



भारत हेवी इलेक्ट्रिकल्स लिमिटेड
Bharat Heavy Electricals Limited

No: AA/SCY/AGM54

Date: 20.09.2018

Bombay Stock Exchange Limited
Phiroze Jeejeebhoy Towers,
Dalal Street,
Mumbai - 400 001

Dear Sir,

Sub: Annual Report for the FY 2017-18

Pursuant to Regulation 34 of the SEBI (Listing Obligations & Disclosure Requirements) Regulations, 2015, please find enclosed copy of the Annual Report of BHEL for the financial year 2017-18.

Thanking you,

Yours faithfully,

(I.P. Singh)

Company Secretary
companysecretary@bhel.in

Encl.: As above

BHARAT HEAVY ELECTRICALS LIMITED

ANNUAL REPORT

2017-18

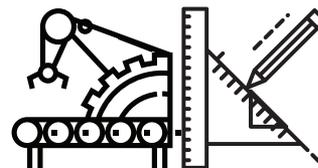
Creating  of tomorrow

Bharat Heavy Electricals Limited

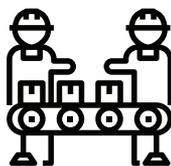
Who we are



Making in India
since 1964



India's largest
engineering & manufacturing
enterprise of its kind



17
Manufacturing Units



150+
Project Sites

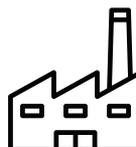


8
Service Centres

What we do



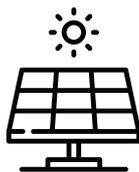
Power



Industry



Transmission



Renewables



**Defence
& Aerospace**



Oil & Gas

Our Presence

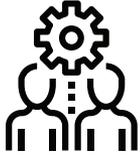


India

All states & 6 Union Territories of the country have power generating equipment installed by BHEL

443 Coal, 417 Hydro, 102 Gas, 12 Nuclear & 32 MW scale Grid-connected Solar PV plants





Second largest
employer in
Indian Capital Goods industry



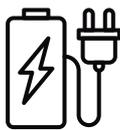
5 Research Institutes
14 Centres of Excellence



Transportation



Water



**Energy
Storage**

Global Presence

References in 83 countries in
all 6 inhabited continents

Contracted power plant equipment
of around 17,000 MW

21 projects under execution



We are the undisputed leader
amongst the Indian power
plant equipment
manufacturers.

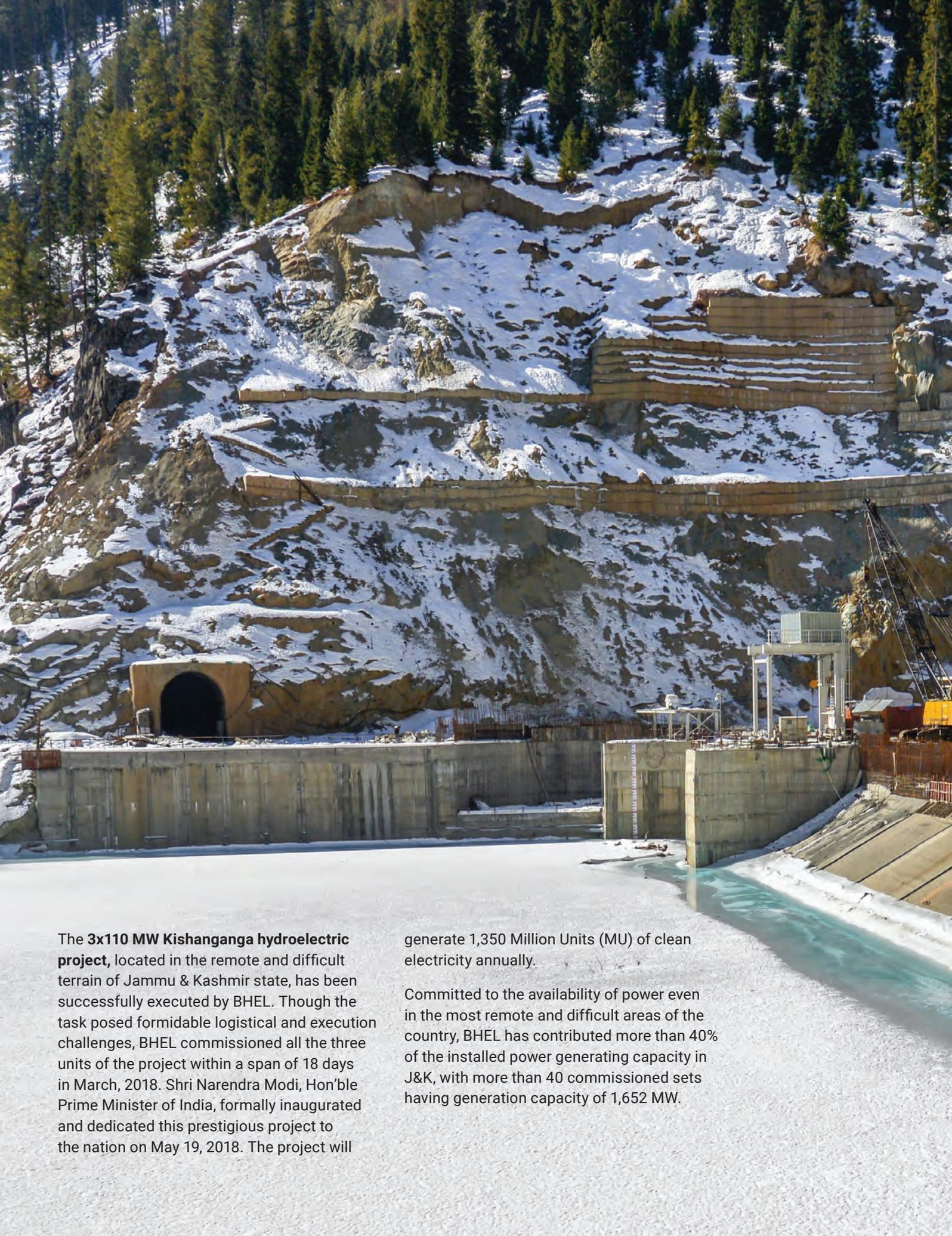
A name to reckon with in the
Indian industry.

India's industrial ambassador
to the world.

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

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

Focusing on strategic
transformation for creating
BHEL of tomorrow.



The **3x110 MW Kishanganga hydroelectric project**, located in the remote and difficult terrain of Jammu & Kashmir state, has been successfully executed by BHEL. Though the task posed formidable logistical and execution challenges, BHEL commissioned all the three units of the project within a span of 18 days in March, 2018. Shri Narendra Modi, Hon'ble Prime Minister of India, formally inaugurated and dedicated this prestigious project to the nation on May 19, 2018. The project will

generate 1,350 Million Units (MU) of clean electricity annually.

Committed to the availability of power even in the most remote and difficult areas of the country, BHEL has contributed more than 40% of the installed power generating capacity in J&K, with more than 40 commissioned sets having generation capacity of 1,652 MW.



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LETTER TO SHAREHOLDERS



Dear Shareholders

I am happy to share that your company delivered a resilient performance during 2017-18. Amidst continued challenging business environment, initiatives taken in the recent past have resulted in significant progress in enhancing profitability and productivity, reinforcing our leadership in power sector, and strengthening non-power business area. These achievements, along with the strategies in place, strengthen our preeminent position among national assets and assure our continued contribution in building a 'New India'.

Performance highlights

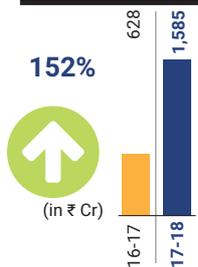
Let me share the key performance highlights for the FY 2017-18.

- The company registered a turnover of ₹27,850 crore during 2017-18 against ₹27,740 crore in the last year. With this, your company has achieved a growth of 11% during last two years, 2016-18.
- Profit Before Tax during 2017-18 was ₹1,585 crore compared to ₹628 crore in the year before, registering an increase of 152%. Net Profit (PAT) stood at ₹807 crore compared to ₹496 crore in 2016-17.
- In a shrunken and highly competitive Indian power sector market, we reinforced our leadership position by securing all orders for main packages of thermal power projects during the year. Total orders won during the

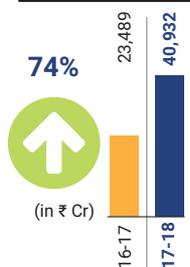
Turnover
₹27,850 Cr.



Profit Before Tax
₹1,585 Cr.

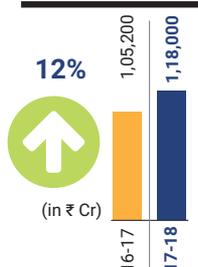


Orders Booked
₹40,932 Cr.



- 100% market share in thermal power projects
- Highest ever orders in transportation, defence, solar & water

Total Orders in Hand
₹1,18,000 Cr.



- Highest during the last five years

year are ₹40,932 crore – 74% higher than the last year. This includes highest ever orders won in transportation, defence, solar and water business resulting from our unflinching focus on increasing non-coal business. With this, total orders in hand are over ₹1,18,000 crore - highest during the last five years.

- Some of the major orders won were 3x800MW Patratu – largest power project order ever placed in the country through international competitive bidding, 2x660 MW Udangudi, 1x660 MW Panki, 1x660 MW Bhusawal, Steam Generator package for 2x700 MWe Nuclear power plant Gorakhpur, and 146 sets of 25 kV AC IGBT based three phase electrics for mainline EMU trains from Indian Railways among others.
- Leveraging its capabilities in the emission control equipment business, BHEL has secured Flue Gas Desulphurization (FGD) orders for 17 thermal units till March 31, 2018.
- Diversification efforts of your company gained traction with the receiving of the highest ever orders in solar power and a breakthrough order in the municipal segment for construction of six sewage treatment plants at Raipur. Technology sharing agreements with ISRO for space grade lithium-ion cells and with Kawasaki Heavy Industries Ltd., Japan for stainless-steel coaches and bogies for metro trains will help your company in strengthening capabilities in emerging areas.
- 4,149 MW of power generating capacity was commissioned / synchronised during the year. In addition, 170 MW of solar PV plants were also commissioned. With this, the worldwide installed base of power generating equipment supplied by BHEL has exceeded 183 GW.

- India's first ever air-conditioned AC EMU train equipped with BHEL's state-of-the-art propulsion equipment has been operating successfully in Mumbai since December, 2017 paving way for more such opportunities.
- The company invested ₹753 crore – 2.7% of its turnover on R&D. The total intellectual capital of the company has enhanced to 4,357 patents and copyrights, with filing of 530 patents and copyrights during the year.
- Your company is proposing to pay a total dividend of 91% for the year 2017-18 on the enhanced paid up share capital, post bonus issue in 2017. It would be the highest dividend paid during last four years, subject to the approval of shareholders.

The Future

India is the fastest growing major economy in the world. It is envisaged to become a US\$5 trillion economy by 2025 and US\$10 trillion by 2030 from present US\$2.6 trillion supported by demographic dividend, technology developments, and economic reforms. This catapults to humongous demand and opportunities in energy and infrastructure sector.

April 28, 2018 is the historic day in the development journey of India. This day onwards, every single village of India has access to electricity. Going forward, government is targeting to move from 100% village electrification to 100% households' electrification by end of the year. This improvement in accessibility and availability of electricity is one of the most significant changes underway in India's power sector, where your company is one of the leaders.

India... envisaged to become a US\$ 5 trillion economy by 2025 and US\$ 10 trillion by 2030... catapults to humongous demand and opportunities in energy and infrastructure sector.

In addition to above, railways, ports, urban infrastructure, environmental solutions, and basic materials like cement, coal, steel, petrochemicals are slated for massive investment in coming years to fuel India's growth aspirations.

This makes it a very exciting time. It is bringing many more opportunities for your company, particularly in the areas of clean energy, energy storage, e-mobility, emission control equipment, urban transport and infrastructure development, among others.

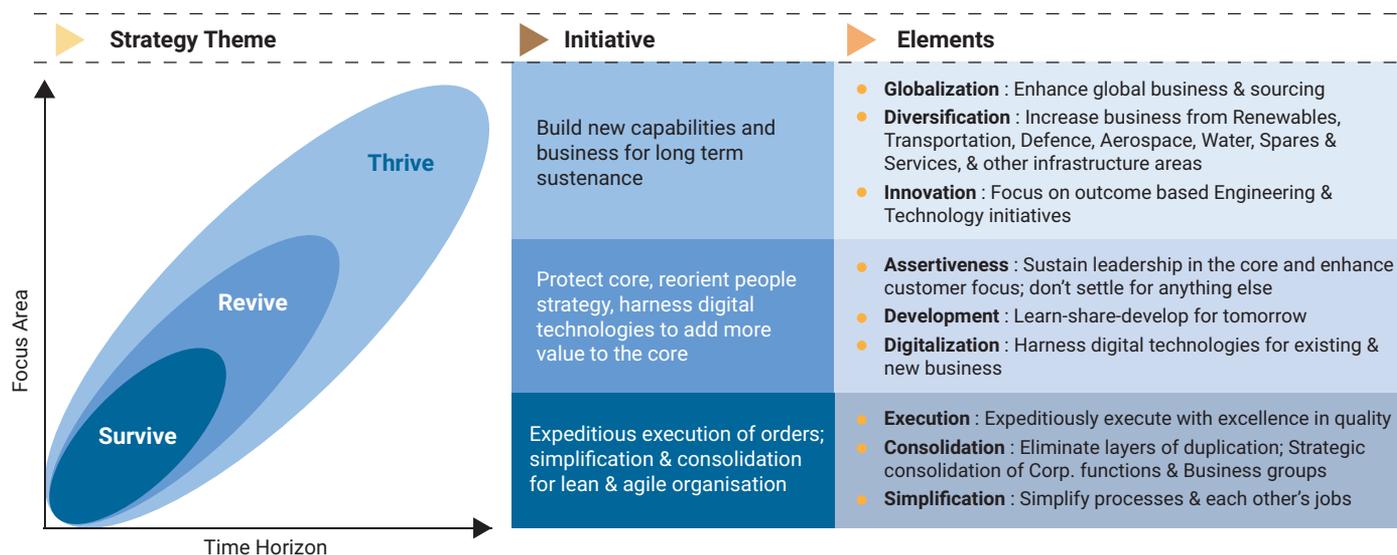
Creating BHEL of Tomorrow

This is a historic moment for your company to move to the next level of sustained performance by converting the emerging opportunities into potential success stories. Therefore, your company has embarked on a transformational journey of 'Creating BHEL of Tomorrow', with the objective of enhancing responsiveness to emerging opportunities, building new levers of robustness and laying foundation for a sustainably rising BHEL.

Our seminal strategy framework, which is the pillar of transformational journey, consists of three strategy themes spread over

concurrent time horizons: Survive, Revive, and Thrive (SRT)- a concept envisioned by your company. The three themes are targeted simultaneously and the strategies under these will address the immediate and future challenges of the company.

Survive: After witnessing a declining performance trend up to 2015-16, the first goal of your company during last two years was to regain profitability and growth. We gave utmost priority to expeditious **Execution** of orders coupled with strict cost control, efficient utilisation of resources through **Consolidation**, and enhancing speed of response through **Simplification**. Strong focus on conversion of non-executable orders into executable ones; consolidation and restructuring of corporate functions and business groups; manpower audit; simplification of policies and procedures, and greater application of IT in business processes were some of the initiatives your company successfully executed. This was our 'Survival' strategy, which enabled us to not only reverse the declining performance trends, but also pursue the momentum of improved performance.



Our seminal strategy framework... consists of three strategy themes spread over concurrent time horizons: Survive, Revive, and Thrive (SRT).

Your company... finest example of successful 'Make in India'... committed and ready to take this journey forward in building a 'New India'...

Revive: While it has been satisfying to see the company back on growth path, our strategies to build new sources of strength are imperative for sustained 'Revival' of the company. This includes building **Assertiveness** to protect leadership in our core business and the grit of never settling for anything less, holistic **Development** of our most important asset – our people, in alignment with future business requirements, and maximum harnessing of **Digitalization** to create new growth opportunities and improve operational excellence. Portfolio expansion in core business; policy and structural changes for giving impetus to employee development and motivation; development of IoT based solutions for utilities; and digitalization of all employee-utility services are being executed. This is the key to growth in medium term and to surpass our own benchmarks.

Thrive: To take the company to the next level, where your company aspires to 'Thrive' and move towards the vision of becoming a global engineering enterprise, we continue to focus on **Globalization**, and **Diversification** to increase business from non-coal areas, and further strengthen our **Innovation** capabilities. Accordingly, we have created and restructured business verticals for emerging opportunities. Development of technologies such as advanced ultra-supercritical technology for power generation, propulsion system for electric vehicles and coal to methanol have been taken up in mission mode.

The nine elements – ECS, ADD, GDI, together named as Nine Elements for Executing Vision (NEEV), are integral part of strategic plan 'The Road to 2022' of your company and are the foundation of our transformation journey 'Creating BHEL of Tomorrow'.

As demonstrated during the last two years, your company will continue to work diligently on each of these elements with similar zeal and zest in future.

Partners on the Journey

Aspirations in our journey cannot be achieved without acknowledging dedicated and committed efforts of each & every member of BHEL family. I would like to express sincere thanks and gratitude to our esteemed customers and other business partners for continued confidence in us, our employees for their passion and perseverance, members of Board for their guidance, and you, our shareholders for support and trust in the company. I would like to thank Ministries of Government of India, particularly the Department of Heavy Industry for their valuable guidance and support in all our endeavors.

Your company, BHEL's immense contribution in nation building endeavors makes it the finest example of successful 'Make in India'. We are committed and ready to take this journey forward in building a 'New India' which is prosperous, confident and happy.

I look forward to your continued support in this journey.

With warm wishes,



Atul Sobti

Chairman & Managing Director

New Delhi
August 8, 2018

LEADERSHIP AT BHEL

Board of Directors (As on 20.07.2018)





Sitting from right to left

Shri Rajesh Kishore
Independent Director

Ms. Surama Padhy
Independent Director

Shri Atul Sobti
Chairman & Managing Director

Dr. Subhash Chandra Pandey
SS & FA, DIPP: Part-Time Official Director

Shri Pravin L. Agrawal
Joint Secretary, DHI : Part-time Official Director

Standing from right to left

Shri Keshav N. Desiraju
Independent Director

Shri S. Balakrishnan
Director (Industrial Systems & Products)

Shri Akhil Joshi
Director (Power)

Shri Subodh Gupta
Director (Finance)

Shri Ranjit Rae
Independent Director

Shri S. Biswas
Director (Engineering, R&D)

Shri R. Swaminathan
Independent Director

Shri Desh Deepak Goel
Independent Director

Shri D. Bandyopadhyay
Director (Human Resources)

LEADERSHIP AT BHEL

Management Team (As on 20.07.2018)



Atul Sobti
Chairman & Managing Director



D. Bandyopadhyay
Director (Human Resources)



S. Biswas
Director (Engineering, R&D)



Akhil Joshi
Director (Power)



Subodh Gupta
Director (Finance)



S. Balakrishnan
Director (IS&P)



M.K. Sharma
ED (CPP, PMG & Contract Closing), New Delhi
Addl. Charge (DABG)



V.K. Chohan
ED (IO), New Delhi



Dr. Umakant Choudhury
ED (CTM), New Delhi



K. Purswani
ED (People Strategy), New Delhi
Addl. Charge (CQ&BE and CLD)



Anjan Mukhopadhyay
ED (PS-ER), Kolkata



D. Guin
ED (CSM), New Delhi
Secretary, Mgmt. Committee



G.S. Rotti
ED (REWB), New Delhi



Tapas Majumdar
ED (PS-TS), Noida
Addl. Charge (PS-PMG)



R. Rajamanohar
ED (Tiruchirappalli, PPPU & Piping Centre)



K. Kalaiselvan
ED (BAP), Ranipet



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 (PS-SR), Chennai



S. Chaturvedi
ED (TBG), Noida



G.K. Hedao
ED (PS-Mktg.- Thermal & Gas),
New Delhi



Rajiv Mehra
ED (CFFP), Haridwar



V. Ravindran
ED (SSBG), Noida



Ashok M Dawane
ED (CS & FP), Jagdishpur



Manjit Singh
ED (PS-NR), Noida



R. Subramanian
ED (PS-WR), Nagpur



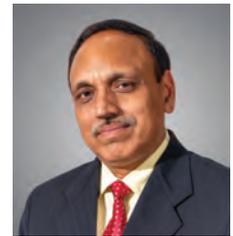
K.K. Khurana
ED (PS-PEM), Noida



Rana Basu
ED (PCSG), Noida



G. Uday Kumar
ED (ISG), Bengaluru
Addl. Charge (HPEP)



A.M. Gupta
ED (HBG), Noida



M.K. Varma
ED (CBU), Bengaluru



C. Murthy
ED (COM), New Delhi



Kamalesh Das
ED (ROD), New Delhi
Addl. Charge (IS-IPE & IPM)



Anil Kapoor
ED (HR & CC), New Delhi



C. Ananda
ED (EDN), Bengaluru



P.P. Yadav
GM-I (NBG), Noida



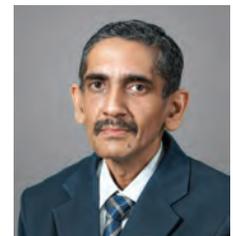
Sanjay Gulati
GM-I (HEEP), Haridwar



P. Jagadiswara Reddy
GM-I (PE&SD), Hyderabad
Addl. Charge (HPVP)



Renuka Gera
GM-I (ESS), New Delhi



Anil Joshi
GM-I (CDT), Noida



A.K. Jain
GM & Head (TBSG),
New Delhi



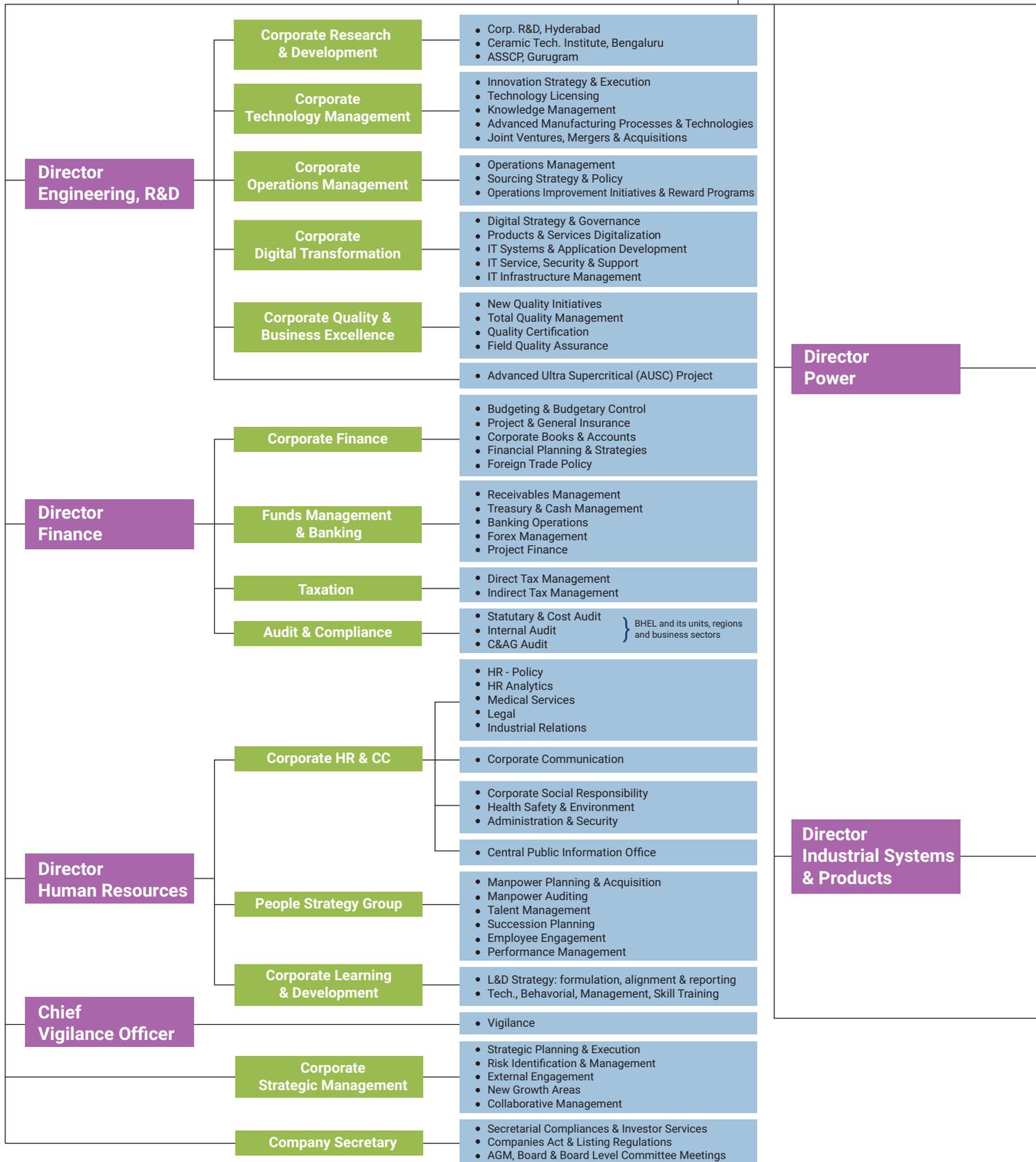
S.B. Narang
GM & Head (Corp. Finance),
New Delhi

ED : Executive Director
GM-I : General Manager - Incharge
GM : General Manager

BOARD OF DIRECTORS

Chairman & Managing Director

Committee of Functional Directors

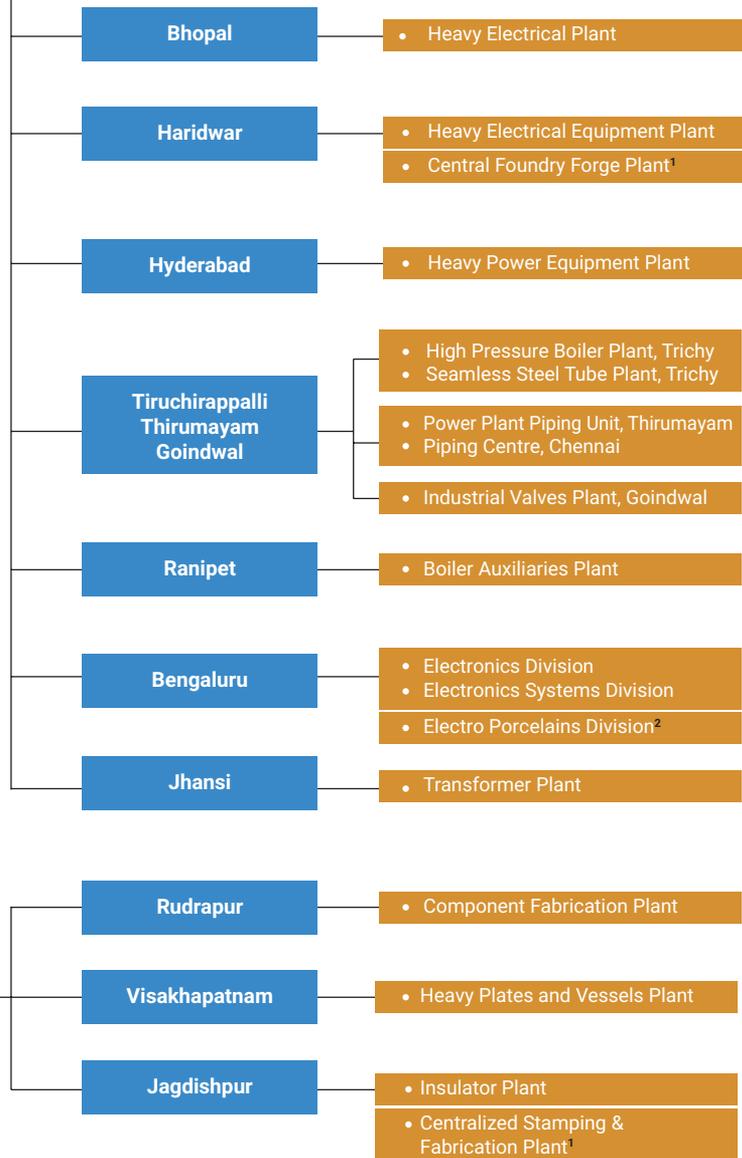


Management Committee

- PS - Marketing (Thermal & Gas)
- Nuclear Business Group
- Hydro Business Group
- Project Management Group
- Technical Services
- Project Closure Synergy Group
- Contract Closing Group
- Project Engineering Management
- Spares & Services Business Group
- Heavy Equipment Repair Plant, Varanasi
- R&M Systems Group, Bhopal
- Industrial Systems Group, Bengaluru
- PS - Southern Region, Chennai
- PS - Northern Region, Noida
- PS - Eastern Region, Kolkata
- PS - Western Region, Nagpur
- PS - HQ, MSX, HR
- Captive Power Plant Business
- IS - PMG & Contract Closing
- Industrial Products Business (Elect. & Mech.)
- Regional Operations Division
- Transportation Business & Systems Group
- Defence & Aerospace Business Group
- Renewables & Water Business
- Transmission Business Group
- Project Engineering & Systems Division
- Energy Storage Solutions Group
- International Operations

LEADERSHIP AT BHEL

Corporate Organisational Structure (As on 20.07.2018)

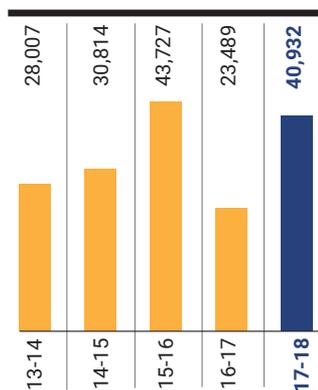


1. CFFP, CS&FP report to Director (Engineering, R&D)
 2. EPD reports to Director (Industrial Systems & Products)

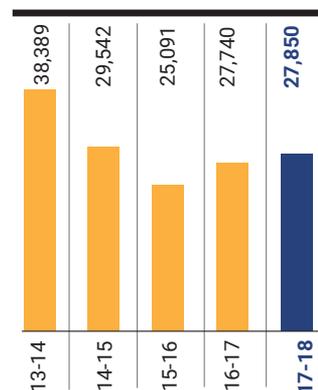
YEAR AT A GLANCE | 2017-18

(Figures are in ₹ crore unless otherwise stated)

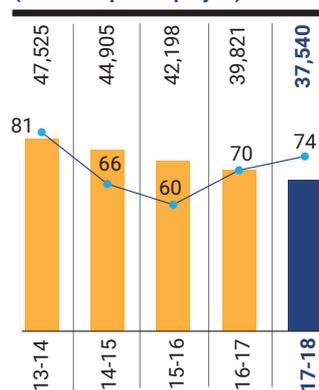
Orders Received



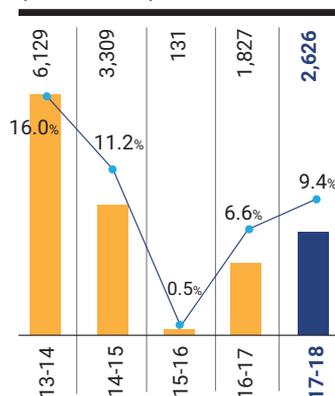
Turnover



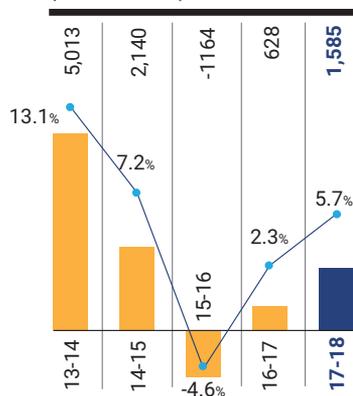
Manpower (in numbers) (Turnover per employee) ₹ Lakhs



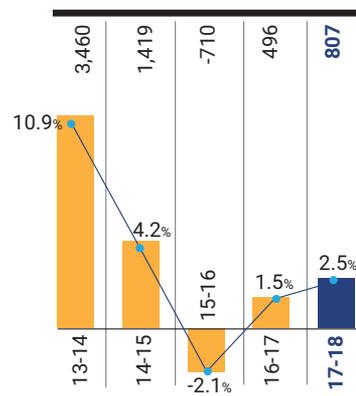
EBIDTA (% to turnover)



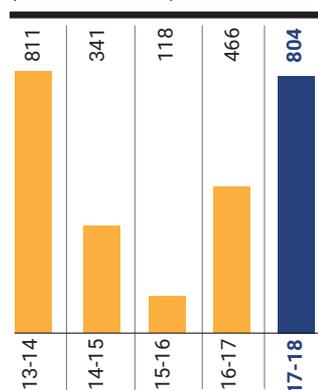
Profit before Tax (PBT) (% to turnover)



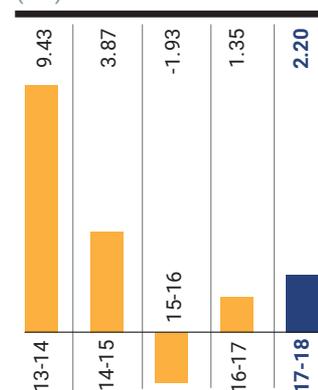
Profit after Tax (PAT) (% to avg. net worth)



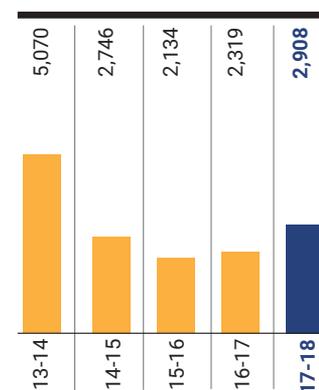
Dividend Payout (incl. dividend tax)



Earning per Share (EPS) (in ₹)



Contribution to Exchequer



Figures for FY 2013-14 and 2014-15 as per IGAAP and for FY 2015-16 onwards as per Ind AS

BHEL's strategies and unwavering commitment to the highest standards of integrity underpin everything we do. Here are some highlights of your company's performance in 2017-18:

Total Order Book
₹1,18,000 Crore



Highest during
the last five years

100% market share

in thermal utility segment



Highest ever orders
booked in **transportation,**
defence & water segments

183 GW+
power generating
equipment



installed
till date

1,000+ utility sets
commissioned in the country



including coal, hydro, nuclear, solar & gas

530 MW+
Solar PV portfolio



Highest ever order of **75 MW**
SPV plant

15.61 Million Units

of power generated through

in-house
solar power installations



Over
₹750 Crore invested in
R&D and innovation



530 patents/
copyrights filed

4,357 Total
Intellectual Capital

Over
₹240 Crore
invested in
company's assets



for capability building/
productivity enhancement/indigenization



Human capital base
37,540

2100+ female employees



27 Shram awards

15 Vishwakarma awards



24,046 trainees
including

6,088 Act-apprentices trained
as a part of Skill India



Strategic Diversification

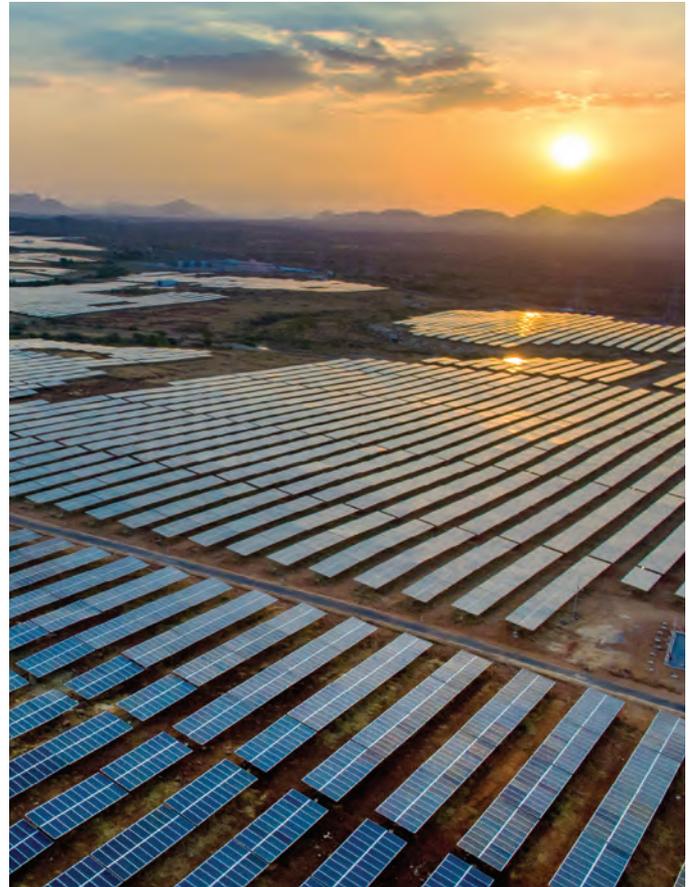
Technology Agreement

with **ISRO** for Li-ion cells
& **KHI** for stainless steel metro coaches

ABOUT BHEL

BHEL 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 wide range of solutions to customers in power, transmission, transportation, renewables, water, defence & aerospace, oil & gas, and industry. One of the largest engineering and manufacturing companies in India, BHEL has created value for all 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 37,000 employees is the cornerstone of its success.

BHEL's commitment to nation building reflects in many ways – in its contribution to more than half of the country's total installed power generation capacity; bringing the latest state-of-the-art technology to the country; highest spend on R&D and innovation; pan-India presence; establishment of world class assets and investment in social programmes such as skilling youth, health & hygiene, education, cleanliness and environment protection, to name a few.



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 its auxiliaries for fossil-fuel applications up to 1000 MW unit size
- Emission control equipment including Flue Gas Desulphurisation systems, high efficiency Electrostatic Precipitators and Selective Catalytic Reduction systems for NO_x emission control
- Gas turbines and generators up to 297 MW unit size
- Hydro turbines and generators of 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



INDUSTRY SECTOR

BHEL is a leading manufacturer of a variety of 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/Vehicle Control Unit), 25 kV AC locos, EMU coaches, electric locomotives up to 6000 HP and diesel electric locos up to 3000 HP
- **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 switchgear, ceramic insulators, Flexible AC Transmission system devices etc.
- **Renewables:** EPC solutions from concept to commissioning for grid connected and standalone solar PV applications for all sizes of plants, space grade solar panels and space grade batteries
- **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
- **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, simulators etc.
- **Captive Power projects:** Steam and Gas Turbine based Captive Power Plants
- **Industrial products:** Range of industrial products including oil rigs, wellheads & Xmas tree valves, mechanical packages, fabricated equipment & boiler feed pumps, compressors & AC machines



With 17 manufacturing plants, 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 for various industries.

Having a widespread overseas footprint with references in 83 countries, in all the six inhabited continents, BHEL is verily India's '*Industrial Ambassador*'. Till date, BHEL has installed around 11 GW power generating capacity in overseas markets, and an additional 6 GW is under execution.

BHEL's legacy of achievements, and core competencies are our source of strength to build the future. A new India is set to rise and BHEL is ready to leap ahead. Having been adept at responding to the market requirements throughout its illustrious journey, the company is transforming itself by strengthening its leadership in core businesses, while sustaining growth through diversification.

The company is building new pathways to fuel its growth aspirations. With focus on enhancing value propositions and building new capabilities in core businesses, BHEL is expanding its business and enhancing its portfolio in the field of solar, transportation, transmission, defence, aerospace and water businesses and other new growth areas for future business. To thrive in the future, the company is leveraging opportunities emerging from a growing economy in various areas such as urbanisation, digitalisation etc.

BHEL's strength lies in its focus on innovation and technology development. For diversification, the company is focussing on technology development as well as technology collaborations as required. In-house development of critical technologies such as Advanced Ultra Supercritical Technology and Coal to Methanol, among others has been taken up. In addition, acquisition and adaptation of technologies from leading companies in the world is also being pursued.

Continuing on its transformation journey, BHEL is embracing change and developing new avenues of growth, which will enable BHEL to contribute further in creating a New India.



Generator component manufacturing facility at BHEL, Haridwar

PAN-India presence

Formidable manufacturing strength & dedicated customer support - A widespread network of 17 manufacturing units, 2 repair units, 4 regional offices, 8 service centres, 1 subsidiary, 3 overseas offices, 3 active joint ventures, 15 regional marketing centres and current project execution at more than 150 project sites across India & abroad.



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



17
Manufacturing
Units



08
Service
Centres



15
Business Offices



150+
Project Sites
in India & abroad

Manufacturing Plants / Unit locations

BHEL Manufacturing Units	Bengaluru	1. Electronics Division (EDN)
	Bhopal	2. Electronics Systems Division (ESD)
	Goindwal	3. Electro Porcelain Division (EPD)
	Haridwar	4. Heavy Electrical Plant (HEP)
	Hyderabad	5. Industrial Valves Plant (IVP)
	Jagdishpur	6. Heavy Electrical Equipment Plant (HEEP)
	Jhansi	7. Central Foundry Forge Plant (CFFP)
	Rudrapur	8. Heavy Power Equipment Plant (HPEP)
	Ranipet	9. Insulator Plant (IP)
	Tiruchirappalli	10. Centralised Stamping and Fabrication Plant (CS&FP)
	Thirumayam	11. Transformer Plant (TP)
	Visakhapatnam	12. Component Fabrication Plant (CFP)
		13. Boiler Auxiliaries Plant (BAP)
		14. High Pressure Boiler Plant (HPBP)
		15. Seamless Steel Tube Plant (SSTP)
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)

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

Did you know



BHEL is the first manufacturer of solar photovoltaic cells and modules in the country

Solar on ground, solar on rooftop, solar on water, solar in satellites – BHEL does it all!

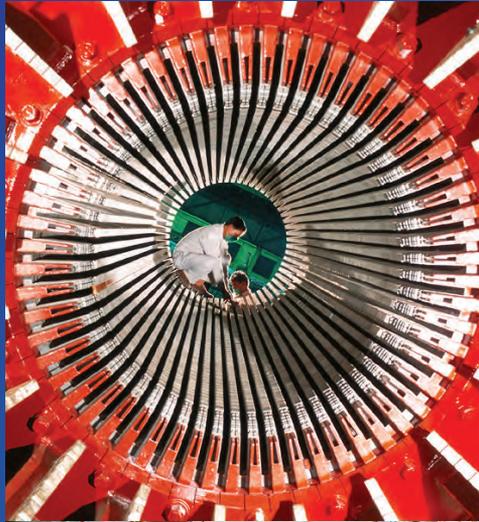
BHEL is one of the select few firms worldwide with capability to design and manufacture heat exchangers for fighter aircraft

Amongst domestic manufacturers, BHEL has commissioned the highest number of eco-friendly supercritical sets in the country

BHEL is the single largest contributor to the country's total installed electric capacity

All Indian satellites launched by ISRO are equipped with BHEL supplied solar panels & batteries

One of the world's largest ± 800 kV, 6000 MW multi-terminal HVDC NE-Agra transmission project has been executed by BHEL (along with ABB)



A National Institution

One of the largest engineering & manufacturing companies in India serving core sectors of the economy

India's industrial ambassador to the world

Made the country self-reliant in power sector-concept to commissioning

Pan-India presence with 17 manufacturing units and 150+ project sites globally

Global Footprints

References in 83 countries in all inhabited continents

11,000 MW+ power generation capacity added in overseas markets

6,000 MW+ projects under execution

Executing the largest ever export order- 2x660 MW Maitree thermal power project in Bangladesh

Energizing India

1,000+ utility sets installed in the country

183+ GW power generating equipment installed in India and abroad

450+ MW – cumulative supply of PV cells, modules, and systems

BHEL manufactured equipment constitutes 47% of nuclear power generation capacity (secondary side) and 45% of hydro power generation capacity in the country

Powering Progress...

Unparalleled contribution in core sectors

600,000+ MVA transmission equipment supplied

31,000+ AC machines supplied; largest Indian manufacturer

360 electric locos supplied to Indian Railways & industry

390+ compressors & 90 oil drilling rigs supplied

38+ Super Rapid Gun Mount supplied for Indian Navy ships



Valuing People

Second largest employer amongst Indian Capital Goods industry

More than 8,000 engineers in the workforce – ~ 90% of executives

2,100+ female employees

Participative management culture since 1973 – less than 1% attrition rate

Technology for a Sustainable Future

Developing critical technologies in-house including Advanced Ultra Supercritical (AUSC) and Coal to Methanol

Spearheading the development and installation of emission control equipment for coal based power plants

Developed more efficient EHV Transmission systems and products (including ±800 kV HVDC)



Social Onus

Committed to Principles of UN Global Compact

Signatory to Integrity Pact of Transparency International

Awarded 'Champion of Change' for skilling Gen-Y

Active contributor to Healthy India, Educated India, Green India and Clean India initiatives

In-house green coverage of 4.7 million square metres

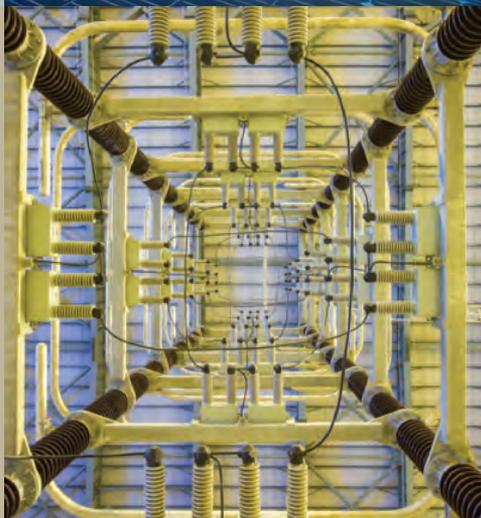
Innovation

R&D expenditure consistently >2.5% of turnover - highest in Indian engineering field

Five Research Institutes

14 Centres of Excellence (CoE)

In-house R&D centres of 12 manufacturing units & divisions recognized by DSIR



Going Digital

Harnessing Internet of Things (IoT) for value-added services for power plants

Enterprise Social Network ICON launched for employees

Improving performance through remote monitoring and diagnostics system introduced in power plants

... Brightening Lives

RECOGNITION of EXCELLENCE

ACCOLADES

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



Hon'ble President of India presents 'Vayoshreshtha Samman' 2017 to BHEL for promoting well-being and welfare of senior citizens

- **Prime Minister's Shram Awards** (27 numbers) to 42 BHEL employees including 4 **Shram Bhushan**, 10 **Shram Vir/Virangna** and 13 **Shram Shree/Devi Awards** in recognition of their distinguished performance, innovative abilities, and outstanding contribution in the field of productivity. This also includes 8 women employees from BHEL who have made history by winning the highest share out of 20 women employees awarded at the national level.

- **Vishwakarma Rashtriya Puraskars** (15 numbers) to 63 BHEL employees for their innovative suggestions leading to cost reduction, improvement in quality, productivity and working conditions.
- **Golden Peacock Innovation Management Award** under the category of Large Enterprise - Engineering Sector.
- **PSE Excellence Award 2016** for Human Resource Management Excellence, Contribution of Women in PSEs, R&D, Technology Development and Innovation by Indian Chamber of Commerce.
- **Vayoshreshtha Samman 2017** for Best PSU in promoting the well-being and welfare of senior citizens presented by the Hon'ble President of India.



BHEL receives PSE Excellence Awards for R&D, Technology Development & Innovation, Human Resource Management Excellence and for Contribution of Women in PSEs



Shram Awardees with CMD and Directors

- Adjudged as **'Model Employer'** for best compliance of labour laws by Ministry of Labour & Employment, Government of India.



Sh. Atul Sobti, CMD, BHEL, receiving India Pride Award 2017-18 for Excellence in Heavy Industries

- **CFBP Awards 2017** for the category of Manufacturing Enterprises-Large organization by Council of Fair Business Practices.
- **India Pride Awards 2017-18** under the Central PSU (Maharatna) category for excellence in Heavy industries by Dainik Bhaskar Group.
- **BT CSR Excellence Awards 2017** in the categories of 'Promotion of Healthcare' and 'Best CSR company in Public Sector'.
- CMD, BHEL honoured with **'CBIP Special Recognition 2018' for Excellent Contribution** in Power Sector Development.
- **INAE Fellowship Award 2017** to CMD, BHEL for contribution in Engineering field by Indian National Academy of Engineering (INAE).
- Shri Subodh Gupta, Director (Finance) was awarded **CMA (Cost & Management Accountant) Achiever Award**, certificate of merit in Public Sector - Manufacturing (Large).
- Dr. M.M. Rao from Corporate R&D received **'INAE Innovator Entrepreneur Award 2017'** by INAE for his innovative contribution in the field of High Voltage Gas Insulated Substations and Transmission Systems.
- Smt. Shikha Saxena, Sr. Manager (ITS), BHEL, Bhopal received the **NEXT Chief Information Security Officers (CSOs) Award** at the Information Security summit held in Jaipur. Sh. Rajneesh Rai, Deputy Manager (ITS), BHEL, Bhopal, and Sh. Vishal Roday, Sr Manager (IT&S), EDN were awarded the **Next100 CIO Award 2017**.
- Ms. G. Archana of BHEL, Tiruchirappalli, received the **WIPS Best Woman Employee Award** in the non-executive category at WIPS forum.
- **CBIP Award for Best Power Equipment Manufacturing Organisation** for outstanding contribution to the development of the power sector including power generation, transmission and renewable energy from the Central Board of Irrigation & Power.
- **FICCI – AIOE National Award** for outstanding achievement in Industrial Relations 2015-16.
- **EEPC India Northern Region Award for Engineering Export Excellence** in the category of 'Top Exporter' for both 2013-14 and 2014-15 - Special Trophy for Excellence in Exports of High-Technology Products (Large Enterprise).



Shri Subodh Gupta receiving CMA Achiever Award on July 18, 2017 from Hon'ble Union Minister of State for Finance and Corporate Affairs



Ms. G. Archana of BHEL Tiruchirappalli, receiving the WIPS Best Woman Employee Award at WIPS forum

BOARD'S REPORT

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Report of the Board of Directors

Dear Members,

The Board of Directors have pleasure in presenting the 54th Annual Report on the business and operations of your Company and the Audited Financial Statements for the year ended March 31, 2018.

Financial Results

(₹ crore)

	For the year ended	
	March 31, 2018	March 31, 2017
Turnover	27850	27740
Revenue from operations	28813	28599
EBIDTA	2626	1827
Operational EBIDTA	1933	1061
Profit before tax	1585	628
Profit after tax	807	496
Total comprehensive income	890	467
Dividend (including interim dividend) paid #	485	294
EPS (in ₹)	2.20	1.35

Note:

- a) Turnover and Revenue from operations exclude excise duty & taxes, unless specifically stated, for better comparison.
- b) # Dividend includes final dividend for the previous year and interim dividend for the current year.

State of Company Affairs

As a result of enhanced focus on increasing market share and diversification, the Company secured orders worth ₹ 40,932 crore, a significant 74% rise over FY 2016-17. This comprises orders worth ₹ 33,342 crore in the power segment and ₹ 7,590 crore in the industry and overseas segments combined. The Company ended the year with a total order book of over ₹ 1,18,000 crore, the highest in the last five years.

In a shrunken and highly competitive Indian power sector market, your Company has reinforced its leadership position by securing 100% of the market share in main plant equipment for thermal utility segment during FY 2017-18.

Turnover in FY 2017-18 was ₹ 27,850 crore as against

₹ 27,740 crore in FY 2016-17. However, on like to like basis, turnover for FY 2017-18 is ₹ 28,338 crore, higher by 2.2%, w.r.t FY 2016-17 despite subdued business environment. (Refer details in note 27 of Annual Accounts "Revenue from Operations").

The Company registered Profit before tax (PBT) of ₹ 1,585 crore in FY 2017-18 as compared to ₹ 628 crore in FY 2016-17 - a growth of 152%.

Your Company has reinforced its leadership position by securing 100% of the market share in main plant equipment for thermal utility segment during FY 2017-18.

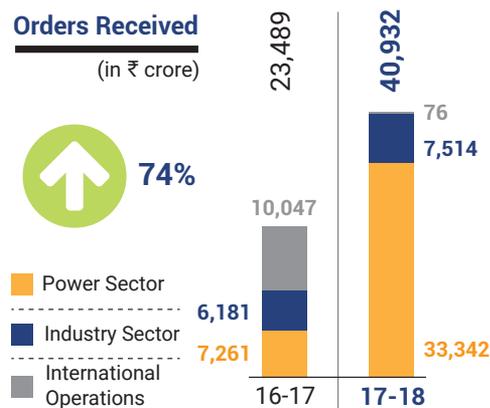
Net profit (PAT) stood at ₹ 807 crore in FY 2017-18, against ₹ 496 crore in FY 2016-17, a 63% jump. Your Company has delivered a significant improvement in operational EBIDTA, which could be achieved through various cost reduction initiatives.

Orders Received

(in ₹ crore)



74%

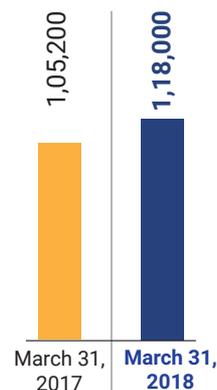


Orders in Hand

(in ₹ crore)



12%



BHEL has commissioned/synchronised 4,319 MW of power generating sets in FY 2017-18.

Your Company has delivered a significant improvement in operational EBIDTA, which could be achieved through various cost reduction initiatives.



BHEL presents a cheque of ₹185.21 Crore towards interim dividend for the year 2017-18 to Sh. Anant G. Geete, Hon'ble Union Minister of HI & PE and Sh. Babul Supriyo, Hon'ble Minister of State for HI & PE

Change in Share Capital

As approved in the Annual General Meeting held on September 22, 2017, bonus shares were allotted on October 3, 2017 in the ratio of 1:2 i.e. one equity share for two existing fully paid up equity shares. Consequently, the paid-up share capital has increased from ₹ 489.52 crore in FY 2016-17 to ₹ 734.28 crore in FY 2017-18 by capitalization of reserves.

Transfer to Reserve

The Company has not transferred any amount to the reserves during FY 2017-18.

Dividend

Your Company has paid an interim dividend of ₹0.80 per equity share (@ 40% on equity share of ₹2/- each) amounting to ₹293.71 crore on the paid up share capital of ₹734.28 crore, in February 2018. Further, the Board of Directors has recommended, in its meeting held on May 29, 2018, a final dividend of ₹1.02 per equity share (@ 51% on equity share of ₹2/- each) amounting to ₹374.48 crore, out of profit for FY 2017-18, subject to your approval. With this, the total dividend for FY 2017-18 amounts to ₹668.19 crore (91% on the enhanced equity), registering a growth of 73% over FY 2016-17.

The Company is committed to enhance shareholder value and has a track record of paying dividend uninterruptedly since 1976-77.

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 also provided separately in the Annual Report.

Deposits

The Company has not accepted deposits from the public falling within the ambit of Section 73 of the Companies Act, 2013 during FY 2017-18.

MoU Rating

Your Company has been rated as '**Excellent**' on MoU performance for FY 2016-17 by Government of India. The MoU performance for FY 2017-18 is under evaluation.

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 2017-18.

Directors' Responsibility Statement

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

- In the preparation of the Annual Accounts, the applicable Accounting Standards (Ind AS) have been followed along with proper explanations relating to material departures;
- The Directors have selected such accounting policies and applied them consistently and made judgements 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;
- 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;

The Company is committed to enhance shareholder value and has a track record of paying dividend uninterruptedly since 1976-77.

- 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.

- (iii) 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 the Independent Directors to the Board of Directors.

Links to Company Websites:

1. Details regarding familiarization programme of Independent Directors are available on the website of the Company 'www.bhel.com' at web link 'www.bhel.com/index.php/ind_dir' under the heading 'Familiarisation Programme for Independent Directors (under Independent Director- Related Information)'.
2. Policy determining material subsidiaries and policy dealing with related party transactions, weblink :
www.bhel.com/pdf/Policy_with_regard_to_Related_Party_Transactions.pdf



Secretary, DHI, Dr A. R. Sihag (third from left), along with CMD-BHEL and Joint Secretary, DHI during their visit to BHEL Hyderabad

Management Discussion & Analysis

Domestic economy is experiencing a recovery. GDP growth improved continuously every quarter during FY 2017-18, though annual growth was at 6.7% compared to 7.1% in FY 2016-17 (as per CMIE). For FY 2018-19, RBI has projected GDP growth of 7.4%. Government initiatives and interventions are expected to stimulate capital expenditure, rural demand, and social & physical infrastructure development, invigorating economic activity.

Though operating in a difficult business environment, the Company is aiming to maintain leadership in existing businesses and focus on diversification by harnessing opportunities in the areas of solar power, transmission, transportation, defence & aerospace and water businesses, to drive the next wave of growth.

Driven by the vision of 'Creating BHEL of Tomorrow', the Company has embarked upon a transformational journey in order to enhance responsiveness to emerging opportunities and building new levels of robustness, thereby laying the foundation for a sustainably rising BHEL. The Company is focusing its efforts through specific strategies and their enablers to ensure sustained growth in the future. **For further details pl refer Annexure-I .**

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**.

- (i) Auditors certificate on Corporate Governance under Listing Regulations & DPE guidelines on Corporate Governance.
- (ii) Secretarial Audit Report u/s 204(1) of the Companies Act, 2013 and management reply thereon.

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 Obligation & Disclosure Requirements) Regulations, 2015, the details in respect of which are given at point 2.3 of the Corporate Governance Report. Further, there has been no instance where the Board of Directors has 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 Desh Deepak Goel and Shri Ranjit Rae have been appointed as Part-time Non-official (Independent) Directors w.e.f. September 23, 2017.

Shri Subodh Gupta has been appointed as Whole Time (Functional) Director w.e.f. April 18, 2018 to take charge of the office of Director (Finance).

Shri Pravin L. Agrawal, Joint Secretary, Department of Heavy Industry, Ministry of Heavy Industries & Public Enterprises has been appointed as Part-time Official Director w.e.f. May 18, 2018.

Shri S. Balakrishnan has been appointed as Whole Time (Functional) Director w.e.f. June 1, 2018 to take charge of the office of Director (IS&P).

In accordance with Section 161 of the Companies Act, 2013 and Article 67(iv) of the Articles of Association of the Company, S/Shri Desh Deepak Goel, Ranjit Rae, Subodh Gupta, Pravin L. Agrawal and S. Balakrishnan, having been appointed as additional directors, shall hold directorship upto the 54th Annual General Meeting of the Company and are eligible for appointment as Directors at the Meeting.

Cessation

Shri A.N. Roy, who was appointed as Part-time Non-official (Independent) Director on August 27, 2014, ceased to be a Director of the Company on completion of his tenure on August 20, 2017.

Shri T. Chockalingam, who was appointed as Director (Finance) on February 11, 2016, ceased to be a Director of the Company on attaining the age of superannuation on November 30, 2017.

Shri Bhaskar J. Mahanta, the then Joint Secretary, Department of Heavy Industry, Ministry of Heavy Industries & Public Enterprises, who was appointed as Part-time Official Director on January 3, 2017, ceased to be Part-time Official Director on May 18, 2018.

Shri Amitabh Mathur, who was appointed as Director (IS&P) on September 1, 2015, ceased to be a Director of the Company on attaining the age of superannuation on May 31, 2018.

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 A.N. Roy, T. Chockalingam, Bhaskar J. Mahanta and Amitabh Mathur during their tenure.

Further, pursuant to Section 152 of the Companies Act, 2013 and Article 67(i) of the Articles of Association of the Company, Dr. Subhash Chandra Pandey and Shri Akhil Joshi will retire by rotation at the Annual General Meeting and being eligible, offered 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.

No Director has resigned during the year.

CEO/CFO Certificate

CEO/CFO certificate (as per Regulation 17(8) of Listing Regulations) is placed at **Annexure- III**.

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 provided for in FY 2017-18.

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

Sustainability, amply reflected in our mission statement "Providing Sustainable Business Solutions in the fields of Energy, Industry & Infrastructure", is ingrained in our business processes. It is our constant endeavor to minimise our environmental footprint across our value chain. Optimizing product designs to minimise cost as well as environmental footprint, reducing material consumption in products, continuously reducing/controlling use of natural resources in all operations, sound waste management based on the concept of reduce/recycle/reuse, energy conservation activities, moving towards greater use of greener fuels and increasing use of solar energy in our operations, protecting/preserving existing plantations and carrying out new plantations every year are the corner stones of our environmental sustainability strategy. For social sustainability, BHEL has focused its CSR programs towards inclusive and sustainable development of the society. The details of these initiatives pertaining to Sustainable Development are given in **Annexure-IV**.



Through 26 MW+ in-house solar power installations, BHEL achieved considerable carbon footprint avoidance

Business Responsibility Report

As per Regulation 34 of the SEBI (Listing Obligation & Disclosure Requirements) Regulations, 2015, Business Responsibility Report describing the initiatives taken by the Company from environmental, social and governance perspectives as per the prescribed format is enclosed at **Annexure - V**.

Achievements of R&D and Technological Development

BHEL's R&D strategy, structure and infrastructure are aligned to meet the challenges of present & future business environment. The R&D expenditure of the Company for FY 2017-18 is ₹ 753 crore which is 2.7% of the turnover. This includes the 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 has filed 530 patent and copyright applications during the year, enhancing the Company's intellectual capital to 4,357. Approximately 19% of the company's turnover, amounting to ₹ 5,247 crore has been achieved from its in-house developed products. Further details have been provided in **Annexure- VI**.



Dedicated R&D facility for solar cells at BHEL ASSCP, Gurugram

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 being reviewed and monitored continuously. Committee of Parliament on Official Language appreciated the efforts being made in this area during their inspection of various Units. Department of Heavy Industry also carried out the inspection of certain units.

Hindi Diwas / Week / Fortnight / Month was celebrated in all the units / divisions including corporate office, during which various competitions, seminars, cultural programs and kavi-sammelans were organized. Rajbhasha Ullas Parva was organized in the offices based in Delhi / NCR. Hindi Diwas function was held in corporate office under the chairmanship of Director (Power) in which Dr. Satyanarayan Jatiya, Vice President of Committee of Parliament on Official Language, was the Chief Guest. Meeting of Hindi Advisory Committee of the Ministry of Heavy Industries and Public Enterprises was held in Gangtok, Sikkim in November 2017 under the chairmanship of the Minister of Heavy Industries and Public Enterprises.



Dr. Satyanarayan Jatiya inaugurating Hindi Diwas Samaroh at BHEL Corporate Office, New Delhi

Your Company is playing an active role in Town Official Language Implementation Committees located in different cities. Many competitions, seminars, conferences and programs are organized under the auspices of these committees.

Fifteen Hindi magazines are published in the Company and employees are encouraged to contribute articles for publishing and selected entries are awarded.

Vigil Mechanism

BHEL advocates the principles of Good Governance, Transparency, Probity and Ethics so as to ensure maintenance of highest level of integrity in its functioning. The Vigilance function in the Company is headed by the Chief Vigilance Officer (CVO) who functions as a link between the Central Vigilance Commission (CVC), Central Bureau of Investigation (CBI) and the Management. Besides a Vigilance Department at the Corporate Office, all manufacturing Units / Power Sector Regions of BHEL also have a vigilance set up which is headed by a senior level executive reporting to the CVO. The Vigilance apparatus in BHEL facilitates an environment for the employees to work with integrity, efficiency, transparently, while upholding highest ethical standards for the Company. Vigilance Department has adopted a multi-pronged strategy and approach to combating corruption, which encompasses punitive, preventive and participative vigilance.

Preventive Vigilance has been the focus area of BHEL Vigilance. The main objective of Preventive Vigilance is not to wait for commission of an offence but to ensure its prevention by identifying the vulnerable areas in the organization & plugging the loopholes. Some of the significant preventive measures undertaken during the year are as follows:

- Surprise inspections, routine inspections and Chief Technical Examiner (CTE) type inspections were conducted across 23 units/ regions/ offices of the Company. Systemic improvements are being undertaken based on the learnings from such inspections.
- Continuous review/ updation of various policies/ guidelines is undertaken in order to align them with the Govt. Policies / guidelines, to minimize discretionary powers and bring clarity in provisions where there is scope for interpretations.
- Works Account Manual and Capital Budget Manual were reviewed and revised versions issued.



Director (HR) administering the pledge to employees during the Vigilance Awareness Week (VAW) observed in BHEL

- Awareness programmes on Preventive Vigilance and for promoting ethical & value based culture were organized. One session of vigilance has been included as mandatory input for the General Management Programme/Strategic Management Programmes, for middle and senior level executives. About 2800 BHEL employees were sensitized on vigilance issues during the training programmes held in various units/ regions.

Vigilance Awareness Week (VAW) was observed from October 30 to November 4, 2017 on the theme of "My Vision - Corruption Free India". Besides BHEL employees, outreach programmes were undertaken for vendors and public with a view to make them aware about corruption and to publicize the menace of corruption and to emphasize its ill effects on the wellbeing of the country with an aim to encourage them prevent and combat corruption. The initiatives included publicizing of the Integrity e-Pledge; conducting awareness Gram Sabhas and awareness Campaigns in schools / colleges; organizing lectures, panel discussions, debates, quizzes, essay writing, slogans/elocution/cartoon/poster competitions on topics such as moral values, ethics, good governance practices etc. The events were organized in over 70 schools/ colleges by the Company reaching out to more than 8000 students and youth.

BHEL had signed Integrity Pact with Transparency International on December 16, 2008 and the same was adopted in February 2009. Structured meetings are held with the Independent External Monitors (IEMs) every quarter wherein procurement related issues and complaints thereupon are taken up. The threshold value for tenders has been brought down from ₹ 10 crore to ₹ 5 crore (w.e.f. February, 2016) so as to increase the coverage under Integrity Pact. Presently, about 56% of the total procurement is covered under Integrity pact.

The Company is also having a Complaint Handling Policy in place in line with the guidelines / instructions issued by Government of India and CVC. It provides guidance on the manner in which BHEL receives and handles complaints. Out of total 162 complaints handled during the year, 09 cases were taken up for detailed investigation and appropriate actions were initiated, wherever necessary.

Publication of Quarterly e-Newsletter 'DISHA' by the Vigilance Department was initiated in June 2013 with a view to create awareness about procurement policy, rules and procedures, disseminate instructions/ guidelines issued by CVC and Government of India from time to time, sharing best practices and also case studies that reveal lapses observed/investigated in various critical areas of work and learning(s). This newsletter is being uploaded on the intranet sites of all the regions/ units and the link is being sent to all the employees through e-mails. Twenty issues of 'DISHA' have been published.

Health, Safety & Environment (HSE)

The responsibilities of Occupational Health and Safety (OHS) are driven by our commitment to protect our employees, people we work with, and the community at large. The Company believes in zero tolerance for unsafe work and non-conformance to safety in all its business activities.

There are well established systems, procedures and practices related to Health, Safety and Environment (HSE). Efforts for strengthening the HSE Management Systems & Procedures are made continuously in the organization. All manufacturing units and project sites have HSE departments and required resources, including qualified safety officers. Safety inspections, HSE audits, work place environment monitoring, health monitoring etc. are carried out as per laid down systems and procedures. All units and regional offices, having certification for ISO 14001 & OHSAS 18001, have undergone periodic audits by the certifying agency to ensure effectiveness of systems.

During the year, training programs were organised for all cadre of employees, as well as contract workers on various HSE related issues. Efforts towards enhancing awareness on HSE issues continued through celebrating Industrial Safety Week, Road Safety Week, National Safety Week, World Environment Day etc. During these events, various competitions like slogan writing, poster making, essay writing, quiz, etc. were organized for employees, contract workers and school children. Mimes were also organized on importance of safety at shop floors at HPEP Hyderabad and HEP Bhopal units.

As a recognition of their good safety practices and performance, many units won several awards. EDN, Bengaluru unit won second prize in the State Level Safety competition under Mega- Industry category for adopting best safe practices in the year 2017. A team of artisans from EDN, Bengaluru unit won the Third prize in the State Level Safety Quiz competition. BHEL Trichy unit won two international awards during the 27th Annual Global Conclave of International Institute of Security & Safety Management (IISSM) -2017 and six National Safety Awards.

Data and Cyber Security

Your Company has established a state-of-the-art Security Operations Centre (SOC), a facility in which an information security team continuously monitors and improves the organisation's security posture while preventing, detecting, analysing and responding cyber security incidents with the aid of both technology as well as well-defined processes and procedures.



Inauguration of state-of-the-art Security Operations Centre (SOC) at BHEL HRDI Complex, Noida

The hardware and software of the SOC have been installed at BHEL Hyderabad unit and the Control Centre has been established at BHEL Noida office. SOC collects and analyses

security event data in real time for early detection of targeted attacks and data breaches. All Internet traffic that goes out of BHEL and enters BHEL across the organisation is being monitored in SOC on 24x7 basis. SOC has reduced enterprise risk since it protects the business and helps BHEL to move from reactive response to pro-active mitigation.

Establishment of SOC also complies with the advice of Government appointed national nodal agencies like National Critical Information Infrastructure Protection Centre (NCIIPC) and Indian Computer Emergency Response Team (CERT-In).

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**.

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 are given at **Annexure-VIII**.

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 2017-18 are given separately in the Annual Report.

Auditors' Report on the Accounts

The Auditors' Report and Comments of the Comptroller and Auditor General of India on Standalone and Consolidated Financial Statements for FY 2017-18 of the Company are given at **Annexure- IX**. 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' Comments 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 has engaged M/s P.P. Agarwal & Co., Practising Company Secretaries, as Secretarial Auditors for conducting Secretarial Compliance Audit for FY 2017-18 and their report is forming part of Corporate Governance section.

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 2017-18.

The detail of cost auditors appointed for FY 2017-18 are given separately in the Annual Report. The Cost Audit Report for FY 2016-17 has been filed under XBRL mode on September 8, 2017, well within the due date of filing.

Acknowledgement

Your Directors gratefully acknowledge all the help, support and guidance received from Ministry of Heavy Industries & Public Enterprises and all other departments/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 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 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.

Last but not the least, your Directors wish to place on record their sincere appreciation for the diligent efforts and contributions of all BHEL employees, to ensure that the Company continues to grow and prosper.

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



Atul Sobti

Chairman & Managing Director

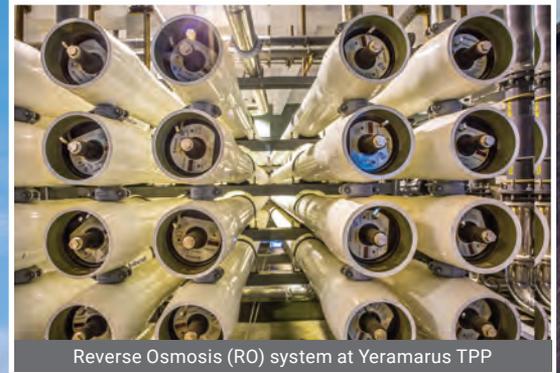
Place : New Delhi

Dated : July 25, 2018

Because every drop counts!

BHEL offers complete turnkey water management solutions for all user segments, e.g. power plants, industries and municipal applications. The bouquet includes potable water, DM water and waste water treatment solutions. BHEL's portfolio includes commissioning of one of India's largest ultra-filtration plants - 96 MLD plant OPaL Dahej, 40 MLD Sewage treatment plant, and RO-DM plants for thermal plants. BHEL has supplied more than 20 RO-based desalination plants throughout the country.

Leveraging the competencies developed over decades, BHEL has forayed into lake purification business under the Smart City initiative. The company is currently executing order for purification of Telibandha lake in Raipur, Chhattisgarh and is also constructing six de-centralized Sewage Treatment Plants (STPs) of 25.4 Million Litres per Day (MLD) capacity for Raipur Development Authority.



Reverse Osmosis (RO) system at Yeramarus TPP



Raw Water Treatment Plant at OPaL Dahej



Annexure – I to the Board's Report

Management Discussion and Analysis

1.1 Economic & Business Overview

World economic growth, which started gaining strength since mid-2016, stood at 3.8% in 2017 as per International Monetary Fund (IMF). The upswing is attributable to a rebound in investment, manufacturing activity and trade. In the near future, rising commodity prices, particularly crude, poses a threat to the growth momentum in emerging economies, though helping commodity exporter countries. Increased protectionist tendencies and trade retaliation moves also pose serious challenges for global economic integration and a cooperative global economic order.

In FY 2017-18, India's GDP, which grew at 6.7%, showed continuous increase every quarter. However, GDP and Index of Industrial production (IIP) showed a minor dip vis-à-vis 2016-17. The dip in IIP is attributed to deceleration in mining and electricity sectors whereas manufacturing sector recorded growth over the previous year. In addition, there was acceleration in construction sector, which significantly contributed in maintaining country's economic growth momentum.

Along with structural changes in the economy, Government of India continued with its investment impetus directed towards infrastructure like roads, railways, ports etc. Complementing the above, Union Budget 2018-19 emphasized driving growth through infrastructure development. An all-time high allocation has been made for Indian Railways with expenditure pegged at ₹ 1.48 lakh crore towards capacity expansion and modernization. Under the Smart Cities Mission, a total of 99 cities have been selected with an outlay of ₹ 2.04 lakh crore. However, in some of the major sectors of economy like steel and power, industry is still grappling with overcapacity and stressed assets.

In respect of electric power generation business, policy directions, such as National Electricity Plan, CERC/SERC decisions etc. indicate that besides higher focus on generation from renewable energy sources such as solar, wind etc. business is emerging in the areas of replacement of old thermal power plants and installation of emission control equipment. Demand for power is expected to improve with favourable socio-economic developments such as 100% village electrification and 100% household electrification.

World economic growth, which started gaining strength since mid-2016, stood at 3.8% in 2017 as per International Monetary Fund (IMF). The upswing is attributable to a rebound in investment, manufacturing activity and trade.

As the indicators of industrial production, investment demand and exports are showing recovery, India's growth outlook remains promising. Accelerating consumer demand and revival of private investment are likely to remain important contributors in maintaining India's growth momentum in short to medium term.

1.2 Opportunities and Threats

Domestic economy is experiencing a recovery. GDP growth improved continuously every quarter during 2017-18, though annual growth was at 6.7% compared to 7.1% in 2016-17 (as per CMIE). For the year 2018-19, RBI has projected GDP growth of 7.4%.

Reaching and sustaining a growth rate of 8% or higher will require contribution from all domestic sectors, supplemented by growth and positive environment in the global economy. Macroeconomic stability, solution to banking sector issues, realizing the expected growth from implementation of GST, and regaining the momentum on the structural reform agenda will be the key drivers for attaining a higher growth rate trajectory.

World Economic Outlook predicts global growth to be on track to reach 3.9% in 2018-19. The emerging and developing economies will speed up while advanced economies will continue to grow faster during 2018 and 2019 before slowing down in later years. However, threat from volatility in oil prices may affect the growth momentum in emerging economies. Increasing trade protectionist tendencies and retaliations are a potential risk. Inward-looking policies threaten global economic integration, which has served the world economy, especially emerging market and developing economies. Appropriate policy mix must be complemented by recovery in global economy for trade growth.

Changing energy mix presents both challenges as well as opportunities. Government is making efforts to meet the country's energy needs through a balanced fuel mix consisting of clean coal, hydro, nuclear, solar and wind energy. The National Electricity Plan released by CEA and the draft National Energy Policy of NITI Aayog foresee an increased share of renewable energy sources in the nation's installed capacity, but also expects coal to continue playing a key role in the coming years. Business opportunities are emerging in the areas of replacement of old sub-critical plants with supercritical plants and installation of emission control equipment in the near term and development of clean coal technologies in the medium to long term. BHEL is already capitalizing on the business opportunity provided by emission control norms and is supplying emission control equipment for coal based plants and is also working in the direction of clean coal technology development with the indigeneous development of AUSC technology. Certain expected developments such as higher economic growth, 24x7 Power for All, anticipated industrial growth through 'Make in India' and other initiatives are expected to considerably increase the electricity demand in the near term. For enhancing the country's power generation to cater to increased base load as well as replacement of old plants, requirement of new coal based power plants will continue to be an opportunity for future business.

Internet of Things (IoT) presents an opportunity to move beyond equipment monitoring for power plants, and use data

for lowering the cost of generation by enabling operational optimization, asset performance management and downtime reduction.

'Make in India' is one of the most important initiatives for the growth of Indian industry and provides many opportunities with major Government initiatives taken in sectors such as defence, transportation, transmission, renewables etc. Infrastructure development in India is getting a boost with projects like Sagarmala, Bharatmala, Dedicated Freight Corridor, urban transportation development, smart cities and e-mobility, which will open new avenues for long term sustainable growth. Positive steps taken by the Government are expected to translate into several new business opportunities in the near and medium term. Further, the revival of private investment in domestic industry is likely to happen in the medium to long term. The opportunities have been discussed in detail in the respective sections on Business Sectors.

1.3 Preparing for growth

As part of one of the fastest growing major economies of the world, the future presents many opportunities as well as disruptive forces, which are transforming the way business is done presently. With this in mind, the Company embarked on the journey of "Creating BHEL of tomorrow" with the objective of enhancing responsiveness to emerging opportunities and building new levels of robustness, thereby laying the foundation for a sustainably rising BHEL.

To achieve this goal, the Company is focusing its efforts through specific strategies and their respective enablers. The Company has already taken many steps towards the goal and is preparing itself for many more initiatives, with focus on maintaining the current momentum of profitable growth, protecting the core business while building new capabilities, and diversification through harnessing emerging opportunities.

Near Term Growth

The immediate and utmost priority is maintaining profitable growth through expeditious **execution** of orders, efficient resource utilisation through **consolidation** and enhancing speed of response through **simplification** of systems and processes. As a result of concerted efforts, after a gap of one year, BHEL resumed earning profits from 2016-17 onwards and has shown marked improvement in profitability parameters in 2017-18.

Continuing further, the Company is steadfastly focusing on various aspects of execution. Sustained efforts led to revival of stranded projects orders worth more than ₹ 30,000 crore in the last two years, resulting in the highest order book during the last five years. Timely execution of orders is now the key objective to enhance the growth of both the top-line as well as the bottom-line. The Company has created enabling structures to enhance business in the recent past which includes formation of new business groups and restructuring of corporate functions for better alignment with business requirements. Some of the immediate results of such initiatives include strong order booking in transportation, defence and water segments. Further initiatives towards consolidation

of the Company's assets are in the pipeline. For successful execution of initiatives, the Company continues to simplify its systems, processes and structures. Various policies have been revised with an aim to reduce low value added activities and process time.

Medium Term Growth

The Company is building new sources of strength for sustained growth by strengthening its leadership in core business and developing people and digital capabilities.

While concentrating efforts on enhancing business from other areas, the Company is equally determined to protect its leadership by being **assertive** in the existing businesses. The Company is enhancing value propositions in the existing portfolio and building capabilities for emerging opportunities. Securing all thermal power project orders during FY 2017-18 is a testament to the success of these efforts. Emission control equipment are now a part of the Company's portfolio. Company is further focusing on developing capabilities and enhancing business from new areas such as lift irrigation system, primary side capabilities for nuclear cycle, advanced ultra supercritical technology, expanding spares & services business, etc.

Success of any initiative is determined by the employees of the organisation. BHEL is focusing on **development** of competencies of all employees in line with Company's business strategies. 'People Strategy Group' has been created in 2017 as the next step towards bolstering people development initiatives after formation of 'Corporate Learning & Development' in 2016. Technology interface in developmental initiatives is being enhanced. Several progressive initiatives including manpower audit, sabbatical leave, project leave for site employees, etc. have already been implemented and similar efforts will be continued further.

Being a critical driver of growth in the medium as well as long term, Company's focus on **digitalisation** aims at creating new business opportunities, enhancing operational excellence and improving employee engagement. BHEL has already developed a Remote Monitoring and Diagnostic System capable of analysis and diagnosis of power plant performance, which would be a value-added service for its power plant customers. Digitalisation of employee centric services and roll-out of Enterprise Social Network ICON (I Connect, I converse, I Collaborate) are some important steps towards increasing employee engagement.

Long Term Growth

Achieving growth aspirations in the future depends on strengthening capabilities to develop technologies, bringing more diversity in business mix and increasing geographical depth.

To consolidate its position further, the Company's business beyond the national borders need to be further enlarged and strengthened, both in geographical terms as well as in terms of market offerings. The Company continues to focus on **globalisation** and is targeting large projects in the overseas market. Execution of BHEL's largest ever export order of 2x660 MW Maitree STPP in Bangladesh is currently in progress. Further efforts are being made to deepen global presence through market expansion and market penetration.

Achievement of Company's long term goals and targets will have to be strongly supported by **diversification** efforts. Thrust on diversification resulted in an upsurge of order inflows, with the industry sector recording the highest level of order booking in the last six years. Efforts are on to accelerate this momentum to reach the goal of increasing the share of business from 'Non-Coal' areas to 50% from the current level of 30%.

In solar business, the Company is venturing into new areas such as floating solar PV plants, solar based water pumping systems and electric vehicle charging systems. BHEL received the highest rating SPV order for 75 MW SPV power project in FY 2017-18.

The successful running of the first Mumbai sub-urban air-conditioned EMU train since December 2017 is expected to bring in new opportunities in transportation business. Company is building strengths to leverage emerging opportunities in urban transportation including metros and high speed trains. Efforts are on for expansion of defence & aerospace portfolio to address new opportunities provided by this business segment. To harness growth opportunities in water business, the Company is strengthening existing business models and adopting new ones. Entry in the municipal segment in sewage treatment plants is the

first step in this direction. For growth in transmission products and systems business, improvement in EPC execution and enhancement of technology capabilities is being focussed.

Development of new growth areas will complement Company's efforts towards diversification. 'Energy Storage Solutions Group' has been created to leverage business related to grid level energy storage as well as solutions for electric vehicles. Some of the other potential areas being explored include aerospace, e-mobility, renewable energy, railways etc.

Initiatives in the new business areas will require technology development as the most critical input. Focus on **innovation** is a key driver of the Company's growth strategy. BHEL has taken up in-house development of important technologies in mission mode including Advanced Ultra Supercritical Technology (AUSC), Coal to Methanol, etc.

The real strength of an organization lies in discovering opportunities in challenges. While the potential of the opportunities and their conversion to actual business is still evolving, the Company is embracing the changes and adapting to the market realities. The journey ahead is challenging, yet exciting with new beginnings, new opportunities and new horizons.



BHEL engineers at work in valve hall at ± 800 kV NE-Agra HVDC Project

Profile and Performance of Business Segments

Power Sector



1.4 Profile and Performance of Business Segments

1.4.1 Power Sector

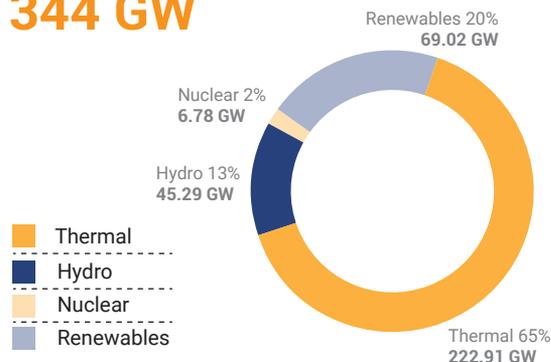
Overview

India has been one of the fastest growing major economies over the last few years. Driven by macro-economic factors like rapid urbanization and demographic expansion and aided by various government initiatives and a favourable policy environment, the Indian economy is slated to maintain its status as one of the fastest growing major economy in the world.

Owing to the need for large scale infrastructure development in the nation, the economic growth continues to remain strongly correlated with the growth in the energy sector. Hence, 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 344 GW and has an annual electricity generation of over 1,200 Billion Units (as on 31st March 2018). The nation witnessed a capacity addition of approximately 9.5 GW from conventional sources in the year, most of which was from thermal power plants.

Installed Generation Capacity

344 GW



As on March 31, 2018 | Source : CEA, Ministry of Power

The nation has achieved '100% village electrification' and is now working towards 100% household electrification under the recently announced PM SAUBHAGYA Scheme. Further, 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 add to the demand. Also, to maintain a sustained economic growth rate of 8% up to 2030, India needs to increase its electricity generation by two-and-a-half times over the current levels. This underlines the need for substantial augmentation of power generation, transmission and distribution capabilities from the current levels.

Recent Government policies have displayed a marked shift towards Renewable Energy Sources (RES) based power. In 2017-18, RES based capacity addition has outpaced the capacity addition from conventional sources of power. However, coal based power plants are expected to remain the mainstay of India's power generating capacity in the next few decades, in view of their suitability for continuous, round-the-year operation

and the large domestic reserves of coal in our country. Also, significant improvements in efficiency and emission levels through technological advances are enabling coal based power plants to generate cleaner and greener power.

The rapid capacity addition of RES based power generating systems also calls for significant enhancement of hydro-electric capacity, especially of pumped storage plants, and of gas based power plants, to meet the grid balancing and stabilization requirements necessitated by the inherent variability of RES based power systems.

Current Business Environment

With an aim of making thermal generation more environment-friendly, Government of India notified revised emission norms for existing and upcoming thermal power plants in December 2015, which necessitated installation of emission control equipment in thermal generating stations. Ordering for emission control equipment by various utilities has already started in 2017-18, and many tenders are in the pipeline for retrofitting of emission control equipment in existing power plants. Recent thermal power plant tenders have included emission control equipment as part of the scope, a trend which is expected to continue in upcoming projects. The Government is also encouraging replacement of old and inefficient subcritical plants with newer, more efficient, supercritical plants.

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.

Over the past few years, developers have been facing constraints in obtaining assured fuel supply, timely clearances and issues related to land acquisition, tying up of funds, and securing power off-take agreements with DISCOMs. The Government has initiated a number of steps to resolve these issues. With an aim to unshackle the supply side of the sector, initiatives like SHAKTI scheme for providing fuel linkages to power plants, integrated project monitoring through the PRAGATI mechanism, etc. have been taken. A pilot scheme for facilitating medium term power procurement from 2.5 GW commissioned capacities which are lacking a Power Purchase Agreement (PPA) has already been notified by the Government. Such steps are expected to improve the off-take from such stressed projects, thereby improving their financial health. UDAY scheme has resulted in improvement in operational efficiencies of DISCOMs, through reduction in AT&C losses and Average Cost of Supply (ACS) to Average Revenue Realization (ARR) gap, as well as in their financial efficiencies through reduction in interest costs. These developments would not only de-stress the power sector, but also free up a substantial quantum of funds with banks and Financial Institutions.

Though the sectoral outlook has been improving in the recent years, the upthrust in ordering has been mainly due to the government sector, with the private sector still grappling with existing capacities issues.



800 MW LP turbine under inspection at New Turbine Shop in BHEL Haridwar

The National Electricity Plan [NEP] released by CEA in January 2018 foresees a steady annual growth of over 6% in the demand for power, with an increased contribution of RES in the nation's installed capacity, and replacement of old subcritical thermal generating plants by more efficient supercritical units. The draft National Energy Policy of NITI Aayog also envisages large scale installation of RES based power. At the same time, coal based power plants are expected to remain the backbone of country's power generating capacity over the next few decades. Both these reference documents expect that through improvement in plant efficiencies and development of capability for flexible operations, coal based power plants shall continue to play an important role in the power sector in the future.

The National Electricity Plan released by CEA in January 2018 also foresees a steady annual growth of over 6% in the demand for Power, with an increased contribution of RES in the nation's installed capacity and replacement of old subcritical plants by more efficient supercritical units.

Only about one-third of India's huge hydropower potential of 148 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, 28% of India's hydropower plants have completed 35 years, thus necessitating requirement of life extension and performance and efficiency upgrades.

Nuclear power continues to remain an integral part of Government of India's strategy for clean and green energy. The procurement activities for 2x700 MWe Gorakhpur- Haryana Nuclear Power Project (GHAVP 1 & 2) are already in process. The Union Cabinet, in May 2017, has accorded approval for an additional 10 such 700 MWe PHWR based nuclear power projects in fleet mode.

Offerings

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.

BHEL has the capability for concept to commissioning project execution 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.

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.

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 from concept to commissioning.

In nuclear power segment, BHEL is amongst the few organisations who 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 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.

In respect of business opportunities arising from the revised emission norms, BHEL offers customized solutions for controlling emissions from thermal power plants. BHEL is also ready to provide retrofit solutions for Electro-Static Precipitators (ESP), Flue Gas Desulphurization (FGD), NO_x control equipment and furnace modification. BHEL has supplied ESPs 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, FGD and C&I with state-of-the-art technologies are also being offered by BHEL.

Achievements during the Year

Order Booking

BHEL has scripted several stories of success and has forayed into new territories during 2017-18. BHEL's Power Sector order inflow for the year stood at ₹ 33,342 crore corresponding to 5,040 MW of generating capacity. This includes orders of ₹ 2,814 crore from spares & services and R&M business.

Significant utility orders received are:

THERMAL

- 3x800 MW Patratu STPP Phase - I - EPC [PVUNL]
- 2x660 MW Udangudi TPS - EPC [TANGEDCO]
- 1x660 MW Bhusawal TPS - EPC [MAHAGENCO]
- 1x660 MW Panki TPS - EPC [UPRVUNL]
- FGD for 2x490 MW Dadri STPP - [NTPC]
- ESP Retrofitting for 4x210 MW Kahalgaon TPS Stage - 1 [NTPC]
- ESP Retrofitting for 3x200 MW Ramagundem STPP Stage - 1 [NTPC]
- R&M of ESP's of Steam-cum-Power boilers for 3x200 TPH Damanjodi [NALCO]
- R&M of C&I Package for 3x200 MW Farakka TPS [NTPC]
- BTG Package Mandatory Spares for 600 MW Rayalseema Unit - 6 [APGENCO]



Foundation stone laying ceremony of 1x660 MW Bhusawal STPP in Maharashtra

NUCLEAR

- Nuclear Steam Generator Package for 2x700 MWe Gorakhpur Haryana Anu Vidyut Pariyojana (GHAVP) Unit-1&2 [NPCIL]

Orders for Patratu STPP, Udangudi TPS, Bhusawal TPS and Panki TPS on EPC Basis have been secured under International Competitive Bidding (ICB). Patratu, Panki and Bhusawal projects have been envisaged to replace older existing sets.

With the above, BHEL has secured orders for 55 Steam Generators (SGs) & 48 Turbine-Generators (TGs) for supercritical thermal power plants within the country, out of which 15 SGs and 13 TGs have been commissioned till March 31, 2018.

Notably,

- Patratu project order is the largest ever in the country for a power project on International Competitive Bidding (ICB) basis. It is also the largest order in the nation employing Air Cooled Condenser (ACC) technology.
- Udangudi project is the fourth order in the last three years finalized by TANGEDCO, based on supercritical technology. All of these four orders have been secured by BHEL on ICB Basis.



Foundation stone laying ceremony of 2x660 MW Udangudi STPP by Sh. Edappadi K. Palaniswami, Hon'ble CM of Tamil Nadu in Chennai

- BHEL has taken noteworthy strides in the emission control equipment business by contracting FGD orders for 15 units

in the nation till March 31, 2018. These include the orders for Bhusawal, Patratu, Yadadri and Panki (alongwith Main Plant order) as well as first stand-alone order for FGD package since the notification of the revised emission norms for thermal plants, for 2x490 MW NTPC /Dadri Project.

- During the year, BHEL and NTPC entered into a Long Term Spares Supply Agreement (LTSSA) for supply of Turbine, Mills and C&I spares for NTPC projects.

The focus on de-stressing of the sector has resulted in the revival of 5x800 MW TSGENCO / Yadadri project during the year. Further, revision of the project scope, including addition of scope for emission control equipment, has boosted BHEL's executable Order Book by over ₹ 20,000 crore.

In nuclear segment, BHEL secured order worth ₹ 736 crore for Supply of 4 Nos. Nuclear Steam Generators for NPCIL 2x700 MWe Gorakhpur Haryana Anu Vidyut Pariyojana (GHAVP) Unit - 1&2. This is the first major order finalized in last five years for supply of equipment for a nuclear project.

Projects Commissioning

In 2017-18, BHEL achieved a capacity addition of power generating sets of 3,738 MW. Significantly, this is approximately 2.5 times the capacity addition achieved by any other single equipment supplier in the country. A total of 17 utility sets were commissioned during the year, expanding BHEL's tally to 443 coal based sets, 417 hydro utility sets and 102 gas based utility sets installed in India.

Installed capacity of BHEL supplied utility sets in India amounts to 155 GW, including 123 GW coal based and 21 GW hydro based equipment. With the above, BHEL maintained its major share of 54% in the country's total installed capacity of 288 GW, comprising coal, gas, diesel, hydro and nuclear sets (excludes Renewables; based on rating at the time of installation).

- BHEL's highest rating bulb generating set (2x9 MW) supplied & commissioned at PSPCL/ Mukerian Hydro-Electric Project (HEP) Stage-II, Punjab



Mukerian Hydro Power Plant - highest rating bulb type hydro generating set commissioned by BHEL

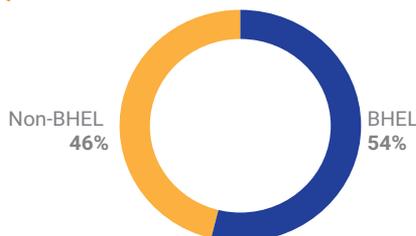
- BHEL manufactured first 800 MW set started Commercial Operation from April, 2017 at RPCL / Yeramarus Unit-2,
- At TSGENCO Kothagudem TPS, light up of 800 MW coal-based supercritical boiler achieved within a record time of 24 months and 7 days after start of boiler erection
- Barauni – 9 (250 MW) achieved full load within 38 minutes of synchronization

Maintained its major share of 54% in the country's total installed capacity of 2,88,685 MW, comprising coal, gas, diesel, hydro and nuclear sets (excludes Renewables; based on rating at the time of installation).

59.8% of the country's total generation of 986.59 BUs from thermal utility sets (coal based) contributed by BHEL supplied sets, testifying superior performance of BHEL sets.

Installed Capacity - Utility*

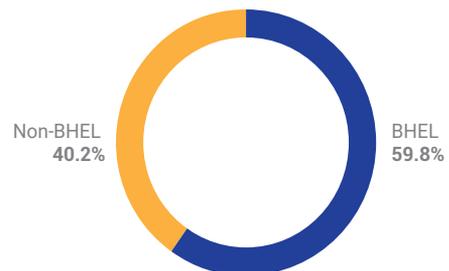
2,88,685 MW As on March 31, 2018



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

Generation - Utility (Coal & Lignite)

986.59 BU for 2017-18



Some of the major milestones for the year are:

- Capacity addition of Unit 3, 4 & 5 of 5x270 MW RattanIndia Nashik TPP achieved in a span of 46 days
- Commissioning of all the 3 units of 3x110 MW NHPC Kishanganga HEP achieved in a span of 18 days

Performance of Equipment

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

* Units under low system demand, coal shortage & reserve shut down are considered as available while calculating Operational Availability.

BHEL manufactured first 800 MW set at 2x800 MW Yeramarus started commercial operation from April 2017



Major performance achievements of BHEL sets include:

- Thermal sets registered overall OA of 84.1%. 203 thermal sets registered OA above 90%
- 151 thermal sets achieved PLF of above 70% out of which 23 thermal sets achieved PLF above 90% and 60 thermal sets achieved PLF between 80% and 90%
- Generation from sets of 195 MW and above (which form the backbone of country's power generation) went up to 5,72,202 MUs with OA of 84.9% and PLF of 60.3%
- BHEL's 1st supercritical unit Barh-4 (660 MW) clocked around 28,242 hrs of operation. It achieved OA of 99.3%, PLF of 85.6% and completed uninterrupted operation of 174 days.
- Amongst BHEL's subcritical sets, Vindhayachal-9 achieved highest PLF of 95.5% & OA of 99.5%



BHEL's first supercritical unit Barh-4 (660 MW) achieved excellent performance parameters in 2017-18

- Talcher-6 (110 MW), which is more than 30 years old, achieved PLF of 95.7% & OA of 95.7%
- Amongst BHEL supplied 12 Nuclear sets, 6 Units achieved PLF of more than 90%, with 2x220 MWe Unit 1&2 at Kaiga achieving nearly 100% PLF during FY 2017-18

Acknowledgement & Recognition of Excellence

BHEL's efforts for timely completion, improvement in equipment performance and Service After Sales (SAS) support have been appreciated by various customers, such as:

- RPCL - For achieving COD of 2x800 MW Yeramarus TPS Unit-2
- TSGENCO - For commercial operation of Unit -2&3 Pulichintala 4x30 MW (HEP)
- SCCL - For achievement of all time high PLF at both units of SCCL Singareni 2x600 MW



GNFC Bharuch, where Bank Tube replacement was completed before time

- APPDCL - For placement of all main girders with zero accidents/ incidents at 1x800 MW Krishnapatnam Stg. II
- NTPL - For revamping and commissioning of MRS System for Unit no. 1 of Tuticorin TPS
- MPPGCL - For Capital Overhaul of Generator including bar replacement & OH of Turbine of Unit -2 SSTPP MPPGCL Dongalia Khandwa (MP)
- TANGEDCO - For capital overhauling of LMW Turbine & Generator – Tuticorin TPS Unit 2 - 210 MW

- GNFC - For completion of Bank Tube Replacement before contractual time at Bharuch Project
- NTPC - For early supply of APH and ESP spares to meet overhauling requirement of Talcher Unit-4 & 6

Preparing for Growth

BHEL has addressed the power equipment requirements of the nation over the past five decades by successfully indigenizing technology from world leaders in various domains and building up state-of-the-art in-house manufacturing infrastructure and capabilities. The organization has the capabilities to stay ahead of the curve and successfully address the opportunities and challenges envisaged in the power sector.

The Indian power sector is slated to witness substantial activity in the emission control equipment business in order to meet the requirements posed by the revised emission norms. BHEL possesses the capabilities to offer customized emission control solutions in accordance to the customer requirements for new projects as well as for sets which are already in operation and is geared up to extend its current 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 may entail requirements to provide solutions for dismantling and replacement of older plants. BHEL is geared up to provide such solutions, in order to provide an optimum techno-economic solution to developers.



Spiral Water wall assembly for supercritical boilers in progress at BHEL, Tiruchirappalli



Hot metal pouring in progress at Foundry Shop, BHEL Haridwar



Power house of 2x30 MW Tuirial Hydro Electric Project (HEP) commissioned by BHEL in Mizoram

BHEL offers its vast experience in Renovation, Modernization 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.

The company is also enlarging its scope of offer with inclusion of new products viz. Water Management systems, Air Cooled Condenser, BoP systems, Emission Control Equipment like Flue Gas Desulphurization (FGD), Selective Catalytic Reduction (SCR), Selective Non-Catalytic Reduction (SNCR), etc. in its power sector portfolio.

The Company continues to build upon its legacy of being a technology leader and is working towards helping the nation transition to a cleaner power mix in the coming years. BHEL is already at the forefront of the indigenous development of nation's first Advanced Ultra Supercritical Technology based plant, which is a pioneer R&D project undertaken jointly with NTPC and Indira Gandhi Centre for Atomic Research (IGCAR). Development of this technology shall not only help in achieving a quantum jump in efficiencies but also reduce the coal consumption as well as CO₂ emission levels.

With the commencement of commercial operation of both the supercritical units at 2x800 MW Yeramarus Thermal Power Station (TPS) of Raichur Power Corporation Limited (RPCL), BHEL marks its foray as a developer in the field of power generation. This move is in line with the Company's key objectives to fuel growth and build up newer and continuous revenue streams.

The Government's push towards generation from Renewable Energy Sources would create a requirement for improvement in flexible operation capabilities of thermal power plants, especially given that energy storage technology is still not

a commercially cost-effective solution. The organization is ready to address any forthcoming opportunities for flexible operation of thermal plants.

In hydropower segment, the organization has enhanced its capabilities to manufacture hydro sets up to 400 MW rating. Development of efficient runner profiles and reduction of hydro turbine weights have been instrumental in BHEL's successes in the segment. BHEL has also emerged as a leading player in large size pump-motors required in Lift Irrigation Scheme projects.

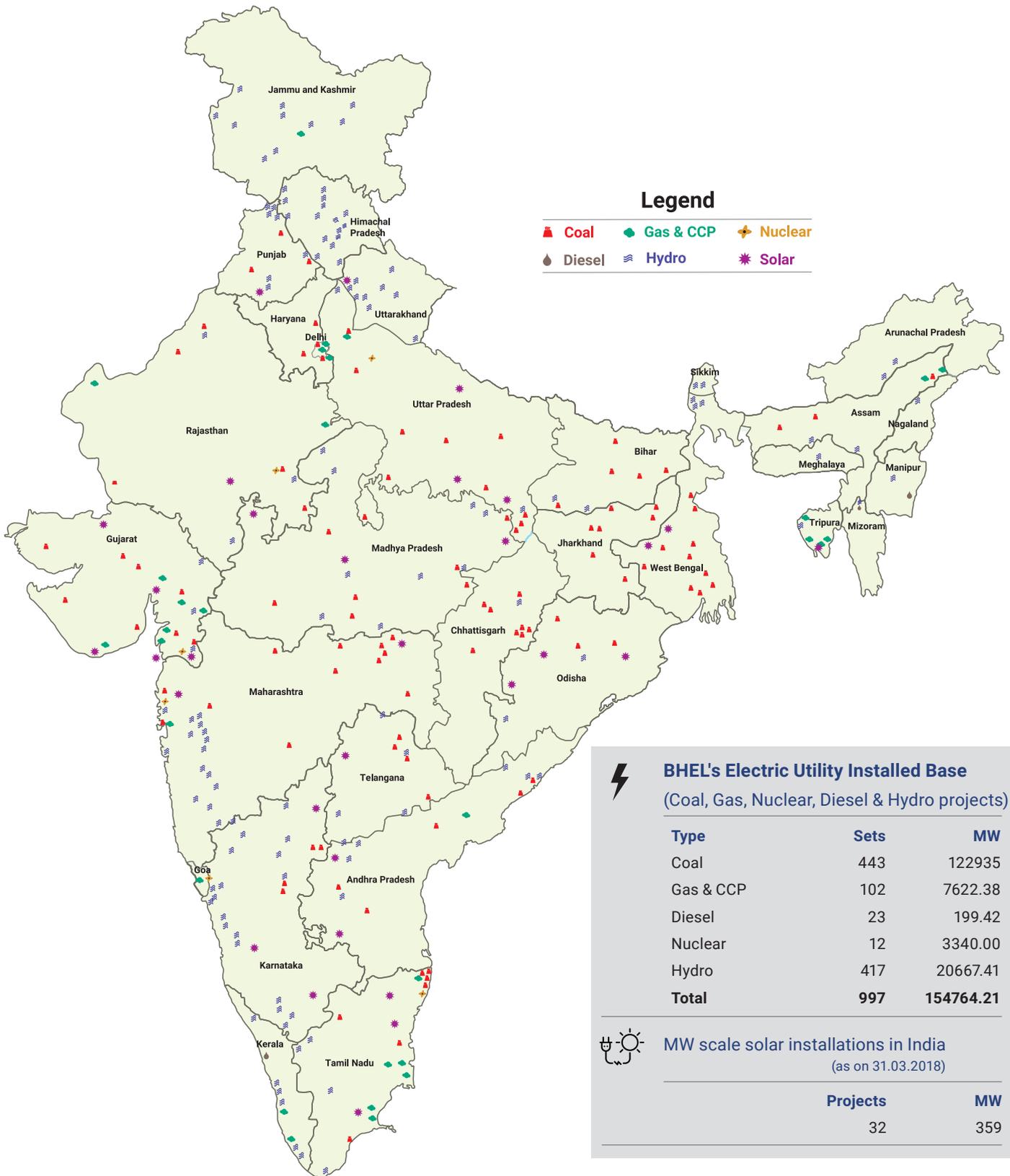
Ushering the nation to the third stage of the Nuclear Power Programme, BHEL has developed the secondary turbine cycle of 300 MWe Advanced Heavy Water Reactor (AHWR) Nuclear Power Plant in association with Bhabha Atomic Research Centre (BARC). To harness emerging opportunities in nuclear power sector, the Company is working towards increasing its offerings in nuclear plants with focus on indigenization and taking up the complete TG Island on EPC basis. With its strong manufacturing prowess, BHEL is well positioned to enhance its contribution in this sector.

BHEL is working on various aspects of transitions that are undergoing in the Indian Power Sector, alongwith their associated challenges, and is ensuring preparedness on all fronts in order to maintain its status as the leading player in the Indian Power Sector in this changing energy landscape.

The Company continues to build upon its legacy of being a technology leader and is working towards helping the nation transition to a cleaner power mix in the coming years. BHEL is already at the forefront of the indigenous development of nation's first Advanced Ultra Supercritical Technology based plant.

BHEL Make Electric Utility Installations

Commissioned as on 31.03.2018



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 1980s. With focus on growth of non-coal based business of the Company, Industry Sector comprises of market-focused groups which offer comprehensive solutions for Transportation, Transmission, Renewable Energy, Water Management, Defence & Aerospace, Captive Power Generation, Industrial Products (Mechanical & Electrical), and Energy Storage Systems.

During 2017-18, Industry Sector has secured orders worth ₹ 7,514 crore, which includes segment's highest ever order booking in Transportation, Water, Defence & Aerospace business groups and solar business group (in MW terms). The order booking has been the highest in the last six years, and has shown growth of more than 20% on YoY basis for the second year in a row.

1.4.2.1 Transportation

Business Environment & Opportunities

Indian Railways has embarked on a massive program to strengthen the railway network and enhance their carrying capacity. In 2018-19, Railways' Capex has been pegged at ₹ 1.48 lakh crore, a large part of which is earmarked for capacity creation, safety, railway electrification, modernization of stations, rolling stock, etc. Government's impetus on electrification of railway tracks is expected to increased demand for electric locos and AC EMUs.



India's first air-conditioned AC EMU equipped with BHEL supplied propulsion equipment operating successfully in Mumbai since December 2017

Work on the High Speed Rail corridor between Mumbai and Ahmedabad has been initiated and other high-speed/ semi-high speed routes are being identified. Indian Railways is also looking to adopt the latest technologies in transportation like 3-phase IGBT based drives and regenerative braking system for better efficiency.

Industry Sector witnessed highest ever order booking in transportation, water, defence and aerospace business groups and solar business group (in MW terms).

Due to growing urbanization, more cities are experiencing the need for Metro rail to meet their day-to-day mobility requirements. The Government has introduced Metro Rail Policy 2017, which envisages to introduce Public Private Partnership (PPP) in implementation of metro projects. Under the 'Make in India' initiative, new pre-qualification requirements allow for greater participation of Indian coach manufacturers, and have provision for development orders for propulsion system on Indian manufacturers. The Central and State Governments are also looking at futuristic modes of transportation such as MAGLEV and Hyperloop.

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 traction power converter systems
 - Control gear equipment
 - Hotel Load Converter
- **Traction Transformer [Single & three phase]**

Order Receipts:

Transportation sector secured highest ever orders during 2017-18, some of which are:

- Order for supply & AMC of 30 nos. of 3-phase IGBT based WAG-9H electric locomotives from Railway Board
- Order for supply and AMC of 161 sets of IGBT based Complete Propulsion System from CLW, Chittaranjan
- Maiden order for supply of 146 sets of 25 kV AC IGBT based 3-phase electrics for Mainline EMU (MEMU) trains from RCF, Kapurthala
- Maiden order for supply and AMC of 8 sets traction engine and electrics for DETC from ICF, Chennai
- Order for supply of 74 sets of 7775 kVA traction transformer, and 297 nos. of traction motor type 6FRA6068 from CLW, Chittaranjan
- Order for supply of 939 nos. traction motors from DMW, Patiala
- Order for 86 sets of MEMU electrics (Conventional) and 439 nos. traction motors from RCF, Kapurthala

Other achievements:

- India's first ever air-conditioned AC EMU train for Mumbai sub-urban region, equipped with BHEL designed and developed state-of-art IGBT based 3-phase drive propulsion equipment was inducted into passenger service on 25th December 2017 and has been running successfully.

- BHEL received approval from Railways for in-house developed prototype IGBT based 2x500 kVA Hotel Load Converter for 3-phase passenger electric locomotives.

India's first ever Air-conditioned AC EMU train for Mumbai suburban region equipped with BHEL designed and developed state-of-the-art IGBT based 3 phase drive propulsion equipment running successfully.

- BHEL has entered into a technology collaboration agreement (TCA) with Kawasaki Heavy Industries for manufacturing of stainless steel metro coaches and bogies in India. The TCA covers establishing state-of-the-art design, engineering and manufacturing facility at BHEL.



BHEL signs Technology Collaboration Agreement with Kawasaki Heavy Industries Ltd. for manufacture of stainless steel coaches for metros

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, DEMU's and MEMU's, and IGBT based composite converter for 3-phase electric locomotives has also been undertaken by BHEL.



Combined System Testing for IGBT-based AC EMUs at Centre for Electric Transportation at BHEL, Bhopal

- Developing improved technologies for existing products: Regenerative braking system for WAG-7 locomotives is being developed by BHEL for Indian Railways.

- Development of higher rating of locos: BHEL is in the process of upgrading existing 6000 HP electric locomotives to 9000 HP.

• New Opportunities

- BHEL is geared up for manufacture and supply of IGBT based WAG-9 locomotives in 2018-19.
- BHEL has entered into a Memorandum of Understanding (MoU) with Kawasaki Heavy Industries for joint working on exclusive basis for providing rolling stock for Mumbai Ahmedabad High Speed Rail project.

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 has commissioned 200+ electric substations & five major HVDC projects

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. 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

- Highest value order ever received in EHV Transmission substation segment for 765/400 kV Medinipur & Jeerat substation under Tariff based competitive bidding (TBCB) from M/s POWERGRID Medinipur-Jeerat Transmission Limited
- Order for 765/400 kV Ariyalur substation (Additional scope - Part-II) in Villupuram District, Tamil Nadu from M/s TANTRANSO
- 330 nos. of power transformers totalling to about 34000 MVA including orders for 500 MVA, 400 kV auto transformers from UPPTCL and RRVPNL
- 3600 nos. of switchgears in 11 and 33 kV voltage segments

Milestone achievement

- BHEL make 132/33 kV GIS commissioned at TSTRANSCO's Vithalwadi in Hyderabad

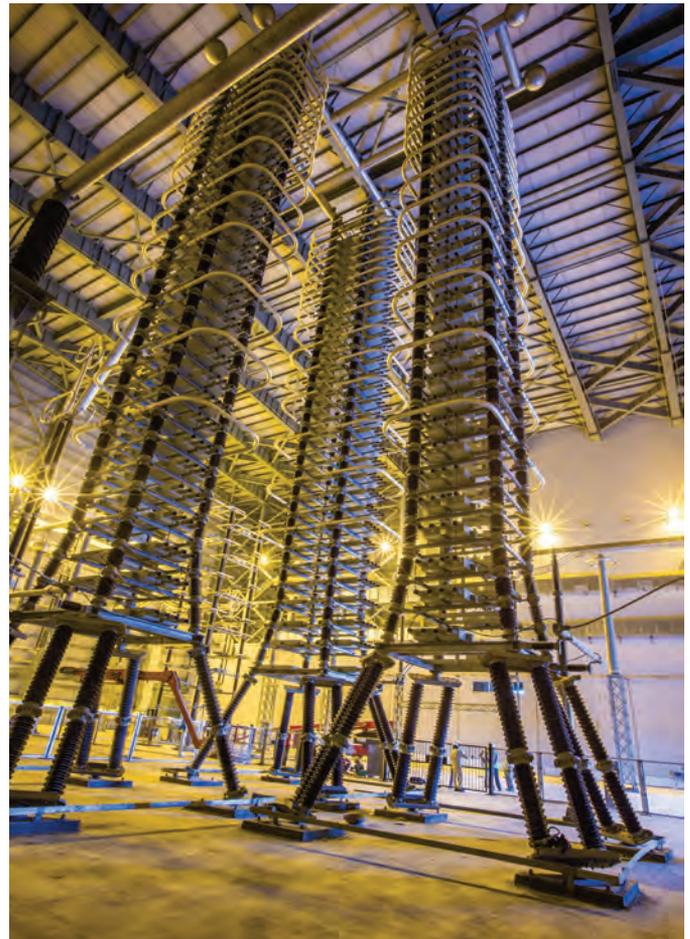
Preparing for Growth

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 both Bipole-1 &

Bipole-2 for world's largest ±800 kV multi-terminal HVDC project (North-East to Agra), which is under commercial operation since September, 2017. BHEL is now fully geared up to address future market requirements in UHVAC and UHVDC segments.



World's largest pre-engineered Indoor DC hall (800 kV) at NE-Agra HVDC terminal established by BHEL

Gas Insulated Switchgear (GIS):

BHEL's own make 420 kV, 40 kA GIS is under execution at NHPC Chamera-I HEP.

1.4.2.3 Renewable Energy

Business Environment & Opportunities

As per solar policy roadmap, 100 GW capacity addition is planned till 2022. 21,651 MW of solar PV capacity has already been installed in the country as on March 31, 2018. There is also an increased focus on integration of Battery Energy Storage System (BESS) with the solar PV plants. This growth is further aided by continuous technological improvements and declining module prices.

Offerings

- EPC solutions from concept to commissioning of Solar PV Power Plants

- Grid Interactive systems with and without BESS (Battery Energy Storage System)
- Hybrid systems
- Roof top, canal top and floating solar power plants
- Solar-based irrigation pumps



Floating solar plant commissioned by BHEL at Ulsoor lake, Bengaluru

Achievements during the year

- Successful commercialization of in-house developed 1.25 MVA Power Conditioning Unit
- Successful commissioning of floating solar plant at Ulsoor Lake, Bengaluru
- Passive solar trackers developed in-house for MW scale solar power plants [in operation at BHEL, Haridwar]

Major Orders received:

Total order booking of 162 MW (Both ground mounted and rooftop solar) in FY 2017-18, including

- 75 MW GIPCL Charanka [EPC]
- 60 MW - EESL [Module Supply]
- 1 MW at OFB Rifle Factory Ishapore [Rooftop Solar-EPC]
- 1.25 MW at NBCC Kidwai Nagar [Rooftop Solar-EPC]

Projects commissioned

170 MW SPV including roof top plants commissioned during 2017-18 including

- NLC, 65 MW [Single Largest Project]
- NTPC Mandsaur, 50 MW
- BHEL Trichy (7.5 MW), Haridwar (5 MW) & Jhansi (2.5 MW)
- WBSEDCL projects at Mejia and Charrah (20 MW).
- 2 MW rooftop solar at DMW Patiala
- 3.6 MW rooftop solar for Surat Municipal Corporation as part of Surat Smart City project



50 MW ground mounted SPV plant commissioned by BHEL at NTPC, Mandsaur

Sun – the perennial energy source!

NTPC 5x50 MW solar PV plant at Kadiri (Ananthapur) - 50 MW EPC by BHEL



BHEL is one of the few companies in India which provides end-to-end in-house solutions for all solar power needs - concept to commissioning. BHEL's expertise in solar is strongly augmented by manufacturing facilities for best-in-class Solar Photo-Voltaic (SPV) cells, modules, space-grade panels and the entire range of equipment required for solar PV plants such as inverters, transformers, power conditioning units, passive trackers etc. for very reliable and highly efficient power generation.

BHEL's solar portfolio is 550 MW with solar PV plants commissioned across the country- ground mounted as well as roof tops. India's first seasonal tilt canal top solar power plant at Bhimavaram, Andhra Pradesh is set up by BHEL. BHEL is the exclusive supplier of space grade panels and batteries to ISRO for their space programmes.



Solar cell and module manufacturing facilities at BHEL, Bengaluru

With this BHEL's solar portfolio stands at 550 MW, including projects under execution.

Preparing for Growth

- BHEL has enhanced its cell manufacturing capacity to 105 MW and module manufacturing capacity to 226 MW per annum
- PCU and SCADA have been added to existing product portfolio

BHEL has enhanced its solar cell and solar module manufacturing capacity to 105 MW and 226 MW per annum respectively.

1.4.2.4 Water Business

Business Environment & Opportunities

Per capita water availability 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.

Government policies, and initiatives such as river cleaning programmes, smart cities and development of industrial corridors are expected to spur further opportunities in this segment.

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

Forays into

- Municipal segment: 6 nos. (25.4 MLD) decentralized STP with 10 years of O&M at Raipur for Raipur Development Authority
- Smart City Segment: Lake purification and restoration with bioremediation in Telibandha Lake, Raipur with 5 years of O&M with MoU partner National Environmental Engineering Research Institute [NEERI] as technology provider

Preparing for Growth

BHEL has signed an MoU with National Environmental Engineering Research Institute (NEERI) for jointly working on identified projects of water and waste water treatment in municipal segment.



Membrane bio-reactor (MBR) based sewage treatment plant (STP) commissioned by BHEL in Hyderabad

1.4.2.5 Defence & Aerospace

Business Environment & Opportunities

Government of India (GOI) is promoting procurement of defence equipment through indigenous sources and has targeted to increase the indigenous procurement to 70% from current level of 30% over the next decade. The present business environment can be summarised as below:

- Defence Procurement Policy [DPP] - 2016 has introduced a new category Make II (Industry Funded), which targets development of equipment/ system/ platform or their upgrades or their subsystems/ sub-assembly/ assemblies/ components with focus on import substitution to galvanise Indian Industry to undertake serious R&D to meet stringent defence criteria.
- In February, 2018 the Government announced development of two defence industrial production corridors to promote defence sector. A defence corridor refers to a route or a path along which domestic production of defence equipment by public sector, private sector and MSMEs are lined up to enhance the operational capability of defence forces.

Offerings

BHEL has a proven track record in defence business for over three decades, with competitive, reliable and quality supplies, and life time product support. BHEL is manufacturing 76/62 SRGM (Super Rapid Gun Mount) since 1994.

Proven track record in defence business for over three decades with competitive, reliable and quality supplies and life time product support.

In aerospace, BHEL has had long term association with key Indian organizations such as ISRO, HAL, ADA, NAL, DRDO etc. in areas such as supply of space grade solar panels and satellite batteries.

- BHEL is one of the select few companies in the world with capability to design and manufacture heat exchangers for military aircraft. 11 types of Compact Heat Exchangers for Indigenous Light Combat Aircraft (LCA), 'Tejas' have been developed by BHEL.



Light combat aircraft 'Tejas', designed indigenously for the Indian Airforce, uses BHEL make heat exchangers

Long term association with various ISRO centres in the field of hot forming of Titanium shells/ Domes for rocket systems and Cryogenic Tanks for Satellite / Launch Vehicle fuels.

Achievements during the year

- BHEL signed Technology Transfer Agreement with Indian Space Research Organisation (ISRO) for manufacture of Space Grade Lithium-ion cells utilising the technology developed by ISRO at Vikram Sarabhai Space Centre (VSSC). Transfer of technology will enable BHEL to manufacture Lithium-ion cells and batteries in-house for ISRO and other suitable applications.
- Order secured for Heat Exchangers for "Tejas" – India's indigenous LCA.



BHEL signs Technology Agreement with ISRO for manufacture of space grade lithium-ion cells

1.4.2.6 Captive Power Plants

Business Environment & Opportunities

2017-18 saw an upturn in market demand for captive power plants. Expansion plans of major refineries augmented the demand in GTG segment. Process industries viz cement, chemicals etc. also contributed towards enhanced demand.

Demand for captive generation requirements in metal and metallurgical business segments is expected to pick up, owing to expansion plans of major players in the next few years.

Offerings

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

Achievements during the year

- Two new customers, M/s Shree Cement & M/s Kutch Chemicals added for steam turbine generator package.

Major orders received

- 75 MW GTG based Captive Power Plant on Lumpsum Turnkey (LSTK basis) from M/s Hindustan Petroleum Corporation Limited at Visakhapatnam, Andhra Pradesh
- 15 MW GTG Cogen Plant from M/s ONGC Uran
- 2x17.5 TPH HRSG from M/s GAIL Vijaypur
- 1x60 MW STG from M/s Kutch Chemicals
- M/s Shree Cement reposed their confidence in BHEL by placing repeat order for 1x27 MW STG at Raas, Rajasthan after ordering their first STG of 1x27 MW at Kodla, Karnataka
- 2x30 MW STG sets for Sambalpur & Jamuria plants of M/s Shyam Group

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

Business Environment & Opportunities

- Prime Minister's call for increase in domestic production of oil & gas for reducing the import dependence of India by 10% by 2022, along with the spurt in crude prices is expected to increase business prospects for oilfield equipment, compressors, fired heaters, columns and air separation units.
- To achieve Government of India's target of implementing BS-VI norms across the country by April 1, 2020, various CPSE refineries viz. IOC, BPCL and HPCL have come up with their upgradation projects.
- Capacity expansion projects of approx. 120 MMTPA by IOCL, BPCL & HPCL are in pipeline which include brown-field expansion at IOC Barauni, CPCL Nagapattinam etc. and green-field refineries at Barmer, Ratnagiri etc.
- Upcoming energy savings projects as per Government of India guidelines at various fertilizer plants viz. RCF Thal, Zuari Goa, Kribhco Hazira etc in fertilizer sector.

Offerings

- Oil Rigs** - 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, mobile rigs for drilling up to depths of 3,000 metres, refurbishment and up gradation of aged oil rigs.
- Well heads and X-mas Trees** - Up to 10,000 psi mud line suspension, choke and kill manifold, wellheads, manifold



376 MW Captive Power Plant (CPP) commissioned by BHEL at IOCL Paradip Refinery Project

assembly, mud valves, hangers, block type X-mas trees & landing bases for casing heads.

- **Compressors** - Multi-stage centrifugal compressors as per API 617 for application in fertilizers, refineries, petrochemicals, pipelines, gas processing, steel industries etc.
- **Mechanical Packages** - Cryogenic air separation units, 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

- Oil rig equipment from various ONGC Assets and OIL, Duliajan.
- 5 nos. centrifugal compressor orders from Assam Petrochemicals, IOCL, BPCL and HPCL.
- 1280 Nos. well heads and 778 Nos X-mas trees from various ONGC assets and other drillers. Highest ever orders booked in a financial year for supply of well heads & X-Mas trees.



BHEL make 17MMKcal/hr. atmospheric column feed heater for ONGC Hazira

- 7 sets of pressurised synchronous motors and VFDs, from various compressor OEMs for CPCL and IOCL BS VI projects.
- 5 nos. 6.8 MW, 11 kV, 10 pole vertical synchronous motors with excitation panel for Karnataka Neeravari Nigam Limited (KNNL)-Kempwad Lift Irrigation Scheme.

Projects Commissioned

- 17.347 MMKcal/Hr Fired Heater Package on EPC basis at ONGC Hazira plant.

1.4.2.8 Energy Storage Solutions Group

Energy Storage Solutions Group was established in May 2017 as part of BHEL's diversification strategy to tap upcoming opportunities in the areas of energy storage, e-Mobility and batteries. BHEL has been working on in-house development in areas of grid storage and e-mobility alongside strategic tie-ups. Currently the group is actively focusing on exploring multiple opportunities arising out of thrust in electric mobility in urban transportation, Battery Storage System requirements for renewables installation and railway track electrification.

Electric Mobility

Business Environment & opportunities

- Government of India has a vision of electrifying all electric vehicles progressively. National Electric Mobility Mission Plan (NEMMP) 2020 was launched in 2013 by Government of India to achieve national fuel security by promoting hybrid and electric vehicles in the country with an ambitious target to achieve 6-7 million sales of hybrid and electric vehicles year on year from 2020 onwards.
- Some STUs (State Transport Undertakings) have initiated deploying electric buses. Opportunities are coming up for Electric Cars and Electric Vehicle Chargers.

Offerings

- EV Chargers
- Electric power train
- Lithium Ion Battery Packs
- Electric Vehicles

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, an MoU with M/s DIMTS (Delhi Integrated Multi Modal Transit System Limited) has been signed for joint working to provide integrated e-mobility solutions. BHEL has taken up in-house development of electric power train for EVs, EV chargers and electric buses.

Energy Storage System

Business Environment

- Indian Government has set a target of adding 100 GW of renewable energy by 2020 to the grid. With the increase in share of renewable energy, energy storage is set to become an integral part of renewable power plants to ensure grid stability. The market potential for energy storage market is expected to reach 2- 3.5 GWh by 2022 as per IESA estimates.
- Companies such as NTPC, SECI, NLC are in process of floating tenders for energy storage systems to support PV plants.

Offerings

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

Preparing for Growth

BHEL has undertaken a pilot project from MNRE of 1 MWh Battery Energy Storage System (BESS) to be 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.

BHEL envisages to offer complete solution for grid interactive BESS.

Railway Electrification

Business Environment & opportunities

- Indian Railways plan to electrify approximately 30,000 TKMs (Track KMs) in the next five years.
- Indian Railways have set up railway electrification target of about 6000 TKMs per year.
- Indian Railways through Central Organization for Railway Electrification (CORE) has already announced opportunities for four sections totaling to 7500 TKMs.

Offerings

- Complete EPC solution

Preparing for Growth

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

Strengthening indigenous capability in defence & aerospace!

BHEL continues to be a reliable supplier of strategic equipment and services in defence business for over three decades. In aerospace, BHEL is the sole supplier of space grade solar panels and satellite batteries to ISRO and one of the select few firms in the world having the capability to design and manufacture heat exchangers for military aircraft.

BHEL has set up a large infrastructure including dedicated engineering and manufacturing facilities at various locations, where the company is manufacturing 76/62 Super Rapid Gun Mount- the most distinctive and reliable armament on naval ships since 1994 and other strategic defence equipment like integrated platform management system for ships, turret castings for T72 tanks, simulators, and castings & forgings etc. BHEL is also working on various niche technologies focusing on present and future requirements of the nation-both in defence as well as aerospace.



BHEL-made heat exchangers and pre-coolers used for LCA 'Tejas'

Super Rapid Gun Mount (SRGM) being manufactured at BHEL



Profile and Performance of Business Segments

International Operations



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
- Ethiopia
- Ghana
- Kenya
- Libya
- Malawi
- Mauritius
- Mozambique
- Nigeria
- Rwanda
- Senegal
- South Africa
- Sudan
- Swaziland
- Tanzania
- Togo
- Uganda
- Zambia
- Zimbabwe



ASIA

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

OCEANIA

- Australia
- New Caledonia
- New Zealand
- Samoa

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



BHEL team led by CMD along with senior customer officials at the proposed 1320 MW (2x660 MW) STPP in Bangladesh - largest ever export order received by the company

1.4.3 International Operations

The global economic upswing that began around mid-2016 has become broader and stronger. Growth has improved in the developed economies and emerging countries like China & India are also back on the growth path. The world is changing and the electric power industry is undergoing transformation driven by technological, regulatory and competitive forces.

In this changing scenario, the demand for energy continues to grow – largely driven by rising urbanization and income levels in emerging economies. The energy mix is changing as technology advances, consumer preferences shift and policy measures evolve.

Today we operate in a more integrated world. However, possible trade protectionism in advanced economies raises the risk to technology sourcing and growth prospects of export business.

Experience in Exports

BHEL has made a steady progress in exports over the past four decades. Starting its journey with the first ever export in the early seventies, the Company has covered a long distance reaching out to 83 countries, from the United States in the West to New Zealand in the Far East. Outside India, BHEL has executed orders for nearly 11 GW power plant equipment and is currently executing around 6 GW projects in 12 countries. The Company has also been providing after sales support to its overseas customers in the form of spares and services.

Orders Received

During the year BHEL secured the following overseas orders:

- Entry into new market segment by securing maiden order from Germany for motors from FIMA, Germany.
- First ever order from Ministry of Defence, Oman for panels for DG set equipment.
- Reposing customer confidence in BHEL, Indorama Eleme

Petrochemicals Limited, Nigeria placed another order for 400 KW HT motor.

- Focus on product sales have led to orders for motors from Kenya and UAE.
- Continuing its tradition of long term relationships, BHEL received orders for spares & services from customers in Belarus, Bhutan, Egypt, Ethiopia, Ghana, Indonesia, Kazakhstan, Myanmar, Nepal, Oman, Senegal, Sri Lanka, Sudan, United Arab Emirates & Unites States.

Overseas Project Execution

- Indonesia - With the synchronisation of the third (last) unit, 3 x 18 MW (PT CKP) project has been successfully commissioned during the year thereby adding 54 MW to BHEL's installed capacity in South East Asia. With this, BHEL's installed capacity in Indonesia is now 150 MW. Performance Guarantee Test for boilers for the project also successfully completed.



Aerial view of three units of 3x18 MW PT CKP project at Indonesia, commissioned by BHEL

- Project execution started for largest ever export order - 2x660 MW Maitree Super Thermal Power Plant, Bangladesh.
- Renovation & modernisation of first unit of 4x84 MW Chhukha Hydropower plant in Bhutan successfully achieved. All the operating parameters were found within limits.

Awards & Appreciations

- EPC India Northern Region Award for Engineering Export Excellence in the category of Top Exporter for the years of 2013-14 & 2014-15 with the "Special Trophy for Excellence in Exports of High – Technology Products – Large Enterprise".
- Appreciations received from customers in Oman & Bhutan

Preparing for Growth

Globalisation has for long been a growth driver for BHEL. Amidst concerns of growing protectionism, shrinking markets, fierce competition, reducing delivery cycles and stringent pricing, BHEL is focusing on deepening its global presence through market expansion, market penetration & exploring new business models. Our major initiatives include:

- Focusing on large projects in our established markets
- Greater focus on renewables sector
- Impetus on after sales service segment



Aerial view of 4x125MW Kosti Sudan Plant

1.5 Analysis of Financial Performance

1.5.1 BHEL Standalone

1. Orders inflow & order book

(₹ Crore)

Particulars	2017-18	2016-17
Order inflow	40932	23489
Order book in hand	118000	105200

The Company has secured orders worth ₹ 40,932 crore as against ₹ 23,489 crore in FY 2016-17, representing a significant growth of 74%. BHEL demonstrated its leadership position in the thermal power segment by securing all orders for thermal power projects during the year. A significant growth in orders receipt achieved in FY 2017-18 over FY 2016-17 in industrial segment areas viz. Captive power plant at ₹ 1,591 crore (524% growth) and transportation business at ₹ 2,181 crore (96% growth).

The orders in hand as on March 31, 2018 at over ₹ 118000 crore, is the highest in the last 5 years.

2. Revenue from operations

(₹ Crore)

Particulars	2017-18	2016-17
Sales less returns	22067	22826
Income from external erection & other service	5961	5009
Less: Fair value adjustment	178	95
Turnover	27850	27740

Turnover in FY 2017-18 was ₹ 27,850 crore as against ₹ 27,740 crore in FY 2016-17. However, the comparable turnover for FY 2017-18 is ₹ 28,338 crore, higher by 2.2%, despite subdued business environment. (refer details -note 27 of annual accounts "Revenue from Operations").

The orders in hand as on March 31, 2018 were at over ₹ 118000 crore, highest in the last 5 years, gives an opportunity to achieve a quantum jump in performance.

Other operational income

(₹ Crore)

Particulars	2017-18	2016-17
Other operational income	963	859

Other operational income was at ₹ 963 crore in FY 2017-18 as against ₹ 859 crore in FY 2016-17, a growth of 12% over previous year.

3. Other income

(₹ crore)

Particulars	2017-18	2016-17
Interest income	591	677
Profit on sale of units of mutual funds	26	-
Dividend on investment in joint ventures (long term trade)	15	13
Dividend on investment in mutual funds	11	21
Profit on sale of items of PPE, Govt. grants & others	50	55
Total	693	766

Reduction in other income in current year as compared to previous year is mainly due to decline in interest rate.

4. Expenses

a) Material consumption, erection and engineering expense

(₹ Crore)

Particulars	2017-18	2016-17
Consumption of raw material & components	12118	13103
Civil, erection & engineering expenses	3418	3054
Less : PV adjustment material/subcontracting cost	22	16
Sub total	15514	16141
Changes in inventories of finished goods and work in progress	736	994
Total	16250	17135

The reduction in material cost is mainly due to change in product/project mix and other cost initiative drives undertaken in the company.

b) Employee benefits expense

(₹ Crore)

Particulars	2017-18	2016-17
Employee benefits expense	6026	5395

The increase in employee benefits expense was mainly due to the fact that liability has been provided for wage revision due w.e.f. January 01, 2017 in respect of executives pursuant to the issue of Presidential Directive during the year.

c) Manufacture, administration, selling & distribution expense

(₹ Crore)

Particulars	2017-18	2016-17
Manufacture, administration, selling & distributio expense	2675	2742
Net exchange variation (gain)/loss	(520)	270
Total	2155	3012

Manufacture, administration, selling and distribution expense were at ₹ 2,155 crore as against ₹ 3,012 crore in FY 2016-17. This includes exchange variation gain of ₹ 520 crore in FY 2017-18 as against loss of ₹ 270 crore in FY 2016-17. Excluding ERV, expenses were lower by ₹ 67 crore and in terms of percentage to turnover it was reduced from 9.88% in FY 2016-17 to 9.61% in FY 2017-18 with cost reduction measures & control mechanism. Significant appreciation in Euro (up by about 15%) has led to higher ERV gain during FY 2017-18.

d) Provisions (Net)

(₹ Crore)

Particulars	2017-18	2016-17
Doubtful debts, liquidated damages, loans, advances & deposits and others	2126	2100
Contractual obligations	70	(827)
Impairment of investment in JVs	44	-
Bad debts, LD & losses written off	42	171
Total	2282	1444

Provisions were at ₹ 2,282 crore as against ₹ 1,444 crore in FY 2016-17. Provisions have been made in line with accounting guidelines and policies of the Company.

5. Finance costs

(₹ Crore)

Particulars	2017-18	2016-17
Interest expense	35	62
Borrowing cost	220	289
Total	255	351

Finance cost was ₹ 255 crore as against ₹ 351 crore in FY 2016-17. It includes ₹ 220 crore towards borrowing cost which represents unwinding of interest/discounting impact on long term provisions and deferred liabilities as against ₹ 289 crore in FY 2016-17. However, there is a decline in interest cost of ₹ 27 crore in finance lease & others during FY 2017-18.

6. Depreciation & amortisation expense

(₹ Crore)

Particulars	2017-18	2016-17
Depreciation & amortisation expense	786	849

Depreciation and amortisation expenses are provided as per company's accounting policies.

7. Tax expense

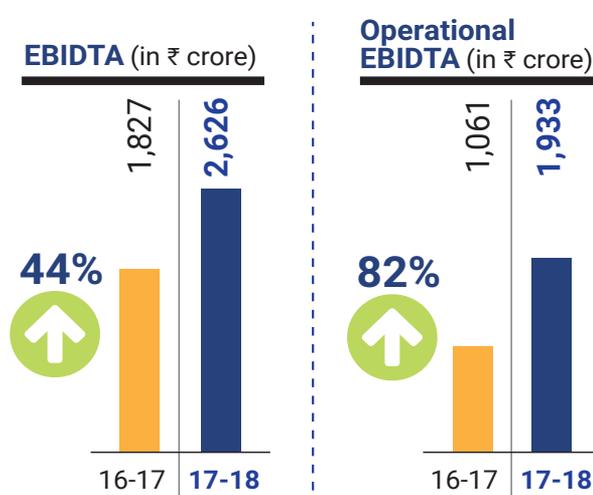
(₹ Crore)

Particulars	2017-18	2016-17
Current tax - current year	552	610
- Earlier years	27	(311)
Deferred tax - current year	(63)	(462)
- Earlier years	262	295
Total	778	132

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.

8. Profitability

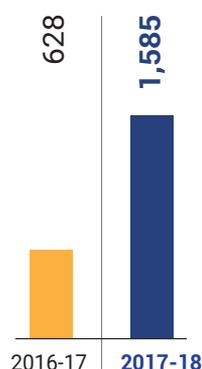
EBIDTA was at ₹ 2,626 crore in FY 2017-18 as against ₹ 1,827 crore in FY 2016-17, a growth of 44%. The Company registered significant growth of 152 % in Profit before tax (PBT) which stood at ₹ 1,585 crore as compared to ₹ 628 crore in FY 2016-17.



Net profit (PAT) stood at ₹ 807 crore in FY 2017-18, as against ₹ 496 crore in FY 2016-17, a 63% jump. This has been achieved by saving in material cost, reduction in overheads through operational efficiency and ERV gain.

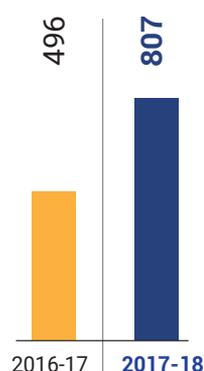
Profit Before Tax

(in ₹ crore)



Profit After Tax

(in ₹ crore)



9. Other comprehensive income

(₹ Crore)

Particulars	2017-18	2016-17
Re-measurement of defined employee benefits	127	(44)
Income tax related to above item	(44)	15
Total	83	(29)

Other comprehensive income, which represents re-measurement gain/loss on defined benefit plan such as gratuity, PF, PRMB etc. was ₹ 83 crore as against expense of ₹ 29 crore in FY 2016-17.

10. Fund flow position and liquidity

(₹ Crore)

Particulars	2017-18	2016-17
Operating cash profit before working capital changes	4221	2527
Net cash inflow from operating activities	994	562
Net increase in cash & cash equivalents and bank balances in term deposits	684	408

Operating cash profit before working capital changes was ₹ 4,221 crore as against ₹ 2,527 crore in FY 2016-17. After adjustment of net cash used in working capital, net cash inflow from operating activities was ₹ 994 crore as against ₹ 562 crore in FY 2016-17, a significant growth of 77% over previous year. Net increase in cash & cash equivalents and bank balances in term deposits were ₹ 684 crore in FY 2017-18 as against ₹ 408 crore in FY 2016-17 after meeting cash flows in investing and financing activities.

Your Company has generated positive net cash flow from operations with a significant growth of 77% over previous year, maintaining a sound financial position.

Financial Position

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

(₹ Crore)

Particulars	As at					
	March 31, 2018			March 31, 2017		
	PPE	Intangible	Total	PPE	Intangible	Total
Gross carrying value	5404	222	5626	5174	198	5372
Less: Accumulated dep./ amortisation	2427	131	2558	1683	93	1776
Net carrying value (net block)	2977	91	3068	3491	105	3596
CWIP & intangible assets under development	195	8	203	160	9	169
Total			3271			3765

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. Carrying value (gross block at historical cost) as per earlier GAAP as at March 31, 2018 was ₹ 13,261 crore as against ₹ 13,025 crore as at March 31, 2017.

12. Equity investments

(₹ Crore)

Particulars	As at					
	March 31,2018			March 31,2017		
	Investment	Impairment	Net	Investment	Impairment	Net
Investment in joint ventures	741	53	688	666	9	657
Investment in subsidiary Company	5	5	-	5	5	-
Investment in other equity instruments	6	3	3	6	2	4
Total	752	61	691	677	16	661

An amount of ₹ 74.72 crore has been contributed towards additional equity with M/s. RPCL, a joint venture during the year.

Investment in joint ventures(JV) and subsidiary Company are accounted at cost after considering impairment loss, if any in line with Ind AS. During the year an impairment loss of ₹ 45.60 crore has been provided towards investment with M/s. NBPPL, a joint venture. Impairment loss of ₹ 5.50 crore is retained against investment with Joint venture M/s. Dada Dhuniwale Khandwa Power Projects Ltd (a sum of ₹ 17 crore has been received on April 27, 2018 against investment of ₹ 22.50 crore) and ₹ 2 crore against investment with JV M/s Power Plant Performance Improvement Ltd.

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.

13. Trade receivables

(₹ Crore)

Particulars	As at					
	March 31,2018			March 31,2017		
	Non - current	Current	Total	Non - current	Current	Total
Trade receivables	12722	22771	35493	9788	22076	31864

Trade receivables of the Company are mainly from government entities. The increase is primarily in non-current receivables, realizable on milestone completion/ final contract reconciliation.

14. Cash & cash equivalents and bank balances

(₹ Crore)

Particulars	As at	
	March 31, 2018	March 31, 2017
Cash & cash equivalents	2769	1485
Deposits having maturity more than 3 months but not more than 12 months	8400	9000
Earmarked bank balances & FD against margin money	122	7
Total	11291	10492

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

15. Deferred tax assets (net)

(₹ Crore)

Particulars	As at	
	March 31, 2018	March 31, 2017
Deferred tax assets (net)	3626	3841

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.

16. Other assets

(₹ Crore)

Particulars	As at					
	March 31,2018			March 31,2017		
	Non - current	Current	Total	Non - current	Current	Total
Input tax credit receivable	-	1009	1009	-	360	360
Claim recoverable	-	664	664	-	649	649
Deposit with tax authorities & others	145	511	656	87	604	691
Advances & others	110	432	542	157	353	510
Less: Provision	49	270	319	41	241	282
Total	206	2346	2552	203	1725	1928

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

17. Inventories

(₹ Crore)

Particulars	As at	
	March 31, 2018	March 31, 2017
Inventories	6259	7372

The Inventory as no.of days of turnover in FY 2017-18 is 82 days as against 97 days in FY 2016-17.

18. Current tax assets (Net)

(₹ Crore)

Particulars	As at	
	March 31, 2018	March 31, 2017
Current tax assets (net of provisions)	223	873

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

19. Share capital

(₹ Crore)

Particulars	As at	
	March 31, 2018	March 31, 2017
Authorised share capital	2000	2000
Issued, subscribed & paid up share capital	734	490

Bonus shares in the ratio of 1:2 i.e. one equity share for two existing fully paid up equity share held were allotted during the year. Consequently, the paid-up capital has increased from ₹ 489.52 crore to ₹ 734.28 crore by capitalization of reserves

20. Other equity

(₹ Crore)

Particulars	As at	
	March 31, 2018	March 31, 2017
Opening balance	31805	31692
Total comprehensive income for the year	890	467
Less : Dividend (including interim dividend) paid during the year	485	294
Less : Corporate Dividend Tax	98	60
Less: Bonus share issued during the year	245	-
Closing balance	31867	31805

Increase in other equity by ₹ 62 crore during FY 2017-18 was on account of profit for the year after considering adjustment of final dividend for the previous year and interim dividend for the current year, issue of bonus shares and other comprehensive income.

21. Financial liabilities

(₹ Crore)

Particulars	As at					
	March 31, 2018			March 31, 2017		
	Non-current	Current	Total	Non-current	Current	Total
Maturities of finance lease obligation	57	46	103	90	64	154
Trade payables	479	10587	11066	631	8709	9340
Other financial liabilities	115	2295	2410	105	1467	1572
Total	651	12928	13579	826	10240	11066

The increase in trade payables and other liabilities is in line with operations of the Company. Other financial liabilities includes liability towards wage revision of executives pursuant to the issue of Presidential Directive during the year.

22. Provisions

(₹ Crore)

Particulars	As at					
	March 31, 2018			March 31, 2017		
	Non-current	Current	Total	Non-current	Current	Total
Provision for contractual obligation	3478	1854	5332	3244	1984	5228
Provision for employee benefits	1260	1563	2823	1520	1490	3010
Other provisions	184	336	520	218	683	901
Provision for CSR	1	30	31	19	35	54
Total	4923	3783	8706	5001	4192	9193

Total provisions decreased by ₹ 487 crore during FY 2017-18. Provision for wage revision of ₹ 760 crore has been kept for supervisors & workers. Provision in respect of CSR has been made in line with the DPE guidelines and unspent amount of ₹ 31 crore is carried to subsequent years.

23. Other liabilities

(₹ Crore)

Particulars	As at					
	March 31, 2018			March 31, 2017		
	Non-current	Current	Total	Non-current	Current	Total
Advances from customers	3337	4235	7572	2979	5267	8246
Statutory dues	-	1296	1296	4	427	431
Govt. grants	27	8	35	-	-	-
Total	3364	5539	8903	2983	5694	8677

Advances from customers gets adjusted progressively during execution of the project. The increase in statutory dues is primarily on account of GST liability which is to be discharged on due dates net of input credit available, shown in other current assets.

24. Segment performance

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

(₹ Crore)

Particulars	2017-18		2016-17	
	Power	Industry	Power	Industry
Segment revenue	23064	5034	22795	6046
Segment results	2792	180	2535	244
Segment capital employed	16271	3724	14352	3707
Segment results as % of segment revenue	12%	4%	11%	4%

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	2017-18	2016-17
BHEL Share (%)	51%	51%
BHEL's Investment in Equity	5.36	5.36
Revenue from Operations	14.51	32.17
Profit / (Loss) after tax	(6.01)	(4.24)

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	2017-18	2016-17
BHEL share (%)	One share less than 50%	One share less than 50%
BHEL's investment in equity	2.38	2.38
Orders booked during the year	754.20	465.50
Revenue from operations	631.87	523.08
Profit after tax	53.64	47.99
Net worth	277.08	258.61

For FY 2017-18, BGGTS has paid interim dividend at 490% and proposed final dividend at 190% on the equity share capital of ₹ 4.76 crore.

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

NTPC BHEL Power Projects Private Limited (NBPPPL) 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.

765/400 kV substation at Raichur, Karnataka, commissioned by BHEL



The brief financials are tabulated below:

(₹ Crore)

Particulars	2017-18*	2016-17
BHEL share (%)	50%	50%
BHEL's investment in equity	50.00	50.00
Revenue from operations	144.90	673.23
Profit/ (loss) after tax	(76.69)	(34.05)

* based on provisional unaudited figures

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, 2018 is ₹ 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:

Particulars	2017-18*	2016-17
BHEL share (%)	27.97%	27.34%
BHEL's investment in equity	664.04	589.32
Revenue from operations	909.26	2.93
Profit/ (loss) after tax	(1345.12)	(79.41)

* based on provisional unaudited figures

The commercial operation started in FY 2017-18 and yet to take an optimum plant load.

An amount of ₹ 74.72 crore has been contributed towards additional equity with M/s. RPCL.

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. The JVC is under liquidation.

e. Latur Power Company Limited (LPCL):

Latur Power Company Limited (LPCL) was a Joint Venture Company of BHEL and Maharashtra State Power Generation Company Limited (MAHAGENCO) promoted for setting up 2x660 MW thermal power plant or 1500 MW gas based Combined Cycle Power Plant (CCPP) in Latur, Maharashtra.

Due to non-availability of coal linkage and domestic gas, both the promoters (BHEL and MAHAGENCO) had approved for voluntary winding up of the JVC and JVC has been dissolved during the year 2017-18.

f. Powerplant Performance Improvement 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 will be initiated during FY 2018-19.

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.

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

(₹ Crore)

Statement of Profit & Loss	For the year ended	
	March 31, 2018	March 31, 2017
Revenue from operations	28827	28629
Profit before tax	1215	586
Profit after tax	438	455
Other comprehensive income/ (expenses)	83	(29)
Total comprehensive income	522	426

(₹ Crore)

Balance Sheet	As at	
	March 31, 2018	March 31, 2017
Assets		
Property, plant and equipment, intangible assets and CWIP (net carrying value)	3276	3770
Investment accounted for using equity method	409	753
Non-current financial assets	12828	9871
Deferred tax assets (net)	3632	3846
Non-current other assets	206	203
Current assets	43194	42904
Total	63545	61347
Equity and Liabilities		
Equity share capital	734	490
Other equity	31601	31899
Non-controlling interest	(4)	(1)
Non-current liabilities	9002	8817
Current liabilities	22212	20142
Total	63545	61347

1.6 Capital Investment

- With a focus on productivity enhancement, BHEL has invested a sum of ₹ 249 crore during FY 2017-18 on modernization of the Company's assets and building enabling infrastructure for execution of power projects.
- Significant achievement of capital expenditure in current year is the enhancement of captive solar power generation capacity by 15 MWp. With the current addition, BHEL has moved another inch towards mix of sustainable energy by utilizing 26.5 MWp of green power from in-house solar PV plants. These solar PV plants equipped with in-house manufactured solar cells, along with the tracking system, not only showcase our technical superiority in the field, but also confirm our commitment towards renewable energy mission of 175 GWp of Government of India by 2022.
- BHEL takes pride in being an environmentally conscious organization and has taken another step towards eco-friendly waste management by installing 4.5 MLD Sewage Treatment Plant at its manufacturing unit at Bhopal. Construction of

similar plant is underway at Haridwar unit to further minimize the effects of liquid waste generated by us.



Focus on productivity enhancement, modernization of the Company's assets and building enabling infrastructure for execution of power projects.

1.7 Quality Performance

BHEL has well established Quality Management systems to realise the objective of Quality policy, which is as under -

"In its quest to be a Global Engineering Enterprise and to provide solutions for a better tomorrow in the field of Energy, Industry & Infrastructure, BHEL pursues Continual Improvement in the Quality of its Products & Services that comply to applicable requirements through Commitment, Innovation and Team Work of all Employees leading to Customer Delight".

Various initiatives for continual improvement in process & product quality and enhancement of Quality Management System effectiveness have been taken up.

All identified thirty divisions of BHEL have been upgraded from ISO 9001:2008 to ISO 9001:2015 version.

To strengthen the existing quality systems in Manufacturing Units (MUs) & Power Sector project sites, periodic Quality Audits and Quality Management Effectiveness Review (QMER - An indigenous copyright Quality Model of BHEL) by cross functional teams comprising of Corporate Quality & Business Excellence and MU/ site representatives are being conducted. Action plans based on the identified gaps are prepared & followed up for implementation and improvement.

During 2017-18, twenty-two BHEL divisions were subjected to Quality Management Effectiveness Review. Product/ Process Quality Audit carried out at sixteen Manufacturing Units and Field Quality audit at twenty three project sites with an objective to enhance compliance level of Quality Management Systems.

Quality management training programs are conducted by Corporate Quality & Business Excellence at different centers of BHEL, in addition to trainings conducted by Human Resource Development (HRD) Centers of units for capability building of

employees in the field of Quality.

During 2017-18, approximately 400 executives were trained in Quality Management topics conducted by Corporate Quality & Business Excellence function. The training was spread over around 1300 man-days.

Quality Circle (QC) movement in BHEL which is being driven by workers & supervisors is the role model in the country. Every year inter-unit annual QC summit is held in BHEL where Quality Circles showcase their case studies.

Quality & Business Excellence Award:

- HPEP Hyderabad unit was conferred the "Best Organisation for pioneering Quality Circle movement in India and contributing to its growth" award by Quality Circle Forum of India, Hyderabad Chapter in its 31st Chapter Convention on Quality Concepts (CCQC-2017) held in September' 2017.
- A case study from BHEL Bhopal unit titled "Development of Steel Fixture for drilling of Tube Plate & Support Plate of Thermal & Nuclear Condenser" received D.L. SHAH Quality Award-2017 under silver category at 12th National Quality Conclave-2017. The event held at New Delhi in September' 2017, was organized by Quality Council of India.

Certification/ Accreditation by external agencies:

- M/s American Petroleum Institute (API) awarded Monogram licensing permission to HPBP / Valves division, Trichy unit w.e.f March 17, 2017 with validity up to March 17, 2020.

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 defined organisational 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 CAG 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.

An evaluation of IFC by external consultant on test check basis were also done during the year and has stated in their report that the controls tested have been found operating efficiently within the Company.

1.9 Human Resource

1.9.1 Learning and Development

Aligned to the changing needs of the organization, BHEL has facilitated knowledge transfer, skill development and behavioral interventions to build a winning attitude in its employees. Through numerous initiatives, employees are enabled to be in a state of "Readiness" to face the business challenges.

Five Advanced Management Programs (AMPs) in collaboration with IIM-Kolkata were conducted for 153 executives at senior management levels to develop high performance cross functional team in the increasingly volatile global network.

Long duration General Technical program introduced to promote Core Engineering Skills. A new program series on Achievement Orientation & Performance Counselling was conducted in various units.

Developing "Leader as Coach" initiative was introduced by developing in-house internationally certified faculty who conducted workshops in the organization with an objective to make managers aware about their role as coach.



Focus on people development - competency building of all employees in line with company's business strategies

A series of workshops on work related topics such as quality, sourcing policies etc. were organized for more than 180 young

executives to facilitate functional excellence.

To initiate creative thinking and collaborative approach, workshops such as PRISM (Project improvement & site management), LEAD (Learning through exchange & development), Design Thinking by Stanford certified faculty e.t.c were conducted.

BHEL was actively involved in skill development initiative of the Government of India. During FY 2017-18, BHEL provided skill development opportunities to 24,046 individuals under various schemes like Graduate apprenticeship, Diploma apprenticeship, Vocational apprenticeship, Trade apprenticeship, etc. BHEL was recognized as **Champion of Change** under the category of 'Best Central Public Sector Enterprises' by the Ministry of Skill development & Entrepreneurship for engaging maximum number of apprentices under the Apprentices Act, 1961.

1.9.2 Performance and Career Development

To ensure leadership continuity, filling up senior and critical leadership positions falling vacant due to exits and also to encourage individual advancement through development of intellectual capital, a formal Succession Plan was approved by the Board during the year.

For meeting the career development aspirations of our young executives and to build a systematic pipeline of high potential executives to feed into the Succession Planning Scheme for key positions, a scheme for identifying and grooming employees with high potential, is in place.

Various behavioural competency assessment tools are being used to finalise development plans, and also to identify high potential employees and potential successors.

As part of talent management initiatives, BHEL executives have gone through the technical and behavioural competency assessments.

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.

As with other CPSE's, the MoU signed between BHEL and the Government of India details out the parameters and initiatives that BHEL 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 laid down a procedure for evaluation of Functional Directors 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 2017-18. No mandays were lost during the year.

BHEL won the prestigious FICCI – AIOE National Award for Outstanding Achievement in Industrial Relations for the F.Y. 2015-16. BHEL was adjudged the winner amongst around 50 participating companies in Government and Private sector in this prestigious event organized in May, 2017.

Two meetings of the apex level bipartite forum, namely "Joint Committee" were held during the year. There were 53 meetings of the Plant Councils and 515 meetings of the 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.

Two workshops on 'Implementation of Reservation Policy and Maintenance of Reservation rosters' were organized at Hyderabad and Haridwar units from September 15, 2017 to September 16, 2017 and November 20, 2017 to November 21, 2017 respectively. Also an Annual workshop on 'Reservation Policy' for SC/ ST/ OBC Liaison Officers and SC/ ST/ OBC Association representatives was held at Bhopal unit from November 2, 2017 to November 3, 2017.

A two-day Symposium on HR Best practices in CPSEs was organized at BHEL Corporate Office in January' 2018 where participants from eleven CPSEs participated and shared their HR practices.

1.9.4 Manpower Strength

BHEL's greatest strength is its highly skilled and committed workforce of 37,540 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 the Government. However, there is no direct impact of these guidelines on the financial position of the Company.

Other relevant information on the subject is as below:

1. Representation of SC/ST/OBC employees

The overall representation of SC/ST/OBC employees in total manpower as on December 31, 2017 was 20.25%, 6.83% and 31.94% for SCs, STs and OBCs respectively. The percentages in direct recruitment during the year 2017 were 16.66%, 16.66% and 5.55% for SCs, STs and OBCs respectively.

The Annual Statement in the prescribed format showing the representation of SCs, STs and OBCs as on December 31, 2017 and number of appointments made during the preceding calendar year, as furnished to the Government, is given at **Annexure – A**.

2. Manpower strength of PwD employees as on December 31, 2017

Total number of PwD employees as on December 31, 2017 is 909. In the year 2017, two persons were appointed under PwD Category. The group wise manpower strength of PwD employees in the Company as on December 31, 2017 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", is in force since December 9, 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 websites. 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. Fifty workshops / awareness programmes were conducted in Units on gender sensitization, self-defence and awareness about the Act.

The Annual Report showing details on number of complaints of sexual harassment received during the year 2017-2018 and status thereof as on March 31, 2018 is given at **Annexure - C**.

On track towards Modern & Efficient Transportation!

A leading manufacturer of railway products, BHEL offers a wide range of traction propulsion equipment for all types of rolling stock. In Indian Railways, more than 50% rolling stock is supplied by BHEL.

As one of its latest offerings, BHEL has designed and developed state-of-the-art IGBT based 3-phase drive propulsion equipment for India's first ever air-conditioned AC EMU train for Mumbai suburban application. The propulsion equipment includes 3-phase traction motor, traction transformer, IGBT traction converter, IGBT auxiliary converters, IGBT based air-conditioning converter and train control & management system (TCMS) - the heart of the train system. The propulsion control system incorporates regenerative electrical braking, yielding substantial energy savings. This AC EMU has been successfully running for passenger service since 25th December 2017, covering approximately 1,00,000 km and providing safe and comfortable journey to the commuters of Mumbai.



Annexure - A

Annual Statement Showing the Representation of SCs, STs and OBCs as on December 31, 2017 and No. of appointments made during the preceding calendar year

Groups	Representation of SCs/STs/OBCs (As on December 31,2017)				No. of appointments made during the calendar year 2017											
					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	11806	2004	881	2656	17	3	3	0	--NA--			1	0	0	0	
Group B	8813	1700	614	2002	0	0	0	0				0	0	0		
Group C	16773	3860	1087	7265	1	0	0	1				0	0	0		
Group D (Excl. SW)	630	110	17	233	0	0	0	0				0	0	0		
Group D (SW)	40	34	1	1	0	0	0	0				0	0	0		
Total	38062	7708	2600	12157	18	3	3	1	0	0	0	1	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 2017

Group	Direct Recruitment									Promotion*						
	No. of vacancies reserved			Total	In Identified Posts	No. of appointments made			No. of Vacancies reserved			Total	In identified posts	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
Group A	0	1	1	17	17	0	1	1	---NA---							
Group B	0	0	0	0	0	0	0	0								
Group C	0	0	0	1	0	0	0	0								
Group D	0	0	0	0	0	0	0	0								

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 cerebra I 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 2017-18	6
2	Number of complaints disposed of during the year 2017-18	6
3	Number of cases pending for more than ninety days	2*
4	Number of workshops or awareness programme against sexual harassment carried out	50
5	Nature of action taken by the employer on recommendations of Internal Complaints Committee (ICC)	
	<ul style="list-style-type: none"> Complaint by a contractual labour posted in medical department regarding sexual harassment (verbal & wrong touch) by a regular employee. On the basis of circumstantial evidence, the employee was found to be guilty during the enquiry conducted by IC. The Employee was issued a strong warning and was transferred to another section of the department. 	Case closed
	<ul style="list-style-type: none"> Complaint by two female Graduate Apprentices against an Artisan for making pranks by repeating the body gestures being made by the apprentices while walking and also for singing a Tamil film song. On enquiry, the Committee inferred that the Artisan had psychiatric problems and was undergoing treatment for the same. Warning letter was issued to him. 	Case closed
	<ul style="list-style-type: none"> An Intern BSc (Nursing) filed FIR against CMS of BHEL Hospital for sending whatsapp messages. The charge of sexual harassment could not be established and matter was closed. 	Case closed
	<ul style="list-style-type: none"> Female employee made a complaint against a male employee for using derogatory and humiliating words. On enquiry, the same was established and the respondent was found guilty. Penalty of reduction of Basic Pay to one stage lower in the time scale of pay for a period of one year without cumulative effect was imposed on respondent. 	Case closed
	<ul style="list-style-type: none"> Female employee made a complaint against a male employee of her department for pulling her dupatta when she was coming out of the cabin. In the past also, she had faced some issues with him. On enquiry, the charge could not be proved. Instead, it emerged that there was lack of team spirit and trust amongst team members. 	Case closed
	<ul style="list-style-type: none"> A female casual worker made complaint against Welfare Officer working in the same department. On detailed inquiry, the respondent was found guilty. Penalty by reduction of one increment of pay for a period of one year is being imposed on respondent. He is being transferred to another department. 	Case closed

* Cross examination of witnesses took time

1.10 Right To Information Act, 2005

BHEL in consonance with the provisions of the Right to Information Act, 2005 (the Act) works towards promoting transparency and accountability. A Central Public Information Officer (CPIO) and a Central Assistant Public Information Officer (CAPIO) 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 off 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. Towards this, an Annual workshop on the Act was organized on March 28, 2018 for the benefit of CPIOs and First Appellate Authorities.

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 81 RTI applications and no RTI appeals at the beginning of the year. During 2017-18, 1250 applications and 215 appeals were received, and 1254 applications and 197 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.

BHEL has in place a 'Board level Risk Management Committee' (BLRMC) with assigned responsibility of reviewing the Company's Risk Governance structure, Risk Assessment & Risk Management framework, Guidelines, Policies and Processes. Besides this, Risk Management Steering Committee (RMSC) is responsible for adopting & implementing the risk management framework and leading the risk management initiative across the Company. Chief Risk Officer (CRO) as the convener of BLRMC & RMSC is responsible for periodic reporting on risk management to Board/ BLRMC.

Key risks faced by the Company are analysed in detail by risk management steering committee. The Board / BLRMC regularly review top risk areas. 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"> - Implementation of Cyber security incident capturing system across the Company - Third party audit as per ISO27001 ISMS Standards - Business Continuity Plan (BCP) & Disaster Recovery (DR) strategy in place - Crisis Management Group in place - Security operation center for protection against cyber threats and early detection of targeted attacks and data breaches
Impact of External Factors Viz. Govt. Policy, infrastructure inadequacy, which may adversely impact the business	<ul style="list-style-type: none"> - Policy advocacy and initiatives through Administrative Ministry and reaching out to Industry bodies/ associations - Liaison with key business partners
Technology readiness to meet current/ future market requirements	<ul style="list-style-type: none"> - In house development of new products/ Technologies - Technical collaborations with suitable partners
Rising debtors	<ul style="list-style-type: none"> - Formation of special groups to accelerate cash collections - 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.



Atul Sobti
Chairman & Managing Director

Place : New Delhi
Dated : July 25, 2018

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 commitment to quality of governance, transparency 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 personnel
- (iii) Recognition of obligations towards all stakeholders – shareholders, customers, employees, suppliers and the society
- (iv) High degree of disclosure and transparency levels
- (v) Total compliance with laws in all areas in which the Company operates
- (vi) Achievement of above 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 and making the suppliers the Company's partners in progress & 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 63.06% 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, 2018 is as follows:

Category of Directors	Board Structure	Actual Strength as on March 31, 2018
Chairman & Managing Director	1	1
Whole-time Executive (Functional) Directors	5	4
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	6
Total	16	13

As on March 31, 2018, besides vacancy of Director (Finance)*, there exist two vacancies of Part-time Non-official (Independent) Directors on the Board of BHEL.

* *Shri Subodh Gupta has been appointed as Whole Time (Functional) Director w.e.f. April 18, 2018 to take charge of the office of Director (Finance)*

ii. Attendance of each Director at the Board Meetings held during 2017-18 and the last AGM

Director's Name S/ shri	No. of Board Meetings		Last AGM (held on September 22, 2017)
	Held	Attended	
Executive Directors			
Atul Sobti, Chairman & Managing Director	9	9	Yes
D. Bandyopadhyay, Director (HR)	9	9	Yes
Amitabh Mathur, Director (IS&P)	9	9	Yes
Subrata Biswas, Director (E,R&D)#	9	9	Yes
T. Chockalingam, Director (Finance) (upto November 30, 2017)	7	7	Yes
Akhil Joshi, Director (Power)	9	9	Yes

Part-Time Official Directors – Govt. Nominees			
Dr. Subhash Chandra Pandey, Special Secretary & Financial Adviser, Department of Industrial Policy and Promotion, Ministry of Commerce & Industry	9	7	Yes
Bhaskar Jyoti Mahanta, Joint Secretary, Department of Heavy Industry, Ministry of Heavy Industries & Public Enterprises	9	8	No
Part-Time Non-Official (Independent) Directors			
Ms. Harinder Hira (upto May 01, 2017)	2	1	*
A.N. Roy (upto August 20, 2017)	5	5	*
Rajesh Kishore	9	8	Yes
Keshav N. Desiraju	9	9	Yes
R. Swaminathan	9	9	Yes
Ms. Surama Padhy	9	9	Yes
Desh Deepak Goel (w.e.f. September 23, 2017)	4	4	*
Ranjit Rae (w.e.f. September 23, 2017)	4	4	*

Holding additional charge of Director (Finance) w.e.f. December 1, 2017.

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

iii. Details of Directorships, Committee Memberships and Committee Chairmanship in other companies as on March 31, 2018

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)

Amitabh Mathur, Director (IS & P)	1. Dada Dhuniwale Khandwa Power Ltd. 2. BHEL GE Gas Turbine Services Pvt. Ltd.	Audit Committee: Dada Dhuniwale Khandwa Power Ltd. (Chairman)
Subrata Biswas, Director (E,R&D)	Raichur Power Corporation Ltd.	-NIL-
Akhil Joshi, Director (Power)	Raichur Power Corporation Ltd.	-NIL-
Dr. Subhash Chandra Pandey, Part-time Official Director	1 HMT Ltd. 2 National Textile Corporation Ltd. 3 India Trade Promotion Organisation 4 Invest India 5 India International Convention and Exhibition Centre Ltd. 6 National Jute Board 7 National Jute Manufactures Corporation Ltd. 8 MMTC Ltd. 9 STC India Ltd.	Audit Committee: India Trade Promotion Organisation (Member)
Bhaskar Jyoti Mahanta, Part-time Official Director	1. Andrew Yule & Co. Ltd. 2. Tide Water Oil Co India Ltd. 3. Richardson And Cruddas Ltd.	-NIL-
Rajesh Kishore, Independent Director	-NIL-	-NIL-
Keshav N. Desiraju, Independent Director	1. Tamil Nadu Infrastructure Fund Management Corporation Ltd. 2. Cognizant Foundation	Audit Committee: Tamil Nadu Infrastructure Fund Management Corporation Ltd. (Chairman)
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-

* 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

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 nine times on the following dates:

(i) April 6, 2017	(ii) April 7-8, 2017	(iii) May 29, 2017
(iv) July 19, 2017	(v) August 10, 2017	(vi) October 10, 2017
(vii) November 7, 2017	(viii) February 8, 2018	(ix) February 9, 2018

v. 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.

vi. Role of 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 and public policy.

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 'www.bhel.com/index.php/ind_dir' under the heading 'Familiarisation Programme for Independent Directors {under Independent Director- Related Information}'.

vii. Information placed before the Board of Directors

The agenda placed before the Board *inter alia* 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.

viii. 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 and Industry.

ix. 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.

x. Code of Conduct

As part of BHEL's persisting endeavour to set a high standard of conduct for its employees, a 'Code of Business Conduct and Ethics' was laid down for all Board Members and Senior Management personnel and the same was revised in line with changes in the regulatory framework & changing business dynamics and to incorporate other relevant provisions to strengthen the Code. Pursuant to erstwhile Listing Agreement with the Stock Exchanges, the Board of Directors of BHEL in its 465th meeting held on November 14, 2014 revised and approved the "Code of Business Conduct & Ethics for Board Members and Senior Management Personnel" of the Company. The Code is also 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 said revised Code has been placed on the Company's website 'www.bhel.com'.

xi. 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.

xii. 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 September 1, 2017. The Committee comprises of the following Directors:

Name of the Director S/ Shri	Position	No. of meetings	
		Held during their tenure	Attended
A.N. Roy, Independent Director (upto 20.08.2017)	Chairperson	4	4
Rajesh Kishore, Independent Director	Chairperson (w.e.f.01.09.2017)	2	1
	Member (up to 31.08.2017)	4	4
Bhaskar Jyoti Mahanta, JS, DHI, Part-time Official Director	Member	6	5
Ms. Harinder Hira, Independent Director (upto 01.05.2017)	Member	1	1
R. Swaminathan, Independent Director, (w.e.f. 06.04.2017)	Member	5	5
Ms. Surama Padhy, Independent Director, (w.e.f. 01.09.2017)	Member	2	2

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 six times on April 6, 2017, May 29, 2017, July 19, 2017, August 10, 2017, November 7, 2017 and February 8, 2018 during the year under review. The detail 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.
- Formulation of criteria for evaluation of Independent Directors and the Board.
- Devising a policy on Board diversity.
- 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.
- 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.
- 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.
- 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.
- Approval of fixed component and performance linked incentives based on the performance criteria.
- Finalization of the criteria of making payments to Non-Executive Directors.
- 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 September 1, 2017. The Committee comprises of the following directors:

Name of the Director S/ Shri	Position
Ms. Harinder Hira, Independent Director, (upto 01.05.2017)	Chairperson
A.N. Roy, Independent Director, (upto 20.08.2017)	Chairperson (w.e.f 15.05.2017)
	Member (upto 14.05.2017)
Keshav N. Desiraju, Independent Director, (w.e.f. 06.04.2017)	Chairperson (w.e.f. 01.09.2017)
	Member (upto 31.08.2017)
Dr. Subhash Chandra Pandey, SS & FA, DIPP, Part-time Official Director	Member
Bhaskar Jyoti Mahanta, JS, DHI, Part-time Official Director	Member
Rajesh Kishore, Independent Director, (w.e.f 01.09.2017)	Member

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

iv. Meetings and Attendance

No meeting of the Nomination & Remuneration Committee took place during the year under review.

v. Details of remuneration of Functional Directors during the year 2017-18 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	45,48,727	7,22,709	45,274	53,16,710	--
2.	D. Bandyopadhyay	40,43,764	6,69,543	5,65,639	52,78,946	Liable to retire by rotation
3.	Amitabh Mathur	44,15,138	6,87,973	41,314	51,44,424	Liable to retire by rotation
4.	Subrata Biswas	34,58,104	6,66,675	4,62,687	45,87,466	Liable to retire by rotation
5.	T. Chockalingam (upto 30.11.2017)	37,07,770	4,20,496	4,33,751	45,62,017	-----
6.	Akhil Joshi	38,55,462	6,70,877	5,70,429	50,96,768	Liable to retire by rotation

vi. Details of payments made to Independent Directors during the year 2017-18 are given below: -

(in ₹)

Name of the Independent Directors	Sitting Fees		Total
	Board Meeting	Committee Meeting	
Ms. Harinder Hira	20,000/-	30,000/-	50,000/-
Shri A.N. Roy	1,00,000/-	75,000/-	1,75,000/-
Shri Rajesh Kishore	1,60,000/-	1,50,000/-	3,10,000/-
Shri Keshav N. Desiraju	1,80,000/-	30,000/-	2,10,000/-
Shri R. Swaminathan	1,80,000/-	1,50,000/-	3,30,000/-
Ms. Surama Padhy	1,80,000/-	1,65,000/-	3,45,000/-
Shri Desh Deepak Goel	80,000/-	30,000/-	1,10,000/-
Shri Ranjit Rae	80,000/-	15,000/-	95,000/-

During FY 2017-18 Independent Directors were entitled for sitting fee @ ₹20,000/- per Board Meeting and ₹15,000/- per Board Level Committee Meeting attended by them. 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, 2018):

Name of the Director	No. of shares held
Shri Atul Sobti	2250
Shri Akhil Joshi	15

The Company has not issued any stock options during the year 2017-18.

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 April 6, 2017.

The Committee comprises 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	Member	4	1
Ms. Surama Padhy, Independent Director, (w.e.f. 06.04.2017)	Member	4	4
Director (HR)	Member	4	4
Director (Finance)	Member	4	4

Company Secretary acts as Secretary to the Committee.

Shri I.P. Singh, 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 29, 2017, July 18, 2017, November 7, 2017 and February 8, 2018 during the year under review. The detail of attendance of each member is given in the above table.

Detail of shareholders' complaints

As reported by Karvy Computershare Private Limited (RTA) to SEBI, 916 complaints were received from the shareholders during the year under review and all complaints were redressed up to March 31, 2018. 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 2017-18

The Share Transfer Committee met 11 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. The terms of reference of the Committee 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 as 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; and

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 w.e.f. October 10, 2017. The Committee comprises of the following directors:

Name of the Director S/ Shri	Position	No. of meetings	
		Held during their tenure	Attended
Ms. Harinder Hira, Independent Director, (upto 01.05.2017)	Chairperson	1	1
Rajesh Kishore, Independent Director, (w.e.f. 06.04.2017)	Chairperson (w.e.f. 15.05.2017)	3	3
	Member (upto 14.05.2017)	0	0
Bhaskar Jyoti Mahanta, JS, DHI, Part-time Official Director	Member	4	3
Ranjit Rae, Independent Director, (w.e.f. 10.10.2017)	Member	1	1
Director (Finance)	Member	4	4
Director (HR)	Member	4	4

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 four times during the year on April 6, 2017, July 18, 2017, October 10, 2017 and February 8, 2018. 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:

- Review of present policies with respect to promotion and reward/ incentive to the Executives.
- 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 October 10, 2017. The Committee comprises the following directors:

Name of the Director S/ Shri	Position	No. of meetings	
		Held during their tenure	Attended
Rajesh Kishore, Independent Director	Chairperson	1	1
Ranjit Rae, Independent Director, (w.e.f. 10.10.2017)	Member	0	0
Director (Finance)	Member	1	1
Director (HR)	Member	1	1

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 once during the year on August 9, 2017. The detail 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 the following Independent Directors:

Name of the Director S/ Shri	Position	No. of meetings	
		Held during their tenure	Attended
Ms. Harinder Hira (upto 01.05.2017)	Chairperson & Lead Independent Director	0	0
A.N. Roy [upto 20.08.2017]	Chairperson & Lead Independent Director (w.e.f 15.05.2017)	1	1
	Member (upto 14.05.2017)	0	0
Rajesh Kishore	Chairperson & Lead Independent Director (w.e.f. 01.09.2017)	0	0
	Member (upto 31.08.2017)	1	1
Keshav N. Desiraju	Member	1	1
R. Swaminathan	Member	1	1
Ms. Surama Padhy	Member	1	1
Desh Deepak Goel (w.e.f. 23.09.2017)	Member	0	0
Ranjit Rae (w.e.f. 23.09.2017)	Member	0	0

iii. Meetings and Attendance

The Committee met once during the year on August 10, 2017. The detail 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.
- To review the Company's risk mitigation strategies relating to identified key risks as well as the processes for monitoring and mitigating such risks.
- 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 comprises 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	Member	1	1
Director (IS&P)	Member	1	0
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 18, 2017. The detail 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 October 10, 2017. The Committee comprises the following directors:

Name of the Director S/ Shri	Position	No. of meetings	
		Held during their tenure	Attended
Ms. Harinder Hira, Independent Director, (upto 01.05.2017)	Chairperson	0	0
Ms. Surama Padhy, Independent Director, (w.e.f. 06.04.2017)	Chairperson (w.e.f. 15.05.2017)	4	4
	Member (up to 14.05.2017)	0	0
Bhaskar Jyoti Mahanta, JS, DHI, Part-time Official Director	Member	4	3
Desh Deepak Goel, Independent Director, (w.e.f. 10.10.2017)	Member	2	2
Director (HR)	Member	4	4

Head-Law is convenor 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 29, 2017, August 9, 2017, November 6, 2017 and February 8, 2018. 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 October 10, 2017. The Committee comprises the following directors:

Name of the Director S/ Shri	Position
Bhaskar Jyoti Mahanta, JS, DHI, Part-time Official Director	Chairperson
Keshav N. Desiraju, Independent Director	Member
Desh Deepak Goel, Independent Director, (w.e.f 10.10.2017)	Member
Director (IS&P)	Member
Director (Finance)	Member
Director (E,R&D)	Member
Director (Power)	Member
Director (HR)	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 General Meetings

i. Location and time of last three AGMs:

Year	Location	Date	Time
FY 2014-15 (51 st AGM)	FICCI Auditorium, Barakhamba Road (Tansen Marg) New Delhi-110001	Sept. 22, 2015	10.00 a.m.
FY 2015-16 (52 nd AGM)	Manekshaw Centre, Parade Road, Khyber Lines, Delhi Cantt., Delhi-110010	Sept. 22, 2016	10.00 a.m.
FY 2016-17 (53 rd AGM)	Manekshaw Centre, Parade Road, Khyber Lines, Delhi Cantt., Delhi-110010	Sept. 22, 2017	10.00 a.m.

ii. Details of Special resolutions passed in previous three AGMs

In line with SEBI circular No. CIR/CFD/POLICY CELL/2/ 2014 dated April 17, 2014, a Special Resolution was passed in the 51st Annual General Meeting held on September 22, 2015, for approval of prior material related party transaction with Raichur Power Corporation Limited, a Joint Venture of BHEL, for order of main plant equipment supply & services for the 2x800 MW Yeramarus Power Project at a value of ₹ 6,300 crore.

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.

2.13 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 Point No. 11 of Note 38 - Notes on Accounts 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. 2015-16, 2016-17 & 2017-18, one Presidential Directive on revision of scales of pay w.e.f January 1, 2017 for Board level, below Board Level Executives and Non-unionised Supervisors was received on December 27, 2017. The Presidential Directive on executives have since been complied with. However, the Presidential Directive on Supervisors shall be complied with in due course.

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.

BHEL has in place a Board Level Risk Management Committee (BLRMC) with assigned responsibility of reviewing the Company's risk governance structure, risk assessment & risk management framework, guidelines, policies and processes.

Besides this, Risk Management Steering Committee (RMSC) leads the risk management initiative across the Company. RMSC members, comprising of Executive Directors/ Functional Heads from Corporate Functions and Business sectors, are responsible for adopting & implementing the risk management framework. At the divisional level, Risk Management Committees at the Business Sectors/ Regions/Units/functions are responsible for review of risk profiles & risk mitigation plans and their implementation at the respective Units/Regions.

vii. Compliance Certificate on Corporate Governance

Compliance Certificate on Corporate Governance is enclosed.

2.14 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 2017-18, while BHEL has not made any presentation on financial results to analysts or investors, quarterly teleconference calls were held post financial result declaration, with prior intimation to the stock exchanges and posting the same on its website. BHEL has also attended investor conferences organized by investor or analyst firms from time to time.

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.

2.15 General Shareholder Information

	AGM Date	Time	Venue
i	September 19, 2018	10.00 AM	Manekshaw Centre, Parade Road, Khyber Lines, Delhi Cantt., Delhi-110010
ii	Financial year	April 1, 2017 to March 31, 2018	
iii	Dates of Book Closure	September 13, 2018 to September 19, 2018 (Both days inclusive)	
iv	Dividend payment date	On or before October 18, 2018	

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
2009-2010 (Final)	123%	602.11	September 17, 2010
2010-2011 (Interim)	132.50%	648.62	March 15, 2011*
2010-2011 (Final)	179%	876.24	September 20, 2011
2011-2012 (Interim)	136%	665.75	March 02, 2012 *
2011-2012 (Final)	184%	900.72	September 19, 2012
2012-2013 (Interim)	106%	518.89	February 01, 2013 *
2012-2013 (Final)	164.50%	805.26	September 20, 2013
2013-2014 (Interim)	65.50%	320.64	February 05, 2014 *
2013-2014 (Final)	76%	372.04	September 19, 2014

Year	Rate of Dividend	Total Amount of Dividend Paid (₹ in Crore)	Date on which Dividend was Declared
2014-2015 (Interim)	27%	132.17	February 12, 2015 *
2014-2015 (Final)	31%	151.75	September 22, 2015
2015-2016 (Final)	20%	97.90	September 22, 2016
2016-2017 (Interim)	40%	195.81	February 07, 2017*
2016-2017 (Final)	39%	190.92	September 22, 2017
2017-2018 (Interim)	40%	293.72	February 08, 2018*
2017-2018 (Final)	51%	374.48	**

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

** The Board in its 497th meeting held on 29.05.2018 recommended final dividend for 2017-18, subject to approval of shareholders in AGM.

Note:

- Pursuant to split w.e.f. October 4, 2011, Number of shares of BHEL increased from 48.952 crore of ₹ 10/- each to 244.76 crore shares of ₹ 2/- each.
- The Company has allotted Bonus Equity Shares to its Shareholders on October 3, 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.
- 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 2009-10 (Final) has already been transferred to Investor Education & Protection Fund (IEPF) during the year 2017-18. Further, unclaimed dividend for the year 2010-11 (Interim) and 2010-11 (Final) are due for transfer to IEPF on April 18, 2018 & October 21, 2018 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 2017-18 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 - 400051	BHEL

b) Payment of Annual Custodian Fee to Depositories

The Annual Custodian fee has been paid to NSDL and CDSL for the FY 2017-18.

vii. The High, Low, Close & Volume of BHEL shares and market index during each month in the financial year 2017-18 at BSE & NSE are indicated below:

Market Price Data: High, Low, Close during each month in the financial year 2017-18											
Months	BSE				NSE				Market Index (Close)		
	High	Low	Close	Volume	High	Low	Close	Volume	S&P BSE SENSEX	NSE NIFTY	
	(in ₹)			(No. of shares in crore)	(in ₹)			(No. of shares in crore)			
Apr-17	182.65	163.10	175.70	1.84	182.75	163.25	175.70	10.44	29918.40	9304.05	
May-17	179.05	133.65	138.50	2.03	179.00	133.60	138.20	13.63	31145.80	9621.25	
Jun-17	142.20	131.00	135.35	1.06	142.45	130.80	135.30	8.68	30921.61	9520.90	
Jul-17	147.25	133.50	144.80	1.17	147.50	133.15	145.10	8.21	32514.94	10077.10	
Aug-17	146.85	121.40	129.10	0.90	146.55	121.30	128.90	8.94	31730.49	9917.90	
Sep-17	145.80	82.30*	84.00*	1.70	145.85	82.10*	83.95*	14.86	31283.72	9788.60	
Oct-17	101.40*	82.55*	97.75*	1.77	101.30*	82.50*	98.00*	16.82	33213.13	10335.30	
Nov-17	101.50*	85.90*	91.90*	3.01	101.50*	85.85*	92.00*	28.58	33149.35	10226.55	
Dec-17	94.80*	86.85*	92.60*	1.95	94.50*	86.75*	92.50*	15.69	34056.83	10530.70	
Jan-18	108.00*	92.70*	100.25*	2.99	107.95*	92.60*	100.20*	27.10	35965.02	11027.70	
Feb-18	102.20*	88.80*	90.00*	1.69	102.05*	88.20*	89.90*	16.60	34184.04	10492.85	
Mar-18	91.80*	79.50*	81.40*	1.26	91.80*	79.85*	81.35*	12.95	32968.68	10113.70	

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

* Denotes share price after issue of bonus equity shares in the ratio 1:2 i.e. one fully paid up bonus equity share of ₹ 2/- each for every two fully paid up equity shares of ₹ 2/- each

viii. Policy on Insider Trading

BHEL endeavors 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 August 26, 2002 which was subsequently revised w.e.f. January 29, 2009.

SEBI vide notification dated January 15, 2015, introduced the SEBI (Prohibition of Insider Trading) Regulations, 2015, applicable w.e.f. May 15, 2015. In line with SEBI (Prohibition of Insider Trading) Regulations, 2015, the Board, in its, 469th meeting held on April 6, 2015, approved the 'Code of Conduct for Regulating & Reporting Trading by Insiders and for Fair Disclosure, 2015'. The objective of the Code is to regulate, monitor and report trading by Designated Employees and other Connected Persons towards achieving compliance with SEBI (Prohibition of Insider Trading) Regulations, 2015. The Code also provides for practices and procedures for fair disclosure of unpublished price sensitive information. Head – Corporate Strategic Management is the Chief Investor Relations Officer (CIRO) of the Company under this code.

ix. Registrar & Share Transfer Agent (RTA)

Delhi Address	Hyderabad Address
Karvy Computershare Private Limited	Karvy Computershare Private Limited
UNIT: BHEL	UNIT: BHEL
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	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

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 Computershare Private Limited.

xi. Distribution of Shareholding

(i) Distribution of shares according to size of holding as on March 31, 2018

No. of equity share(s) held	No. of Shareholders	% of Shareholders	No. of Shares	% of Shareholding
1 - 500	422420	87.20	49639734	1.35
501 - 1000	32576	6.72	24035617	0.65
1001 - 2000	17084	3.53	24602334	0.67
2001 - 3000	5513	1.14	14302761	0.39
3001 - 4000	1719	0.35	6124514	0.17
4001 - 5000	1257	0.26	5780022	0.16
5001 - 10000	2086	0.44	14814028	0.40
10001 and above	1771	0.36	3532100990	96.21
Total	484426	100.00	3671400000	100.00

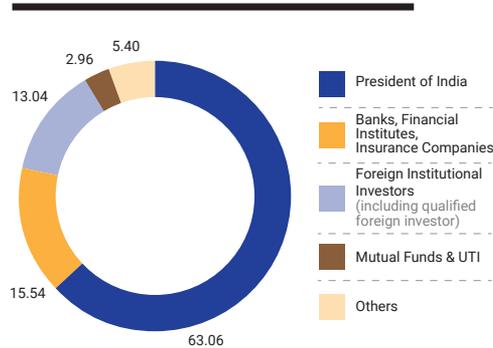
(ii) Shareholding Pattern as on March 31, 2018

Category	2018		2017	
	Voting strength (%)	No. of Shares held	Voting strength (%)	No. of Shares held
Promoters Holding				
Indian Promoters-				
President of India (POI)	63.06	2315178000	63.06	1543452000
Total Promoter holding	63.06	2315178000	63.06	1543452000
Non - promoters Holding				
Banks, Financial Institutions, Insurance Companies	15.54	570575233	15.67	383542722
Foreign Institutional Investors (including Qualified Foreign Investor)	13.04	478725147	15.89	389004270
Mutual Funds and UTI	2.96	108739531	0.76	18498146
Others				
Individuals	4.10	150369894	3.09	75630859
Bodies Corporate	0.90	32995668	0.72	17563551

NRIs	0.22	8109847	0.20	4991743
Trust	0.13	4722943	0.13	3226202
Clearing Members	0.05	1800754	0.48	11688997
IEPF	0.00	180718	0.00	0
Directors & Relatives	0.00	2265	0.00	1510
Total Non-promoter holding	36.94	1356222000	36.94	904148000
Grand Total	100.00	3671400000	100.00	2447600000

Note: The Company has allotted Bonus Equity Shares to its Shareholders on October 3, 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

Shareholding Pattern as on March 31, 2018



(iii) List of shareholders who are holding more than 1% of the shares of the Company as on March 31, 2018

Category & Shareholder's Name	March 31, 2018	
	Voting strength	No. of shares held
Promoters		
1. President Of India	63.06	2315178000
Non-promoters		
1. Life Insurance Corporation of India	9.42	345680880
2. Pinebridge Investments Gf Mauritius Limited	1.03	37875005
3. LIC of India Market Plus 1 Growth Fund	1.02	37409820

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. April 5, 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

March 31, 2018, 99.96% (NSDL: 98.46%, CDSL: 1.50%) 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 63.06% 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. Foreign Exchange risk or Commodity price risk and hedging activities

Hedging activities/transactions during FY 2017-18 has been undertaken by the Company in line with the Board approved Foreign Exchange Risk Management Policy. Major Industrial commodities like Steel, Copper, Aluminum, CRGO, CRNGO, Transformer Oil, Lubricants 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 being entered into on annual/half yearly/quarterly basis.

xv. Plant locations

BHEL Manufacturing Units	
Bengaluru	1. Electronics Division 2. Electronics Systems Division 3. Electro Porcelain Division
Bhopal	4. Heavy Electrical Plant
Goindwal	5. Industrial Valves Plant
Haridwar	6. Heavy Electrical Equipment Plant 7. Central Foundry Forge Plant
Hyderabad	8. Heavy Power Equipment Plant
Jagdishpur	9. Insulator Plant 10. Centralized Stamping and Fabrication Plant (CS&FP)
Jhansi	11. Transformer Plant
Rudrapur	12. Component Fabrication Plant
Ranipet	13. Boiler Auxiliaries Plant
Tiruchirappalli	14. High Pressure Boiler Plant 15. Seamless Steel Tube Plant
Thirumayam	16. Power Plant Piping Unit
Visakhapatnam	17. Heavy Plates & Vessels Plant
BHEL Repair Units	
Mumbai	1. Electrical Machine Repair Plant
Varanasi	2. Heavy Equipment Repair Plant
BHEL Subsidiary	
Kasaragod	BHEL Electrical Machines Ltd.

Auditor's 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 2018 as stipulated in the Securities Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations 2015 and as stipulated in the guidelines of Department of Public Enterprises for Central Public Sector Undertakings issued 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 excepting the composition of the Board with the required Independent Directors as required under Regulation 17(1)(b) of Listing Regulations and Guidelines of 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.



(P.S.R. Murthy)

Practicing Company Secretary
CoP. No. : 13090

Place: New Delhi

Dated: May 2, 2018

SECRETARIAL AUDIT REPORT

FOR THE FINANCIAL YEAR ENDED MARCH 31, 2018

[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** (hereinafter called 'the Company' or 'BHEL'). 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 period ended on 31st March, 2018 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, 2018 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) 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) Regulation, 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;
 - (d) The Securities and Exchange Board of India (Employee 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 (Not applicable to the Company during the Audit Period); and
 - (i) The Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015.

(vi) **We further report** that, having regard to the 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) Factories Act, 1948;
- b) The Indian Boilers Act, 1923;
- c) The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989; and
- 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 the Regulation 17(1) (b) of 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 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 under review 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 the Certificate 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, there were no specific events/actions having a major bearing on the Company's affairs in pursuance of the above referred laws.

For **P. P. Agarwal & Co.**
Company Secretaries
U. C. No. S2012DE174200



Pramod P. Agarwal
CoP No.: 10566

Place: New Delhi
Dated: June 19, 2018

This report is to be read with our letter of even date which is annexed as Annexure-A and forms an integral part of this report.

Annexure -A

To,

The Members,

Bharat Heavy Electricals Limited

Our report of even date is to be read along with this letter.

1. Maintenance of secretarial record is the responsibility of the management of the Company. Our responsibility is to express an opinion on these secretarial records based on our audit.
2. We have followed the audit practices and processes as were appropriate to obtain reasonable assurance about the correctness of the contents of the secretarial records. The verification was done on test basis to ensure that correct facts are reflected in secretarial records. We believe that the processes and practices, we followed provide a reasonable basis for our opinion.
3. We have not verified the correctness and appropriateness of financial records and Books of Accounts of the Company.
4. Where ever required, we have obtained the Management representation about the compliance of laws, rules, regulations and happening of events etc.
5. The Compliance of the provisions of corporate and other applicable laws, rules, regulations, standards is the responsibility of the Management. Our examination was limited to the verification of procedures on sample basis.
6. The Secretarial Audit Report is neither an assurance as to future viability of the Company nor of the efficacy or effectiveness with which the management has conducted the affairs of the Company.

For **P. P. Agarwal & Co.**
Company Secretaries
U. C. No. S2012DE174200



Pramod P. Agarwal
CoP No.: 10566

Place : New Delhi

Dated : June 19, 2018

Secretarial Audit Report for the FY 2017-18

Observation	Management Reply
<p>The composition of the Board of Directors is not in compliance with the Regulation 17(1) (b) of 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.</p>	<p>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.</p>

EXTRACTS OF ANNUAL RETURN

Form No. MGT-9

EXTRACT OF ANNUAL RETURN

as on the financial year ended on March 31, 2018

[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 Computershare Private Limited Karvy Selenium Tower B, Plot 31-32, Gachibowli Financial District, Nanakramguda, Hyderabad-500032 Tel.: 040-67162222 Fax : 040-23001153 Email: madhusudhan.ms@karvy.com einward.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.	Manufacture of Steam Generators including auxiliary plant for use with steam generators	2513	31%
2.	Construction of Power Plant	4220	28%
3.	Manufacture of Turbine, Generator sets including auxiliaries	2811	22%
4.	Manufacture of electric motors, transformers and electricity distribution and control apparatus etc.	2710	11%

III. PARTICULARS OF HOLDING, SUBSIDIARY AND ASSOCIATE COMPANIES

Sl. No.	Name and address of the Company	CIN/ GLN	Subsidiary/ Associate	% of shares	Applicable Section
1.	BHEL Electrical Machines Ltd. 283/1&2, Village Puttur, Post Bedradka, Kasaragod, 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% (under liquidation)	2(6) of Companies Act, 2013

4.	BHEL-GE Gas Turbine Services Pvt. Ltd. Gumidelli Towers, 6th Floor, 1-10-39 to 44, Begumpet Airport Road, Begumpet, Hyderabad- 500016	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 Ltd. 54/ D-9, Kishangarh Village, Vasant Kunj, New Delhi- 110070	U28991DL2003PLC120915	Associate	50% less one share (under liquidation)	2(6) of Companies Act, 2013

Latur Power Company Ltd., an associate company of BHEL stands dissolved during the financial year 2017-18.

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 01.04.2017)				No. of Shares held at the end of the year (as on 31.03.2018)				% 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	1543452000	0	1543452000	63.06	2315178000	0	2315178000	63.06	0.00
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):-	1543452000	0	1543452000	63.06	2315178000	0	2315178000	63.06	0.00
(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)	1543452000	0	1543452000	63.06	2315178000	0	2315178000	63.06	0.00
B. Public Shareholding									
(1) Institutions									
a) Mutual Funds/UTI	18482146	16000	18498146	0.76	108715531	24000	108739531	2.96	2.21
b) Banks/ FI	129480506	4000	129484506	5.29	190546296	6000	190552296	5.19	-0.10
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	254056216	2000	254058216	10.38	380019937	3000	380022937	10.35	-0.03

Category of Shareholders	No. of Shares held at the beginning of the year (as on 01.04.2017)				No. of Shares held at the end of the year (as on 31.03.2018)				% Change during the year*
	Demat	Physical	Total	% of Total Shares	Demat	Physical	Total	% of Total Shares	
g) FII's	388995270	9000	389004270	15.89	478711647	13500	478725147	13.04	-2.85
h) Foreign Venture Capital Funds	0	0	0	0.00	0	0	0	0.00	0.00
i) Others (specify)									
Qualified Foreign Investor	0	0	0	0.00	0	0	0	0.00	0.00
Sub-total (B)(1):-	791014138	31000	791045138	32.32	1157993411	46500	1158039911	31.54	-0.78
(2) Non-Institutions									
a) Bodies Corp.									
i) Indian	17511453	6000	17517453	0.72	32342263	7000	32349263	0.88	0.17
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	71817739	1254108	73071847	2.99	141895635	1621461	143517096	3.91	0.92
ii) Individual shareholders holding nominal share capital in excess of ₹ 1 lakh	2559012	0	2559012	0.10	6852798	0	6852798	0.19	0.08
c) Others (specify)									
Clearing Members	11688997	0	11688997	0.48	1795799	4955	1800754	0.05	-0.43
Directors	1510	0	1510	0.00	2265	0	2265	0.00	0.00
IEPF	0	0	0	0.00	180718	0	180718	0.00	0.00
NBFC	46098	0	46098	0.00	646405	0	646405	0.02	0.02
Non Resident Indians	4979243	12500	4991743	0.20	8091097	18750	8109847	0.22	0.02
Trusts	3226202	0	3226202	0.13	4722943	0	4722943	0.13	0.00
Sub-total (B)(2):-	111830254	1272608	113102862	4.62	196529923	1652166	198182089	5.40	0.78
Total Public Shareholding (B)=(B)(1)+(B)(2)	902844392	1303608	904148000	36.94	1354523334	1698666	1356222000	36.94	0.00
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)	2446296392	1303608	2447600000	100.00	3669701334	1698666	3671400000	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. 2017)			Shareholding at the end of the year (as on 31.03. 2018)			% 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	1543452000	63.06	0.00	2315178000	63.06	0.00	0.00
	TOTAL	1543452000	63.06	0.00	2315178000	63.06	0.00	0.00

*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 (01.04.2017)/ end of the year (31.03.2018)		Date wise Increase/ Decrease in Shareholding during the year specifying the reasons for Increase/ Decrease			Cumulative Shareholding during the year (01.04.2017 to 31.03.2018)	
		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	President of India	1543452000	63.06					
				03.10.2017	771726000	Bonus	2315178000	63.06
		2315178000	63.06	31.03.2018			2315178000	63.06

(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 (01.04.2017)/ end of the year (31.03.2018)		Date wise Increase/ Decrease in Shareholding during the year specifying the reasons for Increase/ Decrease			Cumulative Shareholding during the year (01.04.2017 to 31.03.2018)	
		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	Life Insurance Corporation of India	230453920	9.42					
				03.10.2017	115226960	Bonus	345680880	9.42
		345680880	9.42	31.03.2018			345680880	9.42
2	Comgest Growth PLC A/c Comgest Growth Emerging Markets	34660004	1.42					
				19.05.2017	-1769585	Sale	32890419	1.34
				26.05.2017	-276136	Sale	32614283	1.33
				02.06.2017	-1018727	Sale	31595556	1.29
				16.06.2017	2647097	Purchase	34242653	1.40
				04.08.2017	-664310	Sale	33578343	1.37
				11.08.2017	-1350054	Sale	32228289	1.32
				08.09.2017	-480513	Sale	31747776	1.30
				15.09.2017	-7003761	Sale	24744015	1.01
				22.09.2017	-2954362	Sale	21789653	0.89
				29.09.2017	-310021	Sale	21479632	0.88
				03.10.2017	10739816	Bonus	32219448	0.88
				27.10.2017	-4328609	Sale	27890839	0.76
				31.10.2017	-4931820	Sale	22959019	0.63
				03.11.2017	-2987472	Sale	19971547	0.54
				10.11.2017	-10134695	Sale	9836852	0.27
				17.11.2017	-1547808	Sale	8289044	0.23
		24.11.2017	-4876693	Sale	3412351	0.09		
		01.12.2017	-3412351	Sale	0	0.00		
		0	0.00	31.03.2018			0	0.00

Sl. No.	Name	Shareholding at the beginning of the year (01.04.2017)/ end of the year (31.03.2018)		Date wise Increase/ Decrease in Shareholding during the year specifying the reasons for Increase/ Decrease			Cumulative Shareholding during the year (01.04.2017 to 31.03.2018)	
		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
3	Pinebridge Investments GF Mauritius Limited	27696389	1.13					
				03.10.2017	13848194	Bonus	41544583	1.13
				02.02.2018	-3200000	Sale	38344583	1.04
				09.02.2018	-469578	Sale	37875005	1.03
		37875005	1.03	31.03.2018			37875005	1.03
4	Lazard Asset Management LLC A/c Lazard Emerging Markets Portfolio	27369356	1.12					
				14.04.2017	-5043758	Sale	22325598	0.91
				21.04.2017	-803598	Sale	21522000	0.88
				28.04.2017	-1523769	Sale	19998231	0.82
				12.05.2017	-638435	Sale	19359796	0.79
				26.05.2017	-520	Sale	19359276	0.79
				09.06.2017	-5	Sale	19359271	0.79
				16.06.2017	-4	Sale	19359267	0.79
				30.06.2017	-3	Sale	19359264	0.79
				07.07.2017	-3	Sale	19359261	0.79
				14.07.2017	-3	Sale	19359258	0.79
				21.07.2017	-3	Sale	19359255	0.79
				28.07.2017	-2	Sale	19359253	0.79
				11.08.2017	-2	Sale	19359251	0.79
				18.08.2017	-2	Sale	19359249	0.79
				01.09.2017	-3	Sale	19359246	0.79
				08.09.2017	-2	Sale	19359244	0.79
				15.09.2017	-2	Sale	19359242	0.79
				22.09.2017	-2	Sale	19359240	0.79
				29.09.2017	-2	Sale	19359238	0.79
				03.10.2017	9679619	Bonus	29038857	0.79
				06.10.2017	-2	Sale	29038855	0.79
				27.10.2017	-2789384	Sale	26249471	0.72
				03.11.2017	-1063067	Sale	25186404	0.69
				10.11.2017	-3223052	Sale	21963352	0.60
				17.11.2017	-52083	Sale	21911269	0.60
		24.11.2017	-928241	Sale	20983028	0.57		
		01.12.2017	-2103901	Sale	18879127	0.51		
		08.12.2017	-3172210	Sale	15706917	0.43		
		15.12.2017	-2265857	Sale	13441060	0.37		
		22.12.2017	-9678066	Sale	3762994	0.10		
		29.12.2017	-3762994	Sale	0	0.00		
		0	0.00	31.03.2018			0	0.00

Sl. No.	Name	Shareholding at the beginning of the year (01.04.2017)/ end of the year (31.03.2018)		Date wise Increase/ Decrease in Shareholding during the year specifying the reasons for Increase/ Decrease			Cumulative Shareholding during the year (01.04.2017 to 31.03.2018)	
		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
5	Magellan	26822509	1.10					
				19.05.2017	-1357809	Sale	25464700	1.04
				26.05.2017	-211882	Sale	25252818	1.03
				02.06.2017	-781676	Sale	24471142	1.00
				16.06.2017	-2647097	Sale	21824045	0.89
				04.08.2017	-532028	Sale	21292017	0.87
				11.08.2017	-1081219	Sale	20210798	0.83
				08.09.2017	-384829	Sale	19825969	0.81
				15.09.2017	-4628366	Sale	15197603	0.62
				22.09.2017	-1808472	Sale	13389131	0.55
				29.09.2017	-189775	Sale	13199356	0.54
				03.10.2017	6599678	Bonus	19799034	0.54
				27.10.2017	-2534069	Sale	17264965	0.47
				31.10.2017	-3095278	Sale	14169687	0.39
				03.11.2017	-1848797	Sale	12320890	0.34
				10.11.2017	-6267737	Sale	6053153	0.16
				17.11.2017	-952452	Sale	5100701	0.14
				24.11.2017	-3000230	Sale	2100471	0.06
		01.12.2017	-2100471	Sale	0	0.00		
		0	0.00	31.03.2018		0	0.00	
6	LIC of India Market Plus 1 Growth Fund	24939880	1.02					
				03.10.2017	12469940	Bonus	37409820	1.02
		37409820	1.02	31.03.2018			37409820	1.02
7	LIC of India Money Plus Growth Fund	22406815	0.92					
				03.10.2017	11203407	Bonus	33610222	0.92
		33610222	0.92	31.03.2018			33610222	0.92
8	Fidelity Puritan Trust-Fidelity Low-Priced Stock Fund	21000000	0.86					
				07.04.2017	-300000	Sale	20700000	0.85
				14.07.2017	-200000	Sale	20500000	0.84
				03.10.2017	10250000	Bonus	30750000	0.84
		30750000	0.84	31.03.2018			30750000	0.84
9	Life Insurance Corporation of India P & GS	18902990	0.77					
				03.10.2017	9451495	Bonus	28354485	0.77
		28354485	0.77	31.03.2018			28354485	0.77

Sl. No.	Name	Shareholding at the beginning of the year (01.04.2017)/ end of the year (31.03.2018)		Date wise Increase/ Decrease in Shareholding during the year specifying the reasons for Increase/ Decrease			Cumulative Shareholding during the year (01.04.2017 to 31.03.2018)	
		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
10	LIC of India Market Plus Growth Fund	18387175	0.75					
				03.10.2017	9193587	Bonus	27580762	0.75
		27580762	0.75	31.03.2018			27580762	0.75
11	LIC of India Profit Plus Growth Fund	17381255	0.71	15.09.2017*				
				03.10.2017	8690627	Bonus	26071882	0.71
		26071882	0.71	31.03.2018			26071882	0.71
12	Pinebridge Global Funds - Pinebridge India Equity	22805112	0.62	03.11.2017*				
				10.11.2017	2199848	Purchase	25004960	0.68
				17.11.2017	1525000	Purchase	26529960	0.72
				24.11.2017	1050000	Purchase	27579960	0.75
				08.12.2017	2000000	Purchase	29579960	0.81
				15.12.2017	1075000	Purchase	30654960	0.83
				19.01.2018	2570949	Purchase	33225909	0.90
				26.01.2018	887297	Purchase	34113206	0.93
				02.03.2018	-500000	Sale	33613206	0.92
		16.03.2018	1000000	Purchase	34613206	0.94		
		31.03.2018			34613206	0.94		
13	Vanguard Emerging Markets Stock Index Fund, Aseries of Vanguard International Equity Index Fund	16419658	0.45	08.12.2017*				
				22.12.2017	-23062	Sale	16396596	0.45
				26.01.2018	83378	Purchase	16479974	0.45
				02.02.2018	74508	Purchase	16554482	0.45
		0	0.00	23.03.2018	-16554482	Sale	0	0.00
		31.03.2018			0	0.00		
14	JP Morgan Funds	16462889	0.45	29.12.2017*				
				19.01.2018	870	Purchase	16463759	0.45
				09.02.2018	438	Purchase	16464197	0.45
		16464197	0.45	31.03.2018			16464197	0.45
15	JP Morgan Indian Investment Company (Mauritius) Limited	17153584	0.47	05.01.2018*				
		17153584	0.47	31.03.2018			17153584	0.47
16	Reliance Capital Trustee Co. Ltd. - A/C Reliance Tax Saver (ELSS) Fund	18900000	0.51	02.02.2018*				
		18900000	0.51	31.03.2018			18900000	0.51

* Note: Details of M/s LIC of India Profit Plus Growth Fund, Pinebridge Global Funds - Pinebridge India Equity, Vanguard Emerging Markets Stock Index Fund, Aseries of Vanguard International Equity Index Fund, JP Morgan Funds, JP Morgan Indian Investment Company (Mauritius) Limited and Reliance Capital Trustee Co. Ltd. - A/C Reliance Tax Saver (ELSS) 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 (01.04.2017)/ end of the year (31.03.2018)		Date wise Increase/ Decrease in Shareholding during the year specifying the reasons for Increase/ Decrease			Cumulative Shareholding during the year (01.04.2017 to 31.03.2018/ 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	1500	0.00					
				03.10.2017	750	Bonus	2250	0.00
		2250	0.00	31.03.2018			2250	0.00
2	Dr. Subhash Chandra Pandey, Part - time Official Director	0	0.00					
		0	0.00	31.03.2018	No Change		0	0.00
3	Bhaskar Jyoti Mahanta, Part-time Official Director	0	0.00					
		0	0.00	31.03.2018	No Change		0	0.00
4	Ms. Harinder Hira, Independent Director, (upto 01.05.2017)	0	0.00					
		0	0.00	01.05.2017	No Change		0	0.00
5	A.N. Roy, Independent Director, (upto 20.08.2017)	0	0.00					
		0	0.00	20.08.2017	No Change		0	0.00
6	Rajesh Kishore, Independent Director	0	0.00					
		0	0.00	31.03.2018	No Change		0	0.00
7	Keshav N. Desiraju, Independent Director	0	0.00					
		0	0.00	31.03.2018	No Change		0	0.00
8	R. Swaminathan, Independent Director	0	0.00					
		0	0.00	31.03.2018	No Change		0	0.00
9	Ms. Surama Padhy, Independent Director	0	0.00					
		0	0.00	31.03.2018	No Change		0	0.00
10	Desh Deepak Goel, Independent Director, (w.e.f. 23.09.2017)	0	0.00					
		0	0.00	31.03.2018	No Change		0	0.00

Sl. No.	Name S/ Shri	Shareholding at the beginning of the year (01.04.2017)/ end of the year (31.03.2018)		Date wise Increase/ Decrease in Shareholding during the year specifying the reasons for Increase/ Decrease			Cumulative Shareholding during the year (01.04.2017 to 31.03.2018/ 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
11	Ranjit Rae, Independent Director, (w.e.f. 23.09.2017)	0	0.00					
		0	0.00	31.03.2018	No Change		0	0.00
12	D. Bandyopadhyay, Director (HR)	0	0.00					
		0	0.00	31.03.2018	No Change		0	0.00
13	Amitabh Mathur, Director (IS&P)	0	0.00					
		0	0.00	31.03.2018	No Change		0	0.00
14	Subrata Biswas, Director (E,R&D)	0	0.00					
		0	0.00	31.03.2018	No Change		0	0.00
15	T. Chockalingam, Director (Finance) (upto 30.11.2017)	0	0.00					
		0	0.00	30.11.2017	No Change		0	0.00
16	Akhil Joshi, Director (Power)	10	0.00					
				03.10.2017	5	Bonus	15	0.00
		15	0.00	31.03.2018			15	0.00
17	I.P. Singh, Company Secretary	0	0.00					
		0	0.00	31.03.2018	No Change		0	0.00

V. INDEBTEDNESS

Indebtedness of the Company including interest outstanding/ accrued but not due for payment

	Secured Loans excluding deposits	Unsecured Loans	Deposits	Total Indebtedness
Indebtedness at the beginning of the financial year				
i) Principal Amount				
ii) Interest due but not paid				
iii) Interest accrued but not due				
Total (i+ii+iii)				
Change in Indebtedness during the financial year				
• Addition				
• Reduction				
Net Change				
Indebtedness at the end of the financial year				
i) Principal Amount				
ii) Interest due but not paid				
iii) Interest accrued but not due				
Total (i+ii+iii)				

NIL

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)						Total Amount
		Atul Sobti CMD	D. Bandyopadhyay Director (HR)	Amitabh Mathur Director (IS&P)	Subrata Biswas Director (E,R&D)	T. Chockalingam Director (Finance) *upto 30.11.17	Akhil Joshi Director (Power)	
1.	Gross salary							
	(a) Salary as per provisions contained in section 17(1) of the Income-tax Act, 1961	5271436	4713307	5103110	4124779	4128266	4526339	27867238
	(b) Value of perquisites u/s 17(2) Income-tax Act, 1961	45274	565639	41314	462687	433751	570429	2119093
	(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)	5316710	5278946	5144424	4587466	4562017	5096768	29986331
	Ceiling as per the Act	NA						

B. Remuneration to other Directors:

(in ₹)

Sl. No.	Particulars of Remuneration	Name of Directors (S/shri)								Total Amount
		Ms. Harinder Hira *up to 01.05.17	A.N. Roy *up to 20.08.17	Rajesh Kishore	Keshav N. Desiraju	R. Swaminathan	Ms. Surama Padhy	Desh Deepak Goel *w.e.f. 23.09.17	Ranjit Rae *w.e.f. 23.09.17	
1	Independent Directors									
	• Fee for attending board/ committee meetings	50,000	1,75,000	3,10,000	2,10,000	3,30,000	3,45,000	1,10,000	95,000	16,25,000
	• Commission	-	-	-	-	-	-	-	-	-
	• Others, please specify	-	-	-	-	-	-	-	-	-
	Total (1)	50,000	1,75,000	3,10,000	2,10,000	3,30,000	3,45,000	1,10,000	95,000	16,25,000
2	Other Non-Executive Directors									
	• Fee for attending board/ committee meetings	-	-	-	-	-	-	-	-	-
	• Commission	-	-	-	-	-	-	-	-	-
	• Others, please specify	-	-	-	-	-	-	-	-	-
	Total (2)	-	-	-	-	-	-	-	-	-
	Total (B)=(1+2)	50,000	1,75,000	3,10,000	2,10,000	3,30,000	3,45,000	1,10,000	95,000	16,25,000
	Total Managerial Remuneration (A+B)									3,16,11,331
	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			
		CEO	I.P. Singh Company Secretary	CFO	Total
1	Gross salary				
	(a) Salary as per provisions contained in section 17(1) of the Income-tax Act, 1961		41,65,659		41,65,659
	(b) Value of perquisites u/s 17(2) Income tax Act, 1961		286		286
	(c) Profits in lieu of salary under section 17(3) Income-tax Act, 1961				
2	Stock Option	As per table VI (A)		As per table VI (A)	
3	Sweat Equity				
4	Commission				
	- as % of profit				
	- others, specify...				
5	Others, please specify				
	Total		41,65,945		41,65,945

VII. PENALTIES/ PUNISHMENT/ COMPOUNDING OF OFFENCES

(in ₹)

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 Listing Regulations)

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, 2018 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 2017-18 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 2017-18;
 - (ii) Significant changes, if any, in the accounting policies during the year 2017-18 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 28, 2018

**Sustainable
Development**



Annexure-IV to the Board's Report

4.1 Sustainability Performance –Environmental

The concept of Sustainability, ingrained in our organization, is an essential element of our management processes. The triple bottom line approach guides us to ensure that any business decision that is taken leads to furtherance of our business in an ethical manner, with minimal environmental footprint, and helps in spreading the fruits of development to larger society, especially through our CSR activities.

Our concern for environment is reflected in our concerted efforts towards development of products having lower environmental footprint, enhanced use of renewable energy in our operations, use of cleaner fuels, encouraging usage of energy efficient equipment [including lighting], tree plantation, responsible management of natural resources and sound waste management practices. These are the major thrust areas for achieving sustainability in our business.

The organization endeavours to create awareness amongst the families of our employees, students, people residing in the vicinity of our units and other stakeholders about protection of environment as an individual, by celebrating events such as World Environment Day. Various events organised in 2017 included mass tree plantation, competitions like poster making, quiz, slogan writing, elocution, march for creating awareness about environment etc.

The highlights of some of the sustainability related activities carried out in BHEL during 2017-18 are given below.

4.1.1 Material & Natural Resource Management

Responsible use of material and natural resources is a thrust area in our organization. During 2017-18, specific activities included recycling of ferrous and non-ferrous scrap generated at units locally, as well as sending it to CFFP Haridwar for recycling, recycling of packing wood, recovery and reused of waste oil, installation of Electrostatic Oil Filtration Machine for Hydraulic Power Packs to save Hydraulic Oil at IP Jagdishpur, reducing the fuel consumption for steam generation (TRM) at HEP Bhopal unit with an estimated annual saving of 520 MT of furnace oil etc.

4.1.2 Energy Management

Our thrust on energy conservation and efficient utilisation of energy in our manufacturing units and project sites continued during the reporting period through specific activities like installation of energy efficient lighting, installation of transparent rooftop in manufacturing blocks for day light requirement, installation of heat recovery system in boiler, improvement in energy performance of various furnaces/ ovens/ burners, replacement of old equipment with energy efficient equipment, etc. 26.5 MW of Mega Watt scale solar power generation capacity



In-house developed Solar Passive Tracker installed at BHEL Haridwar for enhanced energy generation

has been achieved in our manufacturing units. In addition, we also have various sub-megawatt land based as well as rooftop based solar plants. A unique initiative of our EDN Bengaluru unit is the commissioning of a 24 KWP Floating Solar Photovoltaic Power System at Halasuru Lake, Bengaluru as a pilot project.

Total electricity generated through various renewable energy systems stood at 15.61 Million Units during the year as compared to 14.82 Million units during the year 2016-17.

4.1.3 Water and Biodiversity Management

Sustainable management of water and wastewater is a key area of strength for the organization. Many of our plants like HPEP Hyderabad, EPD Bengaluru, HPBP Trichy use treated wastewater for horticulture process and hence save on water consumption. During FY 2017-18, a 4.5 Million Litre Per Day (MLD) capacity Sewage Treatment Plant (STP) based on Sequential Batch reactor (SBR) technology and a 2 MLD STP based on Membrane Bioreactor (MBR) technology have been commissioned at HEP Bhopal and HPBP Trichy units respectively. Further 16 Kilo Litre Per Day (KLD) capacity STP and 5 KLD capacity ETP was installed at CFP Rudrapur taking the unit closer to becoming a zero liquid discharge unit.

At most of our manufacturing units, mass tree plantation was carried out on the occasion of World Environment Day 2017. In many of our units, it is a normal practice to get saplings planted by retiring employees on the day of their superannuation to commemorate their contribution in shaping up the organization.

4.1.4 Carbon Management

Our efforts towards energy conservation/ efficiency measures and installation of renewable energy based systems helped us in avoidance of significant carbon footprint in our operations. Due to various solar-power related initiatives alone, BHEL achieved carbon footprint avoidance to the extent of 15454 MT CO₂-e during 2017-18 which is approx. 7.48% more as compared to 2016-17 (14378 MT). Additionally, substantial carbon footprint was also avoided due to energy efficiency and conservation measures across BHEL during the reporting period.

4.1.5 Waste Management

Responsible waste management practices in BHEL include reduction of waste generation, recycling and reuse of waste generated to the extent feasible and disposal of waste generated following procedures/ methodologies prescribed in the relevant statutes.

Some of the examples of specific activities carried out at our units related to waste management during the reporting period included composting of organic waste at HEEP Haridwar, IP Jagdishpur, HERP Varanasi, HPBP Trichy; reuse of about 1296 m³ of wood used for making wooden packing boxes at HEP Bhopal; use of 14,377 MT of ferrous scrap for making casting and forgings at CFFP Haridwar etc. Across BHEL, solid waste/scrap having resale value was collected, segregated, stored and disposed responsibly through authorised recyclers. Hazardous wastes / E-waste were disposed of as per the stipulations of relevant statutes.

4.2 Sustainability Performance – Social

BHEL remained focussed on its social responsibility through its various CSR initiatives. A number of initiatives were undertaken under the thrust areas identified in the CSR policy.

As a mark of recognition of its contributions, BHEL was conferred with following awards in the CSR arena:

- BT CSR Excellence Awards- 2017 by "Bureaucracy Today Magazine" under following categories.
 - BT CSR Excellence Award for "Promotion of Healthcare."
 - BT CSR Excellence Award for "Best CSR Company in Public Sector".
- SKOCH order of Merit Award for Blue Economy for BHEL's CSR Project "Empowering marginalized community through education and vocational training".
- Power Sector Southern Region was conferred with "Humanitarian Award" by Thakkar Bapa Vidyalaya Samithi, Chennai for renovating the flood ravaged buildings of the Institution under CSR during the year 2015.



BHEL - PSSR conferred with Humanitarian Award by Thakkar Bapa Vidyalaya Samithi, Chennai for renovating the flood ravaged buildings of the institution under CSR during the year 2015

- Haemophilia Federation (India) felicitated BHEL thrice during the year for contribution towards welfare of haemophilics in the country.

BHEL participated in the first CSR fair held from 4th to 6th May, 2017, organized by DPE in association with India Trade Promotion Organization (ITPO) at Pragati Maidan, New Delhi.



Hon'ble Union Minister for HI & PE, Sh. Anant Geete & Hon'ble Minister of State for HI & PE, Sh. Babul Supriyo inaugurating BHEL stall at CSR Fair at New Delhi



Bio-digester toilets on the banks of river Ganga near Haridwar & Rishikesh, installed by BHEL

Major CSR activities undertaken by BHEL are listed below.

Clean India

- Partnered with MAHAGENCO for providing financial support for 9 drinking water plants with water ATMs in villages near Chandrapur TPS, Maharashtra.
- Continued support for installation of 25 Clusters of Bio-digester toilets in Haridwar and Rishikesh. Out of these, 14 clusters at 7 locations have been made operational and the rest are in various stage of completion.
- Constructed toilets in schools in rural areas in the vicinity of many of our units.



BHEL has been instrumental in construction of toilets in schools in the vicinity of its project sites and units - promoting Swachh Bharat programme

Educated India

- Continued its financial support to schools located in BHEL Townships for making quality education accessible to students belonging to weaker sections of the society.
- Extended financial support to A.N. College, Patna for its project "Carrying out estimation of environmental toxicants in soil and water in Patna".
- Continued its financial support for running of three Mobile Science Labs, each in the vicinity of BHEL Unit at Haridwar, Jhansi and Trichy.
- Renovated and refurbished Electrical Laboratory at Government ITI, Peenya in Bengaluru.



100 girl students were provided financial support for higher education by BHEL under the 'Udayan Shalini' fellowship programme

- Distributed scholarships to 55 school students who were wards of widows, orphans or physically challenged at Kshitij Bhawan, Piplani, Bhopal.
- Continued financial support, through Foundation for Academic Excellence and Access (FAEA), for providing educational scholarship for mentoring students belonging to BPL category.

Healthy India

- Continued financial support for carrier detection and prenatal diagnosis of patients under CSR Project "CD/ PND: Prevention is Better Than Cure", an extension of CSR project named "Heal-a-Soul".
- Organised medical camps for needy and poor people, through Rotary Club and other agencies, in the vicinity of many units of BHEL.
- Provided financial support to an NGO- Rastotthana Parishat was given for providing free medical treatment to 90 Thalassemia patients in Bengaluru.
- Continued financial support for running a Mobile Medical Van in Raigad district, Maharashtra through Wockhardt Foundation.
- Provided a Mortuary Van [Hearse van] to Nagar Nigam Jabalpur.

Green India

- Installed solar street lights and domestic lights in two villages of Medak district, Telangana.
- Installed Solar Water Heater facility at Government Leprosy Hospital, Magadi Road, Bengaluru.

Responsible & Inclusive India

- Contributed ₹10 Lakh to the National Sports Development Fund (NSDF) for the benefit of Sports/ Sportspersons in India.
- Organised skill development programs in trades and areas like tailoring, purse making, flower bouquet making, beautician, music, dance etc. through Ladies Club in Haridwar unit.
- Provided financial support for setting up of bakery unit at Central Women Prison, Tumkur District, Karnataka, helping about 85 jail inmates.
- Provided financial support for distribution of helping aids for DIVYANGJAN with the help of BHEL Differently Abled Employees Welfare Association at Hyderabad and ALIMCO at Kolkata.



Various skill development programmes aimed at providing livelihood to women in BHEL manufacturing units

4.3 Annual Report for CSR Activities

(As per the requirement of The Companies (CSR Policy) Rules, 2014)

Sl. No.	Particulars																													
1.	Period for which CSR is being reported	From 01/04/2017	To 31/03/2018																											
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 from the Board. The constitution of the BLC for CSR during Financial Year 2017-18 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>Ms Harinder Hira</td> <td>Independent Director</td> <td>Chairperson (Upto 01.05.2017)</td> </tr> <tr> <td>Rajesh Kishore</td> <td>Independent Director</td> <td>Chairperson (w.e.f. 15.05.2017)</td> </tr> <tr> <td></td> <td></td> <td>Member (from 06.04.2017 to 14.05.2017)</td> </tr> <tr> <td>Bhaskar Jyoti Mahanta, JS, DHI</td> <td>Part-time Official Director</td> <td>Member</td> </tr> <tr> <td>Ranjit Rae</td> <td>Independent Director</td> <td>Member (w.e.f. 10.10.2017)</td> </tr> <tr> <td>D Bandyopadhyay</td> <td>Director (HR)</td> <td>Member</td> </tr> <tr> <td>T. Chockalingam</td> <td>Director (Finance)</td> <td>Member (Upto 30.11.2017)</td> </tr> <tr> <td>Subrata Biswas</td> <td>Director (E,R&D) and (Finance)</td> <td>Member (w.e.f. 01.12.2017)</td> </tr> </tbody> </table>			Name (S/Sri)	Designation	Position in CSR Committee	Ms Harinder Hira	Independent Director	Chairperson (Upto 01.05.2017)	Rajesh Kishore	Independent Director	Chairperson (w.e.f. 15.05.2017)			Member (from 06.04.2017 to 14.05.2017)	Bhaskar Jyoti Mahanta, JS, DHI	Part-time Official Director	Member	Ranjit Rae	Independent Director	Member (w.e.f. 10.10.2017)	D Bandyopadhyay	Director (HR)	Member	T. Chockalingam	Director (Finance)	Member (Upto 30.11.2017)	Subrata Biswas	Director (E,R&D) and (Finance)	Member (w.e.f. 01.12.2017)
Name (S/Sri)	Designation	Position in CSR Committee																												
Ms Harinder Hira	Independent Director	Chairperson (Upto 01.05.2017)																												
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T. Chockalingam	Director (Finance)	Member (Upto 30.11.2017)																												
Subrata Biswas	Director (E,R&D) and (Finance)	Member (w.e.f. 01.12.2017)																												
6.	Particulars	Amount ₹ crore																												
	Average net profit for last 3 financial years (2014-15, 2015-16 & 2016-17) calculated in accordance with Section 198 of the Companies Act, 2013	517.58 crore																												
7.	CSR expenditure (2% of the amount mentioned in point no 6) comes to	CSR Budget approved by Board for FY 2017-18																												
	₹ 10.35 crore	₹ 10.40 crore																												
8.	Details of CSR spent during the financial year (2017-18):																													
	Particulars	Amount ₹ crore																												
	Total amount to be spent for the year	10.40																												
	Amount committed but unspent	3.04																												
	Manner in which the amount spent in 2017-18 is detailed in Annexure-B to this report.																													
9.	Reasons for not spending the amount:																													
	a) Some projects taken up during the year are going to stretch beyond 2017-18. Fund required for completing these projects shall be met from funds already allocated to them from the CSR budget for FY 2017-18.																													
	b) In line with CSR Policy of BHEL the unspent amount ₹ 3.04 crore will not lapse and the same will be carried forward to FY 2018-19 for expenditure on CSR projects.																													
10.	We, hereby, declare that the implementation and monitoring of CSR Policy, is in compliance with CSR objectives and Policy of the Company.																													



Chairman & Managing Director
BHEL

New Delhi
Dated: July 25, 2018



Chairperson
CSR Committee

Annexure-A

BHEL Corporate Social Responsibility (CSR) Policy Outline

BHEL's CSR vision is "To be a responsible corporate citizen working towards a better tomorrow". Our CSR Mission statement is "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, 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 defines the 3-tier CSR structure at Corporate Level and the CSR structure in BHEL units.

Web-Link to CSR Policy: BHEL CSR Policy is hosted on www.bhel.com under CSR section and can be accessed through the link www.bhel.com/CSR/pdf/BHEL_CSR_Policy_July%202017.pdf

Annexure-B

Manner in which CSR Fund Spent in FY 2017-18

(₹ Lakhs)

S. 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 are 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 2017-18)	Cumulative-expenditure upto the reporting period	Amount spent directly or through implementing agency	Name of Implementing Agency
1	Skill Development	2 Inclusive India	Local, Delhi (Delhi) Tamil Nadu-(Vellore, Pudukkottai) Madhya Pradesh (Bhopal) Karnataka (Bengaluru) Uttarakhand (Haridwar) Andhra Pradesh (Vizag) Telangana (Medak) Uttar Pradesh (Amethi)	261.07	196.13	196.13	Direct	BHEL
2	Development of Sports/sport persons	7 Healthy India	Local, Delhi, Delhi	10.00	10.00	10.00	Implementing Agency	NSDF
3	School Expenditure	2 Educated India	Local, Tamil Nadu (Vellore, Trichy) Madhya Pradesh (Bhopal) Uttarakhand (Haridwar) Andhra Pradesh (Vizag) Telangana (Medak, Hyderabad) Uttar Pradesh (Amethi, Jhansi)	314.20	300.09	300.09	Direct	BHEL
4	Miscellaneous CSR Activities	1 Clean India	Local, Madhya Pradesh(Bhopal) Uttar Pradesh (Varanasi, Jhansi, Ghaziabad)	24.00	4.75	4.75	Direct & Implementing Agency	BHEL, NGOs
5	Miscellaneous CSR Activities	2 Educated India	Local, Delhi, Delhi Karnataka (Bengaluru) Tamil Nadu (Trichy) Uttarakhand (Udham Sing Nagar) Telangana (Vikarabad) Uttar Pradesh (GB Nagar)	14.26	4.99	4.99	Direct & Implementing Agency	BHEL, NGOs
6	Miscellaneous CSR Activities	3 Responsible India	Local, Delhi (Delhi) Tamil Nadu(Trichy) Madhya Pradesh (Bhopal) Uttarakhand Haridwar) Telangana (Medak) Maharashtra (Mumbai) Assam (Kokrazhar)	21.07	16.94	16.94	Direct & Implementing Agency	BHEL, NGOs

S. 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 are 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 2017-18)	Cumulative-expenditure upto the reporting period	Amount spent directly or through implementing agency	Name of Implementing Agency
7	Miscellaneous CSR Activities	4 Green India	Local, Tamil Nadu-(Pudukkottai)	2.00	1.61	1.61	Direct	BHEL
8	Medical Camps, Holistic Healthcare	1 Healthy India	Local, Delhi (Delhi) Tamil Nadu-(Trichy) Madhya Pradesh (Bhopal) Uttarakhand (Haridwar) Andhra Pradesh (Vizag) Telangana (Medak, Hyderabad) Maharashtra (Nagpur)	12.94	11.51	11.51	Direct	BHEL
9	Providing Desks, Benches, Uniforms, books, computers, drinking water facility etc. in various schools	2 Educated India	Local, Madhya Pradesh(Bhopal) Karnataka (Bengaluru) Telangana(Medak) Uttar Pradesh(Amethi) Punjab (Taran Taran, Kapurthala) Maharashtra (Nagpur)	11.11	7.88	7.88	Direct	BHEL
10	Support to Working Women Hostel	3 Responsible India	Local,Uttarakhand (Haridwar)	6.96	6.96	6.96	Direct	BHEL
11	CSR support to A.N. College, Patna	3 Responsible India	Others, Bihar (Patna)	19.80	3.76	3.76	Implementing Agency	A.N. College, Patna
12	Construction/ renovation of toilets, Swachh Bharat Program etc.	1 Clean India	Local, Andhra Pradesh (Vizag)	9.59	5.37	5.37	Direct	BHEL
13	Drinking water plants with water ATM	1 Clean India	Local, Maharashtra (Chandrapur)	90.00	0.00	0.00	Implementing Agency	MAHAGENCO
14	Running of Mobile Medicare Unit in rural areas	1 Healthy India	Others, Maharashtra (Raigad)	43.00	0.00	0.00	Implementing Agency	Wockhardt Foundation
15	Capacity building	Capacity	Local & other locations across India	200.00	165.80	165.80	NA	NA
Total				1040.00	735.80	735.80		

Annexure-V to the Board's Report

Business Responsibility Report 2017-18

Section A: General Information about the Company

- Corporate Identity Number (CIN) of the Company:**
L74899DL1964GOI004281
- Name of the Company:** BHARAT HEAVY ELECTRICALS LIMITED
- Registered address:** BHEL House, Siri Fort, New Delhi – 110 049
- Website:** www.bhel.com
- E-mail id:** shareholderquery@bhel.in
- Financial Year reported:** 2017-18
- Sectors that the Company is engaged in:** Refer to 'Corporate Profile', Annual Report 2017-18
- List three key products/services that the Company manufactures/provides:**
 - Manufacture of Steam Generators including auxiliary plant for use with steam generators (NIC Code: 2513)
 - Manufacture of Turbine, Generator sets including auxiliaries (NIC Code: 2811)
 - Construction of Power Plant (NIC Code: 4220)
 - Manufacture of electric motors, transformers and electricity distribution and control apparatus etc. (NIC Code: 2710)
- Total number of locations where business activity is undertaken by the Company:**
 - Number of International Locations (Provide details of major 5)

Major locations from where business activity is undertaken by BHEL are Jakarta (Indonesia), Dhaka (Bangladesh), Dubai (UAE).
 - Number of National Locations

The Company has 17 manufacturing divisions, 2 repair units, 4 regional offices, 8 service centres, and 15 regional centres.
- Markets served by the Company:** BHEL serves national as well as international markets.

Section B: Financial Details of the Company (2017-18)

- | | | |
|---|---|---|
| 1. Paid up capital | : | ₹ 734.28 crore |
| 2. Total Turnover | : | ₹ 27850 crore |
| 3. Total Profit after Tax | : | ₹ 807 crore |
| 4. Total expenses incurred on CSR & SD | : | ₹ 10.4 crore
(includes unspent amount of ₹ 3.04 crore carried forward) |

- List of activities in which expenditure on CSR has been incurred: Refer to Annexure IV on 'Sustainable Development' under Board's Report, BHEL Annual Report 2017-18.

Section C: Other Details

- Does the Company have any Subsidiary Company/ Companies?**

Yes, BHEL has one subsidiary Company - BHEL Electrical Machines Ltd. (BHEL-EML), Kasargod.

- 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 as issued by Government of India from time to time.

- 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

- Details of Director/Directors responsible for BR**

- 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

- 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? Is 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 some 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)

To assess & review the performance of CSR activities in BHEL, the Board Level Committee for CSR met four times during 2017-18, while BHEL Board met six times in 2017-18 for assessment & review of CSR activities in BHEL.

- 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: www.bhel.com/index.php/global_compact

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 the SEBI's Listing Regulations.

www.bhel.com/investor_relations/pdf/Code_of_Business_Conduct_and_Ethics.pdf

The Board has laid down a 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 misuse 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 Employee of the company have a duty to safeguard the confidentiality of all such information obtained in the course of his or her work at the company. The Code also provides for practices and procedures for fair disclosure of unpublished price sensitive information.

www.bhel.com/investor_relations/pdf/BHEL-Insider-Trading-Code-2015.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 endeavor 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 arms one 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.

www.bhel.com/pdf/BHEL%20Fraud%20Prevention%20Policy.pdf
www.bhel.com/pdf/Whistle%20Blower%20Policy.pdf
www.bhel.com/pdf/Contact%20details%20of%20authorities%20under%20Whistle%20Blower%20Policy.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) have been appointed to oversee implementation of Integrity Pact in BHEL with due approval of Central Vigilance Commission. Within BHEL, through 'Delegation of Power' accountability is well defined for various functionaries. Works Policy, Purchase Policy and other policy documents facilitate transparency in BHEL's working and commitment of highest order of integrity. Six representations from suppliers have been received during the year under Integrity Pact and all 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), 916 complaints were received from the shareholders during the year under review and all complaints were redressed up to March 31, 2018.

In addition, a total of 322 public grievance complaints were received from the general public under the Centralized Public Grievance Redressal and Monitoring Scheme during the year 2017-18. All the grievances were disposed of within the prescribed period of 60 days.

Principle 2: Products Life Cycle Sustainability

BHEL is contributing to a greener environment through development of environment friendly technologies and improvement in efficiency of equipment. Continuous improvement in power cycle efficiency and reduced emissions from coal based power plants have been achieved over 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 & higher operating availability, help in attaining lower life cycle cost.

Four prime products which address environmental concerns in their design are Power Plants operating with steam at supercritical parameters, Flue-gas Desulfurization (FGD), Solar Photovoltaic and Electrostatic Precipitator (ESP).

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-2012 for MSEs (issued by Ministry of MSME-Gol), BHEL has achieved the target of 20% of its total procurement from MSEs during 2017-18. Regular vendor meets and supplier development programs are being 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 for packing of 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 the 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. Company has two laid out schemes for redressal of employee grievances in BHEL – one for workers and other for staff and 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 and 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 since 2004. It 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 management system certification and can be accessed through the link www.bhel.com/healthsafety/HSE%20POLICY.pdf. BHEL has HSE cells at all its units/ divisions to implement this policy and Corporate HSE department provides strategic guidance related to HSE matters at organization level. The HSE policy is prominently displayed at all our 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 our workplaces which includes the working of the policy and its critical elements.

1. Total number of regular employee as on March 31,2018: 37,540
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 March 31,2018: 2,148

4. Number of permanent employees with disabilities as on March 31,2018: 913
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 worker 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 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 2017-18, the company received a total of six complaints on sexual harassment and all have been resolved satisfactorily. Further, no complaint of child labour/ forced labour/ involuntary labour/ discriminatory employment has been received.
8. During the year 2017-18, total number of training man-days per employee is 3.4. 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. Below is the list of no. of employees (in percentage) who were given safety and skill (both technical and behavioural) upgradation training during 2017-18. Training on safety is also provided to casual/ temporary/ contractual workers coming through job/ work contracts with contractors

a.	Permanent Employee	30.48%
b.	Permanent Woman Employee	28.00%
c.	Casual/ Temporary/ Contractual workers	26.72%
d.	Employees with disabilities	34.20%

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 meet. Investor community is engaged through meetings, conferences etc and is provided with relevant information pertaining to their investment decision.

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 released on 21.10.2014.

www.bhel.com/CSR/pdf/BHEL_CSR_Policy_July%202017.pdf

Principle 5 - Human Rights

BHEL policies are in line with the principles of Human Rights, The Constitution of India, and various 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 life time member of Global Compact Network, India (GCNI). 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:

www.unglobalcompact.org/participation/report/cop/create-and-submit/active/352981

The same can be accessed through:

www.bhel.com/index.php/global_compact

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 (PS) regions. Based on the corporate HSE policy, all manufacturing units and regions have derived their HSE systems which are 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: www.bhel.com/healthsafety/HSE%20POLICY.pdf.

As a responsible global citizen, the organization acknowledges the correlation 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 its 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 26.5 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

15,454 MT CO₂-e during 2017-18 which is approx. 7.5% more as compared to 2016-17 through various renewable energy based systems. Total energy generated through various renewable energy systems stood at 15.61 million units during 2017-18 as compared to 14.82 million units during 2016-17. 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. BHEL in association with IGCAR and NTPC 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 ready with the solutions required to meet the stipulated emission norms which have come into force for generation utilities. The company has initiated measures like modification in boiler design & development of SCR catalyst for NO_x reduction, installation of FGD systems for reduction of SO_x emissions and improvement in particulate collection efficiency of ESPs. BHEL has developed SCR technology exclusively for high ash coal fired Indian thermal power plants through its dedicated R&D efforts, which is under demonstration at NTPC Simhadri Super Thermal Power Station.

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.

In transportation sector, there is favorable movement towards Electric Vehicle mobility as the future mode of transportation. BHEL is already developing motors/ alternators, IGBT controllers and VCU (Vehicle Control Unit) hardware for e-vehicles.

One show cause notice from Directorate of Industrial Safety & Health, Govt. of Tamil Nadu has been received by Trichy manufacturing unit during 2017-18 which is pending for resolution as on March 31, 2018.

No show cause / legal notice received from Central Pollution Control Board (CPCB) / State Pollution Control Board (SPCB) are pending as on March 31, 2018.

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), 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 of India. BHEL uses various mechanisms of interaction with such bodies (e.g. participation in seminars & meetings, participation in working group 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 formulations 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 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 for CSR. 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 www.bhel.com/CSR/pdf/BHEL_CSR_Policy_July%202017.pdf and 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 along with unit level CSR Committee, which approves, aligns, implements & monitors the CSR initiatives including projects which benefit the society especially the poor, needy & economically weaker sections. The company supports numerous social initiatives across the country

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 2017-18, the CSR activities carried out are listed in **Annexure IV** of the Report. Further, project details are listed on the link 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

BHEL is constantly working towards creating value for customer through products and services. Customer value is an integral part of BHEL's culture which is also been reflected in our Vision, Mission and Values statement.

Company provides detailed product labels/ name plates/ test certificates to customers as per their requirement and terms of the contracts, besides the mandatory requirement of the applicable law.

Given the diverse and large scale operations of BHEL, customer complaints get registered through multiple modes. Two dedicated centralized online complaint system, i.e., Customer Care Management System (CCMS) and Site Action Request (SAR)/ Commissioning Action Request (CAR) resolution system are in operation. In 2017-18 major quality issues reported by customers were taken up for Root Cause Analysis (RCA) and in twenty cases, corrective actions were instituted. Apart from complaints, customer feedback is taken regularly through customer satisfaction surveys, customers' meets and face-to-face interactions.

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., March 31, 2018.

Research & Development and Technological Achievements



Annexure-VI to the Board's Report

Research & Development and Technological Achievements

6.1 Innovation

The current business environment in India is extremely competitive. To survive and flourish in such an environment it has become necessary to keep abreast of the latest technologies and provide reliable products which are not only cost-competitive but also have better efficiency and performance.

Innovation and creative development forms an integral part of BHEL's business strategy. Realizing that in-house Research and Development is an important ingredient in self-sustenance of a Company, the Company has focused on establishing a strong engineering and R&D base for in-house development of indigenous technologies.

Over the years, BHEL entered into technology collaboration arrangements 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. With thirteen ongoing collaborations, BHEL is focusing on successful adaptation and timely absorption of these technologies.

Ongoing Technology Collaboration Agreements

Technology Collaboration with foreign companies

Sl.	Name of Collaborator	Product
1.	Siemens AG, Germany	Steam Turbines, Generators and Lateral/Axial Condensers
2.	General Electric Technology GmbH, Switzerland	Once Through Boilers and Coal Pulverisers
3.	Metso Automation Inc., Finland	New Generation C&I Automation
4.	Oto Melara, Italy	76/62 Super Rapid Gun Mount
5.	Kawasaki Heavy Industries Ltd., Japan	Stainless Steel Metro Coaches & Bogies
6.	Mitsubishi Heavy Industries Ltd, Japan	Pumps
7.	Mitsubishi Hitachi Power Systems Ltd, Japan	Flue Gas Desulphurization
8.	TLT- Turbo GmbH, Germany	Fans
9.	Vogt Power International Inc., USA	Heat Recovery Steam Generators
10.	Nuovo Pignone S.R.L, Italy	Centrifugal Compressors
11.	HLB Power Korea	Gates and Dampers
12.	Sheffield Forgemasters International Ltd, UK	Forgings
Technology Collaboration with Indian Entity		
13.	Indian Space Research Organization (ISRO), India	Space Grade Lithium Ion cells



BHEL enters into a Technology Collaboration Agreement (TCA) with HLB Power, Republic of Korea for in-house design and manufacture of large-size gates and dampers

6.2 R&D Strategy

Today, BHEL is deeply focused on innovation than ever before. The Company 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.

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, 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

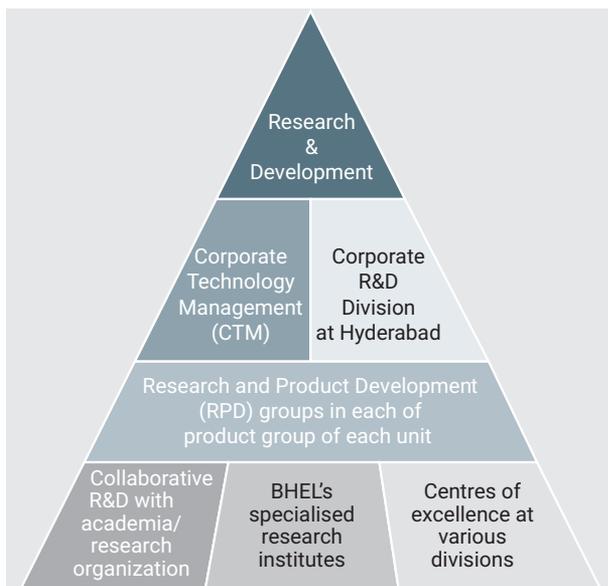
Knowledge Management

- 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

R&D organizational structure of the Company is headed by Director (E, R&D), 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 a structured 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 fourteen Centers 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

BHEL's five 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



Atomic Absorption Spectrophotometry at PCRI, BHEL Haridwar

Innovation in engineering processes and managing the Company's knowledge base are identified as focus areas in these centers 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.

Further, with a view to bridge knowledge gaps BHEL has increased collaboration with academia and R&D Institutes for basic as well as applied research. Currently BHEL has Memorandum of Understanding (MoU) with leading academic research institutes and organisations. Company is also putting in place all enablers like people capabilities, infrastructure, processes and organization support to succeed in its ambitious technology endeavors.



High Powered Electron Microscope at WRI Tiruchirappalli

Collaborative R&D with some of the leading Academia/ Research Organizations

- Indian Institute of Science, Bengaluru
- Central Institute for Plastics Engineering & Technology, Bhubaneswar
- Indian Institute of Technology Madras
- Indian Institute of Technology, Kanpur
- Indian Institute of Technology, Kharagpur
- Indian Institute of Technology, Roorkee
- Indian Institute of Technology, Delhi
- Indian Institute of Technology, Bombay
- Indian Institute of 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

During the year, there have been significant developments/improvements in engineering, processes and products covering various business verticals like Power, Industry, Transportation and Renewables. Some notable achievements are:

- BHEL has indigenously developed 3-phase Propulsion system for India's first ever Broad Gauge Air-conditioned 12 car AC EMU suburban train on Mumbai Suburban Section of Western Railway.
- BHEL has developed and manufactured a low noise, efficient, 50 kW, 400Hz Permanent Magnet based Frequency Converter (PMFC) for strategic applications. The machine has the motor & generator mounted on the same shaft and in the same enclosure. It converts 50

Hz input to 400 Hz output and is designed to withstand high shock value in all three directions. The machine is manufactured and tested as per MIL standard.

- BHEL has successfully developed 120 MVA Station Transformer for 2x800 MW NTPC Lara STPP project. The transformer having special type split winding was successfully Short Circuit (SC) tested at National High Power Test Laboratory (NHPTL) Bina.
- BHEL has successfully developed 420kN composite long rod Insulator for ± 800 KV HVDC application as a MoU R&D Project with Government of India. All Design & Type Tests were completed as per relevant IEC 61109 & 62217 standard. This development will enable BHEL to supply insulators in ± 800 kV HVDC transmission line projects of National Grid.
- BHEL has successfully developed High Pressure Bypass Valve with Nickel - based alloy for Advance Ultra Supercritical (AUSC) Power Plant application as an MOU R&D Project with Government of India. BHEL make HP Bypass valves shall be supplied to AUSC 800 MW demo plant.



HP bypass valve with Nickel - based alloy for Advanced Ultra Supercritical (AUSC) Power Plant application developed at BHEL Tiruchirappalli

- BHEL has successfully completed design and manufacturing of evaporator membrane panel (Gr.91 material) for the first Indian Boiler of AUSC Plant. The membrane panel shall be subjected to very high temperature (595 °C) & pressure (390 Kg / Cm²). Comprehensive manufacturing procedure for fabrication of Evaporator Membrane Panel of T91 grade sheets encompassing all aspects of welding, multi plane bending of tubes, NDT & PWHT procedures are successfully established.
- BHEL has successfully carried out design and development

of Pump Model suitable for Palamuru Rangareddy Lift Irrigation Scheme Stage 2 (9 x 145 MW) and Stage 3 (9 x 145 MW). The scheme envisages lifting 120 TMC of flood water during flood season (60 days) from foreshore of Srisailem Project on Krishna river for irrigating upland areas. It would also provide drinking water to Hyderabad city & villages enroute and water for industrial use in Mahabubnagar, Rangareddy & Nalgonda districts.

- BHEL has successfully designed and developed 4.7 MW, 11 kV, 10 Pole Vertical Synchronous Motor with Brushless Excitation System for lift irrigation application. The machine has been type tested as per customer requirement and supplied to M/s Megha Engineering and Infrastructure Limited (MEIL).
- BHEL has successfully developed largest rating 11.65 MW, 11 kV, 12 Pole Vertical Synchronous Motor for lift irrigation projects. The motor has been manufactured and successfully tested meeting all performance parameters, test requirements and tight delivery schedules. It has been designed for easy re-assembly at site along with special feature such as HP jacking arrangement, bus duct type terminal box and mechanical brakes. This motor has been supplied to M/s KBL for Yettinahole Lift Irrigation Project.
- BHEL has developed hydraulic design of Francis Turbine suitable for specific speed of 290 m-kW. A small-scale turbine model has been manufactured with benchmark efficiency of 92.7% and successfully tested.
- BHEL has completed the hydraulic design of pump-turbine suitable for head of 250 metre. The development included complete water passage including runner profile suiting to 250 m head and its validation by model testing.
- BHEL has developed machining technology for hydro turbine Pelton wheel from single blank. The state-of-the-art 5-axis Scoop milling technology for the manufacturing of the Hydro Turbine Pelton wheel has been established in-house by developing the 5-axis programming and machining methodology. A scaled down Pelton wheel of 450 mm diameter has been machined from a single forged blank on the 5-Axis Machine.
- BHEL has indigenized Spring Loaded Bypass Valve for supercritical sets which were being imported till now. The first set of valves have been manufactured, tested and dispatched to Wanakbori 1X800 MW site.
- To meet the new environmental emission norms of MoEF, BHEL has developed SCR technology exclusively for high ash coal fired Indian thermal power plants through its dedicated R&D efforts and the same is under demonstration at NTPC Simhadri Super Thermal Power Station. The pilot plant at NTPC Simhadri is operating successfully.
- BHEL has developed, manufactured and tested highest capacity of outer diameter 4100 mm, 11300 kW, Axial Fan to address the combined demands of boiler, SCR

400 kV Single break Circuit Breaker for development of Gas Insulated Substation (GIS)





Centre of Excellence for Computational Fluid Dynamics, Corp. R&D, Hyderabad

and FGD for meeting the revised MoEF norms specified by GoI. The developed fan has been supplied to Telangana 800 MW project.

- BHEL has successfully developed 20 MW, 11 kV, 4 Pole Alternator for industrial applications. This alternator has been successfully manufactured and tested meeting all performance parameters. The developed alternator has been supplied to M/s Rohit Surfactants Private Ltd., Ahmedabad.
- BHEL has successfully developed & tested 3.27 MW, 6.6 kV, 4 Pole Pressurized Variable Frequency Drive (VFD) motor. The machine has been designed with special features suitable for hazardous area applications. The developed VFD motor has met all performance parameters as per tests conducted meeting the customer's requirements. The machine has been supplied to M/s. IOCL, Barauni.
- BHEL has designed, developed and successfully tested a compact and light weight, three-phase AC Traction Motor for 9000 HP Locomotive meeting stringent performance requirements.
- BHEL has indigenously developed 145 kV and 36 kV GIS switchgear. 5 nos. panels of the developed 145 kV GIS have been supplied to M/s TS Transco Vitthalwadi site. The supplied breakers have been successfully charged by customer after completing various tests. 11 nos. of 36 kV GIS panels have also been supplied to TS Transco.
- BHEL has developed largest air compressor (DMCL1008) in fabricated casing design for Blast Furnace application. The counter-casing has variable volute, designed for effective final discharge pressure recovery. The developed compressor has been supplied to SAIL, Rourkela.
- BHEL has successfully established testing facilities for Cooling Water Pump (CWP) with capacity above 30,000 m³/hr to suit supercritical large size thermal sets (660/ 800 MW). The performance of large pumps can be proven through this development by conducting model tests on smaller size model pump as per international standards.

- BHEL has developed an improved version of IEC 61850 compliant Bay Control unit (BCU) with modular architecture, extensive function library & programmable logic and configurable I/O to meet specific requirements in Substation Automation Systems (SAS). The BCU is a flexible, easy-to-use Intelligent Electronic Device (IED) for SAS and is used for measuring, remote monitoring, protection and control of various bays at different voltage levels in a substation. Conformance testing of the BCU has been successfully done at CPRI, Bengaluru.
- BHEL has developed 3D Printing sand mould technology for hydro pump runner model castings. A state-of-the-art 3D printing process has been adopted for the preparation of pattern- less sand moulds for gravity casting of the scaled down model of hydro turbine Francis Pump runner, which can be used for the performance testing.
- BHEL has successfully developed and manufactured Gas Turbine Nozzle Tip through direct metal powder bed 3D Printing technology. The developed part conforms to all performance tests meeting the parameters of conventionally manufactured part.
- BHEL has developed a series condenser for 660 MW rating unit for Maitree-Bangladesh Project using parametric 3D modelling.



Robotic Work Cell for automatic assembly of Generator Stampings

6.5 Focus areas for R&D & technology development

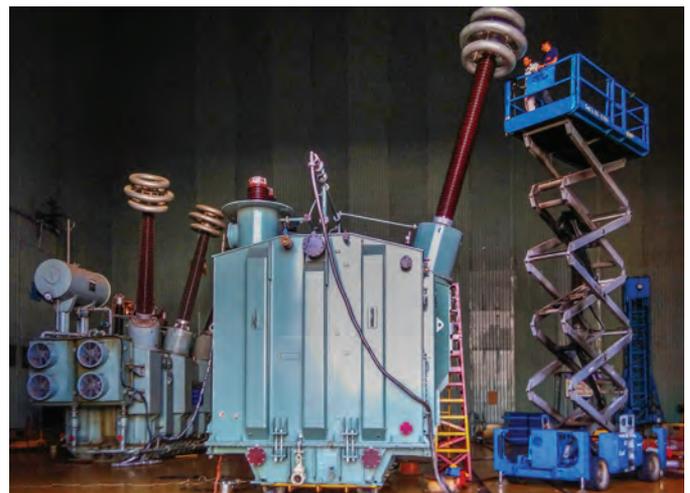
BHEL is focusing to build and consolidate capabilities in the following emerging and existing areas:

- Development of Advanced Ultra Super Critical (AUSC) Technology for Thermal Power Plants of future in consortium with NTPC and IGCAR
- 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
- Gas insulated switchgear upto 765 kV rating
- Development of solutions for E-mobility eco system



High Power Diode Laser (HPDL)

- including Power Train, Charging stations, Energy storage systems, etc.
- Desalination and Water Treatment Plants
- Efficient, reliable and cost effective transportation solutions including IGBT – based applications, three-phase AC drive system for diesel electric locos, MEMU and regenerative braking system
- Coach manufacturing for Metro & High speed train-sets.
- Development of high efficiency solar cells, Solar PV plants, Energy storage systems, solar thermal, wind etc.
- Defence products
- Applications based on high temperature Superconductors, Nano-technology applications, Hydrogen energy and fuel cells
- Circulating Fluidized Bed Combustion (CFBC) boilers
- 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 deployment of intelligent machines & robotics
- Knowledge Management and Specialized engineering software applications
- Total Engineering solutions including EPC with focus on design automation/ KBE/ PLM



High Voltage test lab at BHEL, Bhopal

Developing Cleaner Power Technologies of Tomorrow!



A pioneering technology for coal-fired power plants is under development in the country – one that promises much efficient power generation with much lesser emissions, using coal as fuel.

BHEL, along with NTPC and IGCAR is developing Advanced Ultra Supercritical (AUSC) technology for thermal power plants, improving the plant efficiency to 46%, reducing both CO₂ emissions at source and coal consumption by 11% as compared to the latest technology in vogue.

For this mission project of national importance, BHEL is entrusted with the task of designing and manufacturing the power cycle equipment.



End Cover Welding for the Super Heater Header for 800 MW - AUSC

Annexure –VII to the Board's Report

7.1 Conservation of Energy

At BHEL optimal utilisation of energy in our operations and services is not only a value proposition but also a responsibility for the organisation. With this view, the Company has been promoting many activities related to energy conservation (ENCON), energy efficiency (EE) and usages of green energy in our premises. It helps us in reducing our conventional energy usages, encourage the use of green energy in our energy mix and drives us towards the path of sustainable energy usage.

BHEL is enhancing the use of clean energy at its units/project sites through usage of solar PV based street lights & solar water heating systems, installation of roof-top and grid interactive solar power plants making conscious efforts towards the use of sustainable energy mix in its own operations. During FY 17-18, our inhouse solar plants have generated around 15.6 Million units of green electricity for our captive consumption.

Various activities were also undertaken including process redesign, conversion and retrofitting of equipment, educational programmes to bring changes in employees behaviour etc. These activities have resulted in overall energy savings of 1.37 Million units due to ENCON/EE activities during FY 2017-18.

So far, 8 manufacturing Units of BHEL have been certified with ISO 50001:2011 (Energy Management System) for establishing the systems & processes necessary to improve energy performance, including energy efficiency, use and consumption.

Various activities pertaining to Energy Conservation (ENCON) regularly carried out in BHEL include:

- Energy Awareness - Conducting awareness programmes at offices, factories, project sites and in townships
- Energy Conservation - Identification of potential to reduce use of energy, arresting leakages, use of alternate sources of energy, identifying wasteful use of energy and plugging them, use of energy measurement system for buildings etc. During the year 58 ENCON projects were implemented across the Company towards replacement of conventional lights with energy efficient LED lights; replacement of old inefficient air conditioners with energy-efficient star rated ACs; Automatic Power Factor Correction to improve Power Factor; Variable Frequency Drives; Motion sensors in offices etc.
- Energy Efficiency through improved insulation in furnaces, plugging heat loss from heating systems, optimization of loading of furnaces, heat recovery systems, adopting high efficiency lighting systems, high efficiency pumps, motors & compressors, use of variable frequency drive (VFD) etc.
- Use of Renewable/alternate energy resources through Solar Street Lights; Solar Water Heating System; Natural Turbo Ventilators; Day Light Pipe; FRP/ Polycarbonate sheets on rooftop to harness natural light; etc.

- Periodic energy audits to identify Opportunities for Improvements (OFIs). Energy Audit was conducted by specialised agencies (like PCRA/TERI etc.) at HPBP-Trichy, BAP-Ranipet, EDN-Bangalore, IP-Jagdishpur, CS&FP-Jagdishpur, HERP-Varanasi and TP-Jhansi Units

7.2 Technology Absorption and Research & Development

Research & Development

1. Specific areas in which R&D carried out by the Company	}	Given in the Board's Report under Annexure - VI "R&D and Technological Achievements"
2. Benefits derived as a result of the above R&D		
3. Future Focus areas		
4. Expenditure on R&D		
Total	₹ 752.64 crore
a) Recurring	₹ 745.41 crore
b) Capital	₹ 7.23 crore
Expenditure as a percentage of total turnover	2.70 %

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	

7.4 Foreign Exchange Earnings and Outgoings

(₹ crore)

Particulars	2017-18	2016-17
Foreign Exchange Used	2482	3335
Foreign Exchange Earned	1309	2490

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



Atul Sobti
Chairman & Managing Director

Place : New Delhi
Dated : July 25, 2018

Annexure – VIII to Board's 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 S.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	(18.77)
8. Total assets	21.96
9. Total Liabilities	30.23
10. Investments	NIL
11. Turnover	14.42
12. Profit before taxation	(7.73)
13. Provision for taxation	(1.72)
14. Profit after taxation	(6.01)
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

Part "B": Associates and Joint Ventures

(Statement pursuant to Section 129 (3) of the Companies Act, 2013 related to Associate Companies and Joint Ventures)

(₹ crore)

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	31.03.18	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	138.55	4.40	266.10
7. Profit/ Loss for the year	As per equity method		
i. Considered in consolidation	23.82	(38.35)	(376.23)
ii. Not considered in Consolidation	-	-	-

Unaudited

Figures given in brackets are negative

M/s Dada Dhuniwale Khandwa Power Ltd., and M/s Power Plant Performance Improvement Ltd. are under liquidation. Hence, both these JVs were not considered in consolidation.

During the year M/s Latur Power Company Ltd. has been dissolved

For and on behalf of Board of Directors



(I. P. Singh)
Company Secretary



(Subodh Gupta)
Director (Finance)



(Atul Sobti)
Chairman and Managing Director

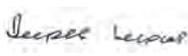
As per our report of even date

For DSP & Associates
Chartered Accountants
FRN - 006791N



(CA. Sanjay Jain)
Partner
M. No. 084906

For Dhawan & Co.
Chartered Accountants
FRN - 002864N



(CA. Deepak Kapoor)
Partner
M. No. 072302

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN - 006228C



(CA. Ritesh Kumar Jain)
Partner
M. No. 077026

Place : New Delhi
Date : May 29, 2018

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.



Atul Sobti

Chairman & Managing Director

Place : New Delhi

Dated : July 25, 2018

Annexure - IX to Board's Report

INDEPENDENT AUDITORS' REPORT

To the Members of

Bharat Heavy Electricals Limited

Report on the Standalone Ind AS financial statements

We have audited the accompanying Standalone Ind AS financial statements of Bharat Heavy Electricals Limited ("the Company"), which comprise the balance sheet as at March 31, 2018, the Statement of profit and loss (including other comprehensive income), the cash flow statement and the statement of changes in equity for the year then ended, and a summary of significant accounting policies and other explanatory information 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.

Management's Responsibility for the Standalone Ind AS 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 Standalone Ind AS financial statements that give a true and fair view of the financial position, financial performance including other comprehensive income, cash flows and changes in equity of the Company in accordance with the accounting principles generally accepted in India, including the Indian Accounting Standards (Ind AS) specified under Section 133 of the Act, read with the Companies (Indian Accounting Standards) Rules, 2015, as amended.

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 Standalone Ind AS financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these Standalone Ind AS financial statements based on our audit.

We have taken into account the provisions of the Act, the accounting and auditing standards and matters which are required to be included in the audit report under the provisions of the Act and the Rules made thereunder.

We conducted our audit of the Standalone Ind AS financial statements in accordance with the Standards on Auditing

specified under Section 143(10) of the Act. Those Standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the standalone Ind AS financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and the disclosures in the Standalone Ind AS financial statements. The procedures selected depend on the Auditors' judgment, including the assessment of the risks of material misstatement of the Standalone Ind AS financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal financial control relevant to the Company's preparation of the Standalone Ind AS financial statements that give a true and fair view in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of the accounting estimates made by the Company's directors, as well as evaluating the overall presentation of the Standalone Ind AS financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion on the Standalone Ind AS financial statements.

Opinion

In our opinion and to the best of our information and according to the explanations given to us, the aforesaid Standalone Ind AS financial statements give the information required by the Act in the manner so required and give a true and fair view in conformity with the accounting principles generally accepted in India including the Ind AS:

- (a) In the case of the balance sheet, of the state of affairs (financial position) of the Company as at March 31, 2018;
- (b) In the case of the statement of profit and loss, of the profit (financial performance including other comprehensive income) for the year ended on that date; and
- (c) In the case of the cash flow statement, of the cash flows for the year ended on that date.
- (d) In the case of statement of changes in equity, of the change in equity for the year ended on that date.

Other Matters

We did not audit the financial statements/information of 16 (sixteen) branches included in the Standalone Ind AS financial statements of the Company whose financial statements / financial information reflect total assets of ₹ 43,503.33 crore as at 31st March, 2018 and total revenue of ₹ 19,115.29 crore for the year ended on that date, as considered in the Standalone Ind AS 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.

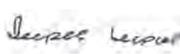
Report on Other Legal and Regulatory Requirements

- (1) As required by the Companies (Auditors' Report) Order, 2016 ("the Order") issued by the Central Government of India in terms of sub-section (11) of section 143 of the Act and on the basis of our examination of the books and records of the Company, as we considered appropriate, and according to the information and explanations given to us, we give in "Annexure A", a statement on the matters specified in paragraphs 3 and 4 of the said Order, to the extent applicable.
- (2) As required by Section 143 (3) of the Act, we report that:
- 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;
 - 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 purposes of our audit have been received from the branches not visited by us;
 - 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;
 - The balance sheet, the Statement of profit and loss (including other comprehensive income), the cash flow statement and statement of changes in equity dealt with by this report are in agreement with the books of account;
 - In our opinion, the aforesaid Standalone Ind AS 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 Auditors' 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:
- the Company has disclosed the impact of pending litigations on its financial position in its financial statements – Refer Note 38 (2) to the financial statements.
 - the Company has made provision, as required under the applicable laws or Indian Accounting Standards, for material foreseeable losses, if any, on long-term contracts – Refer Note 38 (14) to the financial statements.
 - 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 DSP & Associates
Chartered Accountants
FRN - 006791N


(CA. Sanjay Jain)
Partner
M. No. 084906

For Dhawan & Co.
Chartered Accountants
FRN - 002864N


(CA. Deepak Kapoor)
Partner
M. No. 072302

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN - 006228C


(CA. Ritesh Kumar Jain)
Partner
M. No. 077026

Place: New Delhi
Date: May 29, 2018

“Annexure A” to the 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 Ind AS financial statements of Bharat Heavy Electricals Limited “the Company”), for the year ended March 31, 2018)

- 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. 2.1 (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.
- 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, 2018 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	79.66	25.65	Assessing Officer
			326.19	50.98	Dy. Commissioner / Jt. Commissioner / Commissioner (Appeals)
			401.78	157.73	Appellate Tribunal
			459.54	27.86	High Court
			2.87	2.83	Supreme Court
			419.74	30.52	Various Appellate Authorities

Sl. No.	Name of the Statute	Nature of the Dues	Pending Amount	Amount paid under protest	Forum where dispute is pending
2	Income Tax Act, 1961	Income Tax	0.08	-	Assessing Officer
			0.02	-	Commissioner (Appeals)
			10.56	-	High Court
3	Central Excise Act, 1944	Excise Duty	77.68	7.35	Commissioner (Appeals)
			176.29	3.49	Appellate Tribunal
			57.46	5.69	High Court
4	Service Tax under the Finance Act, 1994	Service Tax	34.93	2.80	Various Appellate Authorities
			335.74	5.71	Appellate Tribunal
			17.15	-	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.

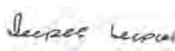
xv) Based on our examination and the information and explanations given to us, the Company has not entered into any non-cash transactions with directors or persons connected with them.

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 DSP & Associates
Chartered Accountants
FRN - 006791N


(CA. Sanjay Jain)
Partner
M. No. 084906

For Dhawan & Co.
Chartered Accountants
FRN - 002864N


(CA. Deepak Kapoor)
Partner
M. No. 072302

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN - 006228C


(CA. Ritesh Kumar Jain)
Partner
M. No. 077026

Place: New Delhi
Date: May 29, 2018

“ANNEXURE B”

TO THE INDEPENDENT AUDITORS’ REPORT OF EVEN DATE ON THE STANDALONE 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”)

We have audited the internal financial controls over financial reporting of Bharat Heavy Electricals Limited (“the Company”) as of March 31, 2018 in conjunction with our audit of the Standalone Ind AS 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

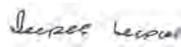
In our opinion, the Company has, in all material respects, an adequate internal financial controls system over financial reporting and such internal financial controls over financial reporting were operating effectively as at March 31, 2018, based on the internal control over financial reporting criteria 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 DSP & Associates
Chartered Accountants
FRN - 006791N



(CA. Sanjay Jain)
Partner
M. No. 084906

For Dhawan & Co.
Chartered Accountants
FRN - 002864N



(CA. Deepak Kapoor)
Partner
M. No. 072302

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN - 006228C



(CA. Ritesh Kumar Jain)
Partner
M. No. 077026

Place: New Delhi
Date: May 29, 2018

“Annexure C”

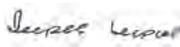
Directions issued by the Comptroller & Auditor General of India under Section 143(5) of the Companies Act, 2013 indicating the areas to be examined by the Statutory Auditors during the course of audit of annual accounts of Bharat Heavy Electricals Limited (Standalone) for the year 2017-18

Sl. No	Areas Examined	Replies
1	Whether the Company has clear title/lease deeds for freehold and leasehold land respectively? If not, please state the area of freehold and leasehold land for which title / lease deeds are not available.	<p>The Company has got clear title/lease deeds in respect of various leasehold/freehold land held by it except 7720.27 acres of freehold land and 476.66 acres of leasehold land held by it at various locations.</p> <p>In addition to above, 1242.71 acres of land (given free of cost to the Company by the then Government of Uttar Pradesh by way of Gazette Notification) is not mutated in the name of Company.</p> <p>(Note: In respect of freehold land as above, almost in all cases, the same is acquired from State Government on right to use basis and is categorized under freehold)</p>
2	Whether there are any cases of waiver/write off of debts/ loans/ interest etc. If yes, the reasons thereof and amount involved.	During the year under report, the Company has written off Debtors amounting to ₹ 9.51 crore (₹ 8.22 crore on account of old unrecoverable debts and ₹ 1.29 crore on account of LD's levied by its customers in earlier years).
3	Whether proper records are maintained for inventories lying with third parties and assets received as gift/grant(s) from the Govt. or other authorities.	Proper records are being maintained for the inventories lying with third parties & assets received as gift/grant(s) from Govt. or other authorities.

For DSP & Associates
Chartered Accountants
FRN - 006791N


(CA. Sanjay Jain)
Partner
M. No. 084906

For Dhawan & Co.
Chartered Accountants
FRN - 002864N


(CA. Deepak Kapoor)
Partner
M. No. 072302

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN - 006228C


(CA. Ritesh Kumar Jain)
Partner
M. No. 077026

Place: New Delhi
Date: May 29, 2018



No./MA&III/Rep./01-60/A/cs - Standalone - DHEC/2018-19/

भारतीय लेखापरीक्षा और लेखा विभाग 387

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

Dated: 12/07/2018

सेवा में,

अध्यक्ष एवं प्रबंध निदेशक,
भारत हेवी इलेक्ट्रिकल्स लिमिटेड,
नई दिल्ली

महोदय,

विषय: 31 मार्च 2018 को समाप्त वर्ष के लिये भारत हेवी इलेक्ट्रिकल्स लिमिटेड, नई दिल्ली के वार्षिक लेखाओं पर कम्पनी अधिनियम 2013 की धारा 143(6)(b) के अन्तर्गत भारत के नियंत्रक-महालेखापरीक्षक की टिप्पणियाँ।

मैं भारत हेवी इलेक्ट्रिकल्स लिमिटेड, नई दिल्ली के 31 मार्च 2018 को समाप्त वर्ष के लेखाओं पर कम्पनी अधिनियम 2013 की धारा 143(6)(b) के अंतर्गत भारत के नियंत्रक-महालेखापरीक्षक की टिप्पणियाँ अंग्रेजित कर रहा हूँ। कृपया इस पत्र की संलग्नकों सहित प्राप्ति की पावती भेजी जाए।

संलग्न: यथोपरि

भवदीय,

विक्रम डी. मुरुगराज
12.07.18
(विक्रम डी. मुरुगराज, L.A.&A.S.)
प्रधान निदेशक

छठा एवं सातवाँ तल, सी.ए.जी. भवन एनेक्सी, 10, बहादुरशाह ज़फर मार्ग, नई दिल्ली-110002
6th & 7th Floor, C.A.G. Building Annexe, 10, Bahadurshah Zafar Marg, New Delhi-110002
Tel. : 011-23239213, 23239235 Fax : 011-23239211 Email : 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 2018**

The preparation of financial statements of Bharat Heavy Electricals Limited for the year ended 31 March 2018 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 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 29 May 2018.

I, on the behalf of the Comptroller and Auditor General of India, have conducted a supplementary audit under Section 143(6)(a) of the Act of the financial statements of Bharat Heavy Electricals Limited for the year ended 31 March 2018. 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 audit nothing significant has come to my knowledge which would give rise to any comment upon or supplement to statutory auditors' report.

For and on behalf of the
Comptroller & Auditor General of India



(Vikram D. Murugaraaj)

Principal Director of Commercial Audit &
Ex-officio Member, Audit Board – III,
New Delhi

Place: New Delhi

Dated: 12 July 2018



FINANCIAL STATEMENTS

Standalone Financial Statements 150

Consolidated Financial Statements 220

Balance Sheet as at March 31, 2018

(₹ in Crore)

Particulars	Note	As at March 31, 2018	As at March 31, 2017
A. ASSETS			
(1) Non-current assets			
(a) Property, plant and equipment	2a	2977.53	3491.12
(b) Capital work-in-progress	2b	194.53	159.51
(c) Intangible assets	3a	91.31	104.76
(d) Intangible assets under development	3b	8.23	8.83
(e) Financial assets			
(i) Investments	4	690.74	661.42
(ii) Trade receivables	5	12721.97	9787.73
(iii) Loans	6	84.28	78.04
(iv) Other financial assets	7	0.02	0.16
(f) Deferred tax assets (net of liabilities)	8	3625.88	3841.37
(g) Other non-current assets	9	206.27	203.30
Total non-current assets		20600.76	18336.24
(2) Current assets			
(a) Inventories	10	6258.76	7372.38
(b) Financial assets			
(i) Trade receivables	11	22771.49	22075.56
(ii) Cash and cash equivalents	12a	2768.68	1484.89
(iii) Bank balances other than (ii) above	12b	8522.50	9006.90
(iv) Loans	13	147.12	138.88
(v) Other financial assets	14	150.61	216.98
(c) Current tax assets (net of provisions)	15	222.94	873.08
(d) Other current assets	16	2346.29	1725.29
Total current assets		43188.39	42893.96
Total assets		63789.15	61230.20
B. EQUITY AND LIABILITIES			
(1) Equity			
(a) Equity share capital	17	734.28	489.52
(b) Other equity (refer SOCIE)		31866.80	31804.92
Total equity		32601.08	32294.44

Balance Sheet as at March 31, 2018

(₹ in Crore)

Particulars	Note	As at March 31, 2018		As at March 31, 2017	
Liabilities					
(2) Non-current liabilities					
(a) Financial liabilities					
(i) Borrowings	18	57.18		89.55	
(ii) Trade payables	19	479.06		631.12	
(iii) Other financial liabilities	20	114.41	650.65	104.71	825.38
(b) Provisions	21		4923.11		5001.35
(c) Other non-current liabilities	22		3364.08		2983.36
Total non-current liabilities			8937.84		8810.09
(3) Current liabilities					
(a) Financial liabilities					
(i) Trade payables	23	10586.86		8709.16	
(ii) Other financial liabilities	24	2341.47	12928.33	1531.45	10240.61
(b) Provisions	25		3782.77		4191.56
(c) Other current liabilities	26		5539.13		5693.50
Total current liabilities			22250.23		20125.67
Total liabilities			31188.07		28935.76
Total equity and liabilities			63789.15		61230.20
Significant Accounting Policies	1				
The accompanying Notes 1 to 38 form an integral part of the Financial Statements					

For and on behalf of Board of Directors



(I. P. Singh)
Company Secretary



(Subodh Gupta)
Director (Finance)



(Atul Sobti)
Chairman and Managing Director

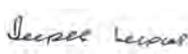
As per our report of even date

For DSP & Associates
Chartered Accountants
FRN - 006791N



(CA. Sanjay Jain)
Partner
M. No. 084906

For Dhawan & Co.
Chartered Accountants
FRN - 002864N



(CA. Deepak Kapoor)
Partner
M. No. 072302

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN - 006228C



(CA. Ritesh Kumar Jain)
Partner
M. No. 077026

Place : New Delhi
Date : May 29, 2018

Statement of Profit and Loss

for the year ended March 31, 2018

(₹ in Crore)

Particulars	Note	For the year ended March 31, 2018	For the year ended March 31, 2017
INCOME			
Revenue from operations (excluding excise duty)	27	28813.00	28599.45
Add: Excise Duty		247.98	1100.37
Revenue from operations (including excise duty)		29060.98	29699.82
Other income	28	693.05	765.92
Total Income		29754.03	30465.74
EXPENSES			
Material consumption, erection and engineering expense	29	15899.90	16566.14
Changes in inventories of finished goods and work in progress	30	736.13	994.48
Excise duty		135.27	1252.78
Employee benefits expense	31	6026.47	5394.59
Manufacture, administration, selling and distribution expense	32	2154.72	3011.61
Provisions	33	2282.41	1443.90
Finance costs	34	254.55	350.61
Depreciation & amortisation expense	2.1/3.1	786.40	848.84
Less: Cost of jobs done for internal use		106.81	25.04
Total expenses		28169.04	29837.91
Profit before tax		1584.99	627.83
Tax expense	35		
a) Current Tax		578.67	298.35
b) Deferred Tax		199.72	(166.38)
Profit for the year from continuing operations		806.60	495.86

Statement of Profit and Loss for the year ended March 31, 2018

(₹ in Crore)

Particulars	Note	For the year ended March 31, 2018	For the year ended March 31, 2017
Other comprehensive income	36		
Items that will not be reclassified to profit or loss (net of tax)			
Re measurement of defined employee benefits		83.33	(29.00)
Total comprehensive income for the year		889.93	466.86
Earnings per equity share	37		
(1) Basic		2.20	1.35
(2) Diluted		2.20	1.35
Face value per share in (INR)		2.00	2.00
Significant Accounting Policies	1		
The accompanying Notes 1 to 38 form an integral part of the Financial Statements			

For and on behalf of Board of Directors



(I. P. Singh)
Company Secretary



(Subodh Gupta)
Director (Finance)



(Atul Sobti)
Chairman and Managing Director

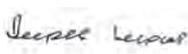
As per our report of even date

For DSP & Associates
Chartered Accountants
FRN - 006791N



(CA. Sanjay Jain)
Partner
M. No. 084906

For Dhawan & Co.
Chartered Accountants
FRN - 002864N



(CA. Deepak Kapoor)
Partner
M. No. 072302

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN - 006228C



(CA. Ritesh Kumar Jain)
Partner
M. No. 077026

Place : New Delhi
Date : May 29, 2018

Statement of changes in Equity (SOCIE)

as at March 31, 2018

a. Equity Share Capital

(₹ in Crore)

Equity shares of INR 2 each issued, subscribed and fully paid	Number of shares		Amount	
	2017-18	2016-17	2017-18	2016-17
Balance as at the beginning of the period	2,447,600,000	2,447,600,000	489.52	489.52
Issue of bonus share	1,223,800,000	-	244.76	-
Balance as at the end of the period	3,671,400,000	2,447,600,000	734.28	489.52

b. Other Equity

For the year ended March 31, 2018

(₹ in Crore)

Particulars	Reserves and surplus			Other items of other comprehensive income	Total Other Equity
	Capital Reserve	General Reserves	Retained Earnings		
Balance as at April 01, 2017	35.18	32349.72	(474.60)	(105.38)	31804.92
Add/(less) Total comprehensive income for the year	-	-	806.60	83.33	889.93
Less: Final dividend FY 2016-17	-	-	190.92	-	190.92
Less: Interim dividend FY 2017-18	-	-	293.71	-	293.71
Less: Corporate dividend tax	-	-	98.66	-	98.66
Less: Issue of bonus shares	-	244.76	-	-	244.76
Balance as at March 31, 2018	35.18	32104.96	(251.29)	(22.05)	31866.80

Statement of changes in Equity (SOCIE) as at March 31, 2018

For the year ended 31st March 2017

(₹ in Crore)

Particulars	Reserves and surplus			Other items of other comprehensive income	Total Other Equity
	Capital Reserve	General Reserves	Retained Earnings		
Balance as at April 01, 2016	35.18	32349.72	(616.96)	(76.38)	31691.56
Add/(less) Total comprehensive income for the year	-	-	495.86	(29.00)	466.86
Less: Final dividend FY 2015-16	-	-	97.90	-	97.90
Less: Interim dividend FY 2016-17	-	-	195.81	-	195.81
Less: Corporate dividend tax	-	-	59.79	-	59.79
Balance as at March 31, 2017	35.18	32349.72	(474.60)	(105.38)	31804.92

For and on behalf of Board of Directors



(I. P. Singh)
Company Secretary



(Subodh Gupta)
Director (Finance)



(Atul Sobti)
Chairman and Managing Director

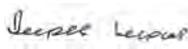
As per our report of even date

For DSP & Associates
Chartered Accountants
FRN - 006791N



(CA. Sanjay Jain)
Partner
M. No. 084906

For Dhawan & Co.
Chartered Accountants
FRN - 002864N



(CA. Deepak Kapoor)
Partner
M. No. 072302

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN - 006228C



(CA. Ritesh Kumar Jain)
Partner
M. No. 077026

Place : New Delhi
Date : May 29, 2018

Cash flow statement

for the year ended March 31, 2018

(₹ in Crore)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
A. Cash flow from operating activities:		
Profit for the year (before tax)	1584.99	627.83
Adjustment for		
Provisions (Net)	2196.52	1272.75
Depreciation and amortisation	786.40	848.84
Finance cost (including unwinding of interest)	254.55	350.61
Fair value adjustment	60.63	(20.02)
Impairment of investment in joint ventures	44.39	0.00
Bad debts, liquidated damages & losses written off	41.50	171.15
Fair value loss in investment of equity share	1.01	2.74
Interest & dividend income	(616.53)	(711.09)
Liabilities written back	(97.01)	(13.19)
Profit on sale of units of mutual funds	(25.85)	-
Profit on disposal of PPE	(9.41)	(2.36)
Operating cash profit before working capital changes	4221.19	2527.26
Adjustment for changes in working capital		
Trade receivables	(6341.95)	64.52
Inventories	997.44	2136.10
Loans, advances & other assets	(666.54)	425.57
Sub total	(6011.05)	2626.19
Trade payables	1747.54	(87.92)
Advances from customers, deposits and others	1179.60	(2151.04)
Provisions	(186.34)	(1763.60)
Sub total	2740.80	(4002.56)
Net cash (used in) / from working capital	(3270.25)	(1376.37)
Cash generated from operations	950.94	1150.89
Refund of income taxes	720.42	-
Income taxes paid	(677.28)	(588.92)
Net cash inflow from operating activities	994.08	561.97
B. Cash flow from investing activities:		
Purchase of property, plant and equipment	(281.25)	(353.02)
Investment in joint ventures	(74.72)	0.00
Interest income	653.85	615.61
Investment in term deposits (with maturity more than 3 months)	-	(882.13)

Cash flow statement

for the year ended March 31, 2018

(₹ in Crore)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
Proceeds from Investment in term deposits (with maturity more than 3 months)	600.00	-
Income received from mutual funds	36.67	21.02
Dividend received from joint ventures	14.76	12.85
Sale of property, plant and equipment	11.43	19.73
Net cash (used in) / from investing activities	960.74	(565.94)
C. Cash flow from financing activities:		
Dividend paid	(484.63)	(293.71)
Additional tax on dividend	(98.66)	(59.79)
Repayment of finance lease obligation	(50.41)	(52.58)
Interest paid	(37.33)	(63.60)
Net cash (used in) / from financing activities (refer note 3)	(671.03)	(469.68)
D. Net increase/(decrease) in cash and cash equivalents	1283.79	(473.65)
Note : Net increase in cash & cash equivalent and bank balances in term deposits more than 3 months	683.79	408.48
Opening balance of cash and cash equivalents	1484.89	1958.54
Closing balance of cash and cash equivalents	2768.68	1484.89

- (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.

For and on behalf of Board of Directors



(I. P. Singh)
Company Secretary



(Subodh Gupta)
Director (Finance)



(Atul Sobti)
Chairman and Managing Director

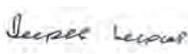
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Partner
M. No. 077026

Place : New Delhi
Date : May 29, 2018

Notes to the financial statements

Note [1] - 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 Judgements

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 the percentage-of-completion method in accounting the revenue in respect of construction contracts. Use of the percentage-of-completion method requires the Company to estimate total contract revenue, and remaining cost to complete the contract at the end of each reporting date. The financial reporting of these contracts depends on estimates that are assessed continually during the term of these contracts, therefore recognized revenue and profit are subject to change as the contract progresses to completion.

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 where estimated useful life is shorter based on technically assessed estimated useful life as shown hereunder:-

(Years)

	Single shift	Double shift	Triple shift
General plant & machinery	12.5	8.33	6.25
Automatic/semi- automatic machines	10	6.67	5
Erection equipment, Capital tools & tackles	5		
Railway sidings, Locomotives & wagons	12.5		
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 ₹10,000/- 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 basis 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 ₹10,000/- 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 when it is probable that the economic benefits associated with the transaction will flow to the entity and the amount of revenue can be measured reliably.

A. Construction Contracts

Revenue from construction contracts including long term service contracts are recognized using the "Percentage of Completion" method. Percentage of completion is determined based on contract costs incurred to date as a percentage of total estimated contract costs required to complete the contract.

B. Other than Construction Contracts

Revenue is recognised when the significant risks and rewards of ownership have been transferred to the customer in accordance with the contract. Revenue from services other than long term service contracts are recognised when services are performed as per 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 [2a] - Non-current assets**Property, plant and equipment (PPE)**

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Gross block	5404.27	5174.44
Less: Accumulated depreciation	2426.74	1683.32
Net block (details refer to note 2.1)	2977.53	3491.12

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 [2b] - Non-current assets**Capital work in progress**

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Plant & machinery and other equipments:		
Under Erection/ Fabrication/awaiting erection	110.26	84.25
In transit	29.70	32.46
Construction work-in-progress -Civil	52.86	40.47
Construction stores (including in transit)	1.71	2.33
	194.53	159.51

Note [3a] - Non-current assets**Intangible assets**

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Gross block	221.87	198.04
Less: Accumulated amortisation	130.56	93.28
Net block (details refer to note 3.1)	91.31	104.76

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**Intangible assets under development**

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Intangible assets under development	8.23	8.83
	8.23	8.83

NOTE [2.1]
Property, plant and equipment

(₹ in Crore)

Description	Gross Block				Depreciation				Net Block	
	Opening Balance as on 01.04.2017	Additions/ Adjustments	Deductions/ Adjustments	Closing Balance as on 31.03.2018	Accumulated Depreciation as at 01.04.2017	Depreciation / Amortisation for the year	Depreciation Adjustments	Accumulated Depreciation as at 31.03.2018	Net Block as at 31.03.2018	Net Block as at 31.03.2017
Factory/Office Complex										
Owned										
Freehold land(including development expenses)	25.14			25.14					25.14	25.14
Roads, bridges & culverts	10.70			10.70	7.56	1.60		9.16	1.54	3.14
Buildings	1278.84	78.78	1.12	1356.50	180.83	120.21	(0.45)	300.59	1055.91	1098.01
Drainage, Sewerage & water supply	15.78	0.28	0.20	15.86	1.43	0.64	(0.20)	1.87	13.99	14.35
Railway Siding	8.74	0.11		8.85	1.86	0.94		2.80	6.05	6.88
Locomotives & Wagons	28.34			28.34	6.27	3.14		9.41	18.93	22.07
Plant & Machinery	2810.89	105.12	1.05	2914.96	1160.80	482.55	(1.63)	1641.72	1273.24	1650.09
Electronic Data Processing Equipment	53.51	1.36	0.40	54.47	41.83	6.59	0.24	48.66	5.81	11.68
Electrical Installations	204.92	16.58	0.03	221.47	60.17	31.21		91.38	130.09	144.75
Construction Equipment	64.68	3.01	0.02	67.67	41.93	13.31	(0.02)	55.22	12.45	22.75
Vehicles	10.06	0.22		10.28	2.71	1.52		4.23	6.05	7.35
Furniture & fixtures	51.62	1.60	0.47	52.75	15.75	7.55	(0.27)	23.03	29.72	35.87
Office and Other equipments	85.87	8.52	0.64	93.75	50.17	14.01		64.18	29.57	35.70
PPE costing upto Rs. 10,000/-	6.76	2.15	0.60	8.31	6.76	2.55	(1.00)	8.31		
Leased										
Leasehold land (including development expenses)	58.60			58.60	1.28	0.64		1.92	56.68	57.32
Leasehold buildings	1.63			1.63	0.11	0.05		0.16	1.47	1.52
EDP Equipment	162.45	8.83	2.20	169.08	69.98	45.77	(2.08)	113.67	55.41	92.47
Office & other equipment	13.83	0.27		14.10	4.69	2.65		7.34	6.76	9.14
Others	0.10			0.10	0.10			0.10		

(₹ in Crore)

Description	Gross Block			Depreciation					Net Block	
	Opening Balance as on 01.04.2017	Additions/ Adjustments	Deductions/ Adjustments	Closing Balance as on 31.03.2018	Accumulated Depreciation as at 01.04.2017	Depreciation / Amortisation for the year	Depreciation Adjustments	Accumulated Depreciation as at 31.03.2018	Net Block as at 31.03.2018	Net Block as at 31.03.2017
Township/ Residential										
Owned										
Freehold land(including development expenses)	2.54		0.01	2.53					2.53	2.54
Roads, bridges & culverts	1.92	0.19		2.11	1.19	0.44		1.63	0.48	0.73
Buildings	158.33	2.09	0.23	160.19	13.77	5.04	(0.14)	18.67	141.52	144.56
Drainage, Sewerage & water supply	11.08	0.17		11.25	1.14	0.60		1.74	9.51	9.94
Plant & Machinery	36.47	6.18		42.65	4.81	4.25	0.01	9.07	33.58	31.66
Electronic Data Processing Equipment	0.03			0.03	0.03			0.03		
Electrical Installation	7.97	0.07	0.04	8.00	1.93	0.85	(0.02)	2.76	5.24	6.04
Vehicles	0.01			0.01					0.01	0.01
Furniture & fixtures	1.79	0.04		1.83	0.60	0.26		0.86	0.97	1.19
Office and Other equipments	8.85	1.26	0.16	9.95	4.28	1.72	(0.14)	5.86	4.09	4.57
PPE costing upto ₹10000	0.22	0.17		0.39	0.22	0.17		0.39		
Leased										
Leasehold land(including development expenses)	52.25			52.25	0.94	0.76		1.70	50.55	51.31
Office & other equipment	0.52			0.52	0.18	0.10		0.28	0.24	0.34
Total	5174.44	237.00	7.17	5404.27	1683.32	749.12	(5.70)	2426.74	2977.53	3491.12
Previous Year	4710.91	486.66	23.13	5174.44	885.79	803.43	(5.90)	1683.32	3491.12	3825.12
The details of R&D capital items included in Property Plant & Equipment and Intangible										
Plant & Machinery & other Equipments	231.02	19.30		250.32	88.47	32.95		121.42	128.90	142.55
Building	21.27	2.08		23.35	2.30	1.10		3.40	19.95	18.97

Gross Block as at 31.03.2018 includes assets condemned and retired from active use ₹ 0.12 crore (Previous year ₹ 0.12 crore)

'Net Block as at 31.03.2018 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.

31.03.2018	31.03.2017
59.18	49.31

There is no impairment loss in fixed assets during the year.

Gross block (as per earlier IGAAP) as at 31.03.2017 ₹ 12573.13 crore and as at 31.03.2018 ₹ 12755.58 crore

(₹ in Crore)

	As at March 31, 2018	As at March 31, 2017
1. Land and buildings includes		
a. i) Acres of land for which formal transfer/lease deed have not been executed	8196.93	8198.00
Net Block	72.90	73.62
ii) Number of flats for which formal transfer/lease deed have not been executed	12.00	12.00
Net Block	1.24	1.28
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	528.18
Net Block	65.61	66.37
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 is valid upto 30.11.2018	180.00	180.00
d. Acres of land is under adverse possession encroachment.	774.55	759.89
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)		
2. 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)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
100% depreciation on PPE upto ₹10,000/- charged off	3.98	6.86
Less: Normal depreciation on above.	(1.15)	(1.92)
Excess amount charged to depreciation for the year	2.83	4.94

Note [3.1]

Detail of intangible assets

(₹ in Crore)

Description	Gross Block				Depreciation				Net Block	
	Opening Balance as on 01.04.2017	Additions/ Adjustments	Deductions/ Adjustments	Closing Balance as on 31.03.2018	Accumulated Depreciation as at 01.04.2017	Depreciation / Amortisation for the year	Depreciation Adjustments	Accumulated Depreciation as at 31.03.2018	Net Block as at 31.03.2018	Net Block as at 31.03.2017
Internally Developed										
-Others	42.59	7.96		50.55	24.40	9.52		33.92	16.63	18.19
Others										
-Software	26.26	0.55		26.81	20.14	3.77		23.91	2.90	6.12
-Technical Know-how	118.92	15.32		134.24	40.91	21.55		62.46	71.78	78.01
-Others	10.27			10.27	7.83	2.44		10.27		2.44
Total	198.04	23.83		221.87	93.28	37.28		130.56	91.31	104.76
Previous year	185.10	12.94		198.04	47.74	45.41	0.13	93.28	104.76	137.36

Gross block (as per earlier IGAAP) as at 31.03.2017 ₹ 481.63 crore and as at 31.03.2018 ₹ 505.26 crore

Note [4] - Non-current assets

Financial assets - Investment

(₹ in Crore)

Particulars	As at March 31, 2018		As at March 31, 2017	
	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)				
Raichur Power Corporation Ltd.	664040000 (10)	664.04	589316000 (10)	589.32
BHEL-GE Gas Turbine Services Pvt. Ltd.	2379999 (10)	2.38	2379999 (10)	2.38
NTPC-BHEL Power Projects Pvt. Ltd.	50000000 (10)	50.00	50000000 (10)	50.00
Less: Provision for impairment		45.60		- 50.00
Powerplant Performance Improvement Ltd.	1999999 (10)	2.00	1999999 (10)	2.00
Less: Provision for impairment		2.00		2.00 -
Dada Dhuniwale Khandwa Power Ltd.\$	22500000 (10)	22.50	22500000 (10)	22.50
Less: Provision for impairment		5.50		6.71 15.79
		687.82		657.49
(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)				
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)	*
Less: Fair value adjustment		5.91		5.91
		2.99		1.98 3.93
		690.74		661.42

(₹ in Crore)

Particulars	As at March 31, 2018		As at March 31, 2017	
	No. of Shares (Face value in INR)	Amount	No. of Shares (Face value in INR)	Amount
*Value of less than INR 1 lakh				
Aggregate amount of unquoted investment		752.19		677.47
Aggregate amount of impairment in value of investments		61.45		16.05

Equity shares held in various employees co-operatives societies, valuing less than INR 1 lakh/-

\$ An amount of ₹ 17.00 crore has been received on April 27, 2018 against investment in Dada Dhuniwale Khandwa Power Ltd., JV is under liquidation.

Note [5] - Non-current assets

Financial assets - Trade receivables

(₹ in Crore)

Particulars	As at March 31, 2018		As at March 31, 2017	
Secured, considered good		-		-
Unsecured, considered good		12721.97		9787.73
Unsecured, considered doubtful and provided for		8640.21		5283.81
		<u>21362.18</u>		<u>15071.54</u>
Less: Allowances for bad and doubtful debts	8148.34		4892.35	
Less: Automatic price reduction adjustment	491.87	8640.21	391.46	5283.81
		<u>12721.97</u>		<u>9787.73</u>
Trade receivables (non-current) includes:				
(a) Deferred Debts (net of provisions) - payment not yet due		10165.14		7989.06
(b) Valuation debts (represents intrinsic value adjustment)		161.31		124.63
(c) Due from Directors		-		-
(d) Due from Officers		-		-

Note [6] - Non-current assets**Financial assets - Loans**

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Security deposits		
Secured, considered good	-	-
Unsecured, considered good		
Deposits with SEBs, port trust & others	84.27	78.01
Unsecured, considered doubtful and provided for		
Deposits others	1.62	0.31
	85.89	78.32
Less: Allowances for bad & doubtful deposits	1.62	0.31
	84.27	78.01
Loans		
Secured, considered good	-	-
Unsecured, considered good		
Interest accrued and due on loans	0.01	0.03
Unsecured, considered doubtful and provided for		
Interest accrued and due on loans	0.01	0.01
	0.02	0.04
Less: Allowances for bad & doubtful loans	0.01	0.01
	0.01	0.03
	84.28	78.04
Includes:		
Due from Directors	-	-
Dues from Officers	-	-

Note [7] - Non-current assets**Financial assets - Other financial assets**

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Rent receivables on finance lease	0.02	0.16
	0.02	0.16

Note [8] - Non-current assets

Deferred tax assets (net of liabilities)

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Deferred tax assets		
Provisions	2721.55	2982.65
Statutory dues (allowed on payment basis)	652.95	725.88
Depreciation - PPE & intangible assets	160.98	132.18
Others	101.30	56.31
	3636.78	3897.02
Deferred tax liabilities	10.90	55.65
Deferred tax assets (net of liabilities)	3625.88	3841.37

Note [9] - Non-current assets

Other non-current assets

(₹ in crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Security deposits		
Deposits with tax authorities and others	145.22	86.79
Less: Allowances for bad & doubtful deposits	24.01	16.68
	121.21	70.11
<i>Out of above:</i>		
Secured, considered good	-	-
Unsecured, considered good	121.21	70.11
Unsecured, considered doubtful and provided for	24.01	16.68
Loans & advances		
Advances towards purchases	47.06	58.29
Claims recoverable and others	40.63	58.17
Capital advances	21.98	40.36
Less: Allowances for bad & doubtful advances	24.61	23.63
	85.06	133.19
<i>Out of above:</i>		
Secured, considered good	-	-
Unsecured, considered good	85.06	133.19
Unsecured, considered doubtful and provided for	24.61	23.63
	206.27	203.30
Includes :		
Due from Directors	-	-
Due from Officers	-	-

Note [10] - Current assets**Inventories**

(₹ in Crore)

Particulars	As at March 31, 2018		As at March 31, 2017	
Raw material & components	2858.55		3060.22	
Material-in-transit	217.10	3075.65	257.19	3317.41
Work-in-progress (including items with sub-contractors)		2283.83		2533.69
Finished goods	863.79		1293.90	
Inter - division transfers in transit	85.88	949.67	133.44	1427.34
Stores & spare parts				
Production	190.66		204.02	
Fuel stores	8.36		8.10	
Miscellaneous	48.55	247.57	51.03	263.15
Other Inventory				
Materials with fabricators/contractors	76.12		71.32	
Loose tools	31.10		36.37	
Scrap (at estimated realisable value)	61.21	168.43	73.31	181.00
		6725.15		7722.59
Less: Provision for non-moving inventory		466.39		350.21
		6258.76		7372.38
Note:				
Write down of inventories		142.96		136.94
Less : reversal thereof		26.78		43.27
Net		116.18		93.67

Note [11] - Current assets

Financial assets - Trade receivables

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Secured, considered good	-	-
Unsecured, considered good	22771.49	22075.56
Unsecured, considered doubtful and provided for	4594.73	5363.38
	27366.22	27438.94
Less: Allowances for bad and doubtful debts	4488.07	5147.60
Less: Automatic price reduction adjustment	106.66	215.78
	22771.49	22075.56
Current trade receivables include:		
(a) Deferred Debts (net of provisions) - payment not yet due	6454.27	8747.89
(b) Valuation debts (represents intrinsic value adjustment)	2032.22	1031.75
(c) Debts outstanding for a period exceeding six months	15068.13	17252.79
(d) Due from Directors	-	-
(e) Due from Officers	-	-

Note [12a] - Current assets

Financial assets - Cash & cash equivalents

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Balances with banks:		
Corporate liquid term deposits	1702.03	731.98
EEFC a/c	441.73	383.56
Current / cash credit a/c	214.70	211.35
	2358.46	1326.89
Cheques, demand drafts on hand	210.03	122.85
Deposits with banks having maturity 3 month or less	200.00	-
Cash & stamps on hand	0.19	0.25
Remittances in transit	-	34.90
	2768.68	1484.89

Note [12b] - Current assets

Financial assets - Bank balances other than above

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Fixed deposits having maturity more than 3 months but not more than 12 months	8400.00	9000.00
Fixed deposits against margin money for BG issued	2.16	2.03
Balances with banks (earmarked):		
AUSC and other R&D projects a/c	115.31	-
Unclaimed dividend a/c	3.30	3.10
Non-repatriable a/c	1.70	1.77
Sale proceeds of fractional shares on bonus issue	0.03	-
	120.34	4.87
	8522.50	9006.90
Total Cash and Bank Balances (12a + 12b)	11291.18	10491.79

Note [13] - Current assets

Financial assets - Loans

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Security deposits		
EMD and other deposits	147.19	138.89
Less: Allowances for bad & doubtful deposits	3.60	3.89
	143.59	135.00
<i>Out of above:</i>		
Secured, considered good	54.07	50.88
Unsecured, considered good	89.52	84.12
Unsecured, considered doubtful and provided for	3.60	3.89
Loans		
Loans to subsidiary company	3.00	3.00
Loans to PSUs	12.00	12.00
Interest accrued and due on loans	5.59	2.71
Less: Allowances for bad & doubtful loans	17.06	13.83
	3.53	3.88
<i>Out of above:</i>		
Secured, considered good	0.01	0.01
Unsecured, considered good	3.52	3.87
Unsecured, considered doubtful and provided for	17.06	13.83
	147.12	138.88
Includes :		
Due from Directors	-	-
Due from Officers	0.01	0.01

Note [14] - Current assets
Other financial assets

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Interest accrued on banks deposits and investments	117.94	183.83
Advance to employees	32.52	32.62
Rent receivable on finance lease	0.17	0.56
	150.63	217.01
Less: Allowances for bad & doubtful advances	0.02	0.03
	150.61	216.98
Includes:		
Due from Directors	-	0.01
Due from Officers	0.01	0.11

Note [15] - Current assets
Current tax assets (net of provisions)

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Advance tax & TDS	2551.94	4365.14
Less: Provisions for taxation	2329.00	3492.06
	222.94	873.08

Note [16] - Current assets

Other current assets

(₹ in Crore)

Particulars	As at March 31, 2018		As at March 31, 2017	
Claim recoverable				
Input tax credit receivable	1009.33		360.09	
Claim recoverable and others	663.94	1673.27	649.50	1009.59
Advances				
Subsidiary company	0.36		0.36	
Vendors / subcontractors	431.21	431.57	352.54	352.90
		2104.84		1362.49
Less: Allowances for bad & doubtful advances and claims		235.40		202.75
		1869.44		1159.74
<i>Out of above:</i>				
<i>Secured, considered good</i>	-		-	
<i>Unsecured, considered good :</i>	1869.44		1159.74	
<i>Unsecured, considered doubtful and provided for</i>	235.40		202.75	
Security deposits				
Deposits with tax authorities and others		511.48		603.64
Less: Allowances for bad & doubtful deposits		34.63		38.09
		476.85		565.55
<i>Out of above:</i>				
<i>Secured, considered good</i>	-		-	
<i>Unsecured, considered good</i>	476.85		565.55	
<i>Unsecured considered doubtful and provided for</i>	34.63		38.09	
		2346.29		1725.29
Includes :				
Dues from Directors		-		0.01
Dues from Officers		0.02		0.04

Note [17] - Equity

Equity share capital

(₹ in Crore)

Particulars	As at March 31, 2018		As at March 31, 2017	
	No. of Shares (Face value in ₹)	Amount	No. of Shares (Face value in ₹)	Amount
Equity share capital				
Authorised	10000000000 (2)	2000.00	10000000000 (2)	2000.00
Issued, subscribed & paid up	3671400000 (2)	734.28	2447600000 (2)	489.52
a) The reconciliation of the no. of equity shares outstanding shares outstanding at the beginning of the year	2447600000	489.52	2447600000	489.52
Less: Shares bought back during the year	-	-	-	-
Add: Bonus shares issued during the year	1223800000	244.76	-	-
Shares outstanding at the end of the year	3671400000	734.28	2447600000	489.52
b) Details of shares held by shareholders holding more than 5 % of shares at the end of the year				
President of India	2315178000	63.06%	1543452000	63.06%
Life Insurance Corporation of India	345680880	9.42%	230453920	9.42%
Face value per share in (INR)		2.00		2.00

c) Terms / rights attached to the equity shares :

The Company has only one class of equity shares having a par value of INR 2 per share (previous year INR 2 per share). Each holder of the equity shares is entitled to one vote per share.

Note [18] - Non-current liabilities

Financial liabilities - Borrowings

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Unsecured		
Long term maturities of finance lease obligations	57.18	89.55
	57.18	89.55

(Disclosure as per para 15 of Note 38 on lease)

Note [19] - Non-current liabilities**Financial liabilities - Trade payables**

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Trade payables	479.06	631.12
	479.06	631.12

Note [20] - Non-current liabilities**Other financial liabilities**

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Deposits from contractors & others	110.43	102.14
Liability for capital expenditure	3.98	2.57
	114.41	104.71

Note [21] - Non-current liabilities**Provisions**

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Contractual obligation	3477.90	3244.33
Provision for employee benefits	1259.94	1519.56
Provision others	184.31	218.48
Corporate social responsibility *	0.96	18.98
	4923.11	5001.35

*(Disclosure as per para 12 of Note 38 on CSR expense)

Note [22] - Non-current liabilities**Other non current liabilities**

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Advances received from customers & others	3337.48	2978.80
Deferred income- Government grant #	26.60	4.56
	3364.08	2983.36

#Government grant is received for setting up of solar PV plant.

Note [23] - Current liabilities**Financial liabilities - Trade payables**

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Trade payables *	10517.89	8691.00
Acceptances	68.97	18.16
	10586.86	8709.16
	283.43	233.43

* Includes payables relating to Micro & Small Enterprises

(Disclosure as per para 7 of note 38)

Note [24] - Current liabilities

Other financial liabilities

(₹ in Crore)

Particulars	As at March 31, 2018		As at March 31, 2017	
Liabilities:				
Employees dues	855.60		187.11	
Other dues	761.92		646.91	
Capital expenditure	111.38	1728.90	116.61	950.63
Deposits from contractors & others		563.19		510.84
Current maturities of finance lease obligation #		42.27		60.31
Unpaid dividend *		3.30		3.10
Interest accrued & due on loans:				
State Government	-		2.33	
Finance lease obligations	3.43	3.43	3.65	5.98
Interest accrued but not due		0.38		0.59
		2341.47		1531.45

*No amount is due and outstanding to be transferred to Investor Education & Protection Fund at the year end.

Disclosure as per para no. 15 of Note 38 on lease.

Other dues includes ₹0.03 crore for sale proceeds of fractional shares arising out of issuance of bonus shares.

Note [25] - Current liabilities

Provisions

(₹ in Crore)

Particulars	As at March 31, 2018		As at March 31, 2017	
Contractual obligation		1853.42		1983.63
Provision for employee benefits		1563.11		1490.19
Corporate social responsibility ##		30.18		34.92
Provision others		336.06		682.82
		3782.77		4191.56

(Disclosure as per para no. 12 of Note 38 on CSR expense)

Note [26] - Current liabilities

Other current liabilities

(₹ in Crore)

Particulars	As at March 31, 2018		As at March 31, 2017	
Advances received from customers & others		4235.28		5266.61
Liabilities towards statutory dues		1296.39		426.63
Deferred income - Govt. grant		7.46		0.26
		5539.13		5693.50
Advances received from customers & others include valuation adjustment		1169.12		2333.52

Note [27]

Revenue from operations

(₹ in Crore)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
Sales (excluding excise duty)	22066.90	22825.68
Income from external erection & other services	5961.97	5009.59
	28028.87	27835.27
Less: Fair value adjustment	178.43	95.22
Turnover (excluding excise duty)#	27850.44	27740.05
Add. Excise duty	247.98	1100.37
Turnover (including excise duty)	28098.42	28840.42
Other operational income		
Freight & insurance	288.07	298.92
Scrap income	147.19	168.50
Recoveries from suppliers	142.68	112.06
Liabilities written back	97.01	13.19
Fair value adjustment (unwinding)	95.90	98.88
Insurance claims	37.44	77.61
Export incentives	26.48	37.96
Others	127.79	52.28
Other operational income	962.56	859.40
Revenue from operations (excl. excise duty)	28813.00	28599.45
Revenue from operations (incl. excise duty)	29060.98	29699.82

On comparable basis, turnover (excl. excise duty) for the year 2017-18 should be higher by ₹488 crore totalling to ₹28338.44 crore considering the fact that under pre GST regime ED, CST & service tax were forming part of bought out items (BOI) & civil turnover. Accordingly, for meaningful comparison the amount not considered, amounting to ₹488 crore on account of such taxes, due to Ind AS requirement, has to be included in the turnover for the year 2017-18 (₹400 crore forming part of the turnover for 2016-17) for correct representation and comparison.

Revenue from operations:

a. Includes based on provisional prices	140.73	74.10
b. Includes additional claim for despatches made in earlier year in accordance with price settlement with railways during the year	-	214.65
c. Includes for escalation claims raised in accordance with sales contracts, inclusive of escalation claims on accrual basis, to the extent latest indices were available	630.94	899.51
d. Includes despatches of equipment held on behalf of customers at their request for which payment has been received	-	3.42
e. Excludes for price reduction (net of refund) due to delay in delivery as per the terms of the contract	(5.13)	12.50
f. Excludes GST amount	3559.32	N.A
g. Excludes Service tax amount	140.91	534.92

Note [28]

Other income

(₹ in Crore)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
Interest income *		
From banks	520.25	671.34
Others	70.70	5.88
	590.95	677.22
Dividend income		
Dividend on investment in joint ventures (long term trade)	14.76	12.85
Dividend on investment in mutual funds	10.82	21.02
	25.58	33.87
Other income		
Profit on sale of units of mutual funds	25.85	-
Profit from sale of PPE & capital stores (Net)	9.41	2.36
Government grant	8.73	0.17
Others	32.53	52.30
	76.52	54.83
Total other income	693.05	765.92
*Includes TDS	43.97	69.16

Note [29]

Material consumption, erection and engineering expense

(₹ in Crore)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
Consumption of raw material & components	12118.35	13102.81
Civil, erection and engineering expense	3417.72	3054.09
Consumption of stores & spares	385.73	425.60
	15921.80	16582.50
Less: PV adjustment material/subcontracting cost	21.90	16.36
	15899.90	16566.14

Note [30]**Changes in inventories of finished goods and work in progress**

(₹ in Crore)

Particulars	For the year ended March 31, 2018		For the year ended March 31, 2017	
Work -in -progress				
Closing balance	2283.83		2533.69	
Opening balance	2533.69	249.86	3252.97	719.28
Finished goods\$				
Closing balance	863.79		1293.90	
Opening balance	1293.90	430.11	1568.55	274.65
Inter-division transfer in transit		56.16		0.55
		736.13		994.48
\$ Element of excise duty in finished goods				
Closing balance		N.A.		134.25
Opening balance		134.25		154.59

Note [31]**Employee benefits expense**

(₹ in Crore)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
Salaries, wages, bonus, allowances & other benefits	5038.89	4484.08
Contribution to provident and other funds	338.35	349.68
Contribution to gratuity fund	321.17	117.24
Staff welfare expense	317.88	432.34
Group insurance	10.18	11.25
	6026.47	5394.59

Note [32]
Manufacture, administration, selling & distribution expense

(₹ in Crore)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
Power & fuel	463.31	451.19
Carriage outward	387.14	425.21
Expenditure on other sub contracts	350.50	322.18
Payment to security agencies	217.92	178.74
Repairs & maintenance:		
Buildings	56.70	66.65
Plant & machinery	32.24	39.53
Others	113.07	220.23
Expenditure on collaborations & royalty	147.37	118.69
Travelling & conveyance	122.12	124.58
Insurance	104.48	123.87
Bank charges	75.01	61.54
Hire charges	70.03	70.24
Rent:		
Residential	38.20	49.07
Non residential	21.91	74.48
Rates & taxes	56.40	51.41
R&D expense	47.99	39.03
Office expense	47.33	66.10
Water charges	41.81	43.32
EDP, software & lease line expense	38.72	36.88
Expenditure on skill development	37.73	43.33
Legal, audit & certification expense	36.70	70.68
Publicity & public relation expense	28.55	27.30
Expenditure in connection with exports	14.44	15.72
Entertainment & courtesy expenses	10.43	10.22
Corporate social responsibility	10.40	37.50
Environmental protection	8.53	9.67
Service tax, swachh bharat cess & other cess	4.13	12.25
Unrealised loss in investment of equity share	1.01	2.74
Miscellaneous expense	90.31	104.82
	2674.48	2741.92
Net exchange variation gain (-) / loss (+)	(519.76)	269.69
	2154.72	3011.61

Note [32]**Manufacture, administration, selling & distribution expense**

(₹ in Crore)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
Legal, audit & certification expense includes :		
Payment to Statutory Auditors		
Audit fees	0.71	0.78
Tax audit	0.16	0.14
Quarterly limited review & others	0.39	0.39
Audit expense	0.12	0.12
	1.38	1.43
Payment to Cost Auditors - Audit fees	0.15	0.13
Director's fees	0.16	0.12
Expenditure on departmental repair & maintenance:		
Plant & machinery	202.30	206.63
Buildings	53.98	48.32
Others	47.80	35.62
Expenditure on research & development	261.74	240.74
Expenditure on foreign travel		
No. of tours	224	294
Expenditure	5.39	5.09

Note [33]

Provisions

(₹ in Crore)

Particulars	For the year ended March 31, 2018		For the year ended March 31, 2017	
Doubtful debts, LD and loans, advances & deposits				
Created during the year	3365.12		2963.39	
Less: Withdrawal during the year	764.11	2601.01	1491.65	1471.74
Contractual obligations				
Created during the year	797.48		619.99	
Less: Withdrawal during the year	727.47	70.01	1446.68	(826.69)
Others				
Created during the year	309.10		1564.73	
Less: Withdrawal during the year	783.60	(474.50)	937.03	627.70
		2196.52		1272.75
Impairment of investment in JVs		44.39		-
Losses written off		31.99		13.60
Bad debts written off		8.22		72.86
Liquidated damages charged off		1.29		84.69
		2282.41		1443.90

Note [34]

Finance costs

(₹ in Crore)

Particulars	For the year ended March 31, 2018		For the year ended March 31, 2017	
Borrowing cost				
Unwinding of provisions	197.58		258.71	
Accretion to deferred liabilities	22.40	219.98	30.06	288.77
Interest cost				
On finance lease & others		34.57		61.84
		254.55		350.61
Less: Borrowing cost capitalised		-		-
		254.55		350.61

Note [35]**Tax expenses**

(₹ in Crore)

Particulars	For the year ended March 31, 2018		For the year ended March 31, 2017	
Current tax				
For current year	551.81		610.11	
For earlier years	26.86	578.67	(311.76)	298.35
Deferred tax				
For current year	(62.83)		(461.53)	
For earlier years	262.55	199.72	295.15	(166.38)
		778.39		131.97

Note [36]**Other comprehensive income / expenditure**

(₹ in Crore)

Particulars	For the year ended March 31, 2018		For the year ended March 31, 2017	
Income / (expenditure)				
Re measurement of defined employee benefits		127.43		(44.35)
Less: Income tax related to above items*		44.10		(15.35)
		83.33		(29.00)
* Includes				
Current tax		28.33		0.42
Deferred tax		15.77		(15.77)

Note [37]**Earning per share**

(₹ in Crore)

Particulars	For the year ended March 31, 2018		For the year ended March 31, 2017	
Profit attributable to equity shareholders		806.60		495.86
Weighted average number of equity shares		367.14		367.14
Basic and diluted earnings per share of INR 2 each		2.20		1.35

The shareholders of the Company in their Annual General Meeting held on September 22, 2017 approved the issue of bonus shares in the ratio of 1:2 i.e. one equity share for two existing fully paid up equity share held. The bonus shares were allotted on October 3, 2017. Accordingly post bonus issue, the number of equity shares were increased from 244.76 crore to 367.14 crore. Accordingly, the earning per share for comparative period of March 31, 2017 have also been computed on the basis of new number of shares post bonus issue in line with Ind AS 33 - Earnings per share.

Note [38]

Notes to accounts

1. 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.

2. Contingent liabilities & commitments to the extent not provided for:

(₹ in Crore)

Particulars	As at March 31, 2018		As at March 31, 2017	
	Demand	Paid under protest	Amount	Paid under protest
(i) Contingent liabilities:				
Claims against the company not acknowledged as debt :				
a Sales tax	1683.30	292.91	1846.50	298.34
b Court & arbitration cases	951.09	-	884.19	-
c Service tax	387.82	8.51	507.67	7.39
d Excise duty	311.43	16.53	482.92	24.17
e Income tax	10.66	-	12.73	-
f Custom duty	5.80	5.80	-	-
g Counter claim by contractors	0.61	-	0.61	-
h Goods & service tax	-	-	-	-
i Others (incl. disputed staff cases)	37.05	-	34.74	-
	As at March 31, 2018		As at March 31, 2017	
j Liquidated Damages (LD)	5068.15		6214.54	
- Amount deducted by customers towards LD	(2715.92)		(2730.50)	

(In view of the various court cases, litigations and claims disputed by the company, the outflow of resources is not ascertainable at this stage).

(₹ in Crore)

(ii) Movement of contingent liabilities	Amount
Opening Balance as on April 1, 2017	9983.90
Less: Reduction out of Opening Balance	2782.95
Add: Additions (Net) during the year	1254.96
Closing Balance as on March 31, 2018	8455.91

(₹ in Crore)

(iii) Commitments	As at	
	March 31, 2018	March 31, 2017
a Estimated amount of contracts, net of advances, remaining to be executed on capital account and not provided for.	226.51	193.93
- (The above includes for acquisition of intangible assets)	(10.01)	(3.96)
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	639.32
c Commitments towards additional investment in the Joint Venture in case of inability of other JV partner to take up additional equity stake	-	111.26
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.		

3. (i) The Company has a Cash credit limit from banks aggregating to ₹ **5000** crore (previous year ₹ 5000 crore and Company's counter guarantee/indemnity obligations in regard to bank guarantee/letters of credit limit aggregating to ₹ **55000** 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, 2018 is ₹ **43881** crore (previous year ₹ 40666 crore).
- (ii) Corporate Guarantees given for own obligations outstanding as on March 31, 2018 is ₹ **1747.07** crore (Previous year ₹ 1733.80 crore).
4. 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). The total receivables including long term net of provisions are ₹ **35493** crore (Previous Year ₹ 31863 crore), {including deferred debts and other debts of ₹ **19041** crore (previous year ₹ 19116 crore) presently not due for payment and ₹ **7307** crore (previous year ₹ 6287 crore) outstanding in respect of completed projects}, out of which, the projects reconciled with customers during the year have outstanding debts of ₹ **6428** crore (previous year ₹ 5497 crore) in respect of completed projects.
5. The Company had taken over Amorphous Silicon Solar Cell Plant (ASSCP), Gurgaon taken 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.
6. 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.

7. Due to Micro and Small Enterprises Disclosure

(₹ in Crore)

Particulars	2017-18	2016-17
i) The principal amount remaining unpaid to supplier as at the end of the accounting year.	283.43	233.43
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	0.07
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.	-	1.73

8. The Reconciliation between the provision of Income Tax (Net of Deferred Tax) & amounts computed by applying the Income Tax Rate

(₹ in Crore)

Particulars	For the year ended 2017-18	For the year ended 2016-17
Total Comprehensive Income / (Loss) before tax (A)	1,712.42	583.48
Income Tax Rate (B)	34.608%	34.608%
Tax expense (C) = (A) X (B)	592.63	201.93
Add: Tax effect of the amounts as under:		
a) Expenses - Not Deducted	21.64	13.51
b) Tax Exempt income	(8.85)	(11.72)
c) Tax Incentive	(37.48)	(70.49)
d) Change in Tax Rate	(34.86)	-
d) Changes in Tax Expense - Earlier years	289.41	(16.61)
Total (D)	229.86	(85.31)
Net Tax Expense (E) = (C)+(D)	822.49	116.62
Net Tax Expense (Refer Note 35 & 36) (F)	822.49	116.62
Tax Rate used for Deferred Tax Working is 34.944% (FY 2016-17 - 34.608%)		

9. 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 the Income Tax Act, 1961.

(₹ in Crore)

Particulars	For the year ended 2017-18	For the year ended 2016-17
A. (i) Land		
(ii) Building	2.08	-
B. Plant & Machinery & Other Equipments	11.34	16.12
C. Revenue Expenditure		
Salaries/ Wages	157.70	141.81
Material/ Consumables/spares	17.80	18.10
Utilities	0.54	0.55
Other R&D related expenses	30.93	31.82
Total Revenue Expenditure	206.97	192.28
D. Any Receipt/ Income by the R&D Centre	(1.69)	(4.73)
E. Net amount eligible for deduction (B+C-D)	216.62	203.67

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, Government of India for implementation of the R&D project, spreading over a period of three years commencing from 2017-18. BHEL from own contribution has spent ₹ 23.60 crore in 2017-18 and accounted as R&D expenditure.

10 Jointly Controlled Entities and Subsidiary

Details of entities and BHEL's ownership proportion is as stated below:

(₹ in Crore)

A	Names of Joint Ventures	Principal place of business	Proportion of ownership	
			As at March 31, 2018	As at March 31, 2017
	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)	India	50%	50%
	Raichur Power Corporation Limited (RPCL)	India	27.97%	27.34%
	Dada Dhuniwale Khandwa Power Limited (DDKPL)- Under Liquidation	India	50%	50%
	Power Plant Performance Improvement Limited (PPIL)-Under Winding up	India	One share less than 50%	One share less than 50%

- (a) The provision for impairment in value of investment in NTPC-BHEL Power Projects Private Ltd. has been made to the extent of ₹ 45.60 crore based on the net financial position. The Board of Directors in its meeting held on February 8, 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 Ltd. amounting to ₹ 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 Ltd. has been retained to the extent of ₹ 5.50 crore (previous year ₹ 6.71 crore) based on the net financial position. The winding of the company is in process. An amount of ₹ 17 crore has been received on April 27, 2018 against investment of ₹ 22.50 crore in DDKPL.
- (d) Latur Power Company Ltd. has been wound up during the year.

B	Name of subsidiary	Principal place of business	Proportion of ownership	
			As at March 31, 2018	As at March 31, 2017
	BHEL Electrical Machines Limited (BHEL EML)	India	51%	51%

11 Related Parties Transactions

i) Joint Ventures:

BHEL - GE Gas Turbine Services Pvt. Ltd. (BGGTS)
 Raichur Power Corporation Ltd. (RPCL)
 NTPC - BHEL Power Projects Pvt. Ltd. (NBPPL)
 Dada Dhuniwale Khandwa Power Ltd.
 Powerplant Performance Improvement Ltd.

Subsidiary Company

BHEL Electrical Machines Limited

Others

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):

CMD : Shri Atul Sobti

Functional Directors : S/Shri D. Bandyopadhyay, Amitabh Mathur, S. Biswas, Akhil Joshi, T. Chockalingam (upto November 30, 2017)

Company Secretary : Shri I.P. Singh

iii) Details of transactions with Joint Ventures and Balances

(₹ in Crore)

Particulars	March 31, 2018	March 31, 2017	March 31, 2018	March 31, 2017	March 31, 2018	March 31, 2017	March 31, 2018	March 31, 2017
	BGGTS		RPCL		NBPPL		Total (incl. others)	
	Sales of goods and services	196.48	187.76	91.22	235.46	77.27	361.57	364.97
Dividend income	14.76	12.85	-	-	-	-	14.76	12.85
Royalty income	0.90	1.47	-	-	-	-	0.90	1.47
Purchase of goods and services	1.02	0.56	-	-	7.38	9.49	8.40	10.05
Purchase of shares	-	-	74.72	-	-	-	74.72	-
Amounts due to BHEL at the end of the year	48.06	42.61	484.76	472.18	310.43	309.34	843.25	824.13
Amounts due from BHEL (incl. advances) at the end of the year	0.08	0.16	16.94	27.55	90.58	91.66	107.60	119.37
Provision for doubtful debts & advances	0.22	-	-	-	23.34	12.20	23.56	12.22

iv) Details of transactions with Subsidiary Company and Balances

(₹ in Crore)

Subsidiary Company	For the year ended March 31, 2018	For the year ended March 31, 2017
Purchase of goods and services	0.04	0.59
Interest income	0.31	0.25
Amounts due to BHEL at the end of the year	4.00	4.00
Amounts due from BHEL (incl. advances) at the end of the year	1.19	1.18
Provision for doubtful advances	3.70	0.00

v) Key Management Personnel (KMP)

(₹ in crore)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
Payment of Salaries	3.20	2.34
Relatives of KMP		
Payment of Salaries	-	-
Details of transactions		
Short-term employee benefits	2.76	1.92
Post-employment benefits	0.44	0.42
Total remuneration paid	3.20	2.34

The CMD and functional directors have been allowed the use of staff car for both duty and non-duty journeys. The ceiling of non-duty journey is 1000 kms p.m against recovery of prescribed amount in accordance with terms and condition of appointment. The monetary value of the perquisite for the use of car, if calculated in accordance with the provisions of I.T. Rules 1962 would amount to ₹ 0.02 crore (previous year ₹ 0.02 crore)

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 Government of India directly or indirectly. The transactions with such entities are normal, based on market driven rates at arms length price.

- 12 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 per cent 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 expenses for the year are as under:

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
A. Amount required to be spent during the year	10.40	37.50
B. Amount available from previous year	53.90	88.98
C. Total (A+B)	64.30	126.48
D. Amount spent during the year on-		
- Construction/ acquisition of any asset	-	-
- On purposes other than (i) above	33.16	72.58
Total	33.16	72.58
Amount carried forward	31.14	53.90
Current	30.18	34.92
Non-current	0.96	18.98

a) Amount spent during the year ended March 31, 2018:

(₹ in Crore)

Particulars	In cash	Yet to be paid in cash	Total
i) Construction/acquisition of any asset	-	-	-
ii) On purposes other than (i) above	7.36	3.04	10.40

b) Amount spent during the year ended March 31, 2017:

(₹ in Crore)

Particulars	In cash	Yet to be paid in cash	Total
i) Construction/acquisition of any asset	-	-	-
ii) On purposes other than (i) above	26.78	10.72	37.50

13 Dividend

The following dividend were declared and paid during the year:

(₹ in Crore)

Particulars	For the year ended 2017-18	For the year ended 2016-17
Final dividend of ₹ 0.78 (Previous year ₹ 0.40) per qualifying equity share	190.92	97.90
Interim dividend of ₹ 0.80 (previous year ₹ 0.80) per qualifying equity share	293.71	195.81

- The above final dividend figures exclude tax on dividend of ₹ 38.87 crore (previous year ₹ 19.93 crore)
- The above interim dividend figures exclude tax on dividend of ₹ 59.79 crore (previous year ₹ 39.86 crore)
- The Company has allotted bonus share on October 3, 2017 in the ratio of 1:2. Accordingly, the number of equity shares have increased from 244.76 crore to 367.14 crore. The interim dividend paid in 2017-18 was on enhanced number of equity share of 367.14 crore.
- The company has proposed final dividend @ 51% (₹ 1.02 per share, amounting to ₹ 374.48 crore) on paid up share capital of ₹ 734.28 crore out of profit for the year 2017-18. The total payout on account of dividend (₹ 374.48 crore) alongwith corporate dividend tax (₹ 76.97 crore) will be ₹ 451.45 crore.
- The Board of Directors has authorised to issue the Financial Statements 2017-18 in its meeting held on May 29, 2018.

14 Disclosure - Ind AS-11 Construction Contracts

(₹ in Crore)

Particulars	For the year ended 2017-18	For the year ended 2016-17
Contract revenue recognised for the year	22195.09	21757.36
In respect of Contracts in progress at the end of year :		
The aggregate amount of cost incurred and recognised profits (less recognised losses) to date	293727.90	280975.13
Amount of advance received	5398.72	4447.76
Amount of retentions (deferred debts)	17940.20	17776.01
In respect of dues from customers after appropriate netting off		
Gross amount due from customer for the contract work as an asset	3216.73	2939.99
Gross amount due to customer for the contract work as a liability	1090.79	1169.85

The estimates of total costs and total revenue in respect of construction contracts in accordance with Ind AS - 11 Construction Contracts are reviewed and up dated periodically to ascertain the percentage completion for revenue recognition. However, it is impracticable to quantify the impact of change in estimates.

15 Leases

Disclosure Ind AS 17 - Leases

Operating Lease Commitments - Company as Lessee

The Company is in the practice of taking houses for Employees, Office Buildings and EDP equipment etc. on operating lease both as cancellable and non-cancellable. The total of future minimum lease payments under non-cancellable operating leases for each of the following periods :

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Less than one year	1.53	2.74
Between one and five years	1.53	3.12
More than five years	1.31	1.03
	4.37	6.89

Finance Lease Commitments - Company as Lessee

The Company has taken Land, Building, EDP equipment on finance lease. The future minimum lease payments under non-cancellable leases are as follows:

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Less than one year	49.86	73.88
Between one and five years	69.84	104.60
More than five years	-	-
	119.70	178.48

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, 2018	March 31, 2017	March 31, 2018	March 31, 2017	March 31, 2018	March 31, 2017
Less than one year	49.86	73.88	7.59	13.57	42.27	60.31
Between one and five years	69.84	104.60	12.66	15.05	57.18	89.55
More than five 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, 2018	As at March 31, 2017
Gross investment in lease:		
Less than one year	0.17	0.56
Between one and five years	0.02	0.19
More than five years	-	-

Net Investment in Finance Receivables

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Unearned finance income	0.01	0.03
Net investment in finance receivables	0.19	0.72

Present value of Minimum Lease Receivables are as follows:

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Present value of minimum lease :		
Less than one year	0.17	0.56
Between one and five years	0.02	0.16
	0.19	0.72

16 Disclosure as per Ind AS 19 on 'Employee Benefits'

The Company has following Schemes in the nature of Defined Benefits plans

- i) Gratuity Scheme
- ii) Post Retirement Medical Scheme
- iii) Provident Fund Scheme

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. Gratuity Act has been amended and Government has notified increase in maximum Gratuity limit to ₹ 20 lakhs from earlier limit of ₹ 10 lakhs during 2017-18.

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 31,2018	March 31,2017	March 31,2018	March 31,2017	March 31,2018	March 31,2017
Opening balance	1,931.43	1,939.47	1,931.43	1,939.47	-	-
Included in profit for the year :						
Current service cost	120.69	117.25	-	-	120.69	117.25
Past service cost	200.47	-	-	-	200.47	-
Interest cost / income	144.86	155.16	144.86	155.16	-	-
Total amount recognised in profit for the year	466.02	272.41	144.86	155.16	321.16	117.25
Included in other comprehensive income (OCI):						
Remeasurement loss / (gain):						
Actuarial loss / (gain) arising from:						
Change in financial assumption	(52.18)	58.26	79.28	1.08	(131.96)	57.17
Experience adjustment	49.05	(114.03)	-	-	49.05	(114.03)
Total amount recognised in other comprehensive income	(3.13)	(55.77)	79.28	1.08	(82.41)	(56.86)
Others						
Contributions paid by the employer	-	-	-	60.39	-	(60.39)
Benefits paid	(211.55)	(224.68)	(211.55)	(224.68)	-	-
Unpaid benefits paid	(130.00)	-	(130.00)	-	-	-
Closing balance	2,052.77	1,931.43	1,814.02	1,931.43	238.75	-

II. Details of plan assets

	As at March 31, 2018	As at March 31, 2017
Funds managed by Insurer	55.24%	4.86%
High quality corporate bonds (quoted)	41.84%	43.41%
State Government securities (quoted)	2.24%	31.83%
Equity shares of listed Companies (quoted)	0.67%	0.68%
Bank balance	0.01%	3.28%
Government of India securities (quoted)	-	15.94%
Total	100.00%	100.00%

III. Actuarial assumptions

The following were the principal actuarial assumptions at the reporting date.

Particulars	As at March 31, 2018	As at March 31, 2017
Economic assumptions:		
Discount rate	7.90%	7.50%
Salary escalation rate	6.60% P.A. for 1st 4 yrs. & then 6% P.A. thereafter	7.65% 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, 2018		As at March 31, 2017	
	Increase	Decrease	Increase	Decrease
Discount rate (0.50% movement)	(67.84)	73.42	(58.27)	63.99
Salary escalation rate (0.50% movement)	74.12	(69.06)	63.31	(58.22)

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, 2018	As at March 31, 2017
Less than 1 year	328.33	236.06
Between 1-2 years	274.93	200.13
Between 2-3 years	150.07	145.47
Between 3-4 years	114.10	140.30
Between 4-5 years	96.19	111.40
Between 5-6 years	77.51	98.39
Over 6 years	1,011.64	999.68
Total	2,052.77	1,931.43

Expected contributions to gratuity plans for the year ending March 31, 2019 are ₹ 126.76 crore

The weighted average duration of the gratuity defined benefit plan obligation at the end of the reporting period is **14.78** years (March 31, 2017: 14.66 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 31,2018	March 31,2017	March 31,2018	March 31,2017	March 31,2018	March 31,2017
Opening balance	1,820.70	1,679.37	1,820.70	-	-	1,679.37
Included in profit for the year :						
Current service cost	32.66	30.29	-	-	32.66	30.29
Interest cost / income	136.55	134.35	136.55	-	-	134.35
Total amount recognised in profit for the year	169.21	164.64	136.55	-	32.66	164.64
Included in other comprehensive income (OCI) :						
Remeasurement loss / (gain) :						
Actuarial loss / (gain) arising from :						
Demographic assumptions	-	-	-	-	-	-
Financial assumptions	(103.19)	74.43	33.78	-	(136.97)	74.43
Experience adjustment	149.00	(6.61)	-	-	149.00	(6.61)
Total amount recognised in other comprehensive income	45.81	67.82	33.78	-	12.03	67.82
Others						
Contributions paid by the employer	-	-	-	1,820.70	-	(1,820.70)
Benefits paid	(110.00)	(91.13)	(110.00)	-	-	(91.13)
Closing balance	1,925.72	1,820.70	1,881.03	1,820.70	44.69	(0.00)

The plan assets of the Company are managed by Life Insurance Corporation of India (LIC) 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, 2018	As at March 31, 2017
Economic assumptions :		
Discount rate	7.90%	7.50%
Salary escalation rate	6.60% P.A. for 1st 4 yrs. & then 6% P.A. thereafter	7.65% 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, 2018		As at March 31, 2017	
	Increase	Decrease	Increase	Decrease
Discount rate (0.50% movement)	(94.49)	96.49	(89.34)	90.14
Cost (0.50% movement)	97.02	(95.17)	90.94	(90.02)

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, 2018	As at March 31, 2017
Less than 1 year	121.85	103.44
Between 1-2 years	123.81	105.61
Between 2-3 years	126.78	108.14
Between 3-4 years	129.37	111.28
Between 4-5 years	132.78	115.17
Between 5-6 years	138.09	119.78
Over 6 years	1,153.04	1,157.28
Total	1,925.72	1,820.70

Expected contributions to Post retirement medical benefit plan for the year ending March 31, 2019 are ₹ 34.97 crore.

The weighted average duration of the post retirement medical benefit plan obligation at the end of the reporting period is **12.84** years (March 31, 2017: 12.57 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. 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, once in a quarter. encashable leave and half pay leave is encashable upto a maximum of 300 days on superannuation subject to Company policy and 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, 2018	As at March 31, 2017
Opening balance	1,769.49	1,628.73
Included in profit for the year :		
Current service cost	146.37	107.77
Interest cost (income)	132.71	130.30
Actuarial loss / (gain)	137.08	226.30
Total amount recognised in profit for the year	416.16	464.37
Others		
Contributions paid by the employer	-	-
Benefits paid	660.00	323.61
Closing balance	1,525.65	1,769.49

II. Actuarial assumptions

The following were the principal actuarial assumptions at the reporting date.

(₹ in Crore)

Particulars	Long Term Leave Liability	
	As at March 31, 2018	As at March 31, 2017
Economic assumptions :		
Discount rate	7.90%	7.50%
Salary escalation rate	6.60% P.A. for 1st 4 yrs. & then 6% P.A. thereafter	7.65% 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%

D. Provident Fund

The Company pays fixed contribution to provident fund at predetermined rates to a separate trust, which invests the funds in permitted securities. An amount of ₹ **275.80** crore (March 31, 2017: ₹ 282.46 crore) for the year is recognised as expense on this account and charged to the statement of profit and loss. The Company has an obligation to ensure minimum rate of return to the members as specified by Government of India (GOI). Accordingly, the Company has obtained report of the actuary, based on which overall interest earnings and cumulative surplus is more than the statutory interest payment requirement for all the periods presented and wherever as per the actuarial valuation certificate liability for likely interest shortfall arises, the same has been provided in the accounts.

(₹ in Crore)

	For the year ended 2017-2018	For the year ended 2016-2017
Excess / (shortfall) in PF interest liability based on actuarial valuation for the year	1.72	7.73
Accumulated provision for shortfall in PF interest liability based on actuarial valuation	1.81	3.53
Remeasurement gain / (loss) recognised through other comprehensive income statement	10.39	12.00
Interest shortfall / (surplus) accounted through statement of profit & loss	8.67	4.27

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 31,2018	March 31,2017	March 31,2018	March 31,2017	March 31,2018	March 31,2017
BHEL EPF Trust, Ranipur, Hardwar	1,359.02	1,263.70	1,362.23	1,262.35	3.21	(1.35)
BHEL Employee Provident Fund, Trichy	1094.10	1088.93	1094.87	1,088.31	0.77	(0.62)
BHEL Employee Provident Fund, Bhopal	1,081.53	1,033.79	1,088.32	1,041.21	6.79	7.42
BHEL New Delhi Employees Provident Fund Trust, New Delhi	882.34	830.17	894.53	838.08	12.19	7.91
BHEL Employee Provident Fund, Hyderabad	840.78	873.85	878.01	911.51	37.23	37.66
BHEL PPD EPF Trust, Chennai	563.21	502.23	561.40	500.67	(1.81)	(1.56)
BHEL Employee Provident Fund, Bengaluru	544.91	507.04	549.86	510.41	4.95	3.37
BHEL (BAP Unit) EPF Trust, Ranipet	363.29	324.38	363.87	325.95	0.58	1.57
BHEL Employee Provident Fund Trust, Jhansi	355.32	344.46	361.43	352.49	6.11	8.03
Bharat Heavy Plates & Vesseles Limited Employee Contributory Provident Fund, Visakhapatnam	104.17	108.00	147.60	135.82	43.43	27.82

Actuarial assumptions

The following were the principal actuarial assumptions at the reporting date.

Particulars	As at March 31, 2018	As at March 31, 2017
Economic assumptions :		
Discount rate	7.90%	7.50%
Expected Statutory interest rate	8.65%	8.65%
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%

17 Movement in provisions - Disclosure Ind AS - 37

(₹ in Crore)

Liquidated Damages	As at March 31, 2018	As at March 31, 2017
Opening balance	3881.84	2985.71
Add : Additions	2180.46	1506.04
Less : Usage/ write off / payment	(1.29)	(84.69)
Less : Withdrawal / adjustments	(214.51)	(525.22)
Closing balance	5846.50	3881.84

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 2 of Note 38.

(₹ in Crore)

Contractual Obligation	As at March 31, 2018	As at March 31, 2017
Opening balance	5227.97	5807.13
Add : Borrowing cost	190.96	250.70
Add : Additions	1055.19	759.15
Less : PV adjustment	(302.11)	(133.63)
Less : Usage/ write off / payment	(223.56)	(161.45)
Less : Withdrawal / adjustments	(661.53)	(1288.40)
Add / (less) : Change in estimate and rates	44.40	(5.53)
Closing balance	5331.32	5227.97

The provision for contractual obligation is made considering the effect of time value of money in line with Significant Accounting Policy no. 11 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.

18 Financial Instruments - (Disclosure Ind AS-107) Accounting Classifications and Fair Value Measurements

- a The Fair value of cash and cash equivalents, bank balances, loans, trade receivables, trade payables and others 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.

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 Classification of financial assets / liabilities

(₹ in Crore)

Particulars	Carrying Amount	
	As at March 31, 2018	As at March 31, 2017
Financial assets at amortised cost		
Trade receivables	35493.46	31863.29
Cash & cash equivalent	2768.68	1484.89
Other bank balances	8522.50	9006.90
Loans	231.40	216.92
Other financial assets	150.63	217.14
Financial assets at fair value through profit & loss		
Investments (Equity instruments)	2.92	3.93
Financial liabilities at amortised cost		
Trade payables	11065.92	9340.28
Other financial liabilities	2410.18	1572.20
Finance lease obligation	102.88	153.51

(₹ in Crore)

Financial assets measured at fair value- recurring fair value measurements	Level 3 Heirarchy	
	As at March 31, 2018	As at March 31, 2017
Investment in unquoted equity instruments	2.92	3.93

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, 2017	3.93
Changes in fair value	(1.01)
As at March 31, 2018	2.92

d 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.

e 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.

f Credit Risk Management

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 Government departments etc.) and private sectors. 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 4 years and payments are generally realised in stages as per the terms of the contract including advance, progress payments, milestone payments and retentions 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 sector 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, the Company prepares its accounts on conservative basis and adequate provisions are maintained to address any eventuality.

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, 2018	As at March 31, 2017
Financial assets for which loss allowance is measured using 12 months Expected Credit Losses (ECL)		
Cash and cash equivalents	2768.68	1484.89
Other bank balances	8522.50	9006.90
Loans	231.40	216.92
Other financial assets	150.63	217.14
Financial assets for which loss allowance is measured using life time Expected Credit Losses (ECL) including impairment loss		
Trade receivables	35493.46	31863.29

Concentration of credit risk- Geographical	Percentage of Total Revenue	
	As at March 31, 2018	As at March 31, 2017
Within India	96.19%	96.27%
Outside India	3.81%	3.73%

The company's exposure to credit risk for trade and other receivables by type of counterparty are as follows :

Particulars	Percentage of Total Trade Receivables	
	As at March 31, 2018	As at March 31, 2017
Central Public Sector Undertakings incl. Railways and Govt. Deptt	43.43%	46.81%
State Electricity Boards	37.34%	28.11%
Private customers and others	15.43%	21.35%
Exports	3.81%	3.73%
	100%	100%

g 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)
Balance as at March 31, 2017	18.04
Impairment loss recognised / write off/ withdrawal	4.25
Balance as at March 31, 2018	22.29

(b) Reconciliation of impairment loss provisions

The movement in the allowance for impairment in respect of trade receivables during the year was as follows:

	(₹ in Crore)
Balance as at March 31, 2017	6179.87
Impairment loss recognised	1100.57
Amounts written off/ withdrawal	(507.02)
Balance as at March 31, 2018	6773.42

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.

h Liquidity risk

The Company manages liquidity risk by maintaining sufficient cash and cash equivalents including term deposits 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 cash credit facilities which has remained unutilised during the year. The company is able to meet all its fund requirements from internal resources i.e. the funds generated from operations.

Accordingly, no liquidity risk is perceived.

The following are the contractual maturities of non-derivative financial liabilities, based on contractual cash flows :

(₹ in Crore)

Particulars	As at March 31, 2018		As at March 31, 2017	
	Within 1 year	exceeding 1 year	Within 1 year	exceeding 1 year
Trade payables	10586.86	479.06	8709.16	631.12
Deposits from contractors and others	563.19	110.43	510.84	102.14
Finance lease obligations	45.70	57.18	63.96	89.55
Other payables/liabilities				
Employee dues	855.60	-	187.11	-
Other dues	765.60	-	652.93	-
Capex dues	111.38	3.98	116.61	2.57
Total	12928.33	650.65	10240.61	825.38

i 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. The Company has no borrowings. 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.

j 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 March 31, 2018 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, 2018		March 31, 2017		March 31, 2018	March 31, 2017
	Euro	Equivalent INR	Euro	Equivalent INR	Others INR	Others INR
Assets/ Receivables	484.80	3859.00	504.80	3462.46	331.18	189.92
Liabilities (including advances)	118.26	893.75	103.80	716.62	308.95	211.74
Assets (Net of Liabilities)	366.54	2,965.25	401.00	2,745.84	22.23	(21.82)
Particulars	As at March 31, 2018		As at March 31, 2017			
	USD	Equivalent INR	USD	Equivalent INR		
Assets/ Receivables	499.50	3220.33	477.00	3058.67		
Liabilities (including advances)	354.57	2251.44	175.50	1065.92		
Assets (Net of Liabilities)	144.93	968.89	301.50	1,992.75		

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.

(₹ in Crore)

Particulars	As at March 31, 2018		As at March 31, 2017	
	Strengthening	Weakening	Strengthening	Weakening
Effect on profit / (loss) - 1% movement :				
Euro	29.65	(29.65)	27.46	(27.46)
USD	9.69	(9.69)	19.93	(19.93)
Others	0.22	(0.22)	(0.22)	0.22

k 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 and benefits to other stakeholders. 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 strong credit ratings. The Board of Directors monitors the return on capital.

The Company's return on capital is **2.47 %** for FY 2017-18 in comparison to 1.54% for FY 2016-17.

19 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, 2018	As at March 31, 2017
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.

20 Assets and liabilities are classified between current and non-current considering 12 months period as operating cycle.

21 The wage revision for various cadre of employees is due w.e.f. January 1, 2017. In respect of Executives, pursuant to the issue of Presidential directive during the year, the liability has been provided as part of employee benefits. For Supervisors & Workers, pending finalisation of agreement for wage / salary structure, a provision of ₹ 760 crore has been kept as on March 31, 2018.

- 22** Marginal cost of lending rate (MCLR) @**8.30%** (previous year @9.25%) as at the year end has been considered for working out fair value of consideration and present value of long term provisions.
- 23** There are net outstanding debts of ₹ **2197** crore (after adjustment of advances) (previous year ₹ 2119 crore) pertaining to 27 projects on hold due to various reasons e.g. environment clearance, fuel linkage, land acquisition, fund constraints, force majeure, hold imposed by BHEL due to strategic reasons etc. FG/ WIP of ₹ **711** crore (previous year ₹ 777 crore) is also lying in these projects. Provision of ₹ **1655** crore (previous year ₹ 1618 crore) for outstanding debts and ₹ **225** crore (previous year ₹ 180 crore) for inventory has been provided till March 31, 2018 against these projects in line with the guidelines in this regard.

24 Amendment to Standards Effective April 1, 2017

The amendment to Ind AS 7, Statement of Cash Flows and Ind AS 102 Share Based Payments effective from April 1, 2017 does not have any impact / disclosures on financial statements as it does not have any such transactions.

25 Recent Accounting Pronouncements (Effective April 1, 2018)

Ministry of Corporate Affairs (MCA) has notified amendment to Ind AS 21 (The Effects of Changes in Foreign Exchange rates) and Ind AS 115 (Revenue from Contracts with Customers) on March 28, 2018 as part of the Companies (Indian Accounting Standards) Amendment Rules, 2018 effective from April 1, 2018.

Appendix B to Ind AS 21 "Foreign Currency Transactions and Advance Consideration" clarifies the date of the transaction for the purpose of determining the exchange rate to use on initial recognition of the related asset, expense or income, when an entity has received or paid advance consideration in a foreign currency.

Ind AS 115 - Revenue from Contract with Customers: The new standards replaces existing revenue recognition standards Ind AS 11 (Construction Contracts) and Ind AS 18 (Revenue).

Under Ind AS 115 revenue shall recognize when control over goods & services is transferred to customer and in respect of contracts when performance obligation is satisfied over a period, the revenue shall recognize over the period at transaction price. The core principle of the new standard is that an entity should recognize revenue 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. Further the new standard requires enhanced disclosures about the nature, amount, timing and uncertainty of revenue and cash flows arising from the entity's contracts with customers. The standard permits retrospective approach in accordance with Ind AS 8 or retrospectively with cumulative effect of initially applying the standard (cumulative catch-up approach)

The Company is in the process of examining and evaluating the impact of the said changes on the Company's financial statements.

- 26** Figures have been rounded off nearest to ₹ in crore with two decimal.

- 27** Previous year's figures have been regrouped/ rearranged wherever considered necessary.

28. Other information (Voluntarily)

A. Sales, Opening Stocks & Closing Stock

(₹ in Crore)

Product	Sales during the year 2017-18	Op. Stock of Finished Goods April 01, 2017	Cl. Stock of Finished Goods March 31, 2018
HEP, Bhopal			
Switchgear, Controlgear, Rectifier, Capacitors			
Switchgear-11 kV to 220 kV high speed air blast circuit breakers	213.68 (221.86)	0.00 (0.92)	0.00 (0.00)
Traction controlgear for AC, DC & diesel system	130.58 (146.55)	0.00 (0.00)	0.00 (0.00)
Rectifiers with Electronics	61.40 (68.16)	0.00 (0.11)	0.00 (0.00)
Bushings	31.60 (35.27)	0.39 (0.41)	0.31 (0.39)
Control Panels	31.40 (39.96)	0.01 (0.23)	0.02 (0.01)
Capacitors	14.81 (21.51)	2.06 (3.32)	1.36 (2.06)
Industrial Controlgear	6.11 (5.91)	0.00 (0.00)	0.00 (0.00)
Transformers			
Power transformers upto 400 kv	718.13 (784.36)	79.45 (30.86)	39.23 (79.45)
Instrument, welding, transformers and reactors	24.48 (29.06)	2.80 (4.98)	0.88 (2.80)
Industrial and Traction Machines			
Traction Motors for AC, DC & diesel system, main /auxiliary generators	489.29 (503.99)	0.56 (8.52)	0.23 (0.56)
Industrial machines, AC motors upto 1000 HP, DC motors & generators of all types	125.20 (178.69)	16.20 (29.61)	14.26 (16.20)

(₹ in Crore)

Product	Sales during the year 2017-18	Op. Stock of Finished Goods April 01, 2017	Cl. Stock of Finished Goods March 31, 2018
Heavy Rotating Plant & Turbines			
Water wheel alternators & water turbines	926.49 (811.92)	18.87 (22.03)	13.11 (18.87)
Mini micro turbines & generators	208.00 (287.38)	6.44 (8.76)	12.53 (6.44)
Large electrical machines above 1000 HP	252.59 (245.31)	21.80 (33.81)	18.70 (21.80)
Turbo Alternators & Steam turbines	234.42 (427.13)	1.88 (20.83)	8.42 (1.88)
Heat Exchangers	65.77 (93.65)	3.14 (12.29)	3.69 (3.14)
Others	48.35 (78.61)	0.00 (0.04)	0.04 (0.00)
Sub Total	3582.30 (3979.32)	153.60 (176.72)	112.78 (153.60)
TP, Jhansi			
Power transformers and special transformers	419.18 (481.54)	0.00 (0.00)	0.00 (0.00)
Freight Loco transformers	100.36 (92.81)	1.24 (0.00)	0.00 (1.24)
ESP Transformer	97.26 (59.58)	0.00 (0.00)	0.00 (0.00)
Dry Type Transformer	59.51 (41.12)	0.00 (0.00)	0.00 (0.00)
Others / Misc.	25.91 (25.49)	0.00 (0.00)	0.00 (0.00)
Diesel Shunters	19.22 (36.72)	0.00 (0.00)	0.00 (0.00)
Instrument transformers	16.45 (18.61)	0.00 (0.00)	0.00 (0.00)
ACEMU Transformer	1.59 (-6.90)	0.00 (0.00)	0.00 (0.00)
Bus Duct	0.42 (0.02)	0.00 (0.00)	0.00 (0.00)
Sub Total	739.90 (748.99)	1.24 (0.00)	0.00 (1.24)

(₹ in Crore)

Product	Sales during the year 2017-18	Op. Stock of Finished Goods April 01, 2017	Cl. Stock of Finished Goods March 31, 2018
HEEP, Haridwar			
Turbo Sets			
Turbine Modules	1638.11	240.71	214.16
Turbogenerator Modules	(2003.55)	(274.97)	(240.71)
Super Rapid Gun Mount	175.78	4.72	0.00
	(103.87)	(0.00)	(4.72)
Electrical Machines	0.00	0.10	16.79
	(0.00)	(0.10)	(0.10)
Others	796.12	61.27	31.07
	(914.37)	(40.69)	(61.27)
	2610.01	306.80	262.02
Sub Total	(3021.79)	(315.76)	(306.80)
HPBP, Trichy			
Boilers	6397.22	433.94	236.12
	(6425.87)	(561.84)	(433.94)
Valves	526.85	38.21	31.15
	(585.36)	(62.80)	(38.21)
ATP	263.00	0.00	0.00
	(176.68)	(0.08)	(0.00)
Income from testing & other services	7.04	0.00	0.00
	(9.99)	(0.00)	(0.00)
Seamless steel tubes	3.23	16.82	3.62
	(1.43)	(1.52)	(16.82)
	7197.34	488.97	270.89
Sub Total	(7199.33)	(626.24)	(488.97)
BAP, Ranipet			
Boiler auxiliaries	1538.60	207.84	127.53
	(1870.48)	(282.99)	(207.84)
Income from testing & other services	10.11	0.00	0.00
	(9.12)	(0.00)	(0.00)
Income from external erection & other services	4.47	0.00	0.00
	(2.67)	(0.00)	(0.00)
	1553.18	207.84	127.53
Sub Total	(1882.27)	(282.99)	(207.84)

(₹ in Crore)

Product	Sales during the year 2017-18	Op. Stock of Finished Goods April 01, 2017	Cl. Stock of Finished Goods March 31, 2018
HPEP, Hyderabad			
Pumps and heaters	585.71	15.15	2.73
	(925.12)	(16.89)	(15.15)
Bowl Mills	428.52	0.00	0.00
	(453.15)	(0.00)	(0.00)
Gas Turbine	298.69	9.50	0.00
	(720.44)	(9.50)	(9.50)
Compressors	286.85	3.46	2.10
	(118.66)	(3.46)	(3.46)
Utility Sets (60 MW)	204.39	3.66	0.00
	(384.54)	(37.64)	(3.66)
Small & Medium Sets	174.90	6.53	0.00
	(223.02)	(6.53)	(6.53)
Oil Rigs	116.76	0.00	0.00
	(20.73)	(0.00)	(0.00)
Breakers	5.59	0.00	0.00
	(9.78)	(0.00)	(0.00)
Others (Services)	42.57	0.00	
	(33.47)	(0.00)	(0.00)
	2143.98	38.30	4.83
Sub Total	(2888.91)	(74.02)	(38.30)
ISG, Bengaluru			
Other Services	982.17	0.00	0.00
	(917.34)	(0.00)	(0.00)
	982.17	0.00	0.00
Sub Total	(917.34)	(0.00)	(0.00)
EDN, Bengaluru			
Control Equipments	1323.74	17.53	10.22
	(1022.24)	(30.84)	(17.53)
Photovoltaics	135.13	4.27	0.10
	(687.33)	(0.23)	(4.27)
Simulators (Defence Electronics)	22.54	(0.00)	(0.00)
	(38.71)	(0.00)	(0.00)
Power devices	1.73	0.39	0.08
	(0.04)	(0.39)	(0.39)
	1483.14	22.19	10.40
Sub Total	(1748.32)	(31.46)	(22.19)

(₹ in Crore)

Product	Sales during the year 2017-18	Op. Stock of Finished Goods April 01, 2017	Cl. Stock of Finished Goods March 31, 2018
EPD, Bengaluru			
SPV	139.38	(5.86)	19.90
	(11.85)	(0.00)	(5.86)
Control Panel	47.37	2.22	2.16
	(85.44)	(5.17)	(2.22)
Insulators & bushings	36.79	8.89	5.91
	(96.96)	(15.44)	(8.89)
Ceralin	33.67	3.17	2.37
	(42.12)	(7.91)	(3.17)
Income from testing & other services	0.00	0.00	0.00
	(0.24)	(0.00)	(0.00)
	257.21	20.14	30.34
Sub Total	(236.61)	(28.52)	(20.14)
Power Group			
Income from erection & Other services & spares	6443.88	-7.06	-1.29
	(4748.97)	(-53.75)	(-7.06)
	6443.88	-7.06	-1.29
Sub Total	(4748.97)	(-53.75)	(-7.06)
IP, Jagdishpur			
Insulators	40.00	13.04	7.23
	(88.58)	(20.22)	(13.04)
Ceralin	16.22	0.18	4.86
	(18.81)	(5.17)	(0.18)
	56.22	13.22	12.09
Sub Total	(107.39)	(25.39)	(13.22)

(₹ in Crore)

Product	Sales during the year 2017-18	Op. Stock of Finished Goods April 01, 2017	Cl. Stock of Finished Goods March 31, 2018
IVP Goindwal			
Wall Blowers	5.10	0.09	0.24
	(2.00)	(0.17)	(0.09)
Girder Pin Connection, Gate Assembly, LDO PUMP & Sleev Assy	3.06	(0.00)	
	(2.11)	(0.00)	(0.00)
Industrial Valves	0.87	12.06	6.24
	(0.51)	(14.76)	(12.06)
Fuel Pipe Coupling	0.56	0.30	0.00
	(0.06)	(0.00)	(0.30)
Pipe Collar	0.52	0.03	0.02
	(0.03)	(0.00)	(0.03)
	10.11	12.48	6.50
Sub Total	(4.71)	(14.93)	(12.48)
CFP, Rudrapur			
Busduct Project	143.42	2.71	1.22
	(133.92)	(12.14)	(2.71)
Solar Roof Top & Pump	13.59	0.00	0.00
	(3.62)	(0.00)	(0.00)
	157.01	2.71	1.22
Sub Total	(137.54)	(12.14)	(2.71)
HERP, Varanasi			
Spares & Repairs for Boiler/ Turbine & Auxiliaries	182.86	2.60	0.64
	(173.69)	(4.55)	(2.60)
	182.86	2.60	0.64
Sub Total	(173.69)	(4.55)	(2.60)
Transmission Business Group			
Spares(Including Services)	537.66	3.33	0.00
	(591.42)	(2.49)	(3.33)
	537.66	3.33	0.00
Sub Total	(591.42)	(2.49)	(3.33)
EMRP, Mumbai			
Repair & Project work	15.19	0.06	0.06
	(13.30)	(0.06)	(0.06)
	15.19	0.06	0.06
Sub Total	(13.30)	(0.06)	(0.06)

(₹ in Crore)

Product	Sales during the year 2017-18	Op. Stock of Finished Goods April 01, 2017	Cl. Stock of Finished Goods March 31, 2018
International Operations			
Income from Sales (Revenue Recognition Adjustment)	-80.53 (61.82)	0.00 (0.00)	0.00 (0.00)
Sub Total	-80.53 (61.82)	0.00 (0.00)	0.00 (0.00)
Industry Sector			
Income from Sales (Revenue Recognition Adjustment)	-3.26 (7.70)	-0.24 (-0.12)	0.00 (-0.24)
Sub Total	-3.26 (7.70)	-0.24 (-0.12)	0.00 (-0.24)
PE&SD			
Thermal sets	55.90 (230.80)	0.64 (0.00)	0.00 (0.64)
Gas Turbine	34.54 (2.66)	0.00 (0.00)	0.00 (0.00)
Solar	32.12 (0.00)	0.00 (0.00)	0.00 (0.00)
Industrial sets	23.21 (0.95)	0.00 (0.00)	0.00 (0.00)
Compressors	0.90 (7.61)	0.00 (0.00)	0.00 (0.00)
Sub Total	146.67 (242.02)	0.64 (0.00)	0.00 (0.64)
RMSG			
DG Sets & Erection services	105.22 (131.85)	0.00 (0.00)	0.00 (0.00)
Sub Total	105.22 (131.85)	0.00 (0.00)	0.00 (0.00)
HPVP			
Boilers	73.82 (24.51)	25.28 (26.41)	23.46 (25.28)
Cryogenics	0.39 (0.00)	0.00 (0.00)	0.00 (0.00)
Others	29.76 (6.50)	0.00 (0.00)	0.22 (0.00)
Sub Total	103.97 (31.01)	25.28 (26.41)	23.68 (25.28)

(₹ in Crore)

Product	Sales during the year 2017-18	Op. Stock of Finished Goods April 01, 2017	Cl. Stock of Finished Goods March 31, 2018
CFFP Hardwar			
Steel Casting	16.11	0.97	0.00
	(14.04)	(0.00)	(0.97)
NF Castings	0.03	0.00	0.00
	(0.03)	(0.00)	(0.00)
Steel Forging : Medium	0.00	0.00	0.00
	(0.93)	(0.74)	(0.00)
	16.14	0.97	0.00
Sub Total	(15.00)	(0.74)	(0.97)
CS & FP, JAGDISHPUR			
Stampings Fabrication	36.48	0.83	2.10
	(54.33)	(0.00)	(0.83)
	36.48	0.83	2.10
Sub Total	(54.33)	(0.00)	(0.83)
Others	0.00	0.00	0.00
	(-7.98)	(0.00)	(0.00)
Fair value adjustment	-178.43		
	(-95.22)		
Grand Total	28098.42	1293.90	863.79
	(28840.42)	(1568.55)	(1293.90)

Note: Previous year figures given in bracket ().

(₹ in Crore)

B. Value imports	For the year ended	
	2017-18	2016-17
CIF basis		
Raw materials	1558.13	900.98
Components and spare parts	744.99	2130.31
Capital goods	24.25	152.65
	2,327.37	3,183.94

C. Expenditure in foreign currency	For the year ended	
	2017-18	2016-17
i) Royalty	141.53	102.81
ii) Know-how	4.05	3.90
iii) Professional consultation fee	3.41	8.72
iv) Interest and others (incl. on foreign sites)	5.52	35.88
v) Dividend : @		
a) number of non-resident shareholders	8228	8124
b) number of shares held	378767708	363057067
c) gross amount of dividend	29.54	14.52
d) year to which dividend relates	2016-17	2015-16
	(Final Dividend)	(Final Dividend)
Interim Dividend : @		
a) number of non-resident shareholders	9127	8314
b) number of shares held	489660016	382818549
c) gross amount of dividend	39.17	30.63
d) year to which dividend relates	2017-18	2016-17
	(Interim Dividend)	(Interim Dividend)

@ The company has not made any remittance of dividend in foreign currency. The payment have been made to the Bankers/Power of Attorney holders of Non-Resident shareholders and as such the exact amount of dividend remitted by them in foreign currency cannot be ascertained,

D. Value of consumption of raw materials, components, stores & spare parts	For the year ended 2017-18	For the year ended 2016-17
i) Imported (including custom duty) #	2526.61	4091.19
ii) Indigenous	9977.47	9437.22
iii) Percentage of total consumption		
Imported	20	30
Indigenous	80	70

(₹ in Crore)

E. Earnings in foreign exchange	For the year ended 2017-18	For the year ended 2016-17
Export of goods (FOB basis)	182.44	292.52
Erection & other services	112.36	64.55
Foreign exchange on deemed exports (incl domestic contracts and SEZ export)	1014.00	2132.48
	1,308.80	2,489.55
# Includes canalised items wherever ascertained		

(₹ in Crore)

F. Statement for raw materials and components consumed	For the year ended 2017-18	For the year ended 2016-17
Group of materials:		
Ferrous materials	2431.11	2021.85
Non-ferrous materials	333.09	277.64
Insulating materials	168.29	142.81
Insulated cables and Magnet wires	26.76	57.33
Components	4944.14	5955.69
Others	4214.96	4647.49
	12118.35	13102.81

29 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 Compnays' Committee of Functional Directors (COFD) has been identified as Chief Operating Decision Maker (CODM).

(₹ in Crore)

Particulars	For the year ended 31.3.2018			For the year ended 31.3.2017		
	Power	Industry	Total	Power	Industry	Total
I. Segment Revenue						
a. Segment Revenue	23064.17	5034.25	28098.42	22794.78	6045.64	28840.42
b. Operating Revenue-External	23064.17	5034.25	28098.42	22794.78	6045.64	28840.42
II. Segment Result						
a. Segment Results	2792.14	179.55	2971.69	2534.58	244.15	2778.73
b. Unallocated expenses (Net of income)			1132.15			1800.29
c. Profit before finance cost & Incometax (a) - (b)			1839.54			978.44
d. Finance cost (Includes unwinding of Interest)			254.55			350.61
e. Net Profit before Income Tax (d) - (e)			1584.99			627.83
f. Income Tax			778.39			131.97
g. Net Profit after Income Tax			806.60			495.86
III Assets & Liabilities						
a. Segment Assets	40812.18	8522.98	49335.16	37602.38	9188.25	46790.63
b. Common Assets			14453.99			14439.57
c. Total Assets			63789.15			61230.20
d. Segment Liabilities	24541.30	4799.21	29340.51	23250.32	5480.91	28731.23
e. Common Liabilities			1847.56			204.53
f. Total Liabilities			31188.07			28935.76
IV Other Information						
a. Capital Expenditure	186.74	48.05		76.70	201.27	
b. Depreciation & Amortization	589.56	153.20		657.83	142.15	
c. Non Cash Expenses (other than depreciation & amortization)	1867.25	319.49		455.17	202.28	
V Geographical Segments	Within India	Outside India	Total	Within India	Outside India	Total
1 Net Sales / Revenue from Operations	27411.12	687.30	28098.42	27974.43	865.99	28840.42
2 Non- Current Assets (PPE & Intangible Assets)	3247.41	24.19	3271.60	3758.37	5.85	3764.22
3 Capital Expenditure	256.04	13.66	269.70	329.48	2.98	332.46

Major Customer- Details of Revenue from single customer exceeding 10% of total revenue of the BHEL

Particulars	Power	Industry	Total	Power	Industry	Total
PSUs	5419.29	828.19	6247.48	7050.71	1916.08	8966.79
Railways	-	1157.86	1157.86	-	987.29	987.29

Independent Auditor's Report

To

THE MEMBERS OF

BHARAT HEAVY ELECTRICALS LIMITED

Report on the Consolidated Ind AS Financial Statements

We have audited the accompanying Consolidated Ind AS 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 March 31, 2018, the consolidated statement of profit and loss (including other comprehensive income), the consolidated cash flow statement and the consolidated statement of changes in equity for the year then ended, and a summary of the significant accounting policies and other explanatory information (hereinafter referred to as "the consolidated Ind AS financial statements").

Management's Responsibility for the Consolidated Ind AS Financial Statements

The holding company's board of directors is responsible for the preparation of these consolidated Ind AS financial statements in terms of the requirements of the Companies Act, 2013 (hereinafter referred to as "the Act") that gives a true and fair view of the consolidated financial position, consolidated financial performance (including other comprehensive income), consolidated cash flow and consolidated statement of changes in equity of the Group including its jointly controlled entities in accordance with the accounting principles generally accepted in India, including the Indian Accounting Standards prescribed under Section 133 of the Act, read with the Companies (Indian Accounting Standards) Rules, 2015, as amended. The respective board of directors of the companies included in the Group and jointly controlled entities are responsible for maintenance of adequate accounting records in accordance with the provisions of the Act for safeguarding the assets of the Group and for preventing and detecting frauds and other irregularities; the selection and application of appropriate accounting policies; making judgments and estimates that are reasonable and prudent; and the 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,

which have been used for the purpose of preparation of the Consolidated Ind AS financial statements by the directors of the holding Company, as aforesaid.

Auditor's Responsibility

Our responsibility is to express an opinion on these Consolidated financial statements based on our audit.

While conducting the audit, we have taken into account the provisions of the Act, the accounting and auditing standards and matters which are required to be included in the audit report under the provisions of the Act and the Rules made there under.

We conducted our audit in accordance with the Standards on Auditing specified under Section 143(10) of the Act. Those Standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the Consolidated Ind AS financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and the disclosures in the Consolidated Ind AS financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the Consolidated Ind AS financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal financial control relevant to the holding company's preparation of the Consolidated Ind AS financial statements that give a true and fair view in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of the accounting estimates made by the holding company's board of directors, as well as evaluating the overall presentation of the Consolidated Ind AS financial statements.

We believe that the audit evidence obtained by us and the audit evidence obtained by the other auditors in terms of their reports referred to in sub-paragraph (a) of the Other Matters paragraph below, is sufficient and appropriate to provide a basis for our audit opinion on the Consolidated Ind AS financial statements

Opinion

In our opinion and to the best of our information and according to the explanations given to us, the aforesaid Consolidated Ind AS financial statements give the information required

by the Act in the manner so required and give a true and fair view in conformity with the accounting principles generally accepted in India including the Ind AS, of the consolidated state of affairs (financial position) of the Group and its jointly controlled entities as at March 31, 2018, and their consolidated profit (financial performance including other comprehensive income), consolidated cash flows and consolidated statement of changes in equity for the year ended on that date.

Other Matters

- (a) We did not audit the financial statements of one subsidiary, whose financial statements reflect total assets of ₹ 21.95 crore and net assets of minus ₹ 8.27 crore as at March 31, 2018, total revenues of ₹ 14.53 crore and net cash flows amounting to ₹1.35 crore for the year ended on that date as considered in the Consolidated Ind AS financial statements.

The consolidated Ind AS financial statements also includes the group's share of net profit of ₹ 23.81 crore and other comprehensive income of ₹ 0.17 crore for the year ended March 31, 2018 as considered in the Consolidated Ind AS 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 Ind AS 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 Ind AS financial statements also includes the group's share of net loss of ₹ 414.58 crore and other comprehensive income of ₹ NIL for the year ended March 31, 2018 as considered in the Consolidated Ind AS 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 Ind AS 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 Ind AS 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 to the extent of share in loss has been provided. Balance amount is realized subsequently.

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 Ind AS financial statements;
 - (b) In our opinion, proper books of account as required by law relating to preparation of the aforesaid consolidated Ind AS 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), the consolidated cash flow statement and consolidated statement of changes in equity dealt with by this report are in agreement with the relevant books of account maintained for the purpose of preparation of the consolidated Ind AS financial statements;
 - (d) In our opinion, the aforesaid Consolidated Ind AS 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;

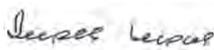
- (f) With respect to the adequacy of the internal financial controls over financial reporting of the holding company, its subsidiary company and jointly controlled entities incorporated in India and the operating effectiveness of such controls, refer to our separate report in "Annexure A";
- (g) With 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 Ind AS financial statements disclose the impact of pending litigations on the consolidated financial position of the Group and jointly controlled entities— Refer Note 39 (2) to the Consolidated Ind AS financial statements;
- ii. Provision has been made in the Consolidated Ind AS financial statements, as required under the applicable law or Indian Accounting Standards, for material foreseeable losses, if any, on long-term contracts – Refer Note 39 (15) 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 DSP & Associates
Chartered Accountants
FRN 006791N



(CA. Sanjay Jain)
Partner
M. No. 084906

For Dhawan & Co.
Chartered Accountants
FRN 002864N



(CA. Deepak Kapoor)
Partner
M. No. 072302

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN 006228C



(CA. Ritesh Kumar Jain)
Partner
M. No. 077026

Place : New Delhi
Date : May 29, 2018

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, 2018, 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.

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, 2018,

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.

Other Matters

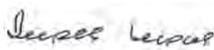
Our aforesaid reports under Section 143(3)(i) of the Act on the adequacy and operating effectiveness of the internal financial controls over financial reporting insofar as it relates to one subsidiary company and three jointly controlled entities, which are companies incorporated in India, is based on 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.

For DSP & Associates
Chartered Accountants
FRN 006791N



(CA. Sanjay Jain)
Partner
M. No. 084906

For Dhawan & Co.
Chartered Accountants
FRN 002864N



(CA. Deepak Kapoor)
Partner
M. No. 072302

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN 006228C



(CA. Ritesh Kumar Jain)
Partner
M. No. 077026

Place : New Delhi
Date : May 29, 2018



No. MAB-III/Rep/01-54/ACS-BME/2018-19/381

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

Dated: 11/7/2018

सेवा में,

अध्यक्ष एवं प्रबंध निदेशक,
भारत हेवी इलैक्ट्रिकल्स लिमिटेड,
नई दिल्ली

महोदय,

विषय: 31 मार्च 2018 को समाप्त वर्ष के लिये भारत हेवी इलैक्ट्रिकल्स लिमिटेड के Consolidated Financial Statements (CFS) पर कम्पनी अधिनियम 2013 की धारा 143(6)(b) एवं धारा 129(4) के अन्तर्गत भारत के नियंत्रक-महालेखापरीक्षक की टिप्पणियाँ

मैं भारत हेवी इलैक्ट्रिकल्स लिमिटेड के 31 मार्च 2018 को समाप्त वर्ष के Consolidated Financial Statements (CFS) पर कम्पनी अधिनियम 2013 की धारा 143(6)(b) एवं धारा 129(4) के अंतर्गत भारत के नियंत्रक-महालेखापरीक्षक की टिप्पणियाँ अग्रेषित कर रहा हूँ। कृपया इस पत्र की संलग्नकों सहित प्राप्ति की पावती भेजी जाए।

संलग्न: यथोपरि

भवदीय,

विक्रम डी. मुरुगराज
11.07.18

(विक्रम डी. मुरुगराज, I.A.&A.S.)

प्रधान निदेशक

छठा एवं सातवाँ तल, सी.ए.जी. भवन एनेक्सी, 10, बहादुरशाह ज़फर मार्ग, नई दिल्ली-110002
6th & 7th Floor, C.A.G. Building Annexe, 10, Bahadurshah Zafar Marg, New Delhi-110002
Tel. : 011-23239213, 23239235 Fax : 011-23239211 Email : mabnewdelhi3@cag.gov.in

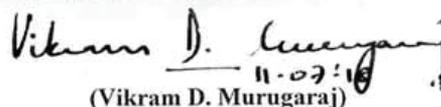
**COMMENTS OF THE COMPTROLLER AND AUDITOR GENERAL OF INDIA
UNDER SECTION 143(6)(b) READ WITH SECTION 129(4) OF THE
COMPANIES ACT, 2013 ON THE CONSOLIDATED FINANCIAL STATEMENTS
OF BHARAT HEAVY ELECTRICALS LIMITED FOR THE YEAR ENDED
31 MARCH 2018**

The preparation of consolidated financial statements of Bharat Heavy Electricals Limited for the year ended 31 March 2018 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 29 May 2018.

I, on behalf of the Comptroller and Auditor General of India, have conducted a supplementary audit under Section 143(6)(a) read with Section 129(4) of the Act of the consolidated financial statements of Bharat Heavy Electricals Limited for the year ended 31 March 2018. 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 nor for conduct of supplementary audit. Accordingly, C&AG has neither appointed the statutory auditor 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 audit nothing significant has come to my knowledge which would give rise to any comment upon or supplement to statutory auditors' report.

For and on behalf of the
Comptroller & Auditor General of India



(Vikram D. Murugaraj)
Principal Director of Commercial Audit &
Ex-officio Member, Audit Board – III,
New Delhi

Place: New Delhi
Dated: 1 July 2018

ANNEXURE I

List of subsidiaries, associate companies and jointly controlled 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, 2018

(₹ in Crore)

Particulars	Note	As at March 31, 2018	As at March 31, 2017
A. ASSETS			
(1) Non-current assets			
(a) Property, plant and equipment	2a	2981.90	3496.43
(b) Capital work-in-progress	2b	194.53	159.51
(c) Intangible assets	3a	91.31	104.76
(d) Intangible assets under development	3b	8.23	8.83
(e) Investment accounted for using equity method	4	409.05	753.20
(f) Financial assets			
(i) Investments	4a	19.92	3.93
(ii) Trade receivables	5	12723.29	9789.14
(iii) Loans	6	84.28	78.04
(iv) Other financial assets	7	0.02	0.16
(g) Deferred tax assets (net of liabilities)	8	3632.43	3846.19
(h) Other non-current assets	9	206.27	203.30
Total non-current assets		20351.23	18443.49
(2) Current assets			
(a) Inventories	10	6263.15	7379.67
(b) Financial assets			
(i) Trade receivables	11	22772.11	22077.58
(ii) Cash and cash equivalents	12a	2768.81	1485.92
(iii) Bank balances other than (ii) above	12b	8522.78	9007.63
(iv) Loans	13	144.39	135.78
(v) Other financial assets	14	153.26	219.02
(c) Current tax assets (net of provisions)	15	222.94	873.09
(d) Other current assets	16	2346.01	1725.27
Total current assets		43193.45	42903.96
Total assets		63544.68	61347.45
B. EQUITY AND LIABILITIES			
(1) Equity			
(a) Equity share capital	17	734.28	489.52
(b) Other equity (refer to SOCIE)		31600.71	31899.47
		32334.99	32388.99
Non - controlling interests (refer to SOCIE)		(4.05)	(1.08)
Total equity		32330.94	32387.91

Consolidated Balance Sheet as at March 31, 2018

(₹ in Crore)

Particulars	Note	As at March 31, 2018		As at March 31, 2017	
Liabilities					
(2) Non current liabilities					
(a) Financial liabilities					
(i) Borrowings	18	57.18		89.55	
(ii) Trade payables	19	481.75		633.10	
(iii) Other financial liabilities	20	114.41	653.34	104.71	827.36
(b) Provisions	21		4984.89		5006.19
(c) Other non-current liabilities	22		3364.06		2983.36
Total non-current liabilities			9002.29		8816.91
(3) Current liabilities					
(a) Financial liabilities					
(i) Borrowings	23	10.28		6.03	
(ii) Trade payables	24	10589.25		8715.88	
(iii) Other financial liabilities	25	2342.45	12941.98	1532.39	10254.30
(b) Provisions	26		3729.30		4193.78
(c) Other current liabilities	27		5540.17		5694.55
Total current liabilities			22211.45		20142.63
Total liabilities			31213.74		28959.54
Total equity and liabilities			63544.68		61347.45
Significant Accounting Policies	1				

The accompanying Notes 1 to 39 form an integral part of the Financial Statements

For and on behalf of Board of Directors



(I. P. Singh)
Company Secretary



(Subodh Gupta)
Director (Finance)



(Atul Sobti)
Chairman and Managing Director

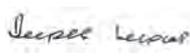
As per our report of even date

For DSP & Associates
Chartered Accountants
FRN - 006791N



(CA. Sanjay Jain)
Partner
M. No. 084906

For Dhawan & Co.
Chartered Accountants
FRN - 002864N



(CA. Deepak Kapoor)
Partner
M. No. 072302

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN - 006228C



(CA. Ritesh Kumar Jain)
Partner
M. No. 077026

Place : New Delhi
Date : May 29, 2018

Consolidated Statement of Profit and Loss

For the year ended March 31, 2018

(₹ in Crore)

Particulars	Note	For the year ended March 31, 2018	For the year ended March 31, 2017
INCOME			
Revenue from operations (excluding excise duty)	28	28827.48	28629.44
Add: Excise Duty		247.98	1102.06
Revenue from operations (including excise duty)		29075.46	29731.50
Other income	29	678.01	753.19
Total Income		29753.47	30484.69
EXPENSES			
Material consumption, erection and engineering expense	30	15907.27	16590.68
Changes in inventories of finished goods and work in progress	31	739.00	992.94
Excise duty		135.04	1254.47
Employee benefits expense	32	6034.68	5402.71
Manufacture, administration, selling and distribution expense	33	2155.94	3013.33
Provisions	34	2240.24	1445.38
Finance costs	35	255.16	351.30
Depreciation & amortisation expense	2.1/3.1	787.33	849.79
Less: Cost of jobs done for internal use		106.82	25.04
Total expense		28147.84	29875.56
Profit / (loss) before exceptional items and tax		1605.63	609.13
Share of net profit/ (loss) of joint ventures accounted for using equity method		(390.76)	(23.56)
Profit / (loss) before tax		1214.87	585.57
Tax expense	36		
a) Current Tax		578.67	298.35
b) Deferred Tax		198.01	(167.96)
Profit for the year from continuing operations		438.19	455.18
Other comprehensive income			
Items that will not be reclassified to profit or loss (net of tax)	37	83.30	(28.56)
Share of OCI of JV accounted for using equity method		0.18	(0.14)
Total comprehensive income for the year		521.67	426.48
Attributable to:			
Equity holders of the parent		524.63	428.34
Non-controlling interest		(2.96)	(1.86)
		521.67	426.48

Consolidated Statement of Profit and Loss

For the year ended March 31, 2018

(₹ in Crore)

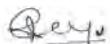
Particulars	Note	For the year ended March 31, 2018	For the year ended March 31, 2017
Total other comprehensive income for the year			
Attributable to:			
Equity holders of the parent		83.47	(28.92)
Non-controlling interest		0.01	0.22
		83.48	(28.70)
Total profit for the year			
Equity holders of the parent		441.16	457.26
Non-controlling interest		(2.97)	(2.08)
		438.19	455.18
Earnings per equity share	38		
(1) Basic		1.19	1.24
(2) Diluted		1.19	1.24
Face value per share in (INR)		2.00	2.00
Significant Accounting Policies	1		

The accompanying Notes 1 to 39 form an integral part of the Financial Statements

For and on behalf of Board of Directors



(I. P. Singh)
Company Secretary



(Subodh Gupta)
Director (Finance)



(Atul Sobti)
Chairman and Managing Director

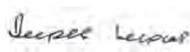
As per our report of even date

For DSP & Associates
Chartered Accountants
FRN - 006791N



(CA. Sanjay Jain)
Partner
M. No. 084906

For Dhawan & Co.
Chartered Accountants
FRN - 002864N



(CA. Deepak Kapoor)
Partner
M. No. 072302

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN - 006228C



(CA. Ritesh Kumar Jain)
Partner
M. No. 077026

Place : New Delhi
Date : May 29, 2018

Consolidated statement of changes in Equity (SOCIE)

as at March 31, 2018

a. Equity Share Capital

(₹ in Crore)

Equity shares of INR 2 each issued, subscribed and fully paid	Number of shares		Amount	
	2017-18	2016-17	2017-18	2016-17
Balance as at the beginning of the period	2,447,600,000	2,447,600,000	489.52	489.52
Issue of bonus share	1,223,800,000	-	244.76	-
Balance as at the end of the period	3,671,400,000	2,447,600,000	734.28	489.52

b. Other Equity

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 Reserve	General Reserves	Retained Earnings			
Balance as at April 01, 2017	35.18	32349.72	(380.15)	(105.28)	31899.47	(1.08)
Add: Adj. (audited v/s unaudited profit / loss for FY 2016-17)	-	-	4.66	-	4.65	-
Add/(less) Total comprehensive income for the year	-	-	441.33	83.30	524.63	(2.96)
Less: Final dividend FY 2016-17	-	-	190.92	-	190.92	-
Less: Interim dividend FY 2017-18	-	-	293.71	-	293.71	-
Less: Corporate dividend tax	-	-	98.66	-	98.66	-
Less: Issue of bonus shares	-	244.76	-	-	244.76	-
Balance as at March 31, 2018	35.18	32104.96	(517.45)	(21.98)	31600.71	(4.05)

Consolidated statement of changes in Equity (SOCIE) as at March 31, 2018

For the year ended March 31, 2017

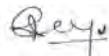
(₹ in Crore)

Particulars	Reserves and surplus			Other items of other comprehensive income	Total Other Equity	Non Controlling Interest
	Capital Reserve	General Reserves	Retained Earnings			
Balance as at April 01, 2016	35.18	32349.72	(483.91)	(76.36)	31824.63	0.78
Add/(less) Total comprehensive income for the year	-	-	457.26	(28.92)	428.34	(1.86)
Less: Final dividend FY 2015-16	-	-	97.90	-	97.90	-
Less: Interim dividend FY 2016-17	-	-	195.81	-	195.81	-
Less: Corporate dividend tax	-	-	59.79	-	59.79	-
Balance as at March 31, 2017	35.18	32349.72	(380.15)	(105.28)	31899.47	(1.08)

For and on behalf of Board of Directors



(I. P. Singh)
Company Secretary



(Subodh Gupta)
Director (Finance)



(Atul Sobti)
Chairman and Managing Director

As per our report of even date

For DSP & Associates
Chartered Accountants
FRN - 006791N



(CA. Sanjay Jain)
Partner
M. No. 084906

For Dhawan & Co.
Chartered Accountants
FRN - 002864N



(CA. Deepak Kapoor)
Partner
M. No. 072302

For Mahesh C. Solanki & Co.
Chartered Accountants
FRN - 006228C



(CA. Ritesh Kumar Jain)
Partner
M. No. 077026

Place : New Delhi
Date : May 29, 2018

Consolidated Cash flow statement

For the year ended March 31, 2018

(₹ in Crore)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
A. Cash flow from operating activities:		
Profit for the year (before tax)	1214.87	585.57
Adjustment for		
Provisions (Net)	2198.75	1274.23
Depreciation and amortisation	787.33	849.79
Finance cost (including unwinding of interest)	255.16	351.30
Fair value adjustment	60.63	(20.02)
Bad debts, liquidated damages & losses written off	41.49	171.15
Unrealised loss in investment of equity share	1.01	2.74
Interest & dividend income	(601.49)	(698.36)
Liabilities written back	(97.01)	(13.19)
Profit on sale of units of mutual funds	(25.85)	0.00
Profit on disposal of PPE	(9.41)	(2.36)
Share of loss in joint ventures and investments	391.77	23.70
Operating cash profit before working capital changes	4217.25	2524.55
Adjustment for changes in working capital		
Trade receivables	(6340.91)	70.00
Inventories	1000.34	2135.10
Loans, advances & other assets	(667.46)	424.60
Sub total	(6008.03)	2629.70
Trade payables	1743.92	(90.79)
Advances from customers, deposits and others	1179.67	(2150.12)
Provisions	(186.89)	(1764.03)
Sub total	2736.70	(4004.94)
Net cash (used in) / from working capital	(3271.33)	(1375.24)
Cash generated from operations	945.92	1149.31
Refund of income taxes	720.42	-
Income taxes paid	(677.27)	(588.90)
Net cash inflow from operating activities	989.07	560.41
B. Cash flow from investing activities:		
Purchase of property, plant and equipment	(281.25)	(353.10)
Investment in joint ventures	(74.72)	0.00
Interest income	653.84	616.00
Investment in term deposits (with maturity more than 3 months)	-	(881.66)
Proceeds from Investment in term deposits (with maturity more than 3 months)	600.45	-
Income received from mutual funds	36.67	21.02

Consolidated Cash flow statement

For the year ended March 31, 2018

(₹ in Crore)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
Dividend received from joint ventures	14.76	12.85
Sale of property, plant and equipment	11.46	19.73
Net cash (used in) / from investing activities	961.21	565.16
C. Cash flow from financing activities:		
Dividend paid	(484.63)	(293.71)
Additional tax on dividend	(98.66)	(59.79)
Repayment of finance lease obligation	(46.16)	(50.08)
Interest paid	(37.94)	(64.29)
Net cash (used in) / from financing activities (refer note 3)	(667.39)	(467.87)
D. Net increase/(decrease) in cash and cash equivalents	1282.89	(472.62)
Note : Net increase in cash & cash equivalent and bank balances in term deposits more than 3 months	682.44	409.04
Opening balance of cash and cash equivalents	1485.92	1958.54
Closing balance of cash and cash equivalents	2768.81	1485.92

(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.

For and on behalf of Board of Directors



(I. P. Singh)
Company Secretary



(Subodh Gupta)
Director (Finance)



(Atul Sobti)
Chairman and Managing Director

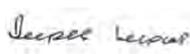
As per our report of even date

For DSP & Associates
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(CA. Sanjay Jain)
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FRN - 006228C



(CA. Ritesh Kumar Jain)
Partner
M. No. 077026

Place : New Delhi
Date : May 29, 2018

Notes to the consolidated financial statements

Note [1] - 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.

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 judgements

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 the percentage-of-completion method in accounting the revenue in respect of construction contracts. Use of the percentage-of-completion method requires the Company to estimate total contract revenue, and remaining cost to complete the contract at the end of each reporting date. The financial reporting of these contracts depends on estimates that are assessed continually during the term of these contracts, therefore recognized revenue and profit are subject to change as the contract progresses to completion.

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 where estimated useful life is shorter based on technically assessed estimated useful life as shown hereunder:-

(Years)

	Single shift	Double shift	Triple shift
General plant & machinery	12.5	8.33	6.25
Automatic/semi- automatic machines	10	6.67	5
Erection equipment, Capital tools & tackles	5		
Railway sidings, Locomotives & wagons	12.5		
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. Assets individually costing ₹ 5,000 or less, are depreciated fully in the year of purchase.

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 ₹ 5,000 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 ₹10,000/- 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 ₹ 10,000/- 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 when it is probable that the economic benefits associated with the transaction will flow to the entity and the amount of revenue can be measured reliably.

A. Construction Contracts

Revenue from construction contracts including long term service contracts are recognized using the "percentage of completion" method. Percentage of completion is determined based on contract costs incurred to date as a percentage of total estimated contract costs required to complete the contract.

B. Other than Construction Contracts

Revenue is recognised when the significant risks and rewards of ownership have been transferred to the customer in accordance with the contract. Revenue from services other than long term service contracts are recognised when services are performed as per 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.

In the case of BHEL-GE Gas Turbine Services Pvt. Ltd.

Multiple deliverable arrangements

When two or more revenue generating activities or deliverables are provided under a single arrangement each deliverable is considered to be a separate unit of account and is accounted for separately. The allocation of consideration from a revenue arrangement to its separate units of account is based on the relative fair value of each unit.

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 [2a] - Non-current assets

Property, plant and equipment (PPE)

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Gross block	5411.36	5181.51
Less: Accumulated depreciation	2429.46	1685.08
Net Block (details refer to note 2.1)	2981.90	3496.43

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 [2b] - Non-current assets

Capital work in progress

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Plant & machinery and other equipments:		
Under Erection/ Fabrication/awaiting erection	110.26	84.25
In transit	29.70	32.46
Construction work-in-progress -Civil	52.86	40.47
Construction stores (including in transit)	1.71	2.33
	194.53	159.51

Note [3a] - Non-current assets

Intangible assets

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Gross block	221.87	198.04
Less: Accumulated amortisation	130.56	93.28
Net block (details refer to note 3.1)	91.31	104.76

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

Intangible assets under development

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Intangible assets under development	8.23	8.83
	8.23	8.83

Note [2.1]

Detail of property, plant and equipment

(₹ in Crore)

Description	Gross Block				Depreciation				Net Block	
	Opening Balance as on 01.04.2017	Additions/ Adjustments	Deductions/ Adjustments	Closing Balance as on 31.03.2018	Accumulated Depreciation as at 01.04.2017	Depreciation / Amortisation for the year	Depreciation Adjustments	Accumulated Depreciation as at 31.03.2018	Net Block as at 31.03.2018	Net Block as at 31.03.2017
Factory/Office Complex										
Owned										
Freehold land(including development expenses)	25.45			25.45					25.45	25.45
Roads, bridges & culverts	10.70			10.70	7.56	1.60		9.16	1.54	3.14
Buildings	1281.77	78.78	1.12	1359.43	181.03	120.31	(0.45)	300.89	1058.54	1100.75
Drainage, Sewerage & water supply	15.78	0.28	0.20	15.86	1.43	0.64	(0.20)	1.87	13.99	14.35
Railway Siding	8.74	0.11		8.85	1.86	0.94		2.80	6.05	6.88
Locomotives & Wagons	28.34			28.34	6.27	3.14		9.41	18.93	22.07
Plant & Machinery	2814.42	105.12	1.06	2918.48	1162.24	483.34	(1.63)	1643.95	1274.53	1652.18
Electronic Data Processing Equipment	53.52	1.36	0.40	54.48	41.84	6.59	0.24	48.67	5.81	11.68
Electrical Installations	205.14	16.58	0.03	221.69	60.23	31.24		91.47	130.22	144.91
Construction Equipment	64.68	3.01	0.02	67.67	41.93	13.31	(0.02)	55.22	12.45	22.75
Vehicles	10.06	0.22		10.28	2.71	1.52		4.23	6.05	7.35
Furniture & fixtures	51.62	1.60	0.47	52.75	15.75	7.55	(0.27)	23.03	29.72	35.87
Office and other equipment	85.92	8.52	0.64	93.80	50.21	14.02	-	64.23	29.57	35.71
PPE costing upto ₹ 10,000/-	6.77	2.15	0.60	8.32	6.77	2.55	(1.00)	8.32		
Leased										
Leasehold land(including development expenses)	58.60			58.60	1.28	0.64		1.92	56.68	57.32
Leasehold buildings	1.63			1.63	0.11	0.05		0.16	1.47	1.52
EDP Equipment	162.45	8.83	2.20	169.08	69.98	45.77	(2.08)	113.67	55.41	92.47
Office & other equipment	13.83	0.27		14.10	4.69	2.65		7.34	6.76	9.14
Others	0.10			0.10	0.10			0.10		
Township/ Residential										
Owned										
Freehold land(including development expenses)	2.54		0.01	2.53					2.53	2.54
Roads, bridges & culverts	1.92	0.19		2.11	1.19	0.44		1.63	0.48	0.73
Buildings	158.33	2.09	0.23	160.19	13.77	5.04	(0.14)	18.67	141.52	144.56
Drainage, Sewerage & water supply	11.08	0.17		11.25	1.14	0.60		1.74	9.51	9.94
Plant & Machinery	36.47	6.18		42.65	4.81	4.25	0.01	9.07	33.58	31.66
Electronic Data Processing Equipment	0.03			0.03	0.03			0.03		
Electrical Installation	7.97	0.07	0.04	8.00	1.93	0.85	(0.02)	2.76	5.24	6.04
Vehicles	0.01			0.01					0.01	0.01
Furniture & fixtures	1.79	0.04		1.83	0.60	0.26		0.86	0.97	1.19
Office and Other equipments	8.85	1.26	0.16	9.95	4.28	1.72	(0.14)	5.86	4.09	4.57
PPE costing upto ₹ 10000	0.22	0.17		0.39	0.22	0.17		0.39		

(₹ in Crore)

Description	Gross Block				Depreciation				Net Block	
	Opening Balance as on 01.04.2017	Additions/ Adjustments	Deductions/ Adjustments	Closing Balance as on 31.03.2018	Accumulated Depreciation as at 01.04.2017	Depreciation / Amortisation for the year	Depreciation Adjustments	Accumulated Depreciation as at 31.03.2018	Net Block as at 31.03.2018	Net Block as at 31.03.2017
Leased										
Leasehold land(including development expenses)	52.25			52.25	0.94	0.76		1.70	50.55	51.31
Office & other equipment	0.52			0.52	0.18	0.10		0.28	0.24	0.34
Total	5181.51	237.00	7.15	5411.36	1685.08	750.05	(5.67)	2429.46	2981.90	3496.43
Previous Year	4717.94	486.70	23.13	5181.51	886.59	804.38	(5.90)	1685.08	3496.43	3831.35
The details of R&D capital items included in Property, Plant & Equipment and Intangible										
Plant & Machinery & other Equipments	231.02	19.30		250.32	88.47	32.95		121.42	128.90	142.55
Building	21.27	2.08		23.35	2.30	1.10		3.40	19.95	18.97

Gross Block as at 31.03.2018 includes assets condemned and retired from active use ₹ 0.12 crore (Previous year ₹ 0.12 crore)

Net Block as at 31.03.2018 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.	31.03.2018	31.03.2017
	59.18	49.31

There is no impairment loss in fixed assets during the year.

Gross block (as per earlier IGAAP) as at 31.03.2017 ₹ 12584.09 crore and as at 31.03.2018 ₹12766.54 crore

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
1. Land and buildings includes		
a i) Acres of land for which formal transfer/lease deed have not been executed"	8196.93	8198.00
Net Block	72.90	73.62
ii) Number of flats for which formal transfer/lease deed have not been executed	12.00	12.00
Net Block	1.24	1.28
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	528.18
Net Block	65.61	66.37
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 is valid upto 30.11.2018	180.00	180.00
d. Acres of land is under adverse possession/encroachment.	774.55	759.89

- 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)

2. 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)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
100% depreciation on PPE upto ₹10,000/- charged off	3.98	6.86
Less: Normal depreciation on above.	(1.15)	(1.92)
Excess amount charged to depreciation for the year	2.83	4.94

Note [3.1]

Detail of Intangible assets

(₹ in Crore)

Description	Gross Block			Depreciation				Net Block		
	Opening Balance as on 01.04.2017	Additions/ Adjustments	Deductions/ Adjustments	Closing Balance as on 31.03.2018	Accumulated Depreciation as at 01.04.2017	Depreciation / Amortisation for the year	Depreciation Adjustments	Accumulated Depreciation as at 31.03.2018	Net Block as at 31.03.2018	Net Block as at 31.03.2017
Internally Developed										
-Others	42.59	7.96		50.55	24.40	9.52		33.92	16.63	18.19
Others										
-Software	26.26	0.55		26.81	20.14	3.77		23.91	2.90	6.12
-Technical Know-how	118.92	15.32		134.24	40.91	21.55		62.46	71.78	78.01
-Others	10.27			10.27	7.83	2.44		10.27		2.44
Total	198.04	23.83		221.87	93.28	37.28		130.56	91.31	104.76
Previous year	185.10	12.94		198.04	47.74	45.41	0.13	93.28	104.76	137.36

Gross block (as per earlier IGAAP) as at 31.03.2017 ₹ 481.63 crore and as at 31.03.2018 ₹ 505.26 crore

Note [4] - Non-current assets**Investment (accounted for using equity method)**

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
BHEL-GE Gas Turbine Services Private Limited		
Opening Net asset	129.31	120.92
Profit / (loss) for the year	23.82	21.38
Other Comprehensive Income	0.18	(0.14)
Less: Dividend paid	14.76	12.85
Closing net assets	138.55	129.31
Raichur Power Corporation Limited		
Opening Net asset	584.39	589.32
Additional equity contribution	74.72	-
Profit / (loss) for the year	(376.23)	(4.93)
Adjustment (audited v/s unaudited profit / loss of 2016-17)	(16.78)	-
Closing net assets	266.10	584.39
NTPC-BHEL Power Projects Private Limited		
Opening Net asset	21.31	59.77
Profit / (loss) for the year	(38.35)	(38.46)
Adjustment (audited v/s unaudited profit / loss of 2016-17)	21.44	-
Closing net assets	4.40	21.31
Dada Dhuniwale Khandwa Power Limited		
Opening Net asset	18.19	19.74
Adjustment*	(18.19)	(1.55)
Closing net assets		18.19
Total of investment accounted for using equity method		
Opening Net asset	753.20	789.75
Additional equity contribution	74.72	-
Profit / (loss) for the year	(390.76)	(23.56)
Other Comprehensive Income	0.18	(0.14)
Less: Dividend paid	14.76	12.85
Adjustment (audited v/s unaudited profit / loss of 2016-17)	4.66	-
Adjustment*	(18.19)	
Closing net assets	409.05	753.20

* The joint venture is under liquidation.

Note [4a] - Non-current assets
Financial assets - Investments

(₹ in Crore)

Particulars	As at March 31, 2018		As at March 31, 2017		
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	
Less: Fair value adjustment		2.99	2.92	1.98	3.93
Dada Dhuniwale Khandwa Power Ltd.	22500000 (10)	22.50	-	-	
Less: Provision for impairment		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 #					
		19.92		3.93	
*Value of less than INR 1 lakh					
Aggregate amount of unquoted investment		30.41		7.91	
Aggregate amount of impairment in value of investments		(10.49)		(3.98)	

Equity shares held in various employees co-operatives societies, valuing less than INR 1 lakh/-

Note [5] - Non-current assets

Financial assets - Trade receivables

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Secured, considered good	-	-
Unsecured, considered good	12723.29	9789.14
Unsecured, considered doubtful and provided for	8642.60	5285.40
	21365.89	15074.54
Less: Allowances for bad and doubtful debts	8150.73	4893.94
Less: Automatic price reduction adjustment	491.87	391.46
	12723.29	9789.14
Trade receivables (non current) includes		
(a) Deferred Debts (net of provisions) - payment not yet due	10165.14	7989.26
(b) Valuation debts (represents intrinsic value adjustment)	161.31	124.63
(c) Due from Directors	-	-
(d) Due from Officers	-	-

Note [6] - Non-current assets

Financial assets - Loans

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Security deposits		
Secured, considered good	-	-
Unsecured, considered good		
Deposits with SEBs, port trust & others	84.27	78.01
Unsecured, considered doubtful and provided for		
Deposits others	1.62	0.31
	85.89	78.32
Less: Allowances for bad & doubtful deposits	1.62	0.31
	84.27	78.01
Loans		
Secured, considered good	-	-
Unsecured, considered good		
Interest accrued and due on loans	0.01	0.03
Unsecured, considered doubtful and provided for		
Interest accrued and due on loans	0.01	0.01
	0.02	0.04
Less: Allowances for bad & doubtful loans	0.01	0.01
	0.01	0.03
	84.28	78.04
Includes:		
Due from Directors	-	-
Dues from Officers	-	-

Note [7] - Non-current assets

Financial assets - Other financial assets

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Rent receivables on finance lease	0.02	0.16
	0.02	0.16

Note [8] - Non-current assets

Deferred tax assets (net of liabilities)

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Deferred tax assets		
Provisions	2728.10	2987.47
Statutory dues (allowed on payment basis)	652.95	725.88
Depreciation - PPE & intangible assets	160.98	132.18
Others	101.30	56.31
	3643.33	3901.84
Deferred tax liabilities	10.90	55.65
Deferred tax assets (net of liabilities)	3632.43	3846.19

Note [9] - Non-current assets

Other non-current assets

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Security deposits		
Deposits with tax authorities and others	145.22	86.79
Less: Allowances for bad & doubtful deposits	24.01	16.68
	121.21	70.11
<i>Out of above:</i>		
Secured, considered good	-	-
Unsecured, considered good	121.21	70.11
Unsecured, considered doubtful and provided for	24.01	16.68
Loans & advances		
Advances towards purchases	47.06	58.29
Claims recoverable and others	40.63	58.17
Capital advances	21.98	40.36
Less: Allowances for bad & doubtful advances	24.61	23.63
	85.06	133.19
<i>Out of above:</i>		
Secured, considered good	-	-
Unsecured, considered good	85.06	133.19
Unsecured, considered doubtful and provided for	24.61	23.63
	206.27	203.30
Includes :		
Due from Directors	-	-
Due from Officers	-	-

Note [10] - Current assets**Inventories**

(₹ in Crore)

Particulars	As at March 31, 2018		As at March 31, 2017	
Raw material & components	2860.07		3061.71	
Material-in-transit	217.10	3077.17	257.19	3318.90
Work-in-progress (including items with sub-contractors)		2285.51		2535.60
Finished goods	865.01		1297.76	
Inter - division transfers in transit	85.88	950.89	133.44	1431.20
Stores & spare parts				
Production	190.69		204.11	
Fuel stores	8.36		8.10	
Miscellaneous	48.55	247.60	51.03	263.24
Other Inventory				
Materials with fabricators/contractors	76.12		71.32	
Loose tools	31.10		36.37	
Scrap (at estimated realisable value)	61.21	168.43	73.31	181.00
		6729.60		7729.94
Less: Provision for non-moving inventory		466.45		350.27
		6263.15		7379.67
Note:				
Write down of inventories		142.96		136.97
Less : reversal thereof		26.78		43.27
Net		116.18		93.70

Note [11] - Current assets

Financial assets - Trade receivables

(₹ in Crore)

Particulars	As at March 31, 2018		As at March 31, 2017	
Secured, considered good		-		-
Unsecured, considered good		22772.11		22077.58
Unsecured, considered doubtful and provided for		4595.19		5364.18
		<u>27367.30</u>		<u>27441.76</u>
Less: Allowances for bad and doubtful debts	4488.52		5148.40	
Less: Automatic price reduction adjustment	<u>106.67</u>	<u>4595.19</u>	<u>215.78</u>	<u>5364.18</u>
		22772.11		22077.58
Current trade receivables include:				
(a) Deferred Debts (net of provisions) - payment not yet due		6454.27		8748.50
(b) Valuation debts (represents intrinsic value adjustment)		2032.22		1035.29
(c) Debts outstanding for a period exceeding six months		15068.13		17252.79
(d) Due from Directors		-		-
(e) Due from Officers		-		-

Note [12a] - Current assets

Financial assets - Cash & cash equivalents

(₹ in Crore)

Particulars	As at March 31, 2018		As at March 31, 2017	
Balances with banks				
Corporate liquid term deposits		1702.03		731.98
EEFC a/c		441.73		383.56
Current / cash credit a/c		214.83	2358.59	1327.92
		<u>210.03</u>	<u>212.38</u>	<u>122.85</u>
Cheques, demand drafts on hand		210.03		122.85
Deposits with banks having maturity 3 month or less		200.00		-
Cash & stamps on hand		0.19		0.25
Remittances in transit		-		34.90
		2768.81		1485.92

Note [12b] - Current assets

Financial assets - Bank balances other than above

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Fixed deposits having maturity more than 3 months but not more than 12 months	8400.28	9000.73
Fixed deposits against margin money for BG issued	2.16	2.03
Balances with banks (earmarked):		
AUSC and other R&D projects a/c	115.31	-
Unclaimed dividend a/c	3.30	3.10
Non-repatriable a/c	1.70	1.77
Sale proceeds of fractional shares on bonus issue	0.03	-
	120.34	4.87
	8522.78	9007.63
Total Cash and Bank Balances (12a + 12b)	11291.59	10493.55

Note [13] - Current assets

Financial assets - Loans

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Security deposits		
EMD and other deposits	147.44	139.21
Less: Allowances for bad & doubtful deposits	3.60	3.89
	143.84	135.32
<i>Out of above:</i>		
Secured, considered good	54.07	50.88
Unsecured, considered good	89.77	84.44
Unsecured, considered doubtful and provided for	3.60	3.89
Loans		
Loans to employees	0.01	-
Loans to PSUs	12.00	12.00
Interest accrued and due on loans	4.90	2.29
Less: Allowances for bad & doubtful loans	16.36	13.83
	0.55	0.46
<i>Out of above:</i>		
Secured, considered good	0.01	0.01
Unsecured, considered good	0.54	0.45
Unsecured, considered doubtful and provided for	16.36	13.83
	144.39	135.78
Includes :		
Due from Directors	-	-
Due from Officers	0.01	0.01

Note [14] - Current assets

Other financial assets

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Interest accrued on banks deposits and investments	117.94	183.83
Advance to employees	35.17	34.66
Rent receivable on finance lease	0.17	0.56
	<u>153.28</u>	<u>219.05</u>
Less: Allowances for bad & doubtful advances	0.02	0.03
	<u>153.26</u>	<u>219.02</u>
Includes:		
Due from Directors	-	0.01
Due from Officers	0.01	0.11

Note [15] - Current assets

Current tax assets (net of provisions)

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Advance tax & TDS	2551.94	4365.15
Less: Provisions for taxation	2329.00	3492.06
	<u>222.94</u>	<u>873.09</u>

Note [16] - Current assets

Other current assets

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Claim recoverable		
Input tax credit receivable	1009.33	360.09
Claim recoverable and others	664.02	649.84
	<u>1673.35</u>	<u>1009.93</u>
Advances		
Vendors / subcontractors	431.22	352.54
	<u>2104.57</u>	<u>1362.47</u>
Less: Allowances for bad & doubtful advances and claims	235.40	202.75
	<u>1869.17</u>	<u>1159.72</u>
<i>Out of above:</i>		
Secured, considered good	-	-
Unsecured, considered good :	1869.17	1159.72
Unsecured, considered doubtful and provided for	235.40	202.75
Security deposits		
Deposits with tax authorities and others	511.47	603.64
Less: Allowances for bad & doubtful deposits	34.63	38.09
	<u>476.84</u>	<u>565.55</u>
<i>Out of above:</i>		
Secured, considered good	-	-
Unsecured, considered good	476.84	565.55
Unsecured, considered doubtful and provided for	34.63	38.09
	<u>2346.01</u>	<u>1725.27</u>
Includes :		
Dues from Directors	-	0.01
Dues from Officers	0.02	0.04

Note [17] - Equity

Equity share capital

(₹ in Crore)

Particulars	As at March 31, 2018		As at March 31, 2017	
	No. of Shares (Face value in ₹)	Amount	No. of Shares (Face value in ₹)	Amount
Equity share capital				
Authorised	10000000000 (2)	2000.00	10000000000 (2)	2000.00
Issued, subscribed & paid up	3671400000 (2)	734.28	2447600000 (2)	489.52
a) The reconciliation of the number of equity shares outstanding				
Shares outstanding at the beginning of the year	2447600000	489.52	2447600000	489.52
Less: Shares bought back during the year	-	-	-	-
Add: Bonus shares issued during the year	1223800000	244.76	-	-
Shares outstanding at the end of the year	3671400000	734.28	2447600000	489.52
b) Details of shares held by shareholders holding more than 5 % of shares at the end of the year				
President of India	2315178000	63.06%	1543452000	63.06%
Life Insurance Corporation of India	345680880	9.42%	230453920	9.42%
Face value per share in (INR)		2.00		2.00

c) Terms / rights attached to the equity shares :

The company has only one class of equity shares having a par value of INR 2 per share (previous year INR 2 per share). Each holder of the equity shares is entitled to one vote per share

Note [18] - Non-current liabilities

Financial liabilities- Borrowings

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Unsecured		
Long term maturities of finance lease obligations	57.18	89.55
	57.18	89.55

(Disclosure as per para 16 of Note 39 on lease)

Note [19] - Non-current liabilities

Financial liabilities -Trade payables

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Trade payables	481.75	633.10
	481.75	633.10

Note [20] - Non-current liabilities

Other financial liabilities

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Deposits from contractors & others	110.43	102.14
Liability for capital expenditure	3.98	2.57
	114.41	104.71

Note [21] - Non-current liabilities

Provisions

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Contractual obligation	3477.90	3244.33
Provision for employee benefits	1265.26	1524.40
Provision others	240.77	218.48
Corporate social responsibility *	0.96	18.98
	4984.89	5006.19

*(Disclosure as per para 13 of Note 39 on CSR expense)

Note [22] - Non-current liabilities

Other non-current liabilities

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Advances received from customers & others	3337.46	2978.80
Deferred income - Government grant #	26.60	4.56
	3364.06	2983.36

Government grant is received for setting up of solar PV plant

Note [23] - Current liabilities

Financial liabilities - Borrowings

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Borrowings	4.55	6.03
Loans from companies	5.73	-
	10.28	6.03

Note [24] - Current liabilities

Financial liabilities - Trade Payables

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Trade payables *	10520.28	8697.72
Acceptances	68.97	18.16
	10589.25	8715.88
* Includes payables relating to Micro & Small Enterprises (Disclosure as per para 7 of note 39)	283.96	234.57

Note [25] - Current liabilities

Other financial liabilities

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Liabilities:		
Employees dues	856.19	187.57
Other dues	762.13	647.16
Capital expenditure	<u>111.38</u>	<u>116.61</u>
Deposits from contractors & others	1729.70	951.34
Current maturities of finance lease obligation #	563.37	511.07
Unpaid dividend *	42.27	60.31
Unpaid dividend *	3.30	3.10
Interest accrued & due on loans:		
State Government	-	2.33
Finance lease obligations	<u>3.43</u>	<u>3.65</u>
Interest accrued but not due	3.43	5.98
	<u>0.38</u>	0.59
	2342.45	1532.39

* No amount is due and outstanding to be transferred to Investor Education & Protection Fund at the year end.

(Disclosure as per para no. 16 of Note 39 on lease)

Other dues includes ₹ 0.03 crore for sale proceeds of fractional shares arising out of issuance of bonus shares.

Note [26] - Current liabilities

Provisions

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Contractual obligation	1853.42	1983.63
Provision for employee benefits	1566.10	1492.41
Corporate social responsibility ##	30.18	34.92
Provision others	279.60	682.82
	3729.30	4193.78

(Disclosure as per para no. 13 of Note 39 on CSR expense)

Note [27] - Current liabilities

Other current liabilities

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Advances received from customers & others	4236.24	5267.20
Liabilities towards statutory dues	1296.47	427.09
Deferred income - Govt. grant	7.46	0.26
	5540.17	5694.55
Advances received from customers & others include valuation adjustment	1169.12	2333.52

Note [28]**Revenue from operations**

(₹ in Crore)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
Sales (excluding excise duty)	22080.26	22854.33
Income from external erection & other services	5963.01	5010.72
	28043.27	27865.05
Less: Fair value adjustment	178.43	95.22
Turnover (excluding excise duty)	27864.84	27769.83
Add. Excise duty	247.98	1102.06
Turnover (including excise duty)	28112.82	28871.89
Other operational income		
Freight & insurance	288.07	298.92
Scrap income	147.27	168.61
Recoveries from suppliers	142.68	112.06
Liabilities written back	97.01	13.19
Fair value adjustment (unwinding)	95.90	98.88
Insurance claims	37.44	77.61
Export incentives	26.48	37.96
Others	127.79	52.38
Other operational income	962.64	859.61
Revenue from operations (excl. excise duty)	28827.48	28629.44
Revenue from operations (incl. excise duty)	29075.46	29731.50
Revenue from operations:		
a Includes based on provisional prices	140.73	74.10
b Includes additional claim for despatches made in earlier year in accordance with price settlement with railways during the year	-	214.65
c Includes for escalation claims raised in accordance with sales contracts, inclusive of escalation claims on accrual basis, to the extent latest indices were available	630.94	899.51
d Includes despatches of equipment held on behalf of customers at their request for which payment has been received	-	3.42
e Excludes for price reduction (net of refund) due to delay in delivery as per the terms of the contract	(5.13)	12.50
f Excludes GST amount	3559.32	N.A
g Excludes Service tax amount	140.91	534.92

Note [29]

Other income

(₹ in Crore)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
Interest income *		
From banks	520.27	671.46
Others	70.40	5.88
	<u>590.67</u>	<u>677.34</u>
Dividend income		
Dividend on investment in mutual funds	10.82	21.02
	<u>10.82</u>	<u>21.02</u>
Other income		
Profit on sale of units of mutual funds	25.85	-
Profit from sale of PPE & capital stores (Net)	9.41	2.36
Government grant	8.73	0.17
Others	32.53	52.30
	<u>76.52</u>	<u>54.83</u>
Total other income	678.01	753.19
*Includes TDS	43.98	69.16

Note [30]

Material consumption, erection and engineering expense

(₹ in Crore)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
Consumption of raw material & components	12124.68	13125.88
Civil, erection and engineering expense	3418.67	3055.51
Consumption of stores & spares	385.82	425.65
	<u>15929.17</u>	<u>16607.04</u>
Less: PV adjustment material / subcontracting cost	21.90	16.36
	<u>15907.27</u>	<u>16590.68</u>

Note [31]**Changes in inventories of finished goods and work in progress**

(₹ in Crore)

Particulars	For the year ended March 31, 2018		For the year ended March 31, 2017	
Work -in -progress				
Closing balance	2285.51		2535.60	
Opening balance	2535.60	250.09	3254.32	718.72
Finished goods				
Closing balance	865.01		1297.76	
Opening balance	1297.76	432.75	1571.43	273.67
Inter-division transfer in transit		56.16		0.55
		739.00		992.94
\$ Element of excise duty in finished goods				
Closing balance		N.A.		134.25
Opening balance		134.25		154.59

Note [32]**Employee benefits expense**

(₹ in Crore)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
Salaries, wages, bonus, allowances & other benefits	5044.78	4489.98
Contribution to provident and other funds	339.04	350.37
Contribution to gratuity fund	321.91	117.85
Staff welfare expense	318.77	433.26
Group insurance	10.18	11.25
	6034.68	5402.71

Note [33]
Manufacture, administration, selling & distribution expense

(₹ in Crore)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
Power & fuel	463.62	451.55
Carriage outward	387.15	425.73
Expenditure on other sub contracts	350.50	322.18
Payment to security agencies	217.92	178.74
Repairs & maintenance:		
Buildings	56.70	66.65
Plant & machinery	32.29	39.59
Others	113.07	220.29
Expenditure on collaborations & royalty	147.38	118.69
Travelling & conveyance	122.21	124.68
Insurance	104.48	123.87
Bank charges	75.01	61.54
Hire charges	70.03	70.24
Rent:		
Residential	38.21	49.09
Non residential	21.91	74.50
Rates & taxes	56.45	51.46
R&D expense	47.99	39.03
Office expense	47.33	66.10
Water charges	41.81	43.32
EDP, software & lease line expense	38.72	36.88
Expenditure on skill development	37.73	43.33
Legal, audit & certification expense	36.56	70.68
Publicity & public relation expense	28.55	27.30
Expenditure in connection with exports	14.43	15.72
Entertainment & courtesy expenses	10.43	10.22
Corporate social responsibility	10.40	37.50
Environmental protection	8.53	9.67
Service tax, swachh bharat cess & other cess	4.14	12.26
Unrealised loss in investment of equity share	1.01	2.74
Miscellaneous expense	91.10	105.39
	2675.66	2743.61
Net exchange variation gain (-) / loss (+)	(519.72)	269.71
	2155.94	3013.33

Note [33]**Manufacture, administration, selling & distribution expense**

(₹ in Crore)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
Legal, audit & certification expense includes :		
Payment to Statutory Auditors		
Audit fees	0.72	0.78
Tax audit	0.16	0.14
Quarterly limited review & others	0.39	0.39
Audit expense	0.12	0.12
	<u>1.39</u>	<u>1.43</u>
Payment to Cost Auditors - Audit fees	0.15	0.13
Director's fees	0.16	0.12
Expenditure on departmental repair & maintenance:		
Plant & machinery	202.30	206.63
Buildings	53.98	48.32
Others	47.80	35.62
Expenditure on research & development	261.74	240.74
Expenditure on foreign travel		
No. of tours	224	294
Expenditure	5.39	5.09

Note [34]

Provisions

(₹ in Crore)

Particulars	For the year ended March 31, 2018		For the year ended March 31, 2017	
Doubtful debts, liquidated damages and loans, advances & deposits				
Created during the year	3365.56		2964.19	
Less: withdrawal during the year	764.12	2601.44	<u>1491.65</u>	1472.54
Contractual obligations				
Created during the year	797.48		619.99	
Less: withdrawal during the year	727.48	70.00	<u>1446.68</u>	(826.69)
Others				
Created during the year	312.12		1565.40	
Less: withdrawal during the year	784.81	(472.69)	<u>937.03</u>	<u>628.37</u>
		2198.75		1274.23
Losses written off		31.98		13.60
Bad debts written off		8.22		72.86
Liquidated damages charged off		1.29		84.69
		2240.24		1445.38

Note [35]

Finance costs

(₹ in Crore)

Particulars	For the year ended March 31, 2018		For the year ended March 31, 2017	
Borrowing cost				
Unwinding of provisions	197.58		258.71	
Accretion to deferred liabilities	22.40	219.98	<u>30.06</u>	288.77
Interest cost				
On finance lease & others		35.18		62.53
		255.16		<u>351.30</u>
Less: Borrowing cost capitalised		-		-
		255.16		351.30

Note [36]**Tax expenses**

(₹ in Crore)

Particulars	For the year ended March 31, 2018		For the year ended March 31, 2017	
Current Tax				
For current year	551.81		610.11	
For earlier years	26.86	578.67	(311.76)	298.35
Deferred Tax				
For current year	(64.54)		(463.11)	
For earlier years	262.55	198.01	295.15	(167.96)
		776.68		130.39

Note [37]**Other comprehensive income / expenditure**

(₹ in Crore)

Particulars	For the year ended March 31, 2018		For the year ended March 31, 2017	
Income / (expenditure)				
Re measurement of defined employee benefits		127.39		(43.67)
Less: Income tax related to above items*		44.09		(15.11)
		83.30		(28.56)
* Includes				
Current tax		28.33		0.42
Deferred tax		15.76		(15.53)

Note [38]**Earning Per Share**

(₹ in Crore)

Particulars	For the year ended March 31, 2018		For the year ended March 31, 2017	
Profit attributable to equity shareholders		438.19		455.18
Weighted average number of equity shares		367.14		367.14
Basic and diluted earnings per share of INR 2 each		1.19		1.24

The shareholders of the company in their Annual General Meeting held on September 22, 2017 approved the issue of bonus shares in the ratio of 1:2 i.e. one equity share for two existing fully paid up equity share held. The bonus shares were allotted on October 3, 2017. Accordingly post bonus issue, the number of equity shares were increased from 244.76 crore to 367.14 crore. Accordingly, the earning per share for comparative period of March 31, 2017 have also been computed on the basis of new number of shares post bonus issue in line with Ind AS 33 - Earnings per share.

Note [39]

Notes to Accounts

1. 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 Machines Ltd. and Joint Venture Companies namely, BHEL-GE Gas Turbine Services Ltd., NTPC-BHEL Power Projects Pvt. Ltd., Raichur Power Corporation Ltd, PowerPlant Performance Improvement Ltd. and Dada Dhuniwale Khandwa Power Ltd.

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 subsidiaries are 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.
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	
		2017-18	2016-17
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	India	50%	50%
Raichur Power Corporation	India	27.97%	27.34%

- The financial statements of BHEL EML are consolidated based on the audited financial statement for the year ended on 31.03.2018.
- 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 31.03.2018.
- 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 31.03.2018.
- 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. has not been considered in preparation of consolidated financial statements as the company is under liquidation.

2. Contingent liabilities & commitments to the extent not provided for:

(₹ in Crore)

Particulars	As at March 31, 2018		As at March 31, 2017	
	Demand Amount	Amount paid Under Protest	Demand Amount	Amount paid Under Protest
(i) Contingent liabilities:				
Claims against the company not acknowledged as debt :				
a Sales tax	1683.30	292.91	1846.50	298.34
b Court & arbitration cases	951.09	-	884.19	-
c Service tax	387.82	8.51	507.67	7.39
d Excise duty	311.43	16.53	482.92	24.17
e Income tax	10.66	-	12.73	-
f Custom duty	5.80	5.80	-	-
g Counter claims by contractors	0.61	-	0.61	-
h Goods & service tax	-	-	-	-
i Others (incl. disputed staff cases)	37.05	-	34.74	-
	As at March 31, 2018		As at March 31, 2017	
j Liquidated damages (LD)	5068.15		6214.54	
- Amount deducted by customers towards LD	(2715.92)		(2730.50)	

(In view of various court cases, litigations and claims disputed by the Company, the outflow of resources is not ascertainable at this stage).

(₹ in Crore)

(ii) Movement of contingent liabilities	Amount
Opening Balance as on April 1, 2017	9983.90
Less: Reduction out of Opening Balance	2782.95
Add: Additions (Net) during the year	1254.96
Closing Balance as on March 31, 2018	8455.91

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
(iii) Commitments		
a Estimated amount of contracts, net of advances, remaining to be executed on capital account and not provided for.	226.51	193.93
- (The above includes for acquisition of intangible assets)	(10.01)	(3.96)
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	639.32
c Commitments towards additional investment in the Joint Venture in case of inability of other JV partner to take up additional equity stake	-	111.26
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.		

3. (i) The Company has a Cash credit limit from banks aggregating to ₹ 5000 crore (previous year ₹ 5000 crore) and Company's counter guarantee / indemnity obligations in regard to bank guarantee / letters of credit limit aggregating to ₹ 55000 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 31.03.2018 is ₹ 43882 crore (previous year ₹ 40667 crore).

(ii) Corporate Guarantees given for own obligations outstanding as on 31.03.2018 is ₹ 1747.07 crore (Previous year ₹ 1733.80 crore).

4. Balance shown under Trade Receivables, Trade Payable, 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). The total receivables including long term net of provisions are ₹ 35493 crore (Previous year ₹ 31863 crore), {including deferred debts and other debts of ₹ 19041 crore (previous year ₹ 19116 crore) presently not due for payment and ₹ 7307 crore (previous year ₹ 6287 crore) outstanding in respect of completed projects}, out of which, the projects reconciled with customers during the year have outstanding debts of ₹ 6428 crore (previous year ₹ 5497 crore) in respect of completed projects.

5 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.

6 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.

7. Due to Micro and Small Enterprises Disclosure

(₹ in Crore)

Particulars	2017-18	2016-17
i) The principal amount remaining unpaid to supplier as at the end of the accounting year.	283.96	234.57
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	0.07
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.	-	1.73

8. The Reconciliation between the Provision of Income Tax (Net of Deferred Tax) & Amounts Computed by applying the Income Tax Rate

(₹ in Crore)

Particulars	For the year ended 2017-18	For the year ended 2016-17
Total Comprehensive Income / (Loss) before tax (A)	1,342.44	541.76
Income Tax Rate (B)	34.608%	34.608%
Tax expense (C) = (A) X (B)	464.59	187.49
Add Tax effect of the amounts as under:		
a) Expenses - Not deducted	6.99	13.96
b) Tax exempt income	(3.74)	(7.27)
c) Tax incentive	(37.48)	(70.49)
d) Change in tax rate	(34.17)	-
e) Changes in tax expense - Earlier years	289.41	(16.61)
f) Tax effect on share of JVs profit / (loss)	135.17	8.20
Total (D)	356.18	(72.21)
Net Tax Expense (E) = (C)+(D)	820.77	115.28
Net Tax Expense (Refer Note 36 & 37) (F)	820.77	115.28

9. Research and Development Expenditure

The details of Research & Development Expenditure incurred during the year, which is eligible (other than land or building) of deduction under section 35 (2AB) of the Income Tax Act, 1961.

(₹ in Crore)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
A. (i) Land		
(ii) Building	2.08	-
B. Plant & Machinery & Other Equipments	11.34	16.12
C. Revenue Expenditure		
Salaries/ Wages	157.70	141.81
Material/ Consumables/spares	17.80	18.10
Utilities	0.54	0.55
Other R&D related expenses	30.93	31.82
Total Revenue Expenditure	206.97	192.28
D. Any Receipt/ Income by the R&D Centre	(1.69)	(4.73)
E. Net amount eligible for deduction (B+C-D)	216.62	203.67

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, Government of India for implementation of the R&D project, spreading over a period of three years commencing from 2017-18. BHEL from own contribution has spent ₹ 23.60 crore in 2017-18 and accounted as R&D expenditure.

10. Subsidiary

(a) Name of subsidiary

Particulars	Principal place of business	Proportion of ownership interest held by the Company		Proportion of ownership interest held by the Non Controlling Interest	
		As at			
		March 31, 2018	March 31, 2017	March 31, 2018	March 31, 2017
BHEL Electrical Machines Limited	India	51%	51%	49%	49%

BHEL EML Ltd. (subsidiary company) is engaged in manufacturing of rotating electrical machines and is located at Kasaragod, 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, 2018	As at March 31, 2017
Non-current assets	12.42	11.55
Current assets	9.54	15.02
Total assets	21.96	26.57
Non-current liabilities	8.11	6.82
Current liabilities	22.12	21.98
Total liabilities	30.23	28.8
Net assets	(8.27)	(2.23)
Accumulated non controlling interest (NCI)	(4.05)	(1.08)

(₹ in Crore)

Summarized statement of profit and loss	For the Year 2017-18	For the Year 2016-17
Revenue	14.53	32.13
Profit/ (loss) for the year	(6.01)	(4.24)
Other comprehensive income	(0.04)	0.44
Total comprehensive income	(6.05)	(3.80)
Profit/ (loss) attributable to NCI	(2.97)	(1.86)

(₹ in Crore)

Summarized cash flows	For the Year 2017-18	For the Year 2016-17
Cash flows from operating activities	(5.17)	(2.17)
Cash flows from investing activities	-	(0.04)
Cash flows from financing activities	3.83	2.77
Net increase/ (decrease) in cash and cash equivalents	(1.34)	0.56

11. 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:

(₹ in Crore)

Name of the joint ventures (accounted for at equity method)	Principal place of business	Proportion of ownership		Carrying amount	
		As at March 31, 2018	As at March 31, 2017	As at March 31, 2018	As at March 31, 2017
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	50.00
Raichur Power Corporation Limited (RPCL)	India	27.97%	27.34%	664.04	589.32
Dada Dhuniwale Khandwa Power Limited	India	50.00%	50.00%	17.00	15.79

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 ₹ 45.60 crore based on the net financial position. The Board of Directors in its meeting held on February 8, 2018 has accorded in principle approval for pursuing the winding up of NBPPPL.
- (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 ₹ 5.50 crore (Previous year ₹ 6.71 crore) based on the net financial position. The winding of the company is in process. An amount of ₹ 17 crore has been received on April 27, 2018 against investment of ₹ 22.50 crore in DDKPL.
- (d) Latur Power Company Ltd. has been wound up during the year.

b) Summarized financial information of Joint Ventures (proportionate interest) is as follows :

BHEL-GE Gas Turbine Services Pvt. Ltd

(₹ in Crore)

Balance sheet	As at March 31, 2018	As at March 31, 2017
BHEL share	50%	50%
Non-current assets	18.86	18.87
Current assets	227.10	188.65
Cash and cash equivalent (including bank balances) included in current assets	24.85	8.30
Non-current liabilities	2.32	3.41
Non-Current financial liabilities (excluding trade payables)	0.33	0.40
Current liabilities	105.09	74.81
Current financial liabilities (excluding trade payables)	4.29	4.05

(₹ in Crore)

Statement of profit and loss	For the year ended March 31, 2018	For the year ended March 31, 2017
Revenue	321.33	269.38
Interest income	5.03	6.40
Depreciation and amortization	2.29	1.68
Interest expense	0.22	0.53
Income tax expense	14.70	13.38
Profit / loss for the year	26.82	24.00
Other comprehensive income	0.18	(0.14)
Total comprehensive income	27.00	23.86

Raichur Power Corporation Ltd.

(₹ in Crore)

Balance sheet	As at March 31, 2018	As at March 31, 2017
BHEL share	27.97%	27.34%
Non-current assets	3,429.20	3400.01
Current assets	277.88	21.27
Cash and cash equivalent included in current assets	1.02	0.14
Non-current liabilities	3,142.24	2719.70
Non-current financial liabilities (excluding trade payables)	3,142.24	2719.70
Current liabilities	299.35	117.27
Current financial liabilities (excluding trade payables)	137.23	45.84

(₹ in Crore)

Statement of profit and loss	For the year March 31, 2018	For the year March 31, 2017
Revenue	258.02	0.00
Depreciation and amortization	188.08	3.54
Interest expense	319.19	1.12
Income tax expense	-	-
Profit / (loss) for the year post tax profit or loss from discontinuing operations	(376.23)	(4.93)
Total comprehensive income	(376.23)	(4.93)

NTPC-BHEL Power Projects Pvt. Ltd.

(₹ in Crore)

Balance sheet	As at March 31, 2018	As at March 31, 2017
BHEL share	50%	50%
Non-current assets	195.07	93.39
Current assets	167.23	254.30
Cash and cash equivalent included in current assets	6.06	8.96
Non-current liabilities	159.38	16.41
Current liabilities	198.52	309.97
Current financial liabilities (excluding trade payables)	37.93	60.53

Statement of profit and loss	For the year ended March 31, 2018	For the year ended March 31, 2017
Revenue	73.24	321.58
Interest Income	0.60	3.88
Depreciation and amortization	4.05	4.04
Interest expense	0.76	0.34
Income tax expense	(11.93)	0.00
Profit / (loss) for the year	(38.35)	(38.46)
Total comprehensive income	(38.35)	(38.46)

12 Related Parties Transactions

i) Joint Ventures :

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.

Subsidiary Company :

BHEL Electrical Machines Limited

Others :

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):

CMD	:	Shri Atul Sobti
Functional Directors	:	S/Shri D. Bandyopadhyay, Amitabh Mathur, S. Biswas, Akhil Joshi, T. Chockalingam (upto Nov' 30, 2017)
Company Secretary	:	Shri I.P. Singh
CMD/BHEL EML	:	Shri S. Basu

Key Management Personnel (KMP)

(₹ in Crore)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
Payment of salaries	3.20	2.34
Relatives of KMP		
Payment of salaries	-	-
Details of transactions		
Short-term employee benefits	2.76	1.92
Post-employment benefits	0.44	0.42
Total remuneration paid	3.20	2.34

The CMD and functional directors have been allowed the use of staff car for both duty and non-duty journeys. The ceiling of non duty journey is 1000 kms p.m against recovery of prescribed amount in accordance with terms and condition of appointment. The monetary value of the perquisite for the use of car, if calculated in accordance with the provisions of I.T. Rules 1962 would amount to ₹ **0.02 crore** (previous year ₹ 0.02 crore)

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 Government 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 31,2018	March 31,2017	March 31,2018	March 31,2017	March 31,2018	March 31,2017	March 31,2018	March 31,2017
	BGGTS		RPCL		NBPPL		Total (incl. others)	
Sales of goods and services	196.48	187.76	91.22	235.46	77.27	361.57	364.97	784.79
Dividend income	14.76	12.85	-	-	-	-	14.76	12.85
Royalty income	0.90	1.47	-	-	-	-	0.90	1.47
Purchase of goods and services	1.02	0.56	-	-	7.38	9.49	8.40	10.05
Purchase of shares	-	-	74.72	-	-	-	74.72	-
Amounts due to BHEL at the end of the year	48.06	42.61	484.76	472.18	310.43	309.34	843.25	824.13
Amounts due from BHEL (incl. advances) at the end of the year	0.08	0.16	16.94	27.55	90.58	91.66	107.60	119.37
Provision for doubtful debts & advances	0.22	-	-	-	23.34	12.20	23.56	12.22

- 13 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 per cent 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 expenses for the year are as under:

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
A. Amount required to be spent during the year	10.40	37.50
B. Amount available from previous year	53.90	88.98
C. Total (A+B)	64.30	126.48
D. Amount spent during the year on-		
- Construction/ acquisition of any asset	-	-
- On purposes other than (i) above	33.16	72.58
Total	33.16	72.58
Amount carried forward	31.14	53.90
Current	30.18	34.92
Non-current	0.96	18.98

a) Amount spent during the year ended March 31, 2018:

(₹ in Crore)

Particulars	In cash	Yet to be paid in cash	Total
i) Construction / acquisition of any asset	-	-	-
ii) On purposes other than (i) above	7.36	3.04	10.40

b) Amount spent during the year ended March 31, 2017:

(₹ in Crore)

Particulars	In cash	Yet to be paid in cash	Total
i) Construction / acquisition of any asset	-	-	-
ii) On purposes other than (i) above	26.78	10.72	37.50

14 Dividend

The following dividend were declared and paid during the year:

(₹ in Crore)

	For the year ended 2017- 2018	For the year ended 2016- 2017
Final dividend of ₹ 0.78 (Previous year ₹ 0.40) per qualifying equity share	190.92	97.90
Interim dividend of ₹ 0.80 (previous year ₹ 0.80) per qualifying equity share	293.71	195.81

- The above final dividend figures exclude tax on dividend of ₹ 38.87 crore (previous year ₹ 19.93 crore)
- The above interim dividend figures exclude tax on dividend of ₹ 59.79 crore (previous year ₹ 39.86 crore)
- The Company has allotted bonus share on October 3, 2017 in the ratio of 1:2. Accordingly, the number of equity shares increased from 244.76 crore to 367.14 crore. The interim dividend paid in 2017-18 was on enhanced number of equity share of 367.14 crore.
- The Company has proposed final dividend @ 51 % (₹ 1.02 Per share, amounting to ₹ 374.48 crore) on paid up share capital of ₹ 734.28 crore out of profit for the year 2017-18. The total payout on account of dividend (₹ 374.48 crore) alongwith corporate dividend tax (₹ 76.97 crore) will be ₹ 451.45 crore.
- The Board of Directors has authorised to issue the Financial Statements 2017-18 in its meeting held on May 29, 2018.

15 Disclosure - Ind AS-11 Construction Contracts

(₹ in Crore)

Particulars	For the year ended March 31, 2018	For the year ended March 31, 2017
Contract revenue recognised for the year	22195.09	21757.36
In respect of Contract in progress at the end of year :		
The aggregate amount of Cost incurred and recognised profits (less recognised losses) to date	293727.90	280975.13
Amount of advance received	5398.72	4447.76
Amount of retentions (deferred debts)	17940.20	17776.01
In respect of dues from customers after appropriate netting off		
Gross amount due from customer for the contract work as an asset	3216.73	2939.99
Gross amount due to customer for the contract work as a liability	1090.79	1169.85

The estimates of total costs and total revenue in respect of construction contracts in accordance with Ind AS-11 Construction Contracts are reviewed and up dated periodically to ascertain the percentage completion for revenue recognition. However, it is impracticable to quantify the impact of change in estimates.

16 Leases

Disclosure Ind AS 17 - Leases

Operating Lease Commitments - Company as Lessee

The Company is in the practice of taking Houses for employees, Office Buildings and EDP equipment etc. on operating lease both as cancellable and non-cancellable. The total of future minimum lease payments under non-cancellable operating leases for each of the following periods :

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Less than one year	1.53	2.74
Between one and five years	1.53	3.12
More than five years	1.31	1.03
	4.37	6.89

Finance Lease Commitments - Company as Lessee

The Company has taken Land, Building, EDP equipment on finance lease. The future minimum lease payments under non-cancellable leases are as follows:

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Less than one year	49.86	73.88
Between one and five years	69.84	104.60
More than five years	0.00	0.00
	119.70	178.48

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, 2018	March 31, 2017	March 31, 2018	March 31, 2017	March 31, 2018	March 31, 2017
Less than one year	49.86	73.88	7.59	13.57	42.27	60.31
Between one and five years	69.84	104.60	12.66	15.05	57.18	89.55
More than five years	0.00	0.00	0.00	0.00	0.00	0.00

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, 2018	As at March 31, 2017
Gross investment in lease:		
Less than one year	0.17	0.56
Between one and five years	0.02	0.19
More than five years	-	-

Net Investment in Finance Receivables

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Unearned finance income	0.01	0.03
Net investment in finance receivables	0.19	0.72

Present value of Minimum Lease Receivables are as follows:

(₹ in Crore)

Particulars	As at March 31, 2018	As at March 31, 2017
Present value of minimum lease:		
Less than one year	0.17	0.56
Between one and five years	0.02	0.16
	0.19	0.72

17 Disclosure as per Ind AS 19 on 'Employee benefits'

The Company has following Schemes in the nature of Defined Benefits plans

- i) Gratuity Scheme
- ii) Post Retirement Medical Scheme
- iii) Provident Fund Scheme

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. Gratuity Act has been amended and Government has notified increase in maximum Gratuity limit to ₹ 20 lakhs from earlier limit of ₹ 10 lakhs during 2017-18.

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, 2018	March 31, 2017	March 31, 2018	March 31, 2017	March 31, 2018	March 31, 2017
Opening balance	1,936.16	1,944.44	1,931.42	1,939.47	4.74	4.97
Included in profit for the year :						
Current service cost	121.07	117.46	-	-	121.07	117.46
Past service cost	200.47	-	-	-	200.47	-
Interest cost / income	145.21	155.56	144.86	155.16	0.35	0.40
Total amount recognised in profit for the year	466.75	273.02	144.86	155.16	321.89	117.86
Included in other comprehensive income (OCI):						
Remeasurement loss (gain):						
Actuarial loss (gain) arising from:						
Change in financial assumption	(52.18)	58.46	79.28	1.08	(131.46)	57.38
Experience adjustment	49.10	(114.91)			49.10	(114.91)
Total amount recognised in other comprehensive income	(3.08)	(56.45)	79.28	1.08	(82.36)	(57.53)
Others						
Contributions paid by the employer	-	-	-	60.39	-	(60.39)
Benefits paid	(211.78)	(224.85)	(211.55)	(224.68)	(0.23)	(0.17)
Unpaid Benefits paid	(130.00)	-	(130.00)	-	-	-
Closing balance	2,058.05	1,936.16	1,814.01	1,931.42	244.04	4.74

II. Details of Plan assets

Particulars	As at March 31, 2018	As at March 31, 2017
Funds managed by Insurer	55.24%	4.86%
High quality Corporate bonds (quoted)	41.84%	43.41%
State Government securities (quoted)	2.24%	31.83%
Equity shares of listed Companies (quoted)	0.67%	0.68%
Bank Balance	0.01%	3.28%
Government of India securities (quoted)	-	15.94%
Total	100.00%	100.00%

III. Actuarial assumptions

The following were the principal actuarial assumptions at the reporting date.

Particulars	As at March 31, 2018	As at March 31, 2017
Economic assumptions:		
Discount rate	7.90%	7.50%
Salary escalation rate	6.60% P.A. for 1st 4 yrs. & then 6% P.A. thereafter	7.65% P.A. for 1st 4 yrs. & then 6% P.A. thereafter
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%

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 2018		As at March, 31 2017	
	Increase	Decrease	Increase	Decrease
Discount rate (0.50% movement)	(68.01)	73.60	(58.44)	64.16
Salary escalation rate (0.50% movement)	74.29	(69.23)	63.49	(58.39)

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 31,2018	As at March 31,2017
Less than 1 year	328.57	236.27
Between 1-2 years	275.08	200.44
Between 2-3 years	150.45	145.80
Between 3-4 years	114.52	140.71
Between 4-5 years	96.59	111.69
Between 5-6 years	77.95	101.58
Over 6 years	1,014.89	999.67
Total	2,058.05	1,936.16

Expected contributions to gratuity plans for the year ending March 31, 2019 are ₹ 127.39 crore

The weighted average duration of the gratuity defined benefit plan obligation at the end of the reporting period is **14.78** years (March 31, 2017: 14.66 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, 2018	March 31, 2017	March 31, 2018	March 31, 2017	March 31, 2018	March 31, 2017
Opening balance	1,820.70	1,679.37	1,820.70	-	-	1,679.37
Included in profit for the year :						
Current service cost	32.66	30.29	-	-	32.66	30.29
Interest cost / income	136.55	134.35	136.55	-	-	134.35
Total amount recognised in profit for the Year	169.21	164.64	136.55	-	32.66	164.64

(₹ in Crore)

Particulars	Defined benefit obligation		Fair value of plan assets		Net defined benefit (asset) / liability	
	As at					
	March 31, 2018	March 31, 2017	March 31, 2018	March 31, 2017	March 31, 2018	March 31, 2017
Included in other comprehensive income (OCI):						
Remeasurement loss / (gain):						
Actuarial loss / (gain) arising from:						
Demographic assumptions	-	-	-	-	-	-
Financial assumption	(103.19)	74.43	33.78	-	(136.97)	74.43
Experience adjustment	149.00	(6.61)	-	-	149.00	(6.61)
Total amount recognised in other comprehensive income	45.81	67.82	33.78	-	12.03	67.82
Others						
Contributions paid by the employer	-	-	-	1,820.70	-	(1,820.70)
Benefits paid	(110.00)	(91.13)	(110.00)	-	-	(91.13)
Closing balance	1,925.72	1,820.70	1,881.03	1,820.70	44.69	(0.00)

The plan assets of the Company are managed by Life Insurance Corporation of India (LIC) 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, 2018	As at March 31, 2017
Economic assumptions:		
Discount rate	7.90%	7.50%
Salary escalation rate	6.60% P.A. for 1st 4 yrs. & then 6% P.A. thereafter	7.65% 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, 2018		As at March 31, 2017	
	Increase	Decrease	Increase	Decrease
Discount rate (0.50% movement)	(94.49)	96.49	(89.34)	90.14
Cost (0.50% movement)	97.02	(95.17)	90.94	(90.02)

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, 2018	As at March 31, 2017
Less than 1 year	121.85	103.44
Between 1-2 years	123.81	105.61
Between 2-3 years	126.78	108.14
Between 3-4 years	129.37	111.28
Between 4-5 years	132.78	115.17
Between 5-6 years	138.09	119.78
Over 6 years	1,153.04	1,157.28
Total	1,925.72	1,820.70

Expected contributions to post retirement medical benefit plan for the year ending March 31, 2019 are ₹ 34.97 crore.

The weighted average duration of the post retirement medical benefit plan obligation at the end of the reporting period is **12.84** years (March 31, 2017: 12.57 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. 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, once in a quarter. Encashable leave and half pay leave is encashable upto a maximum of 300 days on superannuation subject to Company policy and 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 31,2018	As at March 31,2017
Opening balance	1,769.49	1,628.73
Included in profit for the year :		
Current service cost	146.37	107.77
Interest cost / (income)	132.71	130.30
Actuarial loss / (gain)	137.08	226.30
Total amount recognised in profit for the year	416.16	464.37
Others		
Contributions paid by the employer	-	-
Benefits paid	660.00	323.61
Closing balance	1,525.65	1,769.49

II. Actuarial assumptions

The following were the principal actuarial assumptions at the reporting date.

Particulars	Long Term Leave Liability	
	As at March 31,2018	As at March 31,2017
Economic assumptions:		
Discount rate	7.90%	7.50%
Salary escalation rate	6.60% P.A. for 1st 4 yrs. & then 6% P.A. thereafter	7.65% 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%

D. Provident Fund

The Company pays fixed contribution to provident fund at predetermined rates to a separate trust, which invests the funds in permitted securities. An amount of ₹ 275.80 crore (March 31 2017: ₹ 282.46 crore) for the year is recognised as expense on this account and charged to the statement of profit and loss. The Company has an obligation to ensure minimum rate of return to the members as specified by Government of India (GOI). Accordingly, the Company has obtained report of the actuary, based on which overall interest earnings and cumulative surplus is more than the statutory interest payment requirement for all the periods presented and wherever as per the actuarial valuation certificate liability for likely interest shortfall arises, the same has been provided in the accounts.

(₹ in Crore)

Particulars	For the year ended 2017-2018	For the year ended 2016-2017
Excess / (Shortfall) in PF interest liability based on actuarial valuation for the year	1.72	7.73
Accumulated provision for shortfall in PF interest liability based on actuarial valuation	1.81	3.53
Remeasurement gain / (loss) recognised through other comprehensive income statement	10.39	12.00
Interest shortfall / (surplus) accounted through statement of profit & loss	8.67	4.27

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, 2018	March 31, 2017	March 31, 2018	March 31, 2017	March 31, 2018	March 31, 2017
BHEL EPF Trust, Ranipur, Hardwar	1359.02	1,263.70	1362.23	1,262.35	3.21	(1.35)
BHEL Employee Provident Fund, Trichy	1094.10	1,088.93	1094.87	1,088.31	0.77	(0.62)
BHEL Employee Provident Fund, Bhopal	1081.53	1,033.79	1088.32	1,041.21	6.79	7.42
BHEL New Delhi Employees Provident Fund Trust, New Delhi	882.34	830.17	894.53	838.08	12.19	7.91
BHEL Employee Provident Fund, Hyderabad	840.78	873.85	878.01	911.51	37.23	37.66
BHEL PPD EPF Trust, Chennai	563.21	502.23	561.40	500.67	(1.81)	(1.56)
BHEL Employee Provident Fund, Bengaluru	544.91	507.04	549.86	510.41	4.95	3.37
BHEL (BAP Unit) EPF Trust, Ranipet	363.29	324.38	363.87	325.95	0.58	1.57
BHEL Employee Provident Fund Trust, Jhansi	355.32	344.46	361.43	352.49	6.11	8.03
Bharat Heavy Plates & Vesseles Limited Employee Contributory Provident Fund, Vishakhapatnam	104.17	108.00	147.60	135.82	43.43	27.82

Actuarial assumptions

The following were the principal actuarial assumptions at the reporting date.

Particulars	As at March 31, 2018	As at March 31, 2017
Economic assumptions:		
Discount rate	7.90%	7.50%
Expected statutory interest rate	8.65%	8.65%
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%

18 Movement in provisions - Disclosure Ind AS - 37

(₹ in Crore)

Liquidated Damages	As at March 31, 2018	As at March 31, 2017
Opening balance	3883.84	2986.92
Add: Additions	2181.25	1506.83
Less: Usage/ Write off/payment	1.29	84.69
Less: Withdrawal/adjustments	215.30	525.22
Closing balance	5848.50	3883.84

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 2 of Note 39.

(₹ in Crore)

Contractual Obligation	As at March 31, 2018	As at March 31, 2017
Opening balance	5227.97	5807.13
Add: Borrowing cost	190.96	250.70
Add: Additions	1055.19	759.15
Less: PV adjustment	302.11	133.63
Less: Usage/ write off/payment	223.56	161.45
Less: Withdrawal/adjustments	661.53	1288.40
Add/(Less): Change in estimate and rates	44.40	(5.53)
Closing balance	5331.32	5227.97

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.

19 Financial Instruments - (Disclosure Ind AS-107) Accounting Classifications and Fair Value Measurements

- a The Fair value of cash and cash equivalents, bank balances, loans, trade receivables, trade payables and others 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.

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. Classification of Financial Assets / Liabilities

(₹ in Crore)

Particulars	Carrying Amount	
	As at March 31, 2018	As at March 31, 2017
Financial assets at amortised cost		
Trade receivables	35495.40	31866.72
Cash & cash equivalent	2768.81	1485.92
Other bank balances	8522.78	9007.63
Loans	228.67	213.82
Other financial assets	153.28	219.18
Financial assets at fair value through profit & loss		
Investments (Equity instruments)	2.92	3.93
Financial Liabilities at amortised cost		
Borrowings (current)	10.28	6.03
Trade payables	11071.00	9348.98
Other financial liabilities	2411.16	1573.14
Finance lease obligation	102.88	153.51

(₹ in Crore)

Financial assets measured at fair value - recurring fair value measurements	Level 3 Hierarchy	
	As at March 31, 2018	As at March 31, 2017
Investment in unquoted equity instruments	2.92	3.93

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, 2017	3.93
Changes in fair value	(1.01)
As at March 31, 2018	2.92

d 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.

e 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.

f Credit Risk Management

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 Government departments etc.) and private sectors. 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 4 years and payments are generally realised in stages as per the terms of the contract including advance, progress payments, milestone payments and retentions 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 Central Public Sector Enterprises (CPSE), credit risk is relatively low. In respect of private sector 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, the company prepares its accounts on conservative basis and adequate provisions are maintained to address any eventuality.

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, 2018	As at March 31, 2017
Financial assets for which loss allowance is measured using 12 months Expected Credit Losses (ECL)		
Cash and cash equivalents	2768.81	1485.92
Other bank balances	8522.78	9007.63
Loans	228.67	213.82
Others financial assets	153.28	219.18
Financial assets for which loss allowance is measured using Life time Expected Credit Losses (ECL)		
Trade receivables	35495.40	31866.72

Concentration of credit risk- Geographical	Percentage of Total Revenue	
	As at March 31, 2018	As at March 31, 2017
Within India	96.19%	97.00%
Outside India	3.81%	3.00%

The company's exposure to credit risk for trade and other receivables by type of counterparty are as follows :

Particulars	Percentage of Total Trade Receivables	
	As at March 31, 2018	As at March 31, 2017
Central Public Sector Undertakings including Railways and Government Department	43.43%	46.81%
State Electricity Boards	37.34%	28.11%
Private customers and others	15.43%	21.35%
Exports	3.81%	3.73%
	100%	100%

g 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)

Balance as at March 31, 2017	18.04
Impairment loss recognised / write off/ withdrawal	4.25
Balance as at March 31, 2018	22.29

(b) Reconciliation of impairment loss provisions

The movement in the allowance for impairment in respect of trade receivables during the year was as follows:

(₹ in Crore)

Balance as at March 31, 2017	6180.26
Impairment loss recognised	1100.57
Amounts written off/ withdrawal	506.58
Balance as at March 31, 2018	6774.25

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.

h Liquidity Risk

The Company manages liquidity risk by maintaining sufficient cash and cash equivalents including term deposits 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 cash credit facilities which has remained unutilised during the year. The company is able to meet all its fund requirements from internal resources i.e. the funds generated from operations. Accordingly, no liquidity risk is perceived.

The following are the contractual maturities of non-derivative financial liabilities, based on contractual cash flows:

(₹ in Crore)

Particulars	As at March 31, 2018		As at March 31, 2017	
	Within 1 year	exceeding 1 year	Within 1 year	exceeding 1 year
Trade payables	10589.25	481.75	8715.88	633.10
Borrowings	10.28	-	6.03	-
Deposits from contractors and others	563.37	114.41	511.07	104.71
Finance lease obligations	45.70	57.18	63.96	89.55
Other Payables/liabilities				
Employee dues	856.19	-	187.57	-
Other dues	765.81	-	653.18	-
Capex dues	111.38	-	116.61	-
Total	12941.98	653.34	10254.30	827.36

i 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. The Company has no borrowings. 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.

j 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 March 31, 2018 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, 2018		As at March 31, 2017		As at March 31, 2018	As at March 31, 2017
	Euro	Equivalent INR	Euro	Equivalent INR	Others INR	Others INR
Assets/ Receivables	484.80	3859.00	504.80	3462.46	331.18	189.92
Liabilities (including advances)	118.26	893.75	103.80	716.62	308.95	211.74
Assets (Net of Liabilities)	366.54	2,965.25	401.00	2,745.84	22.23	(21.82)

Particulars	As at March 31, 2018		As at March 31, 2017	
	USD	Equivalent INR	USD	Equivalent INR
Assets/ Receivables	499.50	3220.33	477.00	3058.67
Liabilities (including advances)	354.57	2251.44	175.50	1065.92
Assets (Net of Liabilities)	144.93	968.89	301.50	1,992.75

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.

(₹ in Crore)

Particulars	As at March 31,2018		As at March 31,2017	
	Strengthening	Weakening	Strengthening	Weakening
Effect on profit / (loss) : 1% movement				
Euro	29.65	(29.65)	27.46	(27.46)
USD	9.69	(9.69)	19.93	(19.93)
Others	0.22	(0.22)	(0.22)	0.22

k 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 and benefits to other stakeholders. 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 strong credit ratings. The Board of Directors monitors the return on capital.

The Company's return on capital is 1.36% for FY 2017-18 in comparison to 1.41% for FY 2016-17.

- 20** Assets and Liabilities are classified between current and non-current considering 12 months period as operating cycle.
- 21** The wage revision for various cadre of employees is due w.e.f. 01.01.2017. In respect of Executives, pursuant to the issue of Presidential Directive during the year, the liability has been provided as part of employee benefits. For Supervisors & Workers, pending finalisation of agreement for wage / salary structure, a provision of ₹ 760 crore has been kept as on March 31, 2018.
- 22** In respect of BHEL EML, the Company has paid an amount of ₹ 2.62 crore as adhoc advance to the workmen against revision of wages. Once the wage revision get finalized, the adhoc advance has to be adjusted against the arrears payables. In view of this an equivalent provision of ₹ 2.62 crore made in the books of accounts as provision for wage revision arrears.
- 23** Marginal cost of lending rate (MCLR) @ **8.30%** (previous year @ 9.25%) as at the year end has been considered for working out fair value of consideration and present value of long term provisions.
- 24** There are net outstanding debts of ₹ **2197** crore (after adjustment of advances) (previous year ₹ 2119 crore) pertaining to 27 projects on hold due to various reasons e.g. environment clearance, fuel linkage, land acquisition, fund constraints, force majeure, hold imposed by BHEL due to strategic reasons etc. FG/ WIP of ₹ **711** crore (previous year ₹ 777 crore) is also lying in these projects. Provision of ₹ **1655** crore (previous year ₹ 1618 crore) for outstanding debts and ₹ **225** crore (previous year ₹ 180 crore) for inventory has been provided till March 31, 2018 against these projects in line with the guidelines in this regard.

25 Amendment to Standards (Effective April 1, 2017)

The amendment to Ind AS 7, Statement of Cash Flows and Ind AS 102 Share Based Payments effective from April 1, 2017 does not have any impact / disclosures on financial statements as it does not have any such transactions.

26 Recent Accounting Pronouncements (Effective April 1, 2018)

Ministry of Corporate Affairs (MCA) has notified amendment to Ind AS 21 (The Effects of Changes in Foreign Exchange rates) and Ind AS 115 (Revenue from Contracts with Customers) on March 28, 2018 as part of the Companies (Indian Accounting Standards) Amendment Rules, 2018 effective from April 1, 2018.

Appendix B to Ind AS 21 "Foreign Currency Transactions and Advance Consideration" clarifies the date of the transaction for the purpose of determining the exchange rate to use on initial recognition of the related asset, expense or income, when an entity has received or paid advance consideration in a foreign currency.

Ind AS 115 "Revenue from Contract with Customers" : The new standards replaces existing revenue recognition standards Ind AS 11 (Construction Contracts) and Ind AS 18 (Revenue Recognition).

Under Ind AS 115 revenue shall recognize when control over goods & services is transferred to customer and in respect of contracts when performance obligation is satisfied over a period, the revenue shall recognize over the period at transaction price. The core principle of the new standard is that an entity should recognize revenue 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. Further the new standard requires enhanced disclosures about the nature, amount, timing and uncertainty of revenue and cash flows arising from the entity's contracts with customers. The standard permits retrospective approach in accordance with Ind AS 8 or retrospectively with cumulative effect of initially applying the standard (cumulative catch-up approach)

The Company is in the process of examining and evaluating the impact of the said changes on the company's financial statements.

- 27** Figures have been rounded off nearest to ₹' in crore with two decimal.
- 28** Previous year's figures have been regrouped/ rearranged wherever considered necessary.

29. 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	2017-18	98.76	31930.16	190.55	834.97	99.82	83.33	176.03	918.30
	2016-17	97.68	31636.93	106.11	482.98	101.05	(29.00)	106.45	453.98
Subsidiary									
BHEL Electrical Machines Ltd. (BHEL EML)	2017-18	(0.01)	(4.22)	(0.70)	(3.07)	(0.02)	(0.02)	(0.59)	(3.09)
	2016-17	0.00	(1.15)	(0.47)	(2.16)	(0.77)	0.22	(0.45)	(1.94)
Non-controlling Interests in BHEL EML	2017-18	(0.01)	(4.05)	(0.67)	(2.95)	(0.01)	(0.01)	(0.57)	(2.96)
	2016-17	0.00	(1.08)	(0.46)	(2.08)	(0.77)	0.22	(0.44)	(1.86)
Joint Ventures (investment as per the equity method)									
BHEL-GE Gas Turbine Services Private Ltd.	2017-18	0.43	138.55	5.44	23.82	0.22	0.18	4.60	24.00
	2016-17	0.40	129.31	4.70	21.38	0.49	(0.14)	4.98	21.24
NTPC-BHEL Power Projects Private Ltd.	2017-18	0.01	4.40	(8.75)	(38.35)	-	-	(7.35)	(38.35)
	2016-17	0.07	21.32	(8.45)	(38.46)	-	-	(9.02)	(38.46)
Raichur Power Corporation Ltd.	2017-18	0.82	266.10	(85.86)	(376.23)	-	-	(72.12)	(376.23)
	2016-17	1.80	584.39	(1.08)	(4.93)	-	-	(1.16)	(4.93)
Dada Dhuniwale Khandwa Power Ltd.	2017-18	-	-	-	-	-	-	-	-
	2016-17	0.06	18.19	(0.34)	(1.55)	-	-	(0.36)	(1.55)
Total	2017-18	100.00	32330.94	100.00	438.19	100.00	83.48	100.00	521.67
	2016-17	100.00	32387.91	100.00	455.18	100.00	(28.70)	100.00	426.48

30 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 31.3.2018			For the year ended 31.3.2017		
	Power	Industry	Total	Power	Industry	Total
I. SEGMENT REVENUE						
a. Segment Revenue	23064.17	5048.65	28112.82	22794.78	6077.11	28871.89
b. Operating Revenue-External	23064.17	5048.65	28112.82	22794.78	6077.11	28871.89
II. SEGMENT RESULTS						
a. Segment Results	2792.14	172.75	2964.89	2534.58	239.02	2773.60
b. Unallocated expenses (Net of income)			1494.86			1836.73
c. Profit before finance cost & Incometax (a) - (b)			1470.03			936.87
d. Finance cost (Includes unwinding of Interest)			255.16			351.30
e. Net Profit before Income Tax (d) - (e)			1214.87			585.57
f. Income Tax			776.68			130.39
g. Net Profit after Income Tax			438.19			455.18
III ASSETS & LIABILITIES						
a. Segment Assets	40812.66	8544.93	49357.59	37601.20	9210.89	46812.09
b. Common Assets			14187.09			14535.36
c. Total Assets			63544.68			61347.45
d. Segment Liabilities	24541.30	4829.44	29370.74	23250.32	5504.69	28755.01
e. Common Liabilities			1843.00			204.53
f. Total Liabilities			31213.74			28959.54
IV OTHER INFORMATION						
a. Capital Expenditure	186.74	48.07		76.70	201.31	
b. Depreciation & Amortization	589.56	154.14		657.83	143.10	
c. Non Cash Expenses (other than depreciation & amortization)	1867.25	320.54		455.17	205.61	

V GEOGRAPHICAL SEGMENTS

	Within India	Outside India	Total	Within India	Outside India	Total
1 Net Sales / Revenue from Operations	27425.52	687.30	28112.82	28005.90	865.99	28871.89
2 Non- Current Assets (PPE & Intangible Assets)	3251.78	24.19	3275.97	3763.68	5.85	3769.53
3 Capital Expenditure	256.06	13.66	269.72	329.52	2.98	332.50

Major Customer- Details of Revenue from Single Customer exceeding 10% of total revenue of the BHEL

	Power	Industry	Total	Power	Industry	Total
PSUs	5419.29	828.19	6247.48	7050.71	1916.08	8966.79
Railways	0.00	1157.86	1157.86	0.00	987.29	987.29



ADDITIONAL INFORMATION FOR STAKEHOLDERS

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Financial Summary

(₹ in Crore)

Particulars	2017-18	2016-17	2015-16	2014-15	2013-14
I Income					
Turnover	27850	27740	25091	29542	38389
Other operational income	963	859	712	852	887
Revenue from operations	28813	28599	25803	30394	39276
II Expenses					
Material consumption, erection and engg. expense	15900	16566	16377	17758	22103
Changes in inventories of FG and WIP	736	994	210	(338)	1054
Employee benefits expense	6026	5395	5380	5450	5933
Manufacture, admn., selling distribution expense	2675	2741	2855	3044	2959
Net exchange variation (gain) / loss	(520)	270	(403)	386	(659)
Net excise duty adjustment	(113)	152	197	225	286
Depreciation & amortisation expense	786	849	936	1077	983
Finance costs	255	351	359	92	133
Provisions	2282	1444	2075	1667	2329
Less: Cost of jobs done for internal use	106	25	47	28	68
Total operating expenses	27921	28737	27939	29333	35053
Operating Profit/(Loss)	892	(138)	(2136)	1061	4223
Other income	693	766	972	1079	790
Profit/(Loss) before tax	1585	628	(1164)	2140	5013
Tax expense (Net)	778	132	(454)	721	1553
Profit/(Loss) after tax	807	496	(710)	1419	3460
Total comprehensive income	890	467	(786)		
Dividend payout	668	387	98	284	693
Corporate dividend tax	136	79	20	57	118
III What company owns (Assets)					
Property, plant & equipment and intangible assets	3069	3596	3962	4140	4693
Capital WIP	203	169	318	518	642
Non-current investments	691	661	664	418	420
Other non current assets	13012	10069	11435	12632	13048
Deferred tax assets(Net)	3626	3841	3659	2221	1969
Current assets	43188	42894	45125	48538	52019
Total assets	63789	61230	65163	68467	72791

Financial Summary

(₹ in Crore)

Particulars	2017-18	2016-17	2015-16	2014-15	2013-14
IV What Company owes (Liabilities)					
Non current liabilities	4015	3809	4634	5420	6705
Non current provisions	4923	5001	7625	6802	7496
Current liabilities	18467	15934	17388	17922	22713
Current provisions	3783	4192	3335	4238	2830
Total liabilities	31188	28936	32982	34382	39744
Equity share capital	734	490	490	490	490
Other equity	31867	31804	31691	33595	32557
V Net worth	32601	32294	32181	34085	33047
Net worth (excl. OCI)	32623	32399	32257	34085	33047
VI Capital employed	28772	28284	28204	31346	30436
VII EBIDTA	2626	1827	131	3309	6129
VIII Financial performance ratios					
Operating Profit to Revenue from operations (%)	3.09	(0.48)	(8.28)	3.49	10.75
EBIDTA to Turnover (%)	9.43	6.59	0.52	11.20	15.97
PBT to Turnover (%)	5.69	2.26	(4.64)	7.24	13.06
PAT to average Net worth (excl. OCI) (%)	2.48	1.53	(2.14)	4.23	10.90
Turnover per employee (₹ lakh)	74	70	60	66	81
IX Liquidity ratios					
Current ratio	1.94	2.13	2.18	2.19	2.04
Trade receivable - current (no. of days)	254	267	300	301	249
Inventory (no. of days)	82	97	140	125	93
X Per share data					
Earning per share (₹)	2.20	1.35	(1.93)	3.87	9.43
Dividend per share (₹)	1.82	1.05	0.27	0.77	1.89
Net worth per share (₹)	88.80	87.96	87.65	92.84	90.01

Note:

1. Turnover and Revenue from operations excludes excise duty & taxes, unless specifically stated, for better comparison.
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. Previous year's figures have been regrouped / rearranged, wherever considered necessary.
5. Figures for FY 2013-14 and 2014-15 are as per IGAAP and for FY 2015-16 and onwards- as per Ind AS.

Year-wise Capital Expenditure

(₹ in Crore)

Category	2017-18	2016-17	2015-16	2014-15	2013-14
Schemes	19	210	80	217	340
Modernisation and Rationalisation, others	164	51	141	119	141
Customer Project Related Capital Investment	66	33	90	59	63
Total	249	294	311	395	544

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 on 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

- Steam Generators, Steam Turbines, Turbo Generators along with regenerative feed cycle, with capability to manufacture and supply sets of ratings up to 1000 MW for fossil-fuel and combined-cycle applications
- Air and Water Cooled Condensers, Condensate Extraction Pumps, Boiler Feed Pumps, Duplex Heaters, Valves and Heat Exchangers meeting requirement of aforementioned TG Sets up to 1000 MW rating
- Emission Control Equipment viz. high efficiency Electrostatic Precipitators (ESP), Flue Gas Desulphurization (FGD) System, Selective Catalytic Reduction (SCR) system and Selective Non-Catalytic Reduction (SNCR) system

NUCLEAR POWER PLANTS

- Reactor side components like Steam generator, Reactor header, End shield, 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 etc.

GAS-BASED POWER PLANTS

- Gas turbines and matching generators ranging up to 299 MW (ISO) rating tailored to meet specific needs with regard to plant layout, type of fuels, emission and noise requirements. The features of these machines include:
 - Capability to burn a variety of fuels, both gaseous and liquids
 - Mixed firing of many of these combinations of gases and liquids
 - Low exhaust emission levels
- Gas turbine-based co-generation and combined-cycle systems for industry and utility applications

HYDRO POWER PLANTS

- Custom-built conventional hydro turbines of Kaplan, Francis and Pelton types with matching generators up to 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 for Lift Irrigation Schemes (up to 150 MW)
- Small hydro power plants: 10- 25 MW capacity

- Electro Hydraulic Microprocessor based Digital Governor for conventional turbines
- Microprocessor based Digital Controller for lift irrigation schemes
- Static excitation systems for Hydro generators & motors
- Brushless exciter for Hydro generators & motors
- Renovation, Modernization and uprating of Hydro power plants
- Spherical (rotary) valves, butterfly valves and auxiliaries for hydro stations

SOLAR POWER PLANTS

- EPC solutions from Concept to Commissioning 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 up to 20 MW and voltage up to 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 include: -

- Pre Treatment Plants (PT)
- Sea Water Reverse Osmosis (SWRO) Plants
- Demineralization (DM) Plants
- Membrane Based treatment for industrial applications
- Effluent Treatment Plants (ETP)
- Sewage Treatment Plants (STP) for Municipal applications
- Zero Liquid Discharge (ZLD) System

SYSTEMS AND SERVICES

- Power Generation Systems

- Turnkey power stations/ EPC contracts
- Combined-cycle power plants
- Cogeneration systems
- Captive power plants
- Concept to Commissioning solutions for Solar Photovoltaic systems
- 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

- 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

INDUSTRIAL SYSTEMS

- Complete Coal Handling Plant and Ash Handling Plant including Civil & Structural, Mechanical, Electrical works and Automation systems
- Complete Mine Winder systems
- Complete 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
- Complete Raw Material Handling System including Civil & Structural, Mechanical, Electrical and Automation systems for Steel and other industries
- Complete Electrics & Automation Systems for High Current Rectifiers for Aluminium Smelters and Processing Mills for Aluminium Plants
- Automated Storage & Retrieval Systems (ASRS)
- Balance of Plant (BOP) for Hydro power plants

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 up to 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

BOILER AUXILIARIES

Fans

- Axial reaction fans of single stage and double stage for clean air application and dust laden hot gases applications up to 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 up to 200°C, with capacity ranging from 25 to 600m³/s and pressure up to 300 to 700 mmwc
- Single and double-suction radial fans (plate aerofoil bladed) for clean air and dust-laden hot gases applications up to 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 for boilers of different types like Bisector, TriSector and QuadSector
- Large rotary regenerative Air-Preheaters for utilities of capacity up to 800 MW
- Air Preheater for boilers with Selective Catalytic Reduction (SCR) for De-NO_x

Pulverizers

- Bowl mills of slow and medium speed for coal fired thermal stations with capacity from 10T/Hour to 120 T/ Hour catering to 60 MW to 1000 MW thermal power stations
- Ball Tube mills for pulverizing low-grade coal with high ash content from 30 T/ Hour to 110 T/ Hour catering to 110 MW to 500 MW thermal power stations
- Apart from strong presence in the Indian market for utility thermal power stations, BHEL also caters to the requirement of:
 - Steel Plants for Pulverised Coal Injection to Blast furnace
 - Cement Plants for coal pulverising
 - Fertilizers Plants for their captive power generation

Guillotine Gates & Dampers

- Guillotine gates with electric/ pneumatic actuator. Leak proof with seal air
- Bi-plane dampers with electric/ pneumatic actuator. Leak

proof with seal air

- Louver dampers (open close/ regulating) with electric/ pneumatic actuator.
- Control dampers (regulating) with electric/ pneumatic actuator

EMISSION CONTROL EQUIPMENT

Electrostatic Precipitators (ESP)

- Electrostatic precipitators of any capacity with low emissions and high efficiency for coal fired utility and industrial applications including Biomass fired boilers, cement plants, steel plants, soda recovery boilers etc.
- Bag Filters for utility and industrial applications
- Mechanical Dust Collector for SCR application

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

- Ammonia Injection system
- Ceramic catalyst (Honeycomb & Plate type) for NO_x emission control

Selective Non-Catalytic Reduction (SNCR) systems

- Urea & Ammonia handling systems

SOOT BLOWERS

- Long retractable soot blowers (LRSB) for travel up to 12.2m
- Furnace temperature probe (FTP) for travel length 6.9m and 8.3m
- Long Retractable Non-rotating (LRNR) soot blowers with forward blowing for Air heaters
- Ash discharge valve for CFBC boiler application
- Soot blowers with integral starters
- Soot blower Sequential PLC control panel
- Rack type Long Retractable Soot blowers
- Wall blowers
- Rotary Soot 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 up to 950 mm diameter, maximum pressure class 4500 (791 kg/cm²) and 650 °C temperature
- Hot reheat and cold reheat Isolating Devices up to 900 mm pipe size class 1500 and steam of 650°C temperature
- High capacity Spring Loaded Safety Valves for set pressure up to 372 kg/cm² and temperature up to 630°C, and automatic electrically operated pressure relief valves for set pressure up to 210 kg/cm² and temperature up to 593°C
- Safety relief valves for applications in power, process and other industries for set pressure up to 421 kg/cm² and temperature up to 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, up to 800mm 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 up to 1000 MW capacity including Super Critical sets
- Piping systems for Nuclear Power Stations, Combined Cycle Power Plants & Industrial boilers and for power plants in process industries

SEAMLESS STEEL TUBES

- Hot-finished and cold-drawn seamless steel tubes with a range varying from outer diameter of 19 to 133 mm and wall thickness of 2 to 14 mm, in carbon steel and low-alloy steels to suit ASTM/API and other international specifications including Rifled tubes and Spiral finned tubes

STEAM TURBINES

- Steam Turbines of higher ratings up to 1000 MW for thermal Sets conforming to international specifications
- Steam turbines for Nuclear Power Plants for ratings up to 700 MW

TURBOGENERATORS

- Turbogenerators of higher rating upto 1000 MW for

Thermal power plants

- Turbogenerators for Nuclear power plants

INDUSTRIAL SETS

- Steam Turbine based Captive Power Plants
 - STG/Boilers/BTG/EPC up to 200 MW unit rating
 - Non Reheat up to 120 MW unit rating
 - Reheat up to 200 MW unit rating
- Gas Turbine based Captive Power Plants
 - GTG/HRSG/EPC: Fr-5 (26 MW) to Fr-9E (126 MW)
 - Open, Cogen & Combined Cycle

CASTINGS AND FORGINGS

- Sophisticated 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 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)

- Industrial Heat Exchangers for Cement, Sugar, Refineries, Petro-Chemicals & Fertilizers industries
- Flash Tanks for Thermal & Nuclear sets
- Service Tanks, Storage Tanks & Pressure vessels for Thermal, Nuclear sets of all ratings & industrial applications
- CS/SS/Non-ferrous shell and tube heat exchangers and pressure vessels (for all applications irrespective of rating)
- Air-cooled heat exchangers for GTG up to Fr-9E, and Compressor applications of all ratings
- Steam jet air ejectors for all condensers up to 150 MW
- Deaerators from 7 MW to 800 MW
- Gland steam condensers 7 MW to 150 MW
- Gas coolers for all possible compressor applications
- Oil coolers- STG up to 150 MW, GTG up to Fr-9E
- Generator Air coolers upto 150 MW STG and GTG up to 9 FA

PUMPS

- Pumps for various utility power plant applications up to a capacity of 1000 MW:
 - Boiler feed pumps (motor or steam turbine driven) and Boiler feed booster pumps
 - Condensate extraction pumps
 - Circulating water pumps (also known as Cooling water Pumps)
 - Various Pumps for Secondary Side of Nuclear Power Plants

COMPRESSORS

- Multi stage Centrifugal compressors along with auxiliary system for various applications are manufactured and supplied with following configuration & parameters
 - Model -
- Horizontally split type up to 40 bar design pressure
- Vertically split type up to 350 bar design pressure
 - Capacity - 300000 m³/hr
 - Gas - Air, CO₂, N₂, H₂, NH₃, Natural Gas, Wet Gas, Propylene etc.
 - Sealing system - Dry Gas Seal
 - Industry - Refineries, Fertilizers, Oil & Gas, Steel, Power and Natural Gas Transportation

- International standard – API 617
- Testing capability – MRT, Performance test, Full load, full pressure full speed test, Complete Unit Test
- Driver – Steam Turbine, Gas Turbine, Motor

SOLAR PHOTOVOLTAICS

- Mono/ Multi Crystalline Solar Cells (156 mm)
- Mono/ Multi Crystalline PV Modules (up to 330 Wp)
- Power Conditioning Unit (up to 1.25 MW)
- SCADA (Supervisory Control and Data Acquisition)
- Switchgear panels (all kV ratings)
- Power Transformers (15 MVA and above)
- Passive Solar Tracking System
- Space grade solar panels
- Space grade Batteries

AUTOMATION AND CONTROL SYSTEMS

- 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 Turbine & Secondary Cycle control system
- Nuclear Power Plant Primary Cycle Control Centre Instrumentation Package (CCIP)
- Power block of solar thermal power plant
- Industrial Automation
- Sub-Station Automation (SAS) and Supervisory Control & Data Acquisition System (SCADA) for Substation & PV Plants

- 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

POWER ELECTRONICS

- Excitation system
- AC Drive System
- Static Starters
- Induction Heating Equipment

TRANSMISSION SYSTEMS CONTROL

- EHV & UHV Sub-stations/switchoyards 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)
- Power system studies, Feasibility studies & Insulation Coordination
- Converter Valves and controls for HVDC & FACTS

POWER SEMICONDUCTOR DEVICES

- Diodes- Ranging from 1400-4400V/250-2000A
- Thyristors- Ranging from 1400-7000V/150-4950A
- Rotating Diodes for Turbo generators

SOFTWARE SYSTEM SOLUTION

- Merit Order Rating
- Performance Analysis, Diagnostics & Optimization (PADO) for Thermal Utilities
- Performance Calculation & Optimization system
- OPC connectivity from DCS to third party systems
- Enterprise Asset Management System (EAMS)
- Enterprise Resource Planning (ERP)
- Operator Training Simulator
- Power House intranet software
- Alarm Analysis system
- Real Time Performance Data Monitoring system
- Historical Replay System

SWITCHGEARS

Medium Voltage Vacuum Switchgear of various types for indoor and outdoor applications for voltage ratings up to 36 kV and Gas insulated switchgears (36 kV, 145 kV, 420 kV)

- Indoor switchgears up to 12 kV, 50 kA, 4000 Amp for thermal, nuclear, hydro and combined cycle Power Plant Projects
- Indoor switchgears up to 36 kV, 40 kA, 2500 Amp for Industries, solar power plants and refineries
- Indoor Compact switchgear 12 kV, 25 kA, 1250 Amp for distribution system
- Outdoor Vacuum circuit breakers (12 kV, 25 kA, 1250 Amp / 36 kV, 25 kA, 2000 Amp / 25 kV, 25 kA, 1600 Amp) for distribution network/ track side railway application
- Outdoor pole mounted 12 kV Autorecloser / sectionaliser / capacitor switch for rural segment
- Gas insulated switchgears (36 kV, 40kA, 2500 Amp/ 145 kV, 40 kA, 2500 Amp/ 420kV,40kA, 3150 Amp) for transmission & distribution network, Refineries / hydro station / metro
- SF₆ circuit breakers ((145kV, 40 kA,3150A), (420 kV, 50kA, 4000A))

BUS DUCTS

- Bus-ducts with associated equipment to suit generator power output of utilities of up to 800 MW capacity

TRANSFORMERS & REACTORS

- Power transformers for voltage up to 1200 kV
 - Generator transformers (up to 500 MVA, 400 kV, 3 Ph / 400 MVA, 765 kV, 1 Ph/400 MVA, 400 kV, 1 Ph)
 - Auto transformers (up to 1000 MVA, 400 kV, 3 Ph / 600 MVA, 400 kV, 1 Ph /1000 MVA, 765 kV, 1 Ph /1000 MVA, 1200 kV, 1 Ph)
- Converter Transformers / Smoothing Reactors (up to 600 MVA, ±800 kV) / (up to 254 MVar, ± 500 kV) for power station
- Shunt Reactors (up to 150 MVar, 420 kV, 3 Ph / 110 MVar, 765 kV, 1 Ph)
- Controlled Shunt Reactors for EHV applications
- Phase Shifting Transformers (up to 500 MVA, 400 kV, 3 Ph; Up to 500 MVA 420 kV 1 Ph, PST(1500 MVA Bank in 3 Ph) for transmission lines
- Instrument Transformers
 - Current transformers up to 400 kV
 - Electro-magnetic voltage transformers up to 220 kV
 - Capacitor voltage transformers (33 kV to 1200 kV)

- Special Transformers
 - Rectifier transformer (up to 120 kA, 132 kV)
 - Furnace transformer (up to 33 kV, 60 MVA)
- ESP transformers up to 95 kvp, 1600 mA
- Smoothing reactors up to 3.3 mH, 2700 Amp
- Dry Type reactor up to 300 mH, 120 Amp
- DC Choke up to 0.5 mH, 4600 Amp
- Dry type transformers up to 15 MVA 33 kV
- Composite Monitoring System for Power Transformers

CAPACITORS

- H.T. Capacitors for Power factor correction (Motor Capacitors) 3.3 to 11 kV delta connected Capacitor banks
- H.T. Capacitors for Shunt, Series & SVC (Static VAR compensation), Harmonic filter & HVDC applications (3.3 kV to 500 kV, 1 Ph/ 3 Ph capacitor banks of rating 0.5 MVar to 250 MVar)
- Capacitor Divider for CVT
- Coupling Capacitor for PLCC
- Surge Capacitor for protection of Generators & Transformers (11 kV to 40 kV)
- Roof Capacitor for traction locomotive
 - Capacitor Divider for CVT up to 1200 kV
 - Coupling Capacitor for PLCC up to 400 kV

BUSHINGS

- 52 to 400 kV OIP condenser bushings for transformer applications
- 25 kV locomotive bushings
- Special application bushings like oil cable box, wall bushing, higher creepage, high cantilever load, high altitude bushing

ON LOAD TAP CHANGERS (OLTC)

On Load Tap Changer for various application like Power Transformer, Furnace Transformer, Station Transformer, Rectifier Transformer etc.

- On Load Tap Changer up to 765 kV class Transformer
- Off Circuit Tap Switch up to 765 kV class Transformer

CONTROL GEARS

- **Industrial Control Gear**
 - Electronic controllers for industries/power plants
 - Digital Excitation control system (1000 A, 400 V DC, 400 V DC with redundant thyristor stacks & DC field

breaker)

- Large current rectifiers with PLC Based digital controls
- Digital Hydraulic/compact Governors
- Digital AVR (1 Ph, 300 V DC/ 3 Ph, 400 V DC)
- Control panels and cubicles for applications in steel, aluminium, cement, paper, rubber, mining, sugar and petrochemical industries

• Contactors

- LT air break type AC for voltages up to 660 V
- LT air break type DC contactors for voltages up to 600 V
- HT vacuum type AC for voltages up to 11kV

• Control and Relay Panels

- Control & Protection Panels (up to 400 kV) For EHV Transmission projects
- Synchronizing Trolley / Swing Panels
- Protection panels for large Generators up to 800 MW for thermal, nuclear, hydro and combined cycle Power Plant Projects
- Remote Control and relay panels for MV Switchgear
- Turbine gauge panels for hydro sets
- Outdoor type control panels and marshalling kiosks
- Remote Transformer Tap-Changer Control panels
- LT Switchgear, 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 up to 1200 kV AC & ± 800 kV HVDC transmission line & sub-stations
- Hollow porcelains up to 765 kV for Transformers & SF₆ circuit breakers
- Solid core insulators up to 400 kV for Bus Post & Isolators for substation applications

• Composite Insulators

- For 25 kV Railway Traction
- Long Rod insulator up to 765 kV for transmission lines
- Hollow Insulators up to 765 kV for Instrument Transformers

• Wear Resistant Material (CERALIN)

- Ceramic Liners for Wear Resistant Application in Thermal Power Station and other various applications

- Ceramic Liners for 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

ELECTRICAL MACHINES

AC Squirrel cage, Slip ring, Synchronous, Variable speed motors; Industrial Alternators and Motors for Hazardous areas are manufactured as per range summarized below. Special-purpose machines are manufactured on request.

- Voltage - AC - 415 V to 13800 V
- Frequency - 50 Hz & 60 Hz
- Enclosure - SPDP, TETV, TEFC, CACW, CACA & Duct Ventilated
- AC Machines for Safe Area Application
 - Induction Motors
 - Squirrel cage motors -150 kW to 22000 kW
 - Slip ring 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)
 - Pressurized motors (Ex 'p') 150 kW to 22000 kW (Squirrel cage motors)
 - Pressurized motors (Ex 'p') 1000 kW to 25000 kW (Synchronous motors)
- Mill Duty Motors (150 kW to 5000 kW with speed base speed > 150 rpm) for steel mills
- Industrial Alternators (Steam turbine, Gas turbine and Diesel engine driven) (1500 kVA to 25000 kVA)
- Induction Generators (300 kVA to 6000 kVA) for mini/ micro HEP

- 2 Pole Gas Turbine driven Generators up to 330 MW and matching Exciters
- 4 Pole Gas Turbine driven Generators up to 60 MW and matching Exciters
- 2 Pole Steam Turbine driven Generators up to 330 MW and matching Exciters
- 4 Pole Steam Turbine driven Generators up to 60 MW and matching Exciters
- Permanent Magnet Based Generators up to 5 MW
- Gas Turbine generators up to 270 MW

RAIL TRANSPORTATION

- Transportation Systems
 - AC electric locomotives (up to 5000 HP, 25 kV AC)
 - AC-DC dual voltage electric locomotives
 - ACEMU Coaches
 - Metro Coaches
 - Urban Transportation Systems
 - Traction Propulsion Systems for:
 - 6000 HP IGBT based AC Locomotives
 - 25 kV 3-phase IGBT based AC Electrical Multiple Units (EMUs)
 - Air-conditioned ACEMU
 - 1600 HP IGBT based AC/AC DEMU
 - 25 kV 3-phase IGBT based MEMU
 - 1600 HP Multi-Genset Locomotive
- Diesel-Electric Shunting Locomotives (up to 1400 HP)
- Battery powered locomotive
- OHE recording-cum-test car
- Battery Powered Road Vehicles
- Dynamic track stabilizers
- Rail cum Road vehicle
- Diesel Electric Tower Car
- Utility vehicle

TRANSPORTATION EQUIPMENT

- Traction Converter
- Auxiliary Converter
- Vehicle Control Electronics
- Hotel Load Converter

- Traction Transformer (up to 5400 kVA) for conventional locomotives & up to (7775 kVA) for 3 phase drive locomotives
- Traction transformers (up to 1050 kVA) conventional AC EMU/ MEMUs & (up to 1578 kVA) for 3 phase EMU
- AC Traction Motors (up to 1200 KW) for Locomotives & EMUs
- DC Traction Motors (up to 630 kW) for Locomotives & EMUs
- AC Traction alternators (up to 3860 kW) for Locomotives & EMUs
- Traction generators up to 2000 kW
- Motor Generator sets (up to 25 kW) for auxiliary requirements
- Auxiliary generators and exciters (up to 50 kW)
- Eddy current clutch
- DC blower motors (up to 50 kW) for dynamic braking system
- Traction gears and pinions
- Wagon (up to 28 axle, 296 Tonne)
- Control Gear equipment for conventional Rolling Stock
- Control cubicles
- Traction Rectifiers
- Bogie Frame
- Wheel & Axle Assembly

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)
- 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
- Castings and Forgings for special application
- Compact Heat Exchangers for various aircraft platforms
- Fuel Tanks and other components for Launch Vehicles and Satellites
- Steam Turbines for Strategic applications
- Permanent Magnet Frequency converters
- Reserve Propulsion motor drives
- Compact Brushless Alternators

ENERGY STORAGE SYSTEM & E- MOBILITY

- Electric Bus
- Powertrains for Electric Vehicles
- Charging Infrastructure for Electric Vehicles
- Grid Storage Solutions 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 up to depths of 9,000 metres, work-over rigs for servicing up to depths of 6,100 metres, mobile rigs for drilling up to 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
 - Power packs and rig electrics
 - Rig instrumentation
 - Rig utilities and accessories
 - Refurbishment and upgradation of BHEL and Non BHEL make Oil Rigs
 - 3-phase Oil rig motor up to 1150 HP
 - DC Oil rig motors of all required ranges
 - Oil rig alternators of all required ranges
- 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

- Oil Rig Controls
 - AC Power Control Room
 - DC Power Control Room
 - AC Power Pack up to 1430 kVA for DG sets
 - AC Control Module
 - DC Control Module
 - Driller's Console
 - Cable set, cable trays, cable box and crew room for oil rigs.
 - Mobile lightening Tower, Rig Lightening Tower
 - DG set for Oil rig application (63/ 250/ 380/500 kVA)
 - STATCOM for power Factor improvement in AC SCR Rigs

FABRICATED EQUIPMENT AND MECHANICAL PACKAGES

- Air separation Units for extraction of Nitrogen, Oxygen, Argon, etc.
- Cryogenic systems for liquid Nitrogen, Oxygen, Argon, etc.
- Cryogenic storage tanks, Mounded storage systems and storage spheres
- Column and Reactors for Petrochemical plants
- Pressure Vessels, Shell and Tube type and Air Fin Type Heat Exchangers
- Fired Heaters
- Purge Gas Recovery Unit for Fertilizer Industry

Glossary & Abbreviation

ADA	Aeronautical Development Agency	ISRO	Indian Space Research Organisation
AC-SCR	AC Silicon Controlled Rectifier	KBE	Knowledge Based Engineering
APGENCO	Andhra Pradesh Power Generation Corporation	M&A	Merger & Acquisitions
APPDCL	Andhra Pradesh Power Development Company Limited	MEMU	Mainline Electric Multiple Unit
AT&C	Aggregate Technical & Commercial	MoU	Memorandum of Understanding
BPCL	Bharat Petroleum Corporation Limited	MPPGCL	Madhya Pradesh Power Generation Company Limited
BSE	Bombay Stock Exchange	MUs	Million Units
C&I	Control & Instrumentation	NAL	National Aerospace Laboratories
CEA	Central Electricity Authority	NALCO	National Aluminium Company
CERC	Central Electricity Regulatory Commission	NDT	Non Destructive Testing
CFBC	Circulating Fluidised Bed Combustion	NPCIL	Nuclear Power Corporation of India Limited
CLW	Chittaranjan Locomotive Works	NSE	National Stock Exchange
CMIE	Centre For Monitoring Indian Economy	OEM	Original Equipment Manufacturer
CPCL	Chennai Petroleum Corporation Ltd.	ONGC	Oil and Natural Gas Corporation Limited
CPSE	Central Public Sector Enterprise	PCU	Power Conditioning Unit
CSR	Corporate Social Responsibility	PLM	Product Lifecycle Management
DEMU	Diesel Electric Multiple Unit	PHWR	Pressurized Heavy Water Reactor
DETC	Diesel Electric Tower Car	PVUNL	Patratu Vidyut Utpadan Nigam Limited
DMW	Diesel-Loco Modernisation Works	R&D	Research & Development
DPE	Department of Public Enterprises	R&M	Renovation & Modernisation
DRDO	Defence Research and Development Organisation	RCF	Rail Coach Factory
ED	Executive Director	RPCL	Raichur Power Company Limited
EESL	Energy Efficiency Services Limited	RRVPNL	Rajasthan Rajya Vidyut Prasaran Nigam Limited
EHV	Extra High Voltage	SCADA	Supervisory Control and Data Acquisition
EMU	Electric Multiple Unit	SCCL	Singareni Collieries Company Limited
EPC	Engineering, Procurement & Construction	SEBI	Securities and Exchange Board of India
ESP	Electrostatic Precipitator	SERC	State Electricity Regulatory Commission
FACTS	Flexible Alternating Current Transmission System	SPV	Solar Photo Voltaic
FGD	Flue Gas Desulphurization	SRGM	Super Rapid Gun Mount
GDP	Gross Domestic Product	STPP	Super Thermal Power Plant
GHAVP	Gorakhpur Haryana Anu Vidyut Pariyojana	TANGEDCO	Tamil Nadu Generation and Distribution Corporation Limited
GTG	Gas Turbine Generator	TANTRANSCO	Tamil Nadu Transmission Corporation Limited
HAL	Hindustan Aeronautics Limited	TPS	Thermal Power Station
HEP	Hydro Electric Project	TSGENCO	Telangana State Power Generation Corporation Limited
HPCL	Hindustan Petroleum Corporation Ltd.	TSTRANSCO	Transmission Corporation of Telangana Limited
HRSNG	Heat Recovery Steam Generator	UHV	Ultra High Voltage
HVDC	High Voltage Direct Current	UHVAC	Ultra High Voltage AC
ICF	Integral Coach Factory	UPPTCL	Uttar Pradesh Power Transmission Corporation Limited
IGBT	Insulated-Gate Bipolar Transistor	UPRVUNL	Uttar Pradesh Rajya Vidyut Utpadan Nigam Limited
IGCAR	Indira Gandhi Centre for Atomic Research	VFD	Variable Frequency Drive
IOCL	Indian Oil Corporation Ltd	WAG	W (broad gauge), A (AC traction), G (goods duty)
IPR	Intellectual Property Right		
ISO	International Organization for Standardization		

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 current shareholders without any additional cost, 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.

Capital employed is fund used by an entity in its business. It 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.

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.

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.

Corporate dividend 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.

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.

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.

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 a single entity.

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.

Depreciation: Depreciation is the systematic allocation of the depreciable amount of an asset over its useful life.

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 employment service in the current and prior periods.

EBIDTA means Earnings before interest, taxes, depreciation and amortization. Operational EBIDTA is determined after excluding other income from EBIDTA.

Earnings per share (EPS): EPS is a financial ratio that gives the information regarding earning available to each equity share.

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.

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.

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.

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.

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.

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.

Investing activities: Investing activities are the acquisition and disposal of long-term assets and other investments not included in cash equivalents.

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.

Intangible assets: An intangible asset is an identifiable non-monetary asset without physical substance.

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 will encounter difficulty in meeting obligation associated with financial liabilities that are settled by delivering cash or another financial asset.

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 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 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.

Non-current asset: A non-current asset is an asset that is not likely to realise within one year of the balance sheet date.

Non-current liability: Non-current liabilities are those obligations not due for settlement within one year.

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.

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 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.

Operating activities: Operating activities are the principal revenue-producing activities of the entity and other activities that are not investing or financing activities.

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.

Revenue from operations: The gross inflow of economic benefits arising in the course of ordinary operating activities during the period. Turnover and other operational income form part of revenue from operations.

Subsidiary: Subsidiary company is a company that is owned or controlled by another company, which is called the parent company or holding company.

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 .

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 54th Annual General Meeting of the Members of BHARAT HEAVY ELECTRICALS LIMITED will be held on Wednesday, the 19th September, 2018 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, 2018 together with the Directors' Report and Auditors' Report thereon.
2. To declare dividend for the financial year 2017-18.
3. To appoint a Director in place of Dr. Subhash Chandra Pandey (DIN: 01613073), who retires by rotation and being eligible, offers himself for re-appointment.
4. To appoint a Director in place of Shri Akhil Joshi (DIN: 06604954), 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 2018-19.

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, 2019 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 an **Ordinary Resolution:**

"RESOLVED THAT Shri Desh Deepak Goel (DIN: 07739221), 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. 23.09.2017 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."

8. To consider and, if thought fit, to pass with or without modification, the following resolution as an **Ordinary Resolution:**

"RESOLVED THAT Shri Ranjit Rae (DIN: 07942234), 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. 23.09.2017 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."

9. To consider and, if thought fit, to pass with or without modification, the following resolution as an **Ordinary Resolution:**

"RESOLVED THAT Shri Subodh Gupta (DIN: 08113460), 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. 18.04.2018 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."

10. To consider and, if thought fit, to pass with or without modification, the following resolution as an **Ordinary Resolution:**

"RESOLVED THAT Shri Pravin L. Agrawal (DIN: 05277383), 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. 18.05.2018 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.”

11. To consider and, if thought fit, to pass with or without modification, the following resolution as an **Ordinary Resolution:**

“RESOLVED THAT Shri S. Balakrishnan (DIN: 07804784), 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. 01.06.2018 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.”

12. To consider and, if thought fit, to pass with or without modification, the following resolution as a **Special Resolution:**

“RESOLVED THAT pursuant to Section 14 and other applicable provisions of the Companies Act, 2013, the following Article is inserted in the Article of Association after Article 5:

5A. Buy Back of Shares

Notwithstanding anything contained in these articles and in pursuance of section 68, 69, 70 of the Companies Act, 2013, the company, may buy-back its own shares or other specified securities as the Board of Directors may consider appropriate subject to such approvals and sanctions as may be necessary and subject to such limits, restrictions, terms and conditions, etc., as may be required under the provisions of the Act/ Regulations /Rules applicable from time to time including the amendments(s), if any thereto.”

“RESOLVED FURTHER THAT the Board of Directors of the Company be and is hereby authorized to take such steps and do all such acts, deeds and things as may be considered necessary, expedient, usual, proper or incidental in relation to the said matter and take such actions and give such directions as they may consider necessary or desirable to give effect to this Resolution and for any matters connected herewith or incidental thereto.”

By Order of the Board of Directors



(I.P. Singh)

Company Secretary

Place : New Delhi
Date : August 10, 2018

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 TEN PERCENT OF THE TOTAL SHARE CAPITAL OF THE COMPANY CARRYING VOTING RIGHTS. HOWEVER, AS PER RULE 19(2) PROVISIO OF THE COMPANIES (MANAGEMENT AND ADMINISTRATION) RULES, 2014, A MEMBER HOLDING MORE THAN 10% OF 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/ Power of Attorney 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. Dr. Subhash Chandra Pandey and Shri Akhil Joshi, Directors, retire by rotation and being eligible, offer themselves for re-appointment. However, as per the terms of Shri Akhil Joshi's appointment, the tenure of Shri Akhil Joshi as Director (Power) of the Company will expire on 30th September, 2018, 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 51% on the Paid-up Equity Share Capital (₹1.02 per share) of the Company in addition to an interim dividend of 40% (Rs. 0.80 per share) already paid during the year 2017-18.
6. The Register of Members and Share Transfer books of the Company shall remain closed from Thursday, 13th September, 2018 to Wednesday, 19th September, 2018 (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 31.03.2018, 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 18.10.2018, to those shareholders whose name appear: -
 - (i) As Beneficial Owners of shares as at the closure of business hours on 12th September, 2018 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, 2018.
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 2010-11 and interim dividend for financial year 2011-12, which remains unclaimed, are proposed to be transferred to the said account on 21.10.2018 and 06.04.2019 respectively.

Members who have not claimed/ encashed their Dividend so far for the financial year ended 31.03.2011 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 2018-19 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 Computershare 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 Computershare Private Limited. The members, whose names appear in the Register of Members / list of Beneficial Owners as on Wednesday, September 12, 2018 (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 16, 2018 at 9.00 a.m. and will end at 5.00 p.m. on Tuesday, September 18, 2018. The e-voting module will be blocked on September 18, 2018, 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, 2018.
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 Ms. Ashu Gupta of M/s Ashu Gupta & Co., 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 :-
- bring their Attendance Slip duly completed and signed at the venue of the meeting along with Photo-id proof.
 - quote their Folio/ DP & Client ID Nos. in all correspondence.
 - note that no briefcase or bag will be allowed to be taken inside the auditorium for security reasons.
 - note that no gifts will be distributed at the AGM.

By order of the Board of Directors



(I.P. Singh)

Company Secretary

Place : New Delhi
Date : August 10, 2018

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 10, 2018.

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 Audit Committee, the Board of Directors in its meeting held on 25th July, 2018 has approved the names of Seven Cost Accountant/Firms for appointment for a total remuneration of ₹14.70 lakhs as detailed under:

(₹ in Lakhs)

Sl. No.	Name of the Cost Auditors	Unit	Remuneration for 2018-19
1	M/s R. J. Goel & Co., Delhi (Lead Cost Auditor)	Consolidation Audit Report	0.91
		HEEP Haridwar	1.82
		CFFP Haridwar	0.36
2	M/s Shome & Banerjee, Delhi	Jhansi	0.73
		HERP Varanasi	0.36
		Bhopal	1.82
3	M/s KRJ & Associates, Hyderabad	Hyderabad	1.82
4	M/s M. Krishnaswamy & Associates, Chennai	Trichy	2.42
		BAP Ranipet	1.21
5	M/s J. H & Associates, Bengaluru	EPD Bangaluru	0.48
		EDN Bangaluru	0.61
6	M/s K. B Saxena & Associates, Lucknow	IVP Goindwal	0.36
		CS&FP Jagdishpur	0.48
		CFP Rudrapur	0.36
		IP Jagdishpur	0.48
7	M/s Uppalapati & Associates, Visakhapatnam	HPVP Visakhapatnam	0.48
Total			14.70

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 ended on 31st March, 2019.

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 Desh Deepak Goel (DIN: 07739221), aged 61 years, was appointed as an Independent Director on the Board of BHEL w.e.f. 23rd September, 2017.

A retired Indian Revenue Service Officer of 1982 batch, Shri Goel holds a Bachelor degree in Botany, Zoology & Chemistry from Kanpur University, Master degree in Botany from Agra University and Law from Delhi University.

Shri Goel worked as Asstt./ Dy. Commissioner (1982-1991), Joint/ Addl. Commissioner (from 1991-1992/ 1994-2001) and Commissioner (2001- 2014). He also worked in the Department of Public Enterprises, Government of Uttar Pradesh as Corporate Tax Planning Advisor (1992 to 1994). He served as Principal Commissioner (Equivalent to AS) (2014-2016) and Chief Commissioner (Jan 2016 to Nov 2016) in the Income Tax Department.

Shri Goel's area of specialization includes Finance, Law, Management and Administration. Shri Goel has varied experience in administration and enforcement of Direct Taxes, financial evaluation of new projects of PSUs and as Corporate Tax Planner & advisor to several State PSUs. He has served as Government Official at posts equivalent to Additional Secretary for two years and has retired from the position of Chief Commissioner of Income Tax. He served as Commissioner Income Tax (equivalent to Joint Secretary) for fourteen years.

Shri Goel's appointment is upto 11.09.2020 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 Goel 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 Goel has attended all the Board meetings (four) held during his tenure in FY 2017-18.

By virtue of Section 161 of the Companies Act, 2013 read with Article 67(iv) of the Articles of Association of the Company, Shri Desh Deepak Goel 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 Goel for the Office of Independent Director of the Company.

The Company has received a declaration from Shri Desh Deepak Goel that he meets the criteria of independence as prescribed both under sub-section (6) of Section 149 of the Companies Act, 2013 and under 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 Desh Deepak Goel is appointed as an Independent Director. In the opinion of the Board, Shri Desh Deepak Goel 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 Desh Deepak Goel, 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 Ranjit Rae (DIN: 07942234), aged 61 years, was appointed as an Independent Director on the Board of BHEL w.e.f. 23rd September, 2017.

A retired Indian Foreign Service Officer of 1980 batch, Shri Ranjit Rae holds a Master degree in Economics. He has also attended a Course on Strategic Studies at National Defence College, New Delhi. Prior to joining Indian Foreign Service in 1980, Shri Rae had worked as Lecturer in St. Stephen's College, Delhi University for two years.

The area of specialization of Shri Rae is Administration and Management. He has served as ambassador of India to Vietnam & Hungary (also accredited to Bosnia & Herzegovina and Slovenia) and First Secretary Permanent Mission of India, New York (alternate representative on the United Nation Joint Staff Pension Board and member of United Nation Advisory Committee on Administrative and Budgetary Questions). He also acted as Second Secretary/ High Commissioner on High Commission of India, Kampala. He was on deputation to the United Nation Mission in Kosovo and Department of Peace keeping Operations of the United Nations in New York (2000 to 2002). He also served as Head of Northern Division dealing with Nepal and Bhutan (2002 to 2006). He was the Director in External Affairs Ministry (1998 to 2000), Deputy Secretary/ Director in Economic Cooperation Unit (1994 to 1995) and Under Secretary/ Deputy Secretary, United Nation Division/ Foreign Secretary's Office (1986 to 1991). He has also served as Press Secretary to the President of India. He retired from the position of Ambassador to Nepal, Secretary to Government of India rank.

Shri Ranjit Rae's appointment is upto 11.09.2020 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 Ranjit Rae 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 Rae has attended all the Board meetings (four) held during his tenure in FY 2017-18.

By virtue of Section 161 of the Companies Act, 2013 read with Article 67(iv) of the Articles of Association of the Company, Shri Ranjit Rae 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 Rae for the Office of Independent Director of the Company.

The Company has received a declaration from Shri Ranjit Rae that he meets the criteria of independence as prescribed both under sub-section (6) of Section 149 of the Companies Act, 2013 and under 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 Ranjit Rae is appointed as an Independent Director. In the opinion of the Board, Shri Ranjit Rae 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 Ranjit Rae, 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 Subodh Gupta, (DIN 08113460) aged 54 years, was appointed as Director (Finance) on the Board of BHEL w.e.f. 18th April 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 this, 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.

A career Finance professional, Shri Gupta brings with him more than 32 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.

While heading the team in most crucial area of costing in a major Manufacturing Unit, he played a pivotal role for the company receiving 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.

The earlier stints of Shri Gupta as Head of Finance at Transmission Business Group, International Operations Division and at Industry Business Sector resulted in developing financial strategies and policies for pricing, cost control and profit planning for achieving overall goals of the company.

His contribution towards risk assessment and advising its mitigation measures in strategic tie-ups / consortiums and overseas business opportunities is significant. He has immensely contributed in implementation of Ind AS throughout the company. He has also been a member of various corporate committees tasked with simplification of existing business policies to meet market challenges.

Shri Gupta's appointment is upto 17.04.2023 or until further orders, whichever event occurs earlier, in the pay scale of ₹ 75,000 - ₹1,00,000 p.m. (2007 scale) on terms and conditions approved by the Government of India.

Shri Gupta does not hold any shares of BHEL and he does not have any relationship with other Directors/ Manager/ KMP of company.

Since Shri Gupta was appointed as Director (Finance) on 18.04.2018, he did not attend any Board meeting during financial year 2017-18.

By virtue of Section 161 of the Companies Act, 2013 read with Article 67(iv) of the Articles of Association of the Company, Shri Subodh Gupta 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 Gupta for the Office of Director of the Company.

Except Shri Subodh Gupta, 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 Pravin L. Agrawal (DIN: 05277383), aged 49 years, was inducted as Part-time Official Director on the Board of BHEL w.e.f. 18th May, 2018.

An Indian Forest Service Officer (1994 Batch), Shri Pravin L. Agrawal is a commonwealth scholar & holds post graduate degree in sustainable development, public policy and management from different global universities.

Shri Agrawal is presently Joint Secretary, Department of Heavy Industry, Ministry of Heavy Industries and Public Enterprises, Government of India. He has varied experience in the field of Public policy and Governance issues. He has been nominated by U.S. Department of State for its prestigious fellowship "International Visitors Leadership programme" on Border Trade issues during 1995.

Shri Agrawal holds the position of Part-time official director on the Board of Andrew Yule & Company Limited.

Being a Government of India nominee on the Board of BHEL, Shri Pravin L. Agrawal does not receive any remuneration from BHEL.

Shri Agrawal does not hold any shares in BHEL and he does

not have any relationship with other Directors/ Manager/ Key Managerial Personnel of the Company.

Since Shri Agrawal was appointed as Director on 18.05.2018, he did not attend any Board meeting during financial year 2017-18.

By virtue of Section 161 of the Companies Act, 2013 read with Article 67(iv) of the Articles of Association of the Company, Shri Pravin L. Agrawal 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 Agrawal for the Office of Director of the Company.

Except Shri Pravin L. Agrawal, 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 S. Balakrishnan (DIN: 07804784) aged 57 years, was inducted as Director (Industrial Systems & Products) on the Board of BHEL w.e.f. 1st June, 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 35 years of diverse experience in the areas of Electrical Machines, Transformers, Gas Turbines, Steam Turbines, Pulverisers, Heat Exchangers, Oil Rigs, etc.

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 holds the position of Part-time Nominee Director on the Board of Bharat Pumps and Compressors Limited.

Shri Balakrishnan's appointment is upto 30.11.2020 or until further orders, whichever event occurs earlier, in the pay scale of ₹75,000 - ₹1,00,000 p.m. (2007 scale) 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.

Since Shri Balakrishnan was appointed as Director (IS&P) on 01.06.2018, he did not attend any Board meeting during financial year 2017-18.

By virtue of Section 161 of the Companies Act, 2013 read with Article 67(iv) of the Articles of Association of the Company, Shri S. Balakrishnan 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 Balakrishnan for the Office of Director of the Company.

Except Shri S. Balakrishnan, 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

The Companies Act, 2013 has allowed companies to buy-back their own shares and securities. These shares can be purchased only if the Company is authorized by its Articles of Association. Alteration in the Articles of Association is therefore proposed to enable the Company to buy back its own shares/ securities as per the applicable provisions of the Companies Act, 2013.

The existing Article 5 of the Articles of Association of the Company restricts buy back of own shares. In order to have an enabling clause regarding buy back of shares it is proposed to insert Article 5A in the Articles of Association.

In line with the provisions of the Section 14 of the Companies Act, 2013, alteration of the Articles of Association of the Company has been put up for approval of the members by a Special Resolution.

None of the directors or Key Managerial Personnel (KMP) or their relatives is in any way concerned or interested, financially or otherwise, in the resolution set out at item no. 12, except to the extent of their shareholding.

The Board of Directors commends the resolution for approval of the Shareholders.

By Order of the Board of Directors



(I.P. Singh)

Company Secretary

Place : New Delhi
Date : August 10, 2018

DETAILS OF DIRECTORS PROPOSED FOR RE-APPOINTMENT

DR. SUBHASH CHANDRA PANDEY

Dr. Subhash Chandra Pandey (DIN: 01613073) aged 59 years, was inducted as Part-time Official Director on the Board of BHEL w.e.f. 31st March, 2016.

Dr. Pandey holds a doctorate in Mathematics (Ph.D) from Lucknow University in the area of Operations Research (Nonlinear Programming).

Dr. Pandey belongs to the 1983 batch of the Indian Audit & Accounts Service and is presently posted as the Special Secretary and Financial Adviser in the Department of Industrial Policy & Promotion, Ministry of Commerce & Industry. He holds additional charge of the post of SS&FA to the Ministry of Heavy Industries & Public Enterprises and Ministry of Textiles.

Dr. Pandey has vast experience in the area of public finance, budget & expenditure management and audit, R&D Production and Information Technology. Within the Indian Audit and Accounts Department, he has handled Government Accounts, State Audit, Defence and Commercial Audit, training in Information Technology Audit. He has also served as Consultant to Government of Antigua and Barbuda for three years on budget and accounts matters.

As DS/ Director/ OSD in the Ministry of Finance (10 years), Dr. Pandey has been involved in over 13 Union Budgets, 8 State Budgets, 3 Five Year Plans, 3 Finance Commissions, State Reorganization etc. and has been member of many committees of Ministry of Finance and Reserve Bank of India. As Director (Budget), his initiative on the statutory regulation of government debt and deficit led to enactment of the Fiscal Responsibility and Budget Management Act. He was associated with the formulation of the Act and its implementation in early 3 years. In Ministry of Defence, he was involved in financial management of Defence R&D and Production.

Other assignments handled by Dr. Pandey includes serving as Principal Accountant General (Audit), Jammu & Kashmir. He was working as Director General (Strategic Management) in the Headquarters of the C&AG of India handling Audit Planning and the interface of the Indian Audit & Accounts Department with external stakeholders.

Dr. Pandey is a Part-time Official Director on the Boards of HMT Ltd., Invest India, India International Convention & Exhibition Centre Ltd., National Textile Corporation Ltd., India Trade Promotion Organisation, National Jute Board, National Jute Manufacturers Corporation Limited, MMTC Ltd. and STC India Ltd., and is a Government Nominee on the Governing Councils of Central Manufacturing Technology Institute, National Council for Cement & Building Materials, National Institute of Design, National Automotive Testing R&D Infrastructure Project, Automotive Research Association of India and National Institute of Fashion Technology. He is also a Member of the Audit Committee of India Trade Promotion Organisation.

Being a Government of India nominee on the Board of BHEL, Dr. Pandey does not receive any remuneration from BHEL.

Dr. Pandey does not hold any shares in BHEL and he does not have any relationship with other Directors/ Manager/ Key Managerial Personnel of the Company.

Dr. Pandey has attended seven (of nine) Board Meetings held in FY 2017-18.

SHRI AKHIL JOSHI

Shri Akhil Joshi (DIN: 06604954) aged 59 years, was inducted as Director (Power) on the Board of BHEL w.e.f. 10th August, 2016.

Shri Joshi holds a degree in Mechanical Engineering from the Delhi College of Engineering (DCE).

Shri Joshi has diverse experience of over 38 years, working in major segments of BHEL. Prior to his elevation as Director (Power), Shri Joshi was holding charge as Executive Director (Power Sector-Management Services & HR). He also served as Executive Director of the Corporate Technology Management (CTM) and was responsible for overseeing company-wide technology acquisition and assimilation from world leaders, in-house product development, forging strategic alliances, management of BHEL's various joint ventures and Mergers & Acquisitions.

Shri Joshi has also held various leadership positions in Spares and Services Business of Power Sector, Technology Licensing and International Operations Division of BHEL. As head of Technology Licensing, he successfully led negotiations to acquire key technologies from leading Original Equipment Manufacturers (OEMs) across the globe. The acquisition of these technologies have been crucial in the company maintaining its competitive edge and expanding its range of offerings. During his tenure at the International Operations Division, he played a key role in multi-fold growth of the company's business in highly competitive overseas markets such as the Middle East, South East Asia, Africa, CIS region, the Mediterranean and Europe. He successfully pioneered BHEL's maiden entry into the utility segments of various overseas markets such as Iraq, Vietnam, Belarus, Bangladesh, Cyprus and Egypt.

Shri Joshi's rich experience also includes stints at the Project Management Group (PMG) of the Power Sector and at the Company's Heavy Electrical Equipment Plant (HEEP) at Haridwar.

Shri Joshi holds the position of Part-time Chairman on the Board of Raichur Power Corporation Limited.

Shri Joshi's appointment is upto 30.09.2018 or until further orders, whichever event occurs earlier, in the pay scale of ₹75,000 – ₹1,00,000 p.m. (pre-revised) on terms and conditions approved by the Government of India.

Shri Joshi presently holds 15 equity shares in BHEL and he does not have any relationship with other Directors/ Manager/ Key Managerial Personnel of the Company.

Shri Joshi has attended all the Board Meetings (nine) held in FY 2017-18.

By Order of the Board of Directors



(I.P. Singh)

Company Secretary

Place : New Delhi

Date : August 10, 2018



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

**54th Annual General Meeting to be held on Wednesday, 19th day of September, 2018 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 54th Annual General Meeting on 19th September, 2018.

Signature of Member/ Proxy

THIS ATTENDANCE SLIP DULY FILLED IS TO BE HANDED OVER AT THE ENTRANCE OF THE MEETING HALL



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

[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 54th Annual General Meeting of the Company, to be held on Wednesday, the 19th day of September, 2018 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, 2018 together with the Directors' Report and Auditors' Report thereon
2.	Declaration of Dividend for the financial year 2017-18
3.	Re-appointment of Dr. Subhash Chandra Pandey (DIN : 01613073) who retires by rotation
4.	Re-appointment of Shri Akhil Joshi (DIN: 06604954) who retires by rotation
5.	Authorize the Board of Directors to fix the remuneration of the Auditors for the year 2018-19
Special Business	
6.	Ratification of Remuneration of Cost Auditors for financial year 2018-19
7.	Appointment of Shri Desh Deepak Goel (DIN : 07739221) as Director
8.	Appointment of Shri Ranjit Rae (DIN : 07942234) as Director
9.	Appointment of Shri Subodh Gupta (DIN : 08113460) as Director
10.	Appointment of Shri Pravin L. Agrawal (DIN : 05277383) as Director
11.	Appointment of Shri S. Balakrishnan (DIN: 07804784) as Director
12.	Amendment in Articles of Association by insertion of clause 5A regarding buy-back of shares

Signed this..... day of..... 2018

Signature of shareholder (s)

Signature of first proxy holder

Signature of second proxy holder

Signature of third proxy holder

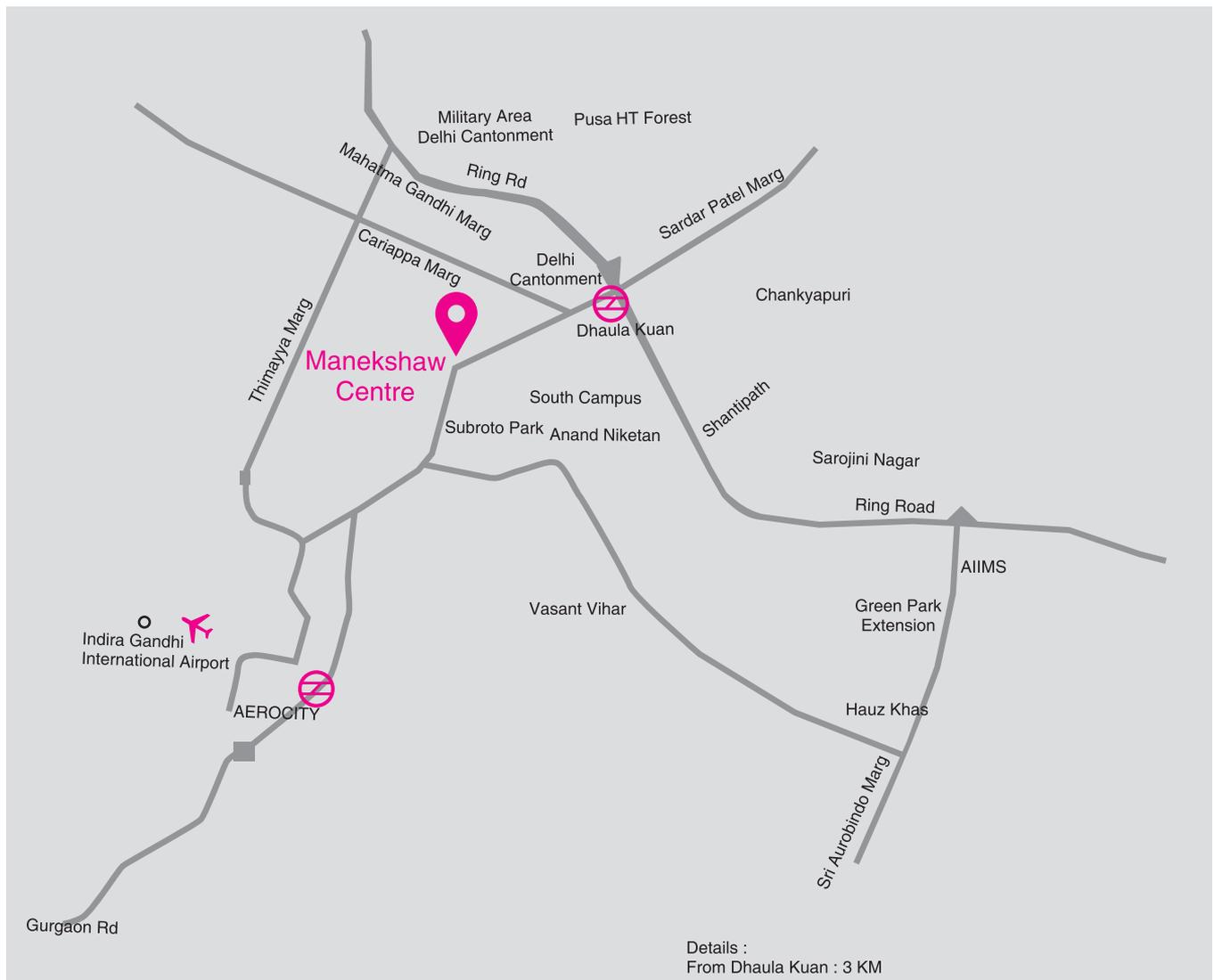
Please affix
Revenue
Stamp

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 54th 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 Computershare 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 54th Annual General Meeting of the Company to be held on 19th September, 2018.

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

(I.P. Singh)
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 Computershare Pvt. Ltd.
UNIT: BHEL
Karvy Selenium Tower B, Plot 31-32,
Gachibowli Financial District, Nanakramguda,
HYDERABAD-500032

.....
Signature of the Shareholder

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.

TEAR HERE

Bankers, Auditors & Share Transfer Agent

Bankers

Allahabad Bank
Andhra Bank
Bank of Baroda
Canara Bank
Central Bank
Corporation 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
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

DSP & Associates, New Delhi
Dhawan & Co., New Delhi
Mahesh C. Solanki & Co., Bhopal
V. Narayanan & Co., Trichy
Rao & Kumar, Hyderabad
Rao Associates, Bengaluru
M Srinivasan & Associates, Chennai
M.B. Gabhawala & Co., Varanasi

Cost Auditors

R. J. Goel & Co., Delhi
M. Krishnaswamy & Associates, Chennai
Narasimha Murthy & Co., Hyderabad
Sanjay Kasliwal & Associates, Bhopal
J. H & Associates, Bengaluru
K B Saxena & Associates, Lucknow
Velamarthi & Associates, Visakhapatnam

Share Transfer Agent

Karvy Computershare 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

BHEL House, Siri Fort, New Delhi - 110049 (India)
CIN: L74899DL1964GOI004281
Phone: 011-66337000, Fax: 011-66337428,
Website: www.bhel.com E-mail: shareholderquery@bhel.in

Coal: Clean energy of the future

BHEL developed
Coal gasification facility



Coal, the leading fuel for electric power generation across the world, could be a potential source of clean energy for the future. India is exploring ways to use its abundant coal reserves in an environment friendly manner, one of the alternatives being generation of methanol from coal.

From developing clean coal technologies to converting coal to clean energy sources, BHEL is pioneering cleaner usage of coal in the country. BHEL is the first organization in India to develop gasification technology specifically for high ash Indian coal, and has successfully developed demonstration plants for this technology.

Currently, BHEL is working on development of technology for converting high ash Indian coal to methanol. To demonstrate successful development of this new technology, a pilot facility to generate methanol from high ash Indian coal is being set up.



Coal Feeding System



Fluidised Bed Gasifier



BHARAT HEAVY ELECTRICALS LIMITED

Registered Office : BHEL House, Siri Fort, New Delhi 110049, India

Corporate Identity Number : L74899DL1964GOI004281

www.bhel.com