

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 297/GT/2020**

**Coram:**

**Shri P.K. Pujari, Chairperson**

**Shri I.S. Jha, Member**

**Shri Arun Goyal, Member**

**Shri Pravas Kumar Singh, Member**

**Date of Order: 11<sup>th</sup> January, 2022**

**IN THE MATTER OF**

Petition for revision of tariff of Vindhyachal Super Thermal Power Station, Stage-I (1260 MW) for the period from 1.4.2014 to 31.3.2019 after truing up exercise.

**AND**

**IN THE MATTER OF**

NTPC Limited,  
NTPC Bhawan,  
Core-7, Scope Complex,  
7, Institutional Area, Lodhi Road,  
New Delhi – 110003

**....Petitioner**

Vs

1. Madhya Pradesh Power Management Company Limited,  
Shakti Bhawan, Vidyut Nagar,  
Jabalpur – 482008
2. Maharashtra State Electricity Distribution Company Limited,  
Prakashgad, Bandra (East),  
Mumbai – 400051
3. Gujarat Urja Vikas Nigam Limited,  
Vidyut Bhawan, Race Course,  
Vadodara – 390007
4. Chhattisgarh State Power Distribution Company Limited,  
Sundar Nagar, Danganiya, Raipur – 492013



5. Electricity Department,  
Government of Goa,  
Vidyut Bhawan, Panaji,  
Goa

6. Electricity Department,  
Administration of Daman & Diu,  
Daman – 396210

7. Electricity Department,  
Administration of Dadra & Nagar Haveli,  
Silvasa

....Respondents

**Parties Present:**

Shri Venkatesh, Advocate, NTPC  
Shri Ashutosh K. Srivastava, Advocate, NTPC  
Shri Suhael Buttan, Advocate, NTPC  
Shri Anant Singh Ubeja, Advocate, NTPC  
Shri Abhishek Nangia, Advocate, NTPC  
Shri Nihal Bhardwaj, Advocate, NTPC  
Ms. Simran Saluja, Advocate, NTPC  
Shri Jayant Bajaj, Advocate, NTPC  
Ms. Mehak Verma, Advocate, NTPC  
Shri Jatin Ghuliani, Advocate, NTPC  
Shri A.S.Pandey, NTPC  
Shri Parimal Piyush, NTPC  
Shri Ravi Sharma, Advocate, MPPMCL  
Shri Anurag Naik, MPPMCL

**ORDER**

This petition has been filed by the Petitioner, NTPC Limited (in short, “NTPC”) for revision of tariff of Vindhyachal Super Thermal Power Station Stage-I (1260 MW) (hereinafter referred to as ‘the generating station’) for the 2014-19 period in accordance with Regulation 8 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as ‘the 2014 Tariff Regulations’).



## **Background**

2. The generating station with a capacity of 1260 MW comprises of six units of 210 MW each. The dates of commercial operation of the different units of the generating station are as under:

<b>Unit</b>	<b>Actual COD</b>
Unit-I	1.9.1988
Unit-II	1.1.1989
Unit-III	1.2.1990
Unit-IV	1.9.1990
Unit-V	1.4.1991
Unit-VI	1.2.1992

3. The Commission vide its order dated 24.2.2017 in Petition No. 338/GT/2014 approved the tariff of the generating station for the 2014-19 tariff period based on the capital cost as stated under:

### **Annual Fixed Charges allowed**

	<i>(Rs in lakh)</i>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	649.51	649.51	376.71	0.00	0.00
Interest on loan	195.30	150.25	62.61	0.00	0.00
Return on Equity	14438.86	14508.81	14508.81	14508.81	14508.81
Interest on Working Capital	6081.18	6205.27	6316.21	6529.90	6671.63
O&M Expenses	31635.83	33525.83	35541.83	37683.83	39964.43
Compensation Allowance	840.00	630.00	210.00	0.00	0.00
Special Allowance	3150.00	5025.04	8906.88	11366.96	12088.76
<b>Total</b>	<b>56990.68</b>	<b>60694.71</b>	<b>65923.06</b>	<b>70089.50</b>	<b>73233.64</b>

### **Capital Cost allowed**

	<i>(Rs in lakh)</i>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening capital cost	148158.63	148158.63	148158.63	148158.63	148158.63
Add: Projected additional capital expenditure	0.00	0.00	0.00	0.00	0.00
<b>Closing capital cost</b>	<b>148158.63</b>	<b>148158.63</b>	<b>148158.63</b>	<b>148158.63</b>	<b>148158.63</b>
Average capital cost	148158.63	148158.63	148158.63	148158.63	148158.63

## **Present Petition**

4. Regulation 8(1) of the 2014 Tariff Regulations provides as under:

“8. *Truing up*



(1) The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2019, as admitted by the Commission after prudence check at the time of truing up:

Provided that the generating company or the transmission licensee, as the case may be, shall make an application for interim truing up of capital expenditure including additional capital expenditure in FY 2016-17.”

5. In terms of Regulation 8(1) of the 2014 Tariff Regulations, the Petitioner vide affidavit dated 30.10.2019 has filed the present petition for truing-up of tariff of the generating station for the 2014-19 tariff period and has claimed annual fixed charges and capital cost as follows:

### Capital Cost claimed

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	148158.63	148299.98	148373.84	148160.46	147879.96
Add: Addition during the year/ period	134.20	0.00	22.71	472.42	8.89
Less: De-capitalization during the year/ period	0.00	23.77	319.21	763.25	291.64
Less: Reversal during the year/ period	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year/ period	7.15	97.63	83.12	10.33	0.00
<b>Closing Capital Cost</b>	<b>148299.98</b>	<b>148373.84</b>	<b>148160.46</b>	<b>147879.96</b>	<b>147597.21</b>
Average Capital Cost	148229.30	148336.91	148267.15	148020.21	147738.59

### Annual Fixed Charges claimed

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	674.16	695.51	578.29	453.13	8.66
Interest on Loan	264.91	200.78	145.22	112.50	107.76
Return on Equity	14443.76	14520.09	14515.96	14501.37	14522.94
Interest on Working Capital	7392.54	7517.69	7820.42	9190.94	8308.40
O&M Expenses	33117.29	34939.81	36189.33	38351.73	40880.80
Compensation Allowance	840.00	630.00	210.00	0.00	0.00
Special Allowance	3150.00	5025.04	8906.88	11366.96	12088.76
<b>Sub-total</b>	<b>59882.66</b>	<b>63528.93</b>	<b>68366.11</b>	<b>73976.62</b>	<b>75917.32</b>
Impact of Pay revision	0.00	50.57	3865.91	4215.67	5052.78
Impact of GST	0.00	0.00	0.00	175.41	263.97
Arrears of water charges paid	0.00	0.00	0.00	17496.96	0.00
<b>Total</b>	<b>59882.66</b>	<b>63579.50</b>	<b>72232.02</b>	<b>95864.66</b>	<b>81234.07</b>



6. In addition to the above, the Petitioner has claimed the reimbursement of the expenditure incurred towards implementation of the scheme for creating infrastructure for reliable supply of electricity within 5 km area of the generating station as under:

	<i>(Rs. in lakh)</i>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Capitalization of balance works under the scheme	18.55	0.00	0.00	0.00	0.00
Discharges of liabilities corresponding to expenditure capitalized during 2013-14	49.95	7.09	0.00	0.00	0.00
Discharges of liabilities corresponding to expenditure capitalized during 2014-15	0.00	35.61	0.00	140.44	0.00
<b>Total</b>	<b>68.50</b>	<b>42.70</b>	<b>0.00</b>	<b>140.44</b>	<b>0.00</b>

7. The Petition was heard through video conferencing on 10.8.2021 along with Petition No.401/GT/2020 (Petition for approval of tariff of the generating station for the 2019-24 tariff period) and the Commission, after directing the Petitioner to file certain additional information, reserved its order in the matter. The Respondent, Maharashtra State Electricity Distribution Company Limited (MSEDCL) and the Respondent Madhya Pradesh Power Management Company Limited (MPPMCL) have filed their replies vide affidavits dated 6.1.2021 and 20.7.2021 respectively and the Petitioner vide affidavits dated 19.5.2021 and 30.7.2021 respectively has filed its rejoinder to the said replies. Based on the submissions of the parties and the documents available on record and after prudence check, we proceed for truing-up the tariff of the generating station for the 2014-19 tariff period, in this petition, as stated in the subsequent paragraphs.



## **Capital Cost**

8. Regulation 9(1) of the 2014 Tariff Regulations provides that the capital cost as determined by the Commission after prudence check, in accordance with this regulation, shall form the basis of determination of tariff for existing and new projects.

Regulation 9(3) of the 2014 Tariff Regulations provides as under:

*“(3) The Capital cost of an existing project shall include the following:*

- (a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014;*
  - (b) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulations 14;*
  - (c) expenditure on account of renovation and modernization as admitted by this Commission in accordance with Regulation 15;*
- xxxx”*

9. The Commission vide its order dated 24.2.2017 in Petition No. 338/GT/2014 had approved the annual fixed charges of the generating station for the 2014-19 tariff period considering the opening capital cost of Rs.148158.63 lakh (on cash basis) as on 31.3.2014. Accordingly, in terms of Regulation 9(3) of the 2014 Tariff Regulations, the capital cost of Rs.148158.63 lakh as on 31.3.2014, has been considered as the capital cost on 1.4.2014.

10. Regulation 14 of the 2014 Tariff Regulations provides as under:

*“14. Additional Capitalization and De-capitalization:*

*(1) The capital expenditure in respect of the new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:*

- (i) Un-discharged liabilities recognized to be payable at a future date;*
- (ii) Works deferred for execution;*
- (iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;*
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law; and*
- v) Change in law or compliance of any existing law:*



*Provided that the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff."*

*(2) The capital expenditure incurred or projected to be incurred in respect of the new project on the following counts within the original scope of work after the cut-off date may be admitted by the Commission, subject to prudence check:*

*(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;*

*(ii) Change in law or compliance of any existing law;*

*(iii) Deferred works relating to ash pond or ash handling system in the original scope of work; and*

*(iv) Any liability for works executed prior to the cut-off date, after prudence check of the details of such un-discharged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.*

*(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:*

*(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;*

*(ii) Change in law or compliance of any existing law;*

*(iii) Any expenses to be incurred on account of need for higher security and safety of the plant as advised or directed by appropriate Government Agencies of statutory authorities responsible for national security/internal security;*

*(iv) Deferred works relating to ash pond or ash handling system in the original scope of work;*

*(v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such un-discharged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.;*

*(vi) Any liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;*

*(vii) Any additional capital expenditure which has become necessary for efficient operation of generating station other than coal /lignite based stations or transmission system as the case may be. The claim shall be substantiated with the technical justification duly supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level;*

*(viii) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) and due to geological reasons after adjusting the proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation;*

*(ix) In case of transmission system, any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement due to obsolesce of technology,*





replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system; and

(x) Any capital expenditure found justified after prudence check necessitated on account of modifications required or done in fuel receiving system arising due to non-materialization of coal supply corresponding to full coal linkage in respect of thermal generating station as result of circumstances not within the control of the generating station:

Provided that any expenditure on acquiring the minor items or the assets including tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, computers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.4.2014:

Provided further that any capital expenditure other than that of the nature specified above in (i) to (iv) in case of coal/lignite based station shall be met out of compensation allowance:

Provided also that if any expenditure has been claimed under Renovation and Modernization (R&M), repairs and maintenance under (O&M) expenses and Compensation Allowance, same expenditure cannot be claimed under this regulation.”

11. The Commission vide order dated 24.2.2017 in Petition No. 338/GT/2014, while granting liberty to the Petitioner to claim the additional capital expenditure, at the time of truing-up of tariff, did not allow any projected additional capital expenditure for the 2014-19 tariff period. Based on the liberty granted, the total additional capital expenditure claimed by the Petitioner, duly supported by auditor certificate, is as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Closing Gross Block as per Audited books	1356385.85	1623909.36	1231070.54*	1307900.25 *	1336013.54*
Less: Opening Gross Block as per Audited books	1294131.52	1356385.85	1134324.26*	1231070.54*	1307900.25 *
Additional Capital Expenditure as per Audited Books	62254.33	267523.51	96746.28	76829.71	28113.29
Less: Additional Capital Expenditure pertaining to other Stages	59530.13	267215.48	88614.21	59471.43	31820.04
Additional Capital Expenditure for the generating station	2724.20	308.03	8132.08	17358.28	(-) 3706.75
Less: IND AS adjustment	0.00	0.00	2210.43	3930.21	(-) 2868.94





<b>Additional capital expenditure as per IGAAP for the generating station</b>	2724.20	308.03	5921.65	13428.07	(-) 837.81
Less: Exclusions	2585.11	325.62	6198.79	13719.29	(-) 555.14
Additional Capital Expenditure claimed for the generating station (on accrual basis)	139.09	(-) 17.59	(-) 277.14	(-) 291.22	(-) 282.67
Less: Un-discharged liabilities included above	4.90	6.17	19.37	(-)0.38	0.08
<b>Net Additional Capital Expenditure claimed for the generating station (on cash basis)</b>	<b>134.20</b>	<b>(-) 23.77</b>	<b>(-) 296.51</b>	<b>(-) 290.84</b>	<b>(-) 282.75</b>
Add: Discharges of liabilities	7.15	97.63	83.12	10.33	0.00
<b>Net Additional capital expenditure claimed including discharges for the generating station (on cash basis)</b>	<b>141.35</b>	<b>73.86</b>	<b>(-) 213.39</b>	<b>(-) 280.51</b>	<b>(-) 282.75</b>

\* As per IND-AS

### Exclusions

12. The summary of exclusions from books of accounts, as claimed by the Petitioner for the 2014-19 tariff period, on accrual basis, is as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Capital spares	1673.30	1056.97	791.70	1731.73	3695.89
De-capitalization of spares (not part of capital cost)	(-) 649.66	(-) 663.04	0.00	(-) 2.23	(-) 101.90
Generator Transformer 200 MVA, 21/400 KV	1018.49	0.00	0.00	26.63	0.00
Generator Transformer	0.00	888.28	0.00	0.00	0.00
HMI system upgraded servers Stage-I	0.00	0.00	0.00	140.76	133.08
Electronic weigh bridge	38.97	0.00	0.00	0.00	0.00
Automatic fly ash brick plant	97.14	0.00	0.00	0.00	0.00
Bio diesel plant	133.38	0.00	0.00	0.00	0.00
Continuous Emission Monitoring System (CEMS)	0.00	336.57	10.64	0.00	0.00
Inert gas fire extinguisher	0.00	4.93	0.00	0.30	0.00
ABT software and hardware	0.00	153.75	0.00	0.00	0.00
Solar water heater	0.00	310.24	0.00	0.00	0.00
Land leveling work	0.00	0.00	0.00	0.00	0.80
60 Numbers Type-I TTS	0.00	0.00	0.00	0.00	0.82
6.6KV Switchgear Stage-I (O&M/CHP)	0.00	0.00	0.00	0.00	35.51
Elevator at crusher house Stage-I CHP	0.00	0.00	0.00	0.00	30.67
De-capitalization of ash handling plant (part of capital cost)	0.00	0.00	0.00	(-) 37.85	0.00
De-capitalization of C&I (part of capital cost)	0.00	0.00	0.00	(-) 16.50	0.00
De-capitalization of Miscellaneous Plant & Machinery (part of capital cost)	0.00	0.00	0.00	(-) 0.67	0.00
De-capitalization of buildings (part of capital cost)	0.00	0.00	0.00	(-) 60.02	0.00
Loan FERV	16.46	19.52	0.00	0.00	(-) 83.76



Capitalization under 5 km electrification scheme *	257.72	0.00	0.00	0.00	0.00
De-capitalization under 5 km electrification scheme	0.00	(-) 1689.83	0.00	0.00	0.00
Inter-unit transfer of assets	0.00	1.07	(-) 0.25	(-) 0.30	29.15
MBOA's	0.00	0.00	9.09	0.00	0.00
Electro Static Precipitator (ESP) retrofitting (including price adjustment)	0.00	0.00	4390.45	11623.99	(-) 4047.61
C&I	0.00	0.00	400.92	0.00	0.00
Cooling tower	0.00	0.00	611.55	0.00	0.00
Electrification of CISF quarters	0.00	0.00	7.39	0.00	0.00
Transformer 500 KVA 6.6/0.433 kV	0.00	0.00	0.09	0.00	0.00
Service Building	0.00	0.00	0.00	63.50	0.00
Ash slurry pump house switchgear Stage-I	0.00	0.00	0.00	264.58	0.00
De-capitalization of MBOA's (not part of capital cost)	0.00	(-) 1.07	(-) 0.53	(-) 1.19	(-) 1.06
De-capitalization of MBOA's (part of capital cost)	0.00	0.00	(-) 8.81	0.00	(-) 244.08
De-capitalization of ABT system (part of capital cost)	0.00	(-) 21.09	0.00	0.00	0.00
De-capitalization of excitation system (part of capital cost)	0.00	(-) 21.09	0.00	0.00	0.00
De-capitalization of acid storage tank (part of capital cost)	0.00	(-) 6.24	0.00	0.00	0.00
De-capitalization of cooling tower (part of capital cost)	0.00	(-) 43.36	0.00	0.00	0.00
De-capitalization of C&I up-gradation (part of capital cost)	0.00	0.00	(-) 3.00	0.00	0.00
Price adjustment towards assets (not part of capital cost)	(-) 0.69	0.00	0.00	0.00	0.00
Reversal of liabilities	0.00	0.00	(-) 10.44	(-) 14.11	(-) 2.65
Differential errors	0.00	0.00	0.00	0.66	0.00
<b>Total Exclusions claimed</b>	<b>2585.11</b>	<b>325.62</b>	<b>6198.79</b>	<b>13719.29</b>	<b>(-) 555.14</b>

\* The Petitioner has not claimed the 5 km electrification scheme as part of additional capital expenditure. As such, the same has been considered under exclusion for the purpose of tariff.

13. We first examine the exclusions claimed by the Petitioner for the 2014-19 tariff period in the subsequent paragraphs.

**(a) Capitalization of capital spares**

14. The Petitioner has claimed exclusion of capital spares amounting to Rs.1673.30 lakh in 2014-15, Rs.1056.97 lakh in 2015-16, Rs.791.70 lakh in 2016-17, Rs.1731.73 lakh in 2017-18 and Rs.3695.89 lakh in 2018-19. In justification of the same, the Petitioner has submitted that capital spares which have been capitalized after cut-off date are not allowable as per the 2014 Tariff Regulations and, accordingly, the same has been claimed as exclusions. Since capitalization of spares



over and above initial spares procured after the cut-off date of the generating station is not allowed as part of capital cost as per the 2014 Tariff Regulations, the Petitioner's claim for exclusion under this head is allowed.

***(b) De-Capitalization of capital spares (not forming part of capital cost)***

15. The Petitioner has claimed exclusion of de-capitalization of capital spares of Rs.649.66 lakh in 2014-15, Rs.663.04 lakh in 2015-16, Rs.2.23 lakh in 2017-18 and Rs.101.90 lakh in 2018-19. In justification, the Petitioner submitted that these capital spares do not form part of capital cost and accordingly their de-capitalization has been claimed as exclusions. It is observed from the submission of the Petitioner that these capital spares were not allowed in tariff and, hence, do not form part of capital cost. Since these expenses do not form part of the capital cost, the exclusion for de-capitalization of these spares for the said amounts is allowed.

***(c) Inter-Unit transfer of Assets***

16. The Petitioner has claimed exclusion of Rs.1.07 lakh in 2015-16, Rs.0.25 lakh in 2016-17, Rs.0.30 lakh in 2017-18 and Rs.29.15 lakh in 2018-19, on account of inter-unit transfer of assets to/from the generating station. In justification of the same, the Petitioner has submitted that inter-unit transfer of assets is not allowed for purpose of tariff and, accordingly, the same has been kept under exclusion. The Commission in its various orders while dealing with the application for additional capitalization in respect of other generating stations of the petitioner had decided that both positive and negative entries arising out of inter-unit transfers of a temporary nature shall be ignored for the purposes of tariff. In line with the said decision, the exclusion of the said amounts on account of inter-unit transfer is allowed.



***(d) Other capitalized items not allowed after the cut-off date/disallowed in previous orders for the Generating Station***

17. The Petitioner has claimed exclusion of additional capital expenditure of Rs.1287.98 lakh in 2014-15, Rs.463.99 lakh in 2015-16, Rs.1029.03 lakh in 2016-17, Rs.495.77 lakh in 2017-18 and Rs.200.88 lakh in 2018-19 pertaining to capitalization of Generator Transformer 200 MVA, 21/400 KV, HMI system upgraded servers, electronic weigh bridge, automatic fly ash brick plant, bio diesel plant, ABT Software and Hardware, solar water heater, land leveling work, 60 nos. Type-I TTS, 6.6 KV switchgear (O&M/CHP), elevator at crusher house (CHP), C&I, cooling tower, electrification of CISF quarters, Transformer 500 kVA 6.6/0.433 kV, service building, ash slurry pump house switchgear and MBOAs. The Petitioner has submitted that all these assets/ works are not allowed after cut-off date and, hence, the claim of the Petitioner is allowed.

18. The Petitioner has also claimed exclusion of additional capital expenditure of Rs.1229.78 lakh in 2015-16 and Rs.10.64 lakh in 2016-17 pertaining to capitalization of CEMS, Generator Transformer, inert gas fire extinguisher system. The Petitioner has submitted that these assets/ works have been disallowed in the previous orders relating to the tariff period 2009-14 till 2014-19 and has accordingly claimed as exclusion. In view of this submissions, the claim of the Petitioner under this head is allowed.

***(e) Assets claimed in Stage-IV***

19. The Petitioner has claimed exclusion of additional capital expenditure of Rs.4390.45 lakh in 2016-17, Rs.11623.99 lakh in 2017-18 and Rs.4047.61 lakh (including price adjustment of Rs.5137.15 lakh) in 2018-19 pertaining to Electro



Static Precipitator (ESP) retrofitting. The Petitioner has submitted that the Commission vide order dated 10.3.2017 in Petition No. 339/GT/2014 (approval of tariff of Stage-IV of the generating station for 2014-19 tariff period), has allowed an expenditure towards ESP retrofitting for Stage-I & Stage-II with Stage-IV and, accordingly, the said expenditure has been claimed as exclusion. It is noticed from order dated 10.3.2017 in Petition No.339/GT/2014 that the Commission had allowed the additional capital expenditure towards ESP retrofitting for both Stage-I & Stage-II against Stage-IV of the generating station. The relevant portion of the order dated 10.3.2017 in Petition No. 339/GT/2014 is extracted below:

*“16. We have examined the submissions of the parties. It is observed that in order dated 12.9.2012 in Petition No. 227/2009 the petitioner had claimed the expenditure of ESP for Stage-I and II as the reduction of emission levels had been made mandatory by the MP Pollution Control Board, as per the directions/guidelines of Ministry of Environment and Forest (MOEF) vide notification dated 5.2.2009. It is further observed that the Commission had decided to consider the expenditure for modification of ESPs of Stage-I against Stage-IV and the petitioner had agreed to the same. The relevant paras of the order are extracted as under: -*

*“ESP Modification of Stage-I units 28. The petitioner has claimed expenditure of `1400.00 lakh during 2011-12, `4000.00 lakh during 2012-13 and `4000.00 lakh during 2013-14. The petitioner has submitted that the present emission level at Stages I & II is 250-300 mg/Nm<sup>3</sup> as against the design value of 345mg/Nm<sup>3</sup>. It has also submitted that in terms of the conditional clearance granted by the Ministry of Environment & Forests, Government of India vide its letter dated 5.2.2009 for Stage IV of the generating station, the emission from ESP is required to be reduced to 75 mg/Nm<sup>3</sup> before commissioning of Stage IV of the generating station. Based on this, the R&M of ESPs have become necessary and the expenditure may be allowed, the petitioner has stated. The petitioner in its affidavits dated 21.3.2011 and 25.4.2011 has reiterated that the revised scope of work includes the retrofitting of ESPs (6 units) with additional collection area of 30000M<sup>2</sup> and 58000 M<sup>2</sup> in Stage I & II units respectively to reduce the emission level to 75 Mg/Nm<sup>3</sup>. It has also been submitted that the reduction of emission levels have been made mandatory by the MP Pollution Control Board and hence the proposed phased funding for execution of work upto 31.3.2014 may be approved. 29. On a specific query by the Commission during the hearing on 28.6.2011, as to whether the expenditure for modification of ESPs of Stage-I could be considered against Stage-IV of the generating station, since the expenditure for modification of ESPs of Stage-I was necessitated due to conditional clearance by the Ministry of Environment & Forests, Government of India aforesaid, the representative of the petitioner replied in the affirmative and has not objected to the same. Accordingly, the total expenditure of `9400.00 lakh*



*during 2011-14 claimed by petitioner has not been considered for Stage-I of the generating station.”*

*17. In view of the above, we are inclined to allow the additional capital expenditure Rs.2000.00 lakh in 2014-15, Rs.6000.00 lakh in 2015-16, Rs.6000.00 lakh in 2016-17, Rs.6000.00 lakh in 2017-18 and `6000.00 lakh in 2018-19 towards the ESP retrofitting for Stage-I &II under Regulation 14(3)(ii) of the 2014 Tariff Regulations. The petitioner is however directed to submit the details of works capitalized in respect of Stage-I and II respectively at the time of truing-up in terms of Regulation 8 of 2014 Tariff Regulations.”*

In line with the above decision, the claim of the Petitioner is allowed.

***(f) De-capitalization of Miscellaneous Bought Out Assets (MBOAs) (forming part of capital cost)***

20. The Petitioner has claimed exclusion of de-capitalization of MBOAs, forming part of the admitted capital cost of the generating station for Rs.8.81 lakh in 2016-17 and Rs.244.08 lakh in 2018-19. In justification of the same, the Petitioner has submitted that as the capitalization of expenditure against these items after the cut-off date is not allowed, the de-capitalization of the same has been claimed as exclusions. Since Regulation 14(4) of the 2014 Tariff Regulations provides that in case of de-capitalization of assets, the original cost of such asset shall be removed from the admitted capital cost of the generating station, the claim of the Petitioner under this head is not allowed.

***(g) De-capitalization of MBOAs (not forming part of capital cost)***

21. The Petitioner has claimed exclusion of de-capitalization of MBOA's for Rs.1.07 lakh in 2015-16, Rs.0.53 lakh in 2016-17, Rs.1.19 lakh in 2017-18 and Rs.1.06 lakh in 2018-19. In justification of the same, the Petitioner submitted that these MBOAs do not form part of the capital cost and is therefore kept under exclusion. Since, the de-capitalized MBOA's do not form part of the admitted capital cost of the generating station, the exclusion claimed under this head is allowed.



***(h) De-capitalization of other capitalized items (forming part of capital cost)***

22. The Petitioner has claimed exclusion of de-capitalization of various assets (like ABT system, excitation system, acid storage tank, cooling tower, C&I up-gradation, ash handing plant, other buildings etc.), forming part of the admitted capital cost of the generating station, amounting to Rs.91.77 lakh in 2015-16, Rs.3.00 lakh in 2016-17 and Rs.115.04 lakh in 2017-18. In justification of the same, the Petitioner has submitted that as the capitalization/ replacement of expenditure against these items after the cut-off date is not allowed, their de-capitalization has been claimed as exclusion. In terms of Regulation 9(6)(a) of the 2014 Tariff Regulations, assets which are not in use, are required to be excluded from the admitted capital cost. Accordingly, the exclusion claimed under this head is not allowed.

***(i) Capitalization/ de-capitalization towards 5 KM electrification scheme***

23. The Petitioner has not considered the capitalization of Rs.257.72 lakh in 2014-15, towards expenditure for 5 KM electrification scheme of the GOI, as part of the additional capital expenditure claimed in Form-9A and has accordingly considered the same as exclusion for the purpose of tariff. The Petitioner has also claimed exclusion of de-capitalization of Rs.1689.83 lakh, on free of cost transfer of such assets, under the said scheme to the DISCOMs in 2015-16. It is noticed that in order dated 5.12.2006 in Petition No. 306/GT/2014, the claim of the Petitioner for additional capital expenditure towards creating infrastructure for 5 km scheme was allowed as reimbursement by the beneficiaries, in proportion to their share, for the remaining three years of the tariff period 2014-19, in equal monthly instalments, beginning from





October, 2016, instead of capitalization of the said expenditure. In view of this, the exclusion of capitalization as well as de-capitalization under this head is allowed.

***(j) Price adjustment towards assets (not forming part of capital cost)***

24. The claim for exclusion of price adjustment of (-) Rs.0.69 lakh in 2014-15 in respect of assets not forming part of capital cost, is allowed.

***(k) Loan FERV***

25. The Petitioner has claimed exclusion of loan FERV of Rs.16.46 lakh in 2014-15, Rs.19.52 lakh in 2015-16 and (-) Rs.83.76 lakh in 2018-19. In justification of the same, the Petitioner submitted that since loan FERV is billed directly to the beneficiaries as per extant regulation, the same has been kept under exclusion. As the Petitioner is required to bill the claim for loan FERV directly from the beneficiaries, the claim under this head is allowed.

***(l) Reversal of liabilities***

26. The Petitioner has claimed exclusion of reversal of liabilities of Rs.10.44 lakh in 2016-17, Rs.14.11 lakh in 2017-18 and Rs.2.65 lakh in 2018-19. In justification of the same, the Petitioner has submitted that tariff is allowed on cash basis and liabilities do not form part of tariff, the reversal of the same has been kept under exclusion. Since tariff is allowed on cash basis, the exclusion of reversal of un-discharged liabilities is allowed for the purpose of tariff.

27. Further, on reconciliation of the Petitioner's claim of exclusions in Form-9D, a differential variance of Rs.0.66 lakh has been observed in 2017-18. This gap being a positive value has been considered and allowed as exclusion.



28. Based on above, the summary of exclusions allowed and disallowed for the 2014-19 tariff period is as under:

	<i>(Rs in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Capital spares	1673.30	1056.97	791.70	1731.73	3695.89
De-capitalization of spares (not part of capital cost)	(-) 649.66	(-) 663.04	0.00	(-) 2.23	(-) 101.90
Generator Transformer 200 MVA, 21/400 KV	1018.49	0.00	0.00	26.63	0.00
Generator Transformer	0.00	888.28	0.00	0.00	0.00
HMI system upgraded servers Stage-I	0.00	0.00	0.00	140.76	133.08
Electronic weigh bridge	38.97	0.00	0.00	0.00	0.00
Automatic fly ash brick plant	97.14	0.00	0.00	0.00	0.00
Bio diesel Plant	133.38	0.00	0.00	0.00	0.00
Continuous Emission Monitoring System (CEMS)	0.00	336.57	10.64	0.00	0.00
Inert gas fire extinguisher	0.00	4.93	0.00	0.30	0.00
ABT software and hardware	0.00	153.75	0.00	0.00	0.00
Solar water heater	0.00	310.24	0.00	0.00	0.00
Land leveling work	0.00	0.00	0.00	0.00	0.80
60 Nos. Type-I TTS	0.00	0.00	0.00	0.00	0.82
6.6 kV Switchgear Stage-I (O&M/CHP)	0.00	0.00	0.00	0.00	35.51
Elevator at crusher house Stage-I CHP	0.00	0.00	0.00	0.00	30.67
Loan FERV	16.46	19.52	0.00	0.00	(-) 83.76
Capitalization under 5 KM Electrification scheme	257.72	0.00	0.00	0.00	0.00
De-capitalization under 5 KM Electrification scheme	0.00	(-) 1689.83	0.00	0.00	0.00
Inter-unit transfer of assets	0.00	1.07	(-) 0.25	(-) 0.30	29.15
MBOA's	0.00	0.00	9.09	0.00	0.00
Electro Static Precipitator (ESP) retrofitting (including price adjustment)	0.00	0.00	4390.45	11623.99	(-) 4047.61
C&I	0.00	0.00	400.92	0.00	0.00
Cooling tower	0.00	0.00	611.55	0.00	0.00
Electrification of CISF quarters	0.00	0.00	7.39	0.00	0.00
Transformer 500 KVA 6.6/0.433 KV	0.00	0.00	0.09	0.00	0.00
Service building	0.00	0.00	0.00	63.50	0.00
Ash slurry pump house switchgear Stage-I	0.00	0.00	0.00	264.58	0.00
De-capitalization of MBOA's (not part of capital cost)	0.00	(-) 1.07	(-) 0.53	(-) 1.19	(-) 1.06
Price adjustment towards assets (not part of capital cost)	(-) 0.69	0.00	0.00	0.00	0.00
Reversal of liabilities	0.00	0.00	(-) 10.44	(-) 14.11	(-) 2.65
Differential error	0.00	0.00	0.00	0.66	0.00
<b>Total Exclusions Allowed</b>	<b>2585.11</b>	<b>417.39</b>	<b>6210.60</b>	<b>13834.33</b>	<b>(-) 311.06</b>
<b>Total Exclusions Disallowed</b>	<b>0.00</b>	<b>(-) 91.77</b>	<b>(-) 11.81</b>	<b>(-) 115.04</b>	<b>(-) 244.08</b>



### **Additional Capital Expenditure**

29. The additional capital expenditure claimed by the Petitioner for the 2014-19 tariff period is examined as under:

	<i>(Rs in lakh)</i>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
3 <sup>rd</sup> Raising of Ash Dyke V-1 & associated work	134.20	0.00	0.11	0.65	0.00
Ash Dyke-4	0.00	0.00	22.60	0.00	0.00
3 <sup>rd</sup> Raising of Ash Dyke V-2 & associated work	0.00	0.00	0.00	52.67	0.00
Ash Dyke Rising	0.00	0.00	0.00	0.00	8.89
Construction of Ash Dyke V-2	0.00	0.00	0.00	1.36	0.00
Water Charges (EDC)	0.00	0.00	0.00	417.73	0.00
Package ERV	0.00	0.00	0.00	0.00	0.00
De-capitalization of capital spares	0.00	(-) 23.77	(-) 62.93	(-) 207.99	(-) 291.64
De-capitalization against ESP retrofitting	0.00	0.00	(-) 256.28	(-) 555.26	0.00
<b>Additional capital expenditure claimed (before discharges of liabilities)</b>	<b>134.20</b>	<b>(-) 23.77</b>	<b>(-) 296.51</b>	<b>(-) 290.84</b>	<b>(-) 282.75</b>
Add: Discharge of Liabilities	7.15	97.63	83.12	10.33	0.00
<b>Net Additional capital expenditure claimed (including discharges of liabilities)</b>	<b>141.35</b>	<b>73.86</b>	<b>(-) 213.39</b>	<b>(-) 280.51</b>	<b>(-) 282.75</b>

### ***Ash Dyke Raising and related works***

30. The Petitioner has claimed additional capital expenditure of Rs.134.20 lakh in 2014-15, Rs.22.71 lakh in 2016-17, Rs.54.68 lakh in 2017-18 and Rs.8.89 lakh in 2018-19 towards Ash dyke raising and related works under Regulation 14(3)(iv) of the 2014 Tariff Regulations, on cash basis, along with the corresponding un-discharged liabilities being Rs.4.90 lakh in 2014-15 and Rs.18.62 lakh in 2016-17. The Petitioner has submitted that the Commission vide order dated 24.2.2017 in Petition No. 338/GT/2014, had granted liberty to claim ash related works at the time of truing-up of tariff of the generating station for the 2014-19 tariff period. The Petitioner has further submitted that Ash dyke raising is a continuous activity to be carried out from time to time for the disposal of ash during the life of the plant to



ensure successful running of the plant. The Petitioner has also submitted that there is no plan for phasing out of the generating station in near future, as apprehended by the Commission in its order dated 24.2.2017 in Petition No. 338/GT/2014. Therefore, the Petitioner has prayed that the additional capital expenditure claimed may be allowed for the generating station. The Respondent MPPMCL has submitted that though Regulation 14(3)(iv) of the 2014 Tariff Regulations is applicable for additional capital expenditure claimed after the cut-off date, the claim may be rejected in respect of units/ plants, which have completed their useful life. It has further questioned the need for ash dyke raising, in light of the requirement for ensuring 100% ash utilization by the generating stations, under MOEF&CC Notification dated 7.12.2015. The Respondent has also stated that while the Petitioner, on one hand, is charging fly ash transportation cost, it has, on the other hand, claimed expenditure towards ash dyke raising. The Petitioner has clarified that the issue of 'ash transportation' and 'raising of ash dyke' are two separate issues which have no bearing on each other, as the expenditure on account of ash transportation has been settled by the Commission and the same has been allowed for the generating station. It has stated that the issue of raising of ash dyke is an operational issue within the generating station and the additional capital expenditure on this account is necessary for smooth operation of the plant.

31. The submissions of the parties have been considered. In our view, the ash generation and ash disposal are continuous in nature and the process is required to be carried out from time to time, during the operating life of the plant, in order to ensure successful running of the generating station. It is also evident from the Petitioner's submission that there is no plan for phasing out the generating station in



the near future. In this background, we allow the Petitioner's claim under this head, subject to recovery of depreciation on the expenditure for the purpose @5.28%.

### ***Package ERV***

32. The Petitioner has not claimed any additional capital expenditure under this head during the 2014-19 tariff period, on cash basis. However, the Petitioner has claimed Rs.6.17 lakh in 2015-16, Rs.0.75 lakh in 2016-17, (-) Rs.0.38 lakh in 2017-18 and Rs.0.08 lakh in 2018-19 on accrual basis. Since the entire liability against these package ERV is yet to be discharged, the claim on cash basis, is nil. It is pertinent to mention that the Commission in its various orders had consistently considered and allowed package ERV for the purpose of tariff. However, as the Petitioner has claimed Package ERV on accrual basis, the same is treated as undischarged liability and the amount allowable, on cash basis, is 'nil' for the 2014-19 tariff period.

### ***De-capitalization of capital Spares (part of capital cost)***

33. The Petitioner has claimed de-capitalization of capital spares, forming part of the admitted capital cost amounting to Rs.23.77 lakh in 2015-16, Rs.62.93 lakh in 2016-17, Rs.207.99 lakh in 2017-18 and Rs.291.64 lakh in 2018-19, under Regulation 14(4) of the 2014 Tariff Regulations. As Regulation 14(4) of the 2014 Tariff Regulations provides that in case of de-capitalization of assets, the original cost of such asset is to be removed from the admitted capital cost of the generating station, the claim of the Petitioner is allowed for the purpose of tariff.



### **De-capitalization against ESP retrofitting**

34. The Petitioner has claimed de-capitalization of Rs.256.28 lakh in 2016-17 and Rs.555.26 lakh in 2017-18 towards ESP retrofitting under Regulation 14(4) of the 2014 Tariff Regulations. As Regulation 14(4) of the 2014 Tariff Regulations provides that in case of de-capitalization of assets, the original cost of such asset is to be removed from the admitted capital cost of the generating station, the claim of the Petitioner is allowed for the purpose of tariff.

### **Discharges of liabilities**

35. The discharge of liabilities allowed as part of the additional capital expenditure during the 2014-19 tariff period, corresponding to allowed assets, are as under:

(Rs. in lakh)

		2014-15	2015-16	2016-17	2017-18	2018-19
A	Opening Un-discharged liabilities as on 01.04.2014 <b>(Includes un-discharged liabilities of Rs.295.92 lakh pertaining to period prior to 1.4.2009)</b>	400.86	398.62	307.16	243.41	218.59
B	Discharges during the period out of liabilities as on 1.4.2009	0.00	97.63	57.30	0.00	0.00
C	Reversals during the period out of liabilities as on 1.4.2009	0.00	0.00	0.00	13.35	0.00
D	Addition during the period	4.90	6.17	19.36	(-)0.38	0.08
E	Discharges during the period	7.15	0.00	25.85	10.33	0.00
F	Reversal of liabilities out of liabilities added during the period	0.00	0.00	0.00	0.76	0.00
G	Discharges of liabilities during the period (B+E)	7.15	97.63	83.12*	10.33	0.00
H	Reversal of liability during the period (C+F)	0.00	0.00	0.00	14.11	0.00
I	Closing Un-discharged liabilities (A+D-G-H)	398.62	307.16	243.41	218.59	218.67

36. As per the above table, the balance un-discharged liabilities corresponding to admitted capital cost as on 31.3.2019, works out to be Rs.218.67 lakh, which includes un-discharged liabilities of Rs.127.64 lakh (i.e. Rs.295.92 lakh – Rs.97.63



lakh – Rs.57.30 lakh – Rs.13.35 lakh) pertaining to the period prior to 1.4.2009. Further, out of the discharges of liabilities claimed by the Petitioner, discharges amounting to Rs.8.03 lakh in 2016-17 and Rs.5.44 lakh in 2017-18 pertain to un-discharged liabilities corresponding to additional capital expenditure allowed during the 2014-19 tariff period and, hence, eligible for depreciation @5.28%, as stated in paragraph 31 above.

37. Based on the above, the summary of additional capital expenditure allowed for the 2014-19 tariff period is as under:

	<i>(Rs in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
3 <sup>rd</sup> Raising of Ash Dyke V-1 & associated work	134.20	0.00	0.11	0.65	0.00
Ash Dyke-4	0.00	0.00	22.60	0.00	0.00
3 <sup>rd</sup> Raising of Ash Dyke V-2 & associated work	0.00	0.00	0.00	52.67	0.00
Ash Dyke Rising	0.00	0.00	0.00	0.00	8.89
Construction of Ash Dyke V-2	0.00	0.00	0.00	1.36	0.00
Package ERV	0.00	0.00	0.00	0.00	0.00
De-capitalization of capital spares	0.00	(-) 23.77	(-) 62.93	(-) 207.99	(-) 291.64
De-capitalization against ESP retrofitting	0.00	0.00	(-) 256.28	(-) 555.26	0.00
<b>Additional capital expenditure allowed (before discharges of liabilities)</b>	<b>134.20</b>	<b>(-) 23.77</b>	<b>(-) 296.51</b>	<b>(-) 708.57</b>	<b>(-) 282.75</b>
Add: Discharge of liabilities	7.15	97.63	83.12	10.33	0.00
<b>Additional capital expenditure allowed (including discharges of liabilities)</b>	<b>141.35</b>	<b>73.86</b>	<b>(-) 213.39</b>	<b>(-) 698.24</b>	<b>(-) 282.75</b>
Add: Exclusions disallowed	0.00	(-) 91.77	(-) 11.81	(-) 115.04	(-) 244.08
<b>Net additional capital expenditure allowed</b>	<b>141.35</b>	<b>(-) 17.90</b>	<b>(-) 225.19</b>	<b>(-) 813.28</b>	<b>(-) 526.83</b>

### **Capital Cost allowed**

38. Based on the above, the capital cost allowed for the purpose of tariff is as under:





(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	148158.63	148299.98	148282.07	148056.88	147243.60
Add: Additional capital expenditure	141.35	(-) 17.90	(-) 225.19	(-) 813.28	(-) 526.83
Closing Capital Cost	148299.98	148282.07	148056.88	147243.60	146716.78
Average Capital Cost	148229.30	148291.02	148169.48	147650.24	146980.19

## **Debt-Equity Ratio**

39. Regulation 19 of the 2019 Tariff Regulations provides as under:

*“19. Debt-Equity Ratio: (1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:*

*Provided that: i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:*

*ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:*

*iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt: equity ratio.*

*Explanation.-The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilized for meeting the capital expenditure of the generating station or the transmission system.*

*(2)The generating company or the transmission licensee shall submit the resolution of the Board of the company or approval from Cabinet Committee on Economic Affairs (CCEA) regarding infusion of fund from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.*

*(3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered.*

*(4) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2014, the Commission shall approve the debt: equity ratio based on actual information provided by the generating company or the transmission licensee as the case may be.*

*(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.*



40. Accordingly, the gross normative loan and equity amounting to Rs.74528.51 lakh and Rs.73630.11 lakh, respectively as on 1.4.2014, as considered in order dated 24.2.2017 in Petition No. 338/GT/2014, has been considered as gross normative loan and equity as on 1.4.2014. Further, the additional capital expenditure approved above has been allocated to debt and equity in debt-equity ratio of 70:30.

### **Return on Equity**

41. Regulation 24 of the 2014 Tariff Regulations provides as under:

*“24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.*

*(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:*

*Provided that:*

- i) in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:*
- ii) the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:*
- iii) additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:*
- iv) the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:*
- v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:*
- vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometer.”*

42. Regulation 25 of the 2014 Tariff Regulations provides as under:

*“25. Tax on Return on Equity: (1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the*



respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax income on other income stream (i.e., income of non-generation or non-transmission business, as the case may be) shall not be considered for the calculation of “effective tax rate”

(2) Rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below:

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

Where “t” is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), “t” shall be considered as MAT rate including surcharge and cess

(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2014-15 to 2018-19 on actual gross income of any financial year. However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee as the case may be. Any under- recovery or over recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long term transmission customers/DICs as the case may be on year to year basis.”

43. The Petitioner has claimed tariff considering the rate of return on equity of 19.611% in 2014-15, 19.706% in 2015-18 and 19.758% in 2018-19. The Petitioner has worked out these rates, after grossing up the base rate of return on equity of 15.50% with MAT rate of 20.961% in 2014-15, 21.342% in 2015-18 and 21.549% in 2018-19. However, after rectifying the rounding off errors, the rate of return on equity to be considered for the purpose of tariff works out to 19.610% for 2014-15, 19.705% for 2015-18 and 19.758% for 2018-19. Accordingly, return on equity has been worked out as under:

(Rs in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Notional Equity- Opening	73630.11	73672.51	73667.14	73599.59	73355.60
Addition of Equity due to additional capital expenditure	42.40	(-) 5.37	(-) 67.56	(-) 243.98	(-) 158.05



<b>Normative Equity – Closing</b>	73672.51	73667.14	73599.59	73355.60	<b>73197.55</b>
Average Normative Equity	73651.31	73669.83	73633.36	73477.59	73276.58
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate	20.961%	21.342%	21.342%	21.342%	21.549%
Rate of Return on Equity (Pre-tax)	19.610%	19.705%	19.705%	19.705%	19.758%
<b>Return on Equity (Pre-tax) - (annualized)</b>	<b>14443.02</b>	<b>14516.64</b>	<b>14509.45</b>	<b>14478.76</b>	<b>14477.99</b>

### Interest on loan

44. Regulation 26 of the 2014 Tariff Regulations provides as under:

*“26. Interest on loan capital: (1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.*

*(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.*

*(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of De-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered up to the date of de-capitalization of such asset*

*(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.*

*(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:*

*Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:*

*Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.*

*(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.*

*(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such refinancing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.*

*(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.*

*(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute: Provided that the beneficiaries or the long term*



*transmission customers /DICs shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan.”*

45. Interest on loan has been worked out as mentioned below:

- i) The gross normative loan amounting to Rs.74528.51 lakh as considered in order dated 24.2.2017 in Petition No. 338/GT/2014 has been considered as on 1.4.2014;
- ii) Cumulative repayment of Rs.71359.73 lakh as on 1.4.2014 as considered in order dated 24.2.2017 in Petition No. 338/GT/2014, has been considered as on 1.4.2014;
- iii) Accordingly, the net normative opening loan as on 1.4.2014 works out to Rs.3168.78 lakh;
- iv) Addition to normative loan on account of additional capital expenditure approved above has been considered;
- v) Depreciation allowed has been considered as repayment of normative loan during the respective year of the 2014-19 tariff period. Further, proportionate adjustment has been made to the repayments corresponding to discharges and reversal of liabilities considered during the respective years on account of cumulative repayment adjusted as on 1.4.2009. Also, repayments have been adjusted for de-capitalization of assets considered for the purpose of tariff; and
- vi) The Petitioner has claimed interest on loan considering WAROI of 9.1944% in 2014-15, 8.8437% in 2015-16, 8.5965% in 2016-17, 8.1959% in 2017-18 and 8.2103% in 2018-19, the same has been considered. Interest on loan worked out is as under:

	<b>(Rs. in lakh)</b>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross opening loan	74528.51	74627.45	74614.92	74457.29	73887.99
Cumulative repayment of loan up to previous year / period	71359.73	72014.03	72609.15	72652.27	72050.66
Net Loan Opening	3168.78	2613.42	2005.77	1805.02	1837.33
Addition on account of additional capital expenditure	98.94	(-) 12.53	(-) 157.63	(-) 569.29	(-) 368.78
Repayment of loan during the year	654.30	654.78	262.38	10.30	12.12
Less: Repayment adjustment on account of de-capitalization	0.00	80.87	231.71	614.81	375.00
Add: Repayment adjustment on a/c of discharges / reversals corresponding to un-discharged liabilities deducted as on 1.4.2009	0.00	21.22	12.45	2.90	0.00
Net Repayment	654.30	595.12	43.12	(-) 601.61	(-) 362.88





Net Loan Closing	2613.42	2005.77	1805.02	1837.33	1831.44
Average loan	2891.10	2309.60	1905.39	1821.17	1834.38
Weighted Average Rate of Interest on loan	9.1944%	8.8437%	8.5965%	8.1959%	8.2103%
<b>Interest on loan</b>	<b>265.82</b>	<b>204.25</b>	<b>163.80</b>	<b>149.26</b>	<b>150.61</b>

## Depreciation

46. Regulation 27 of the 2014 Tariff Regulations provides as under:

*“27. Depreciation: (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.*

*Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.*

*(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.*

*(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:*

*Provided that in case of hydro generating station, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the Plant:*

*Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciated value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff:*

*Provided also that any depreciation disallowed on account of lower availability of the generating station or generating unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life and the extended life.*

*(4) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.*

*(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-II to these regulations for the assets of the generating station and transmission system: Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.*



*(6) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission up to 31.3.2014 from the gross depreciable value of the assets.*

*(7) The generating company or the transmission licensee, as the case may be, shall submit the details of proposed capital expenditure during the fag end of the project (five years before the useful life) along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure during the fag end of the project.*

*(8) In case of de-capitalization of assets in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the de-capitalized asset during its useful services.”*

47. The cumulative depreciation amounting to Rs.129416.28 lakh as on 1.4.2014, as considered in order dated 24.2.2017 in Petition No. 338/GT/2014, has been considered as on 1.4.2014, for existing assets. Also, the value of freehold land amounting to Rs.2500.84 lakh, as considered in order dated 24.2.2017 in Petition No. 338/GT/2014, has been considered as on 1.4.2014 for existing assets. Accordingly, the balance depreciable value, before providing for depreciation for 2014-15, works out to Rs.1678.95 lakh for existing assets and Rs.60.39 lakh for assets allowed during the 2014-19 tariff period. The balance useful life of 2.58 years as on 1.4.2014, as considered in order dated 24.2.2017 in Petition No. 338/GT/2014, has been retained for the purpose of tariff, for existing assets. The depreciation for existing assets has been computed considering spreading over of the balance depreciable value and the depreciation for assets admitted during the 2014-19 tariff period has been computed by applying the weighted average rate of depreciation of 5.28%, as mentioned in paragraph 31 above. The calculation of WAROD has been enclosed as Annexure-I to this order. Further, proportionate adjustment has been made to the cumulative depreciation, on account of de-capitalization of assets, and also on account of discharged/reversal of liabilities, out of un-discharged liabilities





deducted from the capital cost as on 1.4.2009. Necessary calculations in support of depreciation are as under:

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
<b>For existing assets</b>					
Opening Capital Cost	148158.63	148165.78	148147.87	147891.94	147018.54
Add: Additional capital expenditure	7.15	(-) 17.90	(-) 255.93	(-) 873.40	(-) 535.72
Closing Capital Cost	148165.78	148147.87	147891.94	147018.54	146482.83
Average Capital Cost (A)	148162.20	148156.82	148019.91	147455.24	146750.68
Value of freehold land included above (B)	2500.84	2500.84	2500.84	2500.84	2500.84
Average Capital Cost, net of free hold land (C) = (A-B)	145661.40	145655.98	145519.07	144954.40	144249.84
Aggregated depreciable value (D) = [C*(90%)]	131095.23	131090.39	130967.16	130458.96	129824.86
Remaining aggregate depreciable value at the beginning of the year (E) = [D- Cumulative depreciation (shown at (M) at the end of the year]	1678.95	1023.35	254.48	0.00	0.00
No. of completed years at the beginning of the year (F)	22.42	23.42	24.42	25.42	26.42
Balance useful life at the beginning of the year (G)	2.58	1.58	0.58	-	-
Weighted Average Rate of Depreciation (WAROD) (H)= (I1/A)	0.4392%	0.4372%	0.1719%	0.0000%	0.0000%
Depreciation during the year (I1)	650.75	647.69	254.48	0.00	0.00
Cumulative Depreciation at the end of the year (before adjustment for de-capitalization) (J) = [I1+cumulative depreciation (shown at M) at the end of the previous year]	130067.03	130714.72	130967.16	130718.84	129939.93
Add: Cumulative Depreciation adjustment on account of Un-discharged liabilities deducted as on 1.4.2009 (K)	0.00	84.51	49.60	11.56	0.00
Less: Depreciation adjustment on account of de-capitalization (L)	0.00	86.56	297.92	790.47	482.15
<b>Cumulative depreciation at the end of the year (M)*</b>	<b>130067.03</b>	<b>130712.68</b>	<b>130718.84</b>	<b>129939.93</b>	<b>129457.79</b>
<b>For assets admitted during the 2014-19 tariff period</b>					
Opening Capital Cost	0.00	134.20	134.20	164.94	225.06
Add: Additional capital expenditure	134.20	0.00	30.74	60.12	8.89
Closing Capital Cost	134.20	134.20	164.94	225.06	233.95
Average Capital Cost (A)	67.10	134.20	149.57	195.00	229.51
Value of freehold land included above (B)	0.00	0.00	0.00	0.00	0.00
Aggregated depreciable value [(A-B)*90%]	60.39	120.78	134.61	175.50	206.55
Remaining aggregate depreciable	60.39	117.24	123.98	156.97	177.73

value at the beginning of the year (C)					
No. of completed years at the beginning of the year (D)	22.42	23.42	24.42	25.42	26.42
Balance useful life at the beginning of the year (E)	2.58	1.58	0.58	-	-
Weighted Average Rate of Depreciation (WAROD) (F)	5.28%	5.28%	5.28%	5.28%	5.28%
Depreciation during the year (G1) = [F*A]	3.54	7.09	7.90	10.30	12.12
Cumulative Depreciation at the end of the year (before adjustment for de-capitalization) (H)	3.54	10.63	18.53	28.82	40.94
Less: Depreciation adjustment on account of de-capitalization (I)	0.00	0.00	0.00	0.00	0.00
Cumulative depreciation at the end of the year (J)	3.54	10.63	18.53	28.82	40.94
<b>Total Depreciation</b>					
Total Depreciation during the year (I1+G1)	654.30	654.78	262.38	10.30	12.12

\* Cumulative Depreciation at the end of 2013-14 is Rs.129416.28 lakh.

### **O&M Expenses**

48. Regulation 29(1)(a) of the 2014 Tariff Regulations provides for the following

O&M expenses:

<b>Year</b>	<b>200/210/250 MW series</b>
2014-15	23.90
2015-16	25.40
2016-17	27.00
2017-18	28.70
2018-19	30.51

49. The Commission in its order dated 24.2.2017 in Petitioner No. 338/GT/2014 had allowed the following O&M expenses:

	<b>(Rs. in lakh)</b>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
O&M expenses allowed under Regulation 29(1)(a)	30114.00	32004.00	34020.00	36162.00	38442.60
Water Charges allowed under Regulation 29(2)	1521.83	1521.83	1521.83	1521.83	1521.83
Capital spares	0.00	0.00	0.00	0.00	0.00
<b>Total O&amp;M Expenses</b>	<b>31635.83</b>	<b>33525.83</b>	<b>35541.83</b>	<b>37683.83</b>	<b>39964.43</b>

50. The O&M expenses claimed by the Petitioner are as under:



	<i>(Rs. in lakh)</i>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
O&M expenses under Regulation 29(1)(a) of the 2014 Tariff Regulations	30114.00	32004.00	34020.00	36162.00	38442.60
O&M expenses under Regulation 29(2) of the 2014 Tariff Regulations:					
- Water Charges	2353.63	2249.01	2106.40	1979.51	2044.66
- Capital Spares consumed	649.66	686.80	62.93	210.22	393.54
<b>Sub-total O&amp;M expenses</b>	<b>33117.29</b>	<b>34939.81</b>	<b>36189.33</b>	<b>38351.73</b>	<b>40880.80</b>
Impact of Wage revision	0.00	50.57	3865.91	4215.67	5052.78
Impact of GST	0.00	0.00	0.00	175.41	263.97
Arrears of water charges for the period prior to 2014-19 period	0.00	0.00	0.00	17496.96	0.00
<b>Total O&amp;M Expenses</b>	<b>33117.29</b>	<b>34990.38</b>	<b>40055.24</b>	<b>60239.77</b>	<b>46197.55</b>

51. Since the normative O&M expenses claimed by the Petitioner is as per Regulation 29(1)(a) of the 2014 Tariff Regulations and are the same as those allowed vide order dated 24.2.2017 in Petitioner No. 338/GT/2014, the claim of the Petitioner is allowed.

### **Water Charges**

52. Regulation 29(2) of the 2014 Tariff Regulations provide as under:

*“29(2) The Water Charges and capital spares for thermal generating stations shall be allowed separately:*

*Provided that water charges shall be allowed based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence check. The details regarding the same shall be furnished along with the petition:*

*xxxx”.*

53. The water charges allowed on projected basis, by order dated 24.2.2017 in Petitioner No. 338/GT/2014 is as under:

<i>(Rs. in lakh)</i>				
<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
1521.83	1521.83	1521.83	1521.83	1521.83

54. In terms of the first proviso to Regulation 29(2) of the 2014 Tariff Regulations, water charges are to be allowed based on water consumption, depending upon type of plant, type of cooling water system etc., subject to prudence check. The Petitioner



has claimed water charges based on actual water consumption of the generating station as under:

	Units	2014-15	2015-16	2016-17	2017-18	2018-19
Type of cooling tower	-	Induced Draft Cooling Tower (IDCT)				
Type of cooling water system	-	Closed Cycle				
Water allocation/contracted	MCM	160	160	160/149	149	149
Actual water consumption for Stage-I	MCM	27.67	34.01	34.37	39.16	44.42
Rate of water charges	-	Rs.5.5/m <sup>3</sup>				
Total water charges paid (for whole generating station)	Rs. in lakh	7957.51	7979.31	7957.51	7478.13	7381.94
<b>Water charges paid for Stage-I and claimed in Petition</b>	Rs. in lakh	<b>2353.63</b>	<b>2249.01</b>	<b>2106.40</b>	<b>1979.51</b>	<b>2044.66</b>

55. The Respondent MPPMCL has submitted that specific water consumption should be maximum of 3.5 m<sup>3</sup>/MWh as per Ministry of Environment, Forest and Climate Change (MOEFCC) Notification dated 7.12.2015. The Petitioner has stated that the consumption of water charges in the generating station also falls in line with the water consumption specified as per CEA guidelines.

56. We have examined the matter. The water charges claimed in the present petition are higher than those allowed, on projected basis, in order dated 24.2.2017 in Petition No. 338/GT/2014 for the 2014-19 tariff period. The submission of the Respondent MPPMCL as stated in paragraph 55 above, does not take into consideration the provisions of the agreement dated 27.12.2008 executed between the Petitioner and WRD, Government of Madhya Pradesh. It is noticed that the said agreement provides for payment of water charges for at least 90% of the total quantum of water charges allowed to be drawn or the actual water drawn, whichever is higher. In view of this, the water charges based on actual consumption claimed is allowed for the purpose of tariff as under:



(Rs. in lakh)

	Units	2014-15	2015-16	2016-17	2017-18	2018-19
Installed capacity of all Stages Vindhyachal STPS (A)	MW	4260	@ 4469.02	4760	4760	4760
Installed capacity of Stage-I (B)	MW	1260	1260	1260	1260	1260
Actual Water allocation/contracted for all Stages of Vindhyachal STPS as in 'A' above (C)	MCM	160.74	160.74	160.74/149.13	149.13	149.13
Worked out contracted capacity of water for Stage-I as in 'B' above (D) = (C*B/A)	MCM	47.54	45.32	40.76	39.48	39.48
Minimum quantum of water for which payment needs to be made as per agreement dated 27.12.2008 (E) = (D*90%)	MCM	42.79	40.79	36.69	35.53	35.53
Actual water consumption as claimed for Stage-I (E)	MCM	27.67	34.01	34.37	39.16	44.42
Allowable quantum of water to be considered for payment purpose (F)	MCM	42.79	40.79	36.69	39.16	\$ 35.53
Total water charges paid (for whole generating station) (G)	Rs. in lakh	* 7957.51	# 7979.31	# 7957.51	# 7478.13	* 7381.94
Rate of water charges (H)	-	Rs.5.5/m <sup>3</sup>				
<b>Water charges allowed (I) = (F*H*10)</b>	Rs. in lakh	<b>2353.37</b>	<b>2243.30</b>	<b>2017.81</b>	<b>1954.04</b>	<b>1954.04</b>

\*reflects to be paid for 90% of the contracted capacity; # reflects to be paid for actual consumption within contracted capacity; @ 4260 MW upto 30.10.2015 and 4760 MW thereafter; \$ restricted to 90% of the contracted quantum of water as the overall payment made for entire capacity of 4760 MW of Vindhyachal STPS in 2018-19 is @ 90% of the contracted quantum of water.

### Capital Spares

57. The last proviso to Regulation 29(2) of the 2014 Tariff Regulations provides as under:

*“Provided that the generating station shall submit the details of year wise actual capital spares consumed at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not funded through compensatory allowance or special allowance or claimed as a part of additional capitalization or consumption of stores and spares and renovation and modernization”.*

58. In terms of the above-quoted proviso, capital spares consumed are admissible separately, at the time of truing up of tariff, based on the details furnished by the Petitioner. The capital spares claimed by the Petitioner are as under:



<i>(Rs. in lakh)</i>				
<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
649.66	686.80	62.93	210.22	393.54

59. We have examined the list of spares furnished by the Petitioner along with the de-capitalization details furnished in Form-9 Bi. The capital spares, which have been consumed by the Petitioner and claimed as above, comprises of two categories as stated below:

<i>(Rs. in lakh)</i>					
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Capital spares (part of capital cost)	0.00	23.77	62.93	207.99	291.64
Capital spares (not part of capital cost)	649.66	663.04	0.00	2.23	101.90
<b>Total capital spares consumed and claimed</b>	<b>649.66</b>	<b>686.80</b>	<b>62.93</b>	<b>210.22</b>	<b>393.54</b>

60. In respect of capital spares which forms part of capital cost of the generating station, the Petitioner has been recovering tariff since their procurement and, therefore, the same cannot be allowed as part of additional O&M expenses. Accordingly, only those capital spares which do not form part of the capital cost of the generating station are only being considered in the present Petition. It is pertinent to mention that the term 'capital spares' has not been defined in the 2014 Tariff Regulations. The term capital spares, in our view, is a piece of equipment, or a spare part, of significant cost that is maintained in inventory for use in the event that a similar piece of critical equipment fails or must be rebuilt. Keeping in view the principle of materiality and to ensure standardized practices in respect of earmarking and treatment of capital spares, the value of capital spares exceeding Rs.1.00 lakh, on prudence check of the details furnished by the Petitioner in Form-17 of the Petition, has been considered for the purpose of tariff. Based on this, the details of



capital spares consumption allowed for the 2014-19 tariff period is summarized as under:

	<i>(Rs. in lakh)</i>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Total capital spares consumed claimed	649.66	686.80	62.93	210.22	393.54
Less: Capital spares (part of capital cost)	0.00	23.77	62.93	207.99	291.64
<b>Total capital spares consumed (not part of capital cost)</b>	<b>649.66</b>	<b>663.04</b>	<b>0.00</b>	<b>2.23</b>	<b>101.90</b>
Less: Value of capital spares below Rs.1.00 lakh disallowed on individual basis	7.52	4.77	0.00	2.23	3.38
<b>Net total value of capital spares considered</b>	<b>642.14</b>	<b>658.26</b>	<b>0.00</b>	<b>0.00</b>	<b>98.52</b>

61. Further, we are of the view that spares do have a salvage value. Accordingly, in line with the practice of considering the salvage value, presumed to be recovered by the Petitioner on sale of other capital assets, on becoming unserviceable, the salvage value of 10% has been deducted from the cost of capital spares considered above, for the 2014-19 tariff period. Therefore, on prudence check of the information furnished by the Petitioner in Form-17 and on applying the said ceiling limit along with deduction of the salvage value @10%, the net capital spares allowed in terms of Regulation 29(2) of 2014 Tariff Regulations is as under:

	<i>(Rs. in lakh)</i>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Net total value of capital spares considered	642.14	658.26	0.00	0.00	98.52
Less: Salvage value @ 10%	64.22	65.82	0.00	0.00	9.85
<b>Net capital spares allowed</b>	<b>577.93</b>	<b>592.44</b>	<b>0.00</b>	<b>0.00</b>	<b>88.67</b>

62. Accordingly, the total O&M expenses allowed to the generating station in terms of Regulation 29 of the 2014 Tariff Regulations are as under:

		<i>(Rs. in lakh)</i>				
		<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Normative O&M	Claimed	30114.00	32004.00	34020.00	36162.00	38442.60





expenses under Regulation 29(1)(a) of the 2014 Tariff Regulations	<b>Allowed</b>	<b>30114.00</b>	<b>32004.00</b>	<b>34020.00</b>	<b>36162.00</b>	<b>38442.60</b>
Water Charges under Regulation 29(2) of the 2014 Tariff Regulations	Claimed	2353.63	2249.01	2106.40	1979.51	2044.66
	<b>Allowed</b>	<b>2353.37</b>	<b>2243.30</b>	<b>2017.81</b>	<b>1954.04</b>	<b>1954.04</b>
Capital Spares under Regulation 29(2) of the 2014 Tariff Regulations	Claimed	649.66	686.80	62.93	210.22	393.54
	<b>Allowed</b>	<b>577.93</b>	<b>592.44</b>	<b>0.00</b>	<b>0.00</b>	<b>88.67</b>
Total O&M expenses claimed under Regulation 29 of the 2014 Tariff Regulations	Claimed	33117.29	34939.81	36189.33	38351.73	40880.80
	<b>Allowed</b>	<b>33045.30</b>	<b>34839.74</b>	<b>36037.81</b>	<b>38116.04</b>	<b>40485.31</b>

### **Additional O&M Expenses on account of Goods and Service Tax**

63. The Petitioner has claimed additional O&M expenses of Rs.175.41 lakh in 2017-18 and Rs.263.97 lakh in 2018-19 on account of payment of Goods and Service Tax (GST). The Respondent, MSEDCL has submitted that the Petitioner's claim of GST expenses towards O&M expenses will lead to additional burden on the consumers and the GST expenses towards O&M expenses are applicable only if a service is outsourced. The Respondent has also submitted that services are outsourced because of efficiency issues or lack of expertise within the company and it will obviously be lower than the cost of doing that job internally. It has also stated that the O&M norms are ceiling norms and the generating companies are required to manage within these limits. The Respondent has added that through the enactment of GST Act, the Central Government has rationalized the tax regime by subsuming various taxes/ cess/ duties, and this has generally resulted in the reduction of overall applicable tax rate in the country and therefore the claim of the Petitioner is not in order. The Petitioner has clarified that it is a settled position of law that promulgation



of GST is 'change in law' event and falls within the purview of Regulation 3(9) read with Regulation 14(3) of the 2014 Tariff Regulations. The Petitioner has further submitted that the amount claimed is only on account of differential rate of tax for taxable services relating to O&M i.e. under erstwhile 15% service tax and 18% under GST.

64. The submissions have been considered. It is observed that the Commission while specifying the O&M expense norms for the 2014-19 tariff period had considered taxes to form part of the O&M expense calculations and had accordingly factored the same in the said norms. This is evident from paragraph 49.6 of the SOR (Statement of Objects and Reasons) issued with the 2014 Tariff Regulations, which is extracted hereunder:

*“49.6 With regards to suggestion received on other taxes to be allowed, the Commission while approving the norms of O&M expenses has considered the taxes as part of O&M expenses while working out the norms and therefore the same has already been factored in...”*

65. Further, the escalation rates considered in the O&M expense norms is only after accounting for the variations during the past five years of the 2014-19 tariff period, which in our view, takes care of any variation in taxes also. It is pertinent to mention that in case of reduction of taxes or duties, no reimbursement is ordered. In this background, we find no reason to grant additional O&M expenses towards payment of GST by the Petitioner.

#### **Additional O&M Expenses on account of impact of Wage Revision**

66. The Petitioner has submitted that the Commission, while specifying the 2014 Tariff Regulations applicable for the 2014-19 tariff period, had taken note in SOR to the said regulations that any increase in the employee expenses, on account of pay



revision shall be considered appropriately, on case-to-case basis, balancing the interest of generating stations and consumers. The Petitioner has, therefore, claimed additional O&M expenses of Rs.50.57 lakh in 2015-16, Rs.3865.91 lakh of in 2016-17, Rs.4215.67 lakh in 2017-18 and Rs.5052.78 lakh in 2018-19 towards impact of wage revision of employees of CISF and Kendriya Vidyalaya (KV) from 1.1.2016 and the employees of the Petitioner posted in the generating station, with effect from 1.1.2017. In this regard the Petitioner vide affidavit dated 29.6.2021 has submitted the following:

- (a) Detailed break-up of the actual O&M expenses booked by the Petitioner for the 2014-19 tariff period for the whole generating station (i.e. all Stages of Vindhyachal STPS).
- (b) Detailed break-up of actual O&M expense of the Corporate Centre and its allocation to various generating stations, for the 2014-19 tariff period.
- (c) Break-up of claimed wage revision impact on employee cost, expenses on corporate centre and on salaries of CISF & Kendriya Vidyalaya employee of the generating station for the 2014-19 tariff period.

67. We have examined the submissions and the documents available on record. As stated, the Petitioner has claimed total amount of Rs.13184.93 lakh (Rs.50.57 lakh in 2015-16, Rs.3865.91 lakh of in 2016-17, Rs.4215.67 lakh in 2017-18 and Rs.5052.78 lakh in 2018-19) as impact of wage revision of employees of CISF and Kendriya Vidyalaya staff from 1.1.2016 and for employees of the Petitioner posted at the generating station with effect from 1.1.2017. However, it is noticed that the said claim of the Petitioner includes the impact on account of the payment of additional PRP/ ex-gratia to its employees amounting to Rs.310.92 lakh in 2017-18 and Rs.1227.37 lakh in 2018-19 consequent upon wage revision. As such, as per consistent methodology adopted by the Commission for excluding PRP/ ex-gratia from actual O&M expenses of past data for finalization of O&M norms for various



tariff settings, the additional PRP/ex-gratia, paid as a result of wage revision impact has been excluded from the wage revision impact claimed by the Petitioner, in the present case. Accordingly, the claim of the Petitioner in respect of wage revision impact stand reduced to Rs.11646.64 lakh with the following year-wise break up:

*(Rs. in lakh)*

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Wage revision impact claimed (excluding PRP/ex-gratia)	0.00	50.57	3865.91	3904.75	3825.41	11646.64

68. The Commission while specifying the O&M expense norms under the 2014 Tariff Regulations had considered the actual O&M expense data for the period from 2008-09 to 2012-13. However, considering the submissions of the stakeholders, the Commission, in the SOR (Statement of Object and Reasons) to the 2014 Tariff Regulations, had observed that the increase in employees cost due to impact of pay revision impact, will be examined on a case-to-case basis, balancing the interest of generating stations and the consumers. The relevant extract of the SOR is extracted under:

*“29.26. Some of the generating stations have suggested that the impact of pay revision should be allowed on the basis of actual share of pay revision instead of normative 40% and one generating company suggested that the same should be considered as 60%. In the draft Regulations, the Commission had provided for a normative percentage of employee cost to total O&M expenses for different type of generating stations with an intention to provide a ceiling limit so that it does not lead to any exorbitant increase in the O&M expenses resulting in spike in tariff. The Commission would however, like to review the same considering the macro economics involved as these norms are also applicable for private generating stations. In order to ensure that such increase in employee expenses on account of pay revision in case of central generating stations and private generating stations are considered appropriately, the Commission is of the view that it shall be examined on case to case basis, balancing the interest of generating stations and consumers.*

xx

*33.2 The draft Regulations provided for a normative percentage of employee cost to total O&M expenses for generating stations and transmission system with an intention to provide a ceiling limit so that the same should not lead to any exorbitant increase in the O&M expenses resulting in spike in tariff. The Commission shall examine the increase in employee expenses on case to case basis and shall consider the same if found appropriate, to ensure that overall impact at the macro*



*level is sustainable and thoroughly justified. Accordingly, clause 29(4) proposed in the draft Regulations has been deleted. The impact of wage revision shall only be given after seeing impact of one full year and if it is found that O&M norms provided under Regulations are inadequate/insufficient to cover all justifiable O&M expenses for the particular year including employee expenses, then balance amount may be considered for reimbursement.”*

69. The methodology indicated in SOR quoted above suggests a comparison of the normative O&M expenses with the actual O&M expenses, on year-to-year basis.

However, in this respect the following facts needs consideration:

- (a) The norms are framed based on the averaging of the actual O&M expense of past five years to capture the year on year variations in sub-heads of O&M;
- (b) Certain cyclic expenditure may occur with a gap of one year or two years and as such adopting a longer duration i.e. five years for framing of norms also captures such expenditure which is not incurred on year to year basis;
- (c) When generating companies find that their actual expenditure has gone beyond the normative O&M expenses in a particular year put departmental restrictions and try to bring the expenditure for the next year below the norms.

70. In consideration of above facts, we find it appropriate to compare the normative O&M expenses with the actual O&M expenses for a longer duration so as to capture the variation in the sub-heads. Accordingly, it is decided that for ascertaining that the O&M expense norms provided under the 2014 Tariff Regulations are inadequate/ insufficient to cover all justifiable O&M expenses, including employee expenses, the comparison of the normative O&M expenses and the actuals O&M expenses incurred shall be made for 2015-19 on a combined basis, which is commensurate with the wage revision claim being spread over these four years.



71. The Petitioner has furnished the detailed breakup of the actual O&M expenses incurred during the 2014-19 tariff period for combined stages i.e. Stage-I, Stage-II, Stage-III, Stage-IV and Stage-V of the Vindhyachal STPS. It is noticed that the total O&M expenses incurred for generating station is more than the normative O&M expenses recovered during each year of the 2014-19 tariff period. The impact of wage revision/ pay revision could not be factored by the Commission while framing the O&M expense norms under the 2014-19 Tariff Regulations since the pay/ wage revision came into effect from 1.1.2016 (CISF & KV employees) and 1.1.2017 (employees of the Petitioner) respectively. As such, in terms of SOR to the 2014 Tariff Regulations, the following approach has been adopted for arriving at the allowable impact of pay revision:

- (a) Comparison of the normative O&M expenses with the actual O&M expenses incurred for the period from 2015-16 to 2018-19, commensurate to the period for which wage revision impact has been claimed. For like to like comparison, the components of O&M expenses like productivity linked incentive, water charges, filing fee, ex-gratia, loss of provisions, prior period expenses, community development store expenses, ash utilization expenses, RLDC fee & charges and others (without breakup/details) which were not considered while framing the O&M expense norms for the 2014-19 tariff period, have been excluded from the yearly actual O&M expenses. Having done so, if the normative O&M expenses for the period 2015-19 are higher than the actual O&M expenses (normalized) for the said period, then the impact of wage revision (excluding PRP and ex-gratia) as claimed for the said period is not admissible/allowed as the impact of pay revision gets accommodated within the normative O&M expenses. However, if the normative O&M expenses for the period 2015-19 are lesser than the actual O&M expenses (normalized) for the same period, the wage revision impact (excluding PRP and ex-gratia) to the extent of under recovery or wage revision impact (excluding PRP and Ex-gratia), whichever is lower, is required to be allowed as wage revision impact for the period 2015-19.

72. The details as furnished by the Petitioner for actual O&M expenses incurred for Stage-I, Stage-II, Stage-III and Stage-IV (4260 MW) for the period from 1.4.2014



to 30.10.2015 and for Stage-I to Stage-V (4760 MW) for the period from 31.10.2015 to 31.3.2019, and the wage revision impact (excluding PRP and ex-gratia) for the generating station (Stage-I 1260 MW) are as under:

*(Rs. in lakh)*

Year	Actual O&M expenses for whole Vindhyachal STPS, excluding water charges & capital spares	Wage revision impact claimed for the generating station i.e. Vindhyachal STPS, Stage-I (1260 MW)
2014-15	72955.79	0.00
2015-16	81611.87	50.57
2016-17	89453.17	3865.91
2017-18	92109.77	3904.75
2018-19	99608.05	3825.41
	<b>Total</b>	<b>11646.64</b>

73. As a first step, the expenditure against sub-heads of O&M expenses as indicated in paragraph 71 above have been excluded from the actual O&M expenses incurred to arrive at the actual O&M expenses (normalized) for the combined stages of the generating station (Stage-I to Stage-IV till 30.10.2015 for 4260 MW and Stage-I to Stage-V from 31.10.2015 to 31.3.2019 for 4760 MW). Accordingly, the comparison of the normative O&M expenses versus the actual O&M expenses (normalized) along with the wage revision impact claimed by the Petitioner for this generating station (Stage-I) for 1260 MW, for the period 2015-19 is as follows:

*(Rs. in lakh)*

	2015-16	2016-17	2017-18	2018-19	Total
Actual O&M expenses (normalized) for the combined stages of the generating station (Stage-I to Stage-IV till 30.10.2015 for 4260 MW and Stage-I to Stage-V from 31.10.2015 to 31.3.2019 for 4760 MW) – (a)	73251.76	83374.34	84765.58	89741.21	<b>331132.89</b>
Actual O&M expenses (normalized) for the generating station i.e. Vindhyachal STPS, Stage-I (1260 MW) pro-rated based on capacity – (b)	20652.69	22069.68	22437.95	23755.03	88915.34
Normative O&M expenses for Vindhyachal STPS, Stage-I as	32004.00	34020.00	36162.00	38442.60	<b>140628.60</b>





per Regulation 29(1) of the 2014 Tariff Regulations – (c)					
Under/(Excess) recovery for the generating station (d)=(b)-(c)	<b>(-) 11351.31</b>	<b>(-) 11950.32</b>	<b>(-) 13724.05</b>	<b>(-) 14687.57</b>	<b>(-) 51713.26</b>
Wage revision impact claimed (excluding PRP/ex-gratia)	50.57	3865.91	3904.75	3825.41	11646.64

74. It is observed that for the wage revision impact during the period 2015-19, the normative O&M expenses are in excess of the actual O&M expenses (normalized) and the excess recovery is to the tune of Rs.51719.57 lakh, which exceeds the wage revision impact claimed (excluding PRP/ ex-gratia) by the Petitioner. As such, in terms of the methodology described above, the wage revision impact (excluding PRP/ex-gratia) is not allowed for this generating station.

75. Based on the above discussions, the additional O&M expenses allowed for the generating station for the 2014-19 tariff period is as under:

*(Rs in lakh)*

		2014-15	2015-16	2016-17	2017-18	2018-19
Impact of Wage revision	Claimed	0.00	50.57	3865.91	4215.67	5052.78
	<b>Allowed</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Impact of GST	Claimed	0.00	0.00	0.00	175.41	263.97
	<b>Allowed</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

### **Payment of arrears of Water Charges**

76. The Petitioner has submitted that in the month of July 2016, WRD, Government of Madhya Pradesh has raised a fresh demand of Rs.92558 lakh for water charges, comprising of differential payment on account of water charges paid for the period from 1.4.1988 to 26.12.2008, along with applicable interest and penal charges for the period of construction, as well as operation, for the generating stations and finally after a number of deliberations between both the parties, the revised arrear bill for Rs.30556 lakh was raised by WRD, Government of Madhya Pradesh, in April 2018 and the Petitioner has made payment of the said arrear amount in 2017-18. Out of





arrear water charges bill for Rs.30556 lakh, the Petitioner has allocated and claimed a total amount of Rs.17914.69 lakh for Vindhychal Stage-I (this generating station) i.e. Rs.417.73 lakh as IEDC for construction period and Rs.17496.96 lakh as revenue expenditure for the operating period. The Petitioner also submitted that while the arrear water charges pertaining to the construction period of the generating station, has been capitalized in the books of accounts and claimed as additional capital expenditure under 'change in law', the water charges pertaining to 'operating period' has been booked under revenue expenditure and claimed as reimbursement for the generating station.

77. The Respondent, MPPMCL has submitted that the claim of the Petitioner under this head is not maintainable as the water charges claimed relate to the previous period, when no water charges were admissible separately, as it formed part of the O&M expenses till the framing of the 2009 Tariff Regulations. It has also objected to the Petitioner's claim and submitted that the generating station has completed its useful life and may be directed to carry out all additional capitalization from the amount accumulated in terms of the compensation allowance and special allowances allowed to the generating station in terms of the 2014 Tariff Regulations. The Petitioner has, however, clarified that water charges were not factored in the normative O&M expenses specified by the Commission under the 2009 Tariff Regulations. It has also submitted that the levy of water charges (arrears) is pursuant to the letter of the Water Resource Department (WRD) dated April 2018 and falls within the scope and meaning of 'change in law' as per Regulation 3(9) of the 2014 Tariff Regulations.



78. During the hearing on 10.8.2021, the Commission had directed the Petitioner to furnish the letter/ correspondences received from the WRD, Government of Madhya Pradesh, regarding the arrear water charges levied and the Petitioner in compliance, has furnished a copy of the letter dated 11.8.2021 received from WRD.

79. We have examined the matter. It is observed that the Water Resource Department, Government of Madhya Pradesh vide its letter dated 24.7.2018 (in vernacular language) directed the Petitioner to pay arrears of water charges amounting to Rs.30556 lakh in 2017-18 as stated below:

*“The water charges payable by NTPC for usage of water from 1.4.1988 to 31.12.2017 is ascertained as Rs.934.91 Cr. after adjusting the total amount of Rs.784.44 Cr paid by NPTC the balance payable amount towards water charges comes out to Rs.150.47 Cr. as on 31.12.2017.*

*Further, due to nonpayment of water charges for the aforesaid period an interest of Rs.155.09 Cr is leviable on the outstanding amount.”*

80. It is, therefore, evident from the above that the total arrears of water charges claimed by the WRD, Government of Madhya Pradesh is Rs.30556 lakh (Rs.15047 lakh + Rs.15509 lakh). It is noticed that the Petitioner has, however, claimed the recovery of arrear water charges of Rs.17914.69 lakh in respect of this generating station, under two heads viz., (a) an amount of Rs.417.73 lakh as additional capital expenditure in 2017-18 as expenditure during construction and (b) an amount of Rs.17496.96 lakh as O&M expenses in 2017-18.

**(a) Arrears of water charges (Expenditure During Construction)**

81. The Petitioner has claimed arrears of water charges of Rs.417.73 lakh as additional capital expenditure in 2017-18 under Regulation 14(3)(ii) read with Regulation 54 of the 2014 Tariff Regulations, pertaining to the period during which the generating station was under construction. The Petitioner has submitted that the



bills for arrear amount has been raised for the first time by the Irrigation Department, Government of MP and the same has been paid in 2017-18 and capitalized in the books of accounts, pertaining to the construction period of the generating station. The Petitioner has accordingly prayed to allow the same as additional capital expenditure under 'Change in law' in exercise of the Power to relax under Regulation 14(3)(ii) read with Regulation 54 of the 2014 Tariff Regulations.

**(b) Arrears of water charges (O&M Expenses)**

82. The Petitioner has claimed arrear water charges of Rs.17496.96 lakh for the period prior to the 2014-19 tariff period, as O&M expenses in 2017-18. The Petitioner has also submitted that 150 cusecs of water was in-principally allocated, subject to signing of agreement with Water Resource Department, Government of Madhya Pradesh (WRD), to the generating station w.e.f. 1.4.1988 from Rihand reservoir. The Rihand reservoir was constructed by the Government of Uttar Pradesh. However, the catchment area is mainly located in the State of Madhya Pradesh, which lead to a dispute between these two governments on the rights of stored water and the beneficiary of charges of water supplied to the Vindhyachal STPS and, accordingly, no bills were being raised for the water consumption by Vindhyachal STPS. It has further stated that the Irrigation Department, Government of MP has raised the first bill on 5.3.2004 for Vindhyachal STPS, based on actual quantity drawn for the period from 6.3.1988 till January 2004, and the same was paid by the Petition. Subsequently, the generating station continued to pay water charges based on actual consumption till the signing of agreement of 180 cusec for supply of water to Vindhyachal STPS with WRD on 27.12.2008. The said agreement provided for



payment of water charges based on the actual water consumption or 90% of the allocated quantity, whichever is higher.

83. As regards arrears of water charges of Rs.417.73 lakh paid by the Petitioner and claimed as additional capital expenditure in 2017-18 under Regulation 14(3)(ii) read with Regulation 54 of the 2014 Tariff Regulations, we are not inclined to allow the additional capitalization of the said amount, considering the fact that the generating station has already completed useful life of 25 years in 2016-17. However, considering the fact that the directions of the WRD, Government of MP, based on which the Petitioner was mandated to pay the water charges as stated aforesaid, is a change in law event, we allow the recovery of total arrears of water charges of Rs.17914.69 lakh (Rs.417.73 lakh as expenditure during construction and Rs.17496.96 lakh as additional O&M expenses in 2017-18), to be reimbursed by the beneficiaries of the generating station in twelve equal monthly installments. Also, keeping consumer interest in view, we, as a special case, direct that no interest shall be charged by the Petitioner on the arrear water charges allowed by this order. This arrangement, in our view, will balance the interest of both, the Petitioner and the Respondents. Also, considering the fact that the arrear of water charges has been allowed in exercise of the power to relax, the said expenditure has not been made part of the O&M expenses and consequential annual fixed charges determined in this order.

### **Operational Norms**

84. The operational norms in respect of the generating station i.e. normative annual plant availability factor, gross station heat rate, specific fuel oil consumption and auxiliary power consumption are discussed in the subsequent paragraphs.



### **Normative Annual Plant Availability Factor**

85. The Commission vide its order dated 24.2.2017 in Petition No. 338/GT/2014 had allowed the Normative Annual Plant Availability Factor (NAPAF) of 83% for the period 2014-17 and 85% for the period 2017-19 In terms of Regulation 36(A)(a) of the 2014 Tariff Regulations. Hence, the same is considered for the purpose of revision of tariff.

### **Gross Station Heat Rate (kCal/kWh)**

86. The Gross Station Heat Rate (GSHR) of 2450 kCal/kWh was allowed vide order dated 24.2.2017 in Petition No. 338/GT/2014 in terms of Regulation 36(C)(a) of the 2014 Tariff Regulations. Hence, the same is considered for the purpose of revision of tariff.

### **Specific Oil Consumption**

87. The secondary fuel oil consumption of 0.50 ml/kWh allowed vide order dated 24.2.2017 in Petition No. 338/GT/2014 is in terms of Regulation 36(D)(a) of the 2014 Tariff Regulations. Hence, the same is considered for the purpose of revision of tariff.

### **Auxiliary Power Consumption**

88. The Auxiliary Power Consumption of 9.00% allowed vide order dated 24.2.2017 in Petition No. 338/GT/2014 is in terms of the Regulation 36(E)(a) of the 2014 Tariff Regulations. Hence, the same has been considered for the purpose of revision of tariff.



## **Interest on Working Capital**

89. Sub-section (a) of clause (1) of Regulation 28 of the 2014 Tariff Regulations provides as under:

*“28 (1) The working capital shall cover:*

*(a) Coal-based/lignite-fired thermal generating stations*

*(i) Cost of coal or lignite and limestone towards stock, if applicable, for 15 days for pit-head generating stations and 30 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;*

*(ii) Cost of coal or lignite and limestone for 30 days for generation corresponding to the normative annual plant availability factor;*

*(iii) Cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil;*

*(iv) Maintenance spares @ 20% of operation and maintenance expenses specified in regulation 29;*

*(v) Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the normative annual plant availability factor; and*

*(vi) Operation and maintenance expenses for one month.”*

## **Fuel Cost and Energy Charges in Working Capital**

90. Regulation 28(2) of the 2014 Tariff Regulations provides that the computation of cost of fuel as part of Interest on Working Capital (IWC) is to be based on the landed price and GCV of fuel as per actuals, for the three months preceding the first month for which the tariff is to be determined.

91. Regulation 30(6)(a) of the 2014 Tariff Regulations provides as under:

*“30. Computation and Payment of Capacity Charge and Energy Charge for Thermal Generating Stations:*

*(6) Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal place in accordance with the following formula:*

*(a) For coal based and lignite fired stations*

*$$ECR = \{(GHR - SFC \times CVSF) \times LPPF / CVPF + SFC \times LPSFi + LC \times LPL\} \times 100 / (100 - AUX)$$*

*Where,*

*AUX = Normative auxiliary energy consumption in percentage.*



*CVPF = Gross calorific value of primary fuel as received, in kCal per kg, per litre or per standard cubic metre, as applicable.*

*CVSF = Calorific value of secondary fuel, in kCal per ml.*

*ECR = Energy charge rate, in Rupees per kWh sent out.*

*GHR = Gross station heat rate, in kCal per kWh.*

*LC = Normative limestone consumption in kg per kWh.*

*LPL = Weighted average landed price of limestone in Rupees per kg.*

*LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable during the month.*

*SFC= Normative specific fuel oil consumption, in ml/ kWh*

*LPSFi= Weighted average landed price of secondary fuel in Rs/ ml during the month”.*

92. Therefore, in terms of the above regulation, for determination of the Energy charges in working capital, the GCV on ‘as received’ basis is to be considered.

93. Regulation 30(7) of the 2014 Tariff Regulations provides as under:

*“(7) The generating company shall provide to the beneficiaries of the generating station the details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, natural gas, RLNG, liquid fuel etc., as per the forms prescribed at Annexure-I to these regulations:*

*Provided that the details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal and the weighted average GCV of the fuels as received shall also be provided separately, along with the bills of the respective month:*

*Provided further that copies of the bills and details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, natural gas, RLNG, liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal shall also be displayed on the website of the generating company. The details should be available on its website on monthly basis for a period of three months.”*

94. The Regulations for computation of energy charges was challenged by the Petitioner and other generating issue of ‘as received’ GCV specified in Regulation 30 of the 2014 Tariff companies through various writ petitions filed before the Hon’ble High Court of Delhi with the lead matter being W.P. No.1641/2014 (NTPC v. CERC). The Hon’ble Court directed the Commission to decide the place from where the sample of coal should be taken for measurement of GCV of coal on ‘as received’ basis on the request of Petitioners. In terms of the directions of the Hon'ble High





Court, the Commission vide order dated 25.1.2016 in Petition No. 283/GT/2014 (approval of tariff of Kahalgaon STPS for the 2014-19 tariff period) decided as under:

*“58. In view of the above discussion the issues referred by the Hon’ble High Court of Delhi are decided as under:*

*“(a) There is no basis in the Indian Standards and other documents relied upon by NTPC etc. to support their claim that GCV of coal on as received basis should be measured by taking samples after the crusher set up inside the generating station in terms of Regulation 30(6) of the 2014 Tariff regulations.*

*(b) The samples for the purpose of measurement of coal on as received basis should be collected from the loaded wagons at the generating stations either manually or through the Hydraulic Auger in accordance with provisions of IS 436(Part1/Section1)-1964 before the coal is unloaded. While collecting the samples the safety of personnel and equipment as discussed in this order should be ensured. After collection of samples the sample preparation and testing shall be carried out in the laboratory in accordance with the procedure prescribed in IS 436(Part1/Section1)-1964 which has been elaborated in the CPRI Report to PSERC.”*

95. The Review Petition No.11/RP/2016 filed by the Petitioner against the aforesaid order dated 25.1.2016 in Petition No. 283/GT/2014 was rejected by the Commission vide order dated 30.6.2016. The Petitioner has also filed Petition No. 244/MP/2016 before this Commission inter alia praying for removal of difficulties in view of the issues faced by it in implementing the Commission’s orders dated 25.1.2016 and 30.6.2016 with regard to sampling of coal from loaded wagon top for measurement of GCV. The Commission vide its order dated 19.9.2018 disposed of the preliminary objections of the respondents therein and held that the petition is maintainable. Against this order, some of the Respondents have filed appeal before the APTEL being GRIDCO v. NTPC & Ors. numbered as Appeal No. 291/2018 which is currently pending adjudication before the APTEL.

96. In Petition No. 338/GT/2014 filed by the Petitioner for determination of tariff of this generating station for the 2014-19 tariff period, the Petitioner had not furnished GCV of coal on ‘as billed’ and on ‘as received’ basis for the preceding 3 (three) months i.e. for January 2014, February 2014 and March 2014 that were required for



determination of Interest on Working Capital (IWC). Therefore, the Commission vide its order dated 24.2.2017 in Petition No.338/GT/2014 had considered GCV of coal on 'as billed' basis and provisionally allowed adjustment for total moisture while allowing the cost of coal towards generation & stock and two months' energy charges in the working capital.

97. As per the order dated 25.1.2016 in Petition No. 283/GT/2014, the Petitioner in Form-13 F has considered the average GCV of coal on "as received basis" i.e. from wagon top for the period from October, 2016 to March, 2019 for the purpose of computation of working capital for the 2014-19 tariff period. The Petitioner has further submitted that CEA vide letter dated 17.10.2017 has opined that a margin of 85-100 kCal/kg for pit-head station and a margin of 105-120 kCal/kg for non-pit head station is required to be considered as loss of GCV of coal on "as received" and on "as fired basis respectively. Accordingly, the Petitioner has considered a margin of 100 kCal/kg on average GCV of coal for the period from October 2016 to March 2019 for computation of working capital of the generating station. Accordingly, the cost of fuel component in the working capital of the generating station based on (i) 'as received' GCV of coal for 30 months from October 2016 to March 2019 with adjustment of 100 kCal/kg towards storage loss, (ii) landed price of coal for preceding three months i.e. January 2014 to March 2014 and (iii) GCV and landed price of Secondary fuel oil procured for the preceding three months i.e. January 2014 to March 2014 for the generating station, the Petitioner has claimed the cost of fuel component in the working capital as under:

	<i>(Rs. in lakh)</i>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Cost of Coal towards stock (15 days)	4997.22	4997.22	4997.22	5117.63	5117.63



Cost of Coal towards Generation (30 days)	9994.44	9994.44	9994.44	10235.27	10235.27
Cost of Secondary fuel oil 2 months	401.55	402.65	401.55	411.22	411.22

98. The Petitioner has claimed Energy Charge Rate (ECR) ex-bus of 148.747 paise/kWh for the generating station based on GCV and price of fuel (coal and secondary fuel oil) as indicated above.

99. The Petitioner has submitted the additional details on the GCV on 'as received' basis in compliance to the directions of the Commission in respect of other generating stations of the Petitioner, for the months of January 2014 to March 2014 which was uploaded on the website of the Petitioner and shared with the beneficiaries. The Petitioner vide affidavit dated 29.6.2021 has submitted that though the computation of energy charges moved from 'as fired' basis to 'as received' basis with effect from 1.4.2014 in terms of Regulation 30(6) of the 2014 Tariff Regulations, for calculation of IWC under Regulation 28(2) of the 2014 Tariff Regulations, the GCV should be as per 'actuals' for the three months preceding the first month for which tariff is to be determined. It has further submitted that for the 2014-19 tariff period, Regulation 28(2) of the 2014 Tariff Regulations unequivocally provide that the actual cost and GCV of the preceding three months shall be considered and for these preceding three months (January 2014 to March 2014) by virtue of it falling under the 2009 Tariff Regulations shall be computed on the basis of 'as fired' GCV. Referring to the judgment of the Hon'ble Supreme Court of India in PTC India v. CERC reported as (2010) 4 SCC 603 and the judgment of the APTEL in NEEPCO v TERC reported as (2006) APTEL 148, the Petitioner has submitted that the Commission is bound by the provisions of the tariff regulations and that purposive interpretation ought to be given to the 2014 Tariff Regulations and interest on



working capital ought to be computed in terms of Regulation 28(2) of the 2014 Tariff Regulations on actual GCV i.e. 'as fired' GCV. The Petitioner has submitted that without prejudice to the above submissions, the details of GCV on 'as received' basis for the months of January 2014 to March 2014 has been furnished as under:

Sl. No.	Month	Weighted Average GCV of coal received (EM basis) (kcal/kg) <b>(A)</b>	Total Moisture (TM) (in %) <b>(B)</b>	Equilibrated Moisture (EM) (in %) <b>(C)</b>	Weighted Average GCV of coal received (TM basis) (kcal/kg) <b>(D)=[A*(1-B%)/(1-C%)]</b>
1	January 2014	3853.27	17.9	7.5	3420.03
2	February 2014	3881.99	17.4	6.6	3729.77
3	March 2014	3956.01	17.77	6.81	3490.75
	<b>Average</b>				<b>3447.96</b>

100. The submissions have been considered. As stated in paragraph 98 above, the Petitioner in Form-13F, has considered the average GCV of coal on "as received basis" i.e., from wagon top for the period from October 2016 to March 2019 for the purpose of computation of working capital for the 2014-19 tariff period. In addition to the average GCV, it has also considered a margin of 100 kCal/kg for computation of the working capital of the generating station.

101. Regulation 28(2) of the 2014 Tariff Regulations provides that the computation of cost of fuel as a part of IWC is to be based on the landed price and gross calorific value of the fuel, as per actuals, for the three months preceding the first month for which the tariff is to be determined. Thus, calculation of IWC for the 2014-19 period is to be based on such values for months of January 2014, February 2014 and March 2014. The Petitioner has not been able to furnish these values at the time of determination of tariff for the 2014-19 tariff period in Petition No. 338/GT/2014. In the instant trueing up petition, the Petitioner has proposed that instead of GCV for January 2014, February 2014 and March 2014, the Commission should consider the average



values for months of October 2016 to March 2019 since the measurement of 'as received' GCV has been done in accordance with directions of the Commission vide order dated 25.1.2016 in Petition No. 283/GT/2014. In our view, the proposal of the Petitioner to consider the retrospective application of 30 months' (October 2016 to March 2019) average of 'as received' GCV data in place of 'as received' GCV of the preceding three months (January 2014 to March 2014) is not acceptable, keeping in view that the average GCV for 30 months may not be commensurate to the landed cost of coal for the preceding three months to be considered for calculating IWC in terms of Regulation 28(2) of the 2014 Tariff Regulations and that due to efflux of time (gap of 30 months), the quality of coal extracted from the linked mines would have undergone considerable changes. Also, the consideration of loss of GCV of 100 kCal/kg cannot be considered, as the same is not as per provisions of the 2014 Tariff Regulations.

102. It is observed that though the Petitioner has furnished the details of 'as received' GCV for the three months of January 2014 to March 2014 as in table under paragraph 99 above, it has submitted that GCV of fuel is to be considered 'on actuals' for January 2014 to March 2014 and as such, GCV is required to be considered on an 'as fired' basis. In other words, the Petitioner has contended that since the period of January 2014 to March 2014 falls in the 2009-14 tariff period for measurement of GCV of coal, Regulation 18(2) read with Regulation 21(6) of the 2009 Tariff Regulations was applicable which mandates that generating company shall measure GCV on 'as fired' basis (and not on 'as received' basis). This submission of the Petitioner is also not acceptable in view of the provisions of



Regulation 21(6) of the 2009 Tariff Regulations which was amended on 31.12.2012, by addition of the following provisos:

*"The following provisos shall be added under Clause (6) of Regulation 21 of the Principal Regulations as under namely:*

*Provided that generating company shall provide to the beneficiaries of the generating station the details of parameters of GCV and price of fuel i.e. domestic coal imported coal e-auction coal lignite natural gas RLNG liquid fuel etc. as per the form 15 of the Part-I of Appendix I to these regulations:*

*Provided further that the details of blending ratio of the imported coal with domestic coal proportion of e-auction coal and the weighted average GCV of the fuels **as received** shall also be provided separately along with the bills of the respective month:*

*Provided further that copies of the bills and details of parameters of GCV and price of fuel i.e. domestic coal imported coal e-auction coal lignite natural gas RLNG liquid fuel etc. details of blending ratio of the imported coal with domestic coal proportion of e-auction coal shall also be displayed on the website of the generating company. The details should be available on its website on monthly basis for a period of three months."*

103. Thus, in terms of the above amendment to the 2009 Tariff Regulations, the details regarding the weighted average GCV of the fuels on 'as received' basis was also required to be provided by the Petitioner along with bills of the respective month. Also, bills detailing the parameters of GCV and price of fuel were to be displayed by the Petitioner on its website, on monthly basis.

104. As per SOR to the 2014 Tariff Regulations, we note that the main consideration of the Commission while moving from 'as fired' GCV to 'as received' GCV for the purpose of energy charges under Regulation 30(6) of the 2014 Tariff Regulations for the 2014-19 tariff period was to ensure that GCV losses which might occur within the generating station after receipt of coal are not passed on to the beneficiaries on account of improper handling and storage of coal by the generating companies. As regards the allowable (normative) storage loss within the generating station, CEA had observed that there is negligible difference between 'as received'



GCV and 'as fired' GCV. As such, for the purpose of calculating energy charges, the Commission moved from 'as fired' GCV to 'as received' GCV under Regulation 30(6) of the 2014 Tariff Regulations without allowing any margin between the two measurements of GCV. Thus, 'as received' GCV was made applicable for the purpose of calculating working capital requirements based on the actual GCV of coal for the preceding three months of the first month for which tariff is to be determined in terms of Regulation 28(2) of 2014 Tariff Regulations. In case the submission of the Petitioner that 'as fired' is to be considered 'at actuals' for the preceding three months for purpose of IWC, the same would mean allowing (and passing through) all storage losses which would have occurred during the preceding three months (January 2014 to March 2014) for the 2014-19 tariff period. This, according to us, defeats the very purpose of moving from 'as fired' GCV to 'as received' GCV in the 2014 Tariff Regulations. In this background and keeping in view that in terms of amended Regulation 21(6) of the 2009 Tariff Regulations, the Petitioner is required to share details of the weighted average GCV of the fuel on 'as received' basis, we consider the fuel component and energy charges for two months based on 'as received' GCV of the preceding three months (January 2014 to March 2014) for the purpose of computation of IWC in terms of Regulation 28(2) of the 2014 Tariff Regulations.

105. The Petitioner has calculated GCV of 3447.96 kCal/kg which represents average of GCVs of preceding three months. The weighted average GCV for three months based on the net coal quantities as per Form-15 of the petition and the monthly GCVs as submitted by the Petitioner (reproduced in the table under paragraph 99 above) works out to 3548.82 kCal/kg.





106. Accordingly, the cost for fuel components in working capital has been computed considering the fuel details (price and GCV) as per Form-15 of the petition except for 'as received' GCV of coal, which is considered as 3548.82 kCal/kg as discussed above. All other operational norms such as Station Heat Rate, Auxiliary Energy Consumption and Secondary Fuel Cost have been considered as per the 2014 Tariff Regulations for calculation of fuel components in working capital.

107. Based on the above discussion, the cost for fuel component in working capital is worked out and allowed as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal towards stock (15 days)	4991.99	4991.99	4991.99	5112.27	5112.27
Cost of Coal towards Generation (30 days)	9983.97	9983.97	9983.97	10224.55	10224.55
Cost of Secondary fuel oil 2 months	401.17	402.27	401.17	410.84	410.84

### **Scheme for supply of electricity within 5 km radius**

108. The Petitioner has submitted that the Commission had allowed the reimbursement of expenditure incurred towards the electrification of 5 km area during the year 2013-14 vide order dated 5.12.2016 in Petition No. 306/GT/2014 read with order dated 17.10.2017 in Petition No. 3/RP/2017 in Petition No. 306/GT/2014. The Petitioner has further submitted that some of the balance work amounting to Rs.18.55 lakh (Rs.257.72 lakh capital expenditure in 2014-15 less un-discharged liabilities of Rs.239.17 lakh) has been capitalized in 2014-15, on cash basis, and is now being claimed as reimbursement in line with order dated 5.12.2016 under power to relax. The Petitioner has also claimed the reimbursement of discharges of Rs.49.95 lakh in 2014-15, Rs.42.70 lakh in 2015-16 and Rs.140.44 lakh in 2017-18, corresponding to un-discharged liability towards aforesaid schemes capitalized in



2013-14 and 2014-15. The balance un-discharged liability corresponding to above scheme is Rs.63.12 lakh, as on 31.3.2019.

109. We have considered the matter. The Petitioner, in Petition No. 306/GT/2014, had claimed the additional capital expenditure of Rs.1375.07 lakh in 2013-14 towards implementation of the scheme for creating infrastructure for reliable supply of electricity within the 5 KM radius of the generating station under Regulation 9(2)(ix) of the 2009 Tariff Regulations and the Commission in order dated 5.12.2016 had allowed the reimbursement of the amount as under:

*“34. In line with the above decision of the Commission and since the expenditure has been incurred and capitalized by the petitioner for creation of the infrastructure, we are of the view that the said expenditure should be reimbursed by the beneficiaries in proportion to their share, in the remaining three years of the tariff period 2014-19, in equal monthly instalments beginning from October, 2016, along with regular bills, with the weighted average rate of interest on loan applicable for the relevant years as indicated in the table under Para 52 of this order, till the date of capitalization of asset. The reimbursement directed as above is in relaxation of Regulation 9 (2) (ix) of the 2009 Tariff Regulations and shall not be cited as precedent in future.”*

110. The matter has been considered. In line with the above decision and since the expenditure has been incurred and capitalized by the Petitioner for creation of the said infrastructure, we are of the view that the said expenditure should be reimbursed by the beneficiaries in proportion to their share, in the remaining three years of 2019-24 tariff period, in equal monthly installments of Rs.40.24 lakh, beginning from January, 2022, along with regular bills, with the weighted average rate of interest on loan applicable for relevant years, as indicated in the table under paragraph 45 of this order. The reimbursement allowed is in exercise of the power to relax and shall not be cited as precedent in future.



### **Energy Charge Rate for computation of working capital**

111. The Petitioner has claimed Energy Charge Rate (ECR) of 147.747 paise/kWh for the generating station. The allowable ECR, based on the operational norms as specified in Regulation 36(A) of the 2014 Tariff Regulations and on weighted average of 'as received' GCV of 3548.82 kCal/kg is worked out as under:

	<b>Unit</b>	<b>2014-19</b>
<b>Capacity</b>	<b>MW</b>	1260
Gross Station Heat Rate	kCal/kWh	2450.00
Aux. Energy Consumption	%	9.00
Weighted average GCV of oil	kCal/lit	9617.33
Weighted average GCV of Coal	Kcal/kg	3548.82
Weighted average price of oil	Rs./KL	52548.02
Weighted average price of Coal	Rs./MT	1924.39
Rate of Energy Charge ex-bus	Rs./kWh	1.486

112. The Energy Charges for two months for computation of working capital based on ECR of Rs.1.486/kWh, has been worked out as under:

*(Rs. in lakh)*

<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
20647.23	20703.79	20647.23	21144.75	21144.75

113. Accordingly, the fuel component and energy charges for two months in working capital is allowed as under:

*(Rs. in lakh)*

	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Cost of Coal for 45 days (15 days for coal stock and 30 days for generation)	14975.96	14975.96	14975.96	15336.82	15336.82
Cost of Secondary fuel oil for 2 months	401.17	402.27	401.17	410.84	410.84
Energy Charges for 2 months	20647.23	20703.79	20647.23	21144.75	21144.75

### **Working Capital for Maintenance Spares**

114. The Petitioner in Form-13B has claimed the maintenance spares in the working capital as under:



(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
6623.46	6998.08	8011.05	12047.95	9239.51

115. Regulation 28(1)(a)(iv) of the 2014 Tariff Regulations provide for maintenance spares @20% of the O&M expenses as specified in the Regulation 29 of the 2014 Tariff Regulations. Accordingly, maintenance spares @ 20% of the O&M expenses (including the water charges and capital spares) allowed for the 2014-19 tariff period is as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
6609.06	6967.95	7207.56	7623.21	8097.06

### **Working Capital for Receivables**

116. Receivables equivalent to two months of capacity charges and energy charges has been worked out duly taking into account mode of operation of the generating station on secondary fuel, is allowed as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Variable Charges - for two months	20647.23	20703.79	20647.23	21144.75	21144.75
Fixed Charges - for two months	9298.50	9619.63	9755.36	10092.54	10512.37
<b>Total</b>	<b>29945.73</b>	<b>30323.42</b>	<b>30402.58</b>	<b>31237.29</b>	<b>31657.12</b>

### **Working Capital for O&M Expenses (1 month)**

117. The O&M expenses for 1 month as claimed by the Petitioner in Form-13B are as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
2759.77	2915.87	3337.94	5019.98	3849.80

118. For consideration of working capital, O&M expenses of 1 month are to be considered. The normative O&M expenses allowed as per Regulation 29(1) of the 2014 Tariff Regulations, water charges and capital spares allowed as per Regulation



29(2) of the 2014 Tariff Regulations have been considered for calculating O&M expenses for 1 month as a part of working capital.

119. Accordingly, in terms of Regulation 28(1)(a)(vi) of the 2014 Tariff Regulations, one month's O&M expenses allowed is as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
2753.77	2903.31	3003.15	3176.34	3373.78

120. In terms of Regulation 28(3) of the 2014 Tariff Regulations, the rate of interest on working capital has been considered as 13.50% (Bank rate 10% + 350 bps).

Accordingly, Interest on working capital has been computed as under:

<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19
Working Capital for Cost of Coal towards Stock (15 days)	4991.99	4991.99	4991.99	5112.27	5112.27
Working Capital for Cost of Coal towards Generation (30 days)	9983.97	9983.97	9983.97	10224.55	10224.55
Working Capital Cost of Secondary fuel oil (2 months)	401.17	402.27	401.17	410.84	410.84
Working Capital for Maintenance Spares @ 20% of O&M expenses	6609.06	6967.95	7207.56	7623.21	8097.06
Working Capital for Receivables – 2 months	29945.73	30323.42	30402.58	31237.29	31657.12
Working Capital for O&M expenses – 1 month	2753.77	2903.31	3003.15	3176.34	3373.78
<b>Total Working Capital</b>	<b>54685.69</b>	<b>55572.90</b>	<b>55990.42</b>	<b>57784.50</b>	<b>58875.62</b>
Rate of Interest	13.5000%	13.5000%	13.5000%	13.5000%	13.5000%
<b>Interest on Working Capital</b>	<b>7382.57</b>	<b>7502.34</b>	<b>7558.71</b>	<b>7800.91</b>	<b>7948.21</b>

### **Compensation Allowance**

121. Regulation 17 of the 2014 Tariff Regulations provides as under:

*“17. Compensation Allowance: (1) In case of coal-based or lignite-fired thermal generating station or a unit thereof a separate compensation allowance shall be admissible to meet expenses on new assets of capital nature which are not admissible under Regulation 14 of these regulations and in such an event revision of the capital cost shall not be allowed on account of compensation allowance but the compensation allowance shall be allowed to be recovered separately.*

*(2) The Compensation Allowance shall be allowed in the following manner from the year following the year of completion of 10, 15, or 20 years of the useful life.*



<b>Years of operation</b>	<b>Compensation Allowance (Rs. lakh/MW/year)</b>
0-10	Nil
11-15	0.20
16-20	0.50
21-25	1.00

122. The Commission in its order dated 24.2.2017 in Petition No. 338/GT/2014 had allowed Compensation allowance of Rs.840.00 lakh in 2014-15, Rs.630.00 lakh in 2015-16 and Rs.210.00 lakh in 2016-17, for the generating station. The same is allowed for the 2014-19 tariff period.

### **Special Allowance**

123. Regulation 16 of the 2014 Tariff Regulations provides for Special Allowance for coal-based/ lignite fired thermal generating stations as under:

*“(1) In case of coal-based/lignite fired thermal generating station, the generating company, instead of availing R&M may opt to avail a special allowance in accordance with the norms specified in this regulation, as compensation for meeting the requirement of expenses including renovation and modernization beyond the useful life of the generating station or a unit thereof, and in such an event, revision of the capital cost shall not be allowed and the applicable operational norms shall not be relaxed but the special allowance shall be included in the annual fixed cost.*

*Provided that such option shall not be available for a generating station or unit for which renovation and modernization has been undertaken and the expenditure has been admitted by the Commission before commencement of these regulations, or for a generating station or unit which is in a depleted condition or operating under relaxed operational performance norms.*

*(2) The special Allowance shall be @ Rs. 7.5 lakh/MW/year for the year 2014-15 and thereafter escalated @ 6.35 % every year during the tariff period 2014-15 to 2018-19, unit wise from the next financial year from the respective date of completion of useful life with reference to the date of commercial operation of the respective unit of generating station:*

*Provided that in respect of a unit in commercial operation for more than 25 years as on 1.4.2014, this allowance shall be admissible from the year 2014-15:*

*Provided further that the special allowance for the generating stations, which, in its discretion, has already availed of a special allowance in accordance with the norms specified in clause (4) of regulations 10 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff Determination) Regulations, 2009, shall be allowed Special Allowance by escalating the special allowance allowed for the year 2013-14 @ 6.35% every year during the tariff period 2014-15 to 2018-19.*

*(3) In the event of granting special allowance by the Commission, the expenditure incurred or utilized from special allowance shall be maintained separately by the*



generating station and details of same shall be made available to the Commission as and when directed to furnish details of such expenditure.

124. The Commission in its order dated 24.2.2017 in Petition No. 338/GT/2014 had allowed Special allowance of Rs.3150.00 lakh in 2014-15, Rs.5025.04 lakh in 2015-16, Rs.8906.88 lakh in 2016-17, Rs.11366.96 lakh in 2017-18 and Rs.12088.76 lakh in 2018-19, for the generating station. The same has been considered and allowed for the 2014-19 tariff period.

### **Annual Fixed Charges**

125. Accordingly, the annual fixed charges approved for the 2014-19 tariff period for the generating station (after truing-up) are summarized as under:

*(Rs. in lakh)*

	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	654.30	654.78	262.38	10.30	12.12
Interest on loan	265.82	204.25	163.80	149.26	150.61
Return on Equity	14443.02	14516.64	14509.45	14478.76	14477.99
Interest on Working Capital	7382.57	7502.34	7558.71	7800.91	7948.21
O&M Expenses	33045.30	34839.74	36037.81	38116.04	40485.31
<b>Sub-Total</b>	<b>55791.01</b>	<b>57717.75</b>	<b>58532.15</b>	<b>60555.27</b>	<b>63074.23</b>
Compensation Allowance	840.00	630.00	210.00	0.00	0.00
Special Allowance	3150.00	5025.04	8906.88	11366.96	12088.76
<b>Total</b>	<b>59781.01</b>	<b>63372.79</b>	<b>67649.03</b>	<b>71922.23</b>	<b>75162.99</b>

**Note:** (1) All figures are on annualized basis. (2) All figures under each head have been rounded. The figure in total column in each year is also rounded. As such the sum of individual items may not be equal to the arithmetic total of the column.

126. The calculation of interest on working capital and energy charges, as above, are subject to the final decision in Petition No. 244/MP/2016.

127. The difference between the annual fixed charges already recovered in terms of the order dated 24.2.2017 in Petition No. 338/GT/2014 and the annual fixed charges determined by this order shall be adjusted in terms of Regulation 13 of the 2014 Tariff Regulations.

128. Annexure-I attached herewith forms part of this order.





129. Petition No. 297/GT/2020 is disposed of in terms of the above.

**Sd/-**  
**(Pravas Kumar Singh)**  
**Member**

**Sd/-**  
**(Arun Goyal)**  
**Member**

**Sd/-**  
**(I.S Jha)**  
**Member**

**Sd/-**  
**(P.K. Pujari)**  
**Chairperson**



## Annexure I

**WAROD for the 2014-19 tariff period (old capital cost)**

*(Rs. in lakh)*

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost (A)	148158.63	148165.78	148147.87	147891.94	147018.54
Net Addition during the year/ period (B)	7.15	(-) 17.90	(-) 255.93	(-) 873.40	(-) 535.72
Closing Capital Cost (C)=(A+B)	148165.78	148147.87	147891.94	147018.54	146482.83
Average Capital Cost (D)=[(A+C)/2]	148162.20	148156.82	148019.91	147455.24	146750.68
Remaining Depreciable Value (E)	1678.95	1023.35	254.48	0.00	0.00
Balance Useful Life (in years) (F)	2.58	1.58	0.58	-	-
Depreciation for the Period (G)= [(E/F)]	650.75	647.69	254.48	0.00	0.00
Effective Weighted Average Rate of Depreciation (H)= [(G/D)]	0.4392%	0.4372%	0.1719%	0.0000%	0.0000%

**WAROD for the 2014-19 tariff period (New Assets)**

*(Rs. in lakh)*

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost (A)	0.00	134.20	134.20	164.94	225.06
Net Addition during the year/ period (B)	134.20	0.00	30.74	60.12	8.89
Closing Capital Cost (C)=(A+B)	134.20	134.20	164.94	225.06	233.95
Average Capital Cost (D)=[(A+C)/2]	67.10	134.20	149.57	195.00	229.51
Remaining Depreciable Value (E)	60.39	120.78	134.61	175.50	206.55
Depreciation for the Period (G)= (E/F)	3.54	7.09	7.90	10.30	12.12
Effective Weighted Average Rate of Depreciation (H)= (G/D)	<b>5.28%</b>	<b>5.28%</b>	<b>5.28%</b>	<b>5.28%</b>	<b>5.28%</b>

