statements.

As part of an audit in accordance with SAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal financial controls relevant to the audit in order to design audit procedures that are appropriate in the circumstances. Under section 143(3)(i) of the Companies Act, 2013, we are also responsible for expressing our opinion on whether the company has adequate internal financial control system in place and the operating effectiveness of such controls.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if

such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the standalone financial statements, including the disclosures, and whether the standalone financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

Materiality is the magnitude of misstatements in the standalone financial statements that, individually or in aggregate, makes it probable that the economic decisions of a reasonably knowledgeable user of the financial statements may be influenced. We consider quantitative materiality and qualitative factors in (i) planning the scope of our audit work and in evaluating the results of our work; and (ii) to evaluate the effect of any identified misstatements in the financial statements.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the standalone financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Other Matters

We did not audit the financial statements/information of 16 (sixteen) branches included in the standalone financial statements of the Company whose financial statements/financial information reflect total assets of ₹39063 crore as at 31st March, 2019 and total revenue of ₹20331 crore for the year ended on that date, as considered in the standalone financial statements. The financial statements/information of these branches have been audited by the branch auditors whose

reports have been furnished to us, and our opinion in so far as it relates to the amounts and disclosures included in respect of these branches, is based solely on the report of such branch auditors.

Our opinion is not modified in respect of these matters.

Report on Other Legal and Regulatory Requirements

- (1) As required by the Companies (Auditor's Report) Order, 2016 ("the Order") issued by the Central Government of India in terms of sub-section (11) of section 143 of the Act, we give in the "**Annexure A**" a statement on the matters specified in paragraphs 3 and 4 of the Order, to the extent applicable.
- (2) As required by Section 143 (3) of the Act, based on our audit we report that:
 - a. We have sought and obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purposes of our audit.
 - b. In our opinion, proper books of account as required by law have been kept by the company so far as it appears from our examination of those books and proper returns adequate for the purpose of our audit have been received from the branches not visited by us.
 - c. The reports on the accounts of the branch offices of the Company audited under Section 143(8) of the Act by branch auditors have been sent to us and have been properly dealt with by us in preparing this report
 - d. The Balance Sheet, the Statement of Profit and Loss (including other comprehensive income), Statement of Changes in Equity and the Statement of Cash Flow dealt with by this Report are in agreement with the books of account.
 - e. In our opinion, the aforesaid financial statements comply with the Indian Accounting Standards prescribed under Section 133 of the Act, read with the Companies (Indian Accounting Standards) Rules, 2015, as amended.
 - f. In terms of Notification no. G.S.R. 463 (E) dt. 05-06-2015 issued by Ministry of Corporate Affairs, the Provision of Section 164(2) of the Companies Act, 2013 in respect of disqualification of directors are not applicable to the Company.
 - g. With respect to the adequacy of the internal financial controls over financial reporting of the Company and the operating effectiveness of such controls, refer to our separate Report in "**Annexure B**".
 - h. With respect to the other matters to be included in the Auditor's Report in accordance with Rule 11 of the

Companies (Audit and Auditors) Rules, 2014, in our opinion and to the best of our information and according to the explanations given to us:

- i. The company has disclosed the impact of pending litigations on its financial position in its standalone financial statements. Refer Note 41 to the financial statements.
- ii. The company has made provision, as required under the applicable law or accounting standards, for material foreseeable losses, if any, on long-term contracts. Refer Note 48 to the financial statements.

- iii. There has been no delay in transferring the amount, required to be transferred in accordance with the relevant provisions of the Companies Act, 2013 and the rules made thereunder, to the Investor Education and Protection Fund by the Company.
- (3) On the basis of such checks of the books and records of the Company, as we considered appropriate and according to the information and explanations given to us, we are enclosing our report in terms of Section 143(5) of the Act, on the directions and sub directions issued by the Comptroller and Auditor General of India in "Annexure C".

For Raj Har Gopal & Co.

Chartered Accountants
FRN - 002074N



(CA Gopal Krishan)
Partner
M. No. 081085

For Tiwari & Associates

Chartered Accountants
FRN - 002870N



(CA. Sandeep Sandill)
Partner
M. No. 085747

For Mahesh C. Solanki & Co.

Chartered Accountants
FRN - 006228C



(CA. Rajat Jain)
Partner
M. No. 413515

Place : New Delhi

Date : May 27, 2019

ANNEXURE "A" to Independent Auditors' Report

(Referred to in Paragraph 1 under the heading "Report on Other Legal and Regulatory Requirements" of our report of even date on the standalone financial statements of Bharat Heavy Electricals Limited ("the Company"), for the year ended March 31, 2019]

- i) (a) The Company has maintained proper records showing full particulars including quantitative details and situation of its fixed assets.
- (b) According to the information and explanations given to us, physical verification of fixed assets is being conducted in a phased manner by the management under a programme designed to cover all the property, plant and equipment including intangible assets over a period of three years, which, in our opinion, is reasonable having regard to the size of the Company and nature of its business and no material discrepancies were noticed on such verification to the extent verification was made during the year.
- (c) The details of title deeds of immovable properties not held in the name of the Company are given in note no. 3.1 (a to f) to the Financial Statements.
- ii) As explained to us physical verification of inventory has been conducted by the management under Perpetual Inventory Programme at regular intervals during the year except for stock of work in progress and finished goods in few units where these are verified at the year end with reference to the inspection reports and production reports of the Production Planning Department of such units. In regard to stocks lying with contractors/fabricators and other parties, confirmations were received in few cases only. In our opinion the frequency of verification is reasonable. No material discrepancies has been reported.
- iii) According to the information given to us, the Company has not granted any loans or advances in the nature of loans, secured or unsecured to companies, firms, Limited Liability Partnerships or other parties listed in the register maintained under section 189 of the Companies Act, 2013. Therefore, clauses (iii) (a), (iii) (b) and (iii) (c) of Paragraph 3 of the Order are not applicable to the Company.
- iv) The Company has complied with the provisions of section 185 and 186 of the Companies Act, 2013 in respect of loans, investments, guarantees and securities.
- v) Based on our examination of the Company's records and according to the information and explanations given to us, the Company has not accepted any deposits from public during the year within the meaning of sections 73 to 76 or any other relevant provisions of the Companies Act, 2013 and the Companies (Acceptance of Deposits) Rules 2014.
- vi) We have broadly reviewed the books of account and records maintained by the Company pursuant to the Companies (Cost Records and Audit) Rules 2014 prescribed by the Central Government under section 148(1) of the Companies Act, 2013 and are of the opinion that prima

facie the prescribed accounts and records have been made and maintained. However, we are not required to and have not carried out any detailed examination of such accounts and records.

- vii) (a) According to the information and explanations given to us, in our opinion, the Company is generally regular in depositing with appropriate authorities undisputed statutory dues including Provident Fund, Employees' State Insurance, Income Tax, Sales Tax, Service Tax, duty of Customs, duty of Excise, Value Added Tax, Goods and Service Tax, Cess and any other statutory dues as applicable to it.
- (b) According to the information and explanations given to us, no undisputed amounts payable in respect of Provident Fund, Employees State Insurance, Income Tax, Sales Tax, Service Tax, duty of Customs, duty of Excise, Value Added Tax, Goods and Service Tax, Cess and any other statutory dues were outstanding as at March 31, 2019 for a period of more than six months from the date they became payable.
- (c) According to the information and explanations given to us, the particulars of Income Tax, Sales Tax, Service Tax, duty of Customs, duty of Excise, Value Added Tax, Goods and Service Tax which have not been deposited on account of dispute are as under:

(₹ in Crore)

Sl. No.	Name of the Statute	Nature of the Dues	Pending Amount	Amount paid under protest	Forum where dispute is pending
1	Central Sales Tax Act, Value Added Tax and Sales Tax Act of various States	Sales Tax, VAT	21.26	5.70	Assessing Officer
			427.58	74.88	Dy. Commissioner / Jt. Commissioner / Commissioner (Appeals)
			325.84	120.35	Appellate Tribunal
			404.05	29.39	Various Appellate Authorities
			35.33	8.72	High Court
			4.84	4.84	Supreme Court
2	Central Excise Act, 1944	Excise Duty	81.45	4.32	Commissioner (Appeals)
			87.96	7.64	Appellate Tribunal
			59.84	5.19	High Court
			0.55	0.55	Supreme Court

(₹ in Crore)

Sl. No.	Name of the Statute	Nature of the Dues	Pending Amount	Amount paid under protest	Forum where dispute is pending
3	Service Tax under the Finance Act, 1994	Service Tax	0.06	0	Assessing Officer
			16.26	0.27	Commissioner (Appeals)
			944.45	22.57	Appellate Tribunal
4	Customs Act, 1962	Custom Duty	5.80	5.80	High Court

viii) According to the records of the Company examined by us and the information and explanations given to us, the Company has not defaulted in repayment of loans or borrowings to financial institutions, banks or Government. The Company has not issued any debentures.

ix) According to the records of the Company examined by us and the information and explanations given to us, the Company has not raised any monies by way of initial public offer or further public offer (including debt instruments) and term loans. Hence, the same is not applicable to the Company.

x) During the course of our examination of the books and records of the Company, carried out in accordance with the generally accepted auditing practices in India, and according to the information and explanations given to us, no fraud by the Company or any fraud on the Company by its officers or employees has been noticed or reported during the year.

xi) In terms of Notification no. G.S.R. 463(E) dt. 05-06-2015 issued by the Ministry of Corporate Affairs, the provisions of section 197 of the Companies Act, 2013 relating to managerial remuneration are not applicable to the Company.

xii) Since the Company is not a nidhi Company, provisions of clause no. 3(xii) do not apply to the Company;

xiii) According to the records of the Company examined by us and the information and explanations given to us, the related party transactions are in compliance with section 177 and 188 of the Companies Act, 2013 and have been disclosed in the Financial Statements.

xiv) Based on our examination and the information and explanations given to us, the Company has not made any preferential allotment or private placement of shares or debentures during the year under review. Therefore, provision of clause no. (xiv) is not applicable to the Company.

xv) Based on our examination and the information and explanations given to us, the Company has not entered into any non-cash transactions with directors or persons connected with them.

xvi) Based on our examination and the information and explanations given to us, the Company is not required to be registered under section 45-IA of the Reserve Bank of India. Act, 1934.

For Raj Har Gopal & Co.

Chartered Accountants

FRN - 002074N

(CA Gopal Krishan)

Partner

M. No. 081085

For Tiwari & Associates

Chartered Accountants

FRN - 002870N

(CA. Sandeep Sandill)

Partner

M. No. 085747

For Mahesh C. Solanki & Co.

Chartered Accountants

FRN - 006228C

(CA. Rajat Jain)

Partner

M. No. 413515

Place : New Delhi

Date : May 27, 2019

“ANNEXURE B”

TO THE INDEPENDENT AUDITORS’ REPORT OF EVEN DATE ON THE STANDALONE FINANCIAL STATEMENTS OF BHARAT HEAVY ELECTRICALS LIMITED

Report on the Internal Financial Controls under Clause (i) of Sub-section 3 of Section 143 of the Companies Act, 2013 (“the Act”)

We have audited the internal financial controls over financial reporting of Bharat Heavy Electricals Limited (“the Company”) as of March 31, 2019 in conjunction with our audit of the Standalone financial statements of the Company for the year ended on that date.

Management’s Responsibility for Internal Financial Controls

The Company’s management is responsible for establishing and maintaining internal financial controls based on the internal control over financial reporting criteria established by the Company considering the essential components of internal control stated in the Guidance Note on Audit of Internal Financial Controls over Financial Reporting issued by the Institute of Chartered Accountants of India. These responsibilities include the design, implementation and maintenance of adequate internal financial controls that were operating effectively for ensuring the orderly and efficient conduct of its business, including adherence to Company’s policies, the safeguarding of its assets, the prevention and detection of frauds and errors, the accuracy and completeness of the accounting records, and the timely preparation of reliable financial information, as required under the Companies Act, 2013.

Auditors’ Responsibility

Our responsibility is to express an opinion on the Company’s internal financial controls over financial reporting based on our audit. We conducted our audit in accordance with the Guidance Note on Audit of Internal Financial Controls Over Financial Reporting (the “Guidance Note”) and the Standards on Auditing, issued by ICAI and deemed to be prescribed under section 143(10) of the Companies Act, 2013, to the extent applicable to an audit of internal financial controls, both applicable to an audit of Internal Financial Controls and, both issued by the Institute of Chartered Accountants of India. Those Standards and the Guidance Note require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether adequate internal financial controls over financial reporting was established and maintained and if such controls operated effectively in all material respects.

Our audit involves performing procedures to obtain audit evidence about the adequacy of the internal financial controls system over financial reporting and their operating effectiveness. Our audit of internal financial controls over

financial reporting included obtaining an understanding of internal financial controls over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. The procedures selected depend on the Auditor’s judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion on the Company’s internal financial controls system over financial reporting.

Meaning of Internal Financial Controls Over Financial Reporting

A Company’s internal financial control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A Company’s internal financial control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorisations of management and directors of the Company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorised acquisition, use, or disposition of the Company’s assets that could have a material effect on the financial statements.

Inherent Limitations of Internal Financial Controls Over Financial Reporting

Because of the inherent limitations of internal financial controls over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may occur and not be detected. Also, projections of any evaluation of the internal financial controls over financial reporting to future periods are subject to the risk that the internal financial control over

financial reporting may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Opinion

In our opinion, the Company has, in all material respects, an adequate internal financial controls system over financial

reporting and such internal financial controls over financial reporting were operating effectively as at March 31, 2019, based on the internal control over financial reporting criteria established by the Company considering the essential components of internal control stated in the Guidance Note on Audit of Internal Financial Controls Over Financial Reporting issued by the Institute of Chartered Accountants of India.

For Raj Har Gopal & Co.

Chartered Accountants

FRN - 002074N



(CA Gopal Krishan)

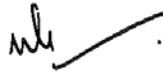
Partner

M. No. 081085

For Tiwari & Associates

Chartered Accountants

FRN - 002870N



(CA. Sandeep Sandill)

Partner

M. No. 085747

For Mahesh C. Solanki & Co.

Chartered Accountants

FRN - 006228C



(CA. Rajat Jain)

Partner

M. No. 413515

Place : New Delhi

Date : May 27, 2019

"ANNEXURE C" TO INDEPENDENT AUDITOR'S REPORT

Directions issued by the Comptroller & Auditor General of India under Section 143(5) of the Companies Act, 2013 indicating the areas to be examined by the Statutory Auditors during the course of audit of annual accounts of Bharat Heavy Electricals Limited (Standalone) for the year 2018-19

S. No.	Areas Examined	Replies
1	Whether the Company has system in place to process all the accounting transactions through IT system. If yes, the implications of processing of accounting transactions outside IT system on the integrity of the accounts along with the financial implications, if any may be stated.	Yes, the Company has system in place to process all the accounting transactions through IT system.
2	Whether there is any restructuring of an existing loan or cases of waiver / write off of debts / loans / interest etc. made by a lender due to the company's inability to repay the loan? If yes, the financial impact may be stated.	According to the information and explanations given to us and based on our examination of the records of the company, there has been no restructuring/ waiver/ write off of debts/ loans/interest etc. made by a lender due to the company's inability to repay the loan
3	Whether fund received / receivable for specific schemes from Central / State agencies were properly accounted for /utilized as per its term and conditions? List the cases of deviation.	Fund received / receivable for specific schemes from Central / State agencies were properly accounted for /utilized as per its term and conditions

For Raj Har Gopal & Co.
Chartered Accountants
FRN - 002074N



(CA Gopal Krishan)
Partner
M. No. 081085

For Tiwari & Associates
Chartered Accountants
FRN - 002870N



(CA. Sandeep Sandill)
Partner
M. No. 085747

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN - 006228C



(CA. Rajat Jain)
Partner
M. No. 413515

Place : New Delhi

Date : May 27, 2019



सत्यमेव जयते

No. MAB-III/REP/01-47/Acs-BHEL-Ph. III/2019-20/6237

भारतीय लेखापरीक्षा और लेखा विभाग

कार्यालय

प्रधान निदेशक वाणिज्यिक लेखापरीक्षा

एवं पदेन सदस्य लेखापरीक्षा बोर्ड-III

नई दिल्ली

Indian Audit & Accounts Department

OFFICE OF THE

PRINCIPAL DIRECTOR OF COMMERCIAL AUDIT & EX-

OFFICIO MEMBER, AUDIT BOARD-III

NEW DELHI

दिनांक/Dated: 11/07/2019

सेवा में

अध्यक्ष एवं प्रबंध निदेशक,
भारत हेवी इलेक्ट्रिकल्स लिमिटेड,
नई दिल्ली - 110049.

विषय: 31 मार्च 2019 को समाप्त वर्ष के लिए भारत हेवी इलेक्ट्रिकल्स लिमिटेड, नई दिल्ली के वार्षिक लेखाओं पर कम्पनी अधिनियम, 2013 की धारा 143 (6) (b) के अन्तर्गत भारत के नियंत्रक एवं महालेखापरीक्षक की टिप्पणियाँ।

महोदय,

में, भारत हेवी इलेक्ट्रिकल्स लिमिटेड, नई दिल्ली के 31 मार्च 2019 को समाप्त वर्ष के लेखाओं पर कम्पनी अधिनियम, 2013 की धारा 143 (6) (b) के अन्तर्गत भारत के नियंत्रक एवं महालेखापरीक्षक की टिप्पणियाँ अग्रोषित कर रहा हूँ।

कृपया इस पत्र की संलग्नकों सहित प्राप्त की पावती भेजी जाए।

भवदीय,

संलग्नक:- यथोपरि।

(राजदीप सिंह)

प्रधान निदेशक

छठा एवं सातवा तल , एनेक्सी बिल्डिंग 10 , बहादुरशाह जफर मार्ग, नई दिल्ली. 110002

6th & 7th floor, Annexe Building, 10, Bahadurshah Zafar Marg, New Delhi - 110 002

Ph. 23239227; Fax 23239211; e-mail: mabnewdelhi3@cag.gov.in

**COMMENTS OF THE COMPTROLLER AND AUDITOR GENERAL OF INDIA
UNDER SECTION 143(6) (b) OF THE COMPANIES ACT, 2013 ON THE FINANCIAL
STATEMENTS OF BHARAT HEAVY ELECTRICALS LIMITED FOR THE YEAR
ENDED 31 MARCH 2019.**

The preparation of financial statements of Bharat Heavy Electricals Limited for the year ended 31 March 2019 in accordance with the financial reporting framework prescribed under the Companies Act, 2013 (Act) is the responsibility of the management of the company. The statutory auditors appointed by the Comptroller and Auditor General of India under section 139 (5) of the Act are responsible for expressing opinion on the financial statements under section 143 of the Act based on independent audit in accordance with the standards on auditing prescribed under section 143(10) of the Act. This is stated to have been done by them vide their Audit Report dated 27.05.2019.

I, on behalf of the Comptroller and Auditor General of India, have conducted a supplementary audit of the financial statements of Bharat Heavy Electricals Limited for the year ended 31 March 2019 under section 143(6)(a) of the Act. This supplementary audit has been carried out independently without access to the working papers of the statutory auditors and is limited primarily to inquiries of the statutory auditors and company personnel and a selective examination of some of the accounting records.

On the basis of my supplementary audit nothing significant has come to my knowledge which would give rise to any comment upon or supplement to statutory auditors' report under section 143(6)(b) of the Act.

For and on behalf of the
Comptroller & Auditor General of India

A handwritten signature in black ink, appearing to read 'Rajdeep Singh', is positioned above the printed name.

(Rajdeep Singh)
**Principal Director of Commercial Audit &
Ex-officio Member, Audit Board – III,
New Delhi**

Place: New Delhi
Date: // July 2019



FINANCIAL STATEMENTS

Standalone Financial Statements

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Balance Sheet as at March 31, 2019

(₹ in Crore)

Particulars	Note	As at March 31, 2019	As at March 31, 2018
A. ASSETS			
(1) Non-current assets			
(a) Property, plant and equipment	3a	2883.92	2977.53
(b) Capital work-in-progress	3b	223.21	194.53
(c) Intangible assets	4a	83.07	91.31
(d) Intangible assets under development	4b	12.23	8.23
(e) Financial assets			
(i) Investments	5	669.36	690.74
(ii) Trade receivables	6	3935.20	3437.23
(iii) Loans	7	82.82	84.28
(iv) Other financial assets	8	-	0.02
(f) Deferred tax assets (net of liabilities)	9	3514.53	3625.88
(g) Other non-current assets	10	14671.78	10470.22
Total non-current assets		26076.12	21579.97
(2) Current assets			
(a) Inventories	11	8113.49	6258.76
(b) Financial assets			
(i) Trade receivables	12	12009.57	14064.06
(ii) Cash and cash equivalents	13a	795.60	2768.68
(iii) Bank balances other than cash and cash equivalents	13b	6707.74	8407.19
(iv) Loans	14	157.45	143.59
(v) Other financial assets	15	162.19	150.61
(c) Current tax assets (net)	16	-	222.94
(d) Other current assets	17	10393.85	10122.28
Total current assets		38339.89	42138.11
TOTAL ASSETS		64416.01	63718.08
B. EQUITY AND LIABILITIES			
(3) Equity			
(a) Equity share capital	18	696.41	734.28
(b) Other equity	18a	30703.45	31866.80
Total equity		31399.86	32601.08

Balance Sheet as at March 31, 2019

(₹ in Crore)

Particulars	Note	As at March 31, 2019	As at March 31, 2018
Liabilities			
(4) Non-current liabilities			
(a) Financial liabilities			
(i) Borrowings	19	95.45	57.18
(ii) Trade payables	20		
(i) Total outstanding dues of micro enterprises and small enterprises		-	-
(ii) Total outstanding dues of creditors other than micro enterprises and small enterprises		702.98	479.06
(iii) Other financial liabilities	21	91.53	114.41
		889.96	650.65
(b) Provisions	22	5454.54	4923.11
(c) Other non-current liabilities	23	3615.88	3636.70
Total non-current liabilities		9960.38	9210.46
(5) Current liabilities			
(a) Financial liabilities			
(i) Borrowings	24	2457.27	-
(ii) Trade payables	25		
(i) Total outstanding dues of micro enterprises and small enterprises		361.17	283.43
(ii) Total outstanding dues of creditors other than micro enterprises and small enterprises		11013.94	10303.43
(iii) Other financial liabilities	26	2068.14	2270.40
		15900.52	12857.26
(b) Provisions	27	2485.48	3782.77
(c) Current tax liabilities (net)	16	91.40	-
(d) Other current liabilities	28	4578.37	5266.51
Total current liabilities		23055.77	21906.54
Total liabilities		33016.15	31117.00
TOTAL EQUITY AND LIABILITIES		64416.01	63718.08
Basis of preparation, measurement & significant accounting policies	2		
The accompanying notes are an integral part of these financial statements			

For and on behalf of Board of Directors



(Rajeev Kalra)
Company Secretary
M.No.14567



(Subodh Gupta)
Director (Finance)
DIN:08113460



(Atul Sobti)
Chairman & Managing Director
DIN: 06715578

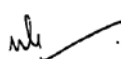
As per our report of even date attached

For Raj Har Gopal & Co.
Chartered Accountants
FRN 002074N



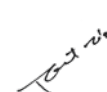
(CA Gopal Krishan)
Partner
M.No.081085

For Tiwari & Associates
Chartered Accountants
FRN- 002870N



(CA Sandeep Sandill)
Partner
M.No.085747

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN- 006228C



(CA. Rajat Jain)
Partner
M.No. 413515

Place : New Delhi

Date : May 27, 2019

Statement of Profit and Loss

For the year ended March 31, 2019

(₹ in Crore)

Particulars	Note	For the year ended March 31, 2019	For the year ended March 31, 2018
INCOME			
Revenue from operations	29	30348.95	28813.00
Other income	30	677.64	694.28
Total Income		31026.59	29507.28
EXPENSES			
Material consumption, erection and engineering expenses	31	19307.85	15899.90
Changes in inventories of finished goods and work in progress	32	(1073.16)	736.13
Employee benefits expenses	33	6261.27	6067.34
Manufacture, administration, selling and distribution expenses	34	2693.93	2002.37
Provisions	35	1075.98	2282.41
Depreciation & amortisation expenses	3.1/4.1	474.81	786.40
Finance costs	36	286.93	254.55
Less: Expenses capitalised for internal use		58.88	106.81
Total expenses		28968.73	27922.29
Profit before tax		2057.86	1584.99
Tax expenses	37		
a) Current tax		735.07	578.67
b) Deferred tax		107.40	199.72
Profit for the year (A)		1215.39	806.60

Statement of Profit and Loss

For the year ended March 31, 2019

(₹ in Crore)

Particulars	Note	For the year ended March 31, 2019	For the year ended March 31, 2018
Other comprehensive income	38		
Items that will not be reclassified to profit or loss (net of tax)			
Re measurement of defined employee benefits		(119.18)	83.33
Other comprehensive income for the year (B)		(119.18)	83.33
Total comprehensive income for the year (A+B)		1096.21	889.93
Earnings per equity share	39		
(1) Basic [Face value of ₹ 2 each]		3.35	2.20
(2) Diluted [Face value of ₹ 2 each]		3.35	2.20
Basis of preparation, measurement and significant accounting policies	2		

The accompanying notes are an integral part of these financial statements

For and on behalf of Board of Directors



(Rajeev Kalra)
Company Secretary
M.No.14567



(Subodh Gupta)
Director (Finance)
DIN:08113460



(Atul Sobti)
Chairman & Managing Director
DIN: 06715578

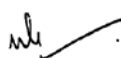
As per our report of even date attached

For Raj Har Gopal & Co.
Chartered Accountants
FRN 002074N



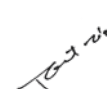
(CA Gopal Krishan)
Partner
M.No.081085

For Tiwari & Associates
Chartered Accountants
FRN- 002870N



(CA Sandeep Sandill)
Partner
M.No.085747

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN- 006228C



(CA. Rajat Jain)
Partner
M.No. 413515

Place : New Delhi

Date : May 27, 2019

Statement of changes in Equity (SOCIE) For the year ended March 31, 2019

a. Equity Share Capital

(₹ in Crore)

Equity shares of INR 2 each issued, subscribed and fully paid	Number of shares		Amount	
	2018-19	2017-18	2018-19	2017-18
Balance at the beginning of the period	3671400000	2447600000	734.28	489.52
Add: Bonus shares allotted during the year	-	1223800000	-	244.76
Less: Shares bought back	189336645	-	37.87	-
Balance at the end of the period	3482063355	3671400000	696.41	734.28

b. Other Equity

For the year ended March 31, 2019

(₹ in Crore)

Particulars	Reserves and surplus				Other items of other comprehensive income	Total other Equity
	Capital Reserve	Capital Redemption Reserve	General Reserves	Retained Earnings		
Balance as at April 01, 2018	35.18	-	32,104.96	(251.29)	(22.05)	31,866.80
Add: Ind AS-115 transition adjustment	-	-	-	126.49	-	126.49
Add/(Less): Total comprehensive income for the year	-	-	-	1,215.39	(119.18)	1,096.21
Less: Transferred to capital redemption reserve	-	37.87	37.87	-	-	-
Less: Transaction cost related to buyback [Note 18]	-	-	-	8.32	-	8.32
Less: Amount paid upon buyback [Note 18]	-	-	1590.43	-	-	1590.43
Less: Final dividend for FY 2017-18 [Note 40]	-	-	-	374.49	-	374.49
Less: Interim dividend for FY 2018-19 [Note 40]	-	-	-	278.57	-	278.57
Less: Dividend distribution tax [Note 40]	-	-	-	134.24	-	134.24
Balance as at March 31, 2019	35.18	37.87	30,476.66	294.97	(141.23)	30,703.45

Statement of changes in Equity (SOCIE)

For the year ended March 31, 2019

For the year ended March 31, 2018

(₹ in Crore)

Particulars	Reserves and surplus				Other items of other comprehensive income	Total other Equity
	Capital Reserve	Capital Redemption Reserve	General Reserves	Retained Earnings		
Balance as at April 01, 2017	35.18	-	32,349.72	(474.60)	(105.38)	31,804.92
Add/(Less): Total comprehensive income for the year	-	-	-	806.60	83.33	889.93
Less: Final dividend for FY 2016-17 [Note 40]	-	-	-	190.92	-	190.92
Less: Interim dividend for FY 2017-18 [Note 40]	-	-	-	293.71	-	293.71
Less: Dividend distribution tax [Note 40]	-	-	-	98.66	-	98.66
Less: Issue of bonus shares [Note 18]	-	-	244.76	-	-	244.76
Balance as at March 31, 2018	35.18	-	32,104.96	(251.29)	(22.05)	31,866.80

For and on behalf of Board of Directors



(Rajeev Kalra)
Company Secretary
M.No.14567



(Subodh Gupta)
Director (Finance)
DIN:08113460



(Atul Sobti)
Chairman & Managing Director
DIN: 06715578

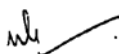
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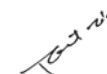
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(CA Sandeep Sandill)
Partner
M.No.085747

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN- 006228C



(CA. Rajat Jain)
Partner
M.No. 413515

Place : New Delhi

Date : May 27, 2019

Cash flow statement for the year ended March 31, 2019

(₹ in Crore)

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
A. Cash flow from operating activities		
Profit for the year (before tax)	2057.86	1584.99
Adjustments for:		
Provisions	1738.37	2196.52
Depreciation and amortisation	474.81	786.40
Finance cost (including unwinding of interest)	286.93	254.55
Bad debts, liquidated damages & losses written off	93.18	41.50
Impairment of investment in joint ventures	4.10	44.39
Fair value adjustment	-	60.63
Interest & dividend income	(615.56)	(616.53)
Liabilities written back	(181.05)	(97.01)
Profit on sale of units of mutual funds	(17.00)	(25.85)
Profit on disposal of an items of PPE	(2.25)	(9.41)
Fair value (gain) / loss in investment of equity share	(0.02)	1.01
Cash generated from operations before working capital changes	3839.37	4221.19
Adjustment for changes in working capital:		
Trade receivables and contract assets	(4593.25)	(6341.95)
Inventories	(1943.80)	997.44
Loans, advances & other assets	(181.56)	(714.37)
Sub total	(6718.61)	(6058.88)
Trade payables	980.97	1747.54
Advances from customers, deposits and others	(933.83)	1223.90
Provisions	(628.62)	(186.34)
Sub total	(581.48)	2785.10
Net cash (used in) / from working capital	(7300.09)	(3273.78)
Cash generated from operations	(3460.72)	947.41
Refund of income taxes	408.68	720.42
Income taxes paid	(829.41)	(677.28)
Net cash inflow from operating activities	(3881.45)	990.55
B. Cash flow from investing activities		
Redemption / maturity of bank deposits (having original maturity of more than 3 months)	1700.00	600.00
Interest received	588.40	657.38
Proceeds from joint ventures	17.30	-
Income received from mutual funds	17.00	36.67
Dividend received from joint ventures	16.18	14.76
Sale of property, plant and equipment	1.04	11.43
Purchase of property, plant and equipment	(425.03)	(281.25)
Investment in joint ventures	-	(74.72)
Net cash (used in) / from investing activities	1914.89	964.27

Cash flow statement for the year ended March 31, 2019

(₹ in Crore)

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
C. Cash flow from financing activities		
Proceeds from short term borrowings	2457.27	-
Proceeds / (repayment) of finance lease obligation	54.45	(50.41)
Buy back of equity shares (including premium payment)	(1628.30)	-
Dividend paid	(652.75)	(484.63)
Dividend distribution tax paid	(134.24)	(98.66)
Interest paid	(94.63)	(37.33)
Buy back expenses	(8.32)	-
Net cash (used in) / from financing activities (refer point 3)	(6.52)	(671.03)
D. Net increase/(decrease) in cash and cash equivalents	(1973.08)	1283.79
Opening balance of cash and cash equivalents	2768.68	1484.89
Closing balance of cash and cash equivalents [Refer Note 13a]	795.60	2768.68

(1) Statement of cash flow has been prepared under the indirect method as set out in the Ind AS 7 - Statement of Cash Flow.

(2) Previous year's figures have been regrouped/reclassified wherever applicable

(3) In cash flow from financing activities there is no non cash item during the year.

(4) Closing balance of cash & cash equivalents includes exchange variation translation gain of ₹ 0.02 crore as on March 31, 2019 (previous year ₹ 0.41 crore).

For and on behalf of Board of Directors



(Rajeev Kalra)
Company Secretary
M.No.14567



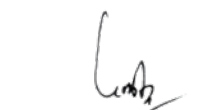
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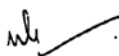
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FRN- 006228C



(CA. Rajat Jain)
Partner
M.No. 413515

Place : New Delhi

Date : May 27, 2019

Notes to the financial statements for the year ended March 31, 2019

Note[1] Company Information

Bharat Heavy Electricals Limited ("BHEL or "the Company") is a public limited company domiciled in India and has its registered office at BHEL House, Siri Fort, New Delhi-110049.

The Company is an integrated power plant equipment manufacturer and is engaged in design, engineering, manufacture, construction, testing, commissioning and servicing of a wide range of products and services for the core sectors of the economy, viz. Power, Transmission, Industry, Transportation, Renewable Energy, Water, Oil & Gas and Defence & Aerospace.

Note[2] Basis of preparation, measurement and significant accounting policies

1. Basis of preparation of Financial Statements

a) Statement of Compliance

The financial statements have been prepared in accordance with Indian Accounting Standards (Ind-AS) as notified by Ministry of Corporate Affairs under the Companies (Indian Accounting Standards) Rules, 2015 and subsequent amendments thereof as well as with the additional requirements applicable to financial statements as set forth in Companies Act, 2013 and amended thereof.

b) Basis of measurement

The financial statements have been prepared on a going concern basis and on an accrual method of accounting. Historical cost is used in preparation of the financial statements except as otherwise mentioned in the policy.

c) Functional and presentation currency

The financial statements are prepared in INR, which is the Company's functional currency.

d) Use of Estimates and Judgments

The preparation of the financial statements in conformity with Ind AS requires management to make judgements, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates. Estimates and underlying assumptions are reviewed on an ongoing basis.

Revisions to accounting estimates are recognised prospectively.

Critical estimates and judgements in applying accounting policies

Estimates and judgements made in applying accounting policies that have significant effect on the amounts recognized in the financial statements are as follows:

i) Revenue

The Company uses input method based on cost approach in accounting for the revenue in respect of construction contracts. Use of input method requires the Company to estimate its costs relative to the total expected costs in the satisfaction of its performance obligation. The estimates are assessed continually during the term of the contract and the company re-measures its progress towards complete satisfaction of its performance obligations satisfied over time at the end of each reporting period.

Company updates its estimated transaction price at each reporting period, to represent faithfully the circumstances present at the end of the reporting period and the changes in circumstances during the reporting period.

ii) Property, plant and equipment [PPE]

The charge in respect of periodic depreciation is derived after estimating the asset's expected useful life and the expected residual value at the end of its life. The depreciation method, useful lives and residual values of Company's assets are estimated by management at the time the asset is acquired and reviewed during each financial year.

iii) Employee Benefit Plans

Employee defined benefit plans and long term benefit plans are measured on the basis of actuarial assumptions. However, any changes in these assumptions may have impact on the reported amount of obligation and expenses.

iv) Provisions and contingencies

Assessments undertaken in recognising provisions and contingencies have been made as per the best judgement of the management based on the current available information.

2. Property plant and equipment (PPE)

Property, plant and equipment are carried at cost less accumulated depreciation and accumulated impairment losses, if any.

Depreciation on property, plant and equipment (other than those used abroad under contract) is charged on straight-line method as per the useful life prescribed in Schedule II of the Companies Act, 2013, except in the following items where estimated useful life is based on technically assessed estimated useful life:

	(Years)
Erection equipment, Capital tools & tackles	5
Drainage, sewerage & water supply	30
Servers and networks	5
Solar Power Generation Plant	25

Depreciation methods, useful lives and residual values are reviewed in each financial year and changes, if any, are accounted for prospectively. Leased assets are depreciated over the shorter of the lease term and their useful lives unless it is reasonably certain that the Company will obtain ownership by the end of the lease term. Freehold land is not depreciated.

Property, plant and equipment costing ₹ 10,000/- or less and those whose written down value as at the beginning of the year is ₹ 10,000/- or less, are depreciated fully.

At erection/project sites: The cost of roads, bridges and culverts is fully amortized over the tenure of the contract, while sheds, railway sidings, electrical installations and other similar enabling works (other than temporary structures) are depreciated over the tenure of the contract after retaining residual value, if any.

Assets used outside India pursuant to long term contracts are depreciated over the duration of the initial contract.

Temporary structures are fully depreciated in the year of construction.

Significant components with different useful lives are accounted for and depreciated separately

3. Leases

At the inception of an arrangement, the Company determines whether such an arrangement is or contains a lease.

Upon initial recognition, assets taken on finance lease are capitalized at an amount equal to the lower of their fair value and the present value of the minimum lease payments. Minimum lease payments made under finance

leases are apportioned between the finance expense and the reduction of the outstanding liability. The finance expense is allocated to each period during the lease term so as to produce a constant periodic rate of interest on the remaining balance of the liability.

Lease rentals arising under operating leases are recognized in the statement of profit and loss on a straight-line basis over the lease term except where the increment in lease rentals is in line with general rate of inflation.

For assets given on finance lease, the Company recognizes finance income over the lease term using effective interest rate method. Initial direct costs incurred are included in the initial measurement of the finance lease receivable and reduce the amount of income recognized over the lease term.

Lease income arising from operating lease is recognized as income over the lease period on a straight line basis except where the periodic increase in lease rentals is in line with expected general inflation.

4. Intangible assets

Intangible items costing more than ₹ 10000/- are evaluated for capitalization and are carried at cost less accumulated amortization and accumulated impairment, if any.

Intangible assets are amortised in statement of profit and loss on a straight-line method over the estimated useful lives from the date that they are available for use. The estimated useful lives for the intangible assets are as follows:

Software	3 years
Others	10 years

Intangible assets having WDV ₹ 10000/- or less at the beginning of the year are amortized fully.

Amortization period and amortization methods are reviewed in each financial year and changes, if any, are accounted for prospectively.

Expenditure on research activities is recognized in statement of profit and loss as incurred. Expenditure on development activities is capitalized only if the expenditure can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable and the company intends to and has sufficient resources to complete development and to use or sell the asset. The expenditure capitalized includes the cost of materials, direct labour, overhead costs that are directly attributable to preparing the asset for its intended use, and borrowing costs, if any.

Assets acquired for purposes of research and development are capitalized.

5. Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets, are added to the cost of such assets.

An asset that necessarily takes a substantial period of time, considered as more than twelve months, to get ready for its intended use or sale is a qualifying asset for the purpose.

All other borrowing costs are recognized in the statement of profit and loss in the period in which they are incurred.

6. Investments in Subsidiaries & Joint ventures

Investments in subsidiaries and joint ventures are accounted at cost less impairment losses, if any.

If the intention of the management is to dispose the investment in near future, it is classified as held for sale and measured at lower of its carrying amount and fair value less costs to sell.

7. Inventories

Inventory is valued at cost or net realizable value, whichever is lower. In respect of valuation of finished goods and work-in-progress, cost means factory cost. In respect of raw material, components, loose tools, stores and spares cost means weighted average cost.

8. Revenue Recognition

Revenue is recognized to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services.

In relation to construction and long term service contracts, the company transfers control of goods or services to the customer and recognizes revenue over the time. Revenue is recognized using input method based on the cost approach. Progress towards complete satisfaction of performance obligation satisfied over time is re-measured at reporting period end.

Revenue from sale of goods and services is recognized on the transfer of control to the customer and upon the satisfaction of performance obligations under the contract.

Other Income

- Dividend income is recognized in statement of profit and loss on the date on which the Company's right to receive payment is established.

- Interest income is recognized using effective interest rate method.
- Claims for export incentives/ duty drawbacks, duty refunds and insurance are accounted for on accrual basis.

9. Foreign currency Translation/Transaction

Transaction in foreign currencies are recorded at the exchange rate prevailing on the date of the transaction.

Foreign currency denominated monetary assets and liabilities are translated into the functional currency at exchange rates in effect at the end of each reporting period. Foreign exchange gains or losses arising from settlement and translations are recognized in the statement of profit and loss.

Non-monetary assets and non-monetary liabilities denominated in a foreign currency and measured at historical cost are translated at the exchange rate prevailing at the date of transaction.

10. Employee Benefits

Defined Contribution Plans

The Company's contribution to pension fund including family pension fund for the employees is covered under defined contribution plan and is recognized as employee benefit expense in statement of profit and loss in the periods during which services are rendered by employees.

Defined Benefit Plans

The Company's gratuity scheme, provident fund scheme, travel claims on retirement and post-retirement medical facility scheme are in the nature of defined benefit plans.

The liability recognized in the balance sheet in respect of these defined benefit plan is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets, if any. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using an appropriate government bond rate that have terms to maturity approximating to the terms of the related liability.

Remeasurements comprising actuarial gains and losses as well as the difference between the return on plan assets and the amounts included in net interest on the net defined benefits liability (asset) are recognized in other comprehensive income (net of income tax).

Other expenses related to defined benefit plans are

recognized in statement of profit and loss.

Long Term Leave Liability

The Company measures the expected cost of accumulating compensated absences as the additional amount expected to be paid as a result of the unused entitlement that has accumulated at the end of the reporting period. Expense on non-accumulating compensated absences is recognized in the period in which the absences occur. The Company records a liability for accumulated balance based on actuarial valuation determined using projected unit credit method. Remeasurements and other expenses related to long term benefit plans are recognized in statement of profit and loss.

11. Provisions

- (i) Claims for liquidated damages against the Company are recognized in the financial statements based on the management's assessment of the probable outcome with reference to the available information supplemented by experience of similar transactions.
- (ii) For construction contracts the Company provides warranty cost at 2.5% of the revenue progressively as and when it recognises the revenue and maintain the same throughout the warranty period. For other contracts, provision for contractual obligations in respect of contracts under warranty at the year end is maintained at 2.5% of the value of contract. In the case of contracts for supply of more than a single product 2.5% of the value of each completed product is provided.
- (iii) When it is probable that total contract costs will exceed total contract revenue, the expected loss is recognised immediately.
- (iv) Other provisions are recognized if, as a result of a past event, the Company has a present legal or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation.

However, where the effect of time value of money is material, provisions are determined and maintained by discounting the expected future cash flows, wherever applicable.

12. Government Grants

Government grants are recognized only when there is reasonable assurance that the conditions attached to them shall be complied with, and the grants will be received. Non monetary grants are accounted at fair value of assets and are treated as deferred income. Deferred

income is recognized in the statement of profit and loss on a systematic and rational basis over the useful life of the asset. Government grants related to revenue are recognized on a systematic basis in the statement of profit and loss over the periods necessary to match them with the related costs which they are intended to compensate.

13. Income Taxes

Income tax expense comprises current tax and deferred tax. Income tax expense is recognized in statement of profit and loss except to the extent that it relates to items recognized in other comprehensive income or directly in equity.

Current tax is the expected tax payable on the taxable income for the year, using tax rates (tax laws) enacted or substantively enacted by the end of the reporting period and includes adjustment on account of tax in respect of previous years.

Deferred tax is recognized using the balance sheet method, providing for temporary difference between the carrying amount of an asset or liability in the balance sheet and its tax base.

Deferred tax is measured at the tax rates that are expected to apply when the temporary differences are either realised or settled, based on the laws that have been enacted or substantively enacted by the end of reporting period.

A deferred tax asset is recognized to the extent that it is probable that future taxable profit will be available against which the temporary difference can be utilized.

The carrying amount of deferred tax assets are reviewed at each reporting period and are reduced to the extent that it is no longer probable that the related tax benefit will be realized.

Additional income tax that arise from the distribution of dividends are recognized at the same time when the liability to pay the related dividend is recognized.

14. Impairment of Assets

Impairment of Financial Assets

The loss allowance in respect of trade receivables and lease receivables are measured at an amount equal to lifetime expected credit losses.

The loss allowance in respect of all other financial assets, which are required to be impaired, are measured at an amount equal to lifetime expected credit losses if the credit risk on that financial instrument has increased significantly since initial recognition. However, if, at the reporting date, the credit risk on a financial instrument has not increased

significantly since initial recognition, the loss allowance is measured at an amount equal to 12-month expected credit losses.

Impairment of Non- Financial Assets

The carrying amount of cash generating units is reviewed at each reporting date where there is any indication of impairment. An impairment loss is recognized in the statement of profit and loss where the carrying amount exceeds the recoverable amount of the cash generating units. Impairment losses recognised in prior periods are assessed at each reporting date for any indications that the loss has decreased or no longer exists.

An impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

15. Segment Reporting

Revenue and expenses are identified to segments on the basis of their relationship to the operating activities of the segment. Revenue, expenses, assets and liabilities which are not allocable to segments on a reasonable basis, are included under "Unallocated revenue/ expenses/ assets/ liabilities".

16. Financial Instruments

i) Non-derivative financial instruments

Non derivative financial instruments are classified as :

- Financial assets, measured at
 - (a) amortized cost and
 - (b) fair value through profit and loss ("FVTPL")
- Financial liabilities carried at amortized cost

Initially, all financial instruments are recognized at their fair value. Transaction costs are included in determining the carrying amount, if the financial instruments are not measured at FVTPL. Financial assets are derecognized when substantial risks and rewards of ownership of the financial asset have been transferred. In cases where substantial risks and rewards of ownership of the financial assets are neither transferred nor retained, financial assets are derecognized only when the Company has not retained control over the financial asset. Financial liabilities are derecognized when contractual obligations are discharged or cancelled or expired.

Non-derivative financial assets are subsequently measured as below:

A. Amortized cost

"Financial Instruments at amortized cost" are subsequently measured at amortized cost using the effective interest rate (EIR) method. Amortized cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortization is included in finance income in the statement of profit and loss. The losses arising from impairment are recognized in the statement of profit and loss.

B. FVTPL Category

Financial instruments classified in this category are subsequently carried at fair value with changes recorded in the statement of profit and loss. Directly attributable transaction costs are recognised in statement of profit and loss as incurred.

Non-derivative financial liabilities are subsequently measured as below:

Subsequent to initial recognition, non – derivative financial liabilities are measured at amortised cost using the effective interest method.

ii) Derivative financial instruments

Embedded derivatives, if any, having material impact, are separated from the host contract and accounted for separately if the economic characteristics and risks of the host contract and the embedded derivative are not closely related, a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative, and the combined instrument is not measured at fair value through profit and loss.

Derivatives are recognized and measured initially at fair value. Attributable transaction cost are recognized in statement of profit and loss as cost. Subsequent to initial recognition, derivatives are measured at fair value through profit and loss.

17. Cash and Cash Equivalent

Cash and cash equivalents comprise cash at bank and on hand. It includes term deposits and other short-term money market deposits with original maturities of three months or less that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.

Note [3a] - Non-current assets Property, plant and equipment

Refer point 2 of Note [2] for accounting policy on property, plant and equipment (PPE).

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Gross block	5746.15	5404.27
Less: Accumulated depreciation	2862.23	2426.74
Net block (details refer to note 3.1)	2883.92	2977.53

Company had opted for exemption under Ind AS 101, and accordingly carrying value as on 31.03.2015 was considered as deemed cost on Ind AS transition date.

Note [3b] - Non-current assets Capital work in progress

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Plant & machinery and other equipments:		
Under Erection/ Fabrication/awaiting erection	102.72	110.26
In transit	30.29	29.70
Construction work-in-progress -Civil	88.63	52.86
Construction stores (including in transit)	1.57	1.71
	223.21	194.53

Note [4a] - Non-current assets Intangible assets

Refer point 4 of Note [2] for accounting policy on intangible assets.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Gross block	250.00	221.87
Less: Accumulated amortisation	166.93	130.56
Net block (details refer to note 4.1)	83.07	91.31

Company had opted for exemption under Ind AS 101, and accordingly carrying value as on 31.03.2015 was considered as deemed cost on Ind AS transition date.

Note [4b] - Non-current assets Intangible assets under development

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Intangible assets under development	12.23	8.23
	12.23	8.23

NOTE 3.1 - Detail of property, plant & equipment

(₹ in Crore)

Description	Gross Block				Depreciation				Net Block	
	Opening Balance as on 01.04.2018	Additions/ Adjustments	Deductions/ Adjustments	Closing Balance as on 31.03.2019	Accumulated Depreciation as at 01.04.2018	Depreciation / Amortisation for the year	Depreciation Adjustments	Accumulated Depreciation as at 31.03.2019	As at 31.03.2019	As at 31.03.2018
Land										
i) Freehold land (including development expenses)	27.67	0.00	0.00	27.67	0.00	0.00	0.00	0.00	27.67	27.67
ii) Leasehold land including development expenses)	110.85	0.00	0.00	110.85	3.62	1.40	0.00	5.02	105.83	107.23
Buildings										
i) Freehold Buildings	1516.69	70.44	(1.35)	1585.78	319.26	102.49	(0.09)	421.66	1164.12	1197.43
ii) Leasehold Buildings	1.63	0.00	0.00	1.63	0.16	0.05	0.00	0.21	1.42	1.47
Roads, bridges & culverts	12.81	2.51	(0.19)	15.14	10.79	1.21	(0.00)	12.00	3.14	2.02
Drainage, Sewerage & water supply	27.11	1.17	(0.19)	28.09	3.61	1.19	0.00	4.80	23.29	23.50
Plant & Machinery (owned)	2957.61	115.81	0.01	3073.43	1650.79	206.20	2.22	1859.21	1214.22	1306.82
Railway Siding	8.85	0.00	0.00	8.85	2.80	0.69	0.00	3.49	5.36	6.05
Locomotives & Wagons	28.34	0.00	0.00	28.34	9.41	2.16	0.00	11.57	16.77	18.93
Furniture & fixtures	54.58	7.64	(2.00)	60.22	23.89	7.07	(1.65)	29.31	30.91	30.69
Vehicles	10.29	0.96	0.15	11.40	4.23	1.41	0.15	5.79	5.61	6.06
Office and Other equipments										
i) Owned Office and Other equipments	103.70	21.35	(2.08)	122.97	70.04	15.24	(1.97)	83.31	39.66	33.66
ii) Leased Office & other equipment	14.62	1.58	0.00	16.20	7.62	2.81	0.00	10.43	5.77	7.00

(₹ in Crore)

Description	Gross Block				Depreciation				Net Block	
	Opening Balance as on 01.04.2018	Additions/ Adjustments	Deductions/ Adjustments	Closing Balance as on 31.03.2019	Accumulated Depreciation as at 01.04.2018	Depreciation / Amortisation for the year	Depreciation Adjustments	Accumulated Depreciation as at 31.03.2019	As at 31.03.2019	As at 31.03.2018
Electronic Data Processing Equipment										
i) Owned EDP Equipment	54.50	1.29	(23.03)	32.76	48.69	2.27	(22.70)	28.26	4.50	5.81
ii) Leased EDP Equipment	169.08	102.82	22.66	294.56	113.67	49.09	22.57	185.33	109.23	55.41
Electrical Installations	229.47	14.48	(2.04)	241.91	94.14	32.22	(0.83)	125.53	116.38	135.33
Construction Equipment	67.67	4.03	0.20	71.90	55.22	6.44	0.20	61.86	10.04	12.45
Fixed Assets costing upto ₹ 10,000/-	8.70	5.51	0.14	14.35	8.70	5.59	0.06	14.35	0.00	0.00
Leased-Others	0.10	0.00	0.00	0.10	0.10	0.00	0.00	0.10	0.00	0.00
Total	5404.27	349.59	(7.72)	5746.15	2426.74	437.53	(2.04)	2862.23	2883.92	2977.53
Previous year	5174.44	236.94	(7.11)	5404.27	1683.32	749.12	(5.70)	2426.74	2977.53	3491.12

@The details of R&D capital items included in above

Plant & Machinery other Equipments	250.32	21.02	(2.12)	269.22	121.42	28.85	0.00	150.27	128.90	118.94
Building	23.35	0.01	(0.06)	23.30	3.40	1.10	0.00	4.50	19.95	18.80

Gross block (as per earlier IGAAP) as at 31.03.2018 ₹ 12755.58 crore and as at 31.03.2019 ₹ **13033.88** crore

Notes:

Gross Block as at 31.03.2019 includes assets condemned and retired from active use ₹ **0.12** crore (Previous year ₹ 0.12 crore)

Net Block as at 31.03.2019 includes assets condemned and retired from active use ₹ **0.12** crore (Previous year ₹ 0.12 crore)

Gross Block excludes cost of assets purchased out of grant received from Govt of India for research as executing agency since the property does not vest with the Company.(₹/Crore)

	31.03.2019	31.03.2018
	180.32	59.18

There is no impairment loss in fixed assets during the year.

Additional information on Note [3.1] property, plant and equipment

(₹ in Crore)

	As at March 31, 2019	As at March 31, 2018
1. Land and buildings includes		
a i) Acres of land for which formal transfer/lease deed have not been executed Net Block	8196.93 68.45	8196.93 72.90
ii) Number of flats for which formal transfer/lease deed have not been executed Net Block	12 1.19	12 1.24
iii) Number of buildings for which formal transfer/lease deed have not been executed Net Block	-	-
iv) Acres of land for which the cost paid is provisional; [registration charges and stamp duty, (net of provision) would be accounted for on payment]. Net Block	506.46 - 64.79	506.46 - 65.61
b. Acres of land leased to Ministry of Defence, Govt. of India Departments & others	30.37	30.37
c. Acres of land being used by Ministry of Defence(BEG) for which licencing agreement was valid upto 30.11.2018	180	180
d. Acres of land is under adverse possession/encroachment.	701.86	774.55
e. 1242.71 acres (PY 1242.71 acres) of land pending mutation at Haridwar plant for which legal action is in process. It includes land measuring 878.85 acres which is in BHEL's possession but has been wrongly got mutated in the name of SIDCUL Government of Uttarakhand in the year 2004 & 2007.		
f. Further at Haridwar plant, 8 Acres of land is pending transfer to IOCI /State Government under office memorandum dated 01.12.2003 of Uttarakhand Government. (Cost of land of (b to f) mentioned above is not material)		
	As at March31, 2019	As at March31, 2018
2. i) Total area of land in acres	16409.03	16409.03
ii) Free hold land (sale deed) / possessory rights / license out of 2(i) in acres	15735.69	15735.69
iii) Leasehold land out of 2 (i) in acres	673.34	673.34
3. The company provides 100% depreciation on an item of PPE having cost / opening net block up to ₹ 10000/- each. The impact of providing 100% depreciation on an item of PPE on profit, without considering the impact of earlier years is as under :		
	For the Year ended March 31, 2019	For the Year ended March 31, 2018
100% depreciation on PPE upto ₹ 10,000/- charged off	8.08	3.98
Less: Normal depreciation on above.	2.07	1.15
Excess amount charged to depreciation for the year	6.01	2.83
4. The impact on depreciation due to review and revision in the estimated useful life of certain item of PPE in FY 2018-19 is reduction of ₹ 201.42 crore.		

NOTE 4.1 - Detail of intangible assets

(₹ in Crore)

Description	Gross block				Depreciation				Net block	
	Opening Balance as on 01.04.2018	Additions/ Adjustments	Deductions/ Adjustments	Closing Balance as on 31.03.2019	Accumulated Depreciation as at 01.04.2018	Depreciation / Amortisation for the year	Depreciation Adjustments	Accumulated Depreciation as at 31.03.2019	As at 31.03.2019	As at 31.03.2018
Internally Developed										
Others	50.55	11.14	0.00	61.69	33.92	11.33	0.00	45.25	16.44	16.63
Others										
Software	26.81	23.32	(5.00)	45.13	23.91	3.07	10.42	37.40	7.74	2.90
Technical Know-how	134.24	8.93	0.00	143.17	62.46	21.82	0.00	84.28	58.89	71.78
Others	10.27	(15.40)	5.13	0.00	10.27	0.00	(10.27)	0.00	0.00	0.00
Total	221.87	27.99	0.14	250.00	130.56	36.22	0.15	166.93	83.07	91.31
Previous year	198.04	23.83	0.28	221.87	93.28	37.28	0.30	130.56	91.31	104.76

Gross block (as per earlier IGAAP) as at 31.03.2018 ₹ 505.26 crore and as at 31.03.2019 ₹ **534.48** crore

Note [5] - Non-current assets

Financial assets - Investment

Refer point 6 of Note [2] for accounting policy on investment in subsidiaries and joint ventures.

(₹ in Crore)

Particulars	As at March 31, 2019		As at March 31, 2018	
	No. of Shares (Face value in INR)	Amount	No. of Shares (Face value in INR)	Amount
I Quoted equity instruments	-	-	-	-
II Unquoted equity instruments (fully paid up shares)				
(a) Investment in joint ventures (at cost)				
(i) Raichur Power Corporation Ltd.	664040000 (10)	664.04	664040000 (10)	664.04
(ii) BHEL-GE Gas Turbine Services Pvt. Ltd.	2379999 (10)	2.38	2379999 (10)	2.38
(iii) NTPC-BHEL Power Projects Pvt. Ltd.	50000000 (10)	50.00	50000000 (10)	50.00
Less: Provision for impairment		50.00	45.60	4.40
(iv) Powerplant Performance Improvement Ltd.	1999999 (10)	2.00	1999999 (10)	2.00
Less: Provision for impairment		2.00	2.00	-
(v) Dada Dhuniwale Khandwa Power Ltd.	22500000 (10)	22.50	22500000 (10)	22.50
Less: Amount received		17.30	-	-
Less: Provision for impairment		5.20	5.50	17.00
		666.42		687.82
(b) Investment in subsidiary company (at cost)				
BHEL- Electrical Machine Limited	5355000 (10)	5.36	5355000 (10)	5.36
Less: Provision for impairment		5.36	5.36	-
(c) Investment in equity instruments fully paid up (at FVTPL)				
(i) Neelachal Ispat Nigam Ltd	5000000 (10)	5.00	5000000 (10)	5.00
(ii) AP Gas Power Corporation Ltd.	728960 (10)	0.91	728960 (10)	0.91
(iii) Engineering Projects (India) Ltd.	1892 (10)	*	1892 (10)	*
		5.91	5.91	
Less: Fair value adjustment		(2.97)	(2.99)	2.92
Share in Co-operative Societies #		-	-	-
		669.36		690.74
*Value of less than INR 1 lakh				
Aggregate amount of unquoted investment		734.89		752.19
Aggregate amount of impairment in value of investments		65.53		61.45

Equity shares held in various employees cooperatives societies, valuing less than INR 1 lakh/-

Information about joint ventures and subsidiary

(₹ in Crore)

Particulars		As at March 31, 2019	As at March 31, 2018
(A) Name of the joint ventures (JVC)	Country of incorporation	Proportion (%) of ownership	
BHEL-GE Gas Turbine Services Private Limited (BGGTS)	India	One share less than 50%	One share less than 50%
NTPC-BHEL Power Projects Private Limited (NBPPL)		50%	50%
Raichur Power Corporation Limited (RPCL)		27.97%	27.97%
Dada Dhuniwale Khandwa Power Limited (DDKPL)		50%	50%
Power Plant Performance Improvement Limited (PPIL)		One share less than 50%	One share less than 50%

- (i) The provision for impairment in value of investment in NTPC-BHEL Power Projects Private Limited has been made to the extent of ₹ **50.00 crore** (upto previous year ₹ 45.60 crore) based on the net financial position. The Board of Directors in its meeting held on February 08, 2018 has accorded in principle approval for pursuing the winding up of NBPPL.
- (ii) An amount of ₹ 17.30 crore has been received during FY 2018-19 against investment in Dada Dhuniwale Khandwa Power Project Ltd. The provision for impairment in value of investment has been retained to the extent of ₹ **5.20 crore** (previous year ₹ 5.50 crore) based on the net financial position. The JVC is under liquidation.
- (iii) The provision for impairment in value of investment in Power Plant Performance Improvement Limited amounting to ₹ **2.00 crore** (previous year ₹ 2.00 crore) has been made since the JVC is under liquidation and the amount paid as equity is not recoverable.

Particulars		As at March 31, 2019	As at March 31, 2018
(B) Name of the subsidiary company	Country of incorporation	Proportion (%) of ownership	
BHEL Electrical Machines Limited (BHEL EML)	India	51%	51%

Board of directors in its meeting held on May 29, 2018 has approved (subject to approval of Department of Heavy Industry, Govt. of India) the transfer of Company's 51% stake to Govt. of Kerala.

Note [6] - Non-current assets
Financial assets - Trade receivables

Refer point 14 of Note [2] for accounting policy on impairment of financial assets.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Secured, considered good	-	-
Unsecured, considered good	4529.16	3798.95
Credit impaired	10424.80	7160.51
	14953.96	10959.46
Less: Allowances for bad and doubtful debts	10445.38	7030.36
Less: Automatic price reduction adjustment	573.38	491.87
	11018.76	7522.23
	3935.20	3437.23
Includes:		
(a) Due from Directors	-	-
(b) Due from Officers	-	-

Simplified approach is followed for impairment of trade receivables, the classification is done in line with Ind AS 109.

Note [7] - Non-current assets
Financial assets - Loans

Refer point 14 of Note [2] for accounting policy on impairment of financial assets.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Security deposits		
Secured, considered good	-	-
Unsecured, considered good		
Deposits with SEBs, port trust & others	82.81	84.27
Significant increase in credit risk	-	-
Credit impaired		
Deposits others	1.77	1.62
	84.58	85.89
Less: Allowances for bad & doubtful deposits	1.77	1.62
	82.81	84.27
Loans		
Secured, considered good	-	-
Unsecured, considered good		
Interest accrued and due on loans	0.01	0.01
Significant increase in credit risk	-	-
Unsecured, considered doubtful and provided for		
Interest accrued and due on loans	-	0.01
	0.01	0.02
Credit impaired		
Less: Allowances for bad & doubtful loans	-	0.01
	0.01	0.01
	82.82	84.28
Includes:		
Due from Directors	-	-
Dues from Officers	-	-

Note [8] - Non-current assets**Financial assets - Other financial assets**

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Rent receivables on finance lease	-	0.02
	-	0.02

Note [9] - Non-current assets**Deferred tax assets (net of liabilities)**

Refer point 13 of Note [2] for accounting policy on income taxes.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Deferred tax assets		
Provisions	2620.06	2721.55
Statutory dues (allowed on payment basis)	744.01	652.95
Depreciation - Property, plant and equipment & intangible assets	118.20	160.98
Others	32.26	101.30
	3514.53	3636.78
Deferred tax liabilities	-	10.90
Deferred tax assets (net of liabilities)	3514.53	3625.88

Movement of deferred tax balances

(₹ in Crore)

Particulars	Balance as at April 01, 2018	Recognized in retained earnings	Recognized in statement of profit & loss a/c	Recognized in OCI	Balance as at March 31, 2019
Deferred tax assets					
Provisions	2721.55	-	(101.49)	-	2620.06
Statutory dues (allowed on payment basis)	652.95	-	27.04	64.02	744.01
Depreciation (PP&E and Intangible assets)	160.98	-	(42.78)	-	118.20
Others	101.30	(78.87)	9.83	-	32.26
Subtotal	3636.78	(78.87)	(107.40)	64.02	3514.53
Less: Deferred tax liabilities	10.90	(10.90)	-	-	-
Deferred tax assets (net of liabilities)	3625.88	(67.97)	(107.40)	64.02	3514.53

Note [10] - Non-current assets

Other non-current assets

Refer point 14 of Note [2] for accounting policy on impairment of financial assets.

(₹ in Crore)

Particulars	As at March 31, 2019		As at March 31, 2018	
Contract assets (including unbilled revenue)				
Secured, considered good	-		-	
Unsecured, considered good	14392.34		10263.95	
Credit impaired	1779.61		1132.07	
	16171.95		11396.02	
Less: Allowances for bad and doubtful debts	1779.61	14392.34	1132.07	10263.95
Security deposits				
Secured, considered good	-		-	
Unsecured, considered good				
Deposits with tax authorities and others	135.08		121.21	
Significant increase in credit risk	-		-	
Credit impaired	25.09		24.01	
	160.17		145.22	
Less: Allowances for bad & doubtful deposits	25.09	135.08	24.01	121.21
Loans & advances				
Secured, considered good	-		-	
Unsecured, considered good				
Advances towards purchases	73.54		47.06	
Claims recoverable and others	74.88		40.63	
Capital advances	22.17		21.98	
	170.59		109.67	
Significant increase in credit risk	-		-	
Less: Allowances for bad & doubtful loans & advances	26.23	144.36	24.61	85.06
		14671.78		10470.22
(a) Contract assets (net of provisions) includes:				
Deferred debts		13058.01		10103.02
(b) Loan & advances includes :				
(a) Due from Directors		-		-
(b) Due from Officers		-		-

Note [11] - Current assets Inventories

Refer point 7 of Note [2] for accounting policy on valuation of inventories.

(₹ in Crore)

Particulars	As at March 31, 2019		As at March 31, 2018	
Raw material & components	3479.58		2858.55	
Material-in-transit	<u>451.01</u>	3930.59	<u>217.10</u>	3075.65
Work-in-progress (including items with sub-contractors)		3219.82		2283.83
Finished goods	977.21		863.79	
Inter - division transfers in transit	<u>114.93</u>	1092.14	<u>85.88</u>	949.67
Stores & spare parts				
Production	176.99		190.66	
Fuel stores	6.97		8.36	
Miscellaneous	<u>54.13</u>	238.09	<u>48.55</u>	247.57
Other inventory				
Materials with fabricators/contractors	63.02		76.12	
Loose tools	34.40		31.10	
Scrap (at estimated realisable value)	<u>90.89</u>	188.31	<u>61.21</u>	168.43
		<u>8668.95</u>		<u>6725.15</u>
Less: Provision for non-moving inventory		555.46		466.39
		8113.49		6258.76
Note :				
Write down of inventories		115.90		142.96
Less : reversal thereof		26.83		26.78
Net		89.07		116.18

Note [12] - Current assets Financial assets - Trade receivables

Refer point 14 of Note [2] for accounting policy on impairment of financial assets.

(₹ in Crore)

Particulars	As at March 31, 2019		As at March 31, 2018	
Secured, considered good		-		-
Unsecured, considered good		13589.70		15726.61
Credit impaired		481.39		2547.74
		14071.09		18274.35
Less: Allowances for bad and doubtful debts		2005.21		4103.63
Less: Automatic price reduction adjustment		56.31	2061.52	106.66
		12009.57		14064.06
(a) Due from Directors		-		-
(b) Due from Officers		-		-

Note [13a] - Current assets Financial assets - Cash & cash equivalents

Refer point 17 of Note [2] for accounting policy on cash and cash equivalent.

(₹ in Crore)

Particulars	As at March 31, 2019		As at March 31, 2018	
Balances with banks :				
Corporate liquid term deposits		-		1702.03
EEFC a/c		102.22		441.73
Current / cash credit a/c		623.83	726.05	214.70
		69.43		2358.46
Cheques, demand drafts on hand				210.03
Deposits with banks having maturity 3 month or less				200.00
Cash & stamps on hand		0.12		0.19
		795.60		2768.68

Note [13b] - Current assets Financial assets - Bank balances

(₹ in Crore)

Particulars	As at March 31, 2019		As at March 31, 2018	
Fixed deposits having maturity more than 3 months but not more than 12 months *		6700.00		8400.00
Fixed deposits against margin money for BG issued		2.28		2.16
Balances with banks (earmarked):				
Unclaimed dividend a/c		3.61		3.30
Non-repatriable a/c		1.82		1.70
Sale proceeds of fractional shares on bonus issue		0.03	5.46	0.03
		6707.74		8407.19
Total Cash and Bank Balances [13a + 13b]		7503.34		11175.87

* Fixed deposits of ₹ 775 crore pledged against loan taken in the form of overdraft against FDs and loan is repaid on April 2, 2019.

Note [14] - Current assets

Financial assets - Loans

Refer point 14 of Note [2] for accounting policy on impairment of financial assets.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Security deposits		
Secured, considered good	-	-
Unsecured, considered good		
EMD and other deposits	157.45	143.59
Significant increase in credit risk	-	-
Credit impaired	3.53	3.60
	160.98	147.19
Less: Allowances for bad & doubtful deposits	3.53	3.60
	157.45	143.59
Loans		
Loans to subsidiary company	3.00	3.00
Loans to PSUs *	12.00	12.00
Interest accrued and due on loans	2.04	2.06
	17.04	17.06
Less: Allowances for bad & doubtful loans	17.04	17.06
	-	-
Out of above:		
Secured, considered good	-	-
Unsecured, considered good	-	-
Significant increase in credit risk	-	-
Credit impaired	17.04	17.06
	157.45	143.59
Includes :		
(a) Due from Directors	-	-
(b) Due from Officers	0.01	0.01
* Loan given to Bharat Pumps and Compressors Ltd. has been fully provided		

Note [15] - Current assets

Other financial assets

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Interest accrued on banks deposits and investments	128.94	117.94
Advance to employees	33.27	32.52
Rent receivable on finance lease	0.03	0.17
	162.24	150.63
Less: Allowances for bad & doubtful advances	0.05	0.02
	162.19	150.61
Includes:		
(a) Due from Directors	-	-
(b) Due from Officers	0.05	0.01

Note [16] - Current assets Current tax assets / liabilities (net)

Refer point 13 of Note [2] for accounting policy on income taxes.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Advance tax & TDS	2888.12	2551.94
Less: Provisions for taxation	2979.52	2329.00
	(91.40)	222.94

Note [17] - Current assets Other current assets

Refer point 14 of Note [2] for accounting policy on impairment of financial assets.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Contract assets (including unbilled revenue)		
Secured, considered good	-	-
Unsecured, considered good	7904.20	7728.22
Credit impaired	202.40	370.31
	8106.60	8098.53
Less: Allowances for bad and doubtful debts	202.40	370.31
	7904.20	7728.22
Claim recoverable		
Input tax credit receivable	1187.73	1009.33
Claim recoverable and others	735.53	708.18
Advances		
Subsidiary company	0.24	0.36
Vendors / subcontractors	257.72	434.74
	2181.22	2152.61
Less: Allowances for bad & doubtful advances and claims	126.45	235.40
	2054.77	1917.21
Out of above:		
Secured, considered good	-	-
Unsecured, considered good :	2054.77	1917.21
Significant increase in credit risk	-	-
Credit impaired	126.45	235.40
Security deposits		
Deposits with tax authorities and others	495.75	511.48
Less: Allowances for bad & doubtful deposit	60.87	34.63
	434.88	476.85
Out of above:		
Secured, considered good	-	-
Unsecured, considered good	434.88	476.85
Significant increase in credit risk	-	-
Credit impaired	60.87	34.63
	10393.85	10122.28
Contract assets (net of provision) includes:		
Deferred debts	5625.80	5440.00

Note [18] - Equity Equity share capital

(₹ in Crore)

Particulars	As at March 31, 2019		As at March 31, 2018	
	No. of Shares (Face value in ₹)	Amount	No. of Shares (Face value in ₹)	Amount
A Equity share capital				
Authorised	10000000000 (2)	2000.00	10000000000 (2)	2000.00
Issued, subscribed and fully paid up	3482063355 (2)	696.41	3671400000 (2)	734.28
a) The reconciliation of the number of equity shares outstanding				
Balance as at the beginning of the year	3671400000	734.28	2447600000	489.52
Add: Bonus shares allotted during the year	-	-	1223800000	244.76
Less: Shares bought back during the year	189336645	37.87	-	-
Balance as at the end of the year	3482063355	696.41	3671400000	734.28
b) Details of shares held by shareholders holding more than 5% of shares at the end of the year				
President of India	2199650402	63.17%	2315178000	63.06%
Life Insurance Corporation of India	360647914	10.07%	345680880	9.42%
Face value per share in (₹)		2.00		2.00

c) Terms / rights attached to the equity shares :

The company has only one class of equity shares having par value of ₹ 2 per share (previous year ₹ 2 per share). Each holder of the equity shares is entitled to one vote per share.

d) Issue of bonus share

The Company allotted bonus share on October 03, 2017 in the ratio of 1:2 i.e. one equity share for two existing fully paid-up equity shares. Consequently, the paid-up capital was increased from ₹ 489.52 crore in FY 2016-17 to ₹ 734.28 crore in FY 2017-18 by capitalization of reserves

e) Share buyback

The Board, at its meeting held on October 25, 2018 approved a proposal for the Company to buyback of its 18,93,36,645 fully paid-up equity shares of the face value of ₹ 2 each representing 5.16% of the total issued and paid-up equity share capital from the eligible equity shareholders of the Company for an amount not exceeding ₹ 1628,29,51,470 at a price of ₹ 86 per equity share. The buyback offer size was upto 5% of both the standalone and consolidated paid-up equity share capital and free reserves of the Company for the financial year ended March 31, 2018 which was well within the statutory limit of 10% of the aggregate of the fully paid-up share capital and free reserves of the Company for the financial year ended on March 31, 2018. The record date of buyback was November 06, 2018.

The Company adopted tender offer route and buyback offer opened on December 13, 2018 and closed on December 27, 2018. Total equity shares of 18,93,36,645 were bought back at a price of ₹ 86 per equity share with total amount utilized in the buyback of equity shares was ₹ 1628,29,51,470 excluding transaction cost. The buyback committee in its meeting held on January 10, 2019 approved the extinguishment of equity share bought back. Consequently, the paid-up share capital was reduced from ₹ 734.28 crore in FY 2017-18 to ₹ 696.41 crore in FY 2018-19.

Note [18a] - Other Equity

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Summary of other equity balances:		
Capital reserve	35.18	35.18
Capital redemption reserve	37.87	-
General reserves	30476.66	32104.96
Retained earnings	294.97	(251.29)
Re-measurements of defined benefit plans	(141.23)	(22.05)
	30703.45	31866.80

Nature and purpose of reserves:

- Capital reserve** : It represents mainly the excess of net assets taken, over the cost of consideration paid during amalgamation of the then subsidiary company (HPVP) with the BHEL.
- Capital redemption reserve**: The Company has recognised Capital Redemption Reserve on buy back of equity shares from its general reserve. The amount in capital redemption reserve is equal to nominal amount of equity shares bought back.
- General reserve**: This represents accumulation of profits retained by Company to meet future (known/unknown) obligations.
- Retained earnings**: Retained earnings are profits that Company has earned till date, less transfer to general reserve, dividends (incl. dividend distribution tax) or other distributions paid to shareholders.
- Re-measurement of net defined benefit plans**: Differences between the interest income on plan assets and the return actually achieved, and any changes in the liabilities over the year due to changes in actuarial assumption or experience adjustments within the plans, are recognised in 'Other comprehensive income' and these are subsequently not to be reclassified to the Statement of Profit and Loss.

**Note [19] - Non-current liabilities
Financial liabilities- Borrowings**

Refer point 3 of Note [2] for accounting policy on lease.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Unsecured		
Long term maturities of finance lease obligations	95.45	57.18
	95.45	57.18

(Disclosure as per Note [45] on lease)

Note [20] - Non current liabilities Financial liabilities -Trade payables

(₹ in Crore)

Particulars	As at March 31, 2019		As at March 31, 2018	
Trade payables				
(i) Total outstanding dues of micro enterprises and small enterprises	-		-	
(ii) Total outstanding dues of creditors other than micro enterprises and small enterprises	702.98	702.98	<u>479.06</u>	479.06
		702.98		479.06

Note [21] - Non current liabilities Other financial liabilities

(₹ in Crore)

Particulars	As at March 31, 2019		As at March 31, 2018	
Deposits from contractors & others		85.17		110.43
Liability for capital expenditure		6.36		3.98
		91.53		114.41

Note [22] - Non current liabilities Provisions

Refer point 10 & 11 of Note [2] for accounting policy on employee benefits and provisions.

(₹ in Crore)

Particulars	As at March 31, 2019		As at March 31, 2018	
Contractual obligation		3843.71		3477.90
Provision for employee benefits		1303.01		1259.94
Provision others		305.42		184.31
Corporate social responsibility *		2.40		0.96
		5454.54		4923.11

*(Disclosure as per point (viii) of Note [34] on CSR expense)

Note [23] - Non current liabilities Other non - current liabilities

Refer point 12 of Note [2] for accounting policy on Government grants

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Contract liabilities (Advances received from customers incl.excess of billing over revenue)	3577.93	3610.10
Deferred income- Govt. grant #	37.95	26.60
	3615.88	3636.70

#Govt. grant is received for setting up of solar PV plant

Note [24] - Current liabilities Financial liabilities - Borrowings

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Secured		
Loans from banks (against fixed deposits)	600.00	-
Pre shipment packing credit (secured by hypothecation of raw materials, components, work-in-progress, finished goods & stores)	357.27	-
	957.27	
Unsecured		
Commercial papers	1500.00	-
	1500.00	-
Total borrowings	2457.27	-

- (i) The Company has a cash credit limit from banks aggregating to ₹ **6000 crore** (previous year ₹ 5000 crore and Company's counter guarantee / indemnity obligations in regard to bank guarantee / letters of credit limit aggregating to ₹ **54000 crore** (previous year ₹ 55000 crore) sanctioned by the consortium banks. These are secured by first charge by way of hypothecation of raw materials, components, work in progress, finished goods, stores, trade receivables and other current assets both present and future. The outstanding bank guarantees as at March 31, 2019 is ₹ **43136 crore** (previous year ₹ 43881 crore).
- (ii) Loan taken from bank against security of fixed deposits of ₹ 775 crore in the form of overdraft which is repaid on April 02, 2019
- (iii) The commercial paper outstanding at the end of the year is repayable in June 2019.
- (iv) Packing Credit in Foreign Currency (PCFC) has been availed by the Company. The outstanding amount of USD 51.31 million which is partly repayable by Sep'19 and partly by Dec'19.
- (v) Corporate Guarantees given for own obligations outstanding as on March 31, 2019 is ₹ **1433 crore** (previous year ₹ 1747 crore).

Note [25] - Current liabilities

Financial liabilities - Trade Payables

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Trade payables:		
(i) Total outstanding dues of micro enterprises and small enterprises	361.17	283.43
(ii) Total outstanding dues of creditors other than micro enterprises and small enterprises	10961.66	10234.46
(iii) Acceptances	<u>52.28</u> 11013.94	<u>68.97</u> 10303.43
	11375.11	10586.86
A. Micro and small enterprises disclosure		
(i) The principal amount remaining unpaid to supplier as at the end of the accounting year	361.17	283.43
(ii) The interest due thereon remaining unpaid, to supplier as at the end of accounting year	-	-
(iii) The amount of interest paid in terms of section 16, along with the amounts of the payment made to the supplier beyond appointed day during the year	-	0.44
(iv) The amount of interest due and payable for the period of delay in making payment (which have been paid but beyond the appointed day during the year) but without adding interest specified under this Act.	-	-
(v) The amount of interest accrued during the year and remaining unpaid at the end of year	-	-
(vi) The amount of further interest remaining due and payable even in the succeeding years, until such date when the interest dues as above are actually paid to the small enterprises, for the purpose of disallowance as a deductible expenditure	-	-

Note [26] - Current liabilities Other financial liabilities

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Liabilities:		
Employees dues	510.32	855.60
Other dues	879.74	761.92
Capital expenditure	88.75	111.38
Deposits from contractors & others	1478.81	1728.90
Current maturities of finance lease obligation #	522.09	492.12
Unpaid dividend *	58.45	42.27
Interest accrued & due on loans:	3.61	3.30
Finance lease obligations	4.41	3.43
Interest accrued but not due	0.77	0.38
	2068.14	2270.40

(i) * No amount is due and outstanding to be transferred to Investor Education & Protection Fund at the year end.

(ii) # Disclosure as per Note [45] on lease

(iii) Other dues includes ₹ 0.03 crore for sale proceeds of fractional shares arising out of issuance of bonus shares.

Note [27] - Current liabilities Provisions

Refer point 10 & 11 of Note [2] for accounting policy on employee benefits and provisions.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Contractual obligation	1443.10	1853.42
Provision for employee benefits	781.03	1563.11
Corporate social responsibility ##	19.43	30.18
Provision others	241.92	336.06
	2485.48	3782.77

##(Disclosure as per point (viii) of Note [34] on CSR expense)

Note [28] - Current liabilities Other current liabilities

Refer point 12 of Note [2] for accounting policy on Government grants

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Contract liabilities (Advances received from customers incl.excess of billing over revenue)	3261.05	3962.66
Liabilities towards statutory dues	1310.87	1296.39
Deferred income - Govt. grant	6.45	7.46
	4578.37	5266.51

Note [29]**Revenue from operations**

Refer point 8 of Note [2] for accounting policy on revenue recognition.

(₹ in Crore)

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
Revenue from contracts with customers		
Sales	22402.11	21888.47
Income from external erection & other services	6947.10	5961.97
Turnover (A)	29349.21	27850.44
Other operational income		
Freight & insurance	263.62	288.07
Scrap income	205.58	147.19
Recoveries from suppliers	186.97	142.68
Liabilities written back	181.05	97.01
Insurance claims	41.08	37.44
Export incentives	3.64	26.48
Others	117.80	223.69
Other operational income (B)	999.74	962.56
Revenue from operations (C=A+B)	30348.95	28813.00
Revenue from operations excludes :		
a. Goods and service tax	4491.81	3715.75
b. Service tax	-	140.91
c. Excise duty	-	247.98

Note [30]**Other income**

Refer point 8 of Note [2] for accounting policy on revenue recognition.

(₹ in Crore)

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
Interest income *		
From banks	498.65	520.25
Others	100.73	70.70
	599.38	590.95
Dividend income		
Dividend on investment in joint ventures (long term trade)	16.18	14.76
Dividend on investment in mutual funds	-	10.82
	16.18	25.58
Other income		
Profit on sale of units of mutual funds	17.00	25.85
Government grants	6.50	8.73
Profit from sale of PPE & capital stores (Net)	2.25	9.41
Others	36.33	33.76
	62.08	77.75
Total other income	677.64	694.28
*Includes TDS	41.38	43.97

Note [31] Material consumption, erection and engineering expenses

(₹ in Crore)

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
Consumption of raw material & components	15030.08	12096.45
Civil, erection and engineering expenses	3866.10	3417.72
Consumption of stores & spares	411.67	385.73
	19307.85	15899.90

Note [32] Changes in inventories of finished goods and work in progress

(₹ in Crore)

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
Work -in -progress		
Closing balance	3219.82	2283.83
Opening balance	<u>2283.83</u> (935.99)	<u>2533.69</u> 249.86
Finished goods \$		
Closing balance	977.21	863.79
Opening balance	<u>863.79</u> (113.42)	<u>1293.90</u> 430.11
Inter-division transfer in transit	(23.75)	56.16
	(1073.16)	736.13
Note:		
\$ Element of excise duty in finished goods		
Closing balance	N.A.	N.A.
Opening balance	N.A.	134.25

Note [33] Employee benefits expenses

Refer point 10 of Note [2] for accounting policy on employee benefits.

(₹ in Crore)

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
Salaries, wages, bonus, allowances & other benefits	5443.17	5077.09
Contribution to provident and other funds	426.39	383.03
Staff welfare expenses	275.47	275.87
Contribution to gratuity fund	107.14	321.17
Group insurance	9.10	10.18
	6261.27	6067.34

Note [34]**Manufacture, administration, selling & distribution expenses**

(₹ in Crore)

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
Power & fuel	496.63	463.31
Carriage outward	377.52	387.14
Expenditure on other sub contracts	351.04	350.50
Payment to security agencies	225.32	217.92
Repairs & maintenance:		
Buildings	60.45	56.70
Plant & machinery	38.56	32.24
Others	107.14	113.07
Expenditure on collaborations & royalty	138.31	147.37
Travelling & conveyance	125.03	122.12
Excise duty (net)	-	(112.71)
Insurance	124.18	104.48
R&D expense	123.12	47.99
Bank charges	89.76	75.01
Hire charges	74.20	70.03
Expenditure on skill development	51.84	37.73
Rates & taxes	50.05	56.40
Office expense	45.06	47.33
Water charges	40.38	40.37
EDP, software & lease line expense	35.58	38.72
Legal, audit & certification expense	31.55	36.70
Corporate social responsibility	26.54	10.40
Rent non residential	22.05	21.91
Publicity & public relation expense	19.90	28.55
Entertainment & courtesy expenses	10.77	10.43
Expenditure in connection with exports	10.06	14.44
Environmental protection	7.82	8.53
Seminar, development and training expense	7.27	5.12
Miscellaneous expense	70.34	89.32
	2760.47	2522.13
Net exchange variation gain (-) / loss (+)	(66.54)	(519.76)
	2693.93	2002.37

Note [34]
Disclosure-Manufacture, administration, selling & distribution expenses

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
(i) Legal, audit & certification expense includes :		
Payment to Statutory Auditors:		
Audit fees	0.82	0.71
Tax audit	0.20	0.16
Quarterly limited review & others	0.76	0.39
Audit expense	<u>0.20</u>	<u>0.12</u>
	1.98	1.38
Payment to Cost Auditors:		
Audit fees	0.15	0.15
(ii) Director's fees	0.16	0.16
(iii) Expenditure on departmental repair & maintenance:		
Plant & machinery	238.08	202.30
Buildings	47.64	53.98
Others	40.47	47.80
(iv) Expenditure on research & development	267.59	261.74
(v) Expenditure on foreign travel		
No. of tours	332	224
Expenditure	6.33	5.39

(vi) Excise duty is net of amount related to revenue from operation in the previous year.

(vii) Corporate social responsibility expense includes ₹ 19.83 crore spent on school expenditure over the minimum requirement to be spent on CSR during financial year 2018-19.

(viii) **Corporate social responsibility**

As per section 135 of the Companies Act, 2013 read with guidelines issued by DPE, the Company is required to spend, in every financial year, at least two percent of the average net profits of the Company made during the three immediately preceding

financial years in accordance with its CSR policy. The details of CSR expense for the year are as under:

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
A. Amount required to be spent during the year	6.70	10.40
B. Amount available from previous year	31.14	53.90
C. Total (A+B)	37.84	64.30
D. Amount spent during the year on-		
(i) Construction/ acquisition of any asset	-	-
(ii) On purposes other than (i) above	16.01	33.16
Total	16.01	33.16
Amount carried forward:	21.83	31.14
Current	19.43	30.18
Non-current	2.40	0.96

(₹ in Crore)

Particulars	For the year ended March 31, 2019		For the year ended March 31, 2018	
	In cash	Yet to be paid in cash	In cash	Yet to be paid in cash
(i) Construction / acquisition of any asset	-	-	-	-
(ii) On purposes other than (i) above	4.16	2.54	7.36	3.04
	4.16	2.54	7.36	3.04

Note [35] Provisions

Refer point 10, 11 & 14 of Note [2] for accounting policy on employee benefits, provisions and impairment of assets.

(₹ in Crore)

Particulars	For the year ended March 31, 2019		For the year ended March 31, 2018	
Doubtful debts, liquidated damages and loans, advances & deposits				
Created during the year	3024.98		3365.12	
Less: withdrawal during the year	1231.80	1793.18	764.11	2601.01
Contractual obligations				
Created during the year	744.69		797.48	
Less: withdrawal during the year	795.92	(51.23)	727.47	70.01
Others				
Created during the year	240.65		309.10	
Less: withdrawal during the year	1003.90	(763.25)	783.60	(474.50)
		978.70		2196.52
Impairment of investment in JVs		4.10		44.39
Losses written off		2.12		31.99
Bad debts written off		26.03		8.22
Liquidated damages & contractual charges charged off		65.03		1.29
		1075.98		2282.41

Note [36] Finance costs

Refer point 5 & 11 of Note [2] for accounting policy on borrowing costs and provisions.

(₹ in Crore)

Particulars	For the year ended March 31, 2019		For the year ended March 31, 2018	
Borrowing cost				
Unwinding of provisions and deferred liabilities		190.93		219.98
Interest cost:				
Banks / Financial Institutions	69.45		-	
On finance lease & others	17.23	86.68	<u>34.57</u>	34.57
Discount on commercial papers		9.32		-
		286.93		254.55
Less: Borrowing cost capitalised		-		-
		286.93		254.55

Note [37] Tax expenses

Refer point 13 of Note [2] for accounting policy on income taxes.

(₹ in Crore)

Particulars	For the year ended March 31, 2019		For the year ended March 31, 2018	
Current tax				
For current year	719.06		551.81	
For earlier years	16.01	735.07	<u>26.86</u>	578.67
Deferred tax				
For current year	6.76		(62.83)	
For earlier years	100.64	107.40	<u>262.55</u>	199.72
		842.47		778.39

(i) **Research and development expenditure** : The details of research and development expenditure incurred during the year, which is eligible (other than land or building) of deduction under section 35 (2AB) of Income Tax Act, 1961.

(₹ in Crore)

Particulars	For the year ended March 31, 2019		For the year ended March 31, 2018	
A (i) Land		-		-
(ii) Building		(0.05)		2.08
B. Property, plant and equipments		9.02		11.34
C. Revenue expenditure				
Salaries & wages	181.09		157.70	
Material, consumables and spares	60.77		17.80	
Utilities	0.69		0.54	
Other expenditure directly related to R&D	22.94	265.49	<u>30.93</u>	206.97
Total revenue expenditure (C)		265.49		206.97
D. Any receipt / income by the R&D centre		(0.51)		(1.69)
E. Net amount eligible for deduction (B+C-D)		274.00		216.62

A consortium of BHEL, IGCAR & NTPC has entered into an MOU in August, 2010 for taking up the R&D Project for development of Advanced Ultra Supercritical (AUSC) Technology for thermal power plants of future, envisaging reduced coal consumption as well as Carbon Di-Oxide (CO₂) emission. Cabinet Committee on Economic Affairs (CCEA) accorded approval to the project in its meeting held on August 10, 2017. The project involves an estimated expenditure of ₹ 1554 crore, with a contribution of ₹ 270 crore from BHEL, ₹ 50 crore from NTPC, ₹ 234 crore from IGCAR, ₹ 100 Crore from DST and balance ₹ 900 crore by Department of Heavy Industries, Govt. of India for implementation of the R&D project. BHEL from own contribution has spent cumulative ₹ **117.50 crore** (upto previous year ₹ 23.60 crore) and accounted as R&D expenditure.

(ii) Reconciliation of Income tax expense and accounting profit (TCI) multiplied by income tax rate (₹ in Crore)

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
Total Comprehensive Income (TCI) before tax (A)	1874.66	1712.42
Statutory income tax rate (B)	34.944%	34.608%
Tax expense C = (AXB)	655.08	592.63
Difference due to: (D)		
Expenses not deductible for tax purposes	60.24	21.64
Income exempt from income tax	(5.65)	(8.85)
Income tax incentives	(47.87)	(37.48)
Change in tax rate	-	(34.86)
Change in tax expense - earlier years	116.65	289.41
Subtotal (D)	123.37	229.86
Net Tax Expense E = (C+D)	778.45	822.49

Note [38]

Other comprehensive income / expenditure (₹ in Crore)

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
Income / (expenditure)		
Re measurement of defined employee benefits	(183.20)	127.43
Less: Income tax related to above items*	64.02	44.10
	(119.18)	83.33
* Includes		
Current tax	-	28.33
Deferred tax	(64.02)	15.77

Note [39]

Earnings per share

(₹ in Crore)

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
Profit attributable to equity shareholders	1215.39	806.60
Weighted average number of equity shares	362.94	367.14
Basic and diluted earnings per share of INR 2 each	3.35	2.20

Basic earnings per equity share is computed by dividing the net profit attributable to the equity shareholders of the Company by the weightage average number of equity shares outstanding during the period. Diluted earnings per share is computed by dividing the net profit attributable to the equity shareholders of the Company by the weightage average number of equity shares considered for deriving basic earnings per equity share and also the weightage average number of equity shares that could have been issued upon conversion of all dilutive potential equity shares. The weightage average number of equity share for 2018-19 have been worked out considering buy back of shares completed on January 10, 2019. The basic and diluted EPS are same.

Note [40]
Dividend per share

(₹ in Crore)

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
A Dividend on equity shares declared and paid during the year		
Final dividend of ₹ 1.02 (previous year ₹ 0.78) per qualifying equity share	374.49	190.92
Dividend distribution tax on final dividend	76.97	38.87
Interim dividend of ₹ 0.80 (previous year ₹ 0.80) per qualifying equity share	278.57	293.71
Dividend distribution tax on interim dividend	57.27	59.79
	787.30	583.29
B Proposed dividend on equity shares not recognised as liability		
Proposed final dividend of ₹ 1.20 per share for FY 2018-19 (FY 2017-18 ₹ 1.02 per share)	417.85	374.49
Dividend distribution tax on final dividend	85.89	76.97
	503.74	451.46

Proposed dividend on equity shares is subject to the approval of the shareholders of the Company at the Annual General Meeting and not recognised as liability as at the Balance Sheet date.

Note [41] - Contingent liabilities and commitments

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
A. Contingent liabilities		
Claims against the company not acknowledged as debt :		
(a) Sales tax matters	1194.96	1683.30
(b) Court & arbitration matters	583.81	951.09
(c) Service tax matters	960.78	387.82
(d) Excise duty matters	229.82	311.43
(e) Customs duty and others	5.80	16.46
(f) Other matters (incl. disputed staff cases)	48.79	37.66
(g) Claim towards Liquidated damages (LD)	4410.68	5068.15
	7434.64	8455.91

- (i) In view of various court cases, litigations and claims disputed by the Company, the outflow of resources is not ascertainable at this stage.
- (ii) It is not practicable for the Company to estimate the timing of actual cash outflows in respect of items (a) to (f) , if any, due to pending resolution of the respective proceedings. However, the chances are remote and contingent.
- (iii) Liquidated damages represents likely claims or amount withheld by customer on account of delay in execution of projects which will be settled after commissioning and trial operation of project based on delay analysis and is being disclosed in line with Ind AS -37.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
(iv) Movement in contingent liabilities		
Balance at the beginning of the year	8455.91	9983.90
Less: Reduction out of opening balance	2720.04	2782.95
Add: Additions (net) during the year	1698.77	1254.96
Balance at the end of the year	7434.64	8455.91

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
B. Commitments		
(a) Estimated amount of contracts, net of advances, remaining to be executed on capital account and not provided for. (The above includes related to acquisition of intangible assets)	274.79 (3.23)	226.51 (10.01)
(b) Investment in the Joint Venture entities for which the company has restrictions for their disposal for five years from the date of incorporation /commercial operation of the project/first unit of the project/completion of first EPC contract, as the case may be.	50.00	50.00
(c) Commitments towards additional investment in the Joint Venture in case of inability of other JV partner to take up additional equity stake	-	-

- (d) In view of the nature of business, being long term construction contracts there may be other commitments for purchase of material etc., which has been considered as normal business process.

Note [42]

Current Financial liabilities includes a sum of ₹ **100.51** crore (previous year ₹ 100.51 crore) towards guarantee fee demanded by the Government of India in respect of foreign currency loans taken by the Company at the instance of the Government upto 1990-91. The matter for its waiver has been taken up with the Government since there was no stipulation for payment of such guarantee fee at the time the loans (guaranteed by Government) were taken by the Company.

Note [43]

The Company had taken over Amorphous Silicon Solar Cell Plant (ASSCP), Gurugram on April 1,1999 from Ministry of New and Renewable Energy (MNRE) on lease for a period of 30 years. The formal lease agreement with the Ministry of New and Renewable Energy (MNRE) is yet to be finalised.

Note [44]

Balance shown under trade receivables, trade payables, contractors' advances, deposits and stock/ materials lying with sub-contractors/ fabricators are subject to confirmation, reconciliation & consequential adjustment, if any. The Company is in the business of long term construction contracts, bills are raised on the customers as per contract as per approved billing schedule by the customer and the reconciliation is carried out on ongoing basis & provisions made, wherever considered necessary. Final reconciliation with customer is done on completion of project (Trial Operation and PG Test completed). Out of the trade receivables of ₹ **29025** crore (previous year ₹ 29234 crore), ₹ **7388** crore (previous year ₹ 6287 crore) are outstanding in completed projects. Out of completed contracts, the projects reconciled with customers have outstanding trade receivables of ₹ **6622** crore (previous year ₹ 5497 crore)

Note [45]

Disclosure on Leases - Ind AS 17

i) Operating Lease Commitments - Company as Lessee

Company is in the practice of having operating leases of residence for employees, office buildings and IT equipment on both as cancellable and non-cancellable. The period of lease is generally two to five years and is usually renewable by mutual consent on mutually agreeable terms. The aggregate lease rentals payable are charged as rent in the Statement of Profit and Loss.

The future aggregate minimum lease payments under non-cancellable operating lease are as follows: (₹ in Crore)

	As at March 31,2019	As at March 31,2018
Not later than 1 year	1.59	1.53
Later than 1 year and not later than 5 years	3.06	1.53
Later than 5 years	1.88	1.31
	6.53	4.37

Finance Lease Commitments - Company as Lessee

The Company's significant leasing agreements are in respect of finance leases for land, building and IT equipments. The Company has entered into a rate contract for finance lease arrangement for computer items, printers, video conferencing equipments and peripherals. The period of lease agreement is generally for five years and at the end of the lease period Company has the option to buy the leased assets at nominal value of ₹ 1/-. Assets taken on lease are capitalised and disclosed separately in the property, plant and equipment. The finance lease rentals are allocated between interest, maintenance and principal value. The interest and maintenance charges are charged to Statement of Profit and Loss and principal amount is adjusted to lease obligations.

(₹ in Crore)

	As at March 31,2019	As at March 31,2018
Not later than 1 year	72.42	49.86
Later than 1 year and not later than 5 years	112.07	69.84
Later than 5 years	-	-
	184.49	119.70
Contingent rent recognised as an expense	-	-

Finance Lease Liabilities are Payable as follows

(₹ in Crore)

Particulars	Future minimum lease payments		Interest		Present value of minimum lease payments	
	As at					
	March 31,2019	March 31,2018	March 31,2019	March 31,2018	March 31,2019	March 31,2018
Not later than 1 year	72.42	49.86	13.97	7.59	58.45	42.27
Later than 1 year and not later than 5 years	112.07	69.84	16.62	12.66	95.45	57.18
Later than 5 years	-	-	-	-	-	-

Finance Lease Commitments - Company as Lessor

The Company has given locomotives under finance lease. The components of finance lease receivables are as follows:

(₹ in Crore)

Particulars	As at March 31,2019	As at March 31,2018
Gross investment in lease:		
Not later than 1 year	0.03	0.17
Later than 1 year and not later than 5 years	-	0.02
Later than 5 years	-	-

Net Investment in Finance Receivables

(₹ in Crore)

Particulars	As at March 31,2019	As at March 31,2018
Unearned finance income	-	0.01
Net investment in finance receivables	0.03	0.19
Contingent rent recognised as income	-	-
Unguaranteed residual values accruing	-	-

Present value of Minimum Lease Receivables are as follows:

(₹ in Crore)

Particulars	As at March 31,2019	As at March 31,2018
Present value of minimum lease payments receivables:		
Less than one year	0.03	0.17
Between one and five years	-	0.02
	0.03	0.19

Note [46] - Disclosure on 'Employee benefits' - Ind AS 19

The Company has following Schemes in the nature of Defined Benefits Plans

- i) Gratuity Scheme
- ii) Post Retirement Medical Scheme
- iii) Provident Fund Scheme
- iv) Travel claim on Retirement

A. Gratuity (Funded Plan)

The Company has a defined benefit gratuity plan. Every employee who has rendered continuous service of five years or more is entitled to gratuity at 15 days salary (15/26 X last drawn basic salary plus dearness allowance) for each completed year of service subject to a maximum limit of ₹ 20 Lakhs. The gratuity liability arises on account of future payments, which are required to be made in the event of retirement, death in service or withdrawal. The liability has been assessed using projected unit credit actuarial method.

I. Movement in net defined benefit (asset)/liability on Gratuity plan

(₹ in Crore)

Particulars	Defined benefit obligation		Fair value of plan assets		Net defined benefit (asset) / liability	
	As at					
	March 31,2019	March 31,2018	March 31,2019	March 31,2018	March 31,2019	March 31,2018
Opening balance	2,052.77	1,931.43	1,814.02	1,931.43	238.75	-
Included in profit for the year :						
Current service cost	107.14	120.69	-	-	107.14	120.69
Past service cost	-	200.47	-	-	-	200.47
Interest cost /(income)	162.17	144.86	162.17	144.86	-	-
Total amount recognised in profit for the year	269.31	466.02	162.17	144.86	107.14	321.16
Included in other comprehensive income (OCI) :						
Remeasurement loss (gain):						
Actuarial loss (gain) arising from:						
Change in financial assumption	(22.37)	(52.18)	-	79.28	(22.37)	(131.46)
Experience adjustment	85.11	49.05	(2.17)	-	87.28	49.05
Total amount recognised in other comprehensive income	62.74	(3.13)	(2.17)	79.28	64.91	(82.41)
Others						
Contributions paid by the employer	-	-	238.75	-	(238.75)	-
Benefits paid	(350.00)	(211.55)	(350.00)	(211.55)	-	-
Unpaid Benefits paid	-	(130.00)	-	(130.00)	-	-
Closing balance	2,034.82	2,052.77	1,862.77	1,814.02	172.05	238.75

II. Details of Plan assets

	As at March 31,2019	As at March 31,2018
Funds managed by insurer	62.47%	55.24%
High quality corporate bonds (quoted)	34.30%	41.84%
State Government securities (quoted)	2.32%	2.24%
Equity shares of listed companies (quoted)	0.90%	0.67%
Bank balance	0.01%	0.01%
Total	100.00%	100.00%

III. Actuarial assumptions

The following were the principal actuarial assumptions at the reporting date.

	As at March 31,2019	As at March 31,2018
Economic assumptions :		
Discount rate	7.75%	7.90%
Salary escalation rate	6.60% P.A. for 1st 4 yrs. & then 6% P.A. thereafter	6.60% P.A. for 1st 4 yrs. & then 6% P.A. thereafter
Demographic assumptions :		
Mortality table	60	60
	100% of IALM (2006-08)	
Withdrawal rate % (All ages)		
Upto 30 Years	3%	3%
From 31 to 44 years	2%	2%
Above 44 years	1%	1%

IV. Sensitivity analysis

The sensitivity of the defined benefit obligation to changes in the significant principal assumptions is :

(₹ in Crore)

Particulars	Gratuity (Funded)			
	As at March, 31 2019		As at March, 31 2018	
	Increase	Decrease	Increase	Decrease
Change in discount rate (0.50% movement)	(73.71)	79.98	(67.84)	73.42
Change in salary escalation rate (0.50% movement)	80.86	(75.13)	74.12	(69.06)

Sensitivities due to mortality and withdrawals are not material and hence impact of change due to these are not calculated. Sensitivities as rate of increase of pensions in payment, rate of increase of pensions before retirement & life expectancy are not applicable.

The sensitivity analysis above has been determined based on a method that extrapolates the impact on defined benefit obligation as a result of reasonable changes in key assumptions occurring at the end of the reporting period. This analysis may not be representative of the actual change in the defined benefit obligations as it is unlikely that the change in assumptions would occur in isolation of one another as some of the assumptions may be correlated.

V. Expected maturity analysis of the gratuity plan in future years

(₹ in Crore)

Particulars	Gratuity (Funded)	
	As at March 31,2019	As at March 31,2018
Less than 1 year	318.18	328.33
Between 1-2 years	216.76	274.93
Between 2-3 years	176.35	150.07
Between 3-4 years	155.27	114.10
Between 4-5 years	112.98	96.19
Between 5-6 years	112.98	77.51
Over 6 years	942.30	1,011.64
Total	2,034.82	2,052.77

Expected contributions to gratuity plans for the year ending March 31, 2020 are ₹ 123.87 crore

The weighted average duration of the gratuity defined benefit plan obligation at the end of the reporting period is **14.89** years (March 31, 2018: 14.78 years.)

VI. Risk Exposures

Valuations are based on certain assumptions, which are dynamic in nature and vary over time. As such Company is exposed to various risks such as increase in salary, investment risk, discount rate, mortality, disability and withdrawals.

B. Post Retirement Medical Benefits (Funded Plan)

The Company has Post-Retirement Medical Benefit (PRMB), under which the retired employees and their spouses are provided medical facilities in the Company hospitals/empanelled hospitals subject to Company medical rules. They can also avail treatment as out-patient subject to a ceiling fixed by the Company. The liability for the same is recognised annually on the basis of actuarial valuation.

I. Movement in net defined benefit (asset)/liability on Post Retirement Medical Benefit Plan

(₹ in Crore)

Particulars	Defined benefit obligation		Fair value of plan assets		Net defined benefit (asset) / liability	
	As at					
	March 31,2019	March 31,2018	March 31,2019	March 31,2018	March 31,2019	March 31,2018
Opening balance	1,925.72	1,820.70	1,881.03	1,820.70	44.69	-
Included in profit for the year :						
Current service cost	39.48	32.66	-	-	39.48	32.66
Interest cost / (income)	152.13	136.55	152.13	136.55	-	-
Total amount recognised in profit for the year	191.61	169.21	152.13	136.55	39.48	32.66
Included in Other comprehensive income (OCI):						
Remeasurement loss (gain):						
Actuarial loss (gain) arising from:						
Demographic assumptions	-	-	-	-	-	-
Financial assumptions	31.71	(103.19)	-	33.78	31.71	(136.97)
Experience adjustment	76.74	149.00	2.87	-	73.87	149.00
Total amount recognised in other comprehensive income	108.45	45.81	2.87	33.78	105.58	12.03
Others						
Contributions paid by the employer	-	-	44.69	-	(44.69)	-
Benefits paid	(145.00)	(110.00)	(145.00)	(110.00)	-	-
Closing balance	2,080.78	1,925.72	1,935.72	1,881.03	145.06	44.69

The plan assets of the Company are managed by Life Insurance Corporation of India through a trust managed by the Company in terms of an insurance policy taken to fund obligations of the Company

II. Actuarial assumptions

The following were the principal actuarial assumptions at the reporting date.

Particulars	As at March 31,2019	As at March 31,2018
Economic assumptions:		
Discount rate	7.75%	7.90%
Salary escalation rate	6.60% P.A. for 1st 4 yrs. & then 6% P.A. thereafter	6.60% P.A. for 1st 4 yrs. & then 6% P.A. thereafter
Demographic assumptions:		
Retirement age	60	60
Mortality table	100% of IALM (2006-08)	
Withdrawal rates (All ages)		
Upto 30 Years	3%	3%
From 31 to 44 years	2%	2%
Above 44 years	1%	1%

III. Sensitivity analysis

The sensitivity of the defined benefit obligation to changes in the significant principal assumptions is:

(₹ in Crore)

Particulars	Post Retirement Medical Benefit			
	As at March 31,2019		As at March 31,2018	
	Increase	Decrease	Increase	Decrease
Change in discount rate (0.50% movement)	(102.71)	104.19	(94.49)	96.49
Change in cost (0.50% movement)	105.27	(103.71)	97.02	(95.17)

Sensitivity due to mortality and withdrawals are not material and hence impact of change not calculated.

The sensitivity analysis above has been determined based on a method that extrapolates the impact on defined benefit obligation as a result of reasonable changes in key assumptions occurring at the end of the reporting period. This analysis may not be representative of the actual change in the defined benefit obligations as it is unlikely that the change in assumptions would occur in isolation of one another as some of the assumptions may be correlated.

IV. Expected maturity analysis of the Post retirement medical Benefit plan in future years

(₹ in Crore)

Particulars	Post Retirement Medical Benefit	
	As at March 31,2019	As at March 31,2018
Less than 1 year	139.44	121.85
Between 1-2 years	150.01	123.81
Between 2-3 years	163.18	126.78
Between 3-4 years	178.49	129.37
Between 4-5 years	194.36	132.78
Between 5-6 years	211.85	138.09
Over 6 years	1,043.45	1,153.04
Total	2,080.78	1,925.72

Expected contributions to post retirement medical benefit plan for the year ending March 31, 2020 are ₹ 46.06 crore.

The weighted average duration of the post retirement medical benefit plan obligation at the end of the reporting period is **11.97** years (March 31, 2018: 12.84 years).

V. Risk Exposure

Valuations are based on certain assumptions, which are dynamic in nature and vary over time. As such company is exposed to various risks such as increase in medical cost, investment risk, discount rate, mortality, disability and withdrawals.

C. Provident Fund

The Company pays fixed contribution to provident fund at predetermined rates to a separate trust, which invests the funds in permitted securities. The Company has an obligation to ensure minimum rate of return to the members as specified by GOI. Accordingly, the Company has obtained report of the actuary. Wherever as per the actuarial valuation certificate liability for likely interest shortfall arises, the same has been provided in the accounts.

I. Details of interest shortfall in PF Trust

(₹ in Crore)

Particulars	For the year ended	
	2018-19	2017-18
Excess / (shortfall) in PF interest liability based on actuarial valuation for the year	(5.15)	1.72
Accumulated provision for shortfall in PF interest liability based on actuarial valuation	6.96	1.81
Remeasurement gain/(loss) recognised through other comprehensive income statement	(12.53)	10.39
Interest shortfall / (surplus) accounted through statement of profit & loss	(7.38)	8.67

The Company has PF trusts located at various places covering the employees of the Company and managed separately, the details of plan assets and obligations are as follows :

(₹ in Crore)

LOCATION	Defined benefit obligation		Fair value of plan assets		Surplus / (Shortfall)	
	As at					
	March 31,2019	March 31,2018	March 31,2019	March 31,2018	March 31,2019	March 31,2018
BHEL EPF Trust, Ranipur, Hardwar	1379.70	1359.02	1387.17	1,362.23	7.47	3.21
BHEL Employee Provident Fund, Trichy	1119.51	1094.10	1119.83	1,094.87	0.32	0.77
BHEL Employee Provident Fund, Bhopal	1176.79	1081.53	1175.50	1,088.32	(1.29)	6.79
BHEL New Delhi Employees Provident Fund Trust, New Delhi	1008.05	882.34	1018.78	894.53	10.73	12.19
BHEL Employee Provident Fund, Hyderabad	811.28	840.78	835.87	878.01	24.59	37.23
BHEL PPD EPF Trust, Chennai	656.18	563.21	651.53	561.40	(4.65)	(1.81)
BHEL Employee Provident Fund, Bengaluru	613.12	544.91	616.44	549.86	3.32	4.95
BHEL (BAP Unit) EPF Trust, Ranipet	392.94	363.29	391.92	363.87	(1.02)	0.58
BHEL Employee Provident Fund Trust, Jhansi	365.26	355.32	371.89	361.43	6.63	6.11
Bharat Heavy Plates & Vesseles Limited Employee Contributory Provident Fund, Vizag	118.79	104.17	165.08	147.60	46.29	43.43
Total	7641.62	7188.67	7734.01	7302.12	92.39	113.45

II. Movement in net defined benefit (asset)/liability on Provident Fund

(₹ in Crore)

Particulars	BHEL Employees Provident Fund Trust (Consolidated)			
	Defined benefit obligation		Fair value of plan assets	
	As at			
	March 31, 2019	March 31, 2018	March 31, 2019	March 31, 2018
Opening balance	7,188.67	6,876.55	7,302.12	6,966.80
Included in profit for the year :				
Current service cost	341.66	278.82	-	-
Interest cost / (income)	567.91	517.97	567.91	517.97
Total amount recognised in profit for the year #	909.57	796.79	567.91	517.97
Included in Other Comprehensive Income (OCI):				
Remeasurement loss (gain):				
Actuarial loss (gain) arising from:				
Demographic assumptions	-	-	-	-
Financial assumptions	0.36	(0.98)	-	-
Experience adjustment	43.77	18.35	23.07	54.48
Total amount recognised in other comprehensive income#	44.13	17.37	23.07	54.48
Others				
Contributions paid by the employer	698.53	499.81	341.66	263.69
Employee Contribution	-	-	698.53	501.03
Benefits paid	(1,363.08)	(1,095.01)	(1,363.08)	(1,095.01)
Settlements/Transfer-in	163.80	93.16	163.80	93.16
Closing balance	7,641.62	7,188.67	7,734.01	7,302.12

Note: Interest shortfall in respect of PF trust having deficit only have been accounted through statement of profit and loss and other comprehensive income statement as shown under point (I) above.

III. Details of Plan assets

(₹ in Crore)

	As at March 31,2019	As at March 31,2018
Govt. of India securities	1499.90	1271.09
State Government securities	2698.48	2458.59
Corporate bonds	2612.37	2605.41
Equity shares of listed companies	382.54	303.53
Special deposit	495.33	626.67
Liquid fund	25.13	13.99
Short term deposit	1.82	3.59
Mutual fund	18.44	19.26
Total	7,734.01	7,302.12

IV. Actuarial assumptions

The following were the principal actuarial assumptions at the reporting date.

Particulars	As at March 31,2019	As at March 31,2018
Economic assumptions:		
Discount rate	7.75%	7.90%
Expected statutory interest rate on the ledger balance	8.65%	8.55%
Expected short fall in interest earnings on the fund	0.05%	0.05%
Demographic assumptions:	60	60
Mortality table	100% of IALM (2006-08)	
Withdrawal rate % (All ages)		
Upto 30 Years	3%	3%
From 31 to 44 years	2%	2%
Above 44 years	1%	1%

V. Sensitivity analysis

The sensitivity of the defined benefit obligation to changes in the significant principal assumptions is:

(₹ in Crore)

Particulars	BHEL Employees Provident Fund Trust			
	As at March 31,2019		As at March 31,2018	
	Increase	Decrease	Increase	Decrease
Change in discount rate (0.50% movement)	(1.25)	1.29	(1.72)	1.82

VI. Expected maturity analysis in future years

Particulars	Provident Fund	
	As at March 31,2019	As at March 31,2018
Within the next 12 months	798.36	870.91
Between 2-5 years	1,450.20	1,859.38
Between 5-10 years	1,095.62	1,217.58
Beyond 10 years	4,297.44	3,240.80
Total	7,641.62	7,188.67

D. Travel claim on retirement - (Settlement Allowance - Unfunded Plan)

The settlement allowance is the expenditure reimbursed to an employee towards travel and shifting of baggage for proceeding to home town or any place in India where he or she intends to settle after retirement or death in service for self (including members of his/her family).

I. Movement in net defined benefit (asset)/liability

(₹ in Crore)

	Defined benefit obligation		Fair value of plan assets		Net defined benefit (asset) liability	
	As at					
	March 31,2019	March 31,2018	March 31,2019	March 31,2018	March 31,2019	March 31,2018
Opening balance	8.44	9.12	-	-	8.44	9.12
Included in profit for the year :						
Current service cost	0.49	0.47	-	-	0.49	0.47
Interest cost / income	0.67	0.68	-	-	0.67	0.68
Total amount recognised in profit for the year	1.16	1.15	-	-	1.16	1.15
Included in other comprehensive income (OCI):						
Remeasurement loss (gain):						
Actuarial loss (gain) arising from:						
Demographic assumptions	-	-	-	-	-	-
Financial assumptions	0.20	(0.27)	-	-	0.20	(0.27)
Experience adjustment	(0.03)	(0.83)	-	-	(0.03)	(0.83)
Total amount recognised in other comprehensive income	0.17	(1.10)	-	-	0.17	(1.10)
Others						
Contributions paid by the employer	-	-	-	-	-	-
Benefits paid	(1.24)	(0.73)	-	-	(1.24)	(0.73)
Closing balance	8.53	8.44	-	-	8.53	8.44

II. Actuarial assumptions

The following were the principal actuarial assumptions at the reporting date.

Particulars	Settlement Allowance	
	As at March 31, 2019	As at March 31, 2018
Economic assumptions:		
Discount rate	7.75%	7.90%
Salary escalation rate	6.60% P.A. for 1 st 4 yrs. & then 6% P.A. thereafter	6.60% P.A. for 1 st 4 yrs. & then 6% P.A. thereafter
Demographic assumptions:		
Retirement age	60	60
Mortality table	100% of IALM (2006-08)	
Withdrawal rates (All ages)		
Upto 30 Years	3%	3%
From 31 to 44 years	2%	2%
Above 44 years	1%	1%

III. Sensitivity analysis

The sensitivity of the defined benefit obligation to changes in the significant principal assumptions is:

(₹ in Crore)

Particulars	Settlement Allowance			
	As at March, 31 2019		As at March 31, 2018	
	Increase	Decrease	Increase	Decrease
Change in discount rate (0.50% movement)	(0.32)	0.32	(0.33)	0.35

IV. Expected maturity analysis of the settlement allowance in future years

(₹ in Crore)

Particulars	Settlement Allowance	
	As at March 31, 2019	As at March 31, 2018
Less than 1 year	1.14	1.21
Between 1-2 years	0.89	1.08
Between 2-3 years	0.67	0.83
Between 3-4 years	0.59	0.65
Between 4-5 years	0.43	0.57
Between 5-6 years	0.39	0.42
Over 6 years	4.42	3.68
Total	8.53	8.44

E. Long Term Leave Liability (Encashable Leave -EL /Half Pay Leave-HPL) - (Unfunded Plan)

The Company provides for earned leave benefit and half pay leave to the employees of the Company which accrue half yearly at 15 days (maximum) and 10 days respectively. The earned leave is encashable while in service. On retirement/superannuation, earned leave & half pay leave put together upto a maximum of 300 days is encashable subject to Company policies & leave encashment rules. The leave liability has been treated as other long term benefits and has been assessed using projected unit credit actuarial method.

I. Movement in net defined benefit (asset)/liability

(₹ in Crore)

Particulars	Long Term Leave Liability	
	As at March 31,2019	As at March 31,2018
Opening balance	1,525.65	1,769.49
Included in profit for the year :		
Current service cost	174.81	146.37
Interest cost (income)	120.53	132.71
Actuarial loss (gain)	(23.38)	<u>137.08</u>
Total amount recognised in profit for the year	271.96	416.16
Others		
Contributions paid by the employer	-	-
Benefits paid	305.55	660.00
Closing balance	1,492.06	1,525.65

II. Actuarial assumptions

The following were the principal actuarial assumptions at the reporting date.

Particulars	Long Term Leave Liability	
	As at March 31,2019	As at March 31,2018
Economic assumptions:		
Discount rate	7.75%	7.90%
Salary escalation rate	6.60% P.A. for 1st 4 yrs. & then 6% P.A. thereafter	6.60% P.A. for 1st 4 yrs. & then 6% P.A. thereafter
Demographic assumptions:		
Retirement age	60	60
Mortality table	100% of IALM (2006-08)	
Withdrawal rates (All ages)		
Upto 30 Years	3%	3%
From 31 to 44 years	2%	2%
Above 44 years	1%	1%

Note [47] - Related Parties Transactions

(i)	Subsidiary company:	Joint ventures:	Others :
	BHEL Electrical Machines Limited	BHEL-GE Gas Turbine Services Pvt. Ltd. (BGGTS) NTPC-BHEL Power Projects Pvt. Ltd. (NBPPL) Raichur Power Corporation Ltd. (RPCL) Dada Dhuniwale Khandwa Power Ltd. Powerplant Performance Improvement Ltd.	Central Government controlled entities Provident fund trusts Gratuity trusts, PRMB trust, Pension trust

(ii) Other related parties (Key Management Personnel- Functional Directors: existing and retired and Company Secretary):

Name of the Related Parties	Nature of Relationship
Shri Atul Sobti	Chairman & Managing Director
Shri D. Bandyopadhyay	Director (Human Resources)
Shri Subodh Gupta	Director (Finance) (w.e.f April 18, 2018)
Shri S. Balakrishnan	Director (IS & P) (w.e.f June 1, 2018)
Shri Manoj Kumar Varma	Director (Power) (w.e.f December 19, 2018)
Shri Kamlesh Das	Director (Engineering, R&D) (w.e.f March 1, 2019)
Shri Amitabh Mathur	Director (IS & P) (upto May 31, 2018)
Shri S. Biswas	Director (Engineering, R&D) (upto February 28, 2019)
Shri Akhil Joshi	Director (Power) (upto September 30, 2018)
Shri Rajeev Kalra	Company Secretary (w.e.f December 17, 2018)
Shri I.P Singh	Company Secretary (upto December 16, 2018)
Shri S. Basu	Chairman & Managing Director - BHEL EML

(₹ in Crore)

Key Management Personnel (KMP)	For the year ended	
	March 31, 2019	March 31, 2018
Payment of Salaries	4.70	3.20
Relatives of KMP		
Amounts due to BHEL at the end of the year	0.01	-
Details of transactions		
Short-term employee benefits	4.10	2.76
Post-employment benefits	0.60	0.44
Total remuneration paid	4.70	3.20

The Company is a Central Public Sector Undertaking under the administrative control of Ministry of Heavy Industries and majority of its stake is held by Government of India. The significant transactions are with other PSUs, State owned utilities, Railways etc. which are also controlled by Govt. of India directly or indirectly. The transactions with such entities are normal, based on market driven rates at arms length price.

(iii) Details of Transactions with Joint Ventures and Balances

(₹ in Crore)

Particulars	For the Year ended							
	March 31,2019	March 31,2018	March 31,2019	March 31,2018	March 31,2019	March 31,2018	March 31,2019	March 31,2018
	BGGTS		RPCL		NBPPL		Total	
Sales of Goods and services	278.33	196.48	34.94	91.22	6.08	77.27	319.35	364.97
Dividend income	16.18	14.76		-		-	16.18	14.76
Royalty income	1.17	0.90		-		-	1.17	0.90
Purchase of Goods and Services	0.98	1.02		-	4.83	7.38	5.81	8.40
Purchase of shares	-	-	-	74.72	-	-	-	74.72
Amounts due to BHEL at the end of the year	76.98	48.06	510.71	484.76	280.93	310.43	868.62	843.25
Amounts due from BHEL (incl. advances) at the end of the year	0.35	0.08	11.00	16.94	82.52	90.58	93.87	107.60
Provision for doubtful debts & advances	0.70	0.22	-	-	1.64	23.34	2.34	23.56

iv) Details of Transactions with Subsidiary Company and Balances

(₹ in Crore)

Subsidiary Company	For the year ended	
	March 31,2019	March 31,2018
Purchase of Goods and Services	-	0.04
Interest income	-	0.31
Amounts due to BHEL at the end of the year	3.94	4.06
Amounts due from BHEL (incl. advances) at the end of the year	1.07	1.19
Provision for doubtful advances	3.70	3.70

Note [48] - Disclosure [Movement in provisions] - Ind AS - 37
(a) Liquidated Damages

(₹ in Crore)

Particulars	As at March 31,2019	As at March 31,2018
Opening balance	5846.50	3881.84
Add: Additions	1967.45	2180.46
Less: Usage/ Write off/payment	12.67	1.29
Less: Withdrawal/adjustments	251.63	214.51
Closing Balance	7549.65	5846.50

Liquidated damages are provided in line with the Accounting Policy of the Company and the same is dealt suitably in the accounts on settlement or otherwise. Contingent liability relating to liquidated damages is shown in Para A (i)(g) of Note [41].

(b) Contractual Obligation

(₹ in Crore)

Particulars	As at March 31,2019	As at March 31,2018
Opening balance	5331.32	5227.97
Add: Borrowing cost	190.93	190.96
Add: Additions	892.15	1055.19
Less: PV adjustment	156.71	302.11
Less: Usage/ write off/payment	128.65	223.56
Less: Withdrawal/adjustments	851.48	661.53
Add/(Less): Change in estimate and rates	9.25	44.40
Closing Balance	5286.81	5331.32

The provision for contractual obligation is made considering the effect of time value of money in line with point no. 11 of Significant Accounting Policy (note[2]) to meet the warranty obligations as per the terms and conditions of the contract. The same is retained till the completion of the warranty obligations of the contract. The actual expenses on warranty obligation may vary from contract to contract and on year to year depending upon the terms and conditions of the respective contract.

Note [49] - Disclosure 'Revenue from Contracts with Customers' - Ind AS-115

Ministry of Corporate Affairs (MCA) has notified new Ind AS 115- Revenue from contracts with customers from April 1, 2018. The new Ind AS replaces existing revenue recognition standard Ind AS 11 (Construction contracts) and Ind AS 18 (Revenue). The standard permits retrospective approach with cumulative effect of initially applying the standard (cumulative catch-up approach). The company has opted cumulative catch-up approach with transition adjustment in opening retained earnings as on April 1, 2018.

a. Impact on the Company's retained earnings as at April 01, 2018

(₹ in Crore)

Movement in retained earnings		
Retained earnings -(Opening as on April 01, 2018)		(251.29)
Add / (less): Re-measurement of contract asset (Fair value of consideration) & deferred liabilities	194.46	
Add / (less) :Impact on deferred tax assets (Net)	<u>(67.97)</u>	
Ind AS 115 transition impact		126.49
Retained earnings - adjusted with Ind AS 115 impact		(124.80)

b. Movement in impairment provisions

(₹ in Crore)

	2018-19		2017-18	
	Trade receivables	Contract assets	Trade receivables	Contract assets
Opening balance	6104.51	719.38	5860.62	325.74
Add: Additions	931.51	101.96	712.9	437.76
Less: Write off	25.92	0.11	8.22	-
Less: Reversal	611.53	166.50	460.79	44.12
Closing balance	6398.57	654.73	6104.51	719.38

c. Disaggregation of revenue from contracts with customers

(₹ in Crore)

Particulars	Power		Industry		Total
	Within India	Outside India	Within India	Outside India	
2018-19					
Revenue from customers					
Timing of revenue recognition					
(a) At a point in time (product/services)	2830.48	22.30	3740.3	28.41	6621.49
(b) Over time	17447.70	3104.48	2172.22	3.32	22727.72
2017-18					
Revenue from customers					
Timing of revenue recognition					
(a) At a point in time (product/services)	2386.22	9.29	3461.58	22.74	5879.83
(b) Over time	19831.81	653.72	1483.53	1.55	21970.61

(₹ in Crore)

Particulars	2018-19		2017-18	
	Power	Industry	Power	Industry
Revenue from customers				
CPSU	5323.43	2320.06	6235.82	1880.26
Railways	-	1595.98	-	1177.88
TANGEDCO	5331.04	-	3637.73	-
TSGENCO	4544.66	-	2777.84	-

d. Contract Balances (net of provisions)

(₹ in Crore)

Particulars	As at March 31,2019	As at March 31,2018
Trade receivables	15944.77	17501.29
Contract assets (incl. unbilled revenue)	22296.54	17992.17
Contract liabilities	6838.98	7572.76

e. Contract revenue recognised

(₹ in Crore)

Particulars	As at March 31,2019	As at March 31,2018
Revenue recognised against contract liabilities (adjustment of customer advances and valuation adjustment during the year)	2573.84	2923.51
Revenue recognised against performance obligation satisfied in previous year (impact due to change in contract revenue)	210.44	85.74

Construction of power projects is a long cycle business, where the contracts received by the Company are either EPC contracts (Engineering, Procurement & Construction) or BTG packages (i.e. Boiler, Turbine and Generator packages). Power projects are long gestation period projects with normal execution period of contract ranging between 3 to 5 years. BHEL scope of services includes supply of equipment, erection, commissioning, synchronizing the plant to the grid, completing the trial operation and providing the guaranteed parameters.

Although there are several components to the overall scope, such projects are generally considered one performance obligation. The control transfers simultaneously over the execution period as the entity performs rather than at discrete points in time and hence revenue is recognized over the period of time based on measure of progress (input cost method).

Note [50] - Disclosure pursuant to Ind AS-107 [Financial Instruments - Accounting Classifications and Fair value measurements]

- a. The Fair value of cash and cash equivalents, bank balances, loans, trade receivables, trade payables and others reasonably approximates their carrying amount. Trade receivables are evaluated after taking into consideration for expected credit losses. Company uses the following hierarchy for determining and disclosing the fair value of financial instruments by valuation technique

Fair value hierarchy

The fair value of financial instruments have been classified in following categories depending on the inputs used in the valuation technique.

Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2: Inputs other than quoted prices included within level 1 that are observable for the asset or liability, either directly (i.e., as prices) or indirectly (i.e., derived from prices)

Level 3: Inputs for the asset or liability that are not based on observable market data (unobservable inputs)

b. Financial Assets / Liabilities Classification

(₹ in Crore)

Particulars	Carrying Amount	
	As at March 31,2019	As at March 31,2018
Financial assets at amortised cost		
Trade receivables	15944.77	17501.29
Cash & cash equivalent	795.60	2768.68
Other bank balances	6707.74	8407.19
Loans	240.27	227.87
Other financial assets	162.19	150.63
Financial assets at fair value through profit & loss		
Investments (Equity Instruments)	2.94	2.92
Financial liabilities at amortised cost		
Trade payables	12078.09	11065.92
Other financial liabilities	2096.81	2339.11
Finance lease obligation	158.31	102.88
Short term borrowings	2457.27	-

(₹ in Crore)

Financial assets and liabilities measured at fair value- recurring fair value measurements	Level 3 Heirarchy	
	As at March 31,2019	As at March 31,2018
Investment in unquoted equity instruments	2.94	2.92

c. Valuation Techniques used to determine fair value

Fair value of unquoted equity instruments is determined using Level 3 inputs which include inputs from the financial statements of the investee Company based on net asset value per share.

Reconciliation of fair value measurement of unquoted equity shares classified as FVTPL assets

(₹ in Crore)

As at March 31,2018	2.92
Changes in fair value	0.02
As at March 31,2019	2.94

Financial Risk Management

Objectives and Policies

The Company's activities are exposed to different financial risks arising out of natural business exposures to any company operating in the sector. The management of financial risk has always been an integral part of the Company's business strategies and policies. The Company reviews and aligns its policies and guidelines from time to time to address the financial risks in line with the needs and expectations of its various stakeholders. Exposure risk from the use of financial instruments can be categorized as under:

- Credit Risk
- Liquidity Risk
- Market Risk

This note presents information about the Company's exposure to each of the above risks, the Company's objectives, policies and processes for measuring and managing risk, and management of Company's capital. Further quantitative disclosures are included throughout these financial statements.

Risk Management Framework

BHEL has in place a Board approved Risk Management Charter & Policy which provides overall framework for Risk Management in the Company. The objective of the charter is to ensure that the risks are being properly identified, assessed and effectively managed by adopting suitable risk mitigation measures. The Company has 3-layer risk management framework. At the first level, the Board Level Risk Management Committee (BLRMC) of the Company is assigned with responsibility of reviewing the company's risk governance structure, risk assessment & risk management framework, guidelines, policies and processes thereof. Risk Management Steering Committee (RMSC) at the second level is responsible for adopting & implementing the risk management framework and leading the risk management initiative across the company. Chief Risk Officer (CRO) being the convener of BLRMC & RMSC is responsible for periodic reporting on risk management to Board/ BLRMC. Key risks being faced by the Company are analysed starting from unit level for their respective areas to prepare risk mitigation plans and to ensure implementation.

A. Management of Credit Risk

Credit risk is considered as an integral part of risk reward balance of doing business. BHEL is involved in setting up of power projects pertaining to Government sector (State utilities, PSU's, Railways and other Govt. departments etc.) and private sectors in India and abroad. The projects are generally funded by Financial Institutions/ Banks or payments are covered by Letter of Credit (LC). The project duration ranges from 3 to 5 years and payments are generally realised in stages as per the terms of the contract including advance, progress payments, milestone payments and also retentions which are released on completion of such projects. Since majority customers profile pertains to Government sector, constituting 81% of total receivables coupled with the fact that the Company itself is a CPSE, credit risk is relatively low. In respect of private sectors customers, the payment terms are mainly through LC. The Company has well established review mechanism for receivables at various levels within organisation to ensure proper attention and focus for realisation in line with the company policies, procedures and guidelines. The Company uses expected credit loss model to assess the impairment loss or gain and the disclosure of the same is made elsewhere. Further, adequate provisions are maintained to address any eventuality.

(i) Exposure to Credit Risk

The carrying amount of financial assets represents the maximum credit exposure. The maximum exposure to credit risk at the reporting date was:

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Financial assets for which loss allowance is measured using 12 months Expected Credit Losses (ECL)		
Cash and cash equivalents	795.60	2768.68
Other bank balances	6707.74	8407.19
Loans	240.27	227.87
Other financial assets	162.19	150.63
Financial assets for which loss allowance is measured using Life time Expected Credit Losses (ECL) including impairment loss		
Trade receivables	15944.77	17501.29

Concentration of credit risk- Geographical	Percentage of Total Revenue	
	As at March 31, 2019	As at March 31, 2018
Within India	93.46%	96.61%
Outside India	6.54%	3.39%

The Company's exposure to credit risk for trade receivables, contract assets and other receivables by type of counterparty are as follows –

Particulars	Percentage of Total Trade Receivables	
	As at March 31, 2019	As at March 31, 2018
Central Public Sector Undertakings incl Railways and Govt Deptt	31.81%	32.92%
State Electricity Boards	49.94%	47.35%
Private Customers and others	11.71%	16.34%
Exports	6.54%	3.39%
	100%	100%

(ii) Impairment losses**(a) Financial assets for which loss allowance is measured using 12 month expected credit losses**

The Company has assets where the counter- parties have sufficient capacity to meet the obligations and where the risk of default is very low.

The movement in the allowance for impairment in respect of loans during the year was as follows: (₹ in Crore)

	As at March 31, 2019	As at March 31, 2018
Balance as at April 1	22.29	18.04
Impairment loss recognised / write off / withdrawal	0.05	4.25
Balance as at March 31	22.34	22.29

(b) Reconciliation of impairment loss provisions

The movement in the allowance for impairment in respect of trade receivables and contract assets during the year was as follows:

(₹ in Crore)

	As at March 31,2019	As at March 31,2018
Balance as at April 1	6823.89	6186.36
Impairment loss recognised	1033.47	1150.66
Amounts written off/ withdrawl	(804.06)	(513.13)
Balance as at March 31	7053.30	6823.89

The Company makes investments out of surplus funds as per investment policy of the Company duly approved by the Board and in line with the DPE guidelines .Credit risk on cash and cash equivalents and term deposits is very limited as the Company generally invests' in deposits with banks and financial institutions with high credit ratings assigned by credit rating agencies.

B. Management of Liquidity Risk

The Company manages liquidity risk by maintaining sufficient cash and cash equivalents including term deposits and the availability of funding through an adequate amount of credit facilities to meet obligations as and when due. Robust cash management system and regular monitoring of cash flows enables management to plan and maintain adequate sources to finance its funds requirement throughout the year. Besides adequate cash and bank balances, Company enjoys credit facilities. The Company is able to meet all its fund requirements from internal resources i.e. the funds generated from operations and also through short-term borrowings used for better treasury management operations to optimise the returns on investments.

The following are the contractual maturities of non-derivative financial liabilities, based on contractual cash flows:

(₹ in Crore)

Particulars	As at March 31,2019		As at March 31,2018	
	Within 1 year	exceeding 1 year	Within 1 year	exceeding 1 year
Trade payables	11375.11	702.98	10586.86	479.06
Deposits from contractors and others	522.09	85.17	492.12	110.43
Finance lease obligations	62.86	95.45	45.70	57.18
Other payables / liabilities :				
Employee dues	510.32	-	855.60	-
Other dues	884.12	-	765.60	-
Capex dues	88.75	6.36	111.38	3.98
Short term borrowings	2457.27	-	-	-
Total	15900.52	889.96	12857.26	650.65

C. Management of Market Risk

The Company is exposed to certain currency, commodity, interest rate risks arising from its operations. The Company has foreign exchange risk management policy to cover the foreign exchange risks. To insulate the Company against major commodity price fluctuation, framework agreements including price pass through claims are being entered regularly with supply chain partners including suppliers and customers. Surplus funds generated from operation are kept invested in short term deposits with PSU Banks or large sized private banks only and in debt based schemes of public sector mutual funds , thereby minimizing any chance of risk.

Foreign currency risk exposure -: The company's exposure to foreign currency risk at the end of reporting period, are as follows:

- (i) The derivative instruments that are hedged and outstanding as on 31.03.2019 is **Nil** (previous year Nil)
(ii) The foreign currency exposures that are not hedged by a derivative instrument or otherwise are as under:

FC in Million
(₹ in Crore)

Particulars	As at					
	March 31,2019		March 31,2018		March 31, 2019	March 31, 2018
	Euro	Equivalent INR	Euro	Equivalent INR	Others INR	Others INR
Assets						
Trade receivable	187.45	1441.89	153.26	1222.56	52.22	4.91
Contract assets	270.26	2080.95	251.80	2005.21	72.17	63.16
Other assets	14.74	114.21	22.26	162.84	195.45	164.97
Sub total (A)	472.45	3637.05	427.32	3390.61	319.84	233.04
Liabilities						
Advances from customer	45.96	316.67	46.83	318.77	38.69	40.90
Trade payables and others	62.42	494.44	73.50	600.16	288.55	401.77
Sub total (B)	108.38	811.11	120.33	918.93	327.24	442.67
Assets (Net of Liabilities)	364.07	2,825.94	306.99	2,471.68	(7.40)	(209.63)

Particulars	As at March 31,2019		As at March 31,2018	
	USD	Equivalent INR	USD	Equivalent INR
Assets				
Trade receivable	226.08	1555.43	184.34	1188.72
Contract assets	259.71	1780.33	200.65	1293.59
Other assets	2.87	18.82	4.97	32.16
Sub total (A)	488.66	3354.58	389.96	2514.47
Liabilities				
Advances from customer	155.49	957.72	291.77	1832.81
Trade payables and others	124.91	871.61	97.64	646.47
Short term borrowings	51.31	357.27	-	-
Sub total (B)	331.71	2186.60	389.41	2,479.28
Assets (net of liabilities)	156.95	1,167.98	0.55	35.19

The above figures are net of provisions, if any

Sensitivity analysis

The impact of strengthening/weakening of the Indian Rupee vis a vis USD, EURO and others as at year end on profit or loss is as shown below. This analysis is based on foreign currency exchange rate variances that the Company considered to be reasonably possible at the end of the reporting period. The analysis is performed on the same basis for previous year, albeit that the reasonably possible foreign exchange rate variances were different, as indicated below.

Particulars	As at			
	March 31, 2019		March 31, 2018	
Effect on profit/(loss)	Strengthening	Weakening	Strengthening	Weakening
1% movement				
Euro	28.26	(28.26)	24.72	(24.72)
USD	11.68	(11.68)	0.35	(0.35)
Others	(0.07)	0.07	(2.10)	2.10

d. Capital Management

The Company's objective, while managing capital is to continue business as a going concern, safeguard, preserve and enhance its capital to provide maximum return to shareholders, benefits to other stakeholders and to maintain an optimal capital structure to reduce the cost of capital. The Board of Directors also monitors the level of dividends to equity shareholders. The Company monitors capital, using a medium term view and long term view, on the basis of a number of financial ratios generally used by industry as well as by the rating agencies. The Company is not subject to externally imposed capital requirements. The Company's capital structure is managed against the various financial ratios as required to maintain highest credit ratings. The Board of Directors monitors the return on capital.

The Company's return on capital is **3.87%** for FY 2018-19 in comparison to 2.47% for FY 2017-18.

Note [51] Operating Segment

The Segments have been identified as 'Power' and 'Industry' based on the orders booked by the respective business sectors. The order booked by International operation group is taken to Power or Industry as the case may be.

The Company's Committee of functional Directors has been identified as Chief Operating Decision maker (CODM).

(₹ in Crore)

Particulars	For the year ended 31.3.2019			For the year ended 31.3.2018		
	Power	Industry	Total	Power	Industry	Total
I. Segment Revenue						
Operating Revenue-External	23404.96	5944.25	29349.21	22881.04	4969.40	27850.44
II. Segment Results						
a. Segment Results	2812.18	437.21	3249.39	2792.14	179.55	2971.69
b. Unallocated expenses (Net of income)			904.60			1132.15
c. Profit before finance cost & Incometax (a) - (b)			2344.79			1839.54
d. Finance cost (Includes unwinding of Interest)			286.93			254.55
e. Net Profit before Income Tax (c) - (d)			2057.86			1584.99
f. Income Tax			842.47			778.39
g. Net Profit after Income Tax (e) - (f)			1215.39			806.60
III Assets & Liabilities						
a. Segment Assets	45185.71	9372.15	54557.86	40812.18	8522.98	49335.16
b. Common Assets			9858.15			14382.92
c. Total Assets			64416.01			63718.08
d. Segment Liabilities	24823.96	5251.54	30075.50	24541.30	4799.21	29340.51
e. Common Liabilities			2940.65			1776.49
f. Total Liabilities			33016.15			31117.00
IV Other Information						
a. Capital Expenditure	255.08	81.88		186.74	48.05	
b. Depreciation & Amortization	343.34	87.49		589.56	153.20	
c. Non Cash Expenses (other than depreciation & amortization)	1160.35	30.00		1867.25	319.49	
Geographical Segments	Within India	Outside India	Total	Within India	Outside India	Total
1. Net Sales / Revenue from Operations	26190.70	3158.51	29349.21	27163.14	687.30	27850.44
2. Non- Current Assets (PPE & Intangible Assets)	3188.48	13.95	3202.43	3247.41	24.19	3271.60
3. Capital Expenditure	378.65	24.23	402.88	256.04	13.66	269.70

Major Customer- Details of Revenue from Single Customer exceeding 10% of total revenue of the BHEL

Particulars	Power	Industry	Total	Power	Industry	Total
CPSUs	5323.43	2320.06	7643.49	6235.82	1880.26	8116.08
Railways	-	1595.98	1595.98	-	1177.88	1177.88
TANGEDCO	5331.04	-	5331.04	3637.73	-	3637.73
TSGENCO	4544.66	-	4544.66	2777.84	-	2777.84

Note [52] - Additional Disclosures

(₹ in Crore)

A. Value of imports	For the year ended	
	2018-19	2017-18
CIF basis		
Raw materials	2192.44	1558.13
Components and spare parts	2473.37	744.99
Capital goods	52.73	24.25
Total	4,718.54	2,327.37

(₹ in Crore)

B. Expenditure in foreign currency	For the year ended	
	2018-19	2017-18
i) Royalty	132.08	141.53
ii) Know-how	11.57	4.05
iii) Professional consultation fee	2.79	3.41
iv) Interest and others (incl. on foreign sites)	14.85	5.52

(₹ in Crore)

C. Value of consumption of raw materials, components, stores & spare parts.	For the year ended	
	2018-19	2017-18
i) Imported (including custom duty) #	4603.07	2526.61
ii) Indigenous	10838.68	9955.58
iii) Percentage of total consumption		
Imported	30	20
Indigenous	70	80

Includes canalised items wherever ascertained

(₹ in Crore)

D. Earnings in foreign exchange	For the year ended	
	2018-19	2017-18
Export of goods (FOB basis)	2231.92	182.44
Erection & other services	762.22	112.36
Foreign exchange on deemed exports (incl. domestic contracts and SEZ export)	793.06	1014.00
	3,787.20	1,308.80

(₹ in Crore)

E. Statement for raw materials and components consumed	For the year ended	
	2018-19	2017-18
Group of materials		
i) Ferrous materials	3461.21	2431.11
ii) Non-ferrous materials	313.91	333.09
iii) Insulating materials	168.39	168.29
iv) Insulated cables and Magnet wires	20.46	26.76
v) Components	6447.46	4944.14
vi) Others	4618.65	4193.06
Total	15030.08	12096.45

Note [53]

As per SEBI (Listing Obligations & Disclosure Requirements) Regulations, 2015, the requisite details of loans and advances in the nature of loans, given by the Company are given below:

i) In respect of Subsidiary Company:

(₹ in Crore)

Particulars	As at	
	March 31,2019	March 31,2018
BHEL Electrical Machines Ltd.		
Loans and advances in the nature of loans outstanding	3.00	3.00
Maximum amount of loans and advances in the nature of loans outstanding during the year	3.00	3.00

ii) No loans have been given (other than loans to employees), wherein there is no repayment schedule or repayment is beyond seven years; and

iii) There are no loans and advances in the nature of loans, to firms/companies, in which directors are interested.

Note [54]

Assets and liabilities are classified between current and non-current considering 12 months period as operating cycle.

Note [55]

Based on recommendation of 3rd pay revision committee for CPSE's and pursuant to the issue of Presidential directives the payment of pay revision arrears to executives due w.e.f January 1, 2017 have been made during FY 2018-19. For supervisors and workers also the payment of pay revision arrears due from January 1, 2017 have been made on wage settlement with Unions. The total arrear amount on this account was approx ₹ 1940 crore from January 1, 2017 to March 31, 2019, out of which an amount of ₹ 1306 crore had been provided till March 31, 2018 and balance in FY 2018-19. A sum of ₹ 1475 crore towards pay arrear have been disbursed during FY 2018-19.

Note [56]

Weighted average cost of borrowing at **8.14%** (previous year @ 8.30%) as at the year end has been considered for working out present value of long term provisions and expected credit loss.

Note [57] Recent Accounting Developments

Standard's issued but not yet effective

Ind AS 116 [Leases]

On March 30, 2019, the Ministry of Corporate Affairs (MCA) issued the Companies (Indian Accounting Standards) Amendment rules, 2019, notifying Ind AS - 116 (Leases). The standard is applicable to the Company w.e.f. April 1, 2019 and will replace the existing Ind AS 17 (Leases) and related interpretations.

This Ind AS sets out the principles for the recognition, measurement, presentations and disclosure of leases for the lessee and the lessor. It requires lessee to recognise assets and liabilities for all lease transaction having lease term of more than 12 months unless the underlying asset is of low value. Under existing Ind AS 17 operating lease expenses are charged to statement of profit & loss. Further, new Ind AS requires extensive disclosures. The standard permits retrospective approach in accordance with Ind AS 8 or retrospectively with cumulative effect of initially applying this Standard (cumulative catch-up approach).

Amendment to Ind AS 12 - Income Taxes

MCA has notified amendment to Ind AS 12 Appendix C Uncertainty over income tax treatment applicable from April 1, 2019. It prescribes uncertainty over income tax treatment is to be applied while performing the determination of taxable profit/loss. Amendment to Ind AS 12 also clarifies to recognise the income-tax consequences of dividend in profit or loss, OCI or equity where it originally recognises. The adjustment shall be retrospective in accordance with Ind AS 8 or cumulative catch-up approach.

Amendment to Ind AS 19 - Employee Benefits

On March 30, 2019 MCA notified amendment to Ind AS 19 Employee benefits requiring to use updated assumptions to determine past service cost as net interest for remainder period after a plan amendment, curtailment or settlement.

The company is in the process of examining and evaluating the impact of the said changes on the Company's financial statements and will be followed from the effective date of standards & amendments. However, no material impact is perceived.

Note [58]

Prior period errors which are material are corrected retrospectively by restating the comparative amount for the prior period(s) presented in which such error occurred. For the error occurred before the earliest period presented, the opening balances of assets, liabilities and equity for the earliest period presented are restated.

Note [59]

Figures have been rounded off nearest to ₹ in crore with two decimal.

Note [60]

Previous year's figures have been regrouped/ rearranged wherever considered necessary.

Note [61]

The Board of Directors has authorised to issue the Financial Statements 2018-19 in its meeting held on May 27, 2019.

For and on behalf of Board of Directors

(Rajeev Kalra)
Company Secretary
M.No.14567



(Subodh Gupta)
Director (Finance)
DIN:08113460



(Atul Sobti)
Chairman & Managing Director
DIN: 06715578

As per our report of even date attached

For Raj Har Gopal & Co.
Chartered Accountants
FRN 002074N



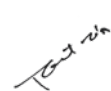
(CA Gopal Krishan)
Partner
M.No.081085

For Tiwari & Associates
Chartered Accountants
FRN- 002870N



(CA Sandeep Sandill)
Partner
M.No.085747

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN- 006228C



(CA. Rajat Jain)
Partner
M.No. 413515

Place : New Delhi

Date : May 27, 2019



FINANCIAL STATEMENTS

Consolidated Financial Statements

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INDEPENDENT AUDITOR'S REPORT

TO

The Members of

Bharat Heavy Electricals Limited

Report on the Audit of the Consolidated Financial Statements

Opinion

We have audited the accompanying consolidated financial statements of **BHARAT HEAVY ELECTRICALS LIMITED** hereinafter referred to as "the holding company") and its subsidiary (the holding Company and its one subsidiary collectively referred to as "the Group") and three jointly controlled entities, comprising of the consolidated balance sheet as at 31st March, 2019, the consolidated statement of profit and loss (including other comprehensive income), the consolidated statement of changes in equity and the consolidated cash flow statement for the year then ended, and a summary of the significant accounting policies and other explanatory information (hereinafter referred to as "the consolidated financial statements").

In our opinion and to the best of our information and according to the explanations given to us, the aforesaid financial statements give the information required by the Companies Act, 2013 ("the Act") in the manner so required and give a true and fair view in conformity with the Indian Accounting Standards prescribed under section 133 of the Act read with the Companies (Indian Accounting Standards) Rules 2015, as amended, ("Ind AS") and other accounting principles generally accepted in India, of the state of affairs of the Company as at March 31, 2019, the consolidated profit and total consolidated comprehensive income, consolidated statement of change in equity and its consolidated cash flow statement for the year ended on that date.

Basis for Opinion

We conducted our audit of the consolidated financial statements in accordance with the Standards on Auditing (SAs) specified under section 143 (10) of the Companies Act, 2013. Our responsibilities under those Standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Company in accordance with the Code of Ethics issued by the Institute of Chartered Accountants of India together with the ethical requirements that are relevant to our audit of the consolidated financial statements under the provisions of the Companies Act, 2013 and the Rules thereunder, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the Code of Ethics. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on the consolidated financial statements.

Key Audit Matters

Key audit matters are those matters that in our professional judgement were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. We have determined the matters described below to be the key audit matters to be communicated in our report.

Key Audit Matter	Auditor's Response
<p>Accuracy of recognition, measurement, presentation and disclosures of revenues and other related balances in view of adoption of Ind AS 115 "Revenue from contracts with Customers" (Revenue Accounting Standard) applicable from 1st April 2018.</p> <p>The application of the new revenue accounting standard from current financial year involves certain key judgments relating to identification of distinct performance obligations, determination of transaction price of identified performance obligations, the appropriateness of the basis used to measure revenue recognized over a period, and disclosures including presentations of balances in the financial statements.</p> <p>Estimated efforts is a critical estimate to determine revenue, as it requires consideration of progress of the contract, efforts incurred till date, efforts required to complete the remaining performance obligation.</p> <p>Refer Notes 52 to the consolidated financial statements.</p>	<p>Principal Audit Procedures</p> <p>We assessed the Group's Company's internal process to identify the impact of adoption of the new revenue accounting standard. Our audit approach consisted testing of the design and operating effectiveness of internal controls and procedures as follows:</p> <ul style="list-style-type: none"> ▪ Evaluated the design of internal controls relating to implementation of the new revenue accounting standard. ▪ Selected a sample of existing continuing contracts and new contracts, and tested the operating effectiveness of the internal control, relating to identification of the distinct performance obligations and determination of transaction price. ▪ Tested the relevant information, accounting systems and change relating to contracts and related information used in recording and disclosing revenue in accordance with the new revenue accounting standard. ▪ Reviewed a sample of contracts to identify possible delays in achieving milestones, which require change in estimated efforts to complete the remaining performance obligations. ▪ Performed analytical procedures and test of details for reasonableness and other related material items.
<p>Assessment and recoverability of Trade Receivables and Contract Assets</p> <p>The Group have trade receivables outstanding (Net) of ₹ 15947.01 crore and contract assets (Net) of ₹ 22296.77 crore at the end of March 31, 2019</p> <p>These balances are related to revenue recognized in line with Ind AS 115 "Revenue from contracts with customers" for ongoing contracts and completed contracts. The assessment of its recoverability is a key audit matters in the audit due to its size and high level of management judgment</p> <p>Refer Notes 6,10,12,17,52(d) to the consolidated financial statements.</p>	<p>Principal Audit Procedures</p> <p>We have assessed the Group's internal process to recognize the revenue and review mechanism of trade receivables and contract assets. Our audit approach consisted testing of the design and operating effectiveness of internal controls and procedures as follows:</p> <ul style="list-style-type: none"> ▪ Evaluated the process of invoicing, verifications, and reconciliations with customers. ▪ Obtained the list of project wise outstanding details and its review mechanism by the management. ▪ Reviewed the guidelines and policies of the Company on impairment of trade receivables and contract assets. ▪ Tested the accuracy of aging of trade receivables and contract assets at the year end on sample basis. ▪ Performed analytical procedures and test of details for reasonableness, recoverability and other related material items.

Information Other than the Consolidated Financial Statements and Auditor's Report Thereon

The Company's Board of Directors is responsible for the preparation of the other information. The other information comprises the information included in Management Discussion and Analysis, Board's Report including Annexures to Board's Report, Business Responsibility Report, Corporate Governance and Shareholder's information, but does not include the consolidated financial statements and our auditor's report thereon.

Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Management's Responsibility for the Consolidated Financial Statements

The Company's Board of Directors is responsible for the matters stated in Section 134(5) of the Companies Act, 2013 ("the Act") with respect to the preparation of the consolidated financial statements that give a true and fair view of the consolidated financial position, consolidated financial performance, consolidated total comprehensive income, consolidated statement of change in equity and consolidated cash flow statement of the Group in accordance with the Ind AS and other accounting principles generally accepted in India. This responsibility also includes maintenance of adequate accounting records in accordance with the provisions of the Act for safeguarding the assets of the company and for preventing and detecting frauds and other irregularities; selection and application of appropriate accounting policies; making judgments and estimates that are reasonable and prudent; and design, implementation and maintenance of adequate internal financial controls, that were operating effectively for ensuring the accuracy and completeness of the accounting records, relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the Board of Directors of the companies included in the Group are responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

The respective Board of Directors of the company included in the group are responsible for overseeing the Group's financial reporting process.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with SAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with SAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal financial controls relevant to the audit in order to design audit procedures that are appropriate in the circumstances. Under section 143(3) (i) of the Companies Act, 2013, we are also responsible for expressing our opinion on whether the companies have adequate internal financial controls system in place and the operating effectiveness of such controls.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

Materiality is the magnitude of misstatements in the consolidated financial statements that, individually or in aggregate, makes it probable that the economic decisions of a reasonably knowledgeable user of the financial statements may be influenced. We consider quantitative materiality and

qualitative factors in (i) planning the scope of our audit work and in evaluating the results of our work; and (ii) to evaluate the effect of any identified misstatements in the financial statements.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Other Matters

(a) We did not audit the financial statements of one subsidiary, whose financial statements reflect total assets of ₹21.03 crore and net assets of minus ₹13.73 crore as at 31st March, 2019, total revenues of ₹18.76 crore and net cash flows amounting to minus ₹0.23 crore for the year ended on that date as considered in the consolidated financial statements.

The consolidated financial statements also includes the group's share of net profit of ₹27.03 crore and other comprehensive income of ₹0.02 crore for the year ended 31st March, 2019 as considered in the consolidated financial statements in respect of jointly controlled entities [one subsidiary and one jointly controlled entity]. These financial statements have been audited by other auditors whose reports have been furnished to us by the management and our opinion on the consolidated financial statements, in so far as it relates to the amounts and disclosures included in respect of these subsidiary and jointly controlled entity, and our report in terms of sub-sections (3) and (11) of Section 143 of the Act, insofar as it relates to the aforesaid subsidiary and jointly controlled entity, is based solely on the reports of the other auditors.

(b) We did not audit the financial statements of two jointly controlled entities. The consolidated financial statements also include the group's share of net loss of ₹212.63 crore and other comprehensive income of ₹Nil for the year ended 31st March, 2019 as considered in the consolidated financial statements in respect of these jointly controlled entities. These financial statements are unaudited and have been furnished to us by the management and our opinion on the consolidated financial statements, in so far as it relates to the amounts and disclosures included in respect of these jointly controlled entities, and our report in terms of sub-

sections (3) and (11) of Section 143 of the Act in so far as it relates to the aforesaid jointly controlled entities, is based solely on such unaudited financial statements.

Our opinion on the consolidated financial statements, and our report on other legal and regulatory requirements below, is not modified in respect of the above matters with respect to our reliance on the work done and the reports of the other auditors and the financial statements certified by the management.

The accounts of Powerplant Performance Improvements Ltd. a Joint Venture of BHEL have not been consolidated as the said company is under liquidation and full amount of equity investment has been provided. The accounts of Dada Dhuniwale Khandwa Power Limited also have not been consolidated as the said company is under liquidation and investment has been provided.

Our opinion is not modified in respect of these matters.

Report on Other Legal and Regulatory Requirements

1. As required by Section 143 (3) of the Act based on our audit and on the consideration of audit report of subsidiary, jointly controlled entities as referred in "Other Matters" paragraph, we report, to the extent applicable, that:
 - (a) We have sought and obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purposes of our audit of the aforesaid consolidated financial statements;
 - (b) In our opinion, proper books of account as required by law relating to preparation of the aforesaid consolidated financial statements have been kept so far as it appears from our examination of those books and the reports of the other auditors;
 - (c) The consolidated balance sheet, the consolidated statement of profit and loss (including other comprehensive income), consolidated statement of changes in equity and the consolidated cash flow statement dealt with by this report are in agreement with the relevant books of account maintained for the purpose of preparation of the consolidated financial statements;
 - (d) In our opinion, the aforesaid consolidated financial statements comply with the Indian Accounting Standards specified under Section 133 of the Act read with the Companies (Indian Accounting Standards) Rules, 2015, as amended, and other accounting principles generally accepted in India;
 - (e) In terms Notification no. G.S.R. 463(E) dtd. 05-06-2015 issued by the Ministry of Corporate Affairs, the provision of Section 164(2) of the Companies Act, 2013 in respect of disqualification of directors are not applicable to the Company;
 - (f) With respect to the adequacy of the internal financial controls over financial reporting of the holding company, its subsidiary company and jointly controlled entities incorporated in India and the operating effectiveness of such controls, refer to our separate Report in "Annexure A";
 - (g) With respect to the other matters to be included in the Auditor's Report in accordance with Rule 11 of the Companies (Audit and Auditor's) Rules, 2014 to the

extent applicable, in our opinion and to the best of our information and according to the explanations given to us and based on the consideration of the report of other auditors on separate financial statements as also the other financial information of the subsidiary company and jointly controlled entities, as noted in "Other Matters" paragraph;

i. The consolidated financial statements disclose the impact of pending litigations on the consolidated financial position of the Group and jointly controlled entities– Refer Note 42 to the consolidated financial statements;

ii. Provision has been made in the consolidated financial statements, as required under the applicable law or Indian accounting standards, for material foreseeable losses, if any, on long-term contracts – Refer Note 51 to the consolidated financial statements in respect of such items as it relates to the Group and jointly controlled entities and

iii. There has been no delay in transferring amounts, required to be transferred, to the Investor Education and Protection Fund by the holding company and its subsidiary companies and jointly controlled companies incorporated in India.

For Raj Har Gopal & Co.

Chartered Accountants

FRN - 002074N



(CA Gopal Krishan)

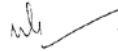
Partner

M. No. 081085

For Tiwari & Associates

Chartered Accountants

FRN - 002870N



(CA. Sandeep Sandill)

Partner

M. No. 085747

For Mahesh C. Solanki & Co.

Chartered Accountants

FRN - 006228C



(CA.Rajat Jain)

Partner

M. No. 413515

Place : New Delhi
Date : May 27, 2019

ANNEXURE "A"

TO THE INDEPENDENT AUDITOR'S REPORT OF EVEN DATE ON THE CONSOLIDATED IND AS FINANCIAL STATEMENTS OF BHARAT HEAVY ELECTRICALS LIMITED

Report on the Internal Financial Controls under Clause (i) of Sub-section 3 of Section 143 of the Companies Act, 2013 ("the Act")

In conjunction with our audit of the consolidated Ind AS financial statements of the Company as of and for the year ended March 31, 2019, we have audited the internal financial controls over financial reporting of Bharat Heavy Electricals Limited (hereinafter referred to as "the Holding Company") as of that date. We did not audit the financial statements of one Subsidiary and three Jointly Control Entities out of which one Jointly Control Entity and one Subsidiary have been audited by the other Auditor and two Jointly Control Entities are unaudited.

Management's Responsibility for Internal Financial Controls

The respective Board of Directors of the Holding company, its subsidiary company and jointly controlled companies, which are companies incorporated in India, are responsible for establishing and maintaining internal financial controls based on the internal control over financial reporting criteria established by the Company considering the essential components of internal control stated in the Guidance Note on Audit of Internal Financial Controls Over Financial Reporting issued by the Institute of Chartered Accountants of India (ICAI). These responsibilities include the design, implementation and maintenance of adequate internal financial controls that were operating effectively for ensuring the orderly and efficient conduct of its business, including adherence to the respective company's policies, the safeguarding of its assets, the prevention and detection of frauds and errors, the accuracy and completeness of the accounting records, and the timely preparation of reliable financial information, as required under the Companies Act, 2013.

Auditor's Responsibility

Our responsibility is to express an opinion on the Company's, internal financial controls over financial reporting based on our audit. We conducted our audit in accordance with the Guidance Note on Audit of Internal Financial Controls Over Financial Reporting (the "Guidance Note") issued by the ICAI and the Standards on Auditing, issued by ICAI and deemed to be prescribed under section 143(10) of the Companies Act, 2013, to the extent applicable to an audit of internal financial controls, both issued by the Institute of Chartered Accountants

of India. Those Standards and the Guidance Note require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether adequate internal financial controls over financial reporting was established and maintained and if such controls operated effectively in all material respects.

Our audit involves performing procedures to obtain audit evidence about the adequacy of the internal financial controls system over financial reporting and their operating effectiveness. Our audit of internal financial controls over financial reporting included obtaining an understanding of internal financial controls over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error.

We believe that the audit evidence we have obtained and the audit evidence obtained by the other auditors in terms of their reports referred to in the Other Matters paragraph below, is sufficient and appropriate to provide a basis for our audit opinion on the Company's, internal financial controls system over financial reporting.

Meaning of Internal Financial Controls Over Financial Reporting

A company's internal financial control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal financial control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorisations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorised

acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Inherent Limitations of Internal Financial Controls Over Financial Reporting

Because of the inherent limitations of internal financial controls over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may occur and not be detected. Also, projections of any evaluation of the internal financial controls over financial reporting to future periods are subject to the risk that the internal financial control over financial reporting may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Other Matters

Our aforesaid reports under Section 143(3)(i) of the Act on the adequacy and operating effectiveness of the internal financial

controls over financial reporting insofar as it relates to one subsidiary company and three jointly controlled entities, which are companies incorporated in India, is based on the corresponding report of the auditor of one jointly controlled entity and one subsidiary company incorporated in India and management certificate of other two jointly controlled entities incorporated in India.

Opinion

In our opinion, the Holding Company, its one subsidiary company and three jointly controlled entities, which are entities incorporated in India, have, in all material respects, an adequate internal financial controls system over financial reporting and such internal financial controls over financial reporting were operating effectively as at March 31, 2019, based on the internal control over financial reporting criteria established by the Company considering the essential components of internal control stated in the Guidance Note on Audit of Internal Financial Controls Over Financial Reporting issued by the Institute of Chartered Accountants of India.

For Raj Har Gopal & Co.


Chartered Accountants
FRN - 002074N



(CA Gopal Krishan)
Partner
M. No. 081085

For Tiwari & Associates

Chartered Accountants
FRN - 002870N



(CA. Sandeep Sandill)
Partner
M. No. 085747

For Mahesh C. Solanki & Co.

Chartered Accountants
FRN - 006228C



(CA. Rajat Jain)
Partner
M. No. 413515

Place : New Delhi
Date : May 27, 2019



गोपनीय

No. MAB-III/REP/03-03/Acs-CFS BHEL/2019-20/239

भारतीय लेखापरीक्षा और लेखा विभाग

कार्यालय

प्रधान निदेशक वाणिज्यिक लेखापरीक्षा

एवं पदेन सदस्य लेखापरीक्षा बोर्ड-III

नई दिल्ली

Indian Audit & Accounts Department

OFFICE OF THE

PRINCIPAL DIRECTOR OF COMMERCIAL AUDIT & EX-

OFFICIO MEMBER, AUDIT BOARD-III

NEW DELHI

दिनांक/Dated: 11/07/2019

सेवा में

अध्यक्ष एवं प्रबंध निदेशक,
भारत हेवी इलेक्ट्रिकल्स लिमिटेड,
नई दिल्ली - 110049

विषय: 31 मार्च 2019 को समाप्त वर्ष के लिए भारत हेवी इलेक्ट्रिकल्स लिमिटेड, नई दिल्ली के Consolidated Financial Statements पर कम्पनी अधिनियम, 2013 की धारा 143 (6) (b) एवं धारा 129 (4) के अन्तर्गत भारत के नियंत्रक एवं महालेखापरीक्षक की टिप्पणियाँ।


महोदय,

मैं, भारत हेवी इलेक्ट्रिकल्स लिमिटेड, नई दिल्ली के 31 मार्च 2019 को समाप्त वर्ष के Consolidated Financial Statements पर कम्पनी अधिनियम, 2013 की धारा 143 (6) (b) एवं धारा 129 (4) के अन्तर्गत भारत के नियंत्रक एवं महालेखापरीक्षक की टिप्पणियाँ अद्योषित कर रहा हूँ।

कृपया इस पत्र की संलग्नकों सहित प्राप्ति की पावती भेजी जाए।

संलग्नक:- यथोपरि।

भवदीय,


(राजदीप सिंह)
प्रधान निदेशक

छठा एवं सातवा तल, एनेक्सी बिल्डिंग, 10 बहादुरशाह जफर मार्ग, नई दिल्ली 110002.

6th & 7th floor, Annexe Building, 10, Bahadurshah Zafar Marg, New Delhi - 110 002

Ph. 23239227; Fax 23239211; e-mail: mabnewdelhi3@caq.gov.in

COMMENTS OF THE COMPTROLLER AND AUDITOR GENERAL OF INDIA UNDER SECTION 143 (6) (b) READ WITH SECTION 129 (4) OF THE COMPANIES ACT, 2013 ON THE CONSOLIDATED FINANCIAL STATEMENTS OF BHARAT HEAVY ELECTRICALS LIMITED FOR THE YEAR ENDED 31 MARCH 2019

The preparation of consolidated financial statements of Bharat Heavy Electricals Limited for the year ended 31 March 2019 in accordance with the financial reporting framework prescribed under the Companies Act, 2013 (Act) is the responsibility of the management of the company. The statutory auditors appointed by the Comptroller and Auditor General of India under section 139 (5) read with section 129 (4) of the Act are responsible for expressing opinion on the financial statements under section 143 read with section 129 (4) of the Act based on independent audit in accordance with the standards on auditing prescribed under section 143(10) of the Act. This is stated to have been done by them vide their Audit Report dated 27 May 2019.

I, on behalf of the Comptroller and Auditor General of India, have conducted a supplementary audit of the consolidated financial statements of Bharat Heavy Electricals Limited for the year ended 31 March 2019 under section 143(6) (a) read with section 129(4) of the Act. We conducted a supplementary audit of the financial statements of Bharat Heavy Electricals Limited, but did not conduct supplementary audit of the financial statements of subsidiaries, associate companies and jointly controlled entities listed in Annexure I for the year ended on that date. Further, Section 139(5) and 143(6)(b) of the Act are not applicable to BHEL-GE Gas Turbine Services Limited, being a private entity for appointment of their statutory auditor and for conduct of supplementary audit. Accordingly, Comptroller and Auditor General of India has neither appointed the statutory auditors nor conducted the supplementary audit of the Company. This supplementary audit has been carried out independently without access to the working papers of the statutory auditors and is limited primarily to inquiries of the statutory auditors and company personnel and a selective examination of some of the accounting records.

On the basis of my supplementary audit nothing significant has come to my knowledge which would give rise to any comment upon or supplement to statutory auditors' report under section 143(6) (b) of the Act.

**For and on behalf of the
Comptroller & Auditor General of India**

A handwritten signature in blue ink, appearing to read 'Rajdeep Singh'.

**(Rajdeep Singh)
Principal Director of Commercial Audit &
Ex-officio Member, Audit Board – III,
New Delhi**

**Place: New Delhi
Date: 11 July 2019**

Annexure I

List of subsidiaries, associate companies and jointly entities whose financial statements were not audited by the Comptroller And Auditor General of India

A. Subsidiaries Companies

1. BHEL Electrical Machines Limited

B. Joint Ventures Companies

1. NTPC-BHEL Power Projects Private Limited

2. Raichur Power Corporation Limited

Consolidated Balance Sheet as at March 31, 2019

(₹ in Crore)

Particulars	Note	As at March 31, 2019	As at March 31, 2018	
A. ASSETS				
(1) Non-current assets				
(a) Property, plant and equipment	3a	2887.39	2981.90	
(b) Capital work-in-progress	3b	223.21	194.53	
(c) Intangible assets	4a	83.07	91.31	
(d) Intangible assets under development	4b	12.23	8.23	
(e) Investment accounted for using equity method	5	149.42	409.05	
(f) Financial assets				
(i) Investments	5a	2.94	19.92	
(ii) Trade receivables	6	3935.09	3438.55	
(iii) Loans	7	82.82	84.28	
(iv) Other financial assets	8	-	4020.85	0.02
(g) Deferred tax assets (net of liabilities)	9	3522.61	3632.43	
(h) Other non-current assets	10	14671.78	10470.22	
Total non-current assets		25570.56	21330.44	
2 Current assets				
(a) Inventories	11	8116.24	6263.15	
(b) Financial assets				
(i) Trade receivables	12	12011.92	14064.68	
(ii) Cash and cash equivalents	13a	795.74	2768.81	
(iii) Bank balances other than cash and cash equivalents	13b	6707.80	8407.47	
(iv) Loans	14	157.71	144.39	
(v) Other financial assets	15	165.40	19838.57	153.26
(c) Current tax assets (net)	16	-	222.94	
(d) Other current assets	17	10393.90	10118.47	
Total current assets		38348.71	42143.17	
TOTAL ASSETS		63919.27	63473.61	
B. EQUITY AND LIABILITIES				
(1) Equity				
(a) Equity share capital	18	696.41	734.28	
(b) Other equity	18a	30175.97	31600.71	
		30872.38	32334.99	
Non-controlling interests		(6.73)	(4.05)	
Total equity		30865.66	32330.94	

Consolidated Balance Sheet as at March 31, 2019

(₹ in Crore)

Particulars	Note	As at March 31, 2019		As at March 31, 2018	
Liabilities					
(2) Non-current liabilities					
(a) Financial liabilities					
(i) Borrowings	19	95.45		57.18	
(ii) Trade payables	20				
(i) Total outstanding dues of micro enterprises and small enterprises		-		-	
(ii) Total outstanding dues of creditors other than micro enterprises and small enterprises		702.87		481.75	
(iii) Other financial liabilities	21	91.29	889.61	114.41	653.34
(b) Provisions	22		5467.43		4984.89
(c) Other non-current liabilities	23		3615.88		3636.68
Total non-current liabilities			9972.92		9274.91
(3) Current liabilities					
(a) Financial liabilities					
(i) Borrowings	24	2470.11		10.28	
(ii) Trade payables	25				
(i) Total outstanding dues of micro enterprises and small enterprises		361.17		283.96	
(ii) Total outstanding dues of creditors other than micro enterprises and small enterprises		11019.81		10305.29	
(iii) Other financial liabilities	26	2070.24	15921.33	2271.38	12870.91
(b) Provisions	27		2488.94		3729.30
(c) Current tax liabilities (net)	16		91.34		-
(d) Other current liabilities	28		4579.08		5267.55
Total current liabilities			23080.69		21867.76
Total liabilities			33053.61		31142.67
TOTAL EQUITY AND LIABILITIES			63919.27		63473.61
Basis of preparation, measurement and significant accounting policies	2				
The accompanying notes are an integral part of these financial statements					

For and on behalf of Board of Directors



(Rajeev Kalra)
Company Secretary
M.No.14567



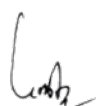
(Subodh Gupta)
Director (Finance)
DIN:08113460



(Atul Sobti)
Chairman & Managing Director
DIN: 06715578

As per our report of even date attached

For Raj Har Gopal & Co.
Chartered Accountants
FRN 002074N



(CA Gopal Krishan)
Partner
M.No.081085

For Tiwari & Associates
Chartered Accountants
FRN- 002870N



(CA Sandeep Sandill)
Partner
M.No.085747

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN- 006228C



(CA. Rajat Jain)
Partner
M.No. 413515

Place : New Delhi

Date : May 27, 2019

Consolidated Statement of Profit and Loss

For the year ended March 31, 2019

(₹ in Crore)

Particulars	Note	For the year ended March 31, 2019	For the year ended March 31, 2018
INCOME			
Revenue from operations	29	30367.65	28827.48
Other income	30	661.52	679.24
Total Income		31029.17	29506.72
EXPENSES			
Material consumption, erection and engineering expenses	31	19320.20	15907.27
Changes in inventories of finished goods and work in progress	32	(1071.67)	739.00
Employee benefits expenses	33	6268.92	6075.55
Manufacture, administration, selling and distribution expenses	34	2698.49	2003.36
Provisions	35	1072.66	2240.24
Depreciation & amortisation expenses	3.1/4.1	475.74	787.33
Finance costs	36	288.01	255.16
Less: Expenses capitalised for internal use		58.88	106.82
Total Expenses		28993.47	27901.09
Profit before exceptional items and tax		2035.70	1605.63
Share of net profit/ (loss) of joint ventures accounted for using equity method		(185.60)	(390.76)
Profit / (loss) before tax		1850.10	1214.87
Tax expenses	37		
a) Current tax		735.07	578.67
b) Deferred tax		105.87	198.01
Profit for the year (A)		1009.16	438.19
Other comprehensive income	38		
Items that will not be reclassified to profit or loss (net of tax)			
Re measurement of defined employee benefits		(119.17)	83.30
Share of OCI of JV accounted using equity method		0.02	0.18
Other comprehensive income for the year (B)		(119.15)	83.48
Total comprehensive income for the year (A+B)		890.01	521.67
Attributable to:			
Equity holders of the parent		892.69	524.63
Non-controlling interest		(2.68)	(2.96)
		890.01	521.67

Consolidated Statement of Profit and Loss

For the year ended March 31, 2019

(₹ in Crore)

Particulars	Note	For the year ended March 31, 2019	For the year ended March 31, 2018
Total other comprehensive income for the year			
Attributable to:			
Equity holders of the parent		(119.15)	83.47
Non-controlling interest		-	0.01
		(119.15)	83.48
Total profit for the year			
Equity holders of the parent		1011.84	441.16
Non-controlling interest		(2.68)	(2.97)
		1009.16	438.19
Earnings per equity share	39		
(1) Basic [Face value of ₹ 2 each]		2.78	1.19
(2) Diluted [Face value of ₹ 2 each]		2.78	1.19
Basis of preparation, measurement and significant accounting policies	2		

The accompanying notes are an integral part of these financial statements

For and on behalf of Board of Directors



(Rajeev Kalra)
Company Secretary
M.No.14567



(Subodh Gupta)
Director (Finance)
DIN:08113460



(Atul Sobti)
Chairman & Managing Director
DIN: 06715578

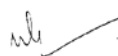
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For Raj Har Gopal & Co.
Chartered Accountants
FRN 002074N



(CA Gopal Krishan)
Partner
M.No.081085

For Tiwari & Associates
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FRN- 002870N



(CA Sandeep Sandill)
Partner
M.No.085747

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN- 006228C



(CA. Rajat Jain)
Partner
M.No. 413515

Place : New Delhi

Date : May 27, 2019

Consolidated statement of changes in Equity (SOCIE)

For the year ended March 31, 2019

A. Equity Share Capital

(₹ in Crore)

Equity shares of INR 2 each issued, subscribed and fully paid	Number of shares		Amount	
	2018-19	2017-18	2018-19	2017-18
Balance at the beginning of the period	3671400000	2447600000	734.28	489.52
Add: Bonus shares allotted during the year	-	1223800000	-	244.76
Less: Shares bought back	189336645	-	37.87	-
Balance at the end of their period	3482063355	3671400000	696.41	734.28

B. Other equity

For the year ended March 31, 2019

(₹ in Crore)

Particulars	Reserves and surplus				Other items of other comprehensive income	Total other Equity	Non-controlling interest
	Capital Reserves	Capital Redemption Reserves	General Reserves	Retained Earnings			
Balance as at April 01, 2018	35.18	-	32,104.96	(517.45)	(21.98)	31,600.71	(4.05)
Add: Ind AS-115 transition adjustment	-	-	-	126.49	-	126.49	-
Less: Adj. (audited v/s unaudited loss for FY 2017-18)	-	-	-	57.87	-	57.87	-
Add: Total comprehensive income for the year	-	-	-	1,011.86	(119.17)	892.69	(2.68)
Less: Transferred to capital redemption reserve	-	37.87	37.87	-	-	-	-
Less: Transaction cost related to buyback [Note 18]	-	-	-	8.32	-	8.32	-
Less: Amount paid upon buyback [Note 18]	-	-	1590.43	-	-	1590.43	-
Less: Final dividend for FY 2017-18 [Note 40]	-	-	-	374.49	-	374.49	-
Less: Interim dividend for FY 2018-19 [Note 40]	-	-	-	278.57	-	278.57	-
Less: Dividend distribution tax [Note 40]	-	-	-	134.24	-	134.24	-
Balance as at March 31, 2019	35.18	37.87	30,476.66	(232.59)	(141.15)	30,175.97	(6.73)

Consolidated statement of changes in Equity (SOCIE)

For the year ended March 31, 2019

For the year ended March 31, 2018

(₹ in Crore)

Particulars	Reserves and surplus				Other items of other comprehensive income	Total other Equity	Non-controlling interest
	Capital Reserves	Capital Redemption Reserves	General Reserves	Retained Earnings			
Balance as at April 01, 2017	35.18	-	32,349.72	(380.15)	(105.28)	1,899.47	(1.08)
Add: Adj. (audited v/s unaudited profit / loss for FY 2016-17)	-	-	-	4.66	-	4.66	-
Add: Total comprehensive income for the year	-	-	-	441.33	83.30	524.63	-
Less: Final dividend for FY 2016-17 [Note 40]	-	-	-	190.92	-	190.92	2.96
Less: Interim dividend for FY 2017-18 [Note 40]	-	-	-	293.71	-	293.71	-
Less: Dividend distribution tax [Note 40]	-	-	-	98.66	-	98.66	-
Less: Issue of bonus shares [Note 18]	-	-	244.76	0.00	-	244.76	-
Balance as at March 31, 2018	35.18	-	32,104.96	(517.45)	(21.98)	31,600.71	(4.05)

For and on behalf of Board of Directors



(Rajeev Kalra)
Company Secretary
M.No.14567



(Subodh Gupta)
Director (Finance)
DIN:08113460



(Atul Sobti)
Chairman & Managing Director
DIN: 06715578

As per our report of even date attached

For Raj Har Gopal & Co.
Chartered Accountants
FRN 002074N



(CA Gopal Krishan)
Partner
M.No.081085

For Tiwari & Associates
Chartered Accountants
FRN- 002870N



(CA Sandeep Sandill)
Partner
M.No.085747

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN- 006228C



(CA. Rajat Jain)
Partner
M.No. 413515

Place : New Delhi

Date : May 27, 2019

Consolidated cash flow statement

For the year ended March 31, 2019

(₹ in Crore)

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
A. Cash flow from operating activities:		
Profit before tax	1850.10	1214.87
Adjustments for		
Provisions	1739.15	2198.75
Depreciation and amortisation	475.74	787.33
Finance cost (including unwinding of interest)	288.01	255.16
Share of loss in joint ventures and investments	185.60	390.76
Bad debts, liquidated damages & losses written off	93.18	41.49
Fair value adjustment	-	60.63
Interest & dividend income	(599.44)	(601.49)
Liabilities written back	(181.05)	(97.01)
Profit on sale of units of mutual funds	(17.00)	(25.85)
Profit on disposal of an item of PPE	(2.25)	(9.41)
Fair value (gain) / loss in investment of equity share	(0.02)	1.01
Cash generated from operations before working capital changes	3832.02	4216.24
Adjustment for changes in working capital		
Trade receivables and contract assets	(4594.29)	(6340.91)
Inventories	(1942.16)	1000.34
Loans, advances & other assets	(188.73)	(711.64)
Sub total	(6725.18)	(6052.21)
Trade payable	981.65	1743.92
Advances from customers, deposits and others	(932.55)	1224.86
Provisions	(620.85)	(186.89)
Sub total	(571.75)	2781.89
Net cash (used in) / from working capital	(7296.93)	(3270.32)
Cash generated from operations	(3464.91)	945.92
Refund of income taxes	408.68	720.42
Income taxes paid	(829.47)	(677.27)
Net cash inflow from operating activities	(3885.70)	989.07
B. Cash flow from investing activities:		
Redemption / maturity of bank deposits (having original maturity of more than 3 months)	1700.22	600.45
Interest received	591.98	653.84
Proceeds from joint ventures	17.30	-
Income received from mutual funds	17.00	36.67
Dividend received from joint ventures	16.18	14.76
Sale of property, plant and equipment	1.02	11.46
Purchase of property, plant and equipment	(425.34)	(281.25)
Investment in joint ventures	-	(74.72)
Net cash (used in) / from investing activities	1918.36	961.21

Consolidated cash flow statement

For the year ended March 31, 2019

(₹ in Crore)

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
C. Cash flow from financing activities:		
Proceeds from short term borrowings	2459.83	3.83
Proceeds / (repayment) of finance lease obligation	54.45	(49.99)
Buy back of equity shares (including premium payment)	(1628.29)	-
Dividend paid	(652.75)	(484.63)
Dividend distribution tax paid	(134.24)	(98.66)
Interest paid	(96.41)	(37.94)
Buy back expenses	(8.32)	-
Net cash (used in) / from financing activities (refer point 3)	(5.73)	(667.39)
D. Net increase/(decrease) in cash and cash equivalents	(1973.07)	1282.89
Opening balance of cash and cash equivalents	2768.81	1485.92
Closing balance of cash and cash equivalents [Refer Note 13a]	795.74	2768.81

- Statement of cash flow has been prepared under the indirect method as set out in the Ind AS 7 - Statement of Cash flow.
- Previous year's figures have been regrouped/reclassified wherever applicable
- In cash flow from financing activities there is no non cash item during the year.
- Closing balance of cash & cash equivalents includes exchange variation translation gain of ₹ **0.02 crore** as on March 31, 2019 (previous year ₹ 0.41 crore).

For and on behalf of Board of Directors



(Rajeev Kalra)
Company Secretary
M.No.14567



(Subodh Gupta)
Director (Finance)
DIN:08113460



(Atul Sobti)
Chairman & Managing Director
DIN: 06715578

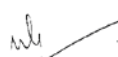
As per our report of even date attached

For Raj Har Gopal & Co.
Chartered Accountants
FRN 002074N



(CA Gopal Krishan)
Partner
M.No.081085

For Tiwari & Associates
Chartered Accountants
FRN- 002870N



(CA Sandeep Sandill)
Partner
M.No.085747

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN- 006228C



(CA. Rajat Jain)
Partner
M.No. 413515

Place : New Delhi

Date : May 27, 2019

Note [1] Company Information

Bharat Heavy Electricals Limited ("BHEL" or "the Company") is a public limited company domiciled in India and has its registered office at BHEL House, Siri fort, New Delhi-110049

The Company is an integrated power plant equipment manufacturer engaged in design, engineering, manufacture, erection, testing, commissioning and servicing of a wide range of products and services for the core sectors of the economy, viz. Power, Transmission, Industry, Transportation, Renewable energy, Oil & Gas and Defence.

The Company has one subsidiary in the name of BHEL-Electrical Machine Ltd. and Joint Venture Companies namely, BHEL-GE Gas Turbine Services Ltd., NTPC-BHEL Power Projects Pvt. Ltd., Raichur Power Corporation Ltd, Power Plant Performance Improvement Ltd. and Dada Dhuniwale Khandwa Power Ltd.

Note [2] Basis of preparation, measurement and significant accounting policies

1. Basis of preparation of Financial Statements

a) Statement of compliance

The financial statements have been prepared in accordance with Indian Accounting Standards (Ind-AS) as notified by Ministry of Corporate Affairs under the Companies (Indian Accounting Standards) Rules, 2015 and subsequent amendments thereof as well as with the additional requirements applicable to financial statements as set forth in Companies Act, 2013 and amended thereof.

b) Basis of measurement

The financial statements have been prepared on a going concern basis and on an accrual method of accounting. Historical cost is used in preparation of the financial statements except as otherwise mentioned in the policy.

c) Functional and presentation currency

The financial statements are prepared in INR, which is the Company's functional currency.

d) Use of estimates and judgments

The preparation of the financial statements in conformity with Ind AS requires management to make judgements, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates. Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised prospectively.

Critical estimates and judgements in applying accounting policies

Estimates and judgements made in applying accounting policies that have significant effect on the amounts recognized in the financial statements are as follows:

i) Revenue

The Company uses input method based on cost approach in accounting for the revenue in respect of construction contracts. Use of input method requires the Company to estimate its costs relative to the total expected costs in the satisfaction of its performance obligation. The estimates are assessed continually during the term of the contract and the company re-measures its progress towards complete satisfaction of its performance obligations satisfied over time at the end of each reporting period.

Company updates its estimated transaction price at each reporting period, to represent faithfully the circumstances present at the end of the reporting period and the changes in circumstances during the reporting period.

ii) Property, plant and equipment

The charge in respect of periodic depreciation is derived after estimating the asset's expected useful life and the expected residual value at the end of its life. The depreciation method, useful lives and residual values of Company's assets are estimated by management at the time the asset is acquired and reviewed during each financial year.

iii) Employee benefit plans

Employee defined benefit plans and long term benefit plans are measured on the basis of actuarial assumptions. However, any changes in these assumptions may have impact on the reported amount of obligation and expenses.

iv) Provisions and contingencies

Assessments undertaken in recognising provisions and contingencies have been made as per the best judgement of the management based on the current available information.

2. Property Plant and Equipment (PPE)

Property, plant and equipment are carried at cost less accumulated depreciation and accumulated impairment losses, if any.

Depreciation on property, plant and equipment (other than those used abroad under contract) is charged on straight-line method as per the useful life prescribed in Schedule II of the Companies Act, 2013, except in the following items where estimated useful life is based on technically assessed estimated useful life :-

	(Years)
Erection equipment, Capital tools & tackles	5
Drainage, sewerage & water supply	30
Servers and networks	5
Solar Power Generation Plant	25

Depreciation methods, useful lives and residual values are reviewed in each financial year and changes, if any, are accounted for prospectively. Leased assets are depreciated over the shorter of the lease term and their useful lives unless it is reasonably certain that the Company will obtain

ownership by the end of the lease term. Freehold land is not depreciated.

Property plant and equipment costing ₹10,000/- or less and those whose written down value as at the beginning of the year is ₹10,000/- or less, are depreciated fully.

At erection/project sites: The cost of roads, bridges and culverts is fully amortized over the tenure of the contract, while sheds, railway sidings, electrical installations and other similar enabling works (other than temporary structures) are depreciated over the tenure of the contract after retaining residual value, if any.

Assets used outside India pursuant to long term contracts are depreciated over the duration of the initial contract.

Temporary structures are fully depreciated in the year of construction.

Significant components with different useful lives are accounted for and depreciated separately

In the case of BHEL-GE Gas Turbine Services Pvt. Ltd.

Depreciation is provided on the straight line method over the estimated useful life of the assets, which are equal/ lower than the rates prescribed under Schedule II of the Companies Act, 2013. In order to reflect the actual usage of assets, the estimated useful lives of the assets is based on a technical evaluation.

Asset category	Estimated useful life (Years)
Plant and machinery	2-15
Electrical installations	3-10
Furniture and fixtures	1-8
Computers	3
Office equipment	3-5

Assets under finance lease are amortised over the lease term or the useful life, whichever is shorter.

In the case of Raichur Power Corporation Limited

Depreciation is provided on straight line method at the rates specified in the CERC Regulation 2009. In respect of assets for which rates are not specified in the CERC regulations, at the rates specified under Schedule II of the Companies Act, 2013.

Assets are depreciated to the extent of 90% of the cost and 10% is retained as residual value.

Depreciation on additions to assets is provided for the full year irrespective of the date of addition. Depreciation is not charged on assets sold/dismantled in the year of sale/discard/dismantling. Individual assets costing up to ₹5000 are fully depreciated in the year in which they are put to use.

In the case of NTPC-BHEL Power Projects Pvt. Ltd.

Depreciation on Property, Plant and Equipment is charged on straight line method as per the useful life prescribed in Schedule-II of the Companies Act, 2013.

3. Leases

At the inception of an arrangement, the Company determines whether such an arrangement is or contains a lease.

Upon initial recognition, assets taken on finance lease are capitalized at an amount equal to the lower of their fair value and the present value of the minimum lease payments. Minimum lease payments made under finance leases are apportioned between the finance expense and the reduction of the outstanding liability. The finance expense is allocated to each period during the lease term so as to produce a constant periodic rate of interest on the remaining balance of the liability.

Lease rentals arising under operating leases are recognized in the statement of profit and loss on a straight-line basis over the lease term except where the increment in lease rentals is in line with general rate of inflation.

For assets given on finance lease, the Company recognizes finance income over the lease term using effective interest rate method. Initial direct costs incurred are included in the initial measurement of the finance lease receivable and reduce the amount of income recognized over the lease term.

Lease income arising from operating lease is recognized as income over the lease period on a straight line basis except where the periodic increase in lease rentals is in line with expected general inflation.

4. Intangible assets

Intangible items costing more than ₹10000/- are evaluated for capitalization and are carried at cost less accumulated amortization and accumulated impairment, if any.

Intangible assets are amortised in statement of profit and loss on a straight-line method over the estimated useful lives from the date that they are available for use. The estimated useful lives for the intangible assets are as follows:

Software	3 years
Others	10 years

Intangible assets having WDV ₹10000/- or less at the beginning of the year are amortized fully.

Amortization period and amortization methods are reviewed in each financial year and changes, if any, are accounted for prospectively.

Expenditure on research activities is recognized in profit and loss as incurred. Expenditure on development activities is

capitalized only if the expenditure can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable and the company intends to and has sufficient resources to complete development and to use or sell the asset. The expenditure capitalized includes the cost of materials, direct labour, overhead costs that are directly attributable to preparing the asset for its intended use, and borrowing costs, if any.

Assets acquired for purposes of research and development are capitalized.

5. Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets, are added to the cost of such assets.

An asset that necessarily takes a substantial period of time, considered as more than twelve months, to get ready for its intended use or sale is a qualifying asset for the purpose.

All other borrowing costs are recognized in the statement of profit and loss in the period in which they are incurred.

6. Inventories

Inventory is valued at cost or net realizable value, whichever is lower. In respect of valuation of finished goods and work-in-progress, cost means factory cost. In respect of raw material, components, loose tools, stores and spares cost means weighted average cost.

7. Revenue Recognition

Revenue is recognized to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services.

In relation to construction and long term service contracts, the company transfers control of goods or services to the customer and recognizes revenue over the time. Revenue is recognized using input method based on the cost approach. Progress towards complete satisfaction of performance obligation satisfied over time is re-measured at reporting period end.

Revenue from sale of goods and services is recognized on the transfer of control to the customer and upon the satisfaction of performance obligations under the contract.

Other Income

- Dividend income is recognized in profit and loss on the date on which the Company's right to receive payment is established.
- Interest Income is recognized using effective interest rate method.
- Claims for export incentives/ duty drawbacks, duty

refunds and insurance are accounted for on accrual basis.

In the case of BHEL-GE Gas Turbine Services Pvt. Ltd.

Sales of parts

Revenue from sale of gas turbine parts in the course of ordinary activities is measured at fair value of the consideration received or receivable, net of sales tax and sales return. Revenue is recognized upon transfer of control of promised products or services to customers in an amount that reflects the consideration we expect to receive in exchange for those products or services.

Engineering services

Revenue from fixed-price, fixed-timeframe engineering and supply contracts, where the performance obligations are satisfied over time and where there is no uncertainty as to measurement or collectability of consideration, is recognized as per the percentage-of-completion method.

Repair services

In case of repair services, revenue is recognized as per the terms of the contract with customer. Sale of replacement parts supplied under repair service contract is recognized upon transfer of significant risk and rewards of ownership to the customer and is net of sales tax and sales returns.

In the case of Raichur Power Corporation Ltd. (RPCL)

- Income from contractors arising out of interest on works advance given to contractors is accounted on realization / acceptance basis.
- Income from sale of infirm energy and other miscellaneous receipts is accounted by reducing the same against the Capital Cost as per CERC/KERC guidelines.
- Revenue from sale of energy is recognised as per the guidelines in the KERC (Terms and conditions for determination of Generation tariff) Regulations 2014.

8. Foreign currency Translation/Transaction

Transaction in foreign currencies are recorded at the exchange rate prevailing on the date of the transaction.

Foreign currency denominated monetary assets and liabilities are translated into the functional currency at exchange rates in effect at the end of each reporting period. Foreign exchange gains or losses arising from settlement and translations are recognized in the statement of profit and loss.

Non-monetary assets and non-monetary liabilities denominated in a foreign currency and measured at historical cost are translated at the exchange rate prevailing at the date of transaction.

9. Employee Benefits

Defined Contribution Plans

The Company's contribution to Pension fund including Family Pension Fund for the employees is covered under

defined contribution plan and is recognized as employee benefit expense in statement of profit and loss in the periods during which services are rendered by employees

Defined benefit plans

The Company's gratuity scheme, provident fund scheme, travel claims on retirement and post-retirement medical facility scheme are in the nature of defined benefit plans.

The liability recognized in the balance sheet in respect of these defined benefit plan is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets, if any. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using an appropriate government bond rate that have terms to maturity approximating to the terms of the related liability.

Remeasurements comprising actuarial gains and losses as well as the difference between the return on plan assets and the amounts included in net interest on the net defined benefits liability (asset) are recognized in other comprehensive income (net of income tax).

Other expenses related to defined benefit plans are recognized in statement of profit and loss.

Long Term Leave Liability

The Company measures the expected cost of accumulating compensated absences as the additional amount expected to be paid as a result of the unused entitlement that has accumulated at the end of the reporting period. Expense on non-accumulating compensated absences is recognized in the period in which the absences occur. The Company records a liability for accumulated balance based on actuarial valuation determined using projected unit credit method. Remeasurements and other expenses related to long term benefit plans are recognized in statement of profit and loss.

10. Provisions

- (i) Claims for liquidated damages against the Company are recognized in the financial statements based on the management's assessment of the probable outcome with reference to the available information supplemented by experience of similar transactions.
- (ii) For construction contracts the Company provides warranty cost at 2.5% of the revenue progressively as and when it recognises the revenue and maintain the same throughout the warranty period. For other contracts, provision for contractual obligations in respect of contracts under warranty at the year end is maintained at 2.5% of the value of contract. In the case of contracts for supply of more than a single product 2.5% of the value of each completed product is provided.
- (iii) When it is probable that total contract costs will exceed

total contract revenue, the expected loss is recognised immediately.

- (iv) Other provisions are recognized if, as a result of a past event, the Company has a present legal or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation.

However, where the effect of time value of money is material, provisions are determined and maintained by discounting the expected future cash flows, wherever applicable.

11. Government Grants

Government grants are recognized only when there is reasonable assurance that the conditions attached to them shall be complied with, and the grants will be received. Non monetary grants are accounted at fair value of assets and are treated as deferred income. Deferred income is recognized in the statement of profit and loss on a systematic and rational basis over the useful life of the asset. Government grants related to revenue are recognized on a systematic basis in the statement of profit and loss over the periods necessary to match them with the related costs which they are intended to compensate.

12. Income Taxes

Income tax expense comprises current tax and deferred tax. Income tax expense is recognized in statement of profit and loss except to the extent that it relates to items recognized in other comprehensive income or directly in equity.

Current tax is the expected tax payable on the taxable income for the year, using tax rates (tax laws) enacted or substantively enacted by the end of the reporting period and includes adjustment on account of tax in respect of previous years.

Deferred tax is recognized using the balance sheet method, providing for temporary difference between the carrying amount of an asset or liability in the balance sheet and its tax base.

Deferred tax is measured at the tax rates that are expected to apply when the temporary differences are either realised or settled, based on the laws that have been enacted or substantively enacted by the end of reporting period.

A deferred tax asset is recognized to the extent that it is probable that future taxable profit will be available against which the temporary difference can be utilized.

The carrying amount of deferred tax assets are reviewed at each reporting period and are reduced to the extent that it is no longer probable that the related tax benefit will be realized.

Additional income tax that arise from the distribution

of dividends are recognized at the same time when the liability to pay the related dividend is recognized.

13. Impairment of Assets

Impairment of Financial Assets

The loss allowance in respect of trade receivables and lease receivables are measured at an amount equal to lifetime expected credit losses.

The loss allowance in respect of all other financial assets, which are required to be impaired, are measured at an amount equal to lifetime expected credit losses if the credit risk on that financial instrument has increased significantly since initial recognition. However, if, at the reporting date, the credit risk on a financial instrument has not increased significantly since initial recognition, the loss allowance is measured at an amount equal to 12-month expected credit losses.

Impairment of Non-Financial Assets

The carrying amount of cash generating units is reviewed at each reporting date where there is any indication of impairment. An impairment loss is recognized in the statement of profit and loss where the carrying amount exceeds the recoverable amount of the cash generating units. Impairment losses recognised in prior periods are assessed at each reporting date for any indications that the loss has decreased or no longer exists.

An impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

14. Segment Reporting

Revenue and expenses are identified to segments on the basis of their relationship to the operating activities of the segment. Revenue, expenses, assets and liabilities which are not allocable to segments on a reasonable basis, are included under "Unallocated revenue/ expenses/ assets/ liabilities".

15. Financial Instruments

i) Non-Derivative Financial Instruments

Non derivative financial instruments are classified as :

- Financial assets, measured at
 - (a) amortized cost and
 - (b) fair value through Profit and Loss ("FVTPL").
- Financial liabilities carried at amortized cost.

Initially, all financial instruments are recognized at their fair value. Transaction costs are included in determining

the carrying amount, if the financial instruments are not measured at FVTPL. Financial assets are derecognized when substantial risks and rewards of ownership of the financial asset have been transferred. In cases where substantial risks and rewards of ownership of the financial assets are neither transferred nor retained, financial assets are derecognized only when the Company has not retained control over the financial asset. Financial liabilities are derecognized when contractual obligations are discharged or cancelled or expired.

Non-derivative financial assets are subsequently measured as below:

A. Amortized Cost –

"Financial Instruments at amortized cost" are subsequently measured at amortized cost using the effective interest rate (EIR) method. Amortized cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortization is recognized in the profit and loss. The losses arising from impairment are recognized in the profit and loss.

B. FVTPL Category –

Financial instruments classified in this category are subsequently carried at fair value with changes recorded in the statement of profit and loss. Directly attributable transaction costs are recognised in statement of Profit and Loss as incurred.

Non-derivative financial liabilities are subsequently measured as below:

Subsequent to initial recognition, non – derivative financial liabilities are measured at amortised cost using the effective interest method.

ii) Derivative Financial Instruments

Embedded derivatives, if any, having material impact, are separated from the host contract and accounted for separately if the economic characteristics and risks of the host contract and the embedded derivative are not closely related, a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative, and the combined instrument is not measured at fair value through profit and loss.

Derivatives are recognized and measured initially at fair value. Attributable transaction cost are recognized in statement of profit and loss as cost. Subsequent to initial recognition, derivatives are measured at fair value through profit and loss.

16. Cash and Cash Equivalent

Cash and cash equivalents comprise cash at bank and on hand. It includes term deposits and other short-term money market deposits with original maturities of three months or less that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.

Note [3a] - Non-current assets**Property, plant and equipment**

Refer point 2 of Note [2] for accounting policy on property, plant and equipment (PPE).

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Gross block	5753.22	5411.36
Less: Accumulated depreciation	2865.83	2429.46
Net block (details refer to note 3.1)	2887.39	2981.90

Company had opted for exemption under Ind AS 101, and accordingly carrying value as on 31.03.2015 was considered as deemed cost on Ind AS transition date.

Note [3b] - Non-current assets**Capital work in progress**

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Plant & machinery and other equipments:		
Under Erection/ Fabrication/awaiting erection	102.72	110.26
In transit	30.29	29.70
Construction work-in-progress -Civil	88.63	52.86
Construction stores (including in transit)	1.57	1.71
	223.21	194.53

Note [4a] - Non-current assets**Intangible assets**

Refer point 4 of Note [2] for accounting policy on intangible assets.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Gross block	250.00	221.87
Less: Accumulated amortisation	166.93	130.56
Net block (details refer to note 4.1)	83.07	91.31

Company had opted for exemption under Ind AS 101, and accordingly carrying value as on 31.03.2015 was considered as deemed cost on Ind AS transition date.

Note [4b] - Non-current assets**Intangible assets under development**

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Intangible assets under development	12.23	8.23
	12.23	8.23

Note [3.1]
Detail of property, plant and equipment

(₹ in Crore)

Description	Gross Block				Depreciation				Net Block	
	Opening Balance as on 01.04.2018	Additions/ Adjustments	Deductions/ Adjustments	Closing Balance as on 31.03.2019	Accumulated Depreciation as at 01.04.2018	Depreciation / Amortisation for the year	Depreciation Adjustments	Accumulated Depreciation as at 31.03.2019	As at 31.03.2019	As at 31.03.2018
Land										
i) Freehold land (including development expenses)"	27.98	0.00	0.00	27.98	0.00	0.00	0.00	0.00	27.98	27.98
ii) Leasehold land (including development expenses)	110.85	0.00	0.00	110.85	3.62	1.40	0.00	5.02	105.83	107.23
Buildings										
i) Freehold Buildings	1519.62	70.44	(1.35)	1588.71	319.56	102.59	(0.09)	422.06	1166.65	1200.06
ii) Leasehold Buildings	1.63	0.00	0.00	1.63	0.16	0.05	0.00	0.21	1.42	1.47
Roads, bridges & culverts	12.81	2.51	(0.19)	15.14	10.79	1.21	(0.00)	12.00	3.14	2.02
Drainage, Sewerage & water supply	27.11	1.17	(0.19)	28.09	3.61	1.19	0.00	4.80	23.29	23.50
Plant & Machinery (owned)	2961.17	115.81	0.01	3076.99	1653.02	206.99	2.20	1862.21	1214.78	1308.15
Railway Siding	8.85	0.00	0.00	8.85	2.80	0.69	0.00	3.49	5.36	6.05
Locomotives & Wagons	28.34	0.00	0.00	28.34	9.41	2.16	0.00	11.57	16.77	18.93
Furniture & fixtures	54.58	7.64	(2.00)	60.22	23.89	7.07	(1.65)	29.31	30.91	30.69
Vehicles	10.29	0.96	0.15	11.40	4.23	1.41	0.15	5.79	5.61	6.06
Office and Other equipments										
i) Owned Office and Other equipments	103.75	21.35	(2.08)	123.02	70.09	15.24	(1.97)	83.36	39.66	33.66
ii) Leased Office & other equipment	14.62	1.58	0.00	16.20	7.62	2.81	0.00	10.43	5.77	7.00
Electronic Data Processing Equipment										
i) Owned EDP Equipment	54.51	1.29	(23.03)	32.77	48.70	2.27	(22.70)	28.27	4.50	5.81
ii) Leased EDP Equipment	169.08	102.82	22.65	294.55	113.67	49.09	22.57	185.33	109.22	55.41
Electrical Installations	229.69	14.48	(2.04)	242.13	94.24	32.25	(0.83)	125.67	116.46	135.45
Construction Equipment	67.67	4.03	0.19	71.89	55.24	6.45	0.18	61.87	10.02	12.43
Fixed Assets costing upto ₹ 10,000/-	8.71	5.51	0.14	14.36	8.71	5.59	0.05	14.35	0.01	0.00
Leased-Others	0.10	0.00	0.00	0.10	0.10	0.00	0.00	0.10	0.00	0.00
Total	5411.36	349.59	(7.74)	5753.22	2429.46	438.46	(2.09)	2865.83	2887.39	2981.90
Previous year	5181.51	237.00	(7.15)	5411.36	1685.08	750.05	(5.67)	2429.46	2981.90	3496.43

@The details of R&D capital items included in above

(₹ in Crore)

Description	Gross Block			Depreciation					Net Block	
	Opening Balance as on 01.04.2018	Additions/ Adjustments	Deductions/ Adjustments	Closing Balance as on 31.03.2019	Accumulated Depreciation as at 01.04.2018	Depreciation / Amortisation for the year	Depreciation Adjustments	Accumulated Depreciation as at 31.03.2019	As at 31.03.2019	As at 31.03.2018
Plant & Machinery & other Equipments	250.32	21.02	(2.12)	269.22	121.42	28.85	0.00	150.27	128.90	118.94
Building	23.35	0.01	(0.06)	23.30	3.40	1.10	0.00	4.50	19.95	18.80

Gross block (as per earlier IGAAP) as at 31.03.2018 ₹ 12766.54 crore and as at 31.03.2019 ₹ **13044.84** crore

Notes:

Gross Block as at 31.03.2019 includes assets condemned and retired from active use ₹ **0.12** crore (Previous year ₹ 0.12 crore)

Net Block as at 31.03.2019 includes assets condemned and retired from active use ₹ **0.12** crore (Previous year ₹ 0.12 crore)

Gross Block excludes cost of assets purchased out of grant received from Govt of India for research as executing agency since the property does not vest with the Company.(₹/Crore)

31.03.2019	31.03.2018
180.32	59.18

There is no impairment loss in fixed assets during the year.

Additional disclosure of Note [3.1] details of property, plant and equipment

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
1. Land and buildings includes		
a i) Acres of land for which formal transfer/lease deed have not been executed	8196.93	8196.93
Net Block	68.45	72.90
ii) Number of flats for which formal transfer/lease deed have not been executed	12	12
Net Block	1.19	1.24
iii) Number of buildings for which formal transfer/lease deed have not been executed		
Net Block		
iv) Acres of land for which the cost paid is provisional; [registration charges and stamp duty, (net of provision) would be] accounted for on payment]	506.46	506.46
Net Block	64.79	65.61
b. Acres of land leased to Ministry of Defence, Govt. of India Departments & others	30.37	30.37
c. Acres of land being used by Ministry of Defence(BEG) for which licencing agreement was valid upto 30.11.2018	180	180
d. Acres of land is under adverse possession/encroachment.	701.86	774.55
e. 1242.71 acres (PY 1242.71 acres) of land pending mutation at Haridwar plant for which legal action is in process. It includes land measuring 878.85 acres which is in BHEL's possession but has been wrongly got mutated in the name of SIDCUL Government of Uttarakhand in the year 2004 & 2007.		
f. Further at Haridwar plant, 8 Acres of land is pending transfer to IOCL /State Government under office memorandum dated 01.12.2003 of Uttarakhand Government. (Cost of land of (b to f) mentioned above is not material)		

(₹ in Crore)

	As at March 31, 2019	As at March 31, 2018
2. i) Total Area of Land in acres	16409.03	16409.03
ii) Free hold land (Sale Deed) / Possessory Rights/license out of 2(i) in acres	15735.69	15735.69
iii) Leasehold land out of 2(i) in acres	673.34	673.34

3. The company provides 100% depreciation on an item of PPE having cost / opening net block up to ₹ 10000/- each. The impact of providing 100% depreciation on an item of PPE on profit, without considering the impact of earlier years is as under :

(₹ in Crore)

	As at March 31, 2019	As at March 31, 2018
100% depreciation on PPE upto ₹ 10,000/- charged off	8.08	3.98
Less: Normal depreciation on above.	2.07	1.15
Excess amount charged to depreciation for the year	6.01	2.83

4. The impact on depreciation due to review and revision in the estimated useful life of certain item of PPE in FY 2018-19 is reduction of ₹ 201.42 Crore.

Note [4.1] - Detail of Intangible Assets

(₹ in Crore)

Description	Gross block				Depreciation				Net Block	
	Opening Balance as on 01.04.2018	Additions/ Adjustments	Deductions/ Adjustments	Closing Balance as on 31.03.2019	Accumulated Depreciation as at 01.04.2018	Depreciation / Amortisation for the year	Depreciation Adjustments	Accumulated Depreciation as at 31.03.2019	As at 31.03.2019	As at 31.03.2018
Internally Developed										
-Others	50.55	11.14	0.00	61.69	33.92	11.33	0.00	45.25	16.44	16.63
Others										
-Software	26.81	23.32	(5.00)	45.13	23.91	3.07	10.42	37.40	7.74	2.90
-Technical Know-how	134.24	8.93	0.00	143.17	62.46	21.82	0.00	84.28	58.89	71.78
-Others	10.27	(15.40)	5.13	0.00	10.27	0.00	(10.27)	0.00	0.00	0.00
Total	221.87	27.99	0.14	250.00	130.56	36.22	0.15	166.93	83.07	91.31
Previous year	198.04	23.83	0.28	221.87	93.28	37.28	0.30	130.56	91.31	104.76

Gross block (as per earlier IGAAP) as at 31.03.2018 ₹ 505.26 Crore and as at 31.03.2019 ₹ 534.48 Crore

Note [5] - Non-current assets Investment (accounted for using equity method)

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
BHEL-GE Gas Turbine Services Private Limited		
Opening net assets	138.55	129.31
Profit / (loss) for the year	27.03	23.82
Other comprehensive income	0.02	0.18
Less: Dividend paid	16.18	14.76
Closing net assets	149.42	138.55
Raichur Power Corporation Limited		
Opening net assets	266.10	584.39
Adjustment (audited v/s unaudited profit / (loss) of previous year)	(60.85)	(16.78)
Additional equity contribution	-	74.72
Profit / (loss) for the year	(205.25)	(376.23)
Other comprehensive income	-	-
Dividends paid	-	-
Closing net assets	-	266.10
NTPC-BHEL Power Projects Private Limited		
Opening net assets	4.40	21.31
Adjustment (audited v/s unaudited profit / (loss) of previous year)	2.98	21.44
Profit / (loss) for the year	(7.38)	(38.35)
Other comprehensive income	-	-
Dividend paid	-	-
Closing net assets	-	4.40
Dada Dhuniwale Khandwa Power Limited		
Opening net assets	-	18.19
Adjustment*	-	(18.19)
Closing net assets	-	-
Total of investment accounted for using equity method		
Opening net assets	409.05	753.20
Adjustment (audited v/s unaudited profit / (loss) of previous year)	(57.87)	4.66
Additional equity contribution	-	74.72
Profit / (loss) for the year	(185.60)	(390.76)
Other comprehensive income	0.02	0.18
Less: Dividend paid	16.18	14.76
Adjustment	-	(18.19)
Closing net assets	149.42	409.05

* The joint venture company is under liquidation

Note [5] - Non-current assets Investment (accounted for using equity method)

- (i) RPCL (joint venture company) has incurred losses due to which the group has recognised accumulated losses equal to the cost of investment as at March 31, 2019. The group has unrecognised share of losses amounting to ₹ 146.19 crores as per their unaudited financial statement for the year ended March 31, 2019
- (ii) NBPPL (joint venture company) has incurred losses due to which the group has recognised accumulated losses equal to the cost of investment as at March 31, 2019. The group has unrecognised share of losses amounting to ₹ 16.44 crores as per their unaudited financial statement for the year ended March 31, 2019

Note [5a] - Non-current assets Financial assets - Investments

(₹ in Crore)

Particulars	As at March 31, 2019		As at March 31, 2018	
	No of Shares (Face value in INR)	Amount	No of Shares (Face value in INR)	Amount
I Quoted equity instruments		-		-
II Unquoted equity instruments (fully paid up shares)				
Investment in equity instruments fully paid up(at FVTPL)				
Neelachal Ispat Nigam Ltd	5000000 (10)	5.00	5000000 (10)	5.00
AP Gas Power Corporation Ltd.	728960 (10)	0.91	728960 (10)	0.91
Engineering Projects (India) Ltd.	1892 (10)	*	1892 (10)	*
		5.91		5.91
Add / (less): Fair value adjustment		(2.97)	(2.99)	2.92
Dada Dhuniwale Khandwa Power Ltd.	22500000 (10)	22.50	22500000 (10)	22.50
Less: Amount received		17.30		-
Less: Provision for impairment		5.20	5.50	17.00
Powerplant Performance Improvement Ltd.	1999999 (10)	2.00	1999999 (10)	2.00
Less: Provision for impairment		2.00	2.00	-
Share in Co-operative Societies #		-		-
		2.94		19.92
*Value of less than INR 1 lakh				
Aggregate amount of unquoted investment		13.11		30.41
Aggregate amount of impairment in value of investments		(10.17)		(10.49)

Equity shares held in various employees cooperatives societies, valuing less than INR 1 lakh/-

Information about joint ventures and subsidiary

(₹ in Crore)

Particulars	Country of incorporation	As at March 31, 2019	As at March 31, 2018
(A) Name of the joint ventures (JVC)		Proportion (%) of ownership	
BHEL-GE Gas Turbine Services Private Limited (BGGTS)	India	One share less than 50%	One share less than 50%
NTPC-BHEL Power Projects Private Limited (NBPPL)		50%	50%
Raichur Power Corporation Limited (RPCL)		27.97%	27.97%
Dada Dhuniwale Khandwa Power Limited (DDKPL)		50%	50%
Powerplant Performance Improvement Limited (PPIL)		One share less than 50%	One share less than 50%

- (i) The provision for impairment in value of investment in NTPC-BHEL Power Projects Private Limited has been made to the extent of ₹ **50.00 crore** (upto previous year ₹ 45.60 crore) based on the net financial position. The Board of Directors in its meeting held on 8th Feb 2018 has accorded in principle approval for pursuing the winding up of NBPPL.
- (ii) An amount of ₹ 17.30 crore has been received during FY 2018-19 against investment in Dada Dhuniwale Khandwa Power Project Ltd. The provision for impairment in value of investment has been retained to the extent of ₹ **5.20 crore** (previous year ₹ 5.50 crore) based on the net financial position. The JVC is under liquidation.
- (iii) The provision for impairment in value of investment in Powerplant Performance Improvement Limited amounting to ₹ **2.00 crore** (previous year ₹ 2.00 crore) has been made since the JVC is under liquidation and the amount paid as equity is not recoverable.

Particulars	Country of incorporation	As at March 31, 2019	As at March 31, 2018
(B) Name of the subsidiary company		Proportion (%) of ownership	
BHEL Electrical Machines Limited (BHEL EML)	India	51%	51%

Board of directors in its meeting held on May 29, 2018 has approved (subject to approval of Department of Heavy Industry, Govt. of India) the transfer of Company's 51% stake to Govt. of Kerala.

Note [6] - Non-current assets Financial assets - Trade receivables

Refer point 13 of Note [2] for accounting policy on impairment of financial assets.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Secured, considered good	-	-
Unsecured, considered good	4529.05	3800.27
Credit impaired	10424.80	7162.90
	14953.85	10963.17
Less: Allowances for bad and doubtful debts	10445.38	7032.75
Less: Automatic price reduction adjustment	573.38	491.87
	3935.09	3438.55

Simplified approach is followed for impairment of trade receivables, the classification is done in line with Ind AS 109.

(a) Due from Directors	-	-
(b) Due from Officers	-	-

Note [7] - Non-current assets

Financial assets - Loans

Refer point 13 of Note [2] for accounting policy on impairment of financial assets.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Security deposits		
Secured, considered good	-	-
Unsecured, considered good		
Deposits with SEBs, port trust & others	82.81	84.27
Significant increase in credit risk	-	-
Credit impaired		
Deposits others	1.77	1.62
	84.58	85.89
Less: Allowances for bad & doubtful deposits	1.77	1.62
	82.81	84.27
Loans		
Secured, considered good	-	-
Unsecured, considered good		
Interest accrued and due on loans	0.01	0.01
Significant increase in credit risk	-	-
Unsecured, considered doubtful and provided for		
Interest accrued and due on loans	-	0.01
	0.01	0.02
Credit impaired	-	-
Less: Allowances for bad & doubtful loans	-	0.01
	0.01	0.01
	82.82	84.28
Includes:		
Due from Directors	-	-
Dues from Officers	-	-

Note [8] - Non-current assets

Financial assets - Other financial assets

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Rent receivables on finance lease	-	0.02
	-	0.02

Note [9] - Non current assets**Deferred tax assets (net of liabilities)**

Refer point 12 of Note [2] for accounting policy on income taxes.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Deferred tax assets		
Provisions	2628.14	2728.10
Statutory dues (allowed on payment basis)	744.01	652.95
Depreciation - Property, plant and equipment & intangible assets	118.20	160.98
Others	32.26	101.30
	3522.61	3643.33
Deferred tax liabilities	-	10.90
Deferred tax assets (net of liabilities)	3522.61	3632.43

Note [10] - Non-current assets**Other non-current assets**

Refer point 13 of Note [2] for accounting policy on impairment of financial assets.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Contract assets (including unbilled revenue)		
Secured, considered good	-	-
Unsecured, considered good	14392.34	10263.95
Credit impaired	1779.61	1132.07
	16171.95	11396.02
Less: Allowances for bad and doubtful debts	1779.61	1,132.07
	14392.34	10263.95
Security deposits		
Secured, considered good	-	-
Unsecured, considered good		
Deposits with tax authorities and others	135.08	121.21
Significant increase in credit risk	-	-
Credit impaired	25.09	24.01
	160.17	145.22
Less: Allowances for bad & doubtful deposits	25.09	24.01
	135.08	121.21
Loans & advances		
Secured, considered good	-	-
Unsecured, considered good		
Advances towards purchases	73.54	47.06
Claims recoverable and others	74.88	40.63
Capital advances	22.17	21.98
	170.59	109.67
Significant increase in credit risk	-	-
Less: Allowances for bad & doubtful loans and advances	26.23	24.61
	144.36	85.06
	14671.78	10470.22
(a) Contract assets (net of provisions) includes:		
Deferred debts	13058.01	10165.14
(b) Loan & advances includes :		
(a) Due from Directors	-	-
(b) Due from Officers	-	-

Note [11] - Current assets Inventories

Refer point 6 of Note [2] for accounting policy on valuation of inventories.

(₹ in Crore)

Particulars	As at March 31, 2019		As at March 31, 2018	
Raw material & components	3480.94		2860.07	
Material-in-transit	451.01	3931.95	<u>217.10</u>	3077.17
Work-in-progress (including items with sub-contractors)		3220.71		2285.51
Finished goods	977.74		865.01	
Inter - division transfers in transit	114.93	1092.67	<u>85.88</u>	950.89
Stores & spare parts				
Production	177.02		190.69	
Fuel stores	6.97		8.36	
Miscellaneous	54.13	238.12	<u>48.55</u>	247.60
Other inventory				
Materials with fabricators/contractors	63.02		76.12	
Loose tools	34.40		31.10	
Scrap (at estimated realisable value)	90.89	188.31	<u>61.21</u>	<u>168.43</u>
		8671.76		6729.60
Less: Provision for non-moving inventory		555.52		466.45
		8116.24		6263.15
Note :				
Write down of inventories		115.90		142.96
Less : reversal thereof		26.83		26.78
Net		89.07		116.18

Note [12] - Current assets

Financial assets - Trade receivables

Refer point 13 of Note [2] for accounting policy on impairment of financial assets.t

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Secured, considered good	-	-
Unsecured, considered good	13592.05	15727.23
Credit impaired	484.74	2548.20
	14076.79	18275.43
Less: Allowances for bad and doubtful debts	2008.56	4104.08
Less: Automatic price reduction adjustment	56.31	106.67
	12011.92	14064.68
Includes:		
(a) Due from Directors	-	-
(b) Due from Officers	-	-

Note [13a] - Current assets

Financial assets - Cash & cash equivalents

Refer point 17 of Note [2] for accounting policy on cash and cash equivalent.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Balances with banks		
Corporate liquid term deposits	-	1702.03
EEFC a/c	102.22	441.73
Current / cash credit a/c	623.96	214.83
	726.18	2358.59
Cheques, demand drafts on hand	69.43	210.03
Deposits with banks having maturity 3 month or less	-	200.00
Cash & stamps on hand	0.13	0.19
	795.74	2768.81

Note [13b] - Current assets
Financial assets - Bank balances

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Fixed deposits having maturity more than 3 months but not more than 12 months *	6700.06	8400.28
Fixed deposits against margin money for BG issued	2.28	2.16
Balances with banks (earmarked):		
Unclaimed dividend a/c	3.61	3.30
Non-repatriable a/c	1.82	1.70
Sale proceeds of fractional shares on bonus issue	0.03 5.46	<u>0.03</u> 5.03
	6707.80	8407.47
Total Cash and Bank Balances [13a + 13b]	7503.54	11176.28

* Fixed deposits of ₹ 775 crore pledged against loan taken in the form of overdraft against FDs and loan is repaid on April 2, 2019.

Note [14] - Current assets

Financial assets - Loans

Refer point 13 of Note [2] for accounting policy on impairment of financial assets.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Security deposits		
Secured, considered good	-	-
Unsecured, considered good		
EMD and other deposits	157.71	143.84
Significant increase in credit risk	-	-
Credit impaired	<u>3.53</u>	<u>3.60</u>
	161.24	147.44
Less: Allowances for bad & doubtful deposits	<u>3.53</u>	<u>3.60</u>
	157.71	143.84
Loans		
Loans to employees	-	0.01
Loans to PSUs *	12.00	12.00
Interest accrued and due on loans	<u>1.34</u>	<u>4.90</u>
	13.34	16.91
Less: Allowances for bad & doubtful loans	<u>13.34</u>	<u>16.36</u>
		0.55
<i>Out of above:</i>		
Secured, considered good	-	0.01
Unsecured, considered good	-	0.54
Significant increase in credit risk	-	-
Credit impaired	13.34	16.36
	157.71	144.39
* Loan given to Bharat Pumps and Compressors Ltd. has been fully provided		
Includes :		
(a) Due from Directors	-	-
(b) Due from Officers	0.01	0.01

Note [15] - Current assets

Other financial assets

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Interest accrued on banks deposits and investments	128.96	117.94
Advance to employees	36.46	35.17
Rent receivable on finance lease	0.03	0.17
	165.45	153.28
Less: Allowances for bad & doubtful advances	0.05	0.02
	165.40	153.26
Includes:		
(a) Due from Directors	-	-
(b) Due from Officers	0.05	0.01

Note [16] - Current assets

Current tax assets / liabilities (net)

Refer point 12 of Note [2] for accounting policy on income taxes.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Advance tax & TDS	2888.18	2551.94
Less: Provisions for taxation	2979.52	2329.00
	(91.34)	222.94

Note [17] - Current assets

Others current assets

Refer point 13 of Note [2] for accounting policy on impairment of financial assets.

(₹ in Crore)

Particulars	As at March 31, 2019		As at March 31, 2018	
Contract assets (including unbilled revenue)				
Secured, considered good	-		-	
Unsecured, considered good	7904.43		7728.22	
Credit impaired	202.40		370.31	
	8106.83		8098.53	
Less: Allowances for bad and doubtful debts	202.40	7904.43	370.31	7728.22
Claim recoverable				
Input tax credit receivable	1187.74		1009.33	
Claim recoverable and others	735.57		708.26	
Advances				
Vendors / subcontractors	257.73		431.22	
	2181.04		2148.81	
Less: Allowances for bad & doubtful advances and claims	126.45	2054.59	235.40	1913.41
<i>Out of above:</i>				
<i>Secured, considered good</i>	-		-	
<i>Unsecured, considered good :</i>	2054.59		1913.41	
<i>Significant increase in credit risk</i>	-		-	
<i>Credit impaired</i>	126.45		235.40	
Security deposits				
Deposits with tax authorities and others	495.75		511.47	
Less: Allowances for bad & doubtful deposit	60.87	434.88	34.63	476.84
<i>Out of above:</i>				
<i>Secured, considered good</i>	-		-	
<i>Unsecured, considered good</i>	434.88		476.84	
<i>Significant increase in credit risk</i>	-		-	
<i>Credit impaired</i>	60.87		34.63	
		10393.90		10118.47
Contract assets (net of provision) includes:				
Deferred debts		5625.80		5440.00

Note [18] - Equity Equity share capital

(₹ in Crore)

Particulars	As at March 31, 2019		As at March 31, 2018	
	No. of Shares (Face value in ₹)	Amount	No. of Shares (Face value in ₹)	Amount
A Equity share capital				
Authorised	10000000000 (2)	2000.00	10000000000 (2)	2000.00
Issued, subscribed and fully paid up	3482063355 (2)	696.41	3671400000 (2)	734.28
a) The reconciliation of the number of equity shares outstanding				
Balance as at the beginning of the year	3671400000	734.28	2447600000	489.52
Add: Bonus shares allotted during the year	-	-	1223800000	244.76
Less: Shares bought back during the year	189336645	37.87	-	-
Balance as at the end of the year	3482063355	696.41	<u>3671400000</u>	<u>734.28</u>
b) Details of shares held by shareholders holding more than 5 % of shares at the end of the year				
President of India	2199650402	63.17%	2315178000	63.06%
Life Insurance Corporation of India	360647914	10.07%	345680880	9.42%
Face value per share in (₹)		2.00		2.00

c) Terms / rights attached to the equity shares :

The company has only one class of equity shares having par value of ₹2 per share (previous year ₹2 per share). Each holder of the equity shares is entitled to one vote per share.

d) Issue of bonus share: The Company allotted bonus share on October 03, 2017 in the ratio of 1:2 i.e. one equity share for two existing fully paid-up equity shares. Consequently, the paid-up capital was increased from ₹489.52 crore in FY 2016-17 to ₹734.28 crore in FY 2017-18 by capitalization of reserves.

e) Share buyback: The Board, at its meeting held on October 25, 2018 approved a proposal for the Company to buyback of its 18,93,36,645 fully paid-up equity shares of the face value of ₹2 each representing 5.16% of the total issued and paid-up equity share capital from the eligible equity shareholders of the Company for an amount not exceeding ₹1628,29,51,470 at a price of ₹86 per equity share. The buyback offer size was upto 5% of both the standalone and consolidated paid-up equity share capital and free reserves of the Company for the financial year ended March 31, 2018 which was well within the statutory limit of 10% of

Note [18] - Equity

Equity share capital

the aggregate of the fully paid-up share capital and free reserves of the Company for the financial year ended on March 31, 2018.

The record date of buyback was November 06, 2018.

The Company adopted tender offer route and buyback offer opened on December 13, 2018 and closed on December 27, 2018. Total equity shares of 18,93,36,645 were bought back at a price of ₹ 86 per equity share with total amount utilized in the buyback of equity shares was ₹ 1628,29,51,470 excluding transaction cost. The buyback committee in its meeting held on January 10, 2019 approved the extinguishment of equity share bought back.

Consequently, the paid-up share capital was reduced from ₹ 734.28 crore in FY 2017-18 to ₹ **696.41 crore** in FY 2018-19.

Note [18a] - Other Equity

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Summary of other equity balances:		
Capital reserve	35.18	35.18
Capital redemption reserve	37.87	-
General reserves	30476.66	32104.96
Retained earnings	(232.59)	(517.45)
Re-measurements of defined benefit plans	(141.15)	(21.98)
	30175.97	31600.71

Nature and purpose of reserves:

- Capital reserve** : It represents mainly the excess of net assets taken, over the cost of consideration paid during amalgamation of the then subsidiary company (HPVP) with the BHEL.
- Capital redemption reserve**: The Company has recognised Capital Redemption Reserve on buy back of equity shares from its general reserve. The amount in capital redemption reserve is equal to nominal amount of equity shares bought back.
- General reserve**: This represents accumulation of profits retained by Company to meet future (known/unknown) obligations.
- Retained earnings**: Retained earnings are profits that Company has earned till date, less transfer to general reserve, dividends (incl. dividend distribution tax) or other distributions paid to shareholders.
- Re-measurement of net defined benefit plans**: Differences between the interest income on plan assets and the return actually achieved, and any changes in the liabilities over the year due to changes in actuarial assumption or experience adjustments within the plans, are recognised in 'Other comprehensive income' and these are subsequently not to be reclassified to the Statement of Profit and Loss.

Note [19] - Non-current liabilities

Financial liabilities- Borrowings

Refer point 3 of Note [2] for accounting policy on lease.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Unsecured		
Long term maturities of finance lease obligations	95.45	57.18
	95.45	57.18
(Disclosure as per Note [48] on lease)		

Note [20] - Non-current liabilities

Financial liabilities -Trade payables

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Trade payables		
(i) Total outstanding dues of micro enterprises and small enterprises	-	-
(ii) Total outstanding dues of creditors other than micro enterprises and small enterprises	<u>702.87</u>	<u>481.75</u>
	702.87	481.75

Note [21] - Non-current liabilities

Other financial liabilities

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Deposits from contractors & others	84.93	110.43
Liability for capital expenditure	6.36	3.98
	91.29	114.41

Note [22] - Non-current liabilities

Provisions

Refer point 9 & 10 of Note [2] for accounting policy on employee benefits and provisions.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Contractual obligation	3843.71	3477.90
Provision for employee benefits	1308.70	1265.26
Provision others	312.62	240.77
Corporate social responsibility *	2.40	0.96
	5467.43	4984.89

*(Disclosure as per point (viii) of Note [34] on CSR expense)

Note [23] - Non-current liabilities

Other non - current liabilities

Refer point 11 of Note [2] for accounting policy on Government grants

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Contract liabilities (Advances received from customers incl. excess of billing over revenue)	3577.93	3610.08
Deferred income- Govt. grant #	37.95	26.60
	3615.88	3636.68

#Govt. grant is received for setting up of solar PV plant

Note [24] - Current liabilities

Financial liabilities - Borrowings

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Secured		
Loans from banks (against fixed deposits)	600.00	-
Pre shipment packing credit (secured by hypothecation of raw materials, components, work-in-progress, finished goods & stores)	357.27	-
Cash credit (by BHEL EML)	6.69	4.55
	963.96	4.55
Unsecured		
Commercial papers	1500.00	-
Loan from companies (by BHEL EML)	6.15	5.73
	1506.15	5.73
Total borrowings	2470.11	10.28

- (i) The Company has a cash credit limit from banks aggregating to ₹ **6000 crore** (previous year ₹ 5000 crore and Company's counter guarantee / indemnity obligations in regard to bank guarantee / letters of credit limit aggregating to ₹ **54000 crore** (previous year ₹ 55000 crore) sanctioned by the consortium banks. These are secured by first charge by way of hypothecation of raw materials, components, work in progress, finished goods, stores, trade receivables and other current assets both present and future. The outstanding bank guarantees as at March 31, 2019 is ₹ **43136 crore** (previous year ₹ 43881 crore).
- (ii) Loan taken from bank against security of fixed deposits of ₹ 775 crore in the form of overdraft which is repaid on April 02, 2019.
- (iii) The commercial paper outstanding at the end of the year is repayable in June 2019.
- (iv) Packing Credit in Foreign Currency (PCFC) has been availed by the Company. The outstanding amount of USD 51.31 million which is partly repayable by Sep'19 and partly by Dec'19.
- (v) Corporate Guarantees given for own obligations outstanding as on 31.03.2019 is ₹ **1433 crore** (previous year ₹ 1747 crore).

Note [25] - Current liabilities
Financial liabilities - Trade Payables

(₹ in Crore)

Particulars	As at March 31, 2019		As at March 31, 2018	
Trade payables:				
(i) Total outstanding dues of micro enterprises and small enterprises		361.17		283.96
(ii) Total outstanding dues of creditors other than micro enterprises and small enterprises	10967.53		10236.32	
Acceptances	<u>52.28</u>	11019.81	<u>68.97</u>	10305.29
		11380.98		10589.25
A. Micro and small enterprises disclosure				
(i) The principal amount remaining unpaid to supplier as at the end of the accounting year		361.17		283.96
(ii) The interest due thereon remaining unpaid, to supplier as at the end of accounting year		-		-
(iii) The amount of interest paid in terms of section 16, along with the amounts of the payment made to the supplier beyond appointed day during the year		-		0.44
(iv) The amount of interest due and payable for the period of delay in making payment (which have been paid but beyond the appointed day during the year) but without adding interest specified under this Act.		-		-
(v) The amount of interest accrued during the year and remaining unpaid at the end of year		-		-
(vi) The amount of further interest remaining due and payable even in the succeeding years, until such date when the interest dues as above are actually paid to the small enterprises, for the purpose of disallowance as a deductible expenditure		-		-

Note [26] - Current liabilities

Other financial liabilities

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Liabilities:		
Employees dues	512.14	856.19
Other dues	880.54	762.13
Capital expenditure	88.75	111.38
Deposits from contractors & others	1481.43	1729.70
Current maturities of finance lease obligation #	522.27	492.30
Unpaid dividend *	58.45	42.27
Interest accrued & due on loans:	3.61	3.30
Finance lease obligations	4.41	3.43
Interest accrued but not due	0.07	0.38
	2070.24	2271.38

(i) * No amount is due and outstanding to be transferred to Investor Education & Protection Fund at the year end.

(ii) # Disclosure as per Note [48] on lease

(iii) Other dues includes ₹ 0.03 crore for sale proceeds of fractional shares arising out of issuance of bonus shares.

Note [27] - Current liabilities

Provisions

Refer note 9 & 10 for accounting policy on employee benefits and provisions.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Contractual obligation	1443.10	1853.42
Provision for employee benefits	784.49	1566.10
Corporate social responsibility ##	19.43	30.18
Provision others	241.92	279.60
	2488.94	3729.30

##(Disclosure as per point (viii) of Note [34] on CSR expense)

Note [28] - Current liabilities

Other current liabilities

Refer point 11 of Note [2] for accounting policy on Government grants

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Contract liabilities (Advances received from customers incl. excess of billing over revenue)	3261.68	3963.62
Liabilities towards statutory dues	1310.95	1296.47
Deferred income - Govt. grant	6.45	7.46
	4579.08	5267.55

Note [29]

Revenue from operations

Refer point 7 of Note [2] for accounting policy on revenue recognition.

(₹ in Crore)

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
Revenue from contracts with customers		
Sales	22419.54	21901.83
Income from external erection & other services	6948.31	5963.01
Turnover (A)	29367.85	27864.84
Other operational income		
Freight & insurance	263.62	288.07
Scrap income	205.64	147.27
Recoveries from suppliers	186.97	142.68
Liabilities written back	181.05	97.01
Insurance claims	41.08	37.44
Export incentives	3.64	26.48
Others	117.80	223.69
Other operational income (B)	999.80	962.64
Revenue from operations (C=A+B)	30367.65	28827.48
Revenue from operations excludes :		
a. Goods and service tax	4491.81	3715.75
b. Service tax	-	140.91
c. Excise duty	-	247.98

Note [30] Other income

Refer point 7 of Note [2] for accounting policy on revenue recognition.

(₹ in Crore)

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
Interest income *		
From banks	498.71	520.27
Others	100.73	70.40
	599.44	590.67
Dividend income		
Dividend on investment in mutual funds	-	10.82
	-	10.82
Other income		
Profit on sale of units of mutual funds	17.00	25.85
Government grants	6.50	8.73
Profit from sale of PPE & capital stores (Net)	2.25	9.41
Others	36.33	33.76
	62.08	77.75
Total other income	661.52	679.24
*Includes TDS	41.44	43.98

Note [31] Material consumption, erection and engineering expenses

(₹ in Crore)

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
Consumption of raw material & components	15041.62	12102.78
Civil, erection and engineering expenses	3866.88	3418.67
Consumption of stores & spares	411.70	385.82
	19320.20	15907.27

Note [32]
Changes in inventories of finished goods and work in progress

(₹ in Crore)

Particulars	For the year ended March 31, 2019		For the year ended March 31, 2018	
Work -in -progress				
Closing balance	3220.71		2285.51	
Opening balance	<u>2285.51</u>	(935.20)	<u>2535.60</u>	250.09
Finished goods \$				
Closing balance	977.74		865.01	
Opening balance	<u>865.01</u>	(112.73)	<u>1297.76</u>	432.75
Inter-division transfer in transit		(23.74)		56.16
		(1071.67)		739.00
\$ Element of excise duty in finished goods				
Closing balance		N.A.		N.A.
Opening balance		N.A.		134.25

Note [33]
Employee benefits expenses

Refer point 9 of Note [2] for accounting policy on employee benefits.

(₹ in Crore)

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
Salaries, wages, bonus, allowances & other benefits	5448.49	5082.98
Contribution to provident and other funds	427.04	383.72
Staff welfare expenses	276.53	276.76
Contribution to gratuity fund	107.76	321.91
Group insurance	9.10	10.18
	6268.92	6075.55

Note [34]**Manufacture, administration, selling & distribution expense**

(₹ in Crore)

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
Power & fuel	496.94	463.62
Carriage outward	377.52	387.15
Expenditure on other sub contracts	351.34	350.50
Payment to security agencies	225.32	217.92
Repairs & maintenance:		
Buildings	60.45	56.70
Plant & machinery	38.60	32.29
Others	<u>107.14</u>	<u>113.07</u>
Expenditure on collaborations & royalty	138.31	147.38
Travelling & conveyance	125.11	122.21
Excise duty (net)	-	(112.94)
Insurance	124.20	104.48
R&D expense	123.12	47.99
Bank charges	89.92	75.01
Hire charges	74.20	70.03
Expenditure on skill development	51.86	37.73
Rates & taxes	50.06	56.45
Office expense	45.10	47.33
Water charges	40.38	40.37
EDP, software & lease line expense	35.58	38.72
Legal, audit & certification expense	31.57	36.56
Corporate social responsibility	26.54	10.40
Rent non residential	22.05	21.91
Publicity & public relation expense	19.90	28.55
Entertainment & courtesy expenses	10.78	10.43
Expenditure in connection with exports	10.06	14.43
Environmental protection	7.82	8.53
Seminar, development and training expense	7.27	5.12
Miscellaneous expense	73.89	90.13
	2765.03	2523.08
Net exchange variation gain (-) / loss (+)	(66.54)	(519.72)
	2698.49	2003.36

Note [34]
Disclosure - Manufacture, administration, selling & distribution expense

(₹ in Crore)

Particular	For the year ended March 31, 2019	For the year ended March 31, 2018
(i) Legal, audit & certification expense includes :		
Payment to Statutory Auditors:		
Audit fees	0.83	0.73
Tax audit	0.20	0.16
Quarterly limited review & others	0.76	0.39
Audit expense	0.20	0.12
	1.99	1.40
Payment to Cost Auditors:		
Audit fees	0.15	0.15
(ii) Director's fees	0.16	0.16
(iii) Expenditure on departmental repair & maintenance:		
Plant & machinery	238.08	202.30
Buildings	47.64	53.98
Others	40.47	47.80
(iv) Expenditure on research & development	267.59	261.74
(v) Expenditure on foreign travel		
No. of tours	332	224
Expenditure	6.33	5.39

(vi) Excise duty is net of amount related to revenue from operation in the previous year.

(vii) Corporate social responsibility expense includes ₹ 19.83 crore spent on school expenditure over the minimum requirement to be spent on CSR during financial year 2018-19.

(viii) **Corporate social responsibility**

As per section 135 of the Companies Act, 2013 read with guidelines issued by DPE, the Company is required to spend, in every financial year, at least two percent of the average net profits of the Company made during the three immediately preceding financial years in accordance with its CSR policy. The details of CSR expense for the year are as under:

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
A. Amount required to be spent during the year	6.70	10.40
B. Amount available from previous year	31.14	53.90
C. Total (A+B)	37.84	64.30
D. Amount spent during the year on-		
(i) Construction/ acquisition of any asset	-	-
(ii) On purposes other than (i) above	16.01	33.16
Total	16.01	33.16
Amount carried forward:	21.83	31.14
Current	19.43	30.18
Non-current	2.40	0.96

(₹ in Crore)

Particulars	For the year ended March 31, 2019		For the year ended March 31, 2018	
	In cash	Yet to be paid in cash	In cash	Yet to be paid in cash
(i) Construction / acquisition of any asset	-	-	-	-
(ii) On purposes other than (i) above	4.16	2.54	7.36	3.04
	4.16	2.54	7.36	3.04

Note [35]

Provisions

Refer point 9, 10 & 13 of Note [2] for accounting policy on employee benefits, provisions and impairment of assets. (₹ in Crore)

Particulars	For the year ended March 31, 2019		For the year ended March 31, 2018	
Doubtful debts, liquidated damages and loans, advances & deposits				
Created during the year	3025.49		3365.56	
Less: withdrawal during the year	<u>1231.80</u>	1793.69	<u>764.12</u>	2601.44
Contractual obligations				
Created during the year	744.69		797.48	
Less: withdrawal during the year	<u>795.92</u>	(51.23)	<u>727.48</u>	70.00
Others				
Created during the year	240.92		312.12	
Less: withdrawal during the year	<u>1003.90</u>	(762.98)	<u>784.81</u>	(472.69)
		979.48		2198.75
Losses written off		2.12		31.98
Bad debts written off		26.03		8.22
Liquidated damages & contractual charges charged off		65.03		1.29
		1072.66		2240.24

Note [36]

Finance costs

Refer point 5 & 10 of Note [2] for accounting policy on borrowing costs and provisions. (₹ in Crore)

Particulars	For the year ended March 31, 2019		For the year ended March 31, 2018	
Borrowing cost				
Unwinding of provisions and deferred liabilities		190.93		219.98
Interest cost:				
Banks / Financial Institutions	69.45		-	
On finance lease & others	<u>17.71</u>	87.16	<u>35.18</u>	35.18
Discount on commercial papers		9.92		-
		288.01		255.16
Less: Borrowing cost capitalised		-		-
		288.01		255.16

Note [37]**Tax expenses**

Refer point 12 of Note [2] for accounting policy on income taxes.

(₹ in Crore)

Particulars	For the year ended March 31, 2019		For the year ended March 31, 2018	
Current tax				
for current year	719.06		551.81	
for earlier years	16.01	735.07	<u>26.86</u>	578.67
Deferred tax				
For current year	5.23		(64.54)	
For earlier years	100.64	105.87	<u>262.55</u>	198.01
		840.94		776.68

(i) Research and development expenditure : The details of research and development expenditure incurred during the year, which is eligible (other than land or building) of deduction under section 35 (2AB) of Income Tax Act, 1961.

(₹ in Crore)

Particulars	For the year ended March 31, 2019		For the year ended March 31, 2018	
A (i) Land		-		-
(ii) Building		(0.05)		2.08
B. Property, plant and equipment		9.02		11.34
C. Revenue expenditure				
Salaries & wages	181.09		157.70	
Material, consumables and spares	60.77		17.80	
Utilities	0.69		0.54	
Other expenditure directly related to R&D	22.94	265.49	<u>30.93</u>	206.97
Total revenue expenditure (C)		265.49		206.97
D. Any receipt / income by the R&D centre		(0.51)		(1.69)
E. Net amount eligible for deduction (B+C-D)		274.00		216.62

A consortium of BHEL, IGCAR & NTPC has entered into an MOU in August, 2010 for taking up the R&D Project for development of Advanced Ultra Supercritical (AUSC) Technology for thermal power plants of future, envisaging reduced coal consumption as well as Carbon Di-Oxide (CO₂) emission. Cabinet committee on Economic Affairs (CCEA) accorded approval to the project in its meeting held on August 10, 2017. The project involves an estimated expenditure of ₹ 1554 crore, with a contribution of ₹ 270 crore from BHEL, ₹ 50 Crore from NTPC, ₹ 234 crore from IGCAR, ₹ 100 Crore from DST and balance ₹ 900 crore by Department of Heavy Industries, Govt. of India for implementation of the R&D project. BHEL from own contribution has spent cumulative ₹ **117.50 crore** (upto previous year ₹ 23.60 crore) and accounted as R&D expenditure.

Note [37]

(ii) Reconciliation of Income tax expense and accounting profit (TCI) multiplied by income tax rate (₹ in Crore)

Particulars		For the year ended March 31, 2019	For the year ended March 31, 2018
Total Comprehensive Income (TCI) before tax	(A)	1666.93	1342.44
Statutory income tax rate	(B)	34.944%	34.608%
Tax expense	(C) = AXB	582.49	464.59
Difference due to:			
Expenses not deductible for tax purposes		60.18	6.99
Income exempt from income tax		-	(3.74)
Income tax incentives		(47.87)	(37.48)
Change in tax rate		0.62	(34.17)
Change in tax expense - earlier years		116.65	289.41
Tax effect on share of JVs profit / (loss)		64.85	135.17
Subtotal	(D)	194.43	356.18
Net Tax Expense	(E) = C+D	776.92	820.77

Note [38]

Other comprehensive income / expenditure

(₹ in Crore)

Particulars		For the year ended March 31, 2019	For the year ended March 31, 2018
Income / (expenditure)			
Re measurement of defined employee benefits		(183.19)	127.39
Less: Income tax related to above items*		64.02	44.09
		(119.17)	83.30
* Includes			
Current tax		-	28.33
Deferred tax		(64.02)	15.76

Note [39]

Earnings per share

(₹ in Crore)

Particulars		For the year ended March 31, 2019	For the year ended March 31, 2018
Profit attributable to equity shareholders		1009.16	438.19
Weighted average number of equity shares		362.94	367.14
Basic and diluted earnings per share of INR 2 each		2.78	1.19

Basic earnings per equity share is computed by dividing the net profit attributable to the equity shareholders of the Company by the weightage average number of equity shares outstanding during the period. Diluted earnings per share is computed by dividing the net profit attributable to the equity shareholders of the Company by the weightage average number of equity shares considered for deriving basic earnings per equity share and also the weightage average number of equity shares that could have been issued upon conversion of all dilutive potential equity shares. The weightage average number of equity share for FY 2018-19 have been worked out considering buy back of shares completed on January 10, 2019. The basic and diluted EPS are same.

Note [40] Dividend per share

(₹ in Crore)

Particulars	For the year ended March 31, 2019	For the year ended March 31, 2018
A Dividend on equity shares declared and paid during the year		
Final dividend of ₹ 1.02 (previous year ₹ 0.78) per qualifying equity share	374.49	190.92
Dividend distribution tax on final dividend	76.97	38.87
Interim dividend of ₹ 0.80 (previous year ₹ 0.80) per qualifying equity share	278.57	293.71
Dividend distribution tax on interim dividend	57.27	59.79
	787.30	583.29
B Proposed dividend on equity shares not recognised as liability		
Proposed final dividend of ₹ 1.20 per share for FY 2018-19 (FY 2017-18 ₹ 1.02 per share)	417.85	374.49
Dividend distribution tax on final dividend	85.89	76.97
	503.74	451.46

Proposed dividend on equity shares is subject to the approval of the shareholders of the Company at the Annual General Meeting and not recognised as liability as at the Balance Sheet date.

Note [41] Notes to Accounts

The consolidated financial statements relates to Bharat Heavy Electricals Limited (the Company), its subsidiary and its interest in Joint venture entities. The consolidated financial statements have been prepared on the following basis-

Basis of Accounting

- i) The financial statements of the subsidiary company and interest in joint ventures in the consolidation are drawn upto the same reporting date as of the parent company
- ii) The consolidated financial statements have been prepared in accordance with Ind AS 110 on Consolidated Financial Statements" and Ind AS-28 "Investment in Associates and Joint Ventures".

Basis of Consolidation

1. Subsidiary is entity controlled by the Company. The financial statements of subsidiary is combined on a line-by-line basis by adding together the book value of like items of assets, liabilities, income and expenses after fully eliminating the intra group balances and intra-group transactions and unrealized profits or losses in accordance with Ind AS 110 on "Consolidated Financial Statements"
2. The Company's interest in equity-accounted investees' comprise interests in joint venture. A joint venture is an arrangement in which the Company has joint control, whereby the Company has rights to the net assets of

the arrangement, rather than rights to its assets and obligations for its liabilities. Interests in the joint venture are accounted for using the equity method. They are initially recognized at cost, which includes transaction costs. Subsequent to initial recognitions, the consolidated financials include the Company's share of profit or loss and OCI of equity-accounted investees, until the date on which significant influence or joint control ceases.

When the Group's share of losses of a joint venture exceeds the Group's interest in that joint venture, the Group discontinues recognising its share of further losses. Additional losses are recognised only to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the joint venture.

3. The consolidated financial statements have been prepared using uniform accounting policies for like transactions and other events in similar circumstances and are presented to the extent possible.
4. Minority interest' share of net loss of consolidated subsidiary for the year is adjusted against the income of the group in order to arrive at the net income attributable to shareholder of the company.
5. Minority interest share of net liabilities of consolidated subsidiary is identified and presented in consolidated financial statement separate from assets/ liabilities & equities of the company shareholder.

The Consolidated Financial statements include the results of the following entities-

Particulars	Principal place of business	Proportion of ownership	
		2018-19	2017-18
Subsidiary Company			
BHEL Electrical Machines Limited (BHEL EML)	India	51%	51%
Joint Venture Companies (accounted for using equity method)			
BHEL-GE Gas Turbine Services Private Limited	India	One share less than 50%	One share less than 50%
NTPC-BHEL Power Projects Private Limited		50%	50%
Raichur Power Corporation Limited		27.97%	27.97%

- The financial statements of BHEL EML are consolidated based on the audited financial statement for the year ended on 31.03.2019.
- Interest in Joint Ventures in respect of BHEL-GE Gas Turbine Services Ltd. is considered based on audited financial statements for the year ended on 31.03.2019.
- Interest in Joint Ventures in respect of NTPC-BHEL Power Projects Pvt. Ltd, and Raichur Power Corporation Ltd. is considered based on unaudited financial statements for the year ended on 31.03.2019.
- Interest in joint Ventures in respect of Power Plant Performance Improvement Ltd. (PPIL) have not been considered in preparation of Consolidated Financial Statements as the company is under liquidation. Full amount of equity investment of ₹ 2 crore has been provided for as impairment.
- Interest in joint venture in respect of Dada Dhuniwale Khandwa Power Ltd. have not been considered in preparation of consolidated financial statements as the company is under liquidation. Full amount of outstanding of ₹ 5.20 crore has been provided for as impairment.

Note [42] - Contingent liabilities and commitments

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
A. Contingent liabilities		
Claims against the company not acknowledged as debt :		
(a) Sales tax matters	1194.96	1683.30
(b) Court & arbitration matters	583.81	951.09
(c) Service tax matters	960.78	387.82
(d) Excise duty matters	229.82	311.43
(e) Customs duty and others	5.80	16.46
(f) Other matters (incl. disputed staff cases)	48.79	37.66
(g) Claim towards liquidated damages (LD)	4410.68	5068.15
	7434.64	8455.91

(i) In view of various court cases, litigations and claims disputed by the Company, the outflow of resources is not ascertainable at this stage

(ii) It is not practicable for the Company to estimate the timing of actual cash outflows in respect of items (a) to (f), if any, due to pending resolution of the respective proceedings. However, the chances are remote and contingent.

(iii) Liquidated damages represents likely claims or amount withheld by customer on account of delay in execution of projects which will be settled after commissioning and trial operation of project based on delay analysis and is being disclosed in line with Ind AS -37.

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
(iv) Movement in contingent liabilities		
Balance at the beginning of the year	8455.91	9983.90
Less: Reduction out of opening balance	2720.04	2782.95
Add: Additions (net) during the year	1698.77	1254.96
Balance at the end of the year	7434.64	8455.91

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
B. Commitments		
(a) Estimated amount of contracts, net of advances, remaining to be executed on capital account and not provided for.	274.79	226.51
- (The above includes related to acquisition of intangible assets)	(3.23)	(10.01)
(b) Investment in the Joint Venture entities for which the company has restrictions for their disposal for five years from the date of incorporation /commercial operation of the project/first unit of the project/completion of first EPC contract, as the case may be.	50.00	50.00
(c) Commitments towards additional investment in the Joint Venture in case of inability of other JV partner to take up additional equity stake	-	-

(d) In view of the nature of business, being long term construction contracts there may be other commitments for purchase of material etc., which has been considered as normal business process.

Note [43]

Current Financial liabilities includes a sum of ₹ **100.51** crore (previous year ₹ 100.51 Crore) towards guarantee fee demanded by the Government of India in respect of foreign currency loans taken by the Company at the instance of the Government upto 1990-91. The matter for its waiver has been taken up with the Government since there was no stipulation for payment of such guarantee fee at the time the loans (guaranteed by Government) were taken by the Company.

Note [44]

The Company had taken over Amorphous Silicon Solar Cell Plant (ASSCP), Gurgaon on April 1, 1999 from Ministry of New and Renewable Energy (MNRE) on lease for a period of 30 years. The formal lease agreement with the Ministry of New and Renewable Energy (MNRE) is yet to be finalised.

Note [45]

Balance shown under trade receivables, trade payables, contractors' advances, deposits and stock / materials lying with sub-contractors/ fabricators are subject to confirmation, reconciliation & consequential adjustment, if any. The Company is in the business of long term construction contracts, bills are raised on the customers as per contract as per approved billing schedule by the customer and the reconciliation is carried out on ongoing basis & provisions made, wherever considered necessary. Final reconciliation with customer is done on completion of project (Trial Operation and PG Test completed). Out of the trade receivables of ₹ **29025** crore (previous year ₹ 29234 crore), ₹ **7388** crore (previous year ₹ 6287 crore) are outstanding in completed projects. Out of completed contracts, the projects reconciled with customers have outstanding trade receivables of ₹ **6622** crore (previous year ₹ 5497 crore)

Note [46] - Subsidiary

(a) Name of subsidiary	Principal place of business	Proportion of ownership interest held by the Company		Proportion of ownership interest held by the Non Controlling Interest	
		As at		As at	
		March 31, 2019	March 31, 2018	March 31, 2019	March 31, 2018
BHEL Electrical Machines Limited	India	51%	51%	49%	49%

BHEL EML (subsidiary company) is engaged in manufacturing of rotating electrical machines and is located at Kasargod, Kerala.

(b) Summarized financial information of subsidiary company is as follows. The amounts disclosed for subsidiary are before inter- company eliminations:-

(₹ in Crore)

Summarized Balance Sheet	As at	
	March 31,2019	March 31,2018
Non-current assets	11.60	12.42
Current assets	9.44	9.54
Total Assets	21.04	21.96
Non-current liabilities	5.69	8.11
Current liabilities	29.08	22.12
Total Liabilities	34.77	30.23
Net Assets	(13.73)	(8.27)
Accumulated Non Controlling Interest (NCI)	(6.73)	(4.05)

(₹ in Crore)

Summarized statement of profit and loss	For the Year	
	2018-19	2017-18
Revenue	18.76	14.53
Profit/ (loss) for the year	(5.46)	(6.01)
Other Comprehensive Income	0.01	(0.04)
Total Comprehensive Income	(5.45)	(6.05)
Profit/ (loss) attributable to NCI	(2.68)	(2.97)

Summarized Cash flows	For the Year	
	2018-19	2017-18
Cash flows from operating activities	(2.78)	(5.17)
Cash flows from investing activities	-	-
Cash flows from financing activities	2.55	3.83
Net increase/ (decrease) in cash and cash equivalents	(0.23)	(1.34)

The working capital position of the subsidiary company is under stress. Hence, there is an uncertainty regarding the going concern status of the company

Note [47] - Jointly Controlled Entities

a. Summarized financial information of the joint venture, based on its Ind-AS financial statements, and reconciliation with the carrying amount of the investment in financial statements are set out below:

Name of the joint ventures (accounted for at equity method)	Principal place of business	Proportion of ownership		Carrying Amount	
		As at March 31		As at March 31	
		2019	2018	2019	2018
BHEL-GE Gas Turbine Services Private Limited (BGGTS)	India	50% minus 1 share	50% minus 1 share	2.38	2.38
NTPC-BHEL Power Projects Private Limited (NBPPL)	India	50.00%	50.00%	-	4.40
Raichur Power Corporation Limited (RPCL)	India	27.97%	27.97%	664.04	664.04
Dada Dhuniwale Khandwa Power Limited	India	50.00%	50.00%	-	17.00

BGGTS is a Joint Venture Company of BHEL and GE, USA formed to take up repair & servicing of GE designed Gas Turbines.

BHEL along with NTPC Limited has promoted a joint venture company "NTPC- BHEL Power Projects Private Limited" for carrying out EPC contracts for power plants and other infrastructure Projects in India and abroad.

Raichur Power Corporation Limited has been promoted for setting up of a 2x800 MW supercritical thermal power plant at Yeramarus, Raichur, Karnataka and 1x800 MW supercritical thermal power plant at Edlapur, Raichur, Karnataka on build, own and operate basis. COD of Unit I and Unit II of Yeramarus TPP achieved in March 2017 and April 2017 respectively.

- (a) The provision for impairment in value of investment in NTPC-BHEL Power Projects Private Limited has been made to the extent of ₹ 50.00 crore (previous year ₹ 45.60 crore) based on the net financial position. The Board of Directors in its meeting held on February 08, 2018 has accorded in principle approval for pursuing the winding up of NBPPL.
- (b) The provision for impairment in value of investment in Powerplant Performance Improvement Limited amounting to ₹ 2 crore (previous year ₹ 2 crore) has been made since the Company is under liquidation and the amount paid as equity is not recoverable.

(c) The provision for impairment in value of investment in Dada Dhuniwale Khandwa Power Limited has been retained to the extent of ₹ **5.20 crore** (previous year ₹ 5.50 crore) based on the net financial position. The winding of the company is in process. An amount of ₹ 17.30 crore has been received on April 27,2018 against investment of ₹ 22.50 crore in DDKPL.

b. Summarized financial information of Joint Ventures Companies of group are as follows:-

The table below summarises financial information of Joint Venture Companies of the group. The information is as per the financial statements of the relevant Joint venture Companies and not the group's share of these amounts.

BHEL-GE Gas Turbine Services Pvt. Ltd

(₹ in Crore)

Balance Sheet	As at	
	March 31,2019	March 31,2018
BHEL Share	50%	50%
Non-current assets	43.94	37.72
Current assets	460.03	454.19
Cash and cash equivalent (incl. bank balances) included in current assets	112.69	49.70
Non-current liabilities	9.27	4.65
Non-current financial liabilities (excluding trade payables)	0.24	0.66
Current liabilities	195.87	210.19
Current financial liabilities (excluding trade payables)	7.28	8.58

Statement of Profit and Loss	For the year ended	
	March 31,2019	March 31,2018
Revenue	688.80	642.66
Interest income	13.46	10.05
Depreciation and amortization	5.21	4.58
Interest expense	0.16	0.45
Income tax expense	31.56	29.40
Profit / loss for the year	60.73	53.64
Other comprehensive income	0.04	0.36
Total comprehensive income	60.77	53.99

Raichur Power Corporation Ltd.

(₹ in Crore)

Balance Sheet	As at	
	March 31,2019	March 31,2018
BHEL Share	27.97%	27.97%
Non-current assets	11,653.53	12,260.29
Current assets	1,520.63	993.51
Cash and cash equivalent included in current assets	1.27	3.64
Non-current liabilities	8,537.20	11,234.33
Non-current financial liabilities (excluding trade payables)	8,537.20	11,234.33
Current liabilities	5,159.59	1,070.24
Current financial liabilities (excluding trade payables)	5,145.38	490.63

Statement of Profit and Loss	For the Year	
	March 31,2019	March 31,2018
Revenue	1154.73	922.48
Depreciation and amortization	673.33	672.42
Interest expense	1,316.09	1,141.17
Income tax expense	-	-
Profit / (loss) for the year	(1,254.24)	(1,345.12)
Total comprehensive income	(1,254.24)	(1,345.12)

NTPC-BHEL Power Projects Pvt. Ltd.

(₹ in Crore)

Balance Sheet	As at	
	March 31,2019	March 31,2018
BHEL Share	50%	50%
Non-current assets	418.33	390.14
Current assets	317.11	334.46
Cash and cash equivalent included in current assets	5.76	12.12
Non-current liabilities	317.42	318.76
Current liabilities	450.88	397.04
Current financial liabilities (excluding trade payables)	102.69	75.86

Statement of Profit and Loss	For the year ended	
	March 31,2019	March 31,2018
Revenue	74.02	146.48
Depreciation and amortization	7.28	8.10
Interest expense	2.42	1.20
Income tax expense	(29.06)	(23.86)
Profit / (loss) for the year	(53.02)	(76.70)
Total comprehensive income	(53.20)	(76.70)

Note [48] - Disclosure on Leases - Ind AS 17

i) Operating Lease Commitments - Company as Lessee

Company is in the practice of having operating leases of residence for employees, office buildings and IT equipment on both as cancellable and non-cancellable. The period of lease is generally two to five years and is usually renewable by mutual consent on mutually agreeable terms. The aggregate lease rentals payable are charged as rent in the Statement of Profit and Loss. The future aggregate minimum lease payments under non-cancellable operating lease are as follows:

(₹ in Crore)

	As at March 31,2019	As at March 31,2018
Not later than 1 year	1.59	1.53
Later than 1 year and not later than 5 years	3.06	1.53
Later than 5 years	1.88	1.31
	6.53	4.37

Finance Lease Commitments - Company as Lessee

The company's significant leasing agreements are in respect of finance leases for land, building and IT equipments. The company has entered into a rate contract for finance lease arrangement for computer items, printers, video conferencing equipments and peripherals. The period of lease agreement is generally for five years and at the end of the lease period company has the option to buy the leased assets at nominal value of ₹ 1/-. Assets taken on lease are capitalised and disclosed separately in the property, plant and equipment. The finance lease rentals are allocated between interest, maintenance and principal value. The interest and maintenance charges are charged to Statement of Profit and Loss and principal amount is adjusted to lease obligations.

(₹ in Crore)

	As at March 31,2019	As at March 31,2018
Not later than 1 year	72.42	49.86
Later than 1 year and not later than 5 years	112.07	69.84
Later than 5 years	-	-
	184.49	119.70
Contingent rent recognised as an expense	-	-

Finance Lease Liabilities are Payable as follows

(₹ in Crore)

	Future minimum lease payments		Interest		Present value of minimum lease payments	
	As at March 31,2019	As at March 31,2018	As at March 31,2019	As at March 31,2018	As at March 31,2019	As at March 31,2018
Not later than 1 year	72.42	49.86	13.97	7.59	58.45	42.27
Later than 1 year and not later than 5 years	112.07	69.84	16.62	12.66	95.45	57.18
Later than 5 years	-	-	-	-	-	-

ii) Finance Lease Commitments - Company as Lessor

The Company has given locomotives under finance lease. The components of finance lease receivables are as follows:

(₹ in Crore)

	As at March 31,2019	As at March 31,2018
Gross investment in lease:		
Not later than 1 year	0.03	0.17
Later than 1 year and not later than 5 years	-	0.02
Later than 5 years	-	-

Net Investment in Finance Receivables

(₹ in Crore)

	As at March 31,2019	As at March 31,2018
Unearned finance income	-	0.01
Net investment in finance receivables	0.03	0.19
Contingent rent recognised as income	-	-
Unguaranteed residual values accruing	-	-

Present value of Minimum Lease Receivables are as follows:

(₹ in Crore)

	As at March 31,2019	As at March 31,2018
Present value of minimum lease payments receivables:		
Less than one year	0.03	0.17
Between one and five years	-	0.02
	0.03	0.19

Note [49] - Disclosure on 'Employee benefits' - Ind AS 19

The Company has following schemes in the nature of Defined Benefits Plans:

- i) Gratuity Scheme
- ii) Post Retirement Medical Scheme
- iii) Provident Fund Scheme
- iv) Travel claim on Retirement

A. Gratuity (Funded Plan)

The Company has a defined benefit gratuity plan. Every employee who has rendered continuous service of five years or more is entitled to gratuity at 15 days salary (15/26 X last drawn basic salary plus dearness allowance) for each completed year of service subject to a maximum limit of ₹ 20 Lakh. The gratuity liability arises on account of future payments, which are required to be made in the event of retirement, death in service or withdrawal. The liability has been assessed using projected unit credit actuarial method.

I. Movement in net defined benefit (asset)/liability on Gratuity plan

(₹ in Crore)

Particulars	Defined benefit obligation		Fair value of plan assets		Net defined benefit (asset) liability	
	As at March, 31					
	2019	2018	2019	2018	2019	2018
Opening balance	2,058.05	1,936.16	1,814.01	1,931.42	244.04	4.74
Included in profit for the year :						
Current service cost	107.36	121.07	-	-	107.36	121.07
Past service cost		200.47	-	-	-	200.47
Interest cost /(income)	162.56	145.21	162.17	144.86	0.39	0.35
Total amount recognised in profit for the year	269.92	466.75	162.17	144.86	107.75	321.89
Included in other comprehensive income (OCI) :						
Remeasurement loss (gain):					-	-
Actuarial loss (gain) arising from:						
Change in financial assumption	(22.37)	(52.18)		79.28	(22.37)	(131.46)
Experience adjustment	85.10	49.10	(2.17)		87.27	49.10
Total amount recognised in other comprehensive income	62.73	(3.08)	(2.17)	79.28	64.90	(82.36)
Others						
Contributions paid by the employer	-	-	238.75	-	(238.75)	-
Benefits paid	(350.30)	(211.78)	(350.00)	(211.55)	(0.30)	(0.23)
Unpaid benefits paid	-	(130.00)	-	(130.00)	-	-
Closing balance	2,040.40	2,058.05	1,862.76	1,814.01	177.64	244.04

II. Details of plan assets

	As at March 31,2019	As at March 31,2018
Funds managed by insurer	62.47%	55.24%
High quality corporate bonds (quoted)	34.30%	41.84%
State Government securities (quoted)	2.32%	2.24%
Equity shares of listed companies (quoted)	0.90%	0.67%
Bank balance	0.01%	0.01%
Total	100.00%	100.00%

III. Actuarial assumptions

The following were the principal actuarial assumptions at the reporting date.

	As at March 31, 2019	As at March 31, 2018
Economic assumptions		
Discount rate	7.75%	7.90%
Salary escalation rate	6.60% P.A. for 1st 4 yrs. & then 6% P.A. thereafter	6.60% P.A. for 1st 4 yrs. & then 6% P.A. thereafter
Demographic assumptions		
Mortality table	60	60
Withdrawal rate % (All ages)		
Upto 30 years	100% of IALM (2006-08)	100% of IALM (2006-08)
From 31 to 44 years	3%	3%
Above 44 years	2%	2%
	1%	1%

IV. Sensitivity analysis

The sensitivity of the defined benefit obligation to changes in the significant principal assumptions is:

(₹ in Crore)

	Gratuity (Funded)			
	As at March, 31 2019		As at March, 31 2018	
	Increase	Decrease	Increase	Decrease
Change in discount rate (0.50% movement)	(73.88)	80.16	(68.01)	73.60
Change in salary escalation rate (0.50% movement)	81.03	(75.30)	74.29	(69.23)

Sensitivities due to mortality and withdrawals are not material and hence impact of change due to these are not calculated.

Sensitivities as rate of increase of pensions in payment, rate of increase of pensions before retirement & life expectancy are not applicable.

The sensitivity analysis above has been determined based on a method that extrapolates the impact on defined benefit obligation as a result of reasonable changes in key assumptions occurring at the end of the reporting period. This analysis may not be representative of the actual change in the defined benefit obligations as it is unlikely that the change in assumptions would occur in isolation of one another as some of the assumptions may be correlated.

V. Expected maturity analysis of the gratuity plan in future years

(₹ in Crore)

	Gratuity (Funded)	
	As at March 31,2019	As at March 31,2018
Less than 1 year	318.43	328.57
Between 1-2 years	216.85	275.08
Between 2-3 years	176.67	150.45
Between 3-4 years	155.73	114.52
Between 4-5 years	113.43	96.59
Between 5-6 years	113.48	77.95
Over 6 years	945.81	1,014.89
Total	2,040.40	2,058.05

Expected contributions to gratuity plans for the year ending March 31, 2020 are ₹ 124.53 crore

The weighted average duration of the gratuity defined benefit plan obligation at the end of the reporting period is **14.89** years (31 March 2018: 14.78 years.)

VI. Risk Exposures

Valuations are based on certain assumptions, which are dynamic in nature and vary over time. As such Company is exposed to various risks such as increase in salary, investment risk, discount rate, mortality, disability and withdrawals.

B. Post Retirement Medical Benefits (Funded Plan)

The Company has Post-Retirement Medical benefit (PRMB), under which the retired employees and their spouses are provided medical facilities in the Company hospitals/empanelled hospitals subject to company medical rules. They can also avail treatment as out-patient subject to a ceiling fixed by the Company. The liability for the same is recognised annually on the basis of actuarial valuation.

I. Movement in net defined benefit (asset)/liability on Post retirement Medical Benefit Plan

(₹ in Crore)

	Defined benefit obligation		Fair value of plan assets		Net defined benefit (asset) liability	
	As at March 31,					
	2019	2018	2019	2018	2019	2018
Opening balance	1,925.72	1,820.70	1,881.03	1,820.70	44.69	-
Included in profit for the year :						
Current service cost	39.48	32.66	-	-	39.48	32.66
Interest cost / (income)	152.13	136.55	152.13	136.55	-	-
Total amount recognised in profit for the year	191.61	169.21	152.13	136.55	39.48	32.66

(₹ in Crore)

	Defined benefit obligation		Fair value of plan assets		Net defined benefit (asset) liability	
	As at March 31,					
	2019	2018	2019	2018	2019	2018
Included in other comprehensive income (OCI):						
Remeasurement loss (gain):						
Actuarial loss (gain) arising from:						
Demographic assumptions	-	-	-	-	-	-
Financial assumptions	31.71	(103.19)		33.78	31.71	(136.97)
Experience adjustment	76.74	149.00	2.87	-	73.87	149.00
Total amount recognised in other comprehensive income	108.45	45.81	2.87	33.78	105.58	12.03
Others						
Contributions paid by the employer	-	-	44.69		(44.69)	-
Benefits paid	(145.00)	(110.00)	(145.00)	(110.00)	-	-
Closing balance	2,080.78	1,925.72	1,935.72	1,881.03	145.06	44.69

The plan assets of the Company are managed by Life Insurance Corporation of India through a trust managed by the Company in terms of an insurance policy taken to fund obligations of the Company

II. Actuarial assumptions

The following were the principal actuarial assumptions at the reporting date.

	As at March 31, 2019	As at March 31, 2018
Economic assumptions:		
Discount rate	7.75%	7.90%
Salary escalation rate	6.60% P.A. for 1st 4 yrs. & then 6% P.A. thereafter	6.60% P.A. for 1st 4 yrs. & then 6% P.A. thereafter
Demographic assumptions:		
Retirement age	60	60
Mortality table	100% of IALM (2006-08)	
Withdrawal rates (All ages)		
Upto 30 Years	3%	3%
From 31 to 44 years	2%	2%
Above 44 years	1%	1%

III. Sensitivity analysis

The sensitivity of the defined benefit obligation to changes in the significant principal assumptions is:

(₹ in Crore)

	Post Retirement Medical Benefit			
	As at March, 31 2019		As at March, 31 2018	
	Increase	Decrease	Increase	Decrease
Change in discount rate (0.50% movement)	(102.71)	104.19	(94.49)	96.49
Change in cost (0.50% movement)	105.27	(103.71)	97.02	(95.17)

Sensitivity due to mortality and withdrawals are not material and hence impact of change not calculated.

The sensitivity analysis above has been determined based on a method that extrapolates the impact on defined benefit obligation as a result of reasonable changes in key assumptions occurring at the end of the reporting period. This analysis may not be representative of the actual change in the defined benefit obligations as it is unlikely that the change in assumptions would occur in isolation of one another as some of the assumptions may be correlated.

IV. Expected maturity analysis of the Post Retirement Medical Benefit plan in future years

(₹ in Crore)

	Post Retirement Medical Benefit	
	As at March 31, 2019	As at March 31, 2018
Less than 1 year	139.44	121.85
Between 1-2 years	150.01	123.81
Between 2-3 years	163.18	126.78
Between 3-4 years	178.49	129.37
Between 4-5 years	194.36	132.78
Between 5-6 years	211.85	138.09
Over 6 years	1,043.45	1,153.04
Total	2,080.78	1,925.72

Expected contributions to Post Retirement Medical Benefit plan for the year ending March 31, 2020 are ₹ 46.06 crore.

The weighted average duration of the post retirement medical benefit plan obligation at the end of the reporting period is **11.97** years (March 31, 2018: 12.84 years).

V. Risk Exposure

Valuations are based on certain assumptions, which are dynamic in nature and vary over time. As such Company is exposed to various risks such as increase in medical cost, investment risk, discount rate, mortality, disability and withdrawals.

C. Provident Fund

The Company pays fixed contribution to provident fund at predetermined rates to a separate trust, which invests the funds in permitted securities. The Company has an obligation to ensure minimum rate of return to the members as specified by GOI. Accordingly, the Company has obtained report of the actuary. Wherever as per the actuarial valuation certificate liability for likely interest shortfall arises, the same has been provided in the accounts.

I. Details of interest shortfall in PF Trust

(₹ in Crore)

	For the year ended	
	2018-19	2017-18
Excess / (shortfall) in PF interest liability based on actuarial valuation for the year	(5.15)	1.72
Accumulated provision for shortfall in PF interest liability based on actuarial valuation	6.96	1.81
Remeasurement gain/(loss) recognised through other comprehensive income statement	(12.53)	10.39
Interest shortfall / (surplus) accounted through Statement of Profit & Loss	(7.38)	8.67

The Company has PF trusts located at various places covering the employees of the Company and managed separately, the details of plan assets and obligations are as follows :

(₹ in Crore)

Location	Defined benefit obligation		Fair value of plan assets		Surplus / (Shortfall)	
	As at					
	March 31, 2019	March 31, 2018	March 31, 2019	March 31, 2018	March 31, 2019	March 31, 2018
BHEL EPF Trust, Ranipur, Hardwar	1379.70	1359.02	1387.17	1,362.23	7.47	3.21
BHEL Employee Provident Fund, Trichy	1119.51	1094.10	1119.83	1,094.87	0.32	0.77
BHEL Employee Provident Fund, Bhopal	1176.79	1081.53	1175.50	1,088.32	(1.29)	6.79
BHEL New Delhi Employees Provident Fund Trust	1008.05	882.34	1018.78	894.53	10.73	12.19
BHEL Employee Provident Fund, Hyderabad	811.28	840.78	835.87	878.01	24.59	37.23
BHEL PPD EPF Trust, Chennai	656.18	563.21	651.53	561.40	(4.65)	(1.81)
BHEL Employee Provident Fund, Bengaluru	613.12	544.91	616.44	549.86	3.32	4.95
BHEL (BAP Unit) EPF Trust, Ranipet	392.94	363.29	391.92	363.87	(1.02)	0.58
BHEL Employee Provident Fund Trust, Jhansi	365.26	355.32	371.89	361.43	6.63	6.11
Bharat Heavy Plates & Vesseles Limited Employee Contributory Provident Fund, Visakhapatnam	118.79	104.17	165.08	147.60	46.29	43.43
Total	7641.62	7188.67	7734.01	7302.12	92.39	113.45

II. Movement in net defined benefit (asset)/liability on Provident Fund

(₹ in Crore)

	BHEL Employees Provident Fund Trust (Consolidated)			
	Defined benefit obligation		Fair value of plan assets	
	As at March 31,2019	As at March 31,2018	As at March 31,2019	As at March 31,2018
Opening balance	7,188.67	6,876.55	7,302.12	6,966.80
Included in Profit for the year :				
Current service cost	341.66	278.82	-	-
Interest cost / (income)	567.91	517.97	567.91	517.97
Total amount recognised in profit for the year #	909.57	796.79	567.91	517.97
Included in other comprehensive income (OCI):				
Remeasurement loss (gain):				
Actuarial loss (gain) arising from:				
Demographic assumptions	-	-	-	-
Financial assumptions	0.36	(0.98)	-	-
Experience adjustment	43.77	18.35	23.07	54.48
Total amount recognised in other comprehensive income#	44.13	17.37	23.07	54.48
Others				
Contributions paid by the employer	698.53	499.81	341.66	263.69
Employee Contribution	-	-	698.53	501.03
Benefits paid	(1,363.08)	(1,095.01)	(1,363.08)	(1,095.01)
Settlements/Transfer-in	163.80	93.16	163.80	93.16
Closing balance	7,641.62	7,188.67	7,734.01	7,302.12

Note: Interest shortfall in respect of PF trust having deficit only have been accounted through statement of profit and loss and other comprehensive income statement as shown under point (I) above.

III. Details of plan assets

(₹ in Crore)

	As at March 31,2019	As at March 31,2018
Govt. of India securities	1499.90	1271.09
State Government securities	2698.48	2458.59
Corporate bonds	2612.37	2605.41
Equity shares of listed companies	382.54	303.53
Special deposit	495.33	626.67
Liquid fund	25.13	13.99
Short term deposit	1.82	3.59
Mutual fund	18.44	19.26
Total	7,734.01	7,302.12

IV. Actuarial assumptions

The following were the principal actuarial assumptions at the reporting date.

	As at March 31,2019	As at March 31,2018
Economic assumptions:		
Discount rate	7.75%	7.90%
Expected statutory interest rate on the ledger balance	8.65%	8.55%
Expected short fall in interest earnings on the fund	0.05%	0.05%
Demographic assumptions:	60	60
Mortality table	100% of IALM (2006-08)	
Withdrawal rate % (All ages)		
Upto 30 years	3%	3%
From 31 to 44 years	2%	2%
Above 44 years	1%	1%

V. Sensitivity analysis

The sensitivity of the defined benefit obligation to changes in the significant principal assumptions is:

(₹ in Crore)

	BHEL Employees Provident Fund Trust			
	As at March, 31 2019		As at March, 31 2018	
	Increase	Decrease	Increase	Decrease
Change in discount rate (0.50% movement)	(1.25)	1.29	(1.72)	1.82

VI. Expected maturity analysis in future years

(₹ in Crore)

	Provident Fund	
	As at March 31,2019	As at March 31,2018
Within the next 12 months	798.36	870.91
Between 2-5 years	1,450.20	1,859.38
Between 5-10 years	1,095.62	1,217.58
Beyond 10 years	4,297.44	3,240.80
Total	7,641.62	7,188.67

D. Travel claim on retirement - (Settlement Allowance - Unfunded Plan)

The settlement allowance is the expenditure reimbursed to an employee towards travel and shifting of baggage for proceeding to home town or any place in India where he or she intends to settle after retirement or death in service for self (including members of his/her family).

I. Movement in net defined benefit (asset)/liability

(₹ in Crore)

	Defined benefit obligation		Fair value of plan assets		Net defined benefit (asset) liability	
	As at March 31,2019	As at March 31,2018	As at March 31,2019	As at March 31,2018	As at March 31,2019	As at March 31,2018
Opening balance	8.44	9.12	-		8.44	9.12
Included in Profit for the Year :						
Current service cost	0.49	0.47			0.49	0.47
Interest cost / income	0.67	0.68			0.67	0.68
Total amount recognised in profit for the year	1.16	1.15	-	-	1.16	1.15
Included in other comprehensive income (OCI):						
Remeasurement loss (gain):						
Actuarial loss (gain) arising from:						
Demographic assumptions			-	-	-	-
Financial assumptions	0.20	(0.27)			0.20	(0.27)
Experience adjustment	(0.03)	(0.83)			(0.03)	(0.83)
Total amount recognised in other comprehensive income	0.17	(1.10)	-	-	0.17	(1.10)
Others						
Contributions paid by the employer	-	-	-	-	-	-
Benefits paid	(1.24)	(0.73)			(1.24)	(0.73)
Closing balance	8.53	8.44	-	-	8.53	8.44

II. Actuarial assumptions

The following were the principal actuarial assumptions at the reporting date.

	Settlement Allowance	
	As at March 31,2019	As at March 31,2018
Economic assumptions:		
Discount rate	7.75%	7.90%
Salary escalation rate	6.60% P.A. for 1st 4 yrs. & then 6% P.A. thereafter	6.60% P.A. for 1st 4 yrs. & then 6% P.A. thereafter
Demographic assumptions:		
Retirement age	60	60
Mortality table	100% of IALM (2006-08)	
Withdrawal rates (All ages)		
Upto 30 Years	3%	3%
From 31 to 44 years	2%	2%
Above 44 years	1%	1%

III. Sensitivity analysis

The sensitivity of the defined benefit obligation to changes in the significant principal assumptions is:

(₹ in Crore)

	Settlement Allowance			
	As at March, 31 2019		As at March, 31 2018	
	Increase	Decrease	Increase	Decrease
Change in discount rate (0.50% movement)	(0.32)	0.32	(0.33)	0.35

IV. Expected maturity analysis of the Settlement allowance in future years

(₹ in Crore)

	Settlement Allowance	
	As at March 31,2019	As at March 31,2018
Less than 1 year	1.14	1.21
Between 1-2 years	0.89	1.08
Between 2-3 years	0.67	0.83
Between 3-4 years	0.59	0.65
Between 4-5 years	0.43	0.57
Between 5-6 years	0.39	0.42
Over 6 years	4.42	3.68
Total	8.53	8.44

II. Long Term Leave Liability (Encashable Leave -EL /Half Pay Leave-HPL) - (Unfunded Plan)

The Company provides for earned leave benefit and half pay leave to the employees of the company which accrue half yearly at 15 days (maximum) and 10 days respectively. The earned leave is encashable while in service. On retirement/superannuation, earned leave & half pay leave put together upto a maximum of 300 days is encashable subject to company policies & leave encashment rules. The leave liability has been treated as other long term benefits and has been assessed using projected unit credit actuarial method.

I. Movement in net defined benefit (asset)/liability

(₹ in Crore)

	Long Term Leave Liability	
	As at March 31,2019	As at March 31,2018
Opening balance	1,525.65	1,769.49
Included in profit for the year :		
Current service cost	174.81	146.37
Interest cost (income)	120.53	132.71
Actuarial loss (gain)	(23.38)	137.08
Total amount recognised in profit for the year	271.96	416.16
Others		
Contributions paid by the employer		
Benefits paid	305.55	660.00
Closing balance	1,492.06	1,525.65

II. Actuarial assumptions

The following were the principal actuarial assumptions at the reporting date.

	Long Term Leave Liability	
	As at March 31,2019	As at March 31,2018
Economic assumptions:		
Discount rate	7.75%	7.90%
Salary escalation rate	6.60% P.A. for 1st 4 yrs. & then 6% P.A. thereafter	6.60% P.A. for 1st 4 yrs. & then 6% P.A. thereafter
Demographic assumptions:		
Retirement age	60	60
Mortality table	100% of IALM (2006-08)	
Withdrawal rates (All ages)		
Upto 30 Years	3%	3%
From 31 to 44 years	2%	2%
Above 44 years	1%	1%

Note [50] - Related Parties Transactions

i) Subsidiary company:	Joint ventures:	Others :
BHEL Electrical Machines Limited	BHEL-GE Gas Turbine Services Pvt. Ltd. (BGGTS) NTPC-BHEL Power Projects Pvt. Ltd. (NBPPL) Raichur Power Corporation Ltd. (RPCL) Dada Dhuniwale Khandwa Power Ltd. Powerplant Performance Improvement Ltd.	Central Government controlled entities Provident fund trusts Gratuity trusts, PRMB Trust, Pension Trust

ii) Other related parties (Key Management Personnel- Functional Directors: existing and retired and Company Secretary):

Name of the Related Parties	Nature of Relationship
Shri Atul Sobti	Chairman & Managing Director
Shri D. Bandyopadhyay	Director (Human Resources)
Shri Subodh Gupta	Director (Finance) (w.e.f April 18, 2018)
Shri S. Balakrishnan	Director (IS & P) (w.e.f June 1, 2018)
Shri Manoj Kumar Varma	Director (Power) (w.e.f December 19, 2018)
Shri Kamlesh Das	Director (Engineering, R&D) (w.e.f March 1, 2019)
Shri Amitabh Mathur	Director (IS & P) (upto May 31, 2018)
Shri S. Biswas	Director (Engineering, R&D) (upto February 28, 2019)
Shri Akhil Joshi	Director (Power) (upto September 30, 2018)
Shri Rajeev Kalra	Company Secretary (w.e.f December 17, 2018)
Shri I.P Singh	Company Secretary (upto December 16, 2018)
Shri S. Basu	Chairman & Managing Director - BHEL EML

(₹ in Crore)

Key Management Personnel (KMP)	For the year ended	
	March 31, 2019	March 31, 2018
Payment of Salaries	4.70	3.20
Relatives of KMP		
Amounts due to BHEL at the end of the year	0.01	-
Details of transactions		
Short-term employee benefits	4.10	2.76
Post-employment benefits	0.60	0.44
Total remuneration paid	4.70	3.20

One Engineer and Shri. S. Basu, Managing Director are on deputation from BHEL and their salaries and perks are being paid by BHEL.

The Company is a Central Public Sector Undertaking under the administrative control of Ministry of Heavy Industries and majority of its stake is held by Government of India. The significant transactions are with other PSUs, State owned utilities, Railways etc. which are also controlled by Govt. of India directly or indirectly. The transactions with such entities are normal, based on market driven rates at arms length price.

Details of Transactions With Joint Ventures and Balances

(₹ in Crore)

Particulars	For the year ended							
	March 31, 2019	March 31, 2018	March 31, 2019	March 31, 2018	March 31, 2019	March 31, 2018	March 31, 2019	March 31, 2018
	BGGTS		RPCL		NBPPL		Total	
Sales of goods and services	278.33	196.48	34.94	91.22	6.08	77.27	319.35	364.97
Dividend income	16.18	14.76	-	-	-	-	16.18	14.76
Royalty income	1.17	0.90	-	-	-	-	1.17	0.90
Purchase of goods and services	0.98	1.02	-	-	4.83	7.38	5.81	8.40
Purchase of shares	-	-	-	74.72	-	-	-	74.72
Amounts due to BHEL at the end of the year	76.98	48.06	510.71	484.76	280.93	310.43	868.62	843.25
Amounts due from BHEL (incl. advances) at the end of the year	0.35	0.08	11.00	16.94	82.52	90.58	93.87	107.60
Provision for doubtful debts & advances	0.70	0.22	-	-	1.64	23.34	2.34	23.56

Note [51] - Disclosure [Movement in provisions] - Ind AS - 37

(₹ in Crore)

a	Liquidated Damages	As at March 31, 2019	As at March 31, 2018
	Opening balance	5848.50	3883.84
	Add: Additions	1967.45	2181.25
	Less: Usage/ Write off/payment	12.67	1.29
	Less: Withdrawal/adjustments	253.63	215.30
	Closing Balance	7549.65	5848.50

Liquidated damages are provided in line with the Accounting Policy of the Company and the same is dealt suitably in the accounts on settlement or otherwise. Contingent liability relating to liquidated damages is shown in Para A (i)(g) of Note 42.

(₹ in Crore)

b	Contractual Obligation	As at March 31, 2019	As at March 31, 2018
	Opening balance	5331.32	5227.97
	Add: Borrowing cost	190.93	190.96
	Add: Additions	892.15	1055.19
	Less: PV adjustment	156.71	302.11
	Less: Usage/ Write off/payment	128.65	223.56
	Less: Withdrawal/adjustments	851.48	661.53
	Add/(Less): Change in estimate and rates	9.25	44.40
	Closing Balance	5286.81	5331.32

The provision for contractual obligation is made considering the effect of time value of money in line with significant Accounting Policy No. 10 to meet the warranty obligations as per the terms and conditions of the contract. The same is retained till the completion of the warranty obligations of the contract. The actual expenses on warranty obligation may vary from contract to contract and on year to year depending upon the terms and conditions of the respective contract.

Note [52] - Disclosure - Revenue from Contracts with Customers - Ind AS-115

Ministry of Corporate Affairs (MCA) has notified new Ind AS 115- Revenue from contract with customers from April 1, 2018. The new Ind AS replaces existing revenue recognition standard Ind AS 11 (construction contracts) and Ind AS 18 (Revenue). The standard permits retrospective approach with cumulative effect of initially applying the standard (cumulative catch-up approach). The company has opted cumulative catch-up approach with transition adjustment in opening retained earnings as on April 1, 2018.

a. Impact on the Company's retained earnings as at April 01, 2018

(₹ in Crore)

Movement in retained earnings	
Retained earnings - (Opening as on April 01, 2018)	(251.29)
Add/(Less): Re-measurement of contract asset (Fair value of consideration) & deferred liabilities	194.46
Add/(Less) :Impact on deferred tax assets (Net)	(67.97)
Ind AS 115 transition impact	126.49
Retained earnings - adjusted with Ind AS 115 impact	(124.80)

b. Movement in impairment provisions

(₹ in Crore)

	2018-19		2017-18	
	Trade receivables	Contract assets	Trade receivables	Contract assets
Opening balance	6105.35	719.38	5861.8	325.74
Add: Additions	934.03	101.96	712.9	437.76
Less: Write off	25.92	0.11	8.22	-
Less: Reversal	611.53	166.50	461.13	44.12
Closing balance	6401.93	654.73	6105.35	719.38

c. Disaggregation of revenue from contracts with customers

(₹ in Crore)

Particulars	Power		Industry		Total
	Within India	Outside India	Within India	Outside India	

2018-19

Revenue from customers

Timing of revenue recognition

(a) At a point in time (product/services)	2830.48	22.30	3758.94	28.41	6640.13
(b) Over time	17447.70	3104.48	2172.22	3.32	22727.72

2017-18

Revenue from customers

Timing of revenue recognition

(a) At a point in time (product/services)	2386.22	9.29	3475.98	22.74	5894.23
(b) Over time	19831.81	653.72	1483.53	1.55	21970.61

(₹ in Crore)

Particulars	2018-19		2017-18	
	Power	Industry	Power	Industry
Revenue from customers				
CPSU	5323.43	2320.06	6235.82	1880.26
Railways	-	1595.98	-	1177.88
TANGEDCO	5331.04	-	3637.73	-
TSGENCO	4544.66	-	2777.84	-

d. Contract balances (net of provisions)

(₹ in Crore)

Particulars	As at March 31,2019	As at March 31,2018
Trade receivables	15947.01	17503.23
Contract assets (incl. unbilled revenue)	22296.77	17992.17
Contract liabilities	6839.61	7573.70

e. Contract revenue recognised

(₹ in Crore)

Particulars	As at March 31,2019	As at March 31,2018
Revenue recognised against contract liabilities (adjustment of customer advances and valuation adjustment during the year)	2573.84	2923.51
Revenue recognised against performance obligation satisfied in previous year (impact due to change in contract revenue)	210.44	85.74

Construction of power projects is a long cycle business, where the contracts received by the company are either EPC contracts (Engineering, Procurement & Construction) or BTG Packages (i.e. Boiler, Turbine and Generator packages). Power projects are long gestation period projects with normal execution period of contract ranging between 3 to 5 years. BHEL scope of services includes supply of equipment, erection, commissioning, synchronizing the plant to the grid, completing the trial operation and providing the guaranteed parameters.

Although there are several components to the overall scope, such projects are generally considered one performance obligation. The control transfers simultaneously over the execution period as the entity performs rather than at discrete points in time and hence revenue is recognized over the period of time based on measure of progress (input cost method)

Note [53] - Disclosure pursuant to Ind AS-107 [Financial Instruments - Accounting classifications and fair value measurements]

- a The Fair value of cash and cash equivalents, bank balances, loans, trade receivables, trade payables and others reasonably approximates their carrying amount. Trade receivables are evaluated after taking into consideration for Expected Credit Losses. Company uses the following hierarchy for determining and disclosing the fair value of financial instruments by valuation technique.

Fair value hierarchy

The fair value of financial instruments have been classified in following categories depending on the inputs used in the valuation technique.

Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2: inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e., as prices) or indirectly (i.e., derived from prices)

Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs)

b Financial Assets / Liabilities Classification

(₹ in Crore)

Particulars	Carrying Amount	
	As at March 31,2019	As at March 31,2018
Financial Assets at amortised cost		
Trade Receivables	15947.01	17503.23
Cash & Cash equivalent	795.74	2768.81
Other Bank Balances	6707.80	8407.47
Loans	240.53	228.67
Other Financial Assets	165.40	153.28
Financial Assets at Fair value through Profit & Loss		
Investments (Equity Instruments)	2.94	2.92
Financial Liabilities at amortised cost		
Trade Payables	12083.85	11071.00
Other Financial Liabilities	2098.67	2340.09
Finance Lease Obligation	158.31	102.88
Short Term Borrowings	2470.11	10.28

(₹ in Crore)

Financial assets and liabilities measured at fair value- recurring fair value measurements	Level 3 Hierarchy	
	As at March 31,2019	As at March 31,2018
Financial assets:		
Investment in Unquoted Equity Instruments	2.94	2.92

c Valuation Techniques used to determine fair value

Fair value of unquoted equity instruments is determined using Level 3 inputs which include inputs from the financial statements of the investee Company based on Net asset value per share.

Reconciliation of fair value measurement of unquoted equity shares classified as FVTPL assets

(₹ in Crore)

As at March 31, 2018	2.92
Changes in fair value	0.02
As at March 31, 2019	2.94

Financial Risk Management

Objectives and Policies

The company's activities are exposed to different financial risks arising out of natural business exposures to any company operating in the sector. The management of financial risk has always been an integral part of the company's business strategies and policies. The company reviews and aligns its policies and guidelines from time to time to address the financial risks in line with the needs and expectations of its various stakeholders. Exposure risk from the use of financial instruments can be categorized as under:

- Credit risk
- Liquidity risk
- Market risk

This note presents information about the Company's exposure to each of the above risks, the Company's objectives, policies and processes for measuring and managing risk, and management of Company's capital. Further quantitative disclosures are included throughout these financial statements.

Risk management framework

BHEL has in place a Board approved Risk Management Charter & Policy which provides overall framework for Risk Management in the company. The objective of the charter is to ensure that the risks are being properly identified, assessed and effectively managed by adopting suitable risk mitigation measures. The company has 3-layer risk management framework. At the first level, the Board Level Risk Management Committee (BLRMC) of the company is assigned with responsibility of reviewing the company's Risk Governance structure, Risk Assessment & Risk Management framework, Guidelines, Policies and Processes thereof. Risk Management Steering Committee (RMSC) at the second level is responsible for adopting & implementing the risk management framework and leading the risk management initiative across the company. Chief Risk Officer (CRO) being the convener of BLRMC & RMSC is responsible for periodic reporting on risk management to Board/ BLRMC. Key risks being faced by the company are analysed starting from Unit level for their respective areas to prepare risk mitigation plans and to ensure implementation.

A. Management of Credit Risk

Credit risk is considered as an integral part of risk reward balance of doing business. BHEL is involved in setting up of power projects pertaining to Government sector (State utilities, PSU's, Railways and other govt. departments etc.) and private sectors in India and abroad. The projects are generally funded by Financial Institutions/ banks or payments are covered by Letter of Credit (LC). The project duration ranges from 3 to 5 years and payments are generally realised in stages as per the terms of the contract including advance, progress payments, milestone payments and also retentions which are released on completion of such projects. Since majority customers profile pertains to Government sector, constituting 81% of total receivables coupled with the fact that the company itself is a CPSE, credit risk is relatively low. In respect of private sectors customers, the payment terms are mainly through LC. The company has well established review mechanism for receivables at various levels within organisation to ensure proper attention and focus for realisation in line with the company policies, procedures and guidelines. The company uses expected credit loss model to assess the impairment loss or gain and the disclosure of the same is made elsewhere. Further, adequate provisions are maintained to address any eventuality.

(i) Exposure to credit risk

The carrying amount of financial assets represents the maximum credit exposure. The maximum exposure to credit risk at the reporting date was:

The carrying amount of financial assets represents the maximum credit exposure. The maximum exposure to credit risk at the reporting date was:

(₹ in Crore)

Particulars	As at March 31, 2019	As at March 31, 2018
Financial assets for which loss allowance is measured using 12 months expected credit losses (ECL)		
Cash and Cash Equivalents	795.74	2768.81
Other Bank Balances	6707.80	8407.47
Loans	240.53	228.67
Other Financial Assets	165.40	153.28
Financial assets for which loss allowance is measured using Life time expected credit losses (ECL) including impairment loss		
Trade Receivables	15947.01	17503.23

Concentration of credit risk- Geographical	Percentage of total revenue	
	As at March 31, 2019	As at March 31, 2018
Within India	93.46%	96.61%
Outside India	6.54%	3.39%

The company's exposure to credit risk for trade receivables, contract assets and other receivables by type of counterparty are as follows –

Particulars	Percentage of total trade receivables	
	As at March 31, 2019	As at March 31, 2018
Central Public Sector Undertakings incl Railways and Govt Deptt	31.81%	32.92%
State Electricity Boards	49.94%	47.35%
Private Customers and others	11.70%	16.34%
Exports	6.54%	3.39%
	100%	100%

(ii) Impairment losses
(a) Financial assets for which loss allowance is measured using 12 month expected credit losses

The company has assets where the counter- parties have sufficient capacity to meet the obligations and where the risk of default is very low.

The movement in the allowance for impairment in respect of loans during the year was as follows:

(₹ in Crore)

	As at March 31, 2019	As at March 31, 2018
Balance as at April 1	22.29	18.04
Impairment loss recognised / write off/ withdrawl	0.05	4.25
Balance as at March 31	22.34	22.29

(b) Reconciliation of impairment loss provisions

The movement in the allowance for impairment in respect of trade receivables and contract assets during the year was as follows:

(₹ in Crore)

	As at March 31, 2019	As at March 31, 2018
Balance as at April 1	6824.73	6187.54
Impairment loss recognised	1035.99	1150.66
Amounts written off/ withdrawl	(804.06)	(513.47)
Balance as at March 31	7056.66	6824.73

The Company makes investments out of surplus funds as per investment policy of the Company duly approved by the Board and in line with the DPE guidelines. Credit risk on cash and cash equivalents and term deposits is very limited as the company generally invests' in deposits with banks and financial institutions with high credit ratings assigned by credit rating agencies.

B. Management of Liquidity risk

The Company manages liquidity risk by maintaining sufficient cash and cash equivalents including term deposits and the availability of Funding through an adequate amount of credit facilities to meet obligations as and when due. Robust cash management system and regular monitoring of cash flows enables management to plan and maintain adequate sources to finance its funds requirement throughout the year. Besides adequate cash and bank balances, company enjoys credit facilities. The company is able to meet all its fund requirements from internal resources i.e. the funds generated from operations and also through short-term borrowings used for better treasury management operations to optimise the returns on investments.

The following are the contractual maturities of non-derivative financial liabilities, based on contractual cash flows:

Financial Liabilities	As at March 31,2019		As at March 31,2018	
	Within 1 year	exceeding 1 year	Within 1 year	exceeding 1 year
Non-derivative financial liabilities				
Trade payables	11380.98	702.87	10589.25	481.75
Deposits from contractors and others	522.27	84.93	492.30	110.43
Finance lease obligations	62.86	95.45	45.70	57.18
Other payables/liabilities				
Employee dues	512.14		856.19	
Other dues	884.22		765.81	
Capex dues	88.75	6.36	111.38	3.98
Short term borrowings	2470.11		10.28	
Total	15921.33	889.61	12870.91	653.34

C. Management of Market risk

The Company is exposed to certain currency,commodity, interest rate risks arising from its operations. The company has foreign exchange risk management policy to cover the foreign exchange risks.To insulate the company against major commodity price fluctuation,framework agreements including price pass through claims are being entered regularly with supply chain partners including suppliers and customers. Surplus funds generated from operation are kept invested in short term deposits with PSU Banks or large sized private banks only and in debt based schemes of public sector mutual funds , thereby minimizing any chance of risk.

Foreign currency risk exposure :- The company's exposure to foreign currency risk at the end of reporting period, are as follows:

- (i) The derivative instruments that are hedged and outstanding as on 31.03.2019 is **Nil** (previous year Nil)
- (ii) The foreign currency exposures that are not hedged by a derivative instrument or otherwise are as under:

FC' in Million
(₹ in Crore)

Particulars	As at		As at		As at	
	March 31, 2019		March 31, 2018		March 31, 2019	March 31, 2018
Assets	Euro	Equivalent INR	Euro	Equivalent INR	Others INR	Others INR
Trade Receivable	187.45	1441.89	153.26	1222.56	52.22	4.91
Contract assets	270.26	2080.95	251.80	2005.21	72.17	63.16
Other assets	14.74	114.21	22.26	162.84	195.45	164.97
Sub Total (A)	472.45	3637.05	427.32	3390.61	319.84	233.04
Liabilities						
Advances from customer	45.96	316.67	46.83	318.77	38.69	40.90
Trade payables and others	62.42	494.44	73.50	600.16	288.55	401.77
Sub Total (B)	108.38	811.11	120.33	918.93	327.24	442.67
Assets (Net of Liabilities)	364.07	2,825.94	306.99	2,471.68	(7.40)	(209.63)
Assets	USD	Equivalent INR	USD	Equivalent INR		
Trade Receivable	226.08	1555.43	184.34	1188.72		
Contract assets	259.71	1780.33	200.65	1293.59		
Other assets	2.87	18.82	4.97	32.16		
Sub Total (A)	488.66	3354.58	389.96	2514.47		
Liabilities						
Advances from customer	155.49	957.72	291.77	1832.81		
Trade payables and others	124.91	871.61	97.64	646.47		
Short Term Borrowings	51.31	357.27	-	-		
Sub Total (B)	331.71	2186.60	389.41	2,479.28		
Assets (Net of Liabilities)	156.95	1,167.98	0.55	35.19		

The above figures are net of provisions, if any

Sensitivity analysis

The impact of strengthening/weakening of the Indian Rupee vis-a-vis USD, EURO and others as at year end on profit or loss is as shown below. This analysis is based on foreign currency exchange rate variances that the company considered to be reasonably possible at the end of the reporting period. The analysis is performed on the same basis for previous year, albeit that the reasonably possible foreign exchange rate variances were different, as indicated below.

Particulars	As at			
	March 31, 2019		March 31, 2018	
Effect on Profit/(loss)	Strengthening	Weakening	Strengthening	Weakening
1% movement				
Euro	28.26	(28.26)	24.72	(24.72)
USD	11.68	(11.68)	0.35	(0.35)
Others	(0.07)	0.07	(2.10)	2.10

D. Capital Management

The company's objective, while managing capital is to continue business as a going concern, safeguard, preserve and enhance its capital to provide maximum return to shareholders, benefits to other stakeholders and to maintain an optimal capital structure to reduce the cost of capital. The Board of Directors also monitors the level of dividends to equity shareholders. The Company monitors capital, using a medium term view and long term view, on the basis of a number of financial ratios generally used by industry as well as by the rating agencies. The Company is not subject to externally imposed capital requirements. The Company's capital structure is managed against the various financial ratios as required to maintain highest credit ratings. The Board of Directors monitors the return on capital.

The Company's return on capital is **3.27 %** for Financial year 2018-19 in comparison to 1.36 % for Financial year 2017-18.

Note [54] - Consolidated operating segment

The Segments have been identified as 'Power' and 'Industry' based on the orders booked by the respective business sectors. The order booked by International operation group is taken to Power or Industry as the case may be.

The Company's Committee of functional Directors has been identified as Chief Operating Decision maker (CODM).

(₹ in Crore)

	For the year ended March 31, 2019			For the year ended March 31, 2018		
	Power	Industry	Total	Power	Industry	Total
I. Segment Revenue						
a. Segment Revenue	23404.96	5962.89	29367.85	22881.04	4983.80	27864.84
II. Segment Results						
a. Segment Results	2812.18	431.59	3243.77	2792.14	172.75	2964.89
b. Unallocated expenses (Net of income and share of joint ventures)			1105.66			1494.86
c. Profit before finance cost & Income tax (a)-(b)			2138.11			1470.03
d. Finance cost (Includes unwinding of Interest)			288.01			255.16
e. Net Profit before Income Tax (c) - (d)			1850.10			1214.87
f. Income Tax			840.94			776.68
g. Net Profit after Income Tax (e) - (f)			1009.16			438.19
III Assets & Liabilities						
a. Segment Assets	45185.71	9393.19	54578.90	40812.66	8544.93	49357.59
b. Common Assets			9340.37			14116.02
c. Total Assets			63919.27			63473.61
d. Segment Liabilities	24823.96	5286.31	30110.27	24541.30	4829.44	29370.74
e. Common Liabilities			2943.34			1771.93
f. Total Liabilities			33053.61			31142.67
IV Other Information						
a. Capital Expenditure	255.08	81.88		186.74	48.07	
b. Depreciation & Amortization	343.34	88.41		589.56	154.14	
c. Non Cash Expenses (other than depreciation & amortization)	1160.35	31.08		1867.25	320.54	

Geographical Segments	Within India	Outside India	Total	Within India	Outside India	Total
1 Net Sales / Revenue from Operations	26209.34	3158.51	29367.85	27177.54	687.30	27864.84
2 Non- Current Assets (PPE & Intangible Assets)	3191.95	13.95	3205.90	3251.78	24.19	3275.97
3 Capital Expenditure	378.65	24.23	402.88	256.06	13.66	269.72

Major Customer- Details of Revenue from Single Customer exceeding 10% of total revenue of the BHEL

	Power	Industry	Total	Power	Industry	Total
CPSUs	5323.43	2320.06	7643.49	6235.82	1880.26	8116.08
Railways		1595.98	1595.98		1177.88	1177.88
TANGEDCO	5331.04		5331.04	3637.73		3637.73
TSGENCO	4544.66		4544.66	2777.84		2777.84

Note [55] - Additional information

(₹ in Crore)

Name of the entity in the Group	Financial Year	Net Assets, i.e., total assets minus total Liabilities		Share in profit or loss		Share in other Comprehensive Income		Share in total Comprehensive Income	
		As % of Consolidated Net results	Amount	As % of Consolidated Profit or loss	Amount	As % of Total Other Comprehensive Income	Amount	As % of Total Comprehensive Income	Amount
BHEL	2018-19	99.56	30729.97	118.93	1200.21	100.03	(119.18)	121.46	1081.03
	2017-18	98.76	31930.16	190.55	834.97	99.82	83.33	176.03	918.30
Subsidiary-									
BHEL Electrical Machines Limited (BHEL EML)	2018-19	(0.02)	(7.00)	(0.28)	(2.78)	(0.01)	0.01	(0.31)	(2.77)
	2017-18	(0.01)	(4.22)	(0.70)	(3.07)	(0.02)	(0.02)	(0.59)	(3.09)
Non-controlling Interests in BHEL EML	2018-19	(0.02)	(6.73)	(0.26)	(2.67)	0.00	0.00	(0.30)	(2.67)
	2017-18	(0.01)	(4.05)	(0.67)	(2.95)	(0.01)	(0.01)	(0.57)	(2.96)
Joint Ventures (investment as per the equity method)-									
BHEL-GE Gas Turbine Services Private Limited	2018-19	0.48	149.42	2.68	27.03	(0.02)	0.02	3.04	27.05
	2017-18	0.43	138.55	5.44	23.82	0.22	0.18	4.60	24.00
NTPC-BHEL Power Projects Private Limited	2018-19	0.00	0.00	(0.73)	(7.38)	-	-	(0.83)	(7.38)
	2017-18	0.01	4.40	(8.75)	(38.35)	0.00	0.00	(7.35)	(38.35)
Raichur Power Corporation limited	2018-19	0.00	0.00	(20.34)	(205.25)	-	-	(23.06)	(205.25)
	2017-18	0.82	266.10	(85.86)	(376.23)	0.00	0.00	(72.12)	(376.23)
Total	2018-19	100.00	30,865.66	100.00	1009.16	100.00	(119.15)	100.00	890.01
	2017-18	100.00	32330.94	100.00	438.19	100.00	83.48	100.00	521.67

Note [56]

As per SEBI (Listing Obligations & Disclosure Requirements) Regulations, 2015, the requisite details of loans and advances in the nature of loans, given by the Company are given below:

i) In respect of Subsidiary Company:

(₹ in Crore)

	As at	
	March 31, 2019	March 31, 2018
BHEL Electrical Machines Ltd.		
Loans and advances in the nature of loans outstanding	3.00	3.00
Maximum amount of loans and advances in the nature of loans outstanding during the year	3.00	3.00

ii) No loans have been given (other than loans to employees), wherein there is no repayment schedule or repayment is beyond seven years; and

iii) There are no loans and advances in the nature of loans, to firms/companies, in which directors are interested.

Note [57]

Assets and Liabilities are classified between Current and Non-current considering 12 months period as operating Cycle.

Note [58]

Based on recommendation of 3rd pay revision committee for CPSE's and pursuant to the issue of Presidential Directives the payment of pay revision arrears to executives due w.e.f 01.01.2017 have been made during FY 2018-19. For Supervisors and Workers also the payment of pay revision arrears due from 01.01.2017 have been made on wage settlement with Unions. The total arrear amount on this account was approx ₹ 1940 crore from 01.01.2017 to 31.03.2019 out of which an amount of ₹ 1306 crore had been provided till 31.03.2018 and balance in FY 2018-19. A sum of ₹ 1475 crore towards pay arrear have been disbursed during FY 2018-19.

Note [59]

Weighted average cost of borrowing at **8.14%** (previous year @ 8.30%) as at the year end has been considered for working out present value of long term provisions and expected credit loss.

Note [60]

Recent Accounting Developments

Standard's issued but not yet effective

Ind AS 116 [Leases]

On March 30,2019, the Ministry of Corporate affairs (MCA) issued the Companies(Indian Accounting Standards) Amendment rules, 2019, notifying Ind AS - 116, Leases. The standard is applicable to the Company with effect from April 1, 2019 and will replace the existing Ind AS 17 (leases) and related interpretations.

This Ind AS sets out the principles for the recognition,measurement,presentations and disclosure of Leases for the Lessee and the Lessor.It requires Lessee to recognise assets and liabilities for all lease transaction having lease term of more than 12 months unless the underlying asset is of low value. Under existing Ind AS 17 operating lease expenses are charged to statement of profit & loss. Further,new Ind AS requires extensive disclosures.

The Standard permits retrospective approach in accordance with Ind AS 8 or retrospectively with cumulative effect of initially applying this Standard (cumulative catch-up approach).

Amendment to Ind AS 12 - Income Taxes

MCA has notified amendment to Ind AS 12 Appendix C Uncertainty over income tax treatment applicable from April 1, 2019. It prescribes uncertainty over income tax treatment is to be applied while performing the determination of taxable profit/loss. Amendment to Ind AS 12 also clarifies to recognise the income-tax consequences of dividend in profit or loss, OCI or equity where it originally recognises. The adjustment shall be retrospective in accordance with Ind AS 8 or cumulative catch-up approach.

Amendment to Ind AS 19 - Employee Benefits

On March 30, 2019 MCA notified amendment to Ind AS 19 Employee benefits requiring to use updated assumptions to determine past service cost as net interest for remainder period after a plan amendment, curtailment or settlement.

The company is in the process of examining and evaluating the impact of the said changes on the company's financial statements and will be followed from the effective date of Standards & amendments. However, no material impact is perceived.

Note [61]

Prior period errors which are material are corrected retrospectively by restating the comparative amount for the prior period(s) presented in which such error occurred. For the error occurred before the earliest period presented, the opening balances of assets, liabilities and equity for the earliest period presented are restated.

Note [62]

Figures have been rounded off nearest to ₹ in Crore with two decimal.

Note [63]

Previous year's figures have been regrouped/ rearranged wherever considered necessary.

Note [64]

The Board of Directors has authorised to issue the Financial Statements 2018-19 in its meeting held on May 27, 2019.

For and on behalf of Board of Directors



(Rajeev Kalra)
Company Secretary
M.No.14567



(Subodh Gupta)
Director (Finance)
DIN:08113460



(Atul Sobti)
Chairman & Managing Director
DIN: 06715578

As per our report of even date attached

For Raj Har Gopal & Co.
Chartered Accountants
FRN 002074N



(CA Gopal Krishan)
Partner
M.No.081085

For Tiwari & Associates
Chartered Accountants
FRN- 002870N



(CA Sandeep Sandill)
Partner
M.No.085747

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN- 006228C



(CA. Rajat Jain)
Partner
M.No. 413515

Place : New Delhi

Date : May 27, 2019



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Financial performance trend

(₹ in Crore)

Particulars	2018-19	2017-18	2016-17	2015-16	2014-15
A. Financial Results					
I. Income					
Turnover	29349	27850	27740	25091	29542
Other operational income	1000	963	859	711	852
Revenue from operations	30349	28813	28599	25803	30394
II. Expenses					
Material consumption, erection and engineering expenses	19308	15900	16566	16377	17758
Changes in inventories of FG and WIP	(1073)	736	994	210	(338)
Employee benefits expenses	6261	6067	5395	5380	5450
Manufacture, administration, selling and distribution expenses	2760	2635	2741	2855	3044
Excise duty (net)	-	(113)	152	197	225
Exchange variation (gain) / loss (net)	(67)	(520)	270	(403)	386
Provisions	1076	2282	1444	2075	1667
Depreciation & amortisation expenses	475	786	849	936	1077
Finance costs	287	255	351	359	92
Less: Expenses capitalised for internal use	59	107	25	47	28
Total operating expenses	28969	27922	28737	27939	29333
Operating Profit/(loss) [as per MoU]	1380	891	(138)	(2136)	1061
Add: Other Income	678	694	766	972	1079
Profit / (Loss) before tax	2058	1585	628	(1164)	2140
Tax expense (Net)	842	778	132	(454)	721
Profit / (Loss) after tax	1215	807	496	(710)	1419
Total comprehensive income	1096	890	467	(786)	-
Dividend payout	696	668	387	98	284
Dividend distribution tax	143	136	79	20	57
EBIDTA	2820	2626	1827	131	3309
B. Financial Position					
III. What company owns (Assets)					
Property, plant & equipment and intangible assets	2967	3069	3596	3962	4140
Capital WIP and intangible assets under development	235	203	169	318	518
Non-current investments	669	691	661	664	418
Other non current assets	18690	13991	10069	11435	12632
Deferred tax assets(Net)	3515	3626	3841	3659	2221
Current assets	38340	42138	42894	45125	48538
Total assets	64416	63718	61230	65163	68467

Financial performance trend

(₹ in Crore)

Particulars	2018-19	2017-18	2016-17	2015-16	2014-15
IV. What Company owes (Liabilities)					
Non current liabilities	4506	4287	3809	4634	5420
Non current provisions	5455	4923	5001	7625	6802
Current liabilities	20570	18124	15934	17388	17922
Current provisions	2485	3783	4192	3336	4238
Total liabilities	33016	31117	28936	32982	34382
Equity share capital	696	734	490	490	490
Other equity	30704	31867	31804	31691	33595
V. Net worth	31400	32601	32294	32181	34085
Net worth (excl. OCI)	31541	32623	32399	32257	34085
VI. Capital employed	27650	28772	28284	28204	31346
VII. Financial performance ratios					
Operating profit margin (%)	4.55	3.09	(0.48)	(8.28)	3.49
EBIDTA margin (%)	9.61	9.43	6.59	0.52	11.20
Profit margin (%)	7.01	5.69	2.26	(4.64)	7.24
Return on net worth (%)	3.79	2.48	1.53	(2.14)	4.23
Turnover per employee (₹ lakh)	83	74	70	59	66
VIII. Liquidity ratios					
Current ratio	1.66	1.92	2.13	2.18	2.19
Trade receivable - (no. of days)	167	194	156	183	174
Inventory (no. of days)	101	82	97	140	125
IX. Per share data					
Earning per share (₹)	3.35	2.20	1.35	(1.93)	3.87
Dividend per share (₹)	2.00	1.82	1.05	0.27	0.77
Net worth per share (₹)	90.18	88.80	87.96	87.65	92.84

Note:

1. Turnover and Revenue from operations excludes excise duty & taxes.
2. Dividend payout is interim dividend and proposed final dividend for the year.
3. Per share data restated on bonus issue of 1:2 in 2017-18.
4. Equity share capital at the end of FY 2018-19 is post buyback in January 2019.
5. Figures from FY 2015-16 and onwards are as per Ind AS and for FY 2014-15 are as per IGAAP.
6. Previous year's figures have been regrouped / rearranged, wherever considered necessary.

Year-wise Capital Expenditure

(₹ in Crore)

Category of Investment	2018-19	2017-18	2016-17	2015-16	2014-15
Schemes	112	19	210	80	217
Modernisation and Rationalisation, others	61	164	51	141	119
Customer Project Related Capital Investment	99	66	33	90	59
Total	272	249	294	311	395

Dividend Distribution Policy

1. Scope & Objective

- 1.1 This policy has been formulated in line with Regulation 43A notified vide SEBI (Listing Obligations and Disclosure Requirements) (Second Amendment) Regulations, 2016 on July 8, 2016. The said notification requires top five hundred listed companies (based on market capitalization of every financial year) to formulate a Dividend Distribution Policy, which shall be disclosed in its Annual Report and on its website.
- 1.2 Accordingly, the Company has approved and adopted this Dividend Distribution Policy (the "Policy") at its meeting held April 6, 2017, being the effective date of the Policy.
- 1.3 The intent of the Policy is to broadly specify the parameters (external and internal factors) that shall be considered while declaring dividend and the circumstances under which shareholders of the Company may / may not expect dividend and how the retained earnings shall be utilized, etc.

The Company strives for maximisation of shareholders' value and believes that this can be attained by driving growth. The policy endeavours to strike an optimum balance between

rewarding shareholders through dividend and ensuring that sufficient profits are retained for growth of the Company and other needs.

The Policy is not an alternative to the decision of the Board for recommending dividend, which is made every year after taking into consideration the interest of the Company and all the relevant circumstances enumerated in the policy or other factors as may be decided as relevant by the Board.

2. Definitions

- 2.1 "Board" shall mean Board of Directors of the Company.
- 2.2 "Companies Act" shall mean the Companies Act, 2013 and Rules thereunder, notified by the Ministry of Corporate Affairs, Government of India, as amended from time to time.
- 2.3 "Dividend" includes interim dividend.
- 2.4 "Company" shall mean Bharat Heavy Electricals Limited.
- 2.5 "Policy" means Dividend Distribution Policy.

- 2.6 "Regulations" shall mean the Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015 as notified by The Securities and Exchange Board of India, as amended, from time to time.
- 2.7 "Stock Exchange" shall mean a recognised Stock Exchange as defined under clause (f) of Section 2 of the Securities Contracts (regulation) Act, 1956, where shares of the company are listed.

3. Factors including financial parameters that shall be considered while declaring and pay-out decision on dividend of the Company:

3.1 External Factors

- 3.1.1 Economic and Business Environment: Macro Economic conditions including present and likely business scenario will be considered while declaration of dividend in any year.
- 3.1.2 Status of Industry: Prevailing conditions in the Industry in which the Company operates will also be considered while taking decisions regarding declaration of dividend.
- 3.1.3 Statutory Provisions and Guidelines: The Company shall ensure compliance to the provisions of Companies Act & regulations of SEBI and other Statutory Authorities with regard to declaration of dividend. Further, being a Government Company, the Company shall also consider applicable guidelines in force in respect of dividend declaration, as issued from time to time by the Govt. of India.
- 3.1.4 Applicable taxes including tax on dividend: The taxes applicable on the company including taxes on dividends that effect overall cash outflow.

3.2 Internal Factors

The Board while considering declaration of dividend for a financial year may, inter-alia, consider the following factors taking into account the nature and scale of company's operations: -

- 3.2.1 Profits upto the Quarter/for the financial year
- 3.2.2 Available balance in Free Reserves of the Company

- 3.2.3 Dividend payout trend of the Company and the industry
- 3.2.4 Future business projections and operational requirements
- 3.2.5 Stability of earnings and projections of future profits
- 3.2.6 Operating cash flows, treasury positions and cash flow projections for near future
- 3.2.7 Borrowing levels and the capacity to borrow
- 3.2.8 Present and future capital expenditure plans of the Company including organic/ inorganic growth avenues
- 3.2.9 Additional investment requirements in subsidiaries / JVs and associates of the company
- 3.2.10 Providing for unforeseen events and contingencies which has financial implications
- 3.2.11 Any other factor as may be deemed fit by the Board
- 3.3 The profits for a year may be adjusted at the discretion of the Board, for the purpose, to exclude exceptional or one-off items or non-cash items resulting from change in law, accounting policies, accounting standards or otherwise.
- 3.4 The Board may consider payment of interim dividend as and when it feels appropriate. Final dividend shall be recommended by the Board for approval of shareholders of the Company as per prevalent applicable rules and regulations.

4. Circumstances under which the shareholders may or may not expect dividend

Distribution of profits in the form of dividends and retaining some proportion of it for use in business for other objectives is a fundamental decision for every company. This decision requires adequate balancing between suitably rewarding shareholders through dividends and retaining profits to fund the operational requirements and growth plans of business. Although the Company has been consistently paying out dividends to its shareholders and they can reasonably expect it in future also unless the Company is constrained not to declare dividends under following circumstances:

- (a) Absence or Inadequacy of profits – If during any financial year, there are no profits or it is determined that the profits of the Company are not sufficient, the Board may decide not to declare dividends for that financial year.

- (b) Other constraints – Crucial factors like limited / non availability of cash resources, limitations due to future cash flow projections, emergent needs requiring significant resources, unstable business and profit projections etc and any other statutory factors as considered by the Board while arriving at the decision not to declare dividends for that financial year.

5. Utilization of Retained Earnings

The retained earnings of the company, after distribution of dividend, shall primarily be utilized towards requirements for growth plans and for meeting operational requirements of the company as the company is committed towards continuous growth and safeguarding of stake holders interest.

6. Parameters to be adopted with regard to various classes of shares

Company has presently only one class of shares i.e. equity shares. As and when it proposes to issue any other class of shares, the policy shall be modified accordingly.

7. Modifications to the policy

The Company reserves its right to amend any or all of the provisions of the policy as it may deem fit or in accordance with the guidelines as may be issued by SEBI, Government of India or any other regulatory authority. The change in the policy shall, however, be disclosed along with the justification thereof on the Company's Website and in the ensuing Annual Report in accordance with the extant regulatory provisions.

8. GENERAL:

- 8.1 Declaration of dividend on the basis of parameters in addition to the elements of this Policy or resulting in amendment of any element of the Policy, will be disclosed in the Annual Report as well as on the website of the Company.
- 8.2 In the event of the policy being inconsistent with any regulatory provision, such regulatory provision shall prevail upon the corresponding provision of this policy and the policy shall be construed to be amended accordingly from the effective date of such provision.

BHEL's Product Profile

THERMAL POWER PLANTS

- Capability for manufacture and supply of Steam Generators, Steam Turbines, Turbo Generators along with regenerative feed cycle upto 1000 MW capacities for fossil-fuel and upto 350 MW for combined-cycle applications
- Air and water cooled Condensers, Condensate Extraction Pumps, Boiler Feed Pumps, Duplex Heaters, Valves and Heat Exchangers meeting above requirement of TG Sets upto 1000 MW
- Energy Efficient Renovation and Modernisation (EE R&M) and Life Extension (LE) of old thermal power plants and Residual Life Assessment (RLA) studies

NUCLEAR POWER PLANTS

- Reactor side components like Steam generators, Reactor headers, End shields, special purpose Heat Exchangers, Pressure Vessels, Motors etc. for Nuclear Power plants.
- TG island equipment of PHWRs (Pressurised Heavy Water Reactors), FBRs (Fast Breeder Reactors) and AHWRs (Advanced Heavy Water Reactors) covering Steam Turbine, Turbo Generators, MSRs (Moisture Separator Reheaters), other heat exchangers and pumps including 'EPC' solutions.

GAS-BASED POWER PLANTS

- Gas turbines and matching generators ranging from 25 MW to 299 MW (ISO) rating with following features:
 - Gas turbine based co-generation and combined-cycle systems for industry and utility applications
 - Capability to burn a variety of fuels (both gaseous and liquids) along with mixed firing in different combinations of fuels
 - Low exhaust emission levels upto 15ppm of NOx with Dry Low NOx (DLN) combustors & noise requirement.

HYDRO POWER PLANTS

- EPC & Turnkey Contract (including Civil works) with custom-built conventional hydro turbines of Kaplan, Francis and Pelton types with matching generators upto 300 MW

- Pump turbines with matching motor-generators upto 250 MW
- Bulb turbine with matching generators upto 10 MW
- High capacity pumps along with matching motors for Lift Irrigation Schemes (upto 150 MW)
- Mini/Micro and small hydro power plants upto 25 MW unit rating
- Microprocessor based Digital Governing system for all types of Hydro Power plants
- Renovation, Modernization and uprating of Hydro power plants
- Spherical (rotary) valves, butterfly valves and auxiliaries for hydro stations
- Balance of Plant & System Integration

SOLAR POWER SYSTEM

- EPC solutions of Solar PV Power Plants:
 - Grid Interactive systems with & without BESS (Battery Energy Storage System)
 - Standalone systems
 - Roof Top systems
 - Hybrid systems
 - Canal Top Systems
 - Floating Solar power plants
- Solar based water pumping systems

DG POWER PLANTS

- HSD, LDO, FO, LSHS, natural gas based diesel generator power plants, unit rating of upto 20 MW and voltage upto 11 kV, for emergency, peaking as well as base load operations on turnkey basis

DESALINATION AND WATER TREATMENT PLANTS

- Complete Water Management Solutions for Power Plants, Industrial applications and Municipal applications with different treatment technologies:
 - Pre Treatment Plants (PT)
 - Desalination Plants
 - Demineralization Plants (DM)
 - Membrane Based Treatment Systems
 - Electro Deionization plants
 - Effluent Treatment Plants (ETP)
 - Sewage Treatment Plants (STP)
 - Zero Liquid Discharge (ZLD) System
 - Cooling water treatment plants
 - Tertiary Treatment Plants

SYSTEMS AND SERVICES

- Power Generation Systems
 - Turnkey power stations/ EPC contracts
 - Combined-cycle power plants
 - Cogeneration systems
 - Captive power plants
 - Modernization and renovation of power stations and RLA studies
 - Software packages including simulators for utilities
 - Erection, commissioning, support services, spares management and consultancy services for all the above systems
- Railway Track Electrification

INDUSTRIAL SYSTEMS

- Coal Handling Plant and Ash Handling Plant including Civil & Structural, Mechanical, Electrical works and Automation systems
- Mine Winder systems
- Electrics, Drives, Controls & Automation Systems for Processing & Compacting of Raw Materials, Iron

Making, Primary & Secondary Steel Making, Casters & steel Finishing like Mills & process Lines for both long products & flat products

- Raw Material Handling System including Civil & Structural, Mechanical, Electrical and Automation systems for Steel and other industries
- Electrics & Automation Systems for High Current Rectifiers of Smelters and Processing Mills for Aluminium Plants
- Automated Storage & Retrieval Systems (ASRS)

BOILERS

- Steam generators for utilities, ranging from 30 to 800 MW capacity, using coal, lignite, oil, natural gas or a combination of these fuels; capability to manufacture boilers with supercritical parameters upto 1000 MW unit size
- Fuel Flexible boilers capable of all combination of blending /co-firing diverse qualities of imported/ indigenised coals, blending of lignite, petcoke, etc
- Steam Generators for Nuclear Power Plant
- Steam generators for industrial applications of the following types ranging from 40 to 450 T/Hour capacity, using coal, natural gas, industrial gases, biomass, lignite, oil, Bagasse or a combination thereof
 - Pulverized coal / lignite fired boilers
 - Stoker fired boilers
 - Bubbling fluidized bed combustion (BFBC) boilers
 - Circulating fluidized bed combustion (CFBC) boilers
 - Heat-recovery steam generators (HRSG)
 - Chemical recovery boilers for paper industry, ranging from capacity of 100 to 1000 T/Day of dry solids

BOILER AUXILIARIES

Fans

- Axial reaction fans of single stage and double stage for clean air application and dust laden hot gas applications upto 200°C, with capacity ranging from 40 to 1300m³/s and pressure ranging from 400 to 1,500 mmwc
- Axial impulse fans for both clean air and flue gas applications upto 200°C, with capacity ranging from 25 to

600m³/s and pressure from 300 to 700 mmwc

- Single and double-suction radial fans (plate aerofoil bladed) for clean air and dust-laden hot gas applications upto 400°C, with capacity ranging from 4 to 660m³/s and pressure ranging from 200 to 3000 mmwc

Air Preheaters

- Tubular Air Preheaters for industrial, utility boilers and CFBC boilers
- Rotary regenerative Air-Preheaters (different types like Bisector, Tri Sector and Quad Sector) for utilities of capacity upto 1000 MW
- Air PreHeater for boilers with Selective Catalytic Reduction (SCR) for De-NO_x application

Pulverizers

- Bowl mills of slow and medium speed (for both pressurized & suction environment) for coal fired thermal stations with capacity from 10 T/Hr to 120T/ Hr suitable upto 1000 MW thermal power stations.
- Ball Tube mills for pulverizing low-grade coal with high ash content from 30T/Hr to 110T/Hr catering to 110 MW to 500 MW thermal power stations

Electrostatic Precipitators (ESP)

- Electrostatic precipitators with outlet emission as low as 17 mg/Nm³ (efficiency upto 99.97%) for coal fired utility and industrial applications including Bio mass fired boilers, cement plants, steel plants, soda recovery boilers etc
- Bag Filters for utility and industrial applications
- Mechanical Dust Collector for SCR application
- Ammonia Flue Gas Conditioning System

Guillotine Gates & Dampers

- Guillotine gates with electric/ pneumatic actuator. 100% leak proof with seal air width: 7 m & duct height: 14.5 meters
- Bi-plane dampers with electric/ pneumatic actuator. 100% leak proof with seal air Type -1: width: 7 m & duct height: 14.5, Type -2 : width 12 m & duct height 10.5 m
- Louver dampers (open close/ regulating) with electric/ pneumatic actuator: Type -1: width: 7 m & duct height:

14.5, Type -2 : width 12 m & duct height 10.5 m

- Control dampers (regulating) with electric/ pneumatic actuator Type -1: width: 7 m & duct height: 14.5, Type -2: width 12 m & duct height 10.5 m

Flue Gas Desulphurization (FGD) systems

- Flue Gas Desulphurization (FGD) systems with sea water/ limestone slurry scrubber
- Steel Chimneys for Heat Recovery Steam Generators (HRSG), Industrial Boilers, auxiliary boilers and other flue gas exhaust applications

Selective Catalytic Reduction (SCR) systems

- SCR System (Honeycomb & Plate type) with anhydrous Ammonia/ Aqueous Ammonia/ Urea reagent for NO_x emission control

Selective Non-Catalytic Reduction (SNCR) systems

- Selective Non-Catalytic Reduction (SNCR) systems with Urea & Ammonia handling systems

SOOT BLOWERS

- Long retractable soot blowers (LRSB) for travel upto 12.2 m
- Furnace temperature probe (FTP) for travel length 10 m
- Long retractable Non-rotating (LRNR) soot blowers with forward blowing for Air heaters
- Ash discharge valve for CFBC boiler application
- Soot blowers with sequential PLC, control panel and integral starter
 - Rack type Long retractable soot blowers
 - Rotary soot blowers
- Wall blowers

VALVES

- High and Low-pressure Turbines Bypass Valves & hydraulic system for utilities and industrial application
- High and medium-pressure Valves, Cast and Forged Steel Valves of Gate, Globe, Non-Return (Swing-Check and Piston Lift-Check) types for steam, oil and gas duties upto 950 mm diameter, maximum pressure class 4500 (791 kg/cm²) and 650 °C temperature

- Hot reheat and cold reheat Isolating Devices upto 900 mm pipe size class 1500 and steam temp upto 650°C
- High capacity Spring Loaded Safety Valves for set pressure upto 372 kg/cm² and temperature upto 630°C,
- Automatic electrically operated pressure relief valves for set pressure upto 210 kg/cm² and temperature upto 593°C
- Safety relief valves for applications in power, process and other industries for set pressure upto 421 kg/cm² and temperature upto 537°C
- Reactive cum absorptive type vent Silencers maximum diameter of 2700 mm.
- Direct Water Level Gauges
- Angle Drain Valves - Single & Multi Stage for Turbine Drain Application
- Severe Service Control Valves for RH & SH Spray Lines
- Quick Closing Non return Valves for Extraction lines and Cold Reheat Non Return valves, upto 800 mm diameter, 158 kg/cm² pressure and 540°C temperature

PIPING SYSTEMS

- Power cycle piping, Constant load Hangers, Variable spring Hangers, Hanger components, Low Pressure piping including circulating water piping for power stations upto 1000 MW capacity including Super Critical sets
- Piping systems for Nuclear Power Stations, Combined Cycle Power Plants & Industrial boilers and process industries
- Prefabricated piping/ duck spools to cater to refinery segment complying with National Association of Corrosion Engineers (NACE) requirements

SEAMLESS STEEL TUBES

- Hot-finished and cold-drawn seamless steel tubes with a range varying from outer diameter of 21 to 133 mm and wall thickness of 2 to 12.5 mm, in carbon steel and low-alloy steels to suit ASTM/ASME and other international specifications.
- Rifled tubes (ribbed) with a range varying from tube outer diameter of 38.1 to 63.5 mm and wall thickness of 5.6 mm to 7.1 mm, in carbon steel and low-alloy steels to suit ASME and other international specifications.

- Spiral finned Tubes with a range varying from tube outer diameter of 31.8 to 114.3 mm and wall thickness of 2.4 mm to 9.5 mm and with fin height of 12.5 mm to 21 mm and fin density ranges from 40 to 240 fins per metre, in carbon steel and alloy steels to suit ASME standards.

STEAM TURBINES

- Steam Turbines upto 1000 MW rating for thermal sets and upto 700 MW+ ratings for Nuclear Power Plants.
- 15000 HP Marine Turbines for marine propulsion.

TURBOGENERATORS

- Turbogenerators of higher rating upto 1000 MW for Thermal and Nuclear Power Plants and upto 195 MW for Combined Cycle plant.

INDUSTRIAL SETS

- Steam Turbine based Captive Power Plants
 - STG/Boilers/BTG/EPC: Unit rating upto 200 MW
 - Non Reheat upto 120 MW unit rating
 - Reheat upto 200 MW unit rating
- Gas Turbine based Captive Power Plants GTG/HRSG/EPC: Fr-5 (26 MW) to Fr-9E (126 MW)

CASTINGS AND FORGINGS

- Heavy castings and forgings of creep resistant alloy steels, stainless steel and other grades of alloy steels meeting stringent international specifications for components of sub critical, supercritical and Ultra-super critical technology.

CONDENSER AND HEAT EXCHANGERS

- Surface Condenser:
 - For thermal power plants upto 800 MW
 - For Nuclear power plants
 - 12.5 MW Marine applications
 - Industrial Condensers
- Feed Water Heaters (HP Heaters, LP Heaters, Drain Coolers, Duplex Heater, De-Super Heaters, etc.)

- Thermal : 7 to 500 MW (sub-critical) & 300-800 MW (super critical with single stream)
- Moisture Separator & Reheater (MSR) and other Feed Water Heaters for Nuclear Power Plants (236 MW, 500 MW & 700 MW Nuclear sets).
- Live Steam Reheater (LSR):
 - 500 MW FBR Nuclear sets
- Auxiliary Heat Exchangers for Turbo and Hydro Generators :
 - Air Coolers (Frame & Tube Type)
 - Oil Coolers (Shell & Tube Type and Plug in Type)
 - Hydrogen Coolers (Frame & Tube Type)
- Auxiliary Heat Exchangers for Transformers :
 - Oil Coolers (Shell & Tube Type Single Tube or Concentric Double Tube Type) (Frame & Tube Type)
- Auxiliary Heat Exchangers for general application
 - Water - Water Coolers (Shell & Tube Type)
- Gland steam condensers
 - Industrial applications upto 7 MW to 150 MW
 - Thermal Plants upto 500 MW
 - Nuclear Plants upto 700 MW
- Air-cooled heat exchangers for GTG upto Fr-9E, and Compressor applications of all ratings
- Steam jet air ejectors for condensers upto 150 MW
- Deaerators from 7 MW to 800 MW
- Gas coolers for compressor applications
- Oil coolers- STG upto 150 MW, GTG upto Fr-9E
- Generator Air coolers upto 150 MW STG and GTG upto 9 FA
- D₂O and Moderator Heat Exchangers for Nuclear primary cycle

PUMPS

- Pumps for various utility power plant applications upto a capacity of 1000 MW:
 - Boiler feed pumps (motor or steam turbine driven) and Boiler feed booster pumps.

- Condensate extraction pumps including Drip Pumps
- Circulating water pumps (also known as Cooling water Pumps)
- Concrete Volute Cooling Water Pumps
- Pumps for Secondary Side of Nuclear Power Plants

COMPRESSORS

- Multi stage Centrifugal compressors along with Drives (Steam Turbine, Electric Motor and Gas Turbine) and auxiliary system with capacity upto 300000 m³/hr for various gases (Air, CO₂, N₂, H₂, NH₃, Natural Gas, Wet Gas, Propylene etc.) for applications in Refineries, Fertilizers, Petrochemicals, Oil & Gas, Steel, Power and Natural Gas Transportation sectors.
 - Horizontally split type upto 40 bar design pressure
 - Vertically split type upto 350 bar design pressure

SOLAR PHOTOVOLTAICS

- Mono/ Multi Crystalline Solar cells (156 mm)
- Mono/ Multi Crystalline PV Modules (upto 330 Wp)
- Power Conditioning Unit (upto 1.25 MW)
- Power Transformers (15 MVA and above)
- Passive Solar Tracking System
- Space grade solar panels

AUTOMATION AND CONTROL SYSTEMS

- Automation and Control Systems for
 - Steam Generator/ Boiler Controls including Boiler Protection
 - Steam Turbine Controls
 - Boiler Feed Pump (BFP) Drive Turbine Control
 - Station Control and Instrumentation/ DCS
 - Offsite/Off base controls/ Balance of Plant Controls
 - Ash Handling Plant (AHP)
 - Coal Handling Plant(CHP)
 - Water System for power plant
 - Mill Reject System (MRS)

- Condensate On-Load Tube Cleaning system (COLTCS)
- Gas Booster Compressor (GBC)
- Condensate Polishing Unit (CPU)
- Heating, Ventilation & Air conditioning (HVAC)
- Fuel Oil Unloading System (FOUS)
- Hydro Power Plant Control System
- Gas Turbine Control System
- Nuclear Power Plant Primary Cycle Control Centre Instrumentation Package (CCIP)
- Nuclear Power Plant Turbine & Secondary Cycle control system
- Power block of solar thermal power plant
- Industrial Automation
- Sub-Station Automation (SAS)
- Non-FST HVDC control panels
- Electrical Control System (ECS) for Refineries
- Energy Management System (EMS) for Power Plant
- Electrical Interface System for MV/LV Switchgear

TRANSMISSION SYSTEMS CONTROL

- EHV & UHV Sub-stations/switchyards both AIS & GIS type ranging from 33 kV to 765 kV
- HVDC transmission systems
- Flexible AC Transmission system (FACTS) solutions
 - Fixed Series Compensation(FSC)
 - Static VAR Compensation (SVC)
 - STATCOM
 - Controlled Shunt Reactor (CSR)
 - Phase Shifting Transformer (PST)
- Converter Valves and controls for HVDC & FACTS

SOFTWARE SYSTEM SOLUTION

- Merit Order Rating
- Performance Analysis, Diagnostics & Optimization (PADO)

for Thermal Utilities

- Performance Calculation & Optimization system and Real Time Performance Data Monitoring system
- OPC connectivity from DCS to third party systems
- Enterprise Asset Management System (EAMS)
- Operator Training Simulator

SWITCHGEAR

Medium Voltage Vacuum Switchgear for indoor and outdoor applications for voltage ratings upto 36 kV and Gas insulated switchgears upto 420 kV.

- Indoor switchgears
 - Upto 12 kV, 50 kA, 4000 Amp for thermal, nuclear, hydro and combined cycle Power Plant Projects
 - Upto 36 kV, 31.5 kA, 2500 Amp for Industries, solar power plants and refineries
 - Compact switchgear 12 kV, 25 kA, 1250 Amp for distribution system
- Outdoor Vacuum circuit breakers
 - 12 kV, 25 kA, 1250 Amp for distribution segment
 - 36 kV, 25 kA, 2000 Amp for transmission and distribution segment
 - 25 kV, 25 kA, 1600 Amp for track side railway application
- Outdoor pole mounted capacitor switch (Autorecloser / sectionaliser) for 12 kV rural segment
- Gas insulated switchgears
 - 36 kV, 40kA, 1600 Amp for Refineries, Urban Sector
 - 145 kV, 31.5 kA, 2500 Amp for transmission & distribution network
 - 420 kV, 40 kA, 3150 Amp for transmission sector (hydro station / metro)
- SF₆ circuit breakers ((145 kV, 40 kA, 3150A), (420 kV, 50kA, 4000A))

ON LOAD TAP CHANGERS (OLTC)

- On Load Tap Changer upto 765 kV class Transformer & Off Circuit Tap Switch upto 765 kV class Transformer for various application like Power Transformer, Furnace Transformer, Station Transformer, Rectifier Transformer

etc.

LT SWITCHGEAR & BUS DUCTS

- Bus-ducts with associated equipment to suit generator power output of utilities of upto 800 MW capacity.
- 415 V LT Switchgear for Thermal Power Plant, Hydro, Nuclear, CPP & Steel industry.

TRANSFORMERS & REACTORS

- Power transformers for voltage upto 1200 kV
- Generator transformers (upto 600 MVA, 420 kV, 3 Ph/ 400 MVA, 765 kV, 1 Ph/500 MVA, 420 kV, 1 Ph)
 - Auto transformers (upto 1000 MVA, 400 kV, 3 Ph/ 600 MVA, 400 kV, 1 Ph / 500 MVA, 765 kV, 1 Ph/ 1000 MVA, 1200 kV, 1 Ph)
- Converter Transformers / Smoothing Reactors (upto 600 MVA, ± 800 kV) / (upto 254 MVA, ± 500 kV) for HVDC transmission.
- Shunt Reactors (upto 150 MVA, 420 kV, 3 Ph / 110 MVA, 765 kV, 1 Ph)
- Controlled Shunt Reactors (upto 200 MVA, 420 kV, 3 Ph/ 200 MVA, 420 kV, 1 Ph / 200 MVA, 765 kV, 1 Ph) for Flexible AC Transmission system applications.
- Phase Shifting Transformers (upto 500 MVA, 400 kV, 3 Ph/ Upto 500 MVA 400 kV 1 Ph) for transmission lines
- Instrument transformers
 - Current transformers upto 400 kV
 - Electro-magnetic voltage transformers upto 220 kV
 - Capacitor voltage transformers (33KV to 1200 kV)
 - 24 kV PR class Current Transformer for HVDC Projects
- Special Transformers
 - Rectifier transformer (upto 120 kA, 132 kV)
 - Furnace transformer (upto 33 kV, 60 MVA)
- ESP transformers upto 95 kvp, 1600 mA
- Smoothing reactors upto 3.3 mH , 2700 Amp.
- Dry Type reactor upto 300 mH , 120 Amp.
- DC Choke upto 0.5 mH , 4600 Amp.

- Dry type transformers upto 15 MVA 33 kV.
- Composite Monitoring System for Power Transformers

CAPACITORS

- H.T. Capacitors
 - Motors Capacitors for Power factor correction (3.3 to 11 kV delta connected Capacitor banks)
 - Shunt, Series & SVC (Static VAR compensation), Harmonic filter & HVDC applications (3.3 kV to 500 kV, 1 Ph/ 3 Ph capacitor banks)
- Capacitor Divider for CVT
- Coupling Capacitor (33kV to 800 kV, 4400pF to 13200 pF) for transmission lines
- Surge Capacitor for protection of Generators & Transformers (11kV to 40 kV)
- Roof Capacitor for traction locomotive
 - Capacitor Divider for CVT upto 1200 kV
 - Coupling Capacitor for PLCC upto 400kV
 - Fuse-less capacitor

BUSHINGS

- Oil Impregnated Paper (OIP) condenser bushings 52 to 525 kV for transformer applications
- 25 kV Locomotive bushings

CONTROL GEAR

- Electronic controllers for ESPs in industries/ power plants
- Digital Static Excitation control system (2000 A, 400 V DC with redundant thyristor stacks & DC field breaker)
- Large current rectifiers with PLC Based digital controls
- Control & Protection Panels (upto 400 kV) For EHV Transmission projects
- SCAP, Thyristor, RAPCON and STATCON Panels

INSULATORS

- Porcelain Insulators
 - High-tension Porcelain Disc insulators for AC/ DC applications, ranging from 70 kN to 420 kN electro-mechanical strength, for clean and polluted

- atmospheres, Suitable for application upto 1200 kV AC & ± 800 kV HVDC transmission line & Sub-stations
- Hollow insulators upto 765 kV for Transformers & SF 6 circuit breakers
- Solid core insulators upto 400 kV for Bus Post & Isolators for substation applications
- Composite Long Rod Insulators
 - Upto ± 800 kV, 420 kN for HVDC application
 - Upto 765 kV, 210 kN for HVAC application
 - Traction Insulators Stayarm, Bracket & 9 Tonne Insulators for Indian railways
- Ceramic Lining (CERALIN) wear resistant material for Thermal Power Plant & Ash Slurry Application
- Industrial and Special Ceramics
 - EWLI –Electronic Water Level Indicators used in Boiler Drum Water Level Monitoring (BHELVISION system)
 - Ceramic and Tungsten Carbide Flow Beans for Christmas tree valves.
 - Grinding Media for Pulverizing in Thermal Power Plant
- Pressurized Squirrel cage induction motors (Ex 'p') (150 kW to 22000 kW)
- Pressurized Synchronous motors (Ex 'p') (1000 kW to 25000 kW)
- Industrial Alternators (Steam turbine, Gas turbine and Diesel engine driven) (3000 kVA to 25000 kVA)
- Vertical Motors for Primary Coolant Pumps for nuclear power plants
- Induction Generators (300 kVA to 6000 kVA) for mini/micro hydro plant
- 2 Pole Air cooled Steam/ Gas Turbine driven Generators (3 MW to 160 MW)
- 4 Pole Air cooled Steam/ Gas Turbine driven Generators (3 MW to 40 MW)
- 2 Pole Hydrogen cooled Steam/ Gas Turbine driven Generators from 36 MW to 270 MW
- Permanent Magnet Based Generators upto 5 MW
- Gas Turbine generators upto 270MW
- Alternators for industrial applications with single bearing upto 2 MW

ELECTRICAL MACHINES

- AC Machines for Safe Area Application
 - Squirrel cage induction motors-150 kW to 22000 kW
 - Slip ring induction motors- 150 kW to 10000 kW
 - Synchronous motors- 1000 kW to 25000 kW
 - Variable speed Motors- 150 kW to 22000 kW (Squirrel cage motors)
 - Variable speed Motors-1000 kW to 25000 kW (Synchronous motors)
- AC Machines for Hazardous Area Application (Fixed speed or with VFD)
 - Flame-proof squirrel cage Induction motors (Ex 'd') (150 kW to 1500 kW)
 - Non-sparking squirrel cage Induction motors (Ex 'n') (150 kW to 4000 kW (higher ratings on request))
 - Increased safety squirrel cage Induction motors (Ex 'e') (150 kW to 4000 kW (higher ratings on request))

RAIL TRANSPORTATION

Transportation Systems

- AC electric locomotives (upto 6000 HP, 25 kV AC)
- AC-DC dual voltage electric locomotives
- ACEMU Coaches
- Metro Coaches
- Traction Propulsion Systems for:
 - 9000 HP IGBT based AC Locomotives
 - 6000 HP IGBT based AC Locomotives
 - 3-phase IGBT based AC Electrical Multiple Units (EMUs)
 - Air-conditioned ACEMU
 - ACEMU electrics for DC drives
 - 1600 HP IGBT based DEMU
 - 3-phase IGBT based MEMU
 - 1600 HP Multi-Genset Locomotive

- Regeneration system for DC Propulsion system of WAG 7 Locomotive
- Diesel Electric Tower Car
- Diesel-Electric Shunting Locomotives (upto 1400 HP)
- Battery powered Locomotive
- OHE recording-cum-test car
- Battery Powered Road Vehicles
- Dynamic track stabilizers
- Rail cum Road vehicle

TRANSPORTATION EQUIPMENT

- Traction Converter & Auxiliary Converter
- Vehicle Control Electronics
- Hotel Load Converter
- Composite Converter comprising Traction Converter and Hotel Load Converter
- Traction Transformer
 - Upto 5400 kVA for conventional locomotives
 - Upto 7775 KVA for 3 phase drive locomotives.
 - Upto 1050 KVA conventional AC EMU/ MEMUs
 - Upto 1578 kVA for 3 phase EMU
- 3- phase AC Traction Motors (upto 1200 kW) for Locomotives & EMUs
- DC Traction Motors (upto 630 kW) for Locomotives & EMUs
- AC Traction Alternators (upto 3860 kW) for Locomotives & EMUs
- DC Traction Generators upto 2000 kW
- DC Blower motors (upto 50kW) for dynamic braking system
- Motor Generator sets (upto 25 kW) for auxiliary requirements
- Traction gears and pinions for Locomotives & EMUs
- Wagon (upto 28 axle, 296 Tonne)

DEFENCE AND AEROSPACE

- Super Rapid Gun Mount (SRGM) 76/62 gun for naval ships
- Integrated Platform Management system (IPMS) for naval ships
- Integrated Bridge System (IBS)
- Static Main Motor Generator (SMMG)
- Rotary Main Motor Generator with Controls (RMMG)
- Training Simulator for Vehicles, platforms, radars, weapons, missiles and Computer Based Training (CBT) for all defence and para-military forces
- Turret Casting for T-72 Tanks
- Casting and Forgings for ships
- Compact Heat Exchangers for various aircraft platforms
- Fuel Tanks and other components for Launch Vehicles and Satellites.
- Permanent Magnet Frequency converters with drive unit
- Reserve Propulsion motor with drive unit
- Compact Brushless Alternators
- Space grade Batteries

ENERGY STORAGE SYSTEM & E- MOBILITY

- Electric Bus
- Powertrains for Electric Vehicles including motors
- Charging Infrastructure for Electric Vehicles
- Battery Energy Storage System including Power conditioning unit (PCU) and SCADA

OIL FIELD EQUIPMENT

- Oil Rigs – On-shore drilling rigs with AC-VFD and AC-SCR technology for drilling upto depths of 9,000 metres, work-over rigs for servicing upto depths of 6,100 metres, mobile rigs for drilling upto depths of 3,000 metres, complete with matching draw-works and hoisting equipment including:
 - Mast and substructure
 - Rotating equipment : Draw works; Rotary; Swivels; Travelling Blocks

- Independent Rotary drive unit
- Mud System including pumps
- Refurbishment and up gradation of BHEL and Non BHEL make Oil Rigs
- 3-phase Oil rig motor upto 1150 HP
- DC Oil rig motors upto 1000 HP (Draw works, mud pump, drilling)
- Oil rig alternators upto 1750 KVa
- AC/ DC Power Control Room for E760, E1400, E2000 & E3000 Rig
- AC Power Pack upto 1430 kVA for DG sets
 - AC Control Module
 - DC Control Module
- Driller's Console upto 3 mud pumps, IRD & draw work control & monitoring, load rating (0-1800 A, 0-1000V)
- Mobile lightening Tower, Rig Lightening Tower
- AC- VFD Controls for AC Rigs
- STATCOM for power Factor improvement in AC SCR Rigs
- Well heads and X-mas Trees upto 10,000 psi, Mud Line Suspension, Choke and Kill manifold, CBM Wellheads, DSPM H-Manifold Assembly, Mud valves

FABRICATED EQUIPMENT AND MECHANICAL PACKAGES

- Cryogenic Air Separation Units
- Cryogenic storage tanks, Mounded storage systems and storage spheres
- Pressure Vessels, Columns, Reactors/Separators, Heat Exchangers
- Fired Heaters
- Purge Gas Recovery Unit

Glossary & Abbreviation

ACS	Auxiliary Control System	LIS	Lift Irrigation Scheme
APGENCO	Andhra Pradesh Power Generation Corporation	LP Turbine	Low Pressure Turbine
APPDCL	Andhra Pradesh Power Development Company Limited	M&A	Merger & Acquisitions
BPCL	Bharat Petroleum Corporation Limited	MEIL	Megha Engineering & Infrastructures Limited
BSE	Bombay Stock Exchange	MEMU	Mainline Electric Multiple Unit
C&I	Control & Instrumentation	MHI&PE	Ministry of Heavy Industries & Public Enterprises
CEA	Central Electricity Authority	MoU	Memorandum of Understanding
CFBC	Circulating Fluidised Bed Combustion	MUs	Million Units
CLW	Chittaranjan Locomotive Works	NDT	Non Destructive Testing
CPSE	Central Public Sector Enterprise	NPCIL	Nuclear Power Corporation of India Limited
CSR	Corporate Social Responsibility	NSE	National Stock Exchange
CVC	Central Vigilance Commission	NSPCL	NTPC-SAIL Power Company Private Limited
DDUGJY	Deen Dayal Upadhyaya Gram Jyoti Yojana	OEM	Original Equipment Manufacturer
DEMU	Diesel Electric Multiple Unit	OHPC	Odisha Hydro Power Corporation
DETC	Diesel Electric Tower Car	ONGC	Oil and Natural Gas Corporation Limited
DHDT	Diesel Hydrotreating	PCU	Power Conditioning Unit
DLW	Diesel Locomotive Works	PGCIL	Power Grid Corporation of India Limited
DMW	Diesel-Loco Modernisation Works	PLM	Product Lifecycle Management
DPE	Department of Public Enterprises	PPGCL	Prayagraj Power Generation Co. Ltd
DSIR	Department of Scientific and Industrial Research	PSEs	Public Sector Enterprises
ED	Executive Director	R&D	Research & Development
EHV	Extra High Voltage	R&M	Renovation & Modernisation
EMU	Electric Multiple Unit	RDSO	Research Designs & Standards Organisation
EPC	Engineering, Procurement & Construction	RPCL	Raichur Power Company Limited
ESP	Electrostatic Precipitator	RUPPL	Reliance Utilities & Power Private Limited
FACTS	Flexible Alternating Current Transmission System	SCOPE	Standing Conference of Public Enterprises
FGD	Flue Gas Desulphurization	SCR	Selective Catalytic Reduction
GIS	Gas Insulated Substation	SD	Sustainable Development
GTG	Gas Turbine Generator	SEBI	Securities and Exchange Board of India
GTO	Gate turn-off Thyristor	SG	Steam Generator
GVA	Gross Value Added	SPDP	Screen Protected Drip Proof
HEP	Hydro Electric Plant	SPV	Solar Photo Voltaic
HFCL	Hindustan Fertilizer Corporation Limited	SRGM	Super Rapid Gun Mount
HP Turbine	High Pressure Turbine	STATCOM	Static Synchronous Compensator
HRSR	Heat Recovery Steam Generator	STPP	Super Thermal Power Plant
HVDC	High Voltage Direct Current	TANGEDCO	Tamil Nadu Generation and Distribution Corporation
HVOF	High Velocity Oxygen Fuel	TCMS	Train Control & Management system
ICF	Integral Coach Factory	TETV	Totally Enclosed Tube Ventilated
ID Fan	Induced Draft Fan	TEFC	Totally Enclosed Fan Cooled
IGBT	Insulated-Gate Bipolar Transistor	TG	Turbine & Generator
IGCAR	Indira Gandhi Centre for Atomic Research	TPS	Thermal Power Station
IOCL	Indian Oil Corporation Ltd	TSGENCO	Telangana Power Generation Corporation
IPDS	Integrated Power Development Scheme	UHV	Ultra High Voltage
IPMS	Integrated Platform Management system	UHVAC	Ultra High Voltage AC
IPR	Intellectual Property Right	UPRVUNL	Uttar Pradesh Rajya Vidyut Utpadan Nigam
IR	Indian Railways	VCU	Vehicle Control Unit
ISO	International Organization for Standardization	VFD	Variable Frequency Drive
ISRO	Indian Space Research Organisation	VGO	Vacuum Gas Oil
KPCL	Karnataka Power Corporation Limited	WAG	W (broad gauge), A (AC traction), G (goods duty)
LCA	Light Combat Aircraft		

Glossary (Financial Terms)

Accounting policies: Accounting policies are the specific accounting principles and the method of applying those principles adopted by the company in preparation and presentation of the financial statements.

Accrual: Financial statement is prepared on mercantile system. The effects of transaction and other events are recognised when they occur and they are recorded in the accounting records and reported in the financial statement of that period to which they relate.

Amortization: Amortisation is the systematic allocation of the depreciable amount of an intangible asset over its useful life.

Balance sheet: A balance sheet is a statement of the financial position of an entity which states the assets, liabilities, and owners' equity at a particular point of time

Bonus shares: Bonus shares are additional shares given to the shareholders without any additional cost out of free reserves, based upon the number of shares that a shareholder owns.

Book value: The amount at which an item appears in the books of account or in financial statements.

Buy back of shares : A buyback, also known as a share repurchase, is when a company buys its own outstanding shares to reduce the number of shares available in the open market.

Capital employed is calculated by subtracting CWIP and Deferred tax assets from the entity's net worth.

Capital reserve: A reserve of an entity which is not available for distribution as dividend.

Capital redemption reserve: The Company has recognised Capital Redemption Reserve on buy back of equity shares from its general reserve. The amount in capital redemption reserve is equal to nominal amount of equity shares bought back.

Cash & cash equivalent: Cash comprises cash on hand and demand deposits. Cash equivalents are short term, highly liquid investments that are readily convertible to known amount of cash and which are subject to an insignificant risk of change in value.

Contract assets: Contract assets (deferred debtors and unbilled revenue) represent the amount not yet due for payment as per contract terms / agreed schedule with customers. The same will be contractually due on completion of related activities / milestones.

Contract liability: An entity's obligation to transfer goods

or services to a customer for which the entity has received consideration (or the amount is due) from the customer.

Contingent liability is:

- (a) possible obligation that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity; or
- (b) a present obligation that arises from past events but is not recognised because:
 - (i) it is not probable that an outflow of resources embodying economic benefits will be required to settle the obligation; or
 - (ii) the amount of the obligation cannot be measured with sufficient reliability.

Consolidated financial statements (CFS): Consolidated financial statements - are the "Financial statements of a group in which the assets, liabilities, equity, income, expenses and cash flows of the parent company and its subsidiaries are presented as those of a single economic entity.

Credit risk: The risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation.

Current ratio: The current ratio is a liquidity ratio that measure ability to pay short term obligation or dues within one year. It is calculated by dividing current assets to current liabilities.

Current asset: An asset shall be classified as current when:

- a) it is expected to realise the asset, or intended to sell or consume it, in its normal operating cycle;
- b) it is held primarily for the purpose of trading;
- c) it is expected to realise the asset within twelve months after the reporting period; or
- d) the asset is cash or a cash equivalent unless the asset is restricted from being exchanged or used to settle a liability for at least twelve months after the reporting period.

Current liability: A liability shall be classified as current when:

- a) it is expected to settle the liability in its normal operating cycle;
- b) it is held primarily for the purpose of trading;
- c) the liability is due to be settled within twelve months after the reporting period; or

- d) it does not have an unconditional right to defer settlement of the liability for at least twelve months after the reporting period.

Current tax expense: Current tax is the amount of income taxes payable (recoverable) in respect of the taxable profit (tax loss) for a period.

Deferred debts: Deferred debts are those debts which will become payable on completion of identified milestone like trial operation, PG test, etc. in terms of the contract.

Deferred tax: Deferred tax is calculated using the rates and tax laws that have been enacted or substantially enacted by the balance sheet date.

Deferred tax asset: Deferred tax assets are the amounts of income taxes recoverable in future periods in respect of deductible temporary differences, the carry forward of unused tax losses and the carry forward of unused tax credits.

Deferred tax liability: Deferred tax liabilities are the amounts of income taxes payable in future periods in respect of taxable temporary differences.

Defined benefits plans: Defined benefit plans are post-employment benefit plans other than defined contribution plans. Defined contribution plans are post-employment benefit plans under which an entity pays fixed contributions into a separate entity (a fund) and will have no legal or constructive obligation to pay further contributions if the fund does not hold sufficient assets to pay all employee benefits relating to employee service in the current and prior periods.

Dividend per share : It is calculated by dividing the total dividend (excl. dividend distribution tax) for the year to total number of outstanding equity shares.

Depreciation: Depreciation is the systematic allocation of the depreciable amount of an asset over its useful life.

Dividend distribution tax: This is an additional income tax paid by the company on any amount declared, distributed or paid by the company by way of dividends.

EBIDTA means Earnings before interest, taxes, depreciation and amortization. Operational EBIDTA is determined after excluding other income from EBIDTA.

EBITDA margin (%): Profitability performance ratio, calculated by dividing earnings before interest, depreciation and tax to turnover.

Earnings per share (EPS): It represent profit earned during the year to each share, calculated by dividing profit after tax to total number of outstanding equity shares.

Equity method: The equity method of accounting is used to determine the net income generated from the joint venture in proportion to the size of a company's investment in the venture. The equity method is a method of accounting whereby the investment is initially recognised at cost and adjusted thereafter for the post-acquisition change in the investor's share of the investee's net assets.

Expected credit loss: The difference between all contractual cash flows that are due to an entity in accordance with the contract and all the cash flows that the entity expects to receive, discounted at the original effective interest rate.

Fair value: Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

Finance lease: A finance lease is a lease that transfers substantially all the risks and rewards incidental to ownership of an asset. Title may or may not eventually be transferred.

Financial asset: Any asset that is (a) cash, (b) equity instrument of another entity, (c) a contractual right to receive cash or another financial asset from another entity or to exchange financial assets or financial liability with another entity (d) a contract that will or may be settled in the entity's own equity instruments.

Financial liability: Any liability that is (a) contractual obligation to deliver cash or another financial asset to another entity or exchange financial assets or financial liabilities with another entity or (b) a contract that will or may be settled in the entity's own equity instruments.

Financial instrument: Any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

Financing activities: Activities that result in changes in the size and composition of the contributed equity and borrowings of the entity.

General reserves: General reserves are the retained earnings of a company which are kept aside out of company's profits to meet future (known or unknown) obligations.

Going concern: It means that entity has no intention for discontinuing the operation in foreseeable future.

Holding company: "holding company", in relation to one or more other companies, means a company of which such companies are subsidiary companies.

Impairment loss: An impairment loss is the amount by which the carrying amount of an asset or a cash-generating unit exceeds its recoverable amount. The recoverable amount of an asset or a cash-generating unit is the higher of its fair value less costs of disposal and its value in use.

Indian Accounting Standard (abbreviated as Ind-AS): Ind AS is the applicable accounting standard for preparation of financial statements as notified by Ministry of Corporate Affairs.

Intangible assets: An intangible asset is an identifiable non-monetary asset without physical substance.

Inventory in number of days : It is calculated by dividing inventory to turnover multiplying by number of days in a year.

Investing activities: Investing activities are the acquisition and disposal of long-term assets and other investments not included in cash equivalents.

Joint venture: A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement.

Liquidity risk: The risks that an entity may encounter in meeting obligation associated with financial liabilities as an when due.

Market risk: The risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk comprises three types of risk: currency risk, interest rate risk and other price risk.

Net realisable value: Net realisable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale.

Net worth: The excess of the book value of total assets of an entity over its liabilities. This is also referred to as shareholders' funds.

Net worth per share : Net worth per share is calculated by dividing net worth with total number of outstanding equity shares.

Non-controlling interest (NCI): is the portion of equity ownership in a subsidiary not attributable to the parent company, who has a controlling interest (greater than 50% but less than 100%) and consolidates the subsidiary's financial results with its own.

Non-current asset: A non-current asset is an asset that is not likely to turn to unrestricted cash within one year of the balance sheet date.

Non-current liability: Non-current liabilities are those obligations not due for settlement within one year.

Operating lease: An operating lease is a contract that allows for the use of an asset but does not convey rights of ownership of the asset. An operating lease represents an off-balance sheet financing of assets, where a leased asset and associated liabilities of future rent payments are not included on the balance sheet of a company.

Other comprehensive income (OCI): Other comprehensive income comprises items of income and expense (including reclassification adjustments) that are not recognised in profit or loss as required or permitted by other Ind ASs.

Operating activities: Operating activities are the principal revenue-producing activities of the entity and other activities that are not investing or financing activities.

Operating profit margin (%): Profitability performance ratio used to calculate the percentage of profit generated by Company from its operations. It is calculated by dividing earnings before interest, tax and other income (as per MoU) to revenue from operations.

Property, plant and equipment (PPE): Property, plant and equipment are tangible items that:

- (a) are held for use in the production or supply of goods or services, for rental to others, or for administrative purposes; and
- (b) are expected to be used during more than one period.

Profit margin (%): It represents profit generated as a percentage to turnover, calculated by dividing profit before tax (PBT) to turnover.

Revenue from operations: Gross inflow of economic benefits during the period arising in the course of ordinary activities of an entity when those inflows result in increases in equity, other than increases relating to contributions from equity participants.

Return on net worth (%): Return on net worth is a measure of profitability of a Company, calculated by dividing net profit to average net worth (excl. OCI).

Subsidiary: Subsidiary company is a company that is owned or controlled by another company, which is called the parent company or holding company.

Trade receivables: A receivable is an entity's right to

consideration that is unconditional. A right to consideration is unconditional if only the passage of time is required before payment of that consideration is due.

Trade receivable days: It is calculated by dividing trade receivables to revenue from operations (incl. GST) multiplying by number of days in a year.

Turnover per employee: It represents turnover achieved during the year per employee, calculated by dividing turnover to number of employees.

Valuation adjustment: In long term construction contracts, revenue is recognized on % of completion method however billing is done as per agreed BBU (Billing breakup) with customer. The difference between the turnover and billing is recognized as valuation adjustment.

Working capital: The funds available for conducting day-to-day operations of an entity. Also it is represented by the excess of current assets over current liabilities.

Value Added Statement

Value added is defined as the value created by company through the collective efforts of capital management and employees. Value added statement links a company's financial accounts to national income which indicates the company's contribution to national income.

			(₹ in Crore)	
For the year	2018-19		2017-18	
Value of production	30422		27114	
Other revenues	1678	32100	1657	28771
Less : Cost of material, erection and engg. expenses	18837		15407	
Indirect material	412		386	
Power and fuel	497		463	
Other operating expenses (net of income)	3273	23019	3822	20078
Total value added		9081		8693
Distribution:				
To employees		6261		6067
To provider of capital				
Finance cost	287		255	
Dividend	653	940	485	740
To Government				
Income tax	843		778	
Dividend distribution tax	134	977	99	877
Retained in business				
Depreciation and amortisation	475		786	
Retained earnings	428	903	223	1009
Total		9081		8693

Cautionary Statement

Statement in the Annual Report, describing the Company objective, expectation or estimates are forward looking within the meaning of applicable laws and regulations. Actual results may differ materially from those expressed or implied, depending upon economic development, government policies and other incidental factors.

Bharat Heavy Electricals Limited

(CIN: L74899DL1964GOI004281)

Regd. Office: BHEL House, Siri Fort, New Delhi-110049

Phone: 011-66337000, Fax: 011-66337428

Website: www.bhel.com, E-mail: shareholderquery@bhel.in

Notice

Notice is hereby given that the 55th Annual General Meeting of the Members of BHARAT HEAVY ELECTRICALS LIMITED will be held on Thursday, the 19th September, 2019 at 10 A.M. at Manekshaw Centre, Parade Road, Khyber Lines, Delhi Cantt., New Delhi – 110010 (route map enclosed), to transact the following businesses: -

ORDINARY BUSINESS

1. To receive, consider and adopt the Audited Standalone and Consolidated Financial Statements of the Company for the Financial Year ended 31st March, 2019 together with the Directors' Report and Auditors' Report thereon.
2. To declare dividend for the financial year 2018-19.
3. To appoint a Director in place of Shri Subodh Gupta (DIN: 08113460), who retires by rotation and being eligible, offers himself for re-appointment.
4. To appoint a Director in place of Shri S. Balakrishnan (DIN: 07804784), who retires by rotation and being eligible, offers himself for re-appointment.
5. To authorize the Board of Directors to fix the remuneration of the Auditors for the year 2019-20.

SPECIAL BUSINESS

6. To consider and, if thought fit, to pass with or without modification, the following resolution as an **Ordinary Resolution:**

"RESOLVED THAT pursuant to the provisions of Section 148 and other applicable provisions of the Companies Act, 2013 read with the Companies (Audit and Auditors) Rules, 2014 (including any statutory modification(s) or re-enactment thereof, for the time being in force), the remuneration of the Cost Auditors appointed by the Board of Directors of the Company to conduct the audit of the cost records of the Company for the Financial Year ended on 31st March, 2020 as set out in the Statement annexed to the Notice convening this Meeting, be and is hereby ratified by the shareholders of the Company."

"RESOLVED FURTHER THAT the Board of Directors of the Company be and is hereby authorized to do all such acts, deeds and things as may be necessary, proper or expedient to give effect to this resolution."

7. To consider and, if thought fit, to pass with or without modification, the following resolution as a **Special Resolution:**

"RESOLVED THAT Shri R. Swaminathan (DIN: 01811819), who was appointed as an Additional Director pursuant to Article 67(iv) of the Articles of Association of the Company read with Sections 149 and 161 (1) of the Companies Act, 2013 w.e.f. 01.12.2018 to hold Office upto the date of this Annual General Meeting and in respect of whom, the Company has received a notice in writing, from the Director himself pursuant to the provisions of Section 160 (1) of the Companies Act, 2013, be and is hereby re-appointed as an Independent Director of the Company for a second term."

8. To consider and, if thought fit, to pass with or without modification, the following resolution as an **Ordinary Resolution:**

"RESOLVED THAT Shri Manoj Kumar Varma (DIN: 08308714), who was appointed as an Additional Director pursuant to Article 67(iv) of the Articles of Association of the Company read with Section 161 (1) of the Companies Act, 2013 w.e.f. 19.12.2018 to hold Office upto the date of this Annual General Meeting and in respect of whom, the Company has received a notice in writing, from the Director himself pursuant to the provisions of Section 160 (1) of the Companies Act, 2013, be and is hereby appointed as a Director of the Company, liable to retire by rotation."

9. To consider and, if thought fit, to pass with or without modification, the following resolution as an **Ordinary Resolution:**

"RESOLVED THAT Shri Rajesh Sharma (DIN: 01586332), who was appointed as an Additional Director pursuant to Article 67(iv) of the Articles of Association of the Company

read with Sections 149 and 161(1) of the Companies Act, 2013 w.e.f. 20.02.2019 to hold Office upto the date of this Annual General Meeting and in respect of whom, the Company has received a notice in writing, from the Director himself pursuant to the provisions of Section 160(1) of the Companies Act, 2013, be and is hereby appointed as an Independent Director of the Company."

10. To consider and, if thought fit, to pass with or without modification, the following resolution as an **Ordinary Resolution:**

"RESOLVED THAT Shri Kamalesh Das (DIN: 08376769), who was appointed as an Additional Director pursuant to Article 67(iv) of the Articles of Association of the Company read with Section 161(1) of the Companies Act, 2013 w.e.f. 01.03.2019 to hold Office upto the date of this Annual General Meeting and in respect of whom, the Company has received a notice in writing, from the Director himself pursuant to the provisions of Section 160(1) of the Companies Act, 2013, be and is hereby appointed as a Director of the Company, liable to retire by rotation."

11. To consider and, if thought fit, to pass with or without modification, the following resolution as an **Ordinary Resolution:**

"RESOLVED THAT Shri Amit Varadan (DIN: 08401348), who was appointed as an Additional Director pursuant to Article 67(iv) of the Articles of Association of the Company read with Section 161(1) of the Companies Act, 2013 w.e.f. 27.03.2019

to hold Office upto the date of this Annual General Meeting and in respect of whom, the Company has received a notice in writing, from the Director himself pursuant to the provisions of Section 160(1) of the Companies Act, 2013, be and is hereby appointed as a Director of the Company."

12. To consider and, if thought fit, to pass with or without modification, the following resolution as an **Ordinary Resolution:**

"RESOLVED THAT Dr. Nalin Shinghal (DIN: 01176857), who was appointed as an Additional Director pursuant to Article 67(iv) of the Articles of Association of the Company read with Section 161(1) of the Companies Act, 2013 w.e.f. 08.07.2019 to hold Office upto the date of this Annual General Meeting and in respect of whom, the Company has received a notice in writing, from the Director himself pursuant to the provisions of Section 160(1) of the Companies Act, 2013, be and is hereby appointed as a Director of the Company."

By Order of the Board of Directors



(Rajeev Kalra)
Company Secretary

Place: New Delhi
Date: August 9, 2019

NOTES: -

1. A MEMBER ENTITLED TO ATTEND AND VOTE AT THE MEETING IS ENTITLED TO APPOINT A PROXY TO ATTEND AND VOTE INSTEAD OF HIMSELF/ HERSELF AND THE PROXY NEED NOT BE A MEMBER OF THE COMPANY. A PERSON APPOINTED AS PROXY SHALL ACT ON BEHALF OF SUCH MEMBER OR NUMBER OF MEMBERS NOT EXCEEDING FIFTY AND HOLDING IN AGGREGATE NOT MORE THAN 10% OF THE TOTAL SHARE CAPITAL OF THE COMPANY CARRYING VOTING RIGHTS. HOWEVER, AS PER PROVISIO TO RULE 19(2) OF THE COMPANIES (MANAGEMENT AND ADMINISTRATION) RULES, 2014, A MEMBER HOLDING MORE THAN 10% OF THE TOTAL SHARE CAPITAL OF THE COMPANY CARRYING VOTING RIGHTS MAY APPOINT A SINGLE PERSON AS PROXY AND SUCH PERSON SHALL NOT ACT AS PROXY FOR ANY OTHER PERSON OR SHAREHOLDER. PROXY FORM DULY COMPLETED SHOULD BE DEPOSITED AT THE REGISTERED OFFICE OF THE COMPANY NOT LESS THAN FORTY-EIGHT HOURS (48 HOURS) BEFORE THE SCHEDULED TIME OF THE ANNUAL GENERAL MEETING. BLANK PROXY FORM IS ENCLOSED.
2. Corporate Members are requested to send a duly certified copy of the Board Resolution authorizing their representative to attend and vote on their behalf at the Annual General Meeting.
3. Relevant Explanatory Statement pursuant to Section 102(1) of the Companies Act, 2013, in respect of Special Business, as set out above is annexed hereto.
4. S/shri Subodh Gupta and S. Balakrishnan, Directors, retire by rotation and being eligible, offer themselves for re-appointment. However, as per the terms of their appointment, the tenure of S/shri Subodh Gupta and S. Balakrishnan as Directors of the Company will expire on 17.04.2023 (five years from the date of his appointment) and 30.11.2020 (on his superannuation). Brief resume of each of the Directors proposed for re-appointment is given at Annexure to the Notice.
5. The Board of Directors has recommended a final dividend of 60% (₹1.20 per share) on the Paid-up Equity Share Capital of the Company in addition to an interim dividend of 40% (₹ 0.80 per share) on the Paid-up Equity Share Capital already paid during the year 2018-19.
6. The Register of Members and Share Transfer books of the Company shall remain closed from Friday, 13th September, 2019 to Thursday, 19th September, 2019 (both days inclusive), for determining names of the shareholders eligible for final dividend, if declared at the meeting.
7. The final dividend on the Equity Shares as recommended by the Board of Directors for the year ended 31.03.2019, if approved by the shareholders at the Annual General Meeting, will be payable within 30 days from the date of declaration of dividend i.e. on or before 18.10.2019, to those shareholders whose name appear: -
 - i. As Beneficial Owners of shares as at the closure of business hours on 12th September, 2019 as per the list to be furnished by NSDL/ CDSL in respect of the shares held in the Electronic mode; and
 - ii. As Members in the Register of Members of the Company after giving effect to all valid share transfer requests in physical form which are lodged with the Company/ RTA on or before the close of business hours on 12th September, 2019.
8. Members are advised to submit their National Electronic Clearing Service/ Electronic Clearing Service (NECS/ECS) mandate in the form (given elsewhere in the Annual Report) duly filled in and signed, to enable the Company to make remittance by means of NECS/ ECS.
9. Pursuant to Section 124 read with Section 125 of the Companies Act, 2013, the dividend amounts which remain unpaid /unclaimed for a period of 7 years, are required to be transferred to the "Investor Education and Protection Fund" constituted by the Central Government. Accordingly, the final dividend for the financial year 2011-12 and interim dividend for financial year 2012-13, which remains unclaimed, are proposed to be transferred to the said account on 24.10.2019 and 03.03.2020 respectively.

Members who have not claimed/ encashed their Dividend so far for the financial year ended 31.03.2012 or any subsequent financial year(s) may approach the Company for obtaining payments thereof before expiry of the stipulated 7 years period.
10. Members may avail facility of nomination in terms of section 72 of the Companies Act, 2013, by nominating any person to whom their shares in the Company shall vest in the event of their death.
11. Pursuant to Section 139(5) read with Section 142(1) of the Companies Act, 2013, the Auditors of a Government Company are appointed by the Comptroller and Auditor General (C&AG) of India and their remuneration is fixed by the Company in the Annual General Meeting.

- The shareholders may authorize the Board to fix up an appropriate remuneration of Auditors for the year 2019-20 as may be deemed fit by the Board.
12. Members are requested to notify immediately any change of address and other relevant correspondence including NECS/ ECS details and submission of Permanent Account Number (PAN): -
 - i. to their Depository Participants (DPs) in respect of their electronic share accounts; and
 - ii. to the Company at its registered office or the Registrar & Share Transfer Agent, M/s Karvy Fintech Private Ltd. (Karvy Selenium Tower B, Plot 31-32, Gachibowli, Financial District, Nanakramguda, Hyderabad-500032) in respect of their physical shares, if any, quoting their folio number, Banker's name and account number to ensure prompt and safe receipt of dividend warrants.
 13. Members who hold shares in dematerialized form are requested to write their Client ID and DP ID Numbers and those who hold shares in physical form are requested to write their Folio Number in the attendance slip for attending the Meeting. However, entry to the Auditorium will be strictly on the basis of entry slip, available at the counters at the venue and to be exchanged with attendance slip.
 14. In compliance with section 108 of the Companies Act, 2013, read with Rule 20 of the Companies (Management and Administration) Rules, 2014 and Regulation 44 of the Listing Regulations, the Company has provided the facility to members to exercise their right to vote by electronic means through M/s Karvy Fintech Private Limited. The members, whose names appear in the Register of Members/ list of Beneficial Owners as on Thursday, September 12, 2019 (cut-off date) will be eligible to vote for the purpose of E-voting/ AGM and a person who is not a member as on the cut-off date should treat this notice for information purposes only. The e-voting period will commence from Sunday, September 15, 2019 at 9.00 a.m. and will end on Wednesday, September 18, 2019 at 5.00 p.m. The e-voting module will be blocked on September 18, 2019, at 5.00 p.m. The members desiring to vote through electronic mode may refer to the detailed procedure on e-voting sent separately with the Notice alongwith necessary user id & password. Once the vote on a resolution is cast by the shareholder, the shareholder shall not be allowed to change it subsequently. The voting right of shareholders shall be in proportion to their share in the paid up equity share capital of the Company as on the cut-off date being, September 12, 2019.
 15. The facility for voting through ballot paper shall be made available at the AGM and members attending the meeting who have not cast their vote by remote e-voting shall be able to exercise their right at the meeting through ballot paper.
 16. The members who have cast their vote by remote e-voting prior to the AGM may also attend the meeting but shall not be entitled to cast their vote again.
 17. The Company has appointed Shri Sachin Agarwal of M/s Agarwal S. & Associates, Practising Company Secretary, to act as a Scrutinizer, to scrutinize the e-voting process in a fair and transparent manner. The Scrutinizer shall, immediately after the conclusion of voting at the AGM, first count the votes cast at the meeting, thereafter unblock the votes cast through e-voting in the presence of at least two witnesses not in the employment of the Company and make, not later than three days of conclusion of the AGM, a Consolidated Scrutinizer's Report of the total votes cast in favour or against, if any, to the Chairman of the Company. The results along with the Scrutinizer's Report shall be available on the Company's website (www.bhel.com) and on the website of the agency immediately after the declaration of result by the Chairman/ person authorized by him in writing. The results shall also be immediately forwarded to the Stock Exchanges.
 18. Members are requested to: -
 - i. bring their Attendance Slip duly completed and signed at the venue of the meeting along with Photo-id proof.
 - ii. quote their Folio/ DP & Client ID Nos. in all correspondence.
 - iii. note that no briefcase or bag will be allowed to be taken inside the auditorium for security reasons.
 - iv. note that no gifts will be distributed at the AGM.

By order of the Board of Directors



(Rajeev Kalra)
Company Secretary

Place: New Delhi
Date: August 9, 2019

ANNEXURE TO THE NOTICE

EXPLANATORY STATEMENT PURSUANT TO SECTION 102 (1) OF THE COMPANIES ACT, 2013

The following explanatory statement sets out the material facts relating to the business mentioned in Item Nos. 6 to 12 of the accompanying Notice dated August 9, 2019.

ITEM NO. 6

Section 148 of the Companies Act, 2013 read with the Companies (Audit and Auditors) Rules, 2014 requires remuneration of the cost auditors as approved by the Board to be ratified by shareholders subsequently.

Based on the recommendation of the Audit Committee, the Board of Directors in its meeting held on 26th July, 2019 has approved the names of seven Cost Accountants/ Firms for appointment for a total remuneration of ₹15.01 Lakhs as detailed under:

(₹ in Lakhs)

Sl. No.	Name of the Cost Auditors	Unit	Remuneration for FY 2019-20
1	M/s Shome & Banerjee, Delhi (Lead Cost Auditor)	Consolidation Audit Report	0.96
		Bhopal	1.91
		Jhansi	0.77
		HERP Varanasi	0.38
2	M/s R.J. Goel & Co., Delhi	HEEP Haridwar	1.91
		CFFP Haridwar	0.38
3	M/s KRJ & Associates, Hyderabad	Hyderabad	1.91
4	M/s M. Krishnaswamy & Associates, Chennai	Trichy	2.54
		BAP Ranipet	1.27
5	M/s J.H & Associates, Bengaluru	EPD Bengaluru	0.50
		EDN Bengaluru	0.64
6	M/s K.B Saxena & Associates, Lucknow	IVP Goindwal	0.38
		FSIP Jagdishpur	0.58
		CFP Rudrapur	0.38
7	M/s Uppalapati & Associates, Visakhapatnam	HPVP Visakhapatnam	0.50
Total			15.01

The above fee is exclusive of applicable taxes and out-of-pocket expenses which are payable extra.

Accordingly, members are requested to ratify the remuneration payable to the Cost Auditors for the Financial Year ending on 31st March, 2020.

None of the Directors or Key Managerial Personnel of the Company or their relatives is in any way, concerned or interested, financially or otherwise, in the resolution set out at item no. 6.

The Board of Directors commends the resolution for approval of the Shareholders.

ITEM NO. 7

Shri R. Swaminathan (DIN: 01811819), aged 63 years, was re-inducted as an Independent Director on the Board of BHEL w.e.f. 1st December, 2018. He was earlier appointed as Independent Director from 18th December, 2015 to 30th November, 2018.

He is a retired Indian Foreign Officer (IFS) of the 1980 batch. He was Secretary to the Government of India in the Ministry of External Affairs (MEA) at the time of his retirement.

He holds a Bachelor degree (Honours) in Civil Engineering from the Madras University, Masters Diploma in Industrial Engineering from the National Productivity Council (NPC) and a Diploma in Arabic language from the American University in Cairo. As part of his Industrial Engineering Masters, he did a thesis on Turnkey Project Management Information Systems at the BHEL power project in Parli, Maharashtra in 1979.

Ambassador Swaminathan has extensive experience in international relations including economic and commercial diplomacy, project management, Development issues including international aid and LoCs, public diplomacy, administration, Atomic Energy, passport and consular services and Arab issues in a long career of 35 years.

As Secretary to the Government of India, he was responsible for all the Latin American countries and Canada as well as Consular, Passports and Visas Divisions in MEA. He was also the Director General of Inspections of MEA. Prior to this, he was Ambassador to Austria and Montenegro; Governor of India to the International Atomic Energy Agency (IAEA); Permanent Representative of India to UNIDO, UNODC, Outer Space Organization and other UN Offices in Vienna. He has also served as Indian Ambassador to Egypt and the Arab League, Joint Secretary and Chief Passport Officer of India and Joint Secretary for Projects in MEA. He served in the IAEA Secretariat in Vienna heading the Policy Planning and Coordination Division. He was Counsellor and Head of the Commercial Department in the Indian High Commission in Sri Lanka, Deputy Chief of Mission in the Indian Embassy in Bhutan, Secretary of the Atomic Energy Commission and Deputy Secretary in the Department of Atomic Energy,

Government of India, First Secretary in the Indian Embassy in France, Second Secretary in the Indian Embassy in Qatar and Third Secretary in the Indian Embassy in Egypt. Prior to joining IFS, he was Assistant Director/Consultant at NPC.

Important achievements in his career include launching of the Passport Seva Project, one of the largest e-governance initiatives of the Government of India, Outsourcing of passport and visa services in Indian Missions, evacuation of a large number of distressed Indian Nationals from Libya, Egypt and Iraq, part of the IAEA Secretariat which received Nobel Peace Prize in 2005 and the first ever Free Trade Agreement for India which was concluded with Sri Lanka.

Appointment of Shri Swaminathan is upto 30.11.2019 or until further orders whichever event occurs earlier. As an Independent Director, he is entitled to sitting fee for Board Meetings and Board Level Committee Meetings attended by him.

Shri R. Swaminathan does not hold any shares in BHEL and he does not have any relationship with other Directors/ Manager/ Key Managerial Personnel of the Company.

Shri R. Swaminathan has attended six (of eight) Board Meetings held in FY 2018-2019.

In terms of MCA notification dated 05.07.2017, the Department of Public Enterprises through the Department of Heavy Industry, Ministry of Heavy Industries & Public Enterprises, BHEL's Administrative Ministry has started the exercise of performance evaluation/ assessment of non-official (Independent) Directors on the Board of the Company and accordingly, the provision regarding report on performance evaluation in case of reappointment of Independent Director is not applicable.

By virtue of Section 161 of the Companies Act, 2013 read with Article 67(iv) of the Articles of Association of the Company, Shri R. Swaminathan holds office till the date of ensuing Annual General Meeting and is eligible for reappointment for a second term. As per requirement of Section 160 of the Companies Act, 2013, the Company has received a Notice in writing, proposing candidature of Shri Swaminathan for the Office of Independent Director of the Company for a second term.

The Company has received a declaration from Shri R. Swaminathan that he meets the criteria of independence as prescribed both under Section 149(6) of the Companies Act, 2013 and Regulation 16 of the Listing Regulations. Keeping in view his vast expertise and knowledge, it will be in the interest of the Company that Shri R. Swaminathan is reappointed as an Independent Director for a second term. In the opinion of the Board, Shri R. Swaminathan fulfills the conditions specified in the Companies Act, 2013 and Rules made thereunder for his appointment as an Independent Director of the Company and

is independent of the Management.

Except Shri R. Swaminathan, being an appointee, none of the Directors or Key Managerial Personnel of the Company or their relatives is in any way, concerned or interested, financially or otherwise, in the resolution set out at item no. 7.

The Board of Directors commends the resolution for approval of the Shareholders.

ITEM NO. 8

Shri Manoj Kumar Varma (DIN: 08308714), aged 58 years, was inducted as Director (Power) on the Board of BHEL w.e.f. 19th December, 2018.

He is a Mechanical Engineering Graduate from SGSITS, Indore and an MBA in Marketing from Bhopal University. Prior to becoming Director (Power), he was heading Power Sector- Southern Region Chennai, as Executive Director, which is executing major power projects & contributing substantially to BHEL's Power Sector segment.

Shri Manoj Kumar Varma has 35 years of holistic and hands on experience in the field of Energy, Industrial System and Infrastructure industries covering major value chain functions viz. Production, Commercial Management, Marketing & Business Development, Contract Management, Planning & Development, Information Technology and Strategic Management.

Shri Manoj Kumar Varma joined the organisation as Engineer Trainee at Transformer Plant, BHEL Jhansi and subsequently moved to Heavy Electrical Plant, Bhopal where he worked in various capacities and later on was transferred to Industry Sector, New Delhi as General Manager. During his career in BHEL, he also headed the erstwhile Ceramic Business Unit of BHEL, Bengaluru with erstwhile Electroporcelains Division (EPD, Bengaluru) and Insulator Plant (IP, Jagdishpur) under its ambit.

Shri Manoj Kumar Varma holds the position of Part-time Nominee Chairman on the Board of Raichur Power Corporation Limited.

Appointment of Shri Manoj Kumar Varma is upto 31.01.2021 or until further orders, whichever event occurs earlier, in the pay scale of ₹1,80,000 - ₹3,40,000 p.m. on terms and conditions approved by the Government of India.

Shri Manoj Kumar Varma does not hold any shares in BHEL and he does not have any relationship with other Directors/ Manager/ Key Managerial Personnel of the Company.

Shri Manoj Kumar Varma has attended one Board Meeting which was held during his tenure in FY 2018-2019.

By virtue of Section 161 of the Companies Act, 2013 read with Article 67(iv) of the Articles of Association of the Company, Shri Manoj Kumar Varma holds office till the date of ensuing Annual General Meeting and is eligible for appointment. As per requirement of Section 160 of the Companies Act, 2013, the Company has received a Notice in writing, proposing candidature of Shri Varma for the Office of Director of the Company.

Except Shri Manoj Kumar Varma, being an appointee, none of the Directors or Key Managerial Personnel of the Company or their relatives is in any way, concerned or interested, financially or otherwise, in the resolution set out at item no. 8.

The Board of Directors commends the resolution for approval of the Shareholders.

ITEM NO. 9

Shri Rajesh Sharma (DIN: 01586332), aged 47 years, was inducted as an Independent Director on the Board of BHEL w.e.f. 20th February, 2019.

Shri Rajesh Sharma is a Commerce Graduate, a Fellow member of the Institute of Chartered Accountants of India and a qualified Company Secretary. He is a practicing Chartered Accountant, having a rich experience of more than 17 years of audit in many PSU's, National Cooperatives, Corporation & Banks.

He is presently Central Council member of Institute of Chartered Accountants of India. He has held various positions such as Central Council Member of the Institute of Company Secretaries of India (Govt. Nominee) and member of Capital Market & Investor protection Council of ASSOCHAM etc.

Shri Sharma is involved in varied social activities such as inculcating skills in downtrodden to make them self-dependent and also running a Drug Rehabilitation Centre. He is a prominent speaker in many seminars, conferences organized in India and abroad. He has also been awarded by reputed organization for exemplary contribution to society.

Appointment of Shri Rajesh Sharma is upto 13.02.2022 or until further orders whichever event occurs earlier. As an Independent Director, he is entitled to sitting fee for Board Meetings and Board Level Committee Meetings attended by him.

Shri Rajesh Sharma does not hold any shares in BHEL and he does not have any relationship with other Directors/ Manager/ Key Managerial Personnel of the Company.

No Board Meetings was held during the tenure of Shri Rajesh Sharma in FY 2018-2019.

By virtue of Section 161 of the Companies Act, 2013 read with Article 67(iv) of the Articles of Association of the Company, Shri Rajesh Sharma holds office till the date of ensuing Annual General Meeting and is eligible for appointment. As per requirement of Section 160 of the Companies Act, 2013, the Company has received a Notice in writing, proposing candidature of Shri Sharma for the Office of Independent Director of the Company.

The Company has received a declaration from Shri Rajesh Sharma that he meets the criteria of independence as prescribed both under Section 149(6) of the Companies Act, 2013 and Regulation 16 of the Listing Regulations. Keeping in view his vast expertise and knowledge, it will be in the interest of the Company that Shri Rajesh Sharma is appointed as an Independent Director. In the opinion of the Board, Shri Rajesh Sharma fulfills the conditions specified in the Companies Act, 2013 and Rules made thereunder for his appointment as an Independent Director of the Company and is independent of the Management.

Except Shri Rajesh Sharma, being an appointee, none of the Directors or Key Managerial Personnel of the Company or their relatives is in any way, concerned or interested, financially or otherwise, in the resolution set out at item no. 9.

The Board of Directors commends the resolution for approval of the Shareholders.

ITEM NO. 10

Shri Kamalash Das (DIN: 08376769), aged 57 years, was inducted as Director (Engineering, Research & Development) on the Board of BHEL w.e.f. 1st March, 2019.

Shri Kamalash Das is an Engineering Graduate from Calcutta University and also has a Post Graduate Diploma in Management.

Prior to becoming Director (E, R&D), Shri Kamalash Das as Executive Director, was heading various business verticals at BHEL's Industry Sector, which is responsible for carrying out the company's diversification and growth initiatives. Major verticals in his portfolio included Renewable Energy, Industrial Systems, Electrical and Transmission Products.

He joined BHEL as an Engineer Trainee at the company's Insulator Plant in 1982. Shri Das has over 36 years of holistic and hands-on experience in energy, transmission and industrial systems. During his career in BHEL, he has developed and demonstrated a comprehensive set of competencies in various value chain activities like marketing, engineering, production, commercial, project management, human resource & industrial relations, legal management, project finance and

strategic management. Earlier he was also the head of various manufacturing units of BHEL like Insulator Plant, Jagdishpur, Electro-Porcelains Division, Bengaluru, and Component Fabrication Plant, Rudrapur.

Shri Kamalesh Das holds the position of Part-time Nominee Chairman on the Board of BHEL-GE Gas Turbine Services Private Limited.

Appointment of Shri Kamalesh Das is upto 31.07.2021 or until further orders, whichever event occurs earlier, in the pay scale of ₹1,80,000 - ₹3,40,000 p.m. on terms and conditions approved by the Government of India

Shri Kamalesh Das does not hold any shares in BHEL and he does not have any relationship with other Directors/ Manager/ Key Managerial Personnel of the Company.

No Board Meetings were held during the tenure of Shri Kamalesh Das in FY 2018-2019.

By virtue of Section 161 of the Companies Act, 2013 read with Article 67(iv) of the Articles of Association of the Company, Shri Kamalesh Das holds office till the date of ensuing Annual General Meeting and is eligible for appointment. As per requirement of Section 160 of the Companies Act, 2013, the Company has received a Notice in writing, proposing candidature of Shri Das for the Office of Director of the Company.

Except Shri Kamalesh Das, being an appointee, none of the Directors or Key Managerial Personnel of the Company or their relatives is in any way, concerned or interested, financially or otherwise, in the resolution set out at item no. 10.

The Board of Directors commends the resolution for approval of the Shareholders.

ITEM NO. 11

Shri Amit Varadan (DIN: 08401348) aged 53 years, was inducted as Part-time Official Director on the Board of BHEL w.e.f. 27th March, 2019.

He is presently posted as Joint Secretary in the Department of Heavy Industry, Ministry of Heavy Industries and Public Enterprises, Government of India. Shri Amit Varadan holds a Bachelor's Degree in Economics from St Stephen's College, Delhi University and a Master's Degree in Economics from Jawaharlal Nehru University. He is also an MBA from the Faculty of Management Studies, Delhi University. Prior to taking charge of Joint Secretary, he was Divisional Railway Manager, Secunderabad Division, South Central Railway.

He joined Indian Railway Traffic Service (IRTS) in August 1990.

During his tenure in Railway Service, he has worked in various wings of the Indian Railways viz., Operating, Commercial, Safety, Vigilance, Information Technology and Public Relations at various levels in the Divisional Units (cutting edge of Railway Operations), in Zonal Headquarters and Railway Board. He has also worked in the Centre for Railway Information Systems (CRIS). Prior to joining Indian Railway Traffic Service, he worked as Lecturer of Economics in Hindu College, Delhi University.

Shri Amit Varadan holds the position of Part-time Official Director on the Board of Andrew Yule & Co. Limited.

Being a Government of India nominee on the Board of BHEL, Shri Amit Varadan does not receive any remuneration from BHEL.

Shri Amit Varadan does not hold any shares in BHEL and he does not have any relationship with other Directors/Manager/ Key Managerial Personnel of the Company.

No Board Meetings were held during the tenure of Shri Amit Varadan in FY 2018-2019.

By virtue of Section 161 of the Companies Act, 2013 read with Article 67(iv) of the Articles of Association of the Company, Shri Amit Varadan holds office till the date of ensuing Annual General Meeting and is eligible for appointment. As per requirement of Section 160 of the Companies Act, 2013, the Company has received a Notice in writing, proposing candidature of Shri Varadan for the Office of Director of the Company.

Except Shri Amit Varadan, being an appointee, none of the Directors or Key Managerial Personnel of the Company or their relatives is in any way, concerned or interested, financially or otherwise, in the resolution set out at item no. 11.

The Board of Directors commends the resolution for approval of the Shareholders.

ITEM NO. 12

Dr. Nalin Shinghal (DIN: 01176857), aged 55 years, assumed charge of the post of Chairman & Managing Director of BHEL w.e.f. 8th July, 2019.

He holds a B. Tech degree in Electrical Engineering from IIT-Delhi and PGDM from IIM (Calcutta). He has been a Commonwealth Scholar and has a doctorate in Transport Economics from the University of Leeds/UK.

Prior to joining BHEL, he was the Chairman & Managing Director (CMD) of Central Electronics Limited (CEL). He joined CEL in 2013 as CMD, when the company was facing chronic sickness with almost 90% of its net worth eroded. Under his leadership, CEL was successfully turned around into a profit

making company with rapidly growing profits. The turnaround has also been taken up as a case study by IIM Ahmedabad.

In his long career span of more than 30 years, he has undertaken a range of assignments in Private Sector, Public Sector and Government. He has worked with the Indian Railways Traffic Service (IRTS) in various capacities in Operations, Commercial & Marketing as well as Planning functions and also in several diverse areas with PSUs like CONCOR, IRCTC, apart from CEL.

Prior to CEL he worked as Director (Tourism & Marketing) Indian Railways Catering & Tourism Corporation Ltd. (IRCTC) for six years and also held charge as MD-IRCTC for about 2 years, in which period, the company achieved rapid growth and attained Mini Ratna status. As Director (Tourism & Marketing) he headed the Internet Ticketing as well as Travel & Tourism businesses of IRCTC. In his tenure the e-ticketing business grew from 20,000 tickets per day to almost 5 lakh tickets per day. He was also responsible for setting up and perspective planning of the complete Tourism business of IRCTC.

Dr. Nalin Shinghal has published a number of articles in leading national & international journals in the areas of Transport Economics & Logistics. He has also held eminent positions in various professional bodies.

Appointment of Dr. Nalin Shinghal is upto 31.10.2023 or until further orders, whichever event occurs earlier, in the pay scale of ₹2,00,000 – ₹3,70,000 p.m. on terms and conditions approved by the Government of India.

Dr. Nalin Shinghal holds 100 shares in BHEL (jointly with his wife) and he does not have any relationship with other Directors/ Manager/ Key Managerial Personnel of the Company.

Since Dr. Nalin Shinghal was appointed as CMD on 08.07.2019, he did not attend any Board Meeting during FY 2018-19.

By virtue of Section 161 of the Companies Act, 2013 read with Article 67(iv) of the Articles of Association of the Company, Dr. Nalin Shinghal holds office till the date of ensuing Annual General Meeting and is eligible for appointment. As per requirement of Section 160 of the Companies Act, 2013, the Company has received a Notice in writing, proposing candidature of Dr. Shinghal for the Office of Director of the Company.

Except Dr. Nalin Shinghal, being an appointee, none of the Directors or Key Managerial Personnel of the Company or their relatives is in any way, concerned or interested, financially or otherwise, in the resolution set out at item no. 12.

The Board of Directors commends the resolution for approval of the Shareholders.

By Order of the Board of Directors



(Rajeev Kalra)
Company Secretary

Place: New Delhi

Date: August 9, 2019

DETAILS OF DIRECTORS PROPOSED FOR RE-APPOINTMENT

SHRI SUBODH GUPTA

Shri Subodh Gupta (DIN 08113460) aged 55 years, was appointed as Director (Finance) on the Board of BHEL w.e.f. 18.04.2018.

Shri Gupta is a Fellow member of the Institute of Cost Accountants of India (ICAI) and a Commerce (Honours) Graduate from University of Delhi. Prior to his appointment to the board of Directors, he was General Manager (Corporate Finance) handling financial planning and strategy, treasury management and taxation. In addition, he was also heading the Finance function of Strategic Business Units under the company's "Industry Sector" business segment.

An accomplished finance professional, Shri Gupta brings with him more than 34 years of diverse experience in the financial operations of BHEL. He started his career with BHEL as Trainee (Finance) in 1985 and during his career progression, equipped himself with all facets of Financial Management to take challenging responsibilities.

Under the dynamic / mettlesome leadership of Shri Gupta, BHEL has been bestowed with the Maiden ICWAI National Award for Excellence in Cost Management 2005 and Maiden prestigious CII-Exim Bank Award for Business Excellence 2006. As a certified TQM assessor from European Foundation for Quality Management, he has significantly contributed in improvement of business processes and conducted several internal and external TQM assessments. He was conferred with CMA Achiever's Award - Certificate of Merit 2016, for his significant contribution to Corporate Management practices, under the category "PSU Manufacturing –Large" by the Institute of Cost Accountants of India.

Shri Subodh Gupta has played a pivotal role in reorientation of planning & budgeting exercise, structural changes in financial reporting, tax planning & its management resulting into more robust financial position of the company and transparent reporting. He has led various initiatives in re-modelling, planning and execution of all financial processes which has led to stronger controls and improved accounting practices. To arrest the mounting debtors, introduced Trade Receivable Policy and through his continuous focus & thrust on receivable management, despite liquidity challenges, company registered growth in cash collection over previous years. Shri Subodh Gupta has led risk mitigation and management strategies in the company and ensured the highest Bank guarantee & PI Bonds vacations during the FY 2018-19. He is also the driving force behind system development and integration in the finance

function of the company. He has also reinforced budgetary discipline and pioneered various other cost control measures in the organization, resulting in significant improvement in financial performance and profitability parameters.

Shri Subodh Gupta is also a Part Time nominee Director on the Board of Raichur Power Corporation Limited.

Shri Subodh Gupta's appointment is upto 17.04.2023 or until further orders, whichever event occurs earlier, in the pay scale of ₹1,80,000 - ₹3,40,000 p.m. on terms and conditions approved by the Government of India.

Shri Subodh Gupta does not hold any shares of BHEL and he does not have any relationship with other Directors/ Manager/ KMP of company.

Shri Subodh Gupta has attended six (of the seven) Board Meetings held during his tenure in FY 2018-19.

SHRI S. BALAKRISHNAN

Shri S. Balakrishnan (DIN: 07804784) aged 58 years, was inducted as Director (Industrial Systems & Products) on the Board of BHEL w.e.f. 01.06.2018.

Prior to this, Shri Balakrishnan was heading the Heavy Power Equipment Plant (HPEP), Ramachandrapuram - one of the major units of BHEL at Hyderabad as Executive Director. Earlier he was heading the company's Industrial Products (Electrical & Mechanical) business at Industry Sector, Delhi, as General Manager In-charge.

Shri Balakrishnan is a Mechanical Engineering graduate from University of Indore, Madhya Pradesh and acquired his Masters Degree in Stress & Vibration Analysis from Bhopal University.

Shri Balakrishnan brings with him versatile and varied experience of over 37 years in core areas of economy viz. Power Generation & Transmission, Renewable Energy, Transportation, Electric Mobility, Energy Storage, Captive Power, Oil & Gas, Defence and Water Management. He has developed core competencies in the functions of Strategic Management, Marketing & Business Development, Project Development & Execution, Partner Management, Human Resource Management & Industrial Relations, Manufacturing and Technology Development.

Shri Balakrishnan started his career with BHEL as Engineer Trainee in 1982 in the company's Trichy unit and subsequently moved to BHEL, Bhopal, where he worked in various capacities in the areas of A.C. Machines, Nuclear Turbines and Transformers at BHEL's Bhopal Plant.



Shri Balakrishnan is also the Vice President of CIGRE-India and is a member of its Governing Council.

Appointment of Shri Balakrishnan is upto 30.11.2020 or until further orders, whichever event occurs earlier, in the pay scale of ₹1,80,000 - ₹3,40,000 p.m. on terms and conditions approved by the Government of India.

Shri Balakrishnan does not hold any shares in BHEL and he does not have any relationship with other Directors/ Manager/ Key Managerial Personnel of Company.

Shri Balakrishnan has attended all the Board Meetings (five) held during his tenure in FY 2018-2019.

By Order of the Board of Directors

(Rajeev Kalra)
Company Secretary

Place: New Delhi
Date: August 9, 2019

**BHARAT HEAVY ELECTRICALS LIMITED**

(CIN: L74899DL1964GOI004281)
 Regd. Office: BHEL House, Siri Fort, New Delhi-110049
 Phone: 011-66337000, Fax: 011-66337428
 Website: www.bhel.com, E-mail: shareholderquery@bhel.in

ATTENDANCE SLIP

**55th Annual General Meeting to be held on Thursday, 19th day of September, 2019 at 10.00 AM
 at Manekshaw Centre, Parade Road, Khyber Lines, Delhi Cantt., Delhi-110010**

NAME OF THE ATTENDING MEMBER (IN BLOCK LETTERS)	
Folio. / DP ID- CLIENT ID No.	
No. of shares held	
Name of PROXY (IN BLOCK LETTERS, TO BE FILLED IN IF THE PROXY ATTENDS INSTEAD OF THE MEMBER)	

I hereby record my presence at the 55th Annual General Meeting on 19th September, 2019.

Signature of Member/ Proxy

THIS ATTENDANCE SLIP DULY FILLED IS TO BE HANDED OVER AT THE ENTRANCE OF THE MEETING HALL

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[Pursuant to Section 105(6) of the Companies Act, 2013 and Rule 19(3) of the Companies (Management and Administration) Rules, 2014]

PROXY FORM

Name of the Member(s):	
Registered Address:	
Folio No/ DP ID- Client Id:	
E-Mail Id:	
No of Shares held:	

I/We, being the member (s) of shares of the above named company, hereby appoint:

1.	Name :		Signature:	
	Address:			
	E-mail Id:			
Or failing him/ her				
2.	Name :		Signature:	
	Address:			
	E-mail Id:			
Or failing him/ her				
3.	Name :		Signature:	
	Address:			
	E-mail Id:			

as my/ our proxy to attend and vote (on a poll) for me/ us and on my/ our behalf at the 55th Annual General Meeting of the Company, to be held on Thursday, the 19th day of September, 2019 at 10:00 A.M. at Manekshaw Centre, Parade Road, Khyber Lines, Delhi Cantt., Delhi-110010 and at any adjournment thereof in respect of such resolutions as are indicated below:

Sl. No.	Resolutions
Ordinary Business	
1.	Adoption of Financial Statements of the Company for the Financial year ended 31 st March, 2019 together with the Directors' Report and Auditors' Report thereon
2.	Declaration of Dividend for the financial year 2018-19
3.	Re-appointment of Shri Subodh Gupta (DIN: 08113460), who retires by rotation
4.	Re-appointment of Shri S. Balakrishnan (DIN: 07804784), who retires by rotation
5.	Authorize the Board of Directors to fix the remuneration of the Auditors for the year 2019-20.
Special Business	
6.	Ratification of Remuneration of Cost Auditors for financial year 2019-20
7.	Appointment of Shri R. Swaminathan (DIN: 01811819) as Director for second term (Special Resolution)
8.	Appointment of Shri Manoj Kumar Varma (DIN: 08308714) as Director
9.	Appointment of Shri Rajesh Sharma (DIN: 01586332) as Director
10.	Appointment of Shri Kamalash Das (DIN: 08376769) as Director
11.	Appointment of Shri Amit Varadan (DIN: 08401348) as Director
12.	Appointment of Dr. Nalin Shinghal (DIN: 01176857) as Director

Signed this..... day of..... 2019

Signature of first proxy holder

Signature of second proxy holder

Signature of shareholder (s)

Signature of third proxy holder

Please affix
Revenue
Stamp

- Notes: (a) The form should be signed as per specimen signature registered with the RTA/DP
 (b) This form of proxy in order to be effective should be duly completed and deposited at the Registered Office of the Company, not less than 48 hours before the commencement of the Meeting.

TEAR HERE

Route Map for 55th AGM of BHEL





BHARAT HEAVY ELECTRICALS LIMITED

(CIN: L74899DL1964GOI004281)
Regd. Office: BHEL House, Siri Fort, New Delhi-110049
Phone: 011-66337000, Fax: 011-66337428
Website: www.bhel.com, Email: shareholderquery@bhel.in

Dear Shareholder(s),

Re: Payment of dividend through National Electronic Clearing Services (NECS)/Electronic Clearing Services (ECS)

Pursuant to SEBI (Listing Obligations & Disclosure Requirements) Regulations, 2015, all listed companies shall use any of the electronic modes of payment facility approved by RBI such as ECS/NECS/Direct Credit etc. for payment of dividend.

In case you have not already sent the NECS/ ECS/ Bank Account particulars to our Registrars, viz. M/s Karvy Fintech Pvt. Ltd. or to your Depository Participant (DP) (in case of demat holding), we would request you to provide the said particulars in the format given below to facilitate prompt, safe & correct payment of dividend, if declared in the 55th Annual General Meeting of the Company to be held on 19th September, 2019.

Please ensure that the details submitted by you to the Registrars/ Depository Participant are correct as any error therein could result in the dividend amount being credited to wrong account.

Kindly help us in this endeavour to serve you better.

Yours faithfully

(Rajeev Kalra)

Company Secretary

P.S. In case you are holding shares in demat form, kindly advise your Depository Participant to take note of your Bank account particulars/ NECS/ ECS/ Direct Credit mandate.

FORM FOR NECS/ECS MANDATE/ BANK ACCOUNT PARTICULARS

I / We..... do hereby authorise BHEL/my Depository Participant to

- Print the following details on my/ our dividend warrant
- Credit my dividend amount to my Bank account by NECS/ ECS/ Direct Credit
(Strike out whichever is not applicable)

My/ our Folio No or DP ID No Client A/c No

Particulars of Bank Account:

- A. Bank Name :
- B. Branch Name :
(Address for Mandate only)
- C. 9 digit code number of the bank & branch as :
appearing on the MICR cheque :
- D. IFSC Code :
- E. Account Type (Saving/ Current) :
- F. Account No as appearing on the cheque book :
- G. STD code & Telephone No. of Shareholder :

I / we shall not hold the Company responsible if the NECS/ ECS could not be implemented or the Bank discontinues the NECS/ ECS, for any reason.



M/s Karvy Fintech Pvt. Ltd.
UNIT: BHEL
Karvy Selenium Tower B, Plot 31-32,
Gachibowli Financial District, Nanakramguda,
HYDERABAD-500032

.....
Signature of the Shareholder

TEAR HERE

Please attach (i) photocopy of a cheque or a blank cancelled cheque issued by your bank relating to your above account for verifying the accuracy of the 9 digit code number AND (ii) a copy of your **PAN card** with this form.

Bankers, Auditors & Share Transfer Agent

Bankers

Allahabad Bank
Andhra Bank
Bank of Baroda
Canara Bank
Central Bank
Corporation Bank
EXIM Bank
IDBI Bank
Indian Bank
Indian Overseas Bank
Oriental Bank of Commerce
Punjab & Sindh Bank
Punjab National Bank
State Bank of India
Syndicate Bank
UCO Bank
Union Bank of India
United Bank of India
Vijaya Bank
Axis Bank
HDFC Bank
ICICI Bank
Indusind Bank
Kotak Mahindra Bank
RBL Bank
The Federal Bank Limited
Yes Bank
CITI Bank N.A
Deutsche Bank AG
J P Morgan
Standard Chartered Bank
The Hongkong and Shanghai Banking Corporation Limited

Auditors

Raj Har Gopal & Co., New Delhi
Tiwari & Associates, New Delhi
Mahesh C. Solanki & Co., Bhopal
Ponraj & Co., Trichy
Rao & Kumar, Hyderabad
S R R K Sharma Associates, Bengaluru
M Srinivasan & Associates, Chennai
M B Gabhawala & Co., Varanasi

Cost Auditors

R. J. Goel & Co., Delhi
Shome & Banerjee, Delhi
KRJ & Associates, Hyderabad
M. Krishnaswamy & Associates, Chennai
J. H & Associates, Bengaluru
K B Saxena & Associates, Lucknow
Uppalapati & Associates, Visakhapatnam

Share Transfer Agent

Karvy Fintech Private Limited

UNIT: BHEL

Delhi: 305, New Delhi House,
27, Barakhamba Road,
New Delhi – 110 001
Tel. : 011- 43681700
Fax: 011-43681710
Email: ksbl Delhi@karvy.com
: einward.ris@karvy.com

Hyderabad: Karvy Selenium Tower B,
Plot 31-32, Gachibowli, Financial District,
Nanakramguda, Hyderabad – 500 032
Tel.: 040-67162222
Fax : 040-23001153
Email: madhusudhan.ms@karvy.com
: einward.ris@karvy.com
Website: www.karvycomputershare.com

Registered Office

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Setting New Benchmarks in Project Execution!

Kothagudem TPS

Leveraging its project execution strengths and enhancing focus on execution, **BHEL successfully commissioned 800 MW supercritical set on EPC basis at Kothagudem Thermal Power Station (KTPS), Telangana in a record time of 46 months in 2018-19.** BHEL has been a committed partner in the development of power generation in Telangana, with BHEL-supplied sets accounting for 88% of the coal-based power stations installed in the state.

BHEL is the market leader in the supercritical thermal segment in the country having received orders for 56 boilers and 49 turbine generators.

1x800 MW supercritical set commissioned by BHEL at Kothagudem, Telangana, in a record time of 46 months on EPC basis





BHARAT HEAVY ELECTRICALS LIMITED

Registered Office : BHEL House, Siri Fort, New Delhi - 110049, India

Corporate Identity Number : L74899DL1964GOI004281

www.bhel.com

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