

DIRECTORS' REPORT

Dear Members,

Your Directors are pleased to present the 42nd Annual Report on the business and operations of the Company along with audited financial statements for the year ended March 31, 2018.

Financial Year 2017-18 had been yet another year of achievements for your Company.

Major highlights of your company for the year 2017-18 are:

- Power projects of 3,478 MW (including 910 MW through JV and Subsidiary Companies) were commissioned.
- Declared 4,423 MW Power Projects (including subsidiaries) on commercial generation including 250 MW of Solar, 50 MW of Wind and 8MW of Small Hydro Projects.
- PLF of 77.90% as against all India PLF of 60.72% with Talcher Thermal station of your Company recording 93.820% PLF. 12 Stations (including JVs) were in the top 25 in the country in terms of PLF. 8 coal based stations out of 20 commercial Stations achieved more than 85% PLF.
- Excellent MOU rating by Government of India for the year 2016-17.
- Group Capital Expenditure (CAPEX) including CAPEX of JV/ subsidiaries of your company for the year 2017-18 was ₹ 31,036.56 crore.
- 100% realization of current bills from customers.
- Revenue from operations was ₹ 83,452.70 crore and total revenue was ₹ 85,207.95 crore. Net Profit after Tax (PAT) was ₹10,343.17 crore.
- Dividend of ₹ 5.12 per share comprising interim dividend of ₹ 2.73 per equity share paid in February 2018 and recommended final dividend of ₹ 2.39 per equity share for the year 2017-18, subject to approval of the shareholders.
- Cash contribution of ₹ 6,297.39 crore to Government of India's exchequer through dividend, dividend distribution tax and income tax in the financial year 2017-18.
- Market capitalization of ₹ 1,39,925.53 crore as on 31.03.2018.
- Planted approx. 1 million trees during 2017-18 to mitigate the GHG emissions arising out of plant operations, thereby bringing total to about 33 million planted trees till the end of 31.03.2018.
- About 4.13 crore fly ash bricks produced by fly ash brick plants of your Company's stations, which are being utilised in construction of areas of plant, ash dyke and of township.
- Awarded for overall Best Financial Performance by Governance Now
- Bagged 2nd position at the BML Munjal Award 2018 for sustained excellence in Learning and Development.
- Awarded for Excellence in Maharatna category at India Pride Awards.

You will appreciate the fact that your company recorded growth and excellent performance despite numerous challenges before the sector like coal shortage, strict emission norms, etc.



Particulars	2017-18		2016-17	
	₹ Crore	US \$ Mn*	₹ Crore	US \$ Mn*
Revenue				
Revenue from Operations (including energy sales, sale of energy through trading, consultancy fee, etc)	83,452.70	12,715.63	78,273.44	11,926.47
Other income	1,755.25	267.45	1,068.86	162.86
Total Revenue	85,207.95	12,983.08	79,342.30	12,089.33
Expenses				
Fuel	48,315.47	7,361.80	47,572.19	7,248.54
Energy purchased for trading	1,313.51	200.14	-	-
Employee benefits expense	4,734.67	721.42	4,324.60	658.94
Finance costs	3,984.25	607.08	3,597.20	548.10
Depreciation, amortization and impairment expense	7,098.86	1,081.65	5,920.82	902.15
Other expenses	7,421.73	1,130.84	5,092.38	775.92
Total expenses	72,868.49	11,102.93	66,507.19	10,133.65
Profit before exceptional items, tax and regulatory deferral account balances	12,339.46	1,880.15	12,835.11	1,955.68
Exceptional items – impairment loss on investment	-	-	782.95	119.30
Profit before tax	12,339.46	1,880.15	12,052.16	1,836.38
Tax expense	2,549.29	388.43	2,930.82	446.57
Profit for the year before regulatory deferral account balances	9,790.17	1,491.72	9,121.34	1,389.81
Net movement in regulatory deferral account balances (net of tax)	553.00	84.26	263.92	40.21
Profit for the year	10,343.17	1,575.98	9,385.26	1,430.02

Appropriations	2017-18		2016-17	
	₹ Crore	US \$ Mn*	₹ Crore	US \$ Mn*
Transfer to bonds/ debentures redemption reserve	1,637.75	249.54	1,667.08	254.01
Transfer to general reserve	4,000.00	609.48	4,500.00	685.66
Dividend paid	4,040.28	615.61	3,595.03	547.77
Tax on dividend paid	816.40	124.39	727.79	110.89

*1US \$= ₹65.63 as on March 31, 2018

2. DIVESTMENT BY GOVERNMENT

The Government of India has, from time to time, disinvested its stake in your company. During 2017-18, the Government of India divested 7.47% of shares as under:

Sl. No.	Particulars	No. of Shares Divested during 2017-18	Percentage
1.	Offer for Sale in Aug 2017	54,71,50,444	6.64
2.	Employee Offer for Sale in Sept 2017	94,69,848	0.11
3.	Bharat 22 ETF Nov 2017	5,93,13,616	0.72
	Total	61,59,33,908	7.47

In June 2018, the Government of India divested 4,15,67,567 shares through Bharat 22 ETF. The shareholding of Government of India after divestment in your Company stands at 5,09,32,57,695 shares i.e. 61.77 % as on 28.07.2018.

3. DIVIDEND

Interim and Final Dividend:

Your company paid interim dividend of ₹ 2.73 per equity share in February 2018 and the Board of your Company has recommended a final dividend of ₹ 2.39 per equity share for the year 2017-18. With this, the total dividend for the year is ₹ 5.12 per equity share of ₹ 10/- each. In the year 2016-17, the total dividend paid was ₹ 4.78 per equity share of ₹ 10/- each.



The dividend payout is 39.06% and the total dividend payout including dividend tax is ~47% of profit after tax.

The final dividend shall be paid after your approval at the Annual General Meeting.

The dividend has been recommended in accordance with your Company's Dividend Distribution Policy which is available at the website link <https://ntpc.co.in/sites/default/files/downloads/DividendDistributionPolicyofNTPCLimited.pdf>.

4. OPERATIONAL PERFORMANCE

During the year, the power stations of your Company generated 265.80 BUs (294.27 BUs including JVs & Subsidiaries) of electricity (including solar, hydro, wind & small hydro power) which was 20.39% (22.58% including generation by JVs and Subsidiaries) of the total power generated in India registering an increase of 6.19% (6.32% including JVs & Subsidiaries) over the previous years' generation of 250.31 BUs by your company (276.77 BUs including JVs & Subsidiaries).

The total generation contributed by coal stations is 252.36 BUs during the year against generation of 237.96 BUs last year registering a growth of 6.05%. Generation from coal based units could have been still higher but due to less generation schedule there was opportunity loss of 30.83 BUs. The coal based stations operated at average Plant Load Factor (PLF) of 77.90% (All India PLF was 60.72%) and average Availability Factor of 88.68% on bus bar during the year.

Talcher Thermal station with a PLF of 93.82% was ranked 2nd in the country and 12 Stations (including JVs) of your company were in the top 25 in the country in terms of PLF. Eight coal based stations out of twenty commercial Stations achieved PLF more than 85%.

The gas stations having a capacity of 4,017 MW achieved a higher annual generation of 8.82 BUs at a PLF of 25.05% as against 8.59 BUs last year. Opportunity loss due to less generation schedule on Gas was still higher at 24.45 BUs.

Generation contributed by Koldam hydro station improved to 3.31 BUs against 3.23 BUs achieved last year. Generation from your company's RE stations (Solar+ Wind + Small Hydro) was 1.31 BUs.

5. COMMERCIAL PERFORMANCE

5.1 Billing and Realization

Your Company has realized 100% of its current bills raised for energy supplied in 2017-18, thus achieving this feat for the 15th consecutive year.

Most of the beneficiaries were making their payments within 60 days of billing and had availed attractive rebates as per Company's Rebate Scheme.

Your Company has in place a robust payment security mechanism in the form of Letters of Credit (LC) backed by

the Tri-Partite Agreement. Apart from the LCs, payment is secured by the Tri-Partite Agreements (TPAs) signed amongst the State Governments, Govt of India and RBI. As per the TPA, any default in payment by the Discoms of a state can be recovered directly from the account of the respective State Governments with RBI.

The original TPAs signed during 2000-01 were valid up to 31.10.2016. As per the decision of the Union Cabinet and as agreed by the various States and RBI, these TPAs have been extended for a further period of 10 to 15 years. As of now, 29 States/ UTs out of total 31 have signed the TPA documents. The signing process is in progress for the balance States.

5.2 Flexibility in generation and scheduling of thermal power stations to reduce emissions:

The Ministry of Power, Government of India has issued detailed mechanism in April 2018 allowing flexibility in generation and scheduling of thermal power stations to reduce emissions. The scheme provides flexibility to the generating company to supply renewable power in place of thermal power to meet its scheduled generation from that thermal generating station. The generating company may either establish or procure renewable energy generating capacity anywhere in the country. The tariff of the supplied energy either from renewable or coal shall be same as the Energy Charge Rate of that thermal station. The gains, if any, shall be shared with the beneficiaries in 50:50 ratio. In view of the large scale integration of renewables in the grid, Discoms are presently required to arrange balancing power separately to meet the variability of renewable generation. The above scheme supplements requirement of additional balancing power for renewable energy by Discoms. Further, Discoms will be able to meet their RPO obligation without facing any additional financial burden. The scheme also provides opportunity to generating companies to utilize generation from RE sources and also help in reducing emissions. Moreover, the scheme facilitates further RE capacity addition in the country.

5.3 National Merit Order Operation:

With a view of providing cheaper power, your Company has taken various measures to reduce fuel charges through coal swapping, flexibility in usage of coal, etc. In order to maximize utilization of cheaper power, your company has proposed the concept of National Merit Order Operation which envisages flexibility to supply the power requisitioned by beneficiaries / Discoms through Merit Order operation of its stations on national basis, that is, cheaper station of the generating company shall be dispatched up to its maximum capability before scheduling costlier stations till the total power requisitioned by all its beneficiaries / Discoms is met. The gains arising from the above arrangement are proposed to be shared with the beneficiaries. This will ensure optimal utilization of the available resources by running the cheaper generation stations and reducing the average cost of generation. A draft notification has been issued by Ministry of Power vide notification dated 17.07.2018.



5.4 Rebate Scheme for realization of dues:

In order to encourage early and full realization of dues, your Company has issued 'Rebate Scheme' for the year 2018-19. In the Scheme for 2018-19, 2.15% rebate shall be allowed for amounts credited to the account of Company on 1st and 2nd of the month against provisional bill. For payment made on 3rd and 4th of the month, rebate of 2.1% and 2.05% rebate on making payment on 5th of the billing month shall be allowed. Thereafter payments made till 8th day of the billing month, a rebate of 2.0% shall be allowed.

From 9th day of the billing month till 30th day of the month next to billing month, rebate on amounts credited to the account of the Company shall gradually reduce from 1.95% to 0%. An additional rebate of 0.1% (maximum) is proposed for beneficiaries who make payment on time consistently during the year.

5.5 Commercial Capacity:

The following units including those of subsidiary companies were declared commercial during the year 2017-18, adding 4,423 MW to commercial capacity of your Company:

Project/ Unit	Capacity (MW)	COD*
Units- Coal Based (I)		
Kudgi, Stage-I Unit#1	800	31.07.2017
Mouda, Stage-II Unit#2	660	18.09.2017
Solapur, Unit#1	660	25.09.2017
Unchahar, Unit#4	500	30.09.2017
Bongaigaon, Unit#2	250	01.11.2017
Kudgi, Stage-I Unit#2	800	31.12.2017
Total (I)	3,670	
Units -Solar (II)		
Mandsaur Solar	250	01.09.2017
Total (II)	250	
Units - Small Hydro (III)		
Singrauli Small Hydro	8	05.03.2018
Total (III)	8	
Units - Wind (IV)		
Rojmal	50	10.11.2017
Total (IV)	50	
Subsidiaries - Coal Based (V)		
Muzaffarpur Thermal Power Station, Stage-II Unit#2 (KBUNL)	195	01.07.2017
Nabinagar Thermal Power Project, Unit#1 (BRBCL)	250	10.09.2017
Total (V)	445	
Total Capacity declared commercial during 2017-18 (I)+(II)+(III)+(IV)+(V)	4,423	

* COD- Commercial Operation Date

As on 31.03.2018, the Commercial Capacity of your Company stood at 44,500 MW (41,322 MW as on 31.03.2017) and your Company Group's Commercial Capacity stood at 51,391 MW (48,288 MW as on 31.03.2017):

Owned by your Company	MW
Coal based projects	38,755
Gas based projects	4,017
Renewable Energy Projects	928
Hydro Projects	800
Sub-total	44,500
Joint Ventures & Subsidiaries	
Coal based projects	4,924
Gas based projects	1,967
Sub-total	6,891
Total	51,391

5.6 Tariff Related Matters:

In the year 2017-18, your Company has been able to reduce the Energy Charge Rate significantly through various measures including rationalization of coal transportation across its various stations etc.

Demand oriented overhauling plan of your Company units: The philosophy for planning of unit overhaul has been revisited to align the same to region-wise, month-wise demand patterns. This is expected to maximize your Company units participation in meeting the demands.

Improvement in Operational Efficiency parameters: Operational efficiency parameters for your Company stations were continuously monitored in coordination with Operations & CENPEEP and specific measures were taken to improve the operational efficiency of stations.

Tariff orders for the period 2014-19 have been issued for most of the stations.

5.7 Strengthening Customer Relationship:

Customer Focus is one of the core values of your Company (ICOMIT). In line with this, the Company has taken up several initiatives targeted towards the external Customers. Customer Relationship Management (CRM) and Customer Satisfaction Index (CSI) are some of the most important parts of these initiatives.

As part of the CRM, your Company has been implementing several structured activities with the objective of sharing its experiences and best practices with the customers, capturing their feedbacks and expectations and addressing their issues. Some of these activities are described below:

- Your Company provides various support services to the beneficiaries, which involves identifying potential areas of cooperation and sharing of each others' best practices. In the financial year 2017-18, total 63 such programs have been conducted for the customers on the basis of requirement expressed by them.

- Your Company offers training programs to the representatives of beneficiary companies at Power Management Institute (PMI), the apex training institute of your Company on free of cost basis. In 2017-18, 105 participants from various customer organizations attended training in 71 programs.

Your Company has also put in place Customer Satisfaction Index (CSI) survey scheme, to gather customer's feedbacks through a survey and respond to their requirements. This CSI survey has been conducted in 2017-18 and the score falls under Excellent category.

5.8 UDAY Scheme

As part of the UDAY Scheme, your Company has been entrusted the responsibility to help and guide the state generating companies to improve their operational efficiency and reduce the cost of generation. With this objective, multi-disciplinary teams from your Company visited power stations at 12 states. The suggested measures to improve efficiency in these plants by the team based on the visit have been shared with the power stations.

5.9 Power Trading in Power Exchange:

In line with CERC (IEGC) (5th Amendment) Regulations 2017, your Company sold more than 365 Million Units of URS power in the Power Exchange through its trading arm NNVN, based on consents received from most of the beneficiaries. As per this scheme, gains from these transactions have been shared in the ratio of 50:50 with the beneficiaries whose URS power is sold.

6. INSTALLED CAPACITY

During the year 2017-18, your Company added 3,478 MW to its installed capacity as per details given below:

Project/ Unit installed	Capacity (MW)
Coal Based Power Projects	
Solapur, Unit#1	660
Kudgi, Unit#3	800
Lara, Unit#1	800
Solar Based Power Project	
Mandsaur	250
Wind Based Power Project	
Rojmal	50
Small Hydro Power Project	
Singrauli	8
Total	2,568
Under Subsidiaries and Joint Ventures (Coal Based Power Projects)	
BRBCL, Unit#2 (subsidiary in JV with Ministry of Railways)	250
Meja, Unit#1 (JV with UPRVUNL)	660
Total by Subsidiaries and JV	910
Total Addition during FY 2017-18	3,478

The total installed capacity of your Company Group as on 31.03.2018 has become 53,651 MW (50,498 MW as on 31.03.2017) as tabulated below:

Owned by your Company	MW
Coal based projects	40,355
Gas based projects	4,017
Renewable Energy Projects	928
Hydro Projects	800
Sub-total	46,100
Joint Ventures & Subsidiaries	
Coal based projects	5,584
Gas based projects	1,967
Sub-total	7,551
Total	53,651

7 CAPACITY ADDITION PROGRAMME

7.1 Projects under Implementation

In addition to furthering capacity addition through Coal based power projects, your Company has been pursuing enhancement of its power generation portfolio through Hydro and Renewable Energy projects.

Various projects of your Company having aggregate capacity of 21,071 MW including 7,150 MW being undertaken by Joint Venture and subsidiary companies are under implementation at 20 locations in India and abroad. This includes 13,110 MW through Coal based projects of your Company and 7,150 MW through its JV and Subsidiary Companies. In addition to the above, hydro projects of 811 MW are also under construction. The details of such projects are as under:

Ongoing Projects as on 31.07.2018	Capacity (MW)
I. A. Coal Based Projects	
1. Barh-I, Bihar	1,980
2. Bongaigaon, Assam	250
3. Solapur, Maharashtra	660
4. Lara-I, Chattisgarh	800
5. Gadarwara-I, Madhya Pradesh	1,600
6. Darlipalli-I, Odisha	1,600
7. North Karanpura, Jharkhand	1,980
8. Tanda-II, Uttar Pradesh	1,320
9. Khargone, Madhya Pradesh	1,320
10. Telangana Phase-I, Telangana	1,600
Sub Total (A)	13,110
I.B. Hydro Electric Power Projects (HEPP)	
11. Tapovan Vishnugad, Uttarakhand	520
12. Lata Tapovan, Uttarakhand@	171
13. Rammam Hydro, West Bengal	120
Sub Total (B)	811
Total I (A)+(B)	13,921
II Projects under JVs & Subsidiaries	
Coal Based Projects	



Ongoing Projects as on 31.07.2018	Capacity (MW)
14. Nabinagar- JV with Railways (BRBCL), Bihar	500
15. Nabinagar, JV with BSPGCL (NPGCL), Bihar	1,980
16. Meja, JV with UPRVUNL (MUNPL), Uttar Pradesh	660
17. Patratu Expansion, JV with JBVNL	2,400
18. Rourkela, JV with SAIL (NSPCL), Odisha	250
19. Durgapur, JV with SAIL (NSPCL), West Bengal	40
20. Khulna, JV with BPDB (BIFPCL), Bangladesh	1,320
Total II	7,150
III. Total On-Going Projects as on 31.07.2018 (I)+(II)	21,071

@Work of Lata Tapovan HEPP stopped as per orders of the Hon'ble Supreme Court dated 07.05.2014.

7.2 New Technology & Initiatives

Indian power sector is undergoing a paradigm shift with redefined industry outlook and calls for fresh approaches to meet the emerging challenges. There is a renewed focus on local and global safer environment along with having sustainable power generation. This calls for new concepts in power plant design. At the same time your Company has taken fresh pledge towards safety in all operations. Also being the premier power generating company in the country, the responsibility has come on us for achieving high efficiency and stringent emissions as a torch bearer for the power plants across the country. In step, your Company has laid major stress on efficient utilization of resources, reduction in emissions and increased safety. Your Company has been voluntarily working on improving the energy conversion cycle efficiency by adopting more efficient technologies and power plant schemes.

7.2.1 Continuous technological advancements for improving plant designs

Cleaner power has been central to your Company since its inception. Over the timeline we have witnessed focus change from local pollution to global emission concerns. Your Company has been voluntarily working on improving the energy conversion cycle efficiency by adopting more efficient technologies. Efficiency of units has been continuously improved from sub-critical to supercritical and onto ultra-supercritical technology (USC). All new units are being ordered with USC parameters of 600°C/600°C. Adoption of USC parameters shall result in a reduction of CO₂ emission (as also others like NO_x and SO_x) intensity by around 8% when compared to conventional subcritical power plants for every unit of electricity generated. Parallely, water conservation is a new focus

for your Company. In this direction, introduction of dry cooling technology like Air Cooled Condenser (ACC) is a significant step. First introduction has been made in water stressed areas like North Karanpura and Patratu. Further, your Company has taken initiative to become a Zero Liquid Discharge company for all closed cycle operating stations by identifying and implementing water management initiative, adopting innovation in water use in its thermal power plant.

7.2.2 Advanced Ultra Supercritical (AUSC) technology development project

Indian program to develop AUSC technology is underway by a consortium of your Company, BHEL and IGCAR. The program envisages development of indigenous technology for steam parameters of 310 Kg/cm² and 710°C/720°C temperature. Such parameters are way higher than steam parameters used in contemporary plants globally and would result in top of line efficiency of 46%. It will result in reduction of CO₂ emissions to the tune of 20% compared to a sub-critical plant. The phase-I of the program, which constitutes R&D for technology development, started from April 2017. Second phase of the programme i.e. setting up of an 800 MWe technology demonstration plant (TDP) is being planned at your company's Sipat plant located in Chhattisgarh. The technology will support country's longer term dependence on coal while reconciling with NDC (Nationally Determined Contributions) commitments made as part of Paris Climate Agreement.

7.2.3 Biomass Co-firing for reducing greenhouse emission & reduce pollution

Your Company has taken a new initiative to utilise agro residue for power generation. This is intended to cut down carbon emissions and also to discourage crop residue burning by farmers after harvesting by adding economic value to the crop residue. This is expected to provide extra income to farmers and employment in rural sector. Such commercial scale biomass co-firing, which would be a first in India, is slated to commence from September, 2018 at your company's Dadri power plant which is site for 6 x 210 MW and 2x490 MW coal fired units. Being carbon neutral process, biomass co-firing is a technology which is globally recognized as a measure of reducing greenhouse emissions and is more economical and efficient than dedicated biomass plant.

7.2.4 Waste-to-energy technology initiatives

Keeping commitment for Swachh Bharat, your Company has taken initiatives to establish technologies for clean and safe disposal of municipal waste which also provides some energy as a spin-off benefit. In-line, waste to compost plant at Karsada, Varanasi has been revamped for which the operation & maintenance (O&M) is also being managed. The plant processes about 600 TPD of MSW (municipal solid waste) and generates 60-80 TPD of compost. The

sanitary land fill facility and leachate treatment facility have also been created at this plant to ensure systematic and safe disposal of municipal solid & liquid waste. Further, your Company has recently awarded 24 TPD thermal gasification based demonstration scale plant at Varanasi. Here the MSW is first converted to produce gas, which is then used to generate approximately 200 kW of electric power. Your Company is presently working on more such plants which once established in technology and collection/preparation processes will change the face of waste disposal in Indian cities.

7.2.5 Renewable energy

Renewable energy is one central focus for your Company. To be in step with ambitious targets the Company is attempting all avenues for renewable capacity addition to look beyond conventional large scale solar and wind parks. In Kudgi Project, 190 MW wind-solar hybrid project has been planned which is the largest in India. This would optimize the use of land and power evacuation infrastructure leading to reduction of cost of RE generation. Your Company is setting up 25 MW Solar Project with Battery Energy Storage System (BESS) in Andaman Port- Blair Island, which is first commercial project in India with Battery Energy Storage. This would replace DG sets in Andaman. A project for Solar Thermal Integration with the existing coal based unit at your Company's Dadri Project is under construction and is expected to be commissioned in 2018-19. The expected peak electrical output will be about 3.6 MW resulting in coal savings of around 3825 tons/year and in reduction of CO₂ emissions of around 4060 tons/year. Your Company is utilizing roofs of power plant buildings for solar power generation and integrating to the existing plant infrastructure. Your Company is also going ahead with Floating Solar at reservoirs of Projects which is a step towards saving of land and water conservation by reducing water surface evaporation.

7.2.6 Use of treated Sewage Water from Municipal Sewage treatment plants

Your Company has taken on itself a novel & bold initiative to use sewage water from nearby municipal zones. Such treated water will replace precious fresh water from rivers/lakes/reservoirs. The expertise inherent in your Company will establish the technology and business processes to internalize the spirit of government notification of January 2016 which makes such use mandatory for power plants wherever Municipal STPs are within 50 Km distance. Your Company has already identified some projects viz. Dadri, Patratu, Solapur, Meja, Mouda, Korba, Sipat and Ramagundam where there is feasibility of using the STP treated water as STPs already exist/are going to be constructed. For NCTPP Dadri, your Company has already signed in-principle MOU with NOIDA authority for utilization of 80 MLD treated sewage water from Noida STPs as a flagship project.

7.2.7 Advanced digital and control technology use

Your Company has developed its Digital Strategy Roadmap where key areas like APC (Advanced Process Control), AMS (Advanced monitoring for Stockyard) for Operation optimization, APM (Asset Performance Management) for Maintenance optimization and Application of IIOT (Industrial Internet of Things) in Generation to enhance process visibility, AIM (Asset Information Management) for digital twin with lifecycle documentation, ART (Augmented Reality based training), along with establishment of Remote Performance Monitoring center have been identified. It is envisaged to implement all the above initiatives in Simhadri power plant. One of the significant implementations which is first of its kind in the country is Remote Operation of Koldam Hydro station located in Himachal Pradesh from Control room situated at Scope Complex, Delhi for 24 X 7 operation.

7.2.8 Energy Conservation, Technology Absorption and Foreign Exchange Earnings and outgo

Details of conservation of energy, technology absorption and foreign exchange earnings and outgo in accordance with Section 134(3)(m) of the Companies Act, 2013 read with Companies (Accounts) Rules, 2014 forms part of this report as Annex-III.

7.3 Project Management

Your Company has established state-of-the-art IT enabled Project Monitoring Center (PMC) for facilitating fast track project implementation. PMC has advanced features like Web-based Milestone Monitoring System (Webmiles), Project Review and Internal Monitoring System (PRIMS), etc. PMC facilitates monitoring of key project milestones and also acts as decision support system for the management.

PMC is an integrated enterprise-wide collaborative system to facilitate consolidation of project related issues and their resolution. Features like SMS based information delivery; real time video capture, storage and retrieval facility and video conference facility are extensively utilized for project tracking, issues resolutions and management interventions. PMC has helped in providing effective coordination between the agencies and has provided enhanced/ efficient monitoring of the projects leading to better and faster project implementation.

7.4 Capacity addition through Subsidiaries and Joint Ventures (JVs)

Besides adding capacities on its own, your Company develops power projects through its subsidiaries and joint ventures, both in India and abroad.

The information of Indian Subsidiaries and JV Companies along with details of partners of joint ventures engaged in power generation is given below:



Name of Company	JV Partner(s)	Details
KBUNL (Kanti Bijlee Utpadan Nigam Ltd.)	Bihar State Power Generation Company Limited (erstwhile BSEB) On 29.06.2018, your Company acquired the paid-up share capital held by BSPGCL in KBUNL. KBUNL has now become wholly-owned subsidiary.	A subsidiary Company in which your Company held 72.64% shares in joint venture with BSPGCL (erstwhile BSEB), took over Muzaffarpur Thermal Power Station having 2 units of 110 MW each from BSEB. Both the units of Stage-I have been declared on commercial operation. Total generation in FY 2017-18 was 1,729 MU at 35.15% PLF. This Company has also taken up expansion of the project by 2X195 MW units. Unit#3 of Stage-II was declared commercial on 18.03.2017 and Unit#4 of Stage-II was declared commercial on 01.07.2017.
BRBCL (Bhartiya Rail Bijlee Company Ltd.)	Ministry of Railways	A subsidiary of your Company in joint venture with Ministry of Railways with equity contribution in the ratio of 74:26 is setting up power project of 1000 MW (4X250 MW) capacity at Nabinagar in Bihar. Unit#1 of 250 MW was declared commercial on 15.01.2017 and Unit#2 was declared commercial on 10.09.2017. Construction activities in other units are in progress.
NSPCL (NTPC-SAIL Power Co. Ltd.) (now converted into a Public Limited Company from NTPC-SAIL Power Company Private Limited)	Steel Authority of India Ltd. (SAIL)	A 50:50 Joint Venture Company between your Company and SAIL, owns and operate Captive Power Plants of SAIL at Durgapur (2 x 60 MW), Rourkela (2 x 60 MW) and Bhilai (2 x 30 + 1 x 14 MW). NSPCL has also implemented 2 x 250 MW Bhilai Expansion Power Plant. Total installed capacity of NSPCL is 814 MW. NSPCL generated 6,254 MU at 87.72% PLF in FY' 2017-18. NSPCL has paid final dividend of ₹ 50 Crore for FY' 2016-17 to your Company. Under Implementation- New Coal based Capacity at Rourkela PP-II Expansion (1 x 250 MW) & Durgapur PP-III (2 x 20 MW) is under construction. Solar Power Plants of 200 MW capacity at various plant locations of SAIL is under tendering.

Name of Company	JV Partner(s)	Details
NTECL (NTPC Tamil Nadu Energy Co. Ltd.)	Tamilnadu Generation and Distribution Corporation Limited (TANGEDCO) (erstwhile TNEB)	A 50:50 JVC has commissioned 3x500 MW coal based power project at Vallur, Tamil Nadu. All the units have been declared on commercial operation. Total generation of NTECL during FY 2017-18 was 7,168 MUs at 54.55% PLF and 70.46 % PAF. The profit for FY 2017-18 was ₹ 33.45 crore.
APCPL (Aravali Power Company Pvt. Ltd.)	Indraprastha Power Generation Company Ltd. (IPGCL) and Haryana Power Generation Corporation Ltd. (HPGCL).	This JVC is operating 3X500 MW coal based Indira Gandhi Super Thermal Power Project. Your Company, IPGCL and HPGCL have contributed equity in the ratio of 50:25:25. Total generation of APCPL during FY 2017-18 was 7,734 MU. APCPL has paid interim dividend of ₹ 69.93 crore to NTPC for FY 2017-18.
MUNPL (Meja Urja Nigam Pvt. Ltd.)	Uttar Pradesh Raja Vidyut Utpadan Nigam Ltd. (UPRVUNL)	A 50:50 JVC is implementing 1,320 MW (2X660 MW) coal based power project in the state of Uttar Pradesh. Construction activities are in progress. Unit#1 achieved full load on 31.03.2018 and TG erection for Unit#2 started in January 2018.
NPGL (Nabinagar Power Generating Company Pvt. Ltd.)	Bihar State Power Generation Company Limited (erstwhile BSEB) On 29.06.2018, your Company acquired the paid-up share capital held by BSPGCL in NPGL. NPGL has now become wholly-owned subsidiary.	A 50:50 JVC is setting up a 3x660 MW coal based plant at Nabinagar. Construction activities are in progress.

Name of Company	JV Partner(s)	Details
RGPPPL (Ratnagiri Gas and Power Pvt. Ltd.)	GAIL, ICICI Bank, SBI, IDBI, Canara Bank and MSEB Holding Co. Ltd.	Your Company has a stake of 25.51% in RGPPPL. PPAs have been signed by RGPPPL with Indian Railways for supply of ~500 MW for 5 years w.e.f. 01.04.2017 and Gas Supply Agreements were signed with GAIL for supply of 1.75 MMSCMD of RLNG w.e.f. 01.04.2017 for 5 years. Demerger scheme was approved by NCLAT on 28.02.2018 thereby separating the R-LNG business from RGPPPL to the new entity Konkan LNG Private Limited (KLPL). Accordingly, the paid-up share capital of RGPPPL decreased from ₹ 3820.27 crore to ₹ 3272.30 crore.
ASHVINI (Anushakti Vidhyut Nigam Ltd.)	Nuclear Power Corporation of India Ltd. (NPCIL)	Your Company is having a stake of 49%. The company was formed to set up Nuclear Power Project with two reactor units of mutually agreed capacity and at a mutually agreed location, which may be extended to setting up additional NPPs at the same location or elsewhere, as may be mutually discussed and agreed between the parties, subject to establishment of techno-commercial viability. JVC may also explore the possibilities of entering into business activities related with the Nuclear Power generation and front-end fuel cycle such as uranium mining, setting up of ancillary facilities, etc. at an appropriate stage. Currently, no activities are being taken up by the Company.

Name of Company	JV Partner(s)	Details
PVUNL (Patratu Vidyut Utpadan Nigam Limited)	Jharkhand Biji Vitran Nigam Limited (JBVNL)	PVUNL has been incorporated on 15.10.2015 as a subsidiary of your Company with 74% stake in the Company and 26% of stake held by JBVNL to acquire, establish, operate, maintain, revive, refurbish, renovate and modernize the performing existing units and tie-lines, sub-stations and main power transmission lines connected therewith and setting up of the new units. Existing capacity of 325 MW units was deleted from the data base of all India Installed Capacity by CEA on 23.11.2017. For expansion units (Phase-I 3X800 MW), supplementary Joint Venture Agreement was signed on 01.03.2018 and EPC package was awarded to BHEL on 08.03.2018. Deed of Adherence for Banhardi Coal Mine was signed on 02.06.2017 and bridge linkage was applied to Ministry of Coal on 09.06.2017.

7.5 Hydro Power

Your Company now has its footprints in renewable energy by developing hydro projects as detailed below:

- A. **Koldam HEPP (4x200 MW)** is on the river Satluj at Barmana, District Bilaspur (Himachal Pradesh). All the four units of 200 MW each were declared commercially operational on 18.07.2015. Since then, the project is running successfully. The generation for the financial year 2017-18 had been 3,316.71 MU.
- B. **Tapovan Vishnugad HEPP (4x130 MW)** is on River Dhauliganga, District Chamoli (Uttarakhand). Project is under construction with approximately 91% of capex utilization till 31.03.2018.
- C. **Lata Tapovan HEPP (3x57 MW)** is just upstream of Tapovan-Vishnugad HEPP, in District Chamoli (Uttarakhand). The work was stopped by Hon'ble Supreme Court through order dated 07.05.2014 for 24 Hydro Projects in the State of Uttarakhand including Lata-Tapovan. The MOEF&CC constituted an expert body, which submitted its report on 19.10.2015 and submitted the same in court on 05.11.2015, where Lata Tapovan had been recommended for

implementation with compliance of certain additional conditions. Your Company submitted in Court on 19.11.2015 that the conditions recommended by expert body shall be strictly complied. On the hearing held on 26.04.2016, Additional Solicitor General of India represented MOEF&CC and informed the Court that Lata - Tapovan Project must be implemented. The matter is still pending in Hon'ble Supreme Court for want of affidavit from Ministry of Water Resources (MoWR).

For National Board of Wild Life (NBWL) Clearance, for Tapovan- Vishnugad and Lata Tapovan HEPPs, the proposal regarding redefining of Eco Sensitive Zone (ESZ) was discussed in Uttarakhand State Cabinet Meeting. Formal proposal redefining the limits of ESZ of Nanda Devi National Park has been forwarded by Govt. of Uttarakhand to the standing committee of NBWL on 26.07.2016. Standing Committee of NBWL forwarded the proposal to MoWR on 23.09.2016. In spite of various reminders, comments of MoWR are still awaited. Matter has been discussed since then, in various meetings of standing committee of NBWL, but could not be considered due to non-receipt of MoWR comments. Matter was last discussed in 48th meeting held on 27.03.2018 wherein again the Member Secretary took up the matter with the State Government at the highest level.

Matter is being taken up with MoEF and Climate Change (GOI) by your Company for approval of GOI.

D. Rammam-III HEPP (3x40MW) is situated on river Rammam in Teesta Basin, Darjeeling (West Bengal). Construction work is in progress. PPA with Govt of West Bengal is in process.

7.6 Capacity Addition through Renewable Energy Sources

Your Company is adding capacity through renewable sources of energy, to broad base its generation mix to ensure long-term competitiveness, mitigation of fuel risks and promotion of sustainable power development.

1. Under Green Energy Commitment:

Your Company has committed to develop 10 GW of Renewable Energy Projects under Green Energy Commitment to Govt. of India. As per your Company Corporate Plan 2032, the capacity will have a diversified fuel mix with 28.5% Renewable Energy Sources (RES) including hydro. Your Company has already commissioned 928 MW of RE projects as on 30th June 2018 comprising 870 MW of Solar, 50 MW of Wind & 8 MW of small hydro power projects. Rooftop Solar project of 1.5 MW capacity is under execution in Karnataka.

Further, NITs have been issued for 185 MW of Solar PV projects in the states/UT of Gujarat, Kerala, Uttar Pradesh, Telangana and A&N, including 22 MW floating Solar PV project in Kerala and 12 MWh Battery Energy Storage System in A&N.

2. National Solar Mission:

Your Company has been entrusted to develop 15 GW Solar PV under National Solar Mission (NSM) Phase-II, Batch-II in three tranches between 2014-15 to 2018-19, where the Company will be the facilitator/trader between Discoms and developers. Your Company will purchase power from the developers and sell it to the Discoms. Under Tranche-I of 3000 MW of Solar PV capacity, PPAs have been signed for entire capacity of 3000 MW solar PV projects. Out of this 3000 MW, 2750 MW Solar PV capacity has been commissioned till 30th June 2018 and 250 MW capacity is under implementation. The guidelines for the balance 12 GW is awaited from MNRE.

Your Company has also floated tenders for setting up Grid connected 2000 MW Solar PV projects and 2000 MW Wind Power projects anywhere in India under Developer mode.

7.7 Capacity addition through acquisition:

Your Company has entered into a Memorandum of Understanding (MoU) with Government of Bihar and its affiliate Companies on May 15, 2018 for transfer of Barauni TPS (720 MW) owned by Government of Bihar. The aforesaid MOU also provide for acquisition of Bihar State Power Generation Company's (BSPGCL) equity stake in Kanti Bijlee Utpadan Nigam Limited (KBUNL) & Nabinagar Power Generating Company Limited (NPGC) to your Company. Govt. of Bihar has notified a Transfer Scheme on June 27, 2018 to effect the transactions. Your Company has acquired 27.36% equity of BSPGCL in KBUNL & 50% equity of BSPGCL in NPGCL on June 29, 2018. With this acquisition, KBUNL & NPGCL are now the wholly - owned subsidiaries of your Company. Activities are under way for acquisition of Barauni TPS.

An MoU was signed on 11.01.2017 (currently extended till 10.11.2018) amongst your Company, Rajasthan Vidyut Utpadan Nigam Ltd. (RVUNL) and Rajasthan Rajya Urja Vikas Nigam Limited (on behalf of Discoms) for possible acquisition of Chhabra St-I & II in a phased manner. Enabling actions for transfer are under way.

Your Company has invited Request for Proposal (RfP) on November 25, 2017 from interested parties i.e. Promoters/ Lenders or Authorized Financial Intermediaries of the



Power Generation Companies/ Independent Power Producers/ Developers to offer their operating domestic coal based thermal power assets in India meeting the specified criteria in RFP. Proposals received against RFP are under evaluation.

8. STRATEGIC DIVERSIFICATION- INCREASING SELF-RELIANCE

8.1 In order to strengthen its competitive advantage in power generation business, your Company has diversified its portfolio to emerge as an integrated power major, with presence across entire power value chain through backward and forward integration into areas such as coal mining, power equipment manufacturing, power trading, distribution.

Your Company continuously explores business opportunities through market scanning and adopts new business plans accordingly.

8.2 The details of subsidiary companies engaged in business other than in power generation are as under:

8.2.1 NTPC Electric Supply Company Limited (NESCL), a wholly-owned subsidiary, transferred and vested all its operations, with effect from April 1, 2015, to your Company.

NESCL was incorporated for the distribution business and later started deposit and consultancy works. The transfer and vesting of existing operations would enable a focused business approach in the area of distribution, the objective for which NESCL was incorporated. Although currently NESCL does not have any business operations in retail distribution, the same will be taken up at an appropriate time when the opportunity becomes visible.

8.2.2 NTPC Vidyut Vyapar Nigam Limited (NVVN), a wholly-owned subsidiary, is engaged in the business of Power trading. NVVN has a trading License under Category I (highest category). It undertakes sale and purchase of electric power, to effectively utilize installed capacity and thus enable reduction in the cost of power.

The Company has been designated as the nodal agency for cross border trading with Bhutan and Bangladesh and for National Solar Mission.

In the FY 2017-18, NVVN traded 17,278 million units (MUs).

NVVN has paid an interim dividend of ₹ 20 Crore for FY 2017-18.

8.3 The details of other joint venture companies incorporated in India which are taking up activities in other business related areas are given below:

Name of Company	JV Partner	Activities Undertaken
UPL (Utility Powertech Ltd.)	Reliance Infrastructure Limited	Takes up assignments of construction, erection and supervision of business in power sector and other sectors like O&M services, Residual Life Assessment Studies, non-conventional projects etc. UPL has paid dividend of ₹ 2.5 crore as final dividend to your Company for FY 2016-17.
NGPSL (NTPC GE Power Services Private Limited, earlier NTPC Alstom Power Services Private Limited)	GE Power Systems GmbH	To provide R&M services for coal based power plants in India. To renovate, modernise, refurbish, rehabilitate, upgrade, reverse engineering and component damage assessment. Also for undertaking residual life assessment, reengineering in India and on a project by project basis elsewhere in abroad, utilising state-of-the-art technology. R&M including RLA work orders are under execution. NGPSL gave ₹ 0.23 crore as final dividend to NTPC for FY'16-17. The dividend was received in FY'17-18.
EESL (Energy Efficiency Services Ltd.)	PFC, PGCIL and REC	The Company was formed for implementation of Energy Efficiency projects and to promote energy conservation and climate change. EESL is working on Energy Audit of Buildings, Perform Achieve Trade (PAT) scheme work and standard & leveling work of BEE, Consultancy work, implementing Bachat Lamp Yojana and Agricultural & Municipal Pump replacement for various State Govts. EESL gave ₹ 8.80 crore as final dividend for FY'16-17 and ₹ 4.12 crore as interim dividend for 2017-18. The dividend was received in FY'17-18.



Name of Company	JV Partner	Activities Undertaken
NHPTL (National High Power Test Laboratory Pvt. Ltd.)	NHPC, PGCIL, DVC and CPRI	To establish a research and test facility for the power sector such as an "Online High Power Test Laboratory" for short circuit testing facility and other facilities as may be required for the same in the country. Online High Power Test Laboratory set up at Bina, M.P. was declared commercial w.e.f 01.07.17. First commercial transformer of 765 kV Class short circuit tested (online) on 11.09.17.
NBPPL (NTPC-BHEL Power Projects Pvt. Limited)	Bharat Heavy Electricals Limited	The Company was incorporated for taking up activities of engineering, procurement and construction (EPC) of power plants and manufacturing of equipments. The promoters have decided to wind-up the Company and the activities are in progress.
(BF- NTPC) BF- NTPC Energy Systems Limited	Bharat Forge Limited	This Company was incorporated to manufacture castings, forgings, fittings and high pressure piping required for power projects and other industries. However, since the project could not take off, it has been decided to wind up BF-NTPC. Activities for winding up of the Company are in progress.
TELK (Transformers and Electricals Kerala Limited)	Acquisition of 44.6% stake in TELK from Government of Kerala on June 19, 2009	The Company deals in manufacturing and repair of Power Transformers. The Company had a turnover of ₹ 185.22 crore in FY 2017-18. Your Company has accorded in-principle approval for withdrawal of your Company from TELK on 28.04.2016.
ICVL (International Coal Ventures Private Limited)	CIL, SAIL, RINL, NMDC	ICVL was formed for acquisition of stake in coal mines/ blocks/ companies overseas for securing coking and thermal coal supplies. In view of lack of suitable commercially viable opportunities for thermal coal, your Company has decided to exit from ICVL. As the Company was formed by a directive from the Government of India, approval of the Government is awaited for exit.

Name of Company	JV Partner	Activities Undertaken
NTPC-SCCL (NTPC-SCCL Global Ventures Private Limited)	The Singareni Collieries Company Limited	NTPC-SCCL was formed for acquisition/ development of mines, beneficiation processing, O&M of coal/lignite blocks and selling of coal/ lignite produced thereof. As the Company could not attain its objectives, it is under voluntary winding up. The final General Meeting of NTPC-SCCL was held on November 15, 2016, after which the documents and books of liquidation was filed to Official Liquidator. The Order for dissolution of NTPC-SCCL from Hon'ble High Court of Delhi is awaited.
HURL (Hindustan Urvarak & Rasayan Limited)	Coal India Limited, Indian Oil Corporation Limited, Fertilizer Corporation of India Limited (FCIL), Hindustan Fertilizer Corporation Limited (HFCL)	HURL was incorporated on 15.06.2016 to establish and operate new fertilizer and chemicals complexes (urea-ammonia and associated chemical plants) at Gorakhpur & Sindri Units of FCIL and Barauni unit of HFCL and to market its products, taking into consideration the assets of FCIL and HFCL at Gorakhpur, Sindri and Barauni. Lump sum Turnkey contracts for all the three projects i.e. Gorakhpur, Sindri and Barauni have been awarded.
KLPL (Konkan LNG Private Limited)	GAIL, ICICI Bank, SBI, IDBI, Canara Bank and MSEB Holding Co. Ltd.	Demerger scheme filed by RGPPPL was approved by NCLAT on 28.02.2018 thereby separating the R-LNG business from RGPPPL to the new entity Konkan LNG Private Limited (KLPL). The Demerger Scheme was filed with the Registrar of Companies on 26.03.2018 with appointed date of 01.01.2016.

8.4 Diversification in Electric Vehicle (EV) Segment

With thrust of Government of India for E-Mobility & its adoption all across the globe at a rapid pace, the E-Mobility business seems one attractive option for the Company to venture into and diversify its current portfolio of power generation.

As of now, your Company is looking forward to develop the charging infrastructure and run few pilot projects to get a foothold in this area and also to accumulate data sufficient for assessing the viability of the future business.



The Company is currently looking to set up EV charging infrastructure, reach an MoU with city administrations and seek strategic collaborations with other stakeholders in energy sector.

Towards this end, your Company has entered into an MOU for setting up charging infrastructure in Jabalpur and necessary enabling actions are underway. MoUs have also been signed with Oil Marketing Companies, other PSUs etc. for collaboration in development of charging infrastructure.

The Company has also installed charging stations in its power stations and offices. The company has also leased some E-Vehicles for its offices in NCR. Your Company is planning to develop a completed EV ecosystem in and around its power stations and offices to start with.

8.5 Foray in Packaged Drinking Water Business

Your Company's research arm, NETRA, has developed technology for sea water desalination/waste water treatment using waste heat from flue gas from the power plant. The cost effective technology is now being utilized for packaged drinking water. An MoU in this regard has been signed with IRCTC on January 15, 2018 for setting up a packaged drinking water facility at your Company Simhadri Station. Commercial arrangement are being finalized with IRCTC.

IRCTC has further expressed interest for establishing similar packaged drinking water facilities at other power stations of your Company.

8.6 Foray into cement business

Your Company is collaborating with CCI for reviving the cement plants of CCI supplementing both your company's & CCI's resource requirement and increasing ash utilization.

An MoU was signed with CCI in Jan'2018. CCI has expressed interest for establishing a cement blending unit at your Company's Station Solapur by utilizing the fly ash and the proposal is being assessed.

9. GLOBALISATION INITIATIVES

- 9.1 **Trincomalee Power Company Limited (TPCL)**, a 50:50 joint venture between your Company and Ceylon Electricity Board was formed to undertake the development, construction, establishment, operation and maintenance of a electricity generating station Trincomalee at Sri Lanka. 1st Meeting of Joint Working Group (JWG) was held in Nov'16 in which the proposal of Govt. of Sri Lanka (GoSL) for relocating the Project at Kerawalpitiya with change-in fuel type to meeting LNG was agreed in-principle. In 2nd JWG meeting held in Aug'17 at New Delhi, it was decided that TPCL will implement the RLNG based project at Kerawalpitiya and 50 MW solar power

project at Trincomalee. GoSL has issued letter of intent to Gol for development of 500 MW LNG project on 23.06.2017 and for 50 MW solar project on 13.09.2017.

- 9.2 **Bangladesh-India Friendship Power Company Private Limited**, a 50:50 joint venture Company between your Company and Bangladesh Power Development Board (BPDB) was formed for developing a 2X660 MW Coal based power project (Maitree Super Thermal Power Plant) at Khulna Division, Rampal, Bangladesh. EPC contract of the project except township was awarded to BHEL. Construction is in full swing.

- 9.3 **Other Opportunities Abroad:** Business opportunities in Sri Lanka, Bhutan, Myanmar, Indonesia, Oman, UAE, Egypt, Ghana, Zimbabwe, Tanzania, Kenya & other African countries are being explored in the areas of power generation, O&M contracting, R&M of power plants, capability building and cross border power trading etc.

10. CONSULTANCY SERVICES

Consultancy Wing offers services "From Concept to Commissioning and beyond...." such as in Engineering, Operation & Maintenance Management, Project Management, Contracts & Procurement Management, Quality Management, Training & Development, Solar & renewable power projects, compliance to Environmental norms for power stations etc.

These services have been provided in India and abroad viz. Gulf countries, Bangladesh, Nepal, Sri Lanka and Bhutan.

It has provided Services for more than 42,000 MW capacity to external clients besides 7,551 MW of NTPC JVs.

On international front, Consultancy Wing is providing O&M management services at Siddhirganj Peaking Power Plant (2x120MW) in Bangladesh under a World Bank funded contract which has been progressing successfully for last 5 years. There has been an all round improvement in terms of plant parameters due to implementation of best practices and systems in power plant with involvement of your Company's experts.

On the domestic front, Consultancy Wing is providing "Complete Owner's Engineer Services for implementation of 2X660MW Khurja STPP from concept to commissioning" to THDC. It is also providing "Post Award review engineering and QA&I Services" of 2X660MW Jawaharpur TPS and of 2X660MW Obra Extn. TPS to UPRVUNL. Your Company's Consultancy wing is providing owner's engineer services of FGD system for Environmental compliance to various clients like UPRVUNL, HPGCL, DVC and its own JVs. Also executing assignments of various clients such as SCCL, UPRVUNL, NMDC, DPCC, THDC, HPGCL, OCPL and your Company JVs towards FR/ DPR Preparation, Procurement & Inspections and other advisory services.



Project Monitoring Services are being provided for 2x660 MW Shree Singhaji TPP Khandwa of MPPGCL, and 1X660 MW Harduaganj TPS of UPRVUNL.

Consultancy Wing is providing Performance Improvement services to 4x250 MW units of Chhabra TPS, RVUNL and O&M Management Service of 2X600MW Shree Singhaji TPP Khandwa of MPPGCL and 2X50MW Captive Thermal Power Plant of FPL in Odisha by deployment of executives at respective sites. Major O&M Technical Audit and Performance Guarantee test and ORT assignments of HPGCL, RVUNL, LPGCL, UPRVUNL were taken up by Consultancy Wing. It is also carrying out "Independent technical due diligence assignment of stressed/stalled assets" for lenders.

Highlights of FY 17-18

- Consultancy Wing received orders of ₹ 386.89 crore
- Consultancy Wing bagged 166 nos. of orders
- O&M support to REC by deploying 4 executives at site for 2X50 MW CFBC Boiler of FACOR Power -the first Power Plant of 100 MW capacity to be taken over by Lender (REC) under Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interests Act, 2016 (SARFAESI)
- COD of unit 2 of SCCL was achieved within 7 days of full load. SCCL Station achieved 5th position in top 25 power stations in India till January 2018 during financial year 2017-18 with Yearly PLF of 90.44 %
- Boiler Hydro test of Unit # 2 (660MW) of Shree Singaji TPP was also successfully completed 3 months ahead of schedule.

Consultancy Wing is looking ahead for future business opportunities in areas like implementation of solar & renewable power projects, supporting other power utilities for meeting new environmental norms and taking over complete O&M for power plants of other power utilities.

11. FINANCING OF NEW PROJECTS

The capacity addition programs shall be financed with a debt to equity ratio of 70:30, in case of thermal and hydro projects and that of 80:20 in case of solar projects. Your Directors believe that internal accruals of the Company would be sufficient to finance the equity component for the new projects. Given its low geared capital structure and strong credit ratings, your Company is well positioned to raise the required borrowings.

Your Company is exploring domestic as well as international borrowing options including overseas development assistance provided by bilateral agencies

to mobilize the debt required for the planned capacity expansion program.

The details of funding are discussed in the Management and Discussion Analysis Report which forms part of this Report.

12. FIXED DEPOSITS

Your Company has discontinued the acceptance of fresh deposits and renewals of deposits under Public Deposit Scheme with effect from 11.05.2013. As such, there were no deposits which were not in compliance with the requirements of Chapter-V of the Companies Act, 2013

The details relating to deposits, as per the Companies Act, 2013 is as under:

(a)	Accepted during the year	NIL
(b)	Remained unpaid or unclaimed as at the end of the year	6 Deposits amounting to ₹ 15.91 lakh*
(c)	Whether there has been any default in repayment of deposits or payment of interest thereon during the year and if so, number of such cases and the total amount involved:	
	(i) At the beginning of the year	NIL
	(ii) Maximum during the year	NIL
	(iii) At the end of the year	NIL

* Pending for completion of legal formalities/ restraint orders/ non-receipt of claims.

13. FUEL SECURITY

During the year, the supply position of coal and gas are given as under:

13.1.1 Coal Supplies

Your Company has entered into long term Fuel Supply Agreement with Coal India Limited (CIL) & Singareni Collieries Company Limited (SCCL) for total Annual Contracted Quantity (ACQ) of 157.56 MMT & 11.2 MMT respectively and Bridge linkage of 4.65 MMT for Barh. The short term MOU with the Singareni Collieries Company Limited (SCCL) for supply of 8.0 MMT of coal for Ramagundam, Simhadri, Mouda, Solapur and Kudgi (including 7.87 MMT under Bridge linkage) stations.

To leverage potential of rationalization of coal linkages, your Company has signed a Supplementary Agreement with CIL and CIL subsidiaries for all owned JV/ Subsidiary stations on 12.04.2017 for implementation of Govt. policy on "Flexibility in utilization of domestic coal for reducing cost of power generation". Under

the Supplementary Agreement, your Company can allocate coal to any station of its own or any JV/ Subsidiary for optimising the Energy Charges.

As per directives of Govt., CIMFR started sampling at loading and unloading ends in Jan'16. During the period 2017-18, sampling at all loading end sidings (except two sidings i.e. CCL- Amrapali & KD- old) and sampling at unloading end of all your Company stations have been started. Further, sampling at unloading end of four your Company's JV stations out of six have also been taken up by CIMFR. Remaining (Meja and BRBCL) are expected to start in next FY.

Earlier your Company was also allocated Bridge Linkages for seven stations viz i) Barethi (4x660MW), ii) Barh –II (2x660 MW), iii) Darlipalli –I (2x800MW), iv) Tanda- II (2x660 MW), v) Lara-I (2x800 MW), vi) Kudgi-I (3x800 MW) & vii) Bilhaur (2x660 MW) for a period of three years from the date of allocation of captive block. Out of the above stations, Bridge Linkage of Kudgi expiring on 31.03.2018 was extended by three months by MoC vide OM dated 28.03.2018 i.e upto June 2018. Subsequently, SLC (LT) in its meeting dated 10.04.2018 had recommended Bridge Linkage for Barh-II, Lara-I, Darlipalli, Tanda and Kudgi on tapering basis as per approved mining plan of the linked mines. The extension is valid upto 2022 for all the above stations except Barh-II which is valid upto 2023.

Bridge Linkage MoUs have already been signed for (i) Barh St-II with CCL & ECL (ii) Lara with MCL and (iii) Darlipalli with MCL and SECL. For other projects, as and when COD is declared MOU will be signed.

13.1.2 Domestic Coal and Imported Coal

During 2017-18, your Company received 167.67 MMT of coal as against 159.25 MMT in 2016-17 marking an increase of (+) 5.29%. Out of 167.67 MMT of coal, 155.87 MMT was from Annual Contracted Quantity of coal, 3.027 MMT through SCCL Bi-lateral MoU and 1.531 MMT received through e-auction. During 2017-18, Company Imported 0.32 MMT of coal supplied against carryover of last contract awarded on Aug'2015 as against 1.09 MMT in 2016-17 making a decrease of (-) 70.6% in import coal.

13.1.3 Sourcing of coal through E-auction

To supplement import coal as well as deficiencies in FSA coal qty. Your Company participated in e-auctions of CIL subsidiaries & SCCL in the current financial year also. In the current FY, your Company has participated

in e-auction of total 1017 nos rake of coal (4.03 MMT), out of which 604 nos rake of coal (2.42 MMT) have been allotted.

13.1.4 Supply through Inland Waterways

During 2017-18, about 1.61 lakh MT imported coal has been supplied through this mode to Farakka station under a Tripartite Agreement with IWAI and service provider.

13.1.5 Gas supplies

During 2017-18, your Company received total 4.48 MMSCMD of Domestic gas as against 5.17 MMSCMD of Domestic gas received during 2016-17. Spot RLNG off-take during 2017-18 was 0.85 MMSCMD.

Your Company has Administered Price Mechanism (APM) gas agreements up to the year 2021 and Panna Mukta Tapti (PMT) gas agreements up to the year 2019 with GAIL. The agreement for Non-APM gas with GAIL has been renewed upto the year 2021.

For additional gas requirement over and above the supplies under long-term domestic gas agreements, your Company has been making arrangements for supply of Spot RLNG from domestic suppliers on 'Reasonable Endeavour' basis based on requirement and availability from time to time. Further, adequate stock of liquid fuel is maintained for meeting Grid's requirement. There has been no generation loss on account of lack of availability of Domestic gas / RLNG / Liquid fuel during the year.

13.1.6 Oil/Gas exploration:

In the KG basin exploration block KG-OSN-2009/4 where ONGC is the Operator and your Company has 10% stake, after completion of Minimum Work Programme (MWP), ONGC has submitted proposal to DGH for relinquishment of the block.

13.2 Development of Coal Mining projects

Your Company has been allocated eight coal blocks by Government of India, namely, Pakri-Barwadih, Chatti-Bariatu & Chatti-Bariatu (South), Kerandari located in the State of Jharkhand, Dulanga, Mandakini-B located in the State of Odisha and Talaipalli, Banai & Bhalumuda located in the State of Chhattisgarh. In addition, Government of India has also allocated Kudanali-Luburi coal block (Odisha) jointly to your Company and the State of J&K, with your company's share of coal reserves in this block being two-third share of coal reserves to your Company.



Banhardih coal mine is allotted to PVUNL, a JV company of NTPC Limited.

From these 10 coal blocks, with a total estimated geological reserves of about 7.3 Billion Metric Tonnes, your Company including its group companies expects to produce about 111 Million Metric Tonnes of coal per annum. Your Company on standalone basis expects to produce 94 million metric tonnes per annum of Coal.

Coal production commenced from Pakri-Barwadih coal block in Dec'16. It is a Basket Mine. During FY 2017-18 about 2.67 MMT coal have been extracted and 683 no of rakes of coal have been dispatched to power stations through Indian Railways network. 1143 no of rakes of coal have been dispatched to power stations upto 15.07.2018. Production target for this mine in FY 2018-19 is 6.27 MMT in line with the mine plan.

Mine Developer-cum-Operator (MDO) for Dulanga coal block has been appointed on 09.02.17. Mining operation started on 28.02.18. The end use plant of this mine is Darilipalli (1320 MW) STPP located about 10 kms from the block. Coal is transported to the power project by captive MGR system. Coal production target for this mine in FY 2018-19 is 1.5 MMT.

Mine Developer-cum-Operator (MDO) for Talaipalli and Chatti-Bariatu coal blocks were appointed on 13.11.17. In view of violation of 'Integrity Pact', your Company has kept the contract under suspension and show cause notice for termination has been served on 29.12.17. The matter is sub-judice. In case of Chatti-Bariatu and Talaipalli about 61% and 90% land payments has been completed respectively. For Kerandari coal block tender for MDO appointment has been annulled. Having gained experience by opening two mines and with a view to develop in house competency this block is now proposed to be developed in a limited outsourcing mode. As per Allotment Agreement with MoC, scheduled target for coal production from the three blocks i.e. Talaipalli, Chatti-Bariatu and Kerandari is November 2019.

In the above five coal blocks i.e. Pakri-Barwadih, Dulanga, Talaipalli, Chatti-Bariatu & Kerandari, on community development / CSR activities, your Company has incurred an expenditure of ₹ 20.47 crore in this FY 2017-18 (Cumulative expenditure of appx. ₹ 100 crore) which has helped in improving the socio-economic conditions of the local community.

For Mandakini-B coal block, Mining Plan & FR are under preparation. Target for commencement of production is February 2022.

At the time of allotment, the Banai & Bhalumuda coal blocks were unexplored. NTPC got the exploration

completed and Geological Report(s) are available. There are issues in availability of land for external OB dump and therefore with a view to optimise exploitation, your Company has proposed to the Nominated Authority, Ministry of Coal for merger of these coal blocks. The matter is under consideration at MoC.

Initiatives through Joint Ventures and Subsidiaries:

Banhardih coal block which was allocated to JUUNL as the linked mine for the Patratu Power Project has now been assigned to Patratu Vidyut Utpadan Nigam Ltd. (PVUNL), a JV company incorporated between your Company & Government of Jharkhand. For land acquisition Section 4(i) notification under CBA Act, has been notified by MOC.

Kudanali-Laburi Coal block in Odisha has been jointly allotted to your Company & State of J&K by MoC, GoI. Joint Venture Agreement between your Company & JKSPDCL has been signed on 15.06.15 for incorporation of a Joint Venture Company for Exploration, Development & Operation of the Coal Block. Approval from NITI Aayog has been obtained for formation of JV Company. Action is underway for formation of the Company.

Your Company has decided to have coal mining business into a wholly-owned subsidiary in order to meet various business/strategic objectives viz. fuel security, focused management, readiness for future, de-linking business risks and enhancement of shareholder value.

Consent of Niti Aayog has been obtained for formation of subsidiary. Your Company has approached Ministry of Coal, GoI for no objection certificate in this regard.

14. BUSINESS EXCELLENCE: GLOBAL

BENCHMARKING

Your Company has developed and adopted 'NTPC Business Excellence Model' on the lines of globally accepted Performance Excellence frameworks such as the Malcolm Baldrige Model USA and EFQM Model of Europe.

The assessment process is aimed at identifying the area for enhancing stakeholders' engagement, improving critical processes and developing leadership potential.

The outcome of this model is identification of organizational strength, opportunities for improvement, issues of concern and best practices.

In the financial year 2017-18, 22 generating stations were assessed by a team of certified assessors. Business



Excellence Award for best performance was given to Talcher-Kaniha.

In its pursuit to embrace digital and paperless working environment, your Company has started implementation of an IT enabled initiative- Corporate Performance Management and Business Intelligence system to enable strategy execution and communication, analytics, query response, reporting and automating few business processes that provides effective decision support for the management across different tiers.

Other contemporary TQM concepts and techniques like ISO, Quality Circles, Professional Circles, 5S etc. have been deployed across the organization. Quality Circle team of your Company - Talcher Thermal Station had participated in International QC Convention held at Manila in October 2017.

15. RENOVATION & MODERNISATION

In the present scenario of severe resource constraint, Renovation and Modernization (R&M) of power plants is considered to be a cost-effective option which can complement new capacity addition as R&M schemes have a shorter gestation period with all clearances, land, water, fuel and beneficiaries available. To this end, R&M is being carried out to overcome the impact of ageing of the units over the years and for the purpose of ensuring SAFE OPERATIONS, compliance with revised and stringent environmental norms, life extension of units, performance improvements, availability and reliability improvement and to overcome obsolescence as well as changes in operational logistics. It ensures safe, reliable and economic electricity production by replacement of worn-out, deteriorated or obsolete electrical, mechanical, instrumentation, controls and protection system by state-of-the-art equipment.

Investment approval accorded till date for R&M in 20 stations (Coal & Gas based) is ₹ 14,069.07 Crore. As against this, cumulative expenditure till 31.03.2018 is ₹ 6,817.20 Crore which includes R&M capital expenditure of ₹ 544.36 Crore during FY 2017-18.

As a responsible corporate citizen, it has always been your Company's endeavour to ensure low levels of pollution from its power stations. With a view to maintain a clean atmosphere in and around the power plant by reduction of particulate emission levels from generating stations, Renovation and Retrofitting of Electrostatic Precipitator (ESP) packages have been awarded for 53 Units in 12 Stations namely Tanda -(4x110MW), Badarpur - II (2x210MW), Singrauli - I & II (5X200MW+2X500MW), Korba - I & II (3X200MW+3X500MW), Farakka - I & II (3X200MW+2X500MW), Vindhyachal - I & II

(6X210MW+2x500MW), Rihand - I (2x500MW), Unchahar - I (2x210MW), Talcher TPS-II (2X110MW), Talcher STPS - I & II (2X500MW+4X500MW) awarded prior to FY 2017-18 and Unchahar - II (2x210MW), Ramagundam - I (3x200 MW) and Kahalgaon - I (4 x 210 MW) awarded during FY 2017-18. ESP R&M work has been completed, during 2017-18, in 9 units namely 1x210MW+2x500 MW of Korba, 2x500 MW of Talcher STPS, 1x110 MW of Talcher TPS, 1x210 MW of Unchahar, 1x200 MW of Farakka and 1x500 MW of Vindhyachal and total no of units in which ESP R&M has been completed till Mar'18 is 23 in 9 stations.

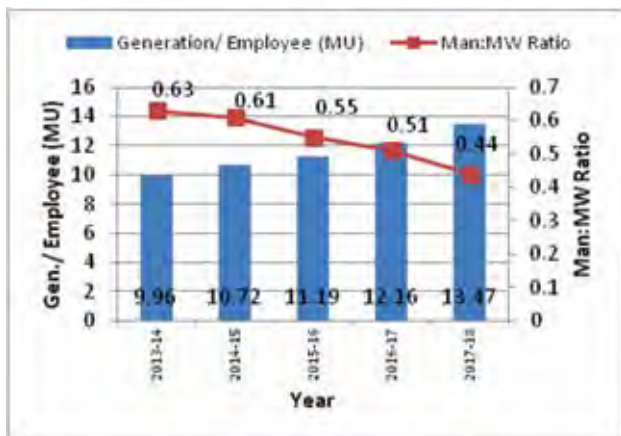
With a view to removing technological obsolescence, renovation of Control & Instrumentation (C&I) has been taken up in 9 coal based stations namely Singrauli-I (5X200MW) & Singrauli - II (2X500 MW), Korba - I (3X200MW) & Korba - II (3X500 MW), Ramagundam - I (3X200MW) & Ramagundam - II (3X500MW), Farakka-I (3X 200 MW) & Farakka-II (2X500 MW), Dadri Thermal-I (4X210MW), Unchahar- I (2X210MW), Talcher STPS-I (2X500MW), Kahalgaon-I (4X210 MW) and Rihand - (2X500 MW) comprising a total of 38 units. During 2017-18, C&I R&M was completed in one 500 MW unit of Farakka, one 500 MW unit of Ramagundam and two 210 MW units of Kahalgaon and the total no. of units in which C&I R&M completed till date is 30. Renovation of Control & Instrumentation (C&I) has also been taken up in five gas based stations namely Anta (419.33 MW, 3 GT + 1 ST), Auraiya (663.36 MW, 4 GT + 2 ST), Kawas (656.20 MW, 4 GT + 2 ST), Dadri Gas (829.78 MW, 4 GT + 2 ST) and Faridabad (432 MW, 2 GT + 1 ST). During 2017-18, C&I R&M was completed in one Module(2 GT + 1 ST) in Dadri Gas and the total no. of units in which C&I R&M completed in Gas Stations till Mar'18 is 13 GT/WHRB and 6 STG. On completion of these schemes, C&I systems in these units have now been brought nearly on par with the new builds.

R&M of Gas Turbines was completed in 14 Gas Turbines in four stations namely 4x106MW in Kawas, 4x111.19 MW in Auraiya, 3x88.71MW in Anta and 3x144.30MW in Gandhar.

16. HUMAN RESOURCE MANAGEMENT

16.1 Your Company takes pride in its highly motivated and competent Human Resource that has contributed its best to bring the Company to its present heights. The productivity of employees is demonstrated by increase in generation per employee and consistent reduction of Man-MW ratio year after year. The overall Man-MW ratio for the year 2017-18 excluding JV/subsidiary capacity is 0.44 and 0.42 including capacity of JV/ Subsidiaries. Generation per employee was 13.47 MUs during the year based on generation of your Company's stations.





The total employee strength of your Company (including JV/ subsidiaries) stood at 21,584 as on 31.3.2018 against 22,124 as on 31.3.2017.

	FY 2017-18	FY 2016-17
Number of employees	19,739	20,593
Subsidiaries & Joint Ventures		
Employees of your Company in Subsidiaries & Joint Ventures	1,845	1,531
Total employees	21,584	22,124

The attrition rate of your Company executives during the year was 0.53% in comparison to last year at 0.93%.

16.2 Employee Relations

Employees are the driving force behind the sustained stellar performance of your Company over all these years of company's ascendancy. As a commitment towards your Company's core values, employees' participation in Management was made effective based on mutual respect, trust and a feeling of being a progressive partner in growth and success. Communication meetings with unions and associations, workshop on production and productivity etc. were conducted at projects, regions and corporate level during the year.

Both employees and management complemented each others' efforts in furthering the interest of your Company as well as its stakeholders, signifying and highlighting overall harmony and cordial employee relations prevalent in your Company.

16.3 Safety and Security

Occupational health and safety at workplace is one

of the prime concerns of Company Management and utmost importance is given to provide safe working environment and to inculcate safety awareness among the employees. Your Company has a 3-tier structure for Occupational Health and Safety management, namely at Stations/Projects, at Regional Head Quarters and at Corporate Center. Safety issues are discussed in the highest forum of management like Risk Management Committee (RMC), Management Committee Meeting (MCM), ORTs, PRTs etc. Ex-Director Operations (Nuclear Power Corporation Ltd) was engaged to enrich safety systems and strengthen process safety. On the occasion of "National Safety Day" CMD along with the Board addressed all project / Stations.

All of your Company's stations are certified with OHSAS-18001/IS-18001. Six of our stations are going for international level NOSA accreditation in Safety and Environment. Regular plant inspection and review with Head of Project/Station is being done. Internal safety audits by safety officers every year and external safety audits by reputed organizations as per statutory requirement are carried out for each Project/Station. Recommendations of auditors are regularly reviewed and complied with. Company level HIRA document has been prepared and shared with all stations.

Height permit and height check list are implemented to ensure safety of workers while working at height. Adequate numbers of qualified safety officers are posted at all units as per statutory rules/provisions to look after safety of men & materials. Mock drills were conducted with NDRF to prepare for any extreme on site emergency. Sites are engaging the safety consultant of international repute to uplift safety standards.

For strict compliance & enforcement of safety norms and practices by the contractors, safety clauses are included in General Conditions of Contract/ Erection Conditions of Contract.

Detailed emergency plans have been developed and responsibilities are assigned to each concerned to handle the emergency situations. Mock drills are conducted regularly to check the healthiness of the system.

Most of your Company's plants have been awarded with prestigious safety awards conferred by various Institutions/Body like Ministry of Labour & Employment-Govt. of India, National Safety Council, Institute of Directors, Institution of Engineers (India), in recognition of implementing innovative safety procedures and practices.

An unfortunate accident took place on 1st November 2017 in the boiler of 6th unit of Unchahar plant at U.P. This caused fatal accidents and burn injuries to the personnel working in the boiler area. Relief measures were immediately taken and all medical facilities were provided to the injured. Ex-gratia compensation was provided to the families of deceased and to the injured personnel.

The standard operating procedures were followed for maintaining utmost safety in operations and processes in your Company to avert such accidents.

Security: Your Company recognizes and accepts its responsibility for establishing and maintaining a secured working environment for all its installations, employees and associates. This is being taken care of by deploying CISF at all units of your Company as per norms of Ministry of Home Affairs. Concrete steps are being taken for upgrading surveillance systems at all projects/ stations by installing state-of-the-art security systems.

16.4 Training and Development

Your Company has consistently endeavored for attracting, on-boarding, grooming and motivating its talent recognising that nurturing the talent leads to competitive advantage.

Power Management Institute (PMI), the apex learning and development (L&D) center of your Company, is actively engaged in making our people future ready in terms of technology, business acumen and leadership. All the programs are carefully linked to Company's strategic objectives, business plan and emerging trends.

During FY 2017-18, your Company upgraded its physical and digital infrastructure to impart learning through contemporary pedagogy in world class ambience. It renovated its classrooms with state-of-the-art facilities including smart boards, video conferencing and session-recording facilities.

Our training delivery methods include a judicious blend of classroom learning, theater workshop, village immersion module (for first hand CSR feel to young ETs), e-learning platform, video and web platforms etc.

An in-house e-Learning portal called e-Guru has been created which provides all the e-Learning resources on a unified platform. A e-library of 25,000 e-books, 1,000,000 articles, reports and journals supports employees' knowledge up-gradation.

Last year, PMI introduced new eLearning courses (1000 course licenses from General Physics (GPiLearn)) in the power plant technical skills domain. Augmented Reality/Virtual Reality platform has been introduced as new L&D tool for providing real time immersive learning to participants particularly in the areas of O&M and Project related safety.

The L&D interventions are designed after a multidimensional Training Need Analysis (TNA) for enhancing technical, functional, strategic and leadership skills with focus on business objectives of the Company. In PMI, 237 training programs were conducted during FY17-18, covering nearly 7,272 professionals, resulting in a total of approximately 38,046 learning man-days.

PMI is also conscious of the fact that the business complexities of the future would need global mindset and competence. Last year, it sent three batches (about 40 each) of senior executives (GMs/EDs) to Harvard and one batch (about 25) to Wharton to get learning from some of the best in the world.

In recognition to its pioneering efforts, your Company PMI has received the globally acknowledged ATD Best 2017 and 2018 Awards (Two years in succession), ISTD Innovative Practices Award 2016-17 and the BML Munjal Award 2018 (Sustained Excellence Category). These awards recognize organizations that demonstrate enterprise-wide success as a result of L&D and talent development practices.

17. SUSTAINABLE DEVELOPMENT

Your Company has adopted the 'triple bottom-line' approach recognizing People, Planet and Profit as the primary pillars of corporate sustainability and believes that Development should not endanger the natural systems.

Your Company is preparing Sustainability Report based on the Global Reporting Initiative (GRI). Sustainability reporting has helped us in measuring and monitoring the Company's performance. It has served as an important management tool helping your Company to relook the systems, policies and procedures. Your Company has developed a policy and in accordance with it, a Sustainable Development Plan was prepared for FY 2017-18. The focus area of Sustainable Development Plan covers waste management, water management, bio-diversity, promotion of renewable energy. Major activities carried out under this plan include massive plantation of trees, installation of rooftop Solar PV



around power stations on public utilities buildings and on schools, vermicomposting/Bio-methanation plant & studies on environment impact assessment. Major activities under bio-diversity conservation taken up are conservation of Olive Ridley Sea Turtles and study on bio-productivity of Gangetic Dolphin at Kahalgaon Station. Business Responsibility Report is attached as Annex-X and forms part of the Annual Report.

Revenue expenditure of ₹ 56.22 Crore was incurred on these SD projects during Financial Year 2017-18.

17.1 Inclusive Growth –Initiatives for Social Growth

17.1.1 Corporate Social Responsibility:

CSR has been synonymous with Company's core business of power generation. The Company's spirit of caring and sharing is embedded in its mission statement. The Company has a comprehensive Resettlement & Rehabilitation (R&R) policy covering community development (CD) activities which has been revised and updated from time to time. CD activities in green field area are initiated as soon as project is conceived and thereafter extensive community / peripheral development activities are taken up along with the project development. Separate CSR Community Development Policy, formulated in July 2004 and Sustainability Policy formulated in Nov 2012 were combined and revised in 2016 as "NTPC Policy for CSR & Sustainability" in line with Companies Act, 2013 and DPE Guidelines for CSR. It covers a wide range of activities including implementation of key programmes through NTPC Foundation.

Focus areas of your Company's CSR & Sustainability activities are Health, Sanitation, Safe Drinking Water, Education, Capacity Building, Women Empowerment, Social Infrastructure livelihood creation and support through innovative agriculture & livestock development, support to Physically Challenged Person (PCPs) and activities contributing towards Environment Sustainability. The Company commits itself to contribute to the society, discharging its corporate social responsibilities through initiatives that have positive impact on society at large, especially the community in the neighborhood of its operations by improving the quality of life of the people, promoting inclusive growth and environmental sustainability.

Preference for CSR & Sustainability activities is given to local areas around Company's operations, ensuring that majority CSR funds are spent for activities in local areas. However, considering Inclusive Growth & Environment Sustainability and to supplement Government effort,

activities are also taken up anywhere in the country. During the year, about 550 villages and more than 450 schools have been benefitted by your company's various CSR initiatives at different locations. Your company's CSR initiatives have touched the lives of around 10 lakh people in one or the other way, residing at remote locations.

Apart from the CSR activities undertaken in and around operations to improve the living conditions of the local communities, other CSR initiatives undertaken PAN India are mentioned in the Annual Report on CSR activities annexed with this Report.

Your Company spent ₹ 241.54 Crore during the financial year 2017-18 towards CSR initiatives, which surpassed the prescribed two percent amount of ₹ 220.75 Crore, thus achieving a CSR spend of 2.19%.

17.1.2 NTPC Foundation

NTPC Foundation, funded by your Company, is engaged in serving and empowering the differently-abled and economically weaker sections of the society.

Details of expenditure incurred and initiatives undertaken by the Company under CSR are covered in the Annual Report on CSR annexed as Annex-VII to this Report.

17.1.3 Rehabilitation & Resettlement (R&R)

Your Company is committed to help the populace displaced for execution of its projects and has been making efforts to improve the Socio-economic status of Project Affected Families (PAFs). In line with its social objectives, the Company has focused on effective resettlement and rehabilitation (R&R) of PAFs and also on community development works (CD) in and around its projects.

Your Company had revised its R&R Policy in the year 2017 to incorporate R&R entitlements as per The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (RFCTLARR Act) in order to extend facilities to PAFs.

Your Company addresses R&R issues in line with its R&R Policy with an objective that PAF will improve or at least regain their previous standard of living. As per the Policy and the RFCTLARR Act, a Socio-economic Survey (SES)/Census Survey will have to be conducted by the State Govt to collect detailed demographic details of the area which shall form the basis for the preparation of 'Rehabilitation and Resettlement (R&R) Scheme. Apart from the R&R provisions in line with

R&R LARR Act, need based community development (CD) activities will also be included in the Scheme for contributing to socio-economic development of the PAFs and nearby population residing in the vicinity of the project.

R&R Scheme is a part of capital cost of the project which is implemented in a time bound manner so as to complete its implementation by the time the project is commissioned. On completion of the R&R Scheme, a Social Impact Evaluation (SIE) is conducted by a professional agency to know the efficacy of R&R Scheme implementation for future learnings.

Cost provision for R&R/ CD Plan for Tapovan-Visnugad Hydro Power Project was enhanced for providing additional funds for 'Long Term water supply arrangement for Joshimath area.

R&R/ CD activities were implemented at the new Greenfield / Brownfield Thermal projects at Barh, Bongaigaon, Barethi, Darlipali, Gadarwara, Khargone, Muzaffarpur, Korba, Kudgi, Lara, Meja, Mouda, North-Karanpura, Solapur, Tanda-II, Unchahar-IV, Vindhyachal-IV/V, Telangana-I, Hydro projects at Koldam, Tapovan Vishnugad, Rammam-III and Coal Mining Projects at Pakri-Barwadih, Chhatti-Bariatu, Kerendari, Dulanga and Talaipali projects.

Re-appropriation of under implementation R&R / CD Plans, as required on a case to case basis for specific project, was also approved to take care of the local requirements during implementation.

Need Assessment Survey/ Social Impact Evaluation was carried out at Singrauli, Patratu & Meja projects.

Planned audit of LA/R&R activities was conducted.

Details of focus area of R&R-CD activities are as under:

Swachh Bharat Abhiyan – Various initiatives were taken to make project affected villages open defecation free by taking up activities related to construction/audit of individual toilets and awareness programs.

Drinking water – Planning and implementation for access to drinking water for 100% coverage of all project affected villages of your Company was undertaken.

Capacity building / Skill up gradation – MOU/ Tie up with National Skill Development Corporation (NSDC) is being implemented for imparting skill development to PAFs at various projects as part of 'National Skill Development Mission' of GOI.

Education – Construction activities started for Medical College at Sundargarh (Odisha) and Engineering College at Shivpuri (MP).

Health - For the benefits of project affected persons and neighboring population 'Mobile Health Clinic', Medical camps and dispensaries are being operated for comprehensive health coverage of PAPs at North Karanpura and mining projects at Jharkhand during the year.

17.2 Environment Management – Environment Policy of your Company:

“To provide cleaner energy by committing to highest possible levels of performance in environmental compliance, practices and stewardship.”

Your Company has always envisaged environment protection and management practices as one of its prime responsibilities and focuses its efforts to minimize the impact of its operation on surrounding environment and concerned ecosystem.

Your Company undertakes comprehensive environment management plan right from conception of project, selection of site, resources (Land, Coal & Water source) and state of art technology. Your Company is also undertaking massive renovation & modernization to upgrade air pollution equipment wherever necessary. Your Company has also taken initiative for installation of Flue Gas Desulfurization (FGD) system for SOx emission control and optimization & implementation of appropriate technology for NOx emission control.

Around 12-15% of the project cost is spent on various environment protection equipments and monitoring systems such as Electrostatic Precipitators (ESPs), Liquid Waste Treatment Plants (LWTP), Ash Water Recirculation System (AWRS), Coal Settling and Separation Pit (CSP), Dry ash extraction system (DAES), dust extraction & suppression system, Continuous emission monitoring system (CEMS), Effluent quality monitoring system (EQMS), Continuous ambient air quality monitoring system (CAAQMS), flue gas conditioning system and desulphurization system etc. It has adopted advanced and high efficiency technologies such as super critical boilers at new stations, DeNOx and FGD in all upcoming green field projects.

Your Company is augmenting its capacity by installing wind power, solar power systems in a big way, hybrid power plant in combinations e.g. Wind & Solar, Solar & Thermal and small hydel power systems attached to its thermal power stations to encourage garnering



of renewable energy resources. These measures are aimed not only to achieve reduction in pollution and to minimize use of precious natural resources but also to lead to reduction in water and carbon footprints.

17.2.1 Control of Air Emissions:

High efficiency Electro-static Precipitators (ESPs) with efficiency of the order of 99.97% and above, with advanced control systems have been provided in all coal based stations to keep Particulate Matter (PM) below the prevailing permissible emission limits. All upcoming units have been planned with ESPs, DeNOx and FGD system designed to meet new emission norms. Performance enhancement of ESPs operating over the years is being carried out by augmentation of ESPs fields, retrofitting of advanced ESP controllers, new technology i. e. MEEP (Moving electrode Electrostatic Precipitators) and adoption of sound O&M practices.

For control of SO_x, first FGD has been commissioned and became operational at Vindhyachal Station. Erection of FGD at Bongaigaon is in advance stage. FGD package for all stations in NCR area awarded to comply the new norms for SO_x emission by December, 2019. Work for erection of FGD system started at both station. In case of existing units, FGD is being planned in a phased manner at other locations as per the timeline given by central regulator for implementation of new norms.

NO_x control in coal-fired plants is presently achieved by controlling its production by adopting best combustion practices (primarily through excess air and combustion temperatures optimization). To comply with new norms for NO_x emission, pilot study based on SCR/SNCR technology at 11 locations are in final stage of completion to find out the optimal solution and suitable technology for DeNO_x system suitable for Indian Coal. In gas based stations, NO_x control systems (hybrid burners or wet DeNO_x) have been provided for good combustion practices.

Change of secondary fuel from HFO to alternative fuel (LDO or LSHS) having low sulfur content to minimize the SO_x emission during the start up of coal based units in NCR is in advanced stage. As per the order of Hon'ble Supreme Court, use of HFO was banned in state of UP, Haryana, Rajasthan and Delhi whereas your Company has decided to switch the use of HFO to alternate fuel in all the units of your Company.

17.2.2 Control of water pollution and adoption of ZLD approach:

Your Company as a responsible corporate entity for environment has proactively initiated steps towards water stewardship in power generation sector. Company released its Water Policy-2017 to set own benchmark in water consumption in power generation by setting its aim & objectives for various water conservation and management measures by using 3Rs (Reduce, Recycle & Reuse) as guiding principle. Water bodies rehabilitation & restoration, water withdrawal optimization depending on the sustainable water withdrawal capacity and rejection of water bodies as water source, which are recognized as environmentally sensitive due to their relative size and habitat for ecologically sensitive species.

Provision of advanced waste water treatment facilities such as sewage Treatment Plant (STP), Liquid Waste Treatment Plants (LWTP), Coal Settlement Pit (CHP), Ash Water Recirculation System (AWRS) and closed cycle condenser cooling water systems with higher Cycle of Concentration (COC), rain water harvesting and reuse of treated effluent in ash slurry disposal and reuse of treated sewage effluent for horticulture purposes are some of the measures implemented in all stations. For effective monitoring of water use, flow meters with integrators installed at all designated locations in all stations.

In view of water stressed scenario and new norms for specific water consumption, water conservation and reduction in water consumption per unit of generation enable your Company to comply the new norms on water consumption in all operating stations. Your Company has taken a proactive approach of making all its power stations to operate with ZLD (Zero liquid discharge) during the current year.

17.2.3 Real Time Environment Monitoring System:

All the power stations are equipped with continuous ambient air quality monitoring stations (CAAQMS) to capture the real time ambient air quality data for parameters namely PM_{10.0}, PM_{2.5}, SO₂, NO_x and access thereof has been provided to the Central and State Regulators i.e. Central Pollution Control Board and State Pollution Control Boards/PCCs. Additional ozone analyzers for ambient air are also being provided phase-wise at the existing stations. Continuous Emission Monitoring Systems (CEMS) are installed in all units to monitor emissions of SO₂ and NO_x and opacity meter for monitoring of particulate emission. Effluent Quality monitoring system (EQMS) are installed for real time

monitors for pollutants in effluents from all stations. The real-time data is being transmitted to regulators. For all the upcoming projects, real time monitors for ambient air, effluents and emissions are included in the engineering packages during design stage itself.

17.2.4 Revised Emission Norms

The new environmental norms notified by MOEF&CC vide gazette notification dated 07.12.2015 calls for introduction of new control devices for oxides of sulphur and nitrogen. All existing and new plants require DeSO_x and DeNO_x plants to be introduced into the plant designs. In this regard, your Company has risen to the occasion and issued bulk tenders for 66 units of around 38 GW capacity for installing FGD (flue gas desulphurization) system to meet SO₂ emissions limit. FGD installation Work in 7,230 MW is underway. Further, FGD in Vindhychal stage-V is already in operation. For establishing DeNox, the suitability of SCR (selective catalytic reduction) for the coals used in Indian power plants, which characterize uniquely with high ash content and its abrasive nature, pilot tests are underway at seven stations of your Company. Further, your Company as a pioneer in environment monitoring has already installed Ambient Air Quality Monitoring Stations (AAQMS) employing NO_x, SO_x, CO, SPM & RSPM analysers in 20 operating stations in 2009-10 and data is made available to CPCB and SPCB. Similarly, Continuous Emission Monitoring System (CEMS) employing NO_x, SO_x, CO & CO₂ analysers at stack for flue gas have been installed recently in various operating stations. Your Company has also recently introduced analysers for Mercury monitoring for both AAQMS and CEMS.

17.2.5 Tree Plantation:

Your Company has undertaken tree plantation covering vast areas of land in and around its projects and till date more than 33 million trees have been planted throughout the country including 10 million trees planted during 2016-17 under accelerated afforestation programme inline with NDC-2030 of Nation followed by 1 million tree plantation during 2017-18.

The afforestation has not only contributed to the 'aesthetics' but also helped in carbon sequestration by serving as a 'sink' for pollutants and thereby protecting the quality of ecology and environment. Further, your Company has embarked upon long-term Memorandums with State authorities to assist National Commitment of NDC in COP 21, by planning to plant 8 million saplings during 2018-26 @ 1 million per year.

17.2.6 ISO 14001 & OHSAS 18001 Certification:

All stations of your Company have been certified with ISO 14001 and OHSAS 18001 by reputed National and International certifying agencies in recognition of its sound environment management systems and practices.

17.3 Quality Assurance and Inspection (QA&I)

Your Company continues to place great emphasis on quality, with the view to secure long term reliability and availability of its productive assets and the investments. This is ensured by committing adequate number of qualified and trained human resources for quality related activities, maintaining field laboratories at the construction sites and pursuing time tested systems & processes, resulting in world class standards of performance of the plants.

In your Company, quality needs are identified and planned, keeping in mind the interests of all the stake holders, by interacting with major Power Equipment manufacturers of the world, thereby embracing the latest technologies available. The quality requirements associated with such technologies are rigorously pursued during manufacturing, erection & commissioning of various products/ systems/ services. The dynamic feedback system ensures that the gaps, if any, are filled through resetting the methods and standards resulting in continuous improvement.

Your Company's robust performance on all parameters, is a testimony to the soundness of the quality system deployed.

Your Company is represented on various technical committee of ISO and IEC and is actively contributing in formulation and updating of power sector technical and quality standards/ guidelines, to serve the national as well as international community at large.

17.4 Clean Development Mechanism (CDM)

Your Company is pioneer in undertaking climate change issues proactively. The Company has taken several initiatives in CDM Projects in Power Sector.

Five of its renewable energy projects viz. 5 MW Solar PV Power Project at Dadri, 5 MW Solar PV Power Project at Port Blair (A&N), 5 MW Solar PV Power Project at Faridabad and 8 MW small hydro power project at Singrauli and 50 MW Solar PV Plant at Rajgarh (MP) have already been registered with United Nations Frame

Work Convention on Climate Change (UNFCCC) CDM Executive Board.

Prior consideration form was sent for 10 MW Solar PV Power Project at Unchahar, 10 MW Solar PV Power Project at Ramagundam, 15 MW Solar Thermal Power Project at Anta.

Coordinating / Managing Entity (CME) has been appointed for 15 MW Solar PV Power project at Singrauli and 10 MW Solar PV project at Talcher and is in process to include the same in registered UNFCCC CDM Programme of Activities (PoA).

6,173 nos of Certified Emission Reductions (CERs) for 5 MW Solar PV Power Project at Port Blair (A&N) has been issued by UNFCCC CDM Executive Board. Further, another 5,842 nos of CERs have also been issued by UNFCCC CDM Executive Board for 5 MW Solar PV Power Project at Dadri.

Further, registration of new projects 250 MW Solar PV power project at Anantpur, 260 MW Solar PV power project at Bhadla, 250 MW Solar PV power project at Mandsaur and 50 MW Wind power project at Rojmal in Verified Carbon Standard (VCS) program has been initiated and will earn Voluntary Emission Reduction (VERs) in due course of time.

17.5 Ash Utilisation

During the year 2017-18, 603.13 lakh tonnes of ash was generated and 53.45% viz. 322.36 lakh tonnes of ash had been utilized for various productive purposes.

Important areas of ash utilization are – cement & asbestos industry, ready mix concrete plants (RMC), road embankment, brick making, mine filling, ash dyke raising & land development. We are also pursuing new initiatives for fly ash utilization like fly ash based geo-polymer road, transportation of fly ash from pithead power stations to fly ash consumption centers, setting up ash based light weight aggregate plant.

Pond ash from all stations of your Company is being issued free of cost to all users. Fly ash is also being issued free of cost to fly ash/ clay-fly ash bricks, blocks and tiles manufacturers on priority basis over the other users from all coal based thermal power stations. The funds collected from sale of ash is being maintained in the separate account and this fund is being utilized for development of infrastructure facilities, promotion and facilitation activities to enhance ash utilization.

Your Company has an Ash Utilization Policy, which is a vision document dealing with the ash utilization issue in an integral way from generation to end product. This policy aims at maximizing utilization of ash for productive usage along with fulfilling social and environmental obligations as a green initiative in protecting the nature and giving a better environment to future generations.

The quantity of ash produced, ash utilized and percentage of such utilization during 2017-18 from your Company's Stations is at Annex- VIII.

17.6 CenPEEP – towards enhancing efficiency and protecting Environment

Your Company initiated a unique voluntary program of GHG emission reduction by establishing 'Center for Power Efficiency and Environmental Protection (CenPEEP)' and under this program, it is estimated that cumulative CO₂ avoided is 45.3 million tonnes since 1996, by sustained efficiency improvements.

CenPEEP is working for efficiency and reliability improvement in stations through strategic initiatives, development and implementation of systems and introduction of new techniques & practices. Critical efficiency parameter, draft power consumption, efficiency improvement through overhauling are monitored. PI based real time programs and dashboards are in use for real time tracking of plant parameters. These programs also assist operating engineers in tracking the gaps in heat rate and auxiliary power consumption, trending the degradation of equipment performance and taking corrective measures.

CenPEEP is instrumental in implementation of Energy Efficiency Management System (EEMS) consisting of periodic assessments, field tests, performance gap analysis deviations and updation of action plans at all stations.

CenPEEP is also working towards reduction in specific water consumption and auxiliary power consumption in coal and gas stations. A dedicated group conducts regular energy audits to identify potential improvement areas and improvement actions. Further, CenPEEP is also associated in carrying out water audit of stations and taking corrective actions for reduction in water consumption.

CenPEEP is also involved in structured and statutory energy audits, which helps to identify potential areas of improvement in APC reduction to be addressed within time bound implementation schedule.

CenPEEP is actively involved in training and development of power professionals for the Company and other utilities in the power sector in the areas of Boiler & Auxiliaries, Turbine & Auxiliaries, Cooling Towers, RCM, PdM technologies etc.

CenPEEP is working on internal benchmarking study of different type of the units so that potential for improvements and improvement action plan can be finalized accordingly.

Your Company has taken EPRI membership in the areas of Boiler life & Availability improvement, Steam Turbine-Generators & Aux. system and Combustion & Coal Quality impacts to increase the knowledge, expertise of the Company and undertake collaborative research projects for improving efficiency and reliability of units.

CenPEEP coordinated implementation of Perform, Achieve & Trade (PAT) scheme under Prime Minister's National Mission on Enhanced Energy Efficiency (NMEEE) in your Company's coal & gas plants. As per notification, Company's coal and gas stations exceeded the Net Heat Rate improvement targets and earned net 170653 EScerts (Energy saving certificates) in PAT-1 cycle. Your Company participated in EScerts trading & purchased required EScerts. Subsequent to the trading, your Company is having 161,759 EScerts that will be used for PAT – II cycle.

Performance & Guarantee tests are being coordinated by CenPEEP which includes approval of procedure, conducting test & its evaluation.

CenPEEP is also associated in Technical due diligence of Stressed Power Plants of the country.

18. NETRA

Your Company has assigned 1% of PAT for R&D activities. Company has focused its research efforts to address the major concerns of the sector as well as the future technology requirements of the sector. In this effort, Company has established NTPC Energy Technology Research Alliance (NETRA) as state-of-the-art center for research, technology development and scientific services in the domain of electric power to enable seamless work flow right from concept to commissioning. The focus areas of NETRA are - Efficiency Improvement & Cost Reduction; New & Renewable Energy; Climate Change & Environmental protection which includes water conservation, Ash utilization & Waste Management. NETRA also provides Advanced Scientific Services to its stations and other utilities in the

area of oil/water chemistry, environment, electrical, Rotor dynamics etc for efficient performances.

Research Advisory Council (RAC) of NETRA comprising of eminent scientists and experts from India and abroad is in place to steer research direction. Padma Bhushan Dr. V.K. Saraswat, former Secretary, DRDO and member of NITI Aayog is the Chairman of RAC.

Scientific Advisory Council (SAC) chaired by Director (Tech.) and Director (Operation), with Regional Executive Directors, ED (Engg.), ED (OS) and ED (NETRA) as its member, provides directions for undertaking specific applied research projects aimed to develop techniques in power plant for efficient, reliable and environment friendly operation with emphasis on reducing cost of generation.

Initiatives are taken to develop technologies for reducing forced outages, installing intelligent online monitoring of critical components, understanding the likely damages due to corrosion and providing appropriate solutions etc. Effort is being made for reducing cost of generation by either increasing the overhaul cycle or reducing overhaul duration through correct and proper health assessment of critical components, developing diagnostic tools and ensuring environmental & safety compliances. The prime thrust is towards clean and economic power generation. Patents have been filed in the areas of climate change, waste management etc.

NETRA has collaborations with National Institutes like IIT's, IISc-Bangalore, C-DAC, NML, CSIR labs, IOCL R&D, CPRI, CINFR, CBRI Roorkee and Geological Survey of India etc. to promote research in the field of CFD, Flow batteries, Renewable, environment, water chemistry, ash utilization, process development, etc.

NETRA also has collaborations with international institutions such as NETL-USA, Curtin University-Australia; Newcastle University-Australia, VGB-Germany, DLR / ISE-Germany. NETRA laboratories are ISO 17025 accredited and provide high end scientific services to all your Company's stations as well as many other utilities. NETRA NDT laboratory is also recognized as Remnant Life Assessment Organization under the Boiler Board Regulations, 1950.

Phase-II of NETRA infrastructure is under construction with approx 21,000 sq m floor area and is expected to be completed by 2018. Phase II will have 30 laboratories, workshop, pilot plant bay and an auditorium with seating capacity of 400 persons.



The details of activities undertaken by NETRA are given in Annex-III.

19. IMPLEMENTATION OF OFFICIAL LANGUAGE

Your Company took several initiatives for the progressive use of Hindi in the day to day official work and implementation of Official Language policy of the Union of India in your Company. The compliance of Official Language policy in our projects and regional headquarters was inspected and need based suggestions were given to the respective Heads of offices in this regard.

Quarterly meetings of Official Language Implementation Committee were held in which extensive discussions took place on the use of Hindi and the ways and means to bring about further improvements.

Hindi Divas was celebrated on 14th September 2017 and Hindi Fortnight was organized from 01-15 September, 2017 at the Corporate Center as well as regional headquarters and projects/stations to create awareness among the employees, associates and their family members. Vidyut Swar, our biannual Hindi magazine was published (in digitized form) to promote creative writing in Hindi. Annual conference of Hindi Officers was organized to review the progress of Rajbhasha in the Company.

Employees were motivated to use Hindi in official work by organizing Hindi workshops, Unicode Hindi Computer Training along with Hindi e-tools and popularization of Hindi incentive schemes. Hindi webpage was updated with important information of Rajbhasha for employees.

The second sub-committee of Parliament on official Language had inspected our units; reviewed the progress of Rajbhasha implementation and appreciated our efforts.

Your Company's website also has a facility of operating in a bilingual form, in Hindi as well as in English.

20. VIGILANCE

20.1 Vigilance Mechanism:

Your Company ensures transparency, objectivity and quality of decision making in its operations, and to monitor the same, the Company has a Vigilance Department headed by Chief Vigilance Officer, a nominee of Central Vigilance Commission. The Vigilance set up in your Company consists of Vigilance Executives

in Corporate Center and Projects. In Projects, the Vigilance Executives report to the Project Head in administrative matters but in functional matters, they report to Chief Vigilance Officer.

Your Company's Corporate Vigilance Department consists of four Cells as under :

- Vigilance Investigation and Processing Cell
- Departmental Proceedings Cell
- Technical Examination Cell
- MIS Cell

These cells deal with various facets of vigilance mechanism. The vigilance works of each region namely ER-I, ER-II, WR-I, WR-II, NR, NCR, SR and Hydro Region have been separately assigned to one Vigilance Officer at Corporate Center (Regional Vigilance Executive) for speedier disposal of vigilance cases. Senior officials of Vigilance Department comprising ED (Vigilance), Regional Vigilance Executives and Head of DPC/MIS Cell meet regularly to discuss common issues having greater importance so as to ensure uniform working in all Regions. This facilitates Transparency, efficiency and effectiveness of Vigilance functionaries by making use of collective knowledge, experience and wisdom of Vigilance Executives, breaking compartmentalization and abridging their strengths & weaknesses.

During 2017-18, 91 complaints were investigated by Vigilance department, out of which 55 complaints were carried to a logical conclusion and appropriate disciplinary action has been initiated wherever necessary. The remaining 36 complaints were under various stages of investigation as on 31.03.2018.

20.2 Implementation of Integrity Pact

Your Company is committed to have total transparency to its business processes and as a step in this direction; it signed a Memorandum of Understanding with Transparency International India in December, 2008. The Integrity pact is being implemented for all contracts having value exceeding ₹ 10 crore. Presently, your Company is having two Independent External Monitor to oversee the implementation of Integrity Pact Programme.

20.3 Implementation of various policies/ circulars

Fraud Prevention Policy and Whistle Blower Policy have been implemented in your Company to build

and strengthen a culture of transparency. Your Company has also laid down a comprehensive policy for withholding and banning of business dealings with agencies, wherever the situation so demands.

20.4 Vigilance Awareness Week and Workshops

During 2017-18, Vigilance Awareness Week was observed during the period October 30, 2017 to November 4, 2017 in all projects and stations/ establishments of your Company. The focus of Vigilance Awareness Week of 2017-18 was "My vision, corruption free India". In line with this Vision, Vigilance Awareness Week commenced with taking Integrity pledge by employees on October 30th, 2017 at 11.00 Hrs across different locations, administered by respective Head of Projects/Regions and Senior most ED at Corporate Center. During the week, messages of Honourable President of India, Honourable Vice President of India, Central Vigilance Commission & CMD of your Company were read out to the employees. To encourage and emphasize upon the theme of vigilance awareness week, the messages were also uploaded on the Company's Intranet. The activities mainly focused on the theme of enhancing public participation in promoting integrity and eradicating corruption. Activities were accordingly organized at Projects/Stations/Inspection & Commercial Offices/ Regional Headquarters and Corporate Center. Among the outreach activities various interactive events were held in schools & colleges eliciting active response and participation from the students. Integrity clubs have also been set up in various schools running in your Company Townships. Among other activities, advertisements on the theme of Vigilance Awareness Week were issued in leading newspapers – 02 at Delhi and 01 each at Varanasi, Dehradun, Lucknow, Patna, Bhubaneshwar, Raipur, Hyderabad and Mumbai, requesting the public to take pledge on the commission's website. Apart from these, Gram Sabhas were organized in rural & semi-rural areas with various awareness programme like educational film and Nukkad Natak on anti-corruption activities while public seminars/ workshops were held in the urban areas.

During the week, a lecture cum interactive session by CVC was organized on 31st Oct, 2017 at New Delhi for your Company Management Team. The function was attended by CMD, CVO, Directors and around 100 senior executives of your Company. An e-magazine in pictorial format has also been released by Mumbai Region of your Company, capturing various events/ activities during the week. At Varanasi, about 150 numbers of banners were fixed at different locations

of the city including airport and different Ghats. Banners were also displayed during the Ganga Aarti in the evening. Walkathon were organized by involving different local schools, Traffic Police and Heritage Hospital Varanasi, besides conducting events (debates, quiz, essay competition etc.,) in 222 schools & 96 colleges.

For your Company employees at Projects and Regional Headquarters, different competitions like Essay & Slogan competitions, debate, painting competitions were also organized across whole Company. Besides for Stakeholders and Business partners, vendor meet was organized at all your Company stations.

21. REDRESSAL OF PUBLIC GRIEVANCES

Your Company is committed for resolution of public grievance in efficient and time bound manner. ED (Human Resources) has been designated as Director (Grievance) to facilitate earliest resolution of public grievances received from President Secretariat, Prime Minister's Office, Ministry of Power etc.

In order to facilitate resolution of grievances in transparent and time bound manner, Department of Administrative Reforms & Public Grievances, Department of Personnel & Training, Government of India has initiated web-based monitoring system at www.pgportal.gov.in.

As per directions of GOI, public grievances are to be resolved within two months time. If it is not possible to resolve the same within two months period, an interim reply is to be given. Your Company is making all efforts to resolve grievances in above time frame.

22. RIGHT TO INFORMATION

Your Company has implemented Right to Information Act, 2005 in order to provide information to citizens and to maintain accountability and transparency. The Company has put RTI manual on its website for access to all citizens of India and has designated a Central Public Information Officer (CPIO), an Appellate Authority and APIOs at all sites and offices of the Company.

During 2017-18, 1,550 applications were received under the RTI Act, 2005 out of which 1,475 applications were replied to, till 31.03.2018.

23. USING INFORMATION AND COMMUNICATION TECHNOLOGY FOR PRODUCTIVITY ENHANCEMENT

The Information Technology in your Company is not only



a service provider but also being used as a key business driver. Most of the business processes in the Company have been IT enabled. Since 2008, your Company has implemented Enterprise Resource Planning (ERP) application to integrate all its business functions to improve information availability, transparency and decision making. PI data system has been implemented to capture, display and analyze the plant performance parameters on real time basis which is helping the operation and maintenance of our power plants. Non-ERP web based applications have been developed in balance areas such as Engineering Drawings approval, Quality Control Management, Hospital Management, Labour Management, Transit Camp Management, RTI, Security Control etc.

Your Company's plants and Offices across India, are connected to Corporate Office and main Data-Center (DC) through 2x12 mbps MPLS links to facilitate seamless communication. The DC and DR (Disaster Recovery) site is connected with 156 mbps MPLS links for data backup. The progress of ongoing projects and issues of the running power stations are discussed regularly over high definition Video Conferencing system at Project Monitoring Center of Corporate Office.

To further leverage IT in your Company, an IT Strategy has been finalized. The IT Strategy aims to achieve 100% Paperless Office, Data Analytics for decision making, induction of new technology such as IIOT, AI, Machine learning etc. over next 2 years.

Some of the highlights of the progress in IT/ERP area during the year 2017-18 are as follows:

- **Project PRADIP (Proactive Digital Initiative to become Paperless)** – Your Company has taken initiative for 100% Paperless Office. The Project PRADIP aims to create a central data repository for your Company with best record management and searchable features. All the approval processes shall be made paperless. The e-Office module shall enable employees to do day-to-day office works in digital mode. It will also provide collaboration and knowledge management platforms. The PO for the project was issued in Nov'2017 and work for the same is in full swing.
- **ERP** – A number of new modules were introduced in ERP. Coal sale, Energy Billing for Solar and Wind energy, OLA Travel Booking etc. were added in 2017-18. GST was implemented in line with GOI guideline. e-procurement platform was shifted from SRM to GePNIC.

- **e-Waste disposal** – Firm guidelines were issued for disposal of e-Waste in your Company. As of 31.03.18 all Stations, Plants and Offices of your Company were declared e-Waste free after successful disposal of e-Wastes.
- **Mail and Messaging Services** – The mail and messaging services were upgraded. All users were provided with min. 5GB of mail box size. DR set up for mailing system was commissioned.
- **Security** – No major security breach was observed during the year 2017-18. A 24x7 Security Operation Center(SOC) is in operation where round the clock monitoring of all external and internal data traffic is being analyzed with latest tools monitored through SOC and latest threat management tools are being applied to prevent any cyber-attack or data theft. Timely communication being sent to all users based on threat perception. The IT security Audit for plants have been completed. ISO 27001 certification was obtained for DR set up.
- **Mobile Apps** – SAMVAAD mobile app was launched to provide all Corporate news to employees instantaneously. The SAMPARK mobile app gives information on all your Company employees.
- **CLIMS (Contract Labour Information Management System)**– Biometric labour attendance system was introduced in your Company plants. This is facilitating not only for labour payments but also in calculating the PF and other retrenchment benefits to labour besides improving security.

24. GROUP COMPANIES : SUBSIDIARIES AND JOINT VENTURES

Your Company has currently 6 subsidiary companies (including Nabinagar Power Generating Company Private Limited which has become a wholly-owned subsidiary company upon acquisition of stake of BSPGCL in NPGCL) and 18 joint venture companies for undertaking specific business activities.

Besides 18 joint venture companies detail of which is elsewhere in this Report, NTPC-SCCL Global Ventures Private Limited is being wound up voluntarily. In view of lack of suitable commercially viable opportunities for thermal coal, your Company has decided to exit from International Coal Ventures Private Limited.

A statement containing the salient feature of the financial statement of your Company's Subsidiaries, Associate Companies and Joint Ventures as per first



proviso of section 129(3) of the Companies Act, 2013 is included in the consolidated financial statements.

25. INFORMATION PURSUANT TO STATUTORY AND OTHER REQUIREMENTS

Information required to be furnished as per the Companies Act, 2013 and as per SEBI (Listing Obligations & Disclosure Requirements) Regulations, 2015 are as under:

25.1 Statutory Auditors

The Statutory Auditors of your Company are appointed by the Comptroller & Auditor General of India. Joint Statutory Auditors for the financial year 2017-18 were (i) M/s T R Chadha & Co LLP, Chartered Accountants, New Delhi (ii) M/s PSD & Associates, Chartered Accountants, New Delhi, (iii) M/s Sagar & Associates, Chartered Accountants, Hyderabad, (iv) M/s Kalani & Co., Chartered Accountants, Jaipur, (v) M/s P A & Associates, Chartered Accountants, Bhubaneshwar, (vi) M/s S.K. Kapoor & Co., Chartered Accountants, Kanpur and (vii) M/s B M Chatrath & Co LLP, Chartered Accountants, Kolkata.

The appointment of the Statutory Auditors for the financial year 2018-19 has been made by the Comptroller & Auditor General of India.

25.2 Management comments on Statutory Auditors' Report

The Statutory Auditors of the Company have given an un-qualified report on the accounts of the Company for the financial year 2017-18. However, they have drawn attention under 'Emphasis of Matter' to Note No. 36 (a) & (b) regarding billing & recognition of sales on provisional basis and measurement of GCV of coal on 'as received' basis measured on wagon top at the unloading point in respect of most of the stations pending disposal of petition by CERC and ratification by Hon'ble Delhi High Court and related matters as mentioned in the said note. They have also drawn attention under 'Emphasis of Matter' to Note No. 47 in respect of a Company's project where the order of NGT has been stayed by the Hon'ble Supreme Court of India and the matter is sub-judice.

The issues have been adequately explained in the respective Notes referred to by the Auditors.

25.3 Review of accounts by Comptroller & Auditor General of India (C&AG)

The Comptroller & Auditor General of India, through

letter dated 29.06.2018, has given 'NIL' Comments on the Standalone Financial Statements of your Company for the year ended 31st March 2018 after conducting supplementary audit under Section 143 (6) (a) of the Companies Act, 2013.

The Comptroller & Auditor General of India, through letter dated 29.06.2018, has also given 'NIL' Comments on the Consolidated Financial Statements of your Company for the year ended 31st March 2018 after conducting supplementary audit under Section 143 (6) (a) read with Section 129 (4) of the Companies Act, 2013.

As advised by the Office of the Comptroller & Auditor General of India (C&AG), the comments of C&AG for both the stand-alone and consolidated financial statements of your Company for the year ended 31st March 2018 are being placed with the report of Statutory Auditors of your Company elsewhere in this Annual Report.

25.4 COST AUDIT

As prescribed under the Companies (Cost Records and Audit) Rules, 2014, the Cost Accounting records are being maintained by all stations of your Company.

The firms of Cost Accountants appointed under Section 148(3) of the Companies Act, 2013 for the financial year 2017-18 were (i) M/s R M Bansal & Co., Cost Accountants, Kanpur, (ii) M/s ABK & Associates, Cost Accountants, Mumbai, (iii) Dhananjay V Joshi & Associates, Cost Accountants, Pune, (iv) M/s DGM & Associates, Cost Accountants, Kolkata, (v) M/s Tanmaya S Pradhan & Co., Cost Accountants, Sambalpur, (vi) M/s K L Jaisingh & Co., Cost Accountants, Noida and (vii) M/s Niran & Co., Cost Accountants, Bhubaneshwar.

The due date for filing consolidated Cost Audit Report in XBRL format for the financial year ended March 31, 2017 was September 30, 2017 and the consolidated Cost Audit Report for your Company was filed with the Central Government on August 25, 2017.

The Cost Audit Report for the financial year ended March 31, 2018 shall be filed within the prescribed time period under the Companies (Cost Records & Audit) Rules, 2014.

25.5 Exchange Risk Management

Your Company is exposed to foreign exchange risk in respect of contracts denominated in foreign currency for purchase of plant and machinery, spares and fuel



for its projects/ stations and foreign currency loans.

During financial year 2017-18, your Company has not entered into any derivative contract in respect of foreign currency loans exposure.

25.6 Performance Evaluation of the Directors and the Board

Ministry of Corporate Affairs (MCA), through General Circular dated 5th June, 2015, has exempted Government Companies from the provisions of Section 178 (2) of the Companies Act, 2013 which requires performance evaluation of every director by the Nomination & Remuneration Committee. The aforesaid circular of MCA further exempted listed Govt. Companies from provisions of Section 134 (3) (p) of the Companies Act, 2013 which requires mentioning the manner of formal evaluation of its own performance by the Board and that of its Committees and individual Director in Board's Report, if directors are evaluated by the Ministry or Department of the Central Government which is administratively in charge of the company, or, as the case may be, the State Government as per its own evaluation methodology.

Now, MCA, through Notification dated 05.07.2017, has amended Schedule IV to the Companies Act, 2013 with respect to performance evaluation of directors of the Government Companies that in case of matters of performance evaluation are specified by the concerned Ministries or Departments of the Central Government or as the case may be, the State Governments and such requirements are complied with by the Government companies, such provisions of Schedule IV are exempt for the Government Companies. In this regard, Deptt. of Public Enterprises (DPE) has already laid down a mechanism for performance appraisal of all functional directors. Your Company enters into Memorandum of Understanding (MOU) with Government of India each year, demarcating key performance parameters for the Company. The performance of the Company and Board of Directors are evaluated by the Department of Public Enterprises vis-à-vis MOU entered into with the Government of India.

Similar exemption has been requested from SEBI under the SEBI LODR, which is under consideration.

25.7 Secretarial Audit

The Board has appointed M/s J.K. Gupta & Associates, Company Secretaries, to conduct Secretarial Audit for the financial year 2017-18. The Secretarial Audit Report for the financial year ended March 31, 2018 is annexed here with marked as Annexure XI to this Report.

The Managements' Comments on Secretarial Audit Report are as under:

Observations	Management's Comments
Compliance of Regulation 17(10) & 25(4) of Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015, the Company has not carried out the performance evaluation of the Directors.	Refer Para 25.6

25.8 Particulars of contracts or arrangements with related parties

During the period under review, your Company had not entered into any material transaction with any of its related parties. The Company's major related party transactions are generally with its subsidiaries and associates. All related party transactions were in the ordinary course of business and were negotiated on an arm's length basis except with Utility Powertech Limited, which are covered under the disclosure of Related Party Transactions in Form AOC-2 (Annexure- IX) as required under Section 134(3) (h) of the Companies Act, 2013. They were intended to further enhance your Company's interests.

Web-links for Policy on Materiality of Related Party Transactions and also on Dealing with Related Party Transactions have been provided in the Report on Corporate Governance, which forms part of the Annual Report.

25.9 Significant and material orders passed by the regulators or courts or tribunals impacting the going concern status and company's operations in future: NIL

25.10 Adequacy of internal financial controls with reference to the financial reporting: The Company has in place adequate internal financial controls with reference to financial reporting. During the year, such controls were tested and no reportable material weakness in the design or operation was observed.

25.11 Loans and Investments

Details of Investments covered under the provisions of Section 186 of the Companies Act, 2013 forms part of financial statement, attached as a separate section in the Annual Report for FY 2017-18.

Your Company had granted loans to its subsidiary namely, Kanti Bijlee Utpadan Nigam Limited (KBUNL) and Joint Venture Company namely National High Power Test Laboratory Private Limited (NHPTL) during 2017-18 covered under Section 185 and 186 of the Companies Act, 2013. The details of loans granted to KBUNL and NHPTL is given in Note - 60 of Standalone Financial Statements for 2017-18.

25.12 Prevention, Prohibition and Redressal of Sexual Harassment of Women at Workplace

The Company has in place a Policy on Prevention, Prohibition and Redressal of Sexual Harassment of Women at Workplace in line with the requirements of



the Sexual Harassment of Women at the Workplace (Prevention, Prohibition & Redressal) Act, 2013. Internal Complaints Committee (ICC) has been set up to redress complaints received regarding sexual harassment. All employees (permanent, contractual, temporary, trainees) are covered under this policy.

These ICCs have been constituted at all Projects/ stations of your Company. Every three years, the constitution of these committees is changed and new members are nominated.

No complaint of sexual harassment was received by the ICC during the year 2017-18.

25.13 Procurement from MSEs

The Government of India has notified a Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012. The total procurement made from MSEs (including MSEs owned by SC/ST entrepreneurs) during the year 2017-18 was ₹ 1160.62* crore, which was 28.69% of total annual procurement of ₹ 4045.64* crore against target of 20% of total procurement made by your Company.

The total procurement made from MSEs owned by SC/ST entrepreneurs during the year 2017-18 was ₹ 17.09* crore, which was 0.42% against the target of 4% of total procurement value.

*It excludes Primary fuel, Secondary fuel, Steel & Cement, the Project procurement including R&M packages and procurement from OEM, OES & PAC sources.

Your Company organised 21 vendor development programmes for MSEs across the Company, out of which 6 vendor development programmes were exclusively organized for SC/ST MSE entrepreneurs. Annual procurement plan for 2018-19 from MSEs is uploaded on www.ntpc.co.in.

25.14 Particulars of Employees

As per provisions of Section 197(12) of the Companies Act, 2013 read with Rule 5 of the Companies (Appointment and Remuneration of Managerial Personnel) Rules, 2014, every listed company is required to disclose the ratio of the remuneration of each director to the median employee's remuneration and details of employees receiving remuneration exceeding limits as prescribed from time to time in the Directors' Report.

However, as per notification dated 5th June, 2015 issued by the Ministry of Corporate Affairs, Government Companies are exempted from complying with provisions of Section 197 of the Companies Act, 2013. Therefore, such particulars have not been included as part of Directors' Report.

25.15 Extract of Annual Return:

Extract of Annual Return of the Company is annexed herewith as Annexure VI to this Report.

25.16 Information on Number of Meetings of the Board held during the year, composition of committees of the Board and their meetings held during the year, establishment

of vigil mechanism/ whistle blower policy and web-links for familiarization/ training policy of directors, Policy on Materiality of Related Party Transactions and also on Dealing with Related Party Transactions and Policy for determining 'Material' Subsidiaries have been provided in the Report on Corporate Governance, which forms part of the Directors Report at Annex-II.

25.17 Para on development of risk management policy including therein the elements of risks are given elsewhere in the Annual Report.

25.18 The Company has complied with the applicable Secretarial Standards.

25.19 No disclosure or reporting is required in respect of the following items as there were no transactions on these items during the year under review:

1. Issue of equity shares with differential rights as to dividend, voting or otherwise.
2. Issue of shares (including sweat equity shares) to employees of the Company under any scheme.

25.20 The particulars of annexures forming part of this report areas under:

Particulars	Annexure
Management Discussion & Analysis	I
Report on Corporate Governance	II
Information on conservation of energy, technology absorption and foreign exchange earnings and outgo	III
Statistical information on persons belonging to Scheduled Caste / Scheduled Tribe categories	IV
Information on Differently Aabled Persons	V
Extract of Annual Return	VI
Annual Report on CSR Activities	VII
Project Wise Ash Produced and Utilized	VIII
Disclosure of Related Party Transactions in Form AOC-2	IX
Business Responsibility Report for the year 2017-18	X
Secretarial Audit Report in Form MR-3	XI

26. BOARD OF DIRECTORS & KEY MANAGERIAL PERSONNEL

On attaining the age of superannuation, Shri A.K. Jha ceased to be Director (Technical) of the Company w.e.f. 31.07.2017, Shri S.C. Pandey ceased to be Director (Projects) of the Company w.e.f. 31.08.2017 and Shri K.K. Sharma ceased to be Director (Operations) of the Company w.e.f. 31.10.2017.

Shri Rajesh Jain, Independent Director tendered his resignation from the Directorship w.e.f. 10.10.2017.

Shri M.P. Singh, Shri P.K. Deb, Shri Shashi Shekhar, Shri Subhash Joshi and Shri Vinod Kumar were appointed as Independent Directors of the Company w.e.f. 24.10.2017.

Dr. Pradeep Kumar, JS&FA, Ministry of Power ceased to be Government Nominee Director w.e.f. 31.07.2017.



Shri Susanta Kumar Roy, Executive Director had taken over the charge as Director (Projects) of the Company w.e.f. 19.01.2018.

Shri Prasant Kumar Mohapatra, Executive Director had taken over the charge as Director (Technical) of the Company w.e.f. 31.01.2018.

Shri Prakash Tiwari, Executive Director had taken over the charge as Director (Operations) of the Company w.e.f. 31.01.2018.

Shri K. Sreekanth, Director (Finance), Power Grid Corporation of India Limited had been entrusted with the additional charge of the post of Director (Finance) of your Company w.e.f. 19.03.2018 for a period of six months or till the appointment of a regular incumbent or until further orders of the Ministry of Power, whichever is the earliest.

Shri Sudhir Arya, Executive Director was appointed as the Chief Financial Officer of the Company w.e.f. 29.12.2017.

Shri Vivek Kumar Dewangan, JS&FA, Ministry of Power had been appointed as Government Nominee Director w.e.f. 28.04.2018.

Shri Aniruddha Kumar, JS, Ministry of Power ceased to be Govt. Nominee Director w.e.f. 30.07.2018.

Dr. K. P. Kylasanatha Pillay and Dr. Bhim Singh were appointed as Independent Director w.e.f. 30.07.2018.

Shri K. P. Gupta ceased to be ED (Finance & Law) and (Company Secretary) w.e.f. 31.07.2018 consequent upon his superannuation.

Ms. Nandini Sarkar, General Manager was appointed as Company Secretary & Compliance Officer w.e.f. 01.08.2018.

Ms. Archana Agrawal, JS (Thermal), Ministry of Power had been appointed as Government Nominee Director w.e.f. 07.08.2018.

The Board wishes to place on record its deep appreciation for the valuable services rendered by Shri A.K. Jha, Shri S.C. Pandey, Shri K.K. Sharma, Shri Rajesh Jain, Dr. Pradeep Kumar, Shri Aniruddha Kumar and Shri K. P. Gupta during their association with the Company.

In accordance with Section 152 of the Companies Act, 2013 and the provisions of the Articles of Association of the Company, Shri S. Roy, Director, shall retire by rotation at the Annual General Meeting of your Company and, being eligible, offers himself for re-appointment.

27. DIRECTORS' RESPONSIBILITY STATEMENT

As required under Section 134 (5) of the Companies Act, 2013, your Directors confirm that:

1. in the preparation of the annual accounts, the applicable accounting standards had been followed along with proper explanation relating to material departures;
2. the Directors had selected such accounting policies and applied them consistently and made judgments and estimates that are reasonable and prudent so as

to give a true and fair view of the state of affairs of the company at the end of the financial year 2017-18 and of the profit of the Company for that period;

3. the Directors had taken proper and sufficient care for the maintenance of adequate accounting records in accordance with the provisions of the Companies Act, 2013 for safeguarding the assets of the company and for preventing and detecting fraud and other irregularities;
4. the Directors had prepared the Annual Accounts on a going concern basis;
5. the Directors, had laid down internal financial controls to be followed by the Company and that such internal financial controls are adequate and were operating effectively; and
6. the Directors had devised proper systems to ensure compliance with the provisions of all applicable laws and that such systems were adequate and operating effectively.

28. ACKNOWLEDGEMENT

The Directors of your Company acknowledge with deep sense of appreciation, the co-operation received from the Government of India, particularly the Prime Minister's Office, Ministry of Power, Ministry of New & Renewable Energy, Ministry of Finance, Ministry of Environment, Forests & Climate Change, Ministry of Coal, Ministry of Petroleum & Natural Gas, Ministry of Railways, Department of Public Enterprises, Central Electricity Authority, Central Electricity Regulatory Commission, Comptroller & Auditor General of India, Appellate Tribunal for Electricity, State Governments, Regional Power Committees, State Utilities and Office of the Attorney General of India.

The Directors of your Company also convey their gratitude to the shareholders, various international and Indian Banks and Financial Institutions for the confidence reposed by them in the Company.

The Board also appreciates the contribution of contractors, vendors and consultants in the implementation of various projects of the Company.

We also acknowledge the constructive suggestions received from the Office of Comptroller & Auditor General of India and Statutory Auditors.

We wish to place on record our appreciation for the untiring efforts and contributions made by the employees at all levels to ensure that the Company continues to grow and excel.

For and on behalf of the Board of Directors



(Gurdeep Singh)

Chairman & Managing Director

Place: New Delhi
Date: 8th August, 2018

