

## DIRECTORS' REPORT

Dear Members,

Your Directors are pleased to present the 40<sup>th</sup> Annual Report on the business and operations of the Company along with audited financial statements for the year ended March 31, 2016.

Financial Year 2015-16 has been yet another year of achievements for your Company. With the addition of 2,255 MW capacity (including 445 MW through Subsidiary Companies) during the year, total installed capacity of your Company (including subsidiaries & JVs) as on 31.03.2016 was 46,653 MW.

With the commissioning of Anantpur Solar PV unit of 250 MW and takeover of Patratu Thermal Power Plant of 325 MW after 31.03.2016, capacity of your Company has become 47,228 MW as on 31.07.2016.

Major highlights for the year 2015-16 are:

- Power projects of 2,255 MW were commissioned.
- Declared 1,960 MW Power Projects on commercial generation.
- PLF of 78.61% as against all India PLF of 62.29% with three NTPC stations recording more than 90% PLF and 11 stations (including JV) in top 25 stations of the country.
- Excellent MOU rating by Government of India for the year 2014-15.
- Capital expenditure (CAPEX) for the year 2015-16 was ₹ 25,959.60 crore (Stand-alone) as against the MoU target of ₹ 23,000.00 crore. Achieved Group Capex of ₹ 32,090.89 crore during FY 2015-16 against ₹ 28,289.56 crore during FY 2014-15.
- 100% realization of current bills from customers.
- Revenue from operations (Net) was ₹ 70,506.80 crore and total revenue was ₹ 71,696.07 crore. Net Profit after Tax (PAT) was ₹ 10,242.91 crore.
- Dividend of ₹ 3.35 per share comprising interim dividend of ₹ 1.60 per equity share paid in February 2016 and recommended final dividend of ₹ 1.75 per equity share for

the year 2015-16, subject to approval of the shareholders.

- Cash contribution of ₹ 4,113.30 crore to Government of India's exchequer through dividend, dividend tax, income tax and wealth tax in the financial year 2015-16.
- Market capitalization of ₹ 1,06,242.81 crore as on 31.03.2016.
- Construction of about 29,000 toilets in schools under Swachh Bharat- Swachh Vidyalaya Abhiyan.
- Planted approx. 5.25 lac trees during 2015-16 to mitigate the GHG emissions arising out of plant operations, thereby bringing total to about 2.3 crore planted trees till end of 31.03.2016.
- About 8 crore bricks produced by fly ash brick plants of NTPC stations, which are being utilised in plant and township.
- Honoured with ASSOCHAM 1<sup>st</sup> Corporate Governance Excellence Award in listed PSUs category for the year 2014-15.
- Ranked No. 2 Independent Power Producer and Energy Trader Globally in the Platts Top 250 Global Energy Company Rankings 2015.
- Adjudged 4<sup>th</sup> among the Asian electric utilities in 2016 rankings as per Forbes Global 2000.
- Honoured with Dun & Bradstreet Corporate Awards 2016 for best performing Company in India in Power Sector.
- For the year 2016, NTPC has been adjudged as the Best Company to work in the Public Sector Category in a study carried out by Great Place to Work and the Economic Times.
- Bagged Golden Peacock Award for Excellence in Training from Institute of Directors for the year 2016.

You will appreciate the fact that the company recorded growth and excellent performance despite numerous challenge before the sector.

### 1. FINANCIAL RESULTS (STAND ALONE)

Particulars	2015-16		2014-15	
	₹ Crore	US \$ Mn*	₹ Crore	US \$ Mn*
<b>Revenue</b>				
Net Revenue from Operations (including Energy Sales, Consultancy, Energy consumed internally)	70,506.80	10,539.13	73,236.94	10,947.23
Other income	1,189.27	177.77	2,100.42	313.96
<b>Total Revenue</b>	<b>71,696.07</b>	<b>10,716.90</b>	<b>75,337.36</b>	<b>11,261.19</b>
<b>Expenses</b>				
Fuel	43,793.25	6,546.08	48,833.57	7,299.49
Employee benefits expense	3,609.32	539.51	3,620.71	541.21
Finance costs	3,230.36	482.86	2,743.62	410.11
Depreciation and amortization expense	5,425.32	810.96	4,911.65	734.18
Generation, administration & other expenses	5,787.39	865.08	4,911.28	734.12
Prior period items (net)	(196.15)	(29.32)	(333.83)	(49.90)
<b>Total expenses</b>	<b>61,649.49</b>	<b>9,215.17</b>	<b>64,687.00</b>	<b>9,669.21</b>
<b>Profit before tax and rate regulated activities</b>	<b>10,046.58</b>	<b>1,501.73</b>	<b>10,650.36</b>	<b>1,591.98</b>
Add: Regulatory Income/ (Expenses)	12.09	1.81	(103.71)	(15.50)
<b>Profit before tax</b>	<b>10,058.67</b>	<b>1,503.54</b>	<b>10,546.65</b>	<b>1,576.48</b>
Tax expense	(184.24)	(27.54)	255.79	38.23
<b>Profit for the year</b>	<b>10,242.91</b>	<b>1,531.08</b>	<b>10,290.86</b>	<b>1,538.25</b>



Appropriations:	2015-16		2014-15	
	₹ Crore	US \$ Mn*	₹ Crore	US \$ Mn*
Transfer to bonds/ debentures redemption reserve	1,284.13	191.95	1,156.19	172.82
Transfer to general reserve	6,000.00	896.86	7,000.00	1,046.34
Transfer to CSR reserve	-	-	78.30	11.70
Transfer to capital reserve	0.11	0.02	0.12	0.02
Interim dividend	1,319.28	197.20	618.42	92.44
Proposed dividend	1,442.96	215.69	1,442.96	215.69
Tax on dividend	558.25	83.45	417.40	62.39

\* 1US \$ = ₹ 66.90 as on March 31, 2016

## 2.

### 2.1 OFFER FOR SALE BY THE GOVERNMENT OF INDIA TO THE PUBLIC

Offer for Sale of 5% Equity Share Capital of the Company by the Government of India was made in terms of CCEA's approval in May 2015. The offer was opened on 23.02.2016 for non-retail investors and on 24.02.2016 for retail investors. Non-retail investors were allowed to place their bids for 80% of unreserved portion and retail investors had reserved portion of 20%. The indicative price was ₹ 122.22 per equity share which was above the floor price (₹ 122 per equity share) and cut-off price was ₹ 122.05.

Consequent upon sale of 41,22,73,220 shares by Government of India, the equity holding of GOI in NTPC was reduced to 69.96% of the paid-up capital from 74.96%. An amount of ₹ 5,014.55 crore exclusive of STT was garnered through Offer for Sale by the Government of India.

### 2.2 OFFER FOR SALE BY THE GOVERNMENT OF INDIA TO THE EMPLOYEES

A total of 2,06,13,661 shares were offered to employees, being 5% of stake sold by the Government of India in February 2016. These shares were offered to the employees at ₹ 115.90 per equity share i.e. at 5% discount to OFS price.

10,826 employees participated in the offer and applied for 1,75,82,590 shares being 85.3% of the shares offered under Employee OFS. An amount of ₹ 203.78 crore was garnered through Offer for Sale for Employees by the Government of India.

With the above Offer for Sale to Employees, the holding of Government of India has further reduced to 69.74 %.

## 3. DIVIDEND

### 3.1 Interim and Final Dividend:

Your company paid interim dividend of ₹1.60 per equity share in February 2016 and the Board of your Company have recommended a final dividend of ₹1.75 per equity share for the year 2015-16. With this, the total dividend for the year is ₹3.35 per equity share of ₹10/- each. In the year 2014-15, the total dividend paid was ₹2.50 per equity share of ₹10/- each.

The dividend payout is 26.97% and the total dividend payout including dividend tax is 32.42% 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 policy of balancing dividend pay-out with the requirement of deployment of internal accruals for its growth plans.

## 4. OPERATIONAL PERFORMANCE

During the year, the power stations of your Company

generated 241.98 BUs (263.42 BUs including JVs& Subsidiaries) of electricity (including solar and hydro power) which was 21.95% (23.90% including generation by JVs) of the total power generated in India (without Bhutan import) registering an increase of 0.30% (1.09% including JVs & Subsidiaries) over the previous years' generation of 241.26 BUs. Generation contributed by hydro stations was 2.308 BUs.

The total generation contributed by coal stations is 230.64 BUs during the year against generation of 229.55 BUs last year registering a growth of 0.5%. Generation from coal based units could have been still higher but due to less generation schedule there was opportunity loss of 37.76 BUs. The coal based stations operated at average Plant Load Factor (PLF) of 78.61% (All India PLF 62.29%) and average Availability Factor of 88.06% on bus bar during the year. The generation loss on account of coal shortage was brought down to 0.18 BUs in the current year from 8.895 BUs in FY 2014-15.

During the year, 3 coal based stations out of 17 (commercial Stations) achieved more than 90% PLF and ranked as the Top 3 stations in the country. 11 stations (including JV) of your Company are in top 25 stations in the country.

The gas stations having a capacity of 4,017 MW achieved annual generation of 8.870 BUs at a PLF of 25.14% as against 11.588 BUs last year mainly due to less generation schedule which accounted for an opportunity loss of 25.529 BUs. The declared capacity of gas based stations for the year was 97.30% as compared to 92.18% during previous year.

## 5. COMMERCIAL PERFORMANCE

### 5.1 Billing and Realisation

Your Company has realized 100% of its current bills raised for energy supplied in 2015-16, thus achieving this feat for the 13<sup>th</sup> consecutive year.

Most of the customers were making their payments within 60 days of billing and had availed rebates as per Company's Rebate Scheme. Beneficiaries have established and are maintaining Letter of Credits (LCs) at 105% of the average monthly billing.

Apart from LCs, payment of dues is secured by Tripartite Agreements (TPAs) signed amongst the State Governments, Government of India and Reserve Bank of India. In terms of TPAs, any default in payment by the Discoms of a State can be recovered directly from the account of respective State Governments with RBI. The TPAs are valid upto 31.10.2016. Most of the States have agreed for extension of existing TPA, RBI has also given its no objection for the same. Extension of TPA is under consideration by the Ministry of Power.



## 5.2 Rebate Scheme for realization of dues:

In order to encourage early and full realization of dues, your Company has revamped 'Rebate Scheme' for the year 2016-17. In the Scheme for 2016-17, 2% rebate shall be allowed for amounts credited to the account of Company for any advance payment and payments made till 8<sup>th</sup> day of the billing month. From 9<sup>th</sup> day of the billing month till 30<sup>th</sup> 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% on 31<sup>st</sup> of the month next to the billing month. An additional rebate of 0.1% of the monthly billing would be allowed in all months where a customer maintains monthly LCs.

## 5.3 Commercial Capacity:

The following units were declared commercial during the year 2015-16, adding 1,960 MW to commercial capacity of your Company:

Project/ Unit	Capacity (MW)	COD*
<b>NTPC Units- Coal Based (I)</b>		
Vindhyachal -V, Unit# 13	500	30.10.2015
Barh-II, Unit#5	660	18.02.2016
<b>Total (I)</b>	<b>1,160</b>	
<b>NTPC Units - Hydro (II)</b>		
Koldam, Unit#1 to 4	800	18.07.2015
<b>Total (II)</b>	<b>800</b>	
<b>Total Capacity declared commercial during 2015-16(I)+(II)</b>	<b>1,960</b>	

\* COD- Commercial Operation Date

In 2016-17, 250 MW of Bongaigaon Unit#1 and 200 MW Anantpur Solar Power Plant have been declared commercial making commercial capacity of Company as on 30.06.2016 as 45,878 MW (including JVs and Subsidiaries) as under:

Owned by NTPC	MW
Coal based projects	34,425
Gas based projects	4,017
Renewable Energy Projects	310
Hydro Projects	800
<b>Sub-total</b>	<b>39,552</b>
<b>Joint Ventures &amp; Subsidiaries</b>	
Coal based projects	4,359
Gas based projects	1,967
<b>Sub-total</b>	<b>6,326</b>
<b>Total</b>	<b>45,878</b>

## 5.4 Tariff Related Matters:

In FY 2015-16, your Company has been able to reduce Energy Charge Rate significantly through various measures such as reduced consumption of imported coal, rationalization of coal transportation across its various stations.

Tariff petitions with Central Electricity Regulatory Commission (CERC) have been filed for all the operating stations for determination of tariff for the period from 01.04.2014 to 31.03.2019. Hearing on these petitions had started and orders will be issued after completion of hearings.

## 5.5 Power Purchase Agreements:

Your Company has signed Power Purchase Agreements for Telangana (Phase-I 1600 MW), Patratu (JV with Jharkhand State Electricity Board - 2725 MW) and Solar Capacity of 760

MW (comprising Anantpur -250 MW, Mandasaur- 250 MW and Bhadla -260 MW).

## 5.6 Strengthening Customer Relationship:

Customer Relationship Management (CRM) initiative has been taken by your company towards strengthening relationship with the customers. This is also reflected in the Core Values of your Company (BE COMMITTED) which emphasizes 'Customer Focus' as one of the core values of Company.

Under CRM, your Company has designed and executed several structured activities with the objective of sharing of experiences and best practices with the customers, capturing the feedback and expectations. Based on the feedback received from the customers, the Company provides various support services to them and identifies potential areas of cooperation and sharing of others' best practices. During the year 2015-16, 62 such services were provided to the customers.

Your Company offers training programs to the representatives of beneficiary companies at Power Management Institute (PMI) on free of cost basis. During the year 2015-16, 124 participants from various customer organizations attended training in 73 programs conducted by PMI.

Besides above, your Company has put in place a Customer Satisfaction Index (CSI) Survey for gathering customers' feedback and responding to their requirements. The CSI survey was revamped in 2015-16 to include feedbacks of the Grid Operators with the objective of understanding the view points of grid operators also. This modified Customer and Grid Operator Satisfaction Index Survey has been conducted in 2015-16.

As a part of UDAY Scheme, your Company is helping state generating companies to improve their operational efficiency and reduce the cost of generation. With this objective, two workshops were conducted by your Company with representatives of the Gencos of various states.

## 5.7 Power Trading in Power Exchange:

Your Company has commenced trading of the Un-requisitioned Surplus (URS) Power in the Power Exchange through its trading arm NVVN from June 2016. As per the amended Tariff Policy, gains from these transactions will be shared in the ratio of 50:50 with the beneficiaries whose URS is sold.

## 6. INSTALLED CAPACITY

During the year 2015-16, your Company added 2,255 MW to its installed capacity as per details given below:

Project/ Unit installed	Capacity (MW)
<b>NTPC owned</b>	
<b>Coal Based Power Projects</b>	
Vindhyachal -V, Unit#13	500
Bongaigaon, Unit#1	250
Mouda-II, Unit#3	660
<b>Hydro Power Projects</b>	
Koldam Hydro, Unit#3 and 4	400
<b>Total NTPC owned</b>	<b>1,810</b>
<b>Under JVs &amp; Subsidiaries (Coal Based Power Projects)</b>	
Kanti (subsidiary of NTPC in JV with BSPGCL), Unit#4	195
BRBCL (subsidiary of NTPC in JV with Ministry of Railways)	250
<b>Total by JV &amp; Subsidiaries</b>	<b>445</b>
<b>Total Addition during FY 2015-16</b>	<b>2,255</b>



With above capacity addition during 2015-16, capacity added in the first four years of 12<sup>th</sup> Plan Period has reached 9,550 MW against the target of 11,920 MW for 12<sup>th</sup> Plan Period (as per CEA).

The total installed capacity of the NTPC Group as on 31.03.2016 has become 46,653 MW (44,398 MW as on 31.03.2015) as tabulated below:

Owned by NTPC	MW
Coal based projects	35,085
Gas based projects	4,017
Renewable Energy Projects	110
Hydro Projects	800
<b>Sub-total</b>	<b>40,012</b>
<b>Joint Ventures &amp; Subsidiaries</b>	
Coal based projects	4,674
Gas based projects	1,967
<b>Sub-total</b>	<b>6,641</b>
<b>Total</b>	<b>46,653</b>

With the commissioning of Anantpur Solar PV unit of 250 MW and addition of Patratu Thermal Power Plant of 325 MW after 31.03.2016, capacity of your Company has become 47,228 MW as on 31.07.2016.

## 7. CAPACITY ADDITION PROGRAM

Your Company has adopted a multi-pronged growth strategy which includes capacity addition through green field projects, brown field expansions, expansion through joint ventures and acquisitions, towards its journey to achieve its vision to become world's largest and best power producer powering India's Growth.

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.

### 7.1 Projects under Implementation

Your Company's various projects having aggregate capacity of 24,009 MW including 4,050 MW being undertaken by Joint Venture and subsidiary companies are under implementation at 23 locations across length and breadth of the country as on 31.03.2016. This includes 22,430 MW through coal based projects, 1,579 MW through renewable energy projects, comprising 811 MW through hydro capacity, 8 MW small hydro project and 760 MW of solar power PV projects. The details of such projects are as under:

Ongoing Projects as on 31.03.2016	
	Capacity (MW)
<b>I. NTPC owned:</b>	
<b>A. Coal Based Projects</b>	
1. Bongaigaon, Assam	500
2. Barh-I, Bihar	1,980
3. Lara-I, Chattisgarh	1,600
4. North Karanpura, Jharkhand	1,980
5. Kudgi-I, Karnataka	2,400
6. Gadarwara-I, Madhya Pradesh	1,600

Ongoing Projects as on 31.03.2016	
	Capacity (MW)
7. Mouda-II, Maharashtra	660
8. Solapur, Maharashtra	1,320
9. Darlipalli, Odisha	1,600
10. Unchahar-IV, Uttar Pradesh	500
11. Tanda-II, Uttar Pradesh	1,320
12. Khargone, Madhya Pradesh	1,320
13. Telangana Phase-I, Telangana	1,600
<b>Sub Total (A)</b>	<b>18,380</b>
<b>B. Hydro Electric Power Projects (HEPP)</b>	
14. TapovanVishnugad, Uttarakhand	520
15. LataTapovan, Uttarakhand@	171
16. Rammam Hydro, West Bengal	120
17. Singrauli CW Discharge, Uttar Pradesh	8
<b>Sub Total (B)</b>	<b>819</b>
<b>C. Solar Power Projects</b>	
18. Anantpur Solar PV, Andhra Pradesh*	250
19. Mandsaur, Madhya Pradesh	250
20. Bhadla, Rajasthan	260
<b>Sub Total I</b>	<b>760</b>
<b>Total I (A)+(B)+(C)</b>	<b>19,959</b>
<b>II Projects under JVs &amp; Subsidiaries</b>	
<b>Coal Based Projects</b>	
21. Nabinagar- JV with Railways, Bihar	750
22. Nabinagar, JV with BSPGCL, Bihar	1,980
23. Meja, JV with UPRVUNL, Uttar Pradesh	1,320
<b>Total II</b>	<b>4,050</b>
<b>III Total On-Going Projects as on 31.03.2016 (I)+(II)</b>	<b>24,009</b>

\*Subsequently, 200 MW unit of Anantpur Solar has been commissioned on 01.04.2016 and 50 MW on 29.07.2016.

In addition, 250 MW of Rourkela Project by NSPCL had been awarded on 11.05.2016.

As on 31.07.2016, projects under construction (including JVs and subsidiaries) are 24,009 MW.

@Work of Lata Tapovan HEPP stopped since 08.05.2014 as per orders of the Supreme Court.

### 7.2 New Projects

Your Company has awarded Telangana, Phase-I (2X800 MW), Thermal Power Project, Mandsaur (250 MW) and Bhadla (260 MW) Solar Projects during the Financial Year 2015-16.

As on 30.06.2016, your Company has projects for 6,640 MW thermal capacity and 768 MW renewable capacity under bidding.

### 7.3 New Technology & Initiatives

Your company has laid major stress on efficient utilization



of resources and use of technological advancements for improving energy efficiency.

With emphasis on efficiency of electricity generation, your Company has adopted ultra super critical technology by improving the steam parameters for North Karanpura (3X660MW) to 260 kg/ cm<sup>2</sup>, 593°C/ 593°C. For Khargone (2X660MW) and Telangana (2X800 MW) steam parameter are 270 kg/ cm<sup>2</sup>, 600°C/ 600°C. Plant efficiency of these units is expected to increase by around 8% over that of a conventional sub-critical 500 MW unit and 3% over conventional super critical units using similar coal.

**Development of Advance Ultra Super Critical technology:**

Your Company has entered into an MOU with BHEL and Indra Gandhi Centre for Atomic Research (IGCAR) for indigenous development of advanced ultra super critical technology. This will have enhanced efficiency of around 46% and about 18% less CO<sub>2</sub> emission per unit of power generation as compared to 500 MW sub-critical thermal power units. The program is targeted to deliver a plant having 800 MW unit with steam parameters of 310 kg/sq cm, 710°C/720°C. Approval of Phase-I (R&D phase) of the project is under consideration of Government of India.

**Environment Protection:**

Your Company as pioneer in Environment monitoring has already installed Ambient Air Quality Monitoring Stations (AAQMS) employing No<sub>x</sub>, So<sub>x</sub>, CO, SPM & RSPM analysers in 20 operating stations in 2009-10 and data is made available to CPCB. Similarly, Continuous Emission Monitoring System (CEMS) employing No<sub>x</sub>, So<sub>x</sub>, CO & CO<sub>2</sub>

analysers at stack for flue gas have been installed recently in various operating stations. Your company has recently introduced analysers for Mercury monitoring for both AAQMS and CEMS.

**7.3.1 Energy Conservation, Technology Absorption**

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

**7.4 Project Management**

Your Company has established state-of-the-art IT enabled Project Monitoring Centre (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.

**7.5 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	JVPartner (s)	Details
<b>KBUNL</b> (Kanti Bijlee Utpadan Nigam Ltd.)	Bihar State Power Generation Company Limited (erstwhile BSEB)	A subsidiary Company in which NTPC holds 65% 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 2015-16 was 778.96 MU at 40.31 % PLF. The Company has also taken up expansion of the project by 2X195 MW units. Unit#3 of Stage-II was commissioned on 31.03.2015 and Unit#4 of Stage-II on 24.03.2016.
<b>BRBCL</b> (Bhartiya Rail Bijlee Company Ltd.)	Ministry of Railways	A subsidiary of NTPC in joint venture with Ministry of Railways with equity contribution in the ratio of 74:26 respectively for setting up power project of 1000 MW (4X250 MW) capacity at Nabinagar in Bihar. Unit#1 of 250 MW was commissioned on 20.03.2016. Construction activities in other units are in progress.
<b>NSPCL</b> (NTPC-SAIL Power Co. Pvt. Ltd.)	Steel Authority of India Ltd. (SAIL)	A 50:50 Joint Venture Company between NTPC and SAIL, owns and operates captive power plants for SAIL at Durgapur (120 MW), Rourkela (120 MW) & Bhilai (74 MW) and Bhilai PP-III (2X250 MW), which is supplying power to SAIL, Chhattisgarh, DNH and D&D. Its present installed capacity is 814 MW. Captive power plants (314 MW) recorded generation of 2359.40 MUs at 85.54 % PLF in FY 2015-16. Bhilai (2 x 250 MW) recorded a Generation of 3549.64 MUs at 80.82 % PLF in FY 2015-16. New Coal based Capacity Addition by NSPCL is presently being pursued at the following locations i.e. Rourkela PP-II Expansion (1 x 250 MW) under construction, Durgapur PP-III (2 x 20 MW), Bhilai PP-III, Stage-II (1 x 250 MW/2 x 250 MW) under bidding. Solar Power Plants of 200 MW capacity at various plant locations of SAIL is also being pursued. Solar Power Plant of 50 MW capacity is being implemented in the first phase. NSPCL has paid dividend of ₹ 60 Cr. to NTPC in FY 2015-16



Name of Company	JVPartner (s)	Details
<b>NTECL</b> (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, Tamilnadu. All the units have been declared on commercial operation. Total generation of NTECL during FY 2015-16 was 7711.776 MUs at 58.53% PLF.
<b>APCPL</b> (Aravali Power Company Pvt. Ltd.)	Indraprastha Power Generation Co Ltd. (IPGCL) and Haryana Power Generation Co Ltd. (HPGCL).	This JVC is operating (3X500 MW) coal based Indira Gandhi Super Thermal Power Project. NTPC, IPGCL and HPGCL have contributed equity in the ratio of 50:25:25. Total generation of APCPL during FY 2015-16 was 5798.185 MUs at 44.01% PLF. APCPL has paid dividend of ₹63.48 crore to NTPC in FY 2015-16
<b>MUNPL</b> (Meja Urja Nigam Pvt. Ltd.)	Uttar Pradesh Rajya 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.
<b>NPGL</b> (Nabinagar Power Generating Company Pvt.Ltd.)	Bihar State Power Generation Company Limited (erstwhile BSEB)	A 50:50 JVC is setting up a (3x660 MW) Coal based plant at Nabinagar. Construction activities are in progress.
<b>RGPPL</b> (Ratnagiri Gas and Power Pvt. Ltd.)	GAIL, ICICI Bank, SBI, IDBI, Canara Bank and MSEB Holding Co. Ltd.	NTPC has a stake of 25.51%. Total 19 LNG Cargos were unloaded during FY 2015-16. PPAs have been signed by RGPPL with Central Railways (250 MW in the State of Maharashtra), West Central Railways (200 MW in the State of Madhya Pradesh), Western Railways (90 MW in the State of Gujarat) and South Eastern Railways (80 MW in the State of Jharkhand) based on allocation of 620 MW of RGPPL Power to Railways. RGPPL started generation of 250-270 MW (gross) on 26.11.2015 under PSDF scheme of GoI and supplied to Railways in the state of Maharashtra. Power flow to other divisions of Railways started w.e.f 09.01.2016 in Gujarat, w.e.f 17.01.2016 in Jharkhand and w.e.f 22.01.2016 in MP. With this, RGPPL started supplying around 500 MW power to Railways w.e.f 22.01.2016. Maharashtra and Gujarat have issued notification for waiver of STU transmission charges and losses. Notification by Jharkhand and Madhya Pradesh is awaited. RGPPL Board had approved the proposal for demerger of power & LNG Blocks into separate Companies.
<b>ASHVINI</b> (Anushakti Vidhyut Nigam Ltd.)	Nuclear Power Corporation of India Ltd. (NPCIL)	NTPC is having a stake of 49%. The company was formed for setting up nuclear power project(s). Department of Atomic Energy has permitted joint venture of two CPSEs to set up Nuclear Power Project, due to change in definition of Government Company under Atomic Energy (Amendment) Act, 2015.
<b>PVUNL</b> (Patratu Vidyut Utpadan Nigam Limited)	Jharkhand Bijli Vitran Nigam Limited (JBVNL)	PVUNL has been incorporated on 15.10.2015 as a subsidiary of NTPC 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 further expand capacity of Patratu Thermal Power Station, District Ramgarh, Jharkhand in two phases i.e. Phase-I (3X800 MW) and Phase -II (2X800MW). Government of Jharkhand has issued the Notification dated 01.04.2016 for transfer of assets of Patratu Thermal Power Station to Patratu Vidyut Utpadan Nigam Limited.
<b>Pan-Asian</b> (Pan-Asian Renewables Private Limited)	Asian Development Bank and Kyuden International Cooperation	Pan-Asian was incorporated to develop projects portfolio of about 500 MW of renewable power generation resources in India. As it could not find third investor in spite of great efforts, as such the company is under voluntary winding up.



## 7.6 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 have been declared commercially operational on 18.07.2015. Since then the project is running successfully.

**B. Tapovan Vishnugad HEPP (4x130 MW)** is on River Dhauliganga, District Chamoli (Uttarakhand). Project is under construction with approximately 70% work completed. After completion of 7.65 km out of 12.08 km of Head Race Tunnel (HRT), the contract was terminated on 09.01.2014. Award of balance works of HRT placed on 09.03.2016. Construction of Barrage, Switchyard and Electro-Mechanical & Hydro-Mechanical works are in progress.

**C. Lata Tapovan HEPP (3x57 MW)** is just upstream of Tapovan-Vishnugad HEPP. 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 MOEF 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 and informed the Court that Lata - Tapovan Project must be implemented. The matter is still to be decided by the Supreme Court.

For National Board of Wild Life (NBWL) Clearance for Tapovan- Vishnugad and Lata Tapovan HEPPs, the proposal regarding redefining of Eco Sensitive Zone was discussed in Uttarakhand State Cabinet Meeting and shall be forwarded for MOEF&CC, GOI for its approval.

**D. Rammam-III HEPP (3x40MW)** This project is situated on river Rammam in Teesta Basin, Darjeeling (West Bengal). Civil works of Barrage, Power House, HRT& S/Y are in progress. The river has been diverted through a diversion channel and the work in the river bed has been started for construction of Barrage.

## 7.7 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.

### 7.7.1 Under Green Energy Commitment:

Your Company has committed to develop 10 GW of Renewable Energy Projects under green Energy Commitment to Govt. of India.

Your Company has already commissioned 310 MW of solar projects as on 30<sup>th</sup> June 2016. 560 MW Solar Power Projects are under execution which includes Mandasaur Solar (250 MW), Bhadla Solar (260 MW) and Anantpur Solar (50 MW).

NITs have been issued for 1,750 MW of Solar PV projects to be set up in the states of Andhra Pradesh and Karnataka.

### 7.7.2 National Solar Mission:

Your Company has been entrusted to develop 15 GW Solar PV through National Solar Mission (NSM) Phase-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, 3000 MW of Solar PV capacity upto 2016-17 has been planned. NITs for 3,000 MW of Solar PV capacity to come up in the states of Andhra Pradesh, Rajasthan, Karnataka, Telangana and Uttar Pradesh have been issued and awards placed for 2,520 MW projects till 30<sup>th</sup> June 2016. The developers have been selected through reverse auction.

## 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 and 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 was incorporated to foray into the business of distribution and supply of electrical energy as a sequel to reforms initiated in the power sector. The Company was implementing Rajiv Gandhi Gramin Vidyutikaran Yojna (RGGVY) projects on turnkey basis and undertaken turnkey execution of sub-stations for utilities and project management consultancy.

The shareholders of NESCL have transferred existing business of deposit and consultancy works under RGGVY from NESCL to NTPC on 01.04.2015.

This subsidiary had also dis-associated with the business of retail distribution of power in various industrial parks developed by Kerala Industrial Infrastructure Development Corporation (KINFRA), through its Joint Venture Company namely KINESCO Power and Utilities Private Limited, as the future prospects of the JV Company are bleak. The shares held by NESCL had been purchased by KINFRA on 17.12.2015 and thus NESCL had ceased to be the joint venture partner of KINESCO.

**8.2.2 NTPC Vidyut Vyapar Nigam Limited (NVVN)**, a wholly owned subsidiary is involved in power trading.

During the year 2015-16, the Company transacted business with various State Electricity Boards spread all over the country and traded 12,766 MUs of electricity.

The Company is designated Nodal Agency for implementation of Jawahar Lal Nehru National Solar Mission Phase-I by purchasing and selling of grid connected bundled solar power across the country.

NVVN has also been designated as the nodal agency for cross border trading of electricity with Bhutan, Bangladesh and Nepal.

PPA was signed on 15.02.2016 between NVVN and Nepal Electricity Authority (NEA) for supply of upto 80 MW power from Feb to Jun 16 through 400 KV Muzaffarpur-Dhalkabar transmission line. Power supply to NEA started on 18<sup>th</sup> Feb 2016.

NVVN has paid dividend of ₹ 20 Crore to NTPC in FY 2015-16.



**8.3** The details of other joint venture companies 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 ₹ 5 Cr. to NTPC in FY 2015-16.
NASL (NTPC ALSTOM Power Services Pvt. Ltd.)	ALSTOM Power Generation, AG (ALSTOM)	Takes up renovation and modernization assignments of power plants both in India and in other SAARC countries. NASL has paid dividend of ₹ 0.6 Cr. To NTPC in FY 2015-16. R&M including RLA work orders are under execution. Bids have also been submitted for other work orders. Due to acquisition of thermal power business of Alstom by GE, NTPC's consent & waiver on certain clauses of Shareholder's Agreement are required. Matter is under discussion with GE.
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. The Company is working on Energy Audit of Buildings Perform Achieve Trade (PAT) Scheme work and standard & labeling work of BEE, consultancy work, implementing Bachat and agricultural & municipal pump replacement for various State Govts. The Company has paid dividend of ₹ 67.95 lacs for 2014-15 to your Company.
NHPTL (National High Power Test Laboratory Pvt. Ltd.)	NHPC, PGCIL, DVC and CPRI	The Company is setting up High Voltage Transformer (HVTR) Lab and Medium Voltage Transformer (MVTR) Lab at Bina, M.P. for short circuit testing of Transformers upto 765 KV. Installation of 100KV isolator Matrix structure in MVTR is in progress.

Name of Company	JV Partner	Activities Undertaken
NPEX (National Power Exchange Ltd.)	NHPC, PFC, TCS, BSE, IFCI, Meenakshi, DPSC	The Company was formed to facilitate, promote, assist, regulate and manage nationwide trading of all forms of electrical energy and also to settle trades in a transparent fair and open manner. In view of the change in market scenario and the fact that NTPC's objective of joining NPEX has not been met till date, the Company is being voluntary wound up.
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 Company has developed manufacturing facility at Mannvaram.
(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. The proposal is awaiting clearance from Ministry of Power.
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.
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, NTPC 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 by NTPC.





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.
HURL (Hindustan Urvarak & Rasayan Limited)	Coal India Limited (CIL)	HURL was incorporated on 15.06.2016 with Coal India Limited in which each NTPC and CIL shall hold 50% in the equity of the Company. It has been formed for taking up revival of fertilizer plants of Fertilizer Corporation of India Limited at Sindri, Jharkhand and Gorakhpur, Uttar Pradesh by setting up ammonia urea plant at each location.

## 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 coal based electricity generating station of (2X250 MW) capacity at Trincomalee at Sri Lanka. EIA clearance was granted by Central Environmental Authority (CEA) on 02.02.2016 with some specific conditions. However, Secretary, Ministry of Power & Renewable Energy, Govt. of Sri Lanka (GoSL) has requested Secretary (Power), Gol, to form a Joint Working Group to explore the possibility of changing fuel source of Power Project from Coal to LNG.

**9.2 Bangladesh-India Friendship Power Company Private Limited**, a 50:50 joint venture Company between NTPC 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 had been awarded to BHEL. Other activities are also in progress. An MoU has been signed with Bangladesh Shipping Corporation (BSC) on 24.01.2016 to explore the possibility of BSC taking up part/full coal logistics for the Project.

## 10. CONSULTANCY SERVICES

Consultancy Wing of your Company offers services like Engineering, Operation & Maintenance Management, Project Management, Contracts & Procurement Management, Quality Management, Training & Development etc.

These services have been provided in international markets in Gulf countries, Bangladesh, Nepal, Sri Lanka and Bhutan.

On international front, Consultancy Wing has been associated with Trincomalee Power Company Ltd. As Owners' Engineer for setting up their (2x250 MW) Coal Based Power Project. It is also providing O&M Management

Services to (2X120 MW) Siddhirganj Peaking Power Plant of Electricity Generation Company of Bangladesh under a World Bank funded contract.

On the domestic front, Consultancy Wing has been effectively sharing its expertise with State, Central PSUs and other clients. This includes Owners Engineer Services to The Singareni Collieries Company Limited for their coal based power project in Adilabad district, Telangana and Project Monitoring Services to MPPGCL for (2x600MW) Shree Singaji TPP & (2x250MW) Satpura TPP by deputing NTPC experts at site.

## 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

**13.1** During the year, the supply position of coal and gas is given as under:

### 13.1.1 Coal Supplies

Your Company has entered into long term Fuel Supply Agreement with Coal India Limited (CIL) and The Singareni Collieries Company Limited (SCCL) for total Annual Contracted Quantity (ACQ) of 152.978 MMT & 11.2 MMT respectively. The total ACQ of 164.2 MMT of coal from CIL & SCCL is signed for 33,515 MW units already commissioned/ to be commissioned.



The Company also had a short-term Memorandum of Understanding (MOU) with SCCL for supply of 3.5MMT of coal for Ramagundam, Simhadri and Kudgi (start-up coal) stations for supply till March 2016. Short-term MOU for one year had been signed with Eastern Coalfields Limited (ECL) for supply of 5.5 MMT of coal. Another short term MOU signed with Northern Coalfields Limited (NCL) in 2014-15, was extended till 31.03.2016, for supply of balance 2.0 MMT of coal to enhance coal supply to non NCL linked stations as per requirement. The coal supplies for 2016-17 is tied up mainly through FSA and supplemental through MOU/ e-auction alongwith balance quantity or imported coal of last year.

During the year under review, your Company had made coal tie-up for Barh Stage-II (2X660MW) units through MOU with CCL and ECL for 6.66 MTPA of coal at notified price, which helped stations to eliminate usage of costly coal thereby bringing down the cost of generation. Your Company was also allocated bridge linkages by Special SLC (LT) for Barethi (4X660MW), Barh -II (2X660MW), Darlipalli (2X800MW), Tanda -II (2X660MW), Lara -I (2X800MW), Kudgi -I (3X800MW) and Bilhaur (2X660MW) projects. Your Company was issued Letter of Assurance for tapering coal linkage for Telangana Phase-I (2X800MW) by WCL.

### 13.1.2 Domestic Coal and Imported Coal

During 2015-16, your Company received 161.8 MMT of coal as against 167.4 MMT in 2014-15 marking a decrease of 3.3%.

Total domestic coal supply during 2015-16 was 152.3 MMT as against 151.1 MMT during 2014-15. Out of 152.3 MMT of coal, 145.2 MMT was from Annual Contracted Quantity of coal.

The total coal supply from CIL was 138.5 MMT and from SCCL was 13.8 MMT. 6.3 MMT of coal was procured through MOU during 2015-16.

During 2015-16, your Company imported 9.7 MMT (including SWAP) of coal as against 16.4 MMT in 2014-15. Sipat station received 0.53 MMT of domestic coal against swapping of imported coal with GSECL.

During the year under review, approx. 57.2% of coal (domestic and international) was transported through merry-go-round (MGR) system of your Company.

### 13.1.3 Sourcing of coal through E-auction

Your Company participated in one e-auction for Vindhyachal, Stage-V in the year 2015-16 and approx. 1.88 LMT of coal had been allocated. Total coal received through e-auction was 0.29 MMT during 2015-16 as compared to 0.94 MMT during 2014-15.

### 13.1.4 Supply through Inland Waterways

During 2015-16, about 0.716 MMT imported coal has been supplied through inland waterways to Farakka station under a Tripartite Agreement with IWAI and service provider.

### 13.1.5 Rationalisation of Linkage

With the initiatives of Ministry of Power and Ministry of Coal, Inter-Ministerial Task Force has recommended rationalization of linkage for optimization of transportation cost and de-congestion of railway network. In this respect, your Company has rationalized the linkage of Ramagundam and Simhadri during 2015-16. For Ramagundam, amendment to FSA was signed on 21.01.2016 with SCCL for ACQ of 11.2 MMT (previous ACQ-10.2 MMT) in lieu of FSA with MCL and SECL for ACQ of 0.5MMT each for Simhadri reducing ACQ with MCL from 9.82 MMT to 8.32MMT and corresponding quantity of 1.5MMT rationalized for ECL. Estimated annual saving in transportation cost taking Ramagundam and Simhadri together is around ₹ 35.95 crore.

### 13.1.6 Swapping of coal with GSECL

Under swapping agreement with GSECL, Sipat station has received around 0.53 MMT of SECL coal with saving of around ₹ 50 crore on account of railway freight.

### 13.1.7 Commencement of third party sampling, CIMFR

In the meeting held under the Chairmanship of Hon'ble Minister of State (I/c) for Power, Coal & NRE on 28.10.2015, tripartite MOU between NTPC, CIL and CSIR-CIMFR was finalized for sampling and analysis at loading end. Member Power Utilities and CIMFR had also finalized the bilateral MOU between Power Utility and CIMFR for sampling and analysis at unloading end. These tripartite and bilateral MOUs have been signed.

Commercially binding bilateral and tri-partite agreements between NTPC, CIL and CSIR-CIMFR have been signed on 12<sup>th</sup>- 13<sup>th</sup> July 2016 based on the above mentioned MoUs to enable CIMFR to start sampling and analysis in a phased manner.

CIMFR has started sampling at the loading points at NCL (Jayant, Amlori, Dudhichua and Nigahi) supplying coal to Singrauli, Rihand and Vindhyachal; SECL (Gevra and Dipika) supplying coal to Korba and Sipat, MCL (Lingraj and Kaniha) supplying coal to Talcher-Kaniha and WCL (New Majiri) supplying coal to Mouca with their own resources and facilities from NTPC and the coal companies. For other cases, CIMFR will be taking up sampling & analysis activities in phases.

This will help your Company in reducing the cost of generation as CIMFR can ensure that the grade billed by coal companies is actually supplied to stations of the Company.

### 13.2 Gas supplies

During 2015-16, your Company received 5.20 MMSCMD of gas and RLNG as against 6.41 MMSCMD received during 2014-15. The gas off-take in 2015-16 included 4.92 MMSCMD of domestic gas, 0.06 MMSCMD of long-term/ spot RLNG and 0.22 MMSCMD of e-bid RLNG. Gas off-take was less due to less availability of generation schedule on RLNG from the beneficiary Discoms.

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 India Limited. The agreement for non-APM gas with GAIL is valid till November, 2016 and is likely to be extended further.

Further, Government of India came out with a unique scheme of 'Utilisation of Gas Based Generation Capacity' wherein RLNG was allocated in reverse e-bidding with discounts/ tax waivers and with Power System Development Fund (PSDF) support from GOI. Your Company participated in Phase-II bidding under the scheme and successfully won and utilised the allocated e-bid RLNG equivalent to ~90MW in Dadri and Auraiya gas stations for the period of October 2015 to March 2016.

For additional gas requirement over and above the supplies under long-term domestic gas/ RLNG agreements, your company has been making arrangements for tie-up and supply of spot RLNG from domestic suppliers on 'Reasonable Endeavour' basis based on requirement and availability from time and time. There has been no generation loss on account of lack of availability of gas/ RLNG during the year.

### 13.3 Development of Coal Mining projects

Your Company had been allocated eight coal blocks, namely, Pakri-Barwadih, Chatti-Bariatu, Kerandari, Talaipalli, Dulanga, Banai, Bhalumuda and Mandakini-B by the Government of India. In addition, Government of India has also allocated Kudanali-Luburi coal block jointly to your company and J&K



State Power Development Company Limited (J&KSPDCL), with NTPC's share of coal reserves in this block being two-third. Joint Venture Agreement had been signed between NTPC and J&KSPDCL on 15.06.2015 for formation of 67:33 joint venture company for exploration, development and operation of the coal block.

Similarly, Banhardih coal block, allocated earlier to Jharkhand Urja Utpadan Nigam Limited, has now been allocated to Patratu Vidyut Utpadan Nigam Limited, a subsidiary company incorporated between NTPC and Government of Jharkhand.

With about 7 billion metric tonnes of geological reserves estimated from our own eight coal blocks, altogether your Company expects to produce about 107 Million Metric Tonnes of coal per annum.

In Pakri-Barwadih mining operations have commenced from the western quarry with effect from 17.05.2016. Mining operation is also expected to start from the eastern quarry of this block shortly, after MOEF&CC issues the amendment to the environment clearance. For coal transportation from Pakri-Barwadih, Bandag-Hazaribagh' Railway siding, funded by NTPC, is now operational with commencement of coal transportation from CCL's Amarपाली block to Barh Power Station of company.

Your Company has progressed well in other coal blocks too. Subsequent to the issuance of Allotment orders by Ministry of Coal, Government of India, forest clearance for Dulanga Coal Block has been accorded by MOEF&CC on 23.12.2015. NITs have been published for appointment of Mine Developer-cum -Operator (MDO) for Talaipalli, Dulanga and Chatti-Bariatu coal blocks and techno-commercial bids have been received.

After completion of detailed exploration in Banai coal block, Geological Report (GR) has been received from CMPDIL on 13.04.2016 and is now under approval at Ministry of Coal. For Bhalumuda coal block, detailed exploration has been completed and draft GR is under finalization by CMPDIL. For Mandakini-B coal block, Company has awarded a contract to CMPDIL for carrying out detailed exploration and for preparation of GR and drilling activities have commenced.

Your company has initiated the process for acquisition of mining area land in these three new blocks i.e. Banai, Bhalumuda and Mandakini-B.

The joint venture company, namely, CIL NTPC Urja Private Limited, formed with Coal India Limited, is exploring development and operation of washery reject-based FBC power plants near upcoming/ existing coal washery of Coal India Limited.

#### 13.4 Exploration Activities

In Cambay exploration block (CB-ONN-2009/5), held by your Company, as operator with 100% participating interest, drilling of all seven exploratory wells have been completed and testing of wells is in progress.

In the KG basin exploration block viz. KG-OSN-2009/4 where ONGC is the operator and NTPC has 10% stake, the exploration activities are in progress and ONGC has submitted a proposal to the Government of India for reduction in minimum work programme as the permitted area of the block for exploration has been reduced because of non-grant of defence clearance.

The other KG basin exploration block viz. KG-OSN-2009/1 and the Andaman basin exploration block viz. AN-DWN-2009/13, where ONGC was the operator and NTPC had 10% stake, had been relinquished to Government of India as per the advice from Operator (ONGC).

#### 14. BUSINESS EXCELLENCE: GLOBAL BENCHMARKING

To achieve higher levels of excellence, your company has developed and adopted its own 'Business Excellence Model' on the lines of globally reputed Excellence Models such as Malcom Baldrige Model, USA and EFQM Model of Europe.

This model has been deployed at our Business Units (Stations) and your Company carries out assessment of generating stations using this framework of excellence.

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

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

In the financial year 2015-16, the 6<sup>th</sup> cycle of assessment was completed in which 21 generating stations were assessed by a team of certified and proficient assessors. Business Excellence Awards for Best Performance to Ramagundam and motivational awards to Sipat and Talcher-Kaniha stations were presented by the Union Minister of Power, GOI, in the Indian Power Stations Conference- 2016 held at New Delhi.

Contemporary quality initiatives and techniques like Quality Circles, Professional Circles, 5S, integrated management system (IMS) etc have been deployed across the organization for continuous improvement. Our Quality Circle teams of workmen have been consistently representing your Company at national and international Quality Circle conventions and bringing many laurels. In the year 2015-16, Aqua Quality Circle from Rihand station represented your Company in the International Convention of Quality Control Circle (ICQCC-2015) held at Changwon, South Korea.

#### 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 for the purpose of life extension of units, performance improvements, availability and reliability improvement and improved environment compliance. 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.

Keeping in view the ageing of the fleet over the years, investment approval accorded till date for R&M in 19 stations (Coal & Gas based) is ₹11,148.80 crore. As against this, cumulative expenditure till 31.03.2016 is ₹ 6,794.36 crore. Out of this, R&M capital expenditure in the financial year 2015-16 was ₹ 924.37 crore

With a view to removing technological obsolescence, renovation of control & instrumentation (C&I) has been taken up in 9 stations at Singrauli-I (5X200MW) & Singrauli -II (2X500 MW), Korba -I (3X200MW) & Korba -II (3X500 MW), Ramagundam -I (3X200MW) & Ramagundam -II (3X500MW), Farakka-II (2X500 MW), Dadri Thermal- I (4X210MW), Unchahar- I (2X210MW), Talcher STPS-I (2X500MW), Kahalgaon-I (4X210 MW) and Rihand - (2X500 MW). During 2015-16, C&I R&M was completed in one 500 MW unit of Singrauli, (3X200 MW) and (3X500 MW) units of Korba, two 200 MW units and three 500 MW units of Ramagundam, four units of 210 MW of Dadri Thermal, two units of 210 MW of FGUTPS, both 500 MW units of Talcher STPS, 500 MW unit of Farakka, one 210 MW unit of Kahalgaon and



one 500 MW unit of Rihand and one 500 MW unit of Talcher STPS. On completion of these schemes, C&I systems in these stations have now been brought nearly on par with the new builds.

Owing to very high operating temperatures, R&M of Gas Turbines including their Control & Instrumentation is essential after around 15 years of life. By 31.03.2016, this activity was completed in all 4 Gas Turbines (GT) each in Kawas and in Auraiya and all 3 GTs in Gandhar. R&M activity for GT, C&I, ST, WHRB in Anta, Auraiya and R&M of GT in Gandhar, R&M of C&I systems for Dadri gas is in progress.

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, for reducing particulate emission levels from generating stations, Renovation and Retrofitting of Electrostatic Precipitator (ESP) packages have been awarded and work is in progress in Singrauli-I & II (5X200MW+2X500MW), Farakka-I (3X200MW), Unchahar-I (2X210MW), Korba-I & II (3X200MW+3X500MW), Rihand-I (2X500MW), Vindhyachal-I & II (6X210MW+2X500MW), Talcher STPS -I & II (2X500MW+4X500MW) and Talcher TPS-II (2X110MW). During 2015-16, ESP R&M of two units of 210MW and two units (2X210MW) of Badarpur, one unit each of Talcher (110MW) and Rihand (500MW) has been completed. Moving Electrode Electrostatic Precipitator (MEEP) technology is being adopted for the first time in the country in Rihand Stage-I (Unit#1) and work is in advanced stage.

To derive benefits of the latest advancements in technology, in cooperation with CEA, EEC/VGB/ Steag Germany, a study has been taken up on ESP performance improvement using CFD modeling in Unit#6 (500MW) of Ramagundam. CFD modeling is completed and are planned for implementation. In yet another initiative, under the aegis of Ministry of Power, RLA of Unit#3 of 210 MW of Dadri Thermal station was done by JCOAL and draft report has been submitted by them. This is an identified activity under the ongoing CEA-JCOAL cooperation as per India-Japan Energy Dialogue (JED).

## 16. HUMAN RESOURCE MANAGEMENT

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 reduction of Man-MW ratio year after year. The over-all Man-MW ratio for the year 2015-16 excluding JV/subsidiary capacity is 0.55 and 0.51 including capacity of JV/ Subsidiaries. Generation per employee was 11.19 MUs during the year based on generation of NTPC stations.

The total employee strength of the company (including JV/ subsidiary) stood at 23,133 as on 31.3.2016 against 24,067 as on 31.3.2015.

	FY 2015-16	FY 2014-15
<b>NTPC</b>		
Number of employees	21,633	22,496
<b>Subsidiaries &amp; Joint Ventures</b>		
Employees of NTPC in Subsidiaries & Joint Ventures	1,500	1,571
<b>Total employees</b>	<b>23,133</b>	<b>24,067</b>

The attrition rate of the NTPC executives (including Executive Trainees and those posted in Subsidiaries and JVs) during the year was 1.05%.

### 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 other's efforts in furthering the interest of your company as well as its stakeholders, signifying and highlighting over-all harmony and cordial employee relations prevalent in your Company.

### 16.3 Safety and Security

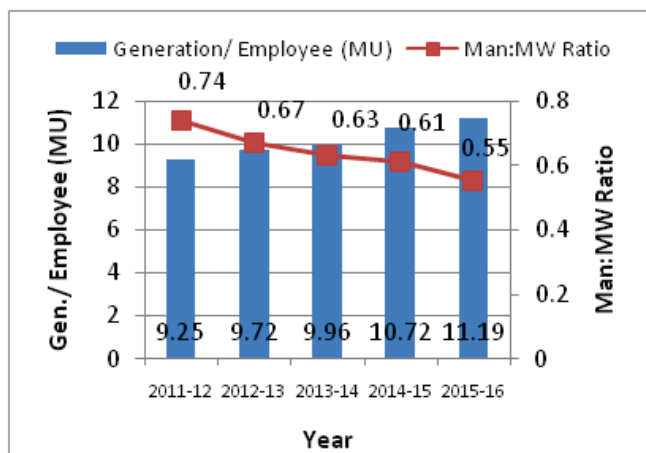
Occupational Health and safety at workplace is one of the prime concerns of Company Management and utmost importance is given to provide safe working environment and to inculcate safety awareness among the employees. Your company has a 3-tier structure for Occupational Health and Safety management, namely at Stations/ Projects, at Regional Head Quarters and at Corporate Centre. Safety issues are discussed in the highest forum of management like Risk Management Committee (RMC), Management Committee Meeting (MCM), ORTs, PRTs etc.

All of your Company's stations are certified with OHSAS-18001/IS-18001. 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.

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. 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.

**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 MHA. 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

As the power leader of India, your Company has also always endeavoured to be in the forefront of creation and dissemination of knowledge. Its sustained performance leadership has, to a large extent, been achieved on the platform of comprehensive training and development programs for its employees. A large number of professionals from other organizations in the power sector have also benefitted immensely from the training and development programs of your Company. Many organisations in the country adopt practices and systems developed by the Company.

The learning activities are being driven by a comprehensive infrastructure comprising Power Management Institute (PMI) at the corporate level and Employee Development Centers (EDCs) at sites providing learning on management, technical competencies and leadership. At the foundation of the learning structure are the EDCs at Projects and Stations. EDCs take care of training requirements of non-executives and junior level executives at projects and stations. The training requirements of middle and senior level executives are catered to by PMI, the apex learning centre of your Company. This learning grid enables us to provide learning solutions for practically every aspect of the power value chain, covering the strategic, tactical and operational facets right down to the shop floor.

##### Initiatives taken by PMI:

- (i) During 2015-16, PMI conducted almost 400 training programmes covering nearly 7,700 professionals, logging a total of approximately 26,000 training mandays.
- (ii) Post Graduate Certificate in Project Management (PGCPM) programme in collaboration with IIM-Indore for developing long term project management competency. Under this initiative, executives from public and private sector utilities/companies from various States have been given skill based training to augment their capacity addition programmes.
- (iii) One week exposure at Wharton School in June-July, 2015 under the programme Strategic Management Initiative for Leadership Effectiveness (SMILE), after a 3 days intervention in New Delhi for top management group of 22 General Managers and Executive Directors of NTPC to revitalize their perspective and re-align their strategic orientation for sustainable leadership practices.
- (iv) Special programs on Enterprise Risk Management for senior level executives.
- (v) Total 6 weeks' duration programme during July-October, 2015 for ABB at Abu Dhabi on Power Plant Operation and Simulator Training for Combined Cycle Gas Power Plant.
- (vi) Conducted 62 training programs through Web

conferencing platform at workstations during 2015-16.

- (vii) Developed 20 e-learning packages for end users of ERP-SAP.
- (viii) Conducted several customized training programmes for the benefit of various State utilities, CPSEs and private sector companies. In all, 1,084 participants from other organizations got trained at PMI during 2015-16.
- (ix) Opened "NTPC School of Business" for running 15 months flagship program titled "Executive Post-Graduate Diploma in Management" (EPGDM) from August 2015.
- (x) Implementing skill development initiatives of NTPC for the country's youth as a nodal agency. Till now, your Company has adopted 18 ITIs and set up 8 new ITIs near its power stations, thus associating with total 26 ITIs. These initiatives by your Company resulted in creation of total 1,831 new seats by starting of new trades/units. Cumulatively, a total of 26,448 students benefitted from this initiative till 31.03.2016. For these ITI students, your Company organised 47,992 mandays of industrial training/plant visits. These skill development initiatives resulted in your Company being conferred the ASSOCHAM "Award for Vocational Training 2015-16".
- (xi) Your Company has partnered with the Ministry of Skill Development and Entrepreneurship, Government of India, to contribute in realising the vision of "Skill India".
- (xii) 10 new programs on Safety have been introduced in PMI's Training Calendar for 2016-17.
- (xiii) A number of programs for establishing Solar and Wind energy projects and for protection of Environment have been added.

#### 17. SUSTAINABLE DEVELOPMENT (SD)

Your company has adopted the 'triple bottom-line' approach, recognising 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 our Company's performance. It has served as an important management tool helping us re-look at our Company's systems, policies and procedures.

Your company has developed a policy and in accordance with a Sustainable Development Plan prepared for FY 2015-16. The main focus area of Sustainable development Plan covers waste management, water management, bio-diversity, promotion of renewable energy. Major activities carried out under this plan included plantation of trees in and around NTPC, installation of rooftop of Solar PV on public utilities buildings and on schools, installation of solar powered pump, rain water harvesting, rehabilitation of water bodies, installation of air quality monitoring systems in major cities, studies on impact assessment and carrying capacity river basin. A major activity for conservation of Olive Ridley Sea Turtles has been taken up.

Business Responsibility Report is attached as Annex-X and forms part of the Annual Report.

A total expenditure of ₹ 33.85 Crore was incurred on these SD projects during Financial Year 2015-16.



## 17.1 Inclusive Growth -Initiatives for Social Growth

### 17.1.1 Corporate Social Responsibility (CSR):

Your 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.

Focus areas of CSR & Sustainability activities are Health, Sanitation, Drinking Water, Education, Capacity Building, Women Empowerment, Social Infrastructure Development, support to Differently-abled Person and activities contributing towards Environment Sustainability. During the year special thrust has been given to the “Swachh Vidyalaya Abhiyan” making available about 29,000 toilets in government schools for the benefit of students, especially girl children, covering 82 Districts in 17 States across the country.

Your Company spent ₹ 491.80 Cr during the financial year 2015-16 towards CSR initiatives. Amount spent i.e. ₹ 491.80 Cr includes unspent amount of ₹ 78.30 crore for the year 2014-15.

### 17.1.2 NTPC Foundation

NTPC Foundation 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 Persons (PAPs). In order to meet its social objectives, your Company is focusing on effective R&R of PAPs and undertaking community development activities in and around the projects.

R&R activities are initiated at projects by undertaking need based community development activities in the area of health, education, water, capacity building infrastructure etc by formulating ‘Initial Community Development (ICD) Plan in consultation with concerned Panchayat, district administration and opinion makers of the locality. Company addresses R&R issues in line with its R&R Policy with an objective that after a reasonable transition period, the conditions of affected families improve or at least they regain their previous standard of living, earning capacity and production levels. As per the Policy, a detailed Socio-economic Survey (SES)/other Survey is conducted by a professional agency to create a baseline data of PAPs. This follows formulation of a ‘Rehabilitation and Resettlement (R&R) Plan’ after adequate consultation with stakeholders in ‘Village Development Advisory Committee (VDAC)’, which comprises representatives of PAPs, Gram Panchayat, your Company and District Administration. R&R Plan consists of measures for rehabilitation, resettlement and need based community development activities.

R&R plan expenditure is implemented in a time bound manner so as to complete its implementation by the time the project is commissioned. A social impact evaluation is being conducted by a professional agency to know the efficacy of R&R Plan implementation for future learning and improvements.

#### 17.1.4 R&R achievements during the year:

##### ➤ ‘Initial Community Development (ICD) Plan:

- ICD Plan provision for Pudimadaka project enhanced.
- Implementation of earlier approved ICD activities

continued at Bilhaur project.

##### ➤ Rehabilitation and Resettlement (R&R) Plan:

- R&R Plans for Vindhychal-V and Rammam-III covering R&R obligations and community development facilities in the area of Health, Education, Sanitation, Drinking water, Infrastructure facilities finalized in consultation with stakeholders and approved.
- R&R Plan provisions for Lara project enhanced to take care of additional requirement for IIIT, Raipur and for Darlipalli to take care of additional requirement for Sundargarh Medical College & Hospital.
- R&R 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, Unchahar-IV, Vallur, Vindhychal-IV, Hydro projects at Koldam, Lata-Tapovan, Tapovan-Vishnugad and Coal Mining Projects at Pakri-Barwadiah, Chhatti-Bariatu, Kerendari, Dulanga and Talaipalli wherein R&R Plans/packages were finalized in consultation and participation of the stakeholders and approved earlier as well as at Rammam-III and Vindhychal-V projects where the R&R Plans have been approved during the year.

##### ➤ Socio-economic Survey (SES)/ Need assessment Survey (NAS)/ Census and Survey (C&S):

- SES for Katwa, Meja railway siding and NAS for Pudimadaka completed. SES for Talcher-Thermal and C&S for Khargone railway siding is under progress.

##### ➤ Focus on Health:

- For the benefits of project affected persons and neighbouring population ‘Mobile Health Clinic’ under R&R provisions at Kudgi, Nabinagar (NPGCL), Pakri-Barwadiah and Nabinagar (BRBCL) projects started earlier continued during the year.

## 17.2 Environment Management – Initiatives for preserving Environment

### Vision Statement on Environment Management:

“Going Higher on Generation, lowering GHG intensity”

Your Company has always envisaged environment protection as one of its prime responsibilities and focuses its efforts to mitigate the impact of its operation on surrounding environment. To meet the environmental challenges of 21<sup>st</sup> century and beyond, the Company has adopted sound environment management practices and advanced environment protection system to minimize impact of power generation on environment.

Your Company is undertaking massive renovation & modernization to upgrade air pollution equipments to reduce SPM emissions well below current statutory limits. It has adopted advanced and high efficiency technologies such as super critical boilers for commissioned and upcoming green field projects. Around 12-15% of the project cost is spent on various environment protection equipments such as Electrostatic Precipitators (ESPs), Liquid Waste Treatment Plants (LWTP), Ash Water Recirculation System (AWRS), dry ash extraction system, dust extraction, suppression system, ambient air quality monitoring system, flue gas conditioning system and desulphurization system etc.

Your company is augmenting its capacity by installing solar power systems and small hydel power systems attached to its thermal power stations, wherever possible, so as to encourage garnering of renewable energy resources. The These measures are aimed not only to achieve reduction in pollution and minimize use of precious natural resources but also to lead to reduction of CO<sub>2</sub> emissions per unit of generation thereby reducing global warming.



### 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 limits. All up-coming new plants are being provided with ESPs designed in such a manner that would cater to the notified future stringent norms. Performance enhancement of ESPs operating over the years is being carried out by augmentation of ESPs fields, retrofitting of advanced ESP controllers and adoption of sound O&M practices. Flue Gas Conditioning systems have also been provided at our old units which are helping in reduction of SPM emissions below statutory limits even during coal quality variations due to blending of coal etc.

NO<sub>x</sub> control in coal fired plants is achieved by controlling its production by adopting best combustion practices (primarily through excess air and combustion temperatures controls). Over and above this, since tall stacks are provided in coal stations, gases emitted through stacks is widely dispersed and diluted.

In gas based stations, NO<sub>x</sub> control systems (hybrid burners or wet DeNO<sub>x</sub>) have been provided for good combustion practices.

Fugitive emission from ash pond is controlled by maintaining water cover, tree plantation on abandoned ash ponds, water spray and earth cover in inactive lagoons. Providing dust suppression and extraction system in CHP area has further added to reduction in fugitive dust in the vicinity of power stations.

### 17.2.2 Control of water pollution and promotion of water conservation:

Various water conservation measures have been taken up to reduce water consumption in power generation by using 3Rs (Reduce, Recycle & Reuse) as guiding principle.

Provision of advanced treatment facilities such as Liquid Waste Treatment Plants (LWTP), Recycling Systems for Ash Pond Effluent called Ash Water Recirculation System (AWRS) and closed cycle condenser cooling water systems with higher Cycle of Concentration (COC), rain water harvesting wherever possible and reuse of treated sewage effluent for horticulture purposes are some of the measures implemented in most of the stations. All these measures have resulted in reduction of effluent discharge from the power plants of your Company.

In view of water stressed scenario, water conservation and reduction in water consumption per unit of generation has assumed great importance. NTPC has taken a proactive approach of making all its power stations to operate with ZLD (Zero liquid discharge) progressively in phases. Implementation of ZLD at six power plants are at various stages of implementation during this fiscal year. In addition drain separation as pre requisite to ZLD has been completed in six stations viz. Singrauli, Faridabad, Ramagundam, Talcher Super, Gandhar and Kayamkulam. This concerted effort of NTPC will not only conserve the water but also will be able to meet the requirements of recently notified environmental norm of water consumption by MoEF&CC.

### 17.2.3 Automation of environment measurement system:

All the existing power stations are equipped with continuous ambient air quality monitoring stations (AAQMS) to capture the real time data of PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub> and access thereof viz., and access has been provided to the Regulators such as Central Pollution Control Board and State Pollution Control Boards. Additional ozone analyzers for ambient air are also being provided phase-wise at the

existing stations. Continuous Emission Monitoring Systems (CEMS) to monitor emissions of SO<sub>2</sub> and NO<sub>x</sub> in all its existing units on real time basis are installed and commissioned in addition to the opacity meter installed for monitoring of particulate emission. Installation of real time monitors for pollutants in effluents (EQMS) is also completed for all its existing projects. 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

Till 7<sup>th</sup> December, 2015, the emission norms for coal based thermal power stations stipulated emission limits for particulate matter only. For the control of gaseous pollutants in ambient air, a minimum stack height was stipulated. However, MOEF&CC vide notification dated 7<sup>th</sup> December, 2015, has stipulated the emission limits for Oxides of Nitrogen, Oxides of Sulphur and Mercury also. The emission limits depend on the unit size and age of the unit and shall be applicable from 7<sup>th</sup> December, 2017. This shall require modifications in design of the power plants as well as additional pollution control systems. Your Company is designing its new power plants to comply with new norms. However, in older units, there may be constraints due to Technology being used, Space available for retrofitting and financial viability of the retrofits. The matter has been taken up with MOEF&CC and is being examined on case to case basis with respect to compliance.

### 17.2.5 Tree Plantation:

Your Company is undertaking tree plantation covering vast areas of land in and around its projects and till date about 23 million trees have been planted throughout the country.

The afforestation has not only contributed to the 'aesthetics' but also helped in carbon sequestration by serving as a 'sink' for pollutants released from the stations 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 INDC in COP 21, by planning to plant 10 million trees across the country.

### 17.2.6 ISO 14001 & OHSAS 18001 Certification:

All of your Company's stations have been certified with ISO 14001 and OHSAS 18001 by reputed National and International certifying agencies as a result of 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 & 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 addressing climate change issues proactively.

Your Company has taken several initiatives in CDM projects in Power Sector. It has gone ahead with six projects in CDM foray. 8MW Small Hydro Power Project at Singrauli, 5MW each solar PV projects at Dadri, Port Blair (Andaman & Nicobar) and Faridabad solar power projects had already been registered with UNFCCC CDM Executive Board with estimated annual Certified Emission Reductions (CERs) potential of approx 68,000. Another two projects i.e. 50 MW Solar PV plant at Rajgarh (MP) and 10 MW Solar PV Project at Unchahar are in advanced stage of registration with estimated annual CERs potential of approx. 88,000.

#### 17.5 Ash Utilisation

During the year 2015-16, 588.28 lac tonnes of ash was generated and 41.35% viz. 243.23 lac 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.

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 Utilisation 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 2015-16 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 CO<sub>2</sub> avoided is 43.6 million ton 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 aberrations and draft power consumption are monitored using PI based real time programs and dashboards. These programs assist operating engineers in tracking the gaps in heat rate and auxiliary power consumption and trending the degradation of equipment performance.

CenPEEP is also working towards reduction in specific water consumption and auxiliary power consumption in coal and gas stations. A dedicated group CEETEM – Centre

for Energy Efficient Technology & Energy Management, conducts regular Energy audits to identify potential improvement areas and improvement actions.

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

CenPEEP coordinated implementation of Perform, Achieve & Trade (PAT) scheme under Prime Minister's National Mission on Enhanced Energy Efficiency (NMEEE) in NTPC coal & gas plants. Station specific action plans were jointly prepared and implemented. Your Company's coal and gas stations exceeded the Net Heat Rate improvement targets and earned around 1,69,000 ESCerts (Energy saving certificates) in PAT-1 cycle. However, formal notification is awaited.

#### 18. NETRA – R&D Mission in Power Sector

The Company as the leading power utility of the country, has allocated 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 futuristic technology requirements of the sector. In this effort, your company has established NTPC Energy Technology Research Alliance (NETRA) as state-of-the-art centre 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.

Research Advisory Council (RAC) of NETRA comprising of eminent scientists and experts from India and abroad is in place to steer research direction. Scientific Advisory Council (SAC) 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.

NETRA also provides Advanced Scientific Services to all its stations and many other utilities in the area of oil/water chemistry, environment, electrical, Rotor dynamics etc. for efficient performances.

NETRA laboratories are accredited as per ISO 17025 and its NDT laboratory also been recognized as well known "Remnant Life Assessment Organization" under the Boiler Board Regulations, 1950.

The details of activities undertaken by NETRA are given in Annex-III which forms part of the Director's Report.

#### 19. IMPLEMENTATION OF OFFICIAL LANGUAGE

Several Steps were taken for the proper propagation and implementation of Official Language Policy of Government of India in your Company.

Meetings of Official Language Implementation Committee were held on 25<sup>th</sup> June, 21<sup>st</sup> September, 28<sup>th</sup> December, 2015 & 24<sup>th</sup> March, 2016 in which the implementation of Hindi in the Organization was reviewed thoroughly. Various Hindi competitions were organized during Hindi fortnight from 1<sup>st</sup> to 14<sup>th</sup> September, 2015 in the corporate office as well as in all other establishments of the Company. Corporate Hindi Magazine "Vidyut Swar" was conferred, special commendation award by the TOLIC (Town Official Language Implementation Committee), Delhi. Hindi workshops were conducted for the various departments of the Company. Renowned Hindi scholars inspired the participants of Hindi workshops to use Hindi in their day-to-day official work.

Office orders, formats and circulars were issued in Hindi





as well. Important advertisements and house journals were released in bilingual form in Hindi as well as in English.

Your Company's website also has a facility of operating in 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. Vigilance set up comprises of Vigilance Executives in Corporate Centre and Projects. Corporate Vigilance consists of four cells namely Investigation & Processing Cell, Departmental Proceedings Cell, Technical Examination Cell and MIS Cell deal with various facets of vigilance mechanism. For speedier disposal of vigilance cases, works have been assigned to Vigilance Executive at each of the regions of the Company.

376 surprise checks were made during the period.

### 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 Monitors 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.

During 2015-16, 161 complaints were received, out of which 93 complaints were carried to a logical conclusion and the remaining 68 complaints are under various stages of investigation. Appropriate disciplinary action has also been initiated wherever necessary.

### 20.4 Vigilance Awareness Week and Workshops

During 2015-16, 51 preventive vigilance workshops were conducted at various projects/ places in which 1,371 employees participated.

Vigilance awareness week was observed from October 26, 2015 to October 31, 2015 in all NTPC projects and stations/ establishments. The theme for the Vigilance Week was 'Preventive Vigilance as a Tool of Good Governance', during which various competitions amongst the employees like slogan writing/ essay writings were held. A special booklet titled 'Handbook for Vigilance Executives' was also published containing guidelines for vigilance executives for conducting technical examination of packages, investigations alongwith circular issued by the Vigilance Commission.

Besides these, as advised by the Vigilance Commission, NTPC also conducted outreach activities during Vigilance Awareness Week in total 405 Colleges/ Schools/ Institutions all over the country, organizing elocutions, debates, lectures etc on ethics, integrity and corruption and its ill effects for students.

## 21. REDRESSAL OF PUBLIC GRIEVANCES

Your Company is committed for resolution of public grievance in efficient and time bound manner. Company Secretary 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](http://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 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 2015-16, 1,456 applications were received under the RTI Act, out of which 1,384 applications were replied to, till 31.03.2016.

## 23. USING INFORMATION AND COMMUNICATION TECHNOLOGY FOR PRODUCTIVITY ENHANCEMENT

Your Company has implemented an Enterprise Resource Planning (ERP) package covering maximum possible processes across the organization including subsidiaries. In addition to the core business processes and Employee Self Service (ESS) functionality, the ERP solution also includes e-procurement, Knowledge Management, Business Intelligence, Document Management, and Workflow etc. The ERP system is fully managed through in-house expertise from process groups and technical groups. Parallely, in-house solutions have been developed to take care of the non-ERP areas.

A state of the art data centre with centralized server facility for ERP to cater to the entire Company is in Operation at NOIDA. A 100% disaster recovery centre is also operational at Hyderabad for change over in case of any emergency.

During the year under review, security operation centre had been commissioned to counter and mitigate security risks and no severe threats were observed. Project Monitoring Centre was upgraded to High Definition system. Disaster Recovery mechanism was 100% available during the year. Vendors Bill Tracking system launched for pilot site i.e. Dadri. Online Earnest Money Deposit refund process was implemented.

## 24. NTPC GROUP: SUBSIDIARIES AND JOINT VENTURES

Your Company has currently 5 subsidiary companies and 22 joint venture companies for undertaking specific business activities.

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. It does not contain information about Hindustan Urvarak & Rasayan Limited, which was incorporated on 15.06.2016.

The financial statements of subsidiary companies along with the respective Directors' Report are placed elsewhere in this Annual Report.

## 25. INFORMATION PURSUANT TO STATUTORY AND OTHER REQUIREMENTS

Information required to be furnished as per the Companies



Act, 2013 and Listing Agreement with Stock Exchanges 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 2015-16 were (i) M/s TR Chadha & Co., LLP, 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, Kanpur and (vi) M/s S. K. Kapoor & Co., Chartered Accountants, Kanpur and (vii) M/s B. M. Chatrath & Co., Chartered Accountants, Kolkata.

The appointment of Statutory Auditors for the financial year 2016-17 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 unqualified report on the accounts of the Company for the financial year 2015-16. However, they have drawn attention under 'Emphasis of Matter' to Note No. 12 (i) & 35 (a) in respect of change in accounting of capital expenditure on assets not owned by the Company with retrospective effect taking guidance available in AS 10 notified by MCA on 30<sup>th</sup> March 2016 effective from the financial year 2016-17; Note No. 22 (a) & (b) regarding billing & recognition of sales on provisional basis and measurement of GCV of coal on 'as received' basis after secondary crusher pending disposal of the matter by CERC/Hon'ble Delhi High Court and related matters as mentioned in said note; and Note No. 33 in respect of a Company's ongoing 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)**

As advised by the Office of the C&AG, the comments of C&AG for the year 2015-16 alongwith management replies thereto are 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 2015-16 were (i) M/s Bandopadhyay Bhaumik & Co., Kolkata, (ii) M/s S. Dhal & Co., Bhubhaneshwar (iii) M/s Musib & Co., Mumbai, (iv) M/s Sanjay Gupta & Associates, New Delhi, (v) M/s Narasimha Murthy & Co., Hyderabad, and (vi) M/s R.J. Goel & Co., Delhi.

The due date for filing consolidated Cost Audit Report in XBRL format for the financial year ended March 31, 2015 was September 30, 2015 and the consolidated Cost Audit Report for your Company was filed with the Central Government on September 22, 2015.

The Cost Audit Report for the financial year ended March 31, 2016 shall be filed within the prescribed time period under the Companies (Cost Records & Audit) Rules, 2014.

**25.5 Exchange Risk Management**

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.

In term of its Exchange Risk Management Policy, during

financial year 2015-16, the Company has entered into derivative contracts amounting to USD 62 million equivalent in different currencies in respect of foreign currency loans exposure.

**25.6 Performance Evaluation of the Directors and the Board**

As required under the Companies Act, 2013 and the Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015, evaluation of performance of directors including that of the Independent Directors and of the Board is to be carried out either by the Board or by the Nomination and Remuneration Committee or by the Independent Directors. It also requires disclosure of formulated criteria for performance evaluation in Annual Report.

In this regard, the Ministry of Corporate Affairs, through Notification dated 05.06.2015, has exempted the Government Companies from these provisions. The appointment of the Functional Directors, Government Nominee Directors and Independent Directors of your Company is made by the Government of India. Their terms & conditions of appointment as well as tenure of all directors are also decided by GOI and there is a well laid down procedure for evaluation of Functional Directors & CMD as well as of Government Directors by Administrative/ respective Ministry. Also, the performance of the Board of the Government Companies is evaluated during the performance evaluation of the MOU signed with the Government of India.

Your Company has made representation to SEBI for exempting Government Companies from evaluation of Directors and the Board. The matter is under consideration by the SEBI.

**25.7 Secretarial Audit**

The Board has appointed M/s Agarwal S. & Associates, Company Secretaries, to conduct Secretarial Audit for the financial year 2015-16. The Secretarial Audit Report for the financial year ended March 31, 2016 is annexed herewith marked as Annexure XI to this Report.

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

Observations	Management's Comments
Regulation 17(1) of Securities and Exchange Board of India (Listing Obligations & Disclosure Requirements) Regulations, 2015 (erstwhile Clause 49 (II) (A) & (B) of the Listing Agreement) and Clause 3.1.2 and 3.1.4 of DPE Guidelines on Corporate Governance for Central Public Sector Enterprises w.r.t. composition of the Board of the Company.	As per the Listing Agreements executed with the Stock Exchanges pursuant to SEBI LODR Regulations, 2015 and DPE Guidelines on Corporate Governance by CPSEs, the Company should have eight Independent Directors since Company has six functional Directors including the Chairman & Managing Director and two Government Nominee Directors on its Board. At present, Company has three Independent Directors in position. Being a Government Company the power to appoint the Directors on the Board of the Company vests with the President of India and accordingly, the Company is, from time to time, requesting Ministry of Power to appoint requisite number of Independent Directors on its Board.



**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 (Annex- IX) as required under Section 134(3)(h) of the Companies Act, 2013. They were intended to further enhance the Company's interests.

Web-link for Policy on Materiality of Related Party Transactions & also on Dealing with Related Party Transactions has 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 FY 2015-16.

Your Company had not granted any loans to parties during 2015-16 covered under Section 186 of the Companies Act, 2013.

**25.12 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 also. 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 2015-16.

NTPC PMI has been conducting gender sensitization workshops for building a collaborative work culture across the organisation, in association with the National Commission for Women. In these workshops, employees, both male and female, are sensitized and made aware about issues and laws pertaining to sexual harassment as well as appropriate behavior at the workplace. During 2015-16, PMI has conducted 12 such workshops across the organization covering 250 employees.

**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 2015-16 was ₹ 559.51 crore, which was 12.53% of total annual procurement by your Company. Your Company organised 12 vendor development programmes for MSMEs. Annual

procurement plan for purchases 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 the 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 5<sup>th</sup> 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 Annual Report.**

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

**25.18 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.

The particulars of annexures forming part of this report are as under:

Particulars	Annexure
Management Discussion & Analysis Report on Corporate Governance	I
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 abled persons	V
Extract of Annual Return	VI
Annual Report on CSR Activities	VII
Project Wise Ash Utilisation	VIII
Disclosure of Related Party Transactions in Form AOC-2	IX
Business Responsibility Report for the year 2015-16	X
Secretarial Audit Report in Form MR-3	XI



## 26. BOARD OF DIRECTORS

Shri I.J. Kapoor resigned from the post of Director (Commercial) on 20.08.2015 on being appointed as Technical Member of the Appellate Tribunal for Electricity.

Consequent upon completion of three years' tenure, Dr. A. Didar Singh had ceased to be the Independent Director w.e.f. August 22, 2015.

Shri Rajesh Jain and Dr (Mrs.) Gauri Trivedi had been appointed as Independent Directors w.e.f. 18.11.2015 for a period of three years.

Shri Anil Kumar Singh ceased to be the Government Nominee Director w.e.f. 08.12.2015 consequent his transfer from Ministry of Power.

Shri Aniruddha Kumar, JS (Thermal), Ministry of Power has joined as Government Nominee Director of the Company with effect from 25.02.2016.

Shri Seethapathy Chander has been appointed as the Independent Director on the Board w.e.f. 22.06.2016.

On completion of five years' tenure, Dr. Arup Roy Choudhury ceased to be the Chairman & Managing Director of the Company w.e.f. 31.08.2015 (A/N).

In the absence of regular Chairman & Managing Director, the Ministry of Power, through order dated 28.08.2015, entrusted the additional charge of the post of Chairman & Managing Director, to Shri A.K. Jha, Director (Technical). He held the additional charge from 01.09.2015 to 03.02.2016, after which Shri Gurdeep Singh joined as the Chairman & Managing Director of the Company on 04.02.2016.

On Completion of three years' tenure, Shri Prashant Mehta has ceased to be the Independent Director of the company w.e.f. 29.07.2016 (A/N).

The Board wishes to place on record its deep appreciation for the valuable services rendered by Shri I.J. Kapoor, Dr. A. Didar Singh, Dr. Arup Roy Choudhury, Shri Anil Kumar Singh and Shri Prashant Mehta 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.C. Pandey and Shri K. Biswal shall retire by rotation at the Annual General Meeting of your Company and, being eligible, offers themselves 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 2015-16 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

DIN : 00307037

Place: New Delhi

Date: 3<sup>rd</sup> August , 2016

