

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 230/GT/2020**

**Coram:**

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

**Shri Arun Goyal, Member**

**Shri Pravas Kumar Singh, Member**

**Date of Order: 27<sup>th</sup> June, 2023**

**IN THE MATTER OF**

Petition for truing-up of tariff of Rihand STPS, Stage-I (1000 MW) for the period 2014-19.

**AND**

**IN THE MATTER OF**

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

**.... Petitioner**

**Vs**

1. Uttar Pradesh Power Corporation Limited,  
Shakti Bhawan, 14, Ashok Marg,  
Lucknow 226001
2. Rajasthan Urja Vika Nigam Limited,  
(on behalf of DISCOMs of Rajasthan)  
Vidyut Bhawan, Janpath, Jaipur 302005
3. Tata Power Delhi Distribution Limited,  
Grid Substation, Hudson Road,  
Kingsway Camp, Delhi- 110019
4. BSES Rajdhani Power Limited,  
2<sup>nd</sup> Floor, B-Block, BSES Bhawan,  
Nehru Place, New Delhi- 110019
5. BSES Yamuna Power Limited,  
Shakti Kiran Building,  
Karkardooma, Delhi- 110092
6. Haryana Power Purchase Center,  
Shakti Bhawan, Sector-VI,  
Panchkula, Haryana - 134109



7. Punjab State Power Corporation Limited,  
The Mall, Patiala- 147001
8. Himanchal State Electricity Board Limited,  
Kumar Housing Complex Building-II,  
Vidyut Bhawan, Shimla – 171004
9. Power Development Department (J&K),  
Government of J&K, Secretariat,  
Srinagar
10. Electricity Department (Chandigarh),  
Union Territory of Chandigarh,  
Additional Office Building,  
Sector 9D- Chandigarh
11. Uttarakhand Power Corporation Limited,  
Urja Bhawan, Kanwali Road,  
Dehradun-248001, Uttarakhand

...Respondents

**Parties Present:**

Shri Anand. K. Ganesan, Advocate NTPC  
Shri Swapna Seshadri, Advocate, NTPC  
Shri Ritu Apurva, Advocate, NTPC  
Shri Deepak Thakur, Advocate, NTPC  
Shri Mansoor Ali Shoket, Advocate, TPDDL  
Shri Nitin Kala, Advocate, TPDDL  
Shri Kunal Singh, Advocate TPDDL  
Ms. Shefali Sobti, TPDDL  
Shri Anupam Varma, BRPL/BYPL  
Shri Aditya Ajay, Advocate, BRPL/BYPL  
Shri Rahul Kinra, Advocate, BRPL/BYPL  
Ms. Megha Bajpeyi, BRPL

**ORDER**

This petition has been filed by the Petitioner, NTPC Limited, for truing up of tariff of Rihand Super Thermal Power Station, Stage I (1000 MW) (in short 'the generating station') for the period 2014-19, in terms of Regulation 8 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (in short 'the 2014 Tariff Regulations'). The generating station with a total capacity of 1000 MW comprises of two units of 500 MW each. The dates of commissioning of various units of the generating station are as under:



Unit I	1.1.1990
Unit II	1.1.1991

2. The Commission vide its order dated 23.8.2016 in Petition No.291/GT/2014 had determined the tariff of the generating station for the period 2014-19. Aggrieved by this order, the Petitioner had filed Review Petition (Petition No. 58/RP/2016) on the issue of 'non-consideration of water charges of Rs.394.82 lakh actually paid by the Petitioner to Uttar Pradesh Jal Vidyut Nigam Limited (UPJVNL)' and the same was allowed vide order dated 6.4.2017. Accordingly, the capital cost allowed vide order dated 23.8.2016 and the annual fixed charges allowed vide order dated 6.4.2017 are as under:

**Capital Cost allowed**

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	242348.24	242348.24	242348.24	242348.24	242348.24
Add: Addition during the year/ period	0.00	0.00	0.00	0.00	0.00
<b>Closing capital cost</b>	<b>242348.24</b>	<b>242348.24</b>	<b>242348.24</b>	<b>242348.24</b>	<b>242348.24</b>
Average capital cost	242348.24	242348.24	242348.24	242348.24	242348.24

**Annual Fixed Charges allowed**

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	5374.50	5374.50	1343.62	0.00	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	23563.03	23677.30	23677.30	23677.30	23677.30
Interest on Working Capital	4325.51	4398.15	4364.63	4468.18	4543.38
O&M Expenses	16394.82	17404.82	18474.82	19614.82	20824.82
Compensation Allowance	1000.00	500.00	0.00	0.00	0.00
Special Allowance	0.00	3988.13	8482.74	9021.40	9594.25
Annual Fixed Charges	50657.86	55342.89	564343.11	56781.69	58639.75
Unrecovered Depreciation	0.00	0.00	179.12	0.00	0.00
<b>Total</b>	<b>50657.86</b>	<b>55342.89</b>	<b>56522.23</b>	<b>56781.69</b>	<b>58639.75</b>

**Present Petition**

3. 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."*



4. Accordingly, in terms of the above regulations, the Petitioner, has filed this petition and has claimed the capital cost and annual fixed charges, for the period 2014-19 as under:

**Capital Cost claimed**

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital cost	242348.24	242360.80	242396.16	242259.85	242546.38
Add: Addition	0.75	35.36	36.00	407.30	2929.64
Less: Decapitalisation	-	-	172.30	125.76	253.48
Less: Reversal	-	-	-	-	-
Add: Discharges	11.82	-	-	4.98	11.06
<b>Closing Capital Cost</b>	<b>242360.80</b>	<b>242396.16</b>	<b>242259.85</b>	<b>242546.38</b>	<b>245233.60</b>
<b>Average Capital cost</b>	<b>242354.52</b>	<b>242378.48</b>	<b>242328.01</b>	<b>242403.12</b>	<b>243889.99</b>

**Annual Fixed Charges claimed**

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	5376.32	5393.31	1363.9	202.5	1604.47
Interest on Loan	-	-	-	3.67	25.97
Return on Equity	23563.61	23679.2	23681.3	23693.4	23846.6
Interest on Working Capital	5078.84	5149.85	5273.57	5408.81	5562.93
O&M Expenses	16629.42	17605.8	18827.3	19762.5	21083.5
Compensation Allowance	1000	500	-	-	-
Special Allowance	-	3988.13	8482.74	9021.4	9594.25
Total	51648.19	56316.2	57628.8	58092.3	61717.7
Un-Recovered Depreciation	-	-	179.12	-	-
<b>Total (A)</b>	<b>51648.19</b>	<b>56316.2</b>	<b>57807.9</b>	<b>58092.3</b>	<b>61717.7</b>
<b>Additional O&amp;M Expenditure</b>					
Impact of Pay Revision*	-	29.80	2377.91	2584.31	3100.97
Impact of GST	-	-	-	148.60	206.47
Ash Transportation Expenditure	-	-	-	-	-
<b>Total (Additional O&amp;M) (B)</b>	<b>-</b>	<b>29.80</b>	<b>2377.91</b>	<b>2732.91</b>	<b>3307.44</b>
<b>Total (A+B)</b>	<b>51648.19</b>	<b>56346</b>	<b>60185.9</b>	<b>60825.2</b>	<b>65025.1</b>

5. The Respondents UPPCL and TPDDL have filed their replies vide affidavit dated 6.3.2020/17.7.2021 and 30.8.2021, respectively. In response, the Petitioner has filed its rejoinder to the said replies on 26.5.2021/8.11.2021(UPPCL) and on 30.8.2021 (TPDDL). The Petitioner has also filed certain additional information vide its affidavits dated 30.6.2021 and 16.7.2021, after serving copies on the Respondents. The Petition was heard through video conferencing on 23.8.2022, and the Commission, reserved



its order in the matter, after directing the Petitioner to submit certain additional information. In compliance to the directions, the Petitioner has filed the additional information vide affidavit dated 8.9.2022. Based on the submissions of the parties and the documents available on record and on prudence check, we proceed for truing up the tariff of the generating station for the period 2014-19, as stated in the subsequent paragraphs.

### **Capital Cost**

6. 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:

*“9. Capital Cost:*

*(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 capitalisation and de-capitalisation for the respective year of tariff as determined in accordance with Regulations 14.*

*expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 15;”*

7. The Commission vide its order dated 23.8.2016 in Petition 291/GT/2014 had approved the annual fixed charges of the generating station for the period 2014-19, considering the opening capital cost of Rs. 242348.24 lakh (on cash basis). Accordingly, in terms of Regulation 9(3) of the 2014 Tariff Regulations, the capital cost of Rs. 242348.24 lakh, as on 31.3.2014, has been considered as opening capital cost as on 1.4.2014.

### **Additional Capital Expenditure**

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

*“14. Additional Capitalisation and De-capitalisation:*



(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 recognised 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 recognised 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 obsolescence 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-materialisation 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 stabilisers, refrigerators, coolers, computers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalisation 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 Modernisation (R&M), repairs and maintenance under (O&M) expenses and Compensation Allowance, same expenditure cannot be claimed under this regulation.”

9. The additional capital expenditure claimed by the Petitioner, duly supported by auditor certificate, for the period 2014-19, 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>
Closing gross block as per audited books *	1080186.13	1105233.32	757168.12	765184.87	785394.17
Less: Opening gross block as per audited books *	1059905.03	1080186.13	697385.33	757168.12	765184.87
Additional capital expenditure as per audited books *	20281.10	25047.19	59782.79	8016.76	20209.30
Less: Additional capital expenditure pertaining to another Stages/ Solar #	18589.17	21859.45	41509.99	2908.68	8255.07



Additional capital expenditure as per books for the generating station #	1691.93	3187.74	18272.80	5108.08	11954.23
Less: IND AS adjustment #	0.00	0.00	(-) 6273.17	577.88	(-)1247.63
Additional capital expenditure as per IGAAP for the generating station #	1691.93	3187.74	11999.61	5685.95	10706.60
Less: Exclusions	1323.26	3141.64	12126.74	5383.92	7904.96
Additional capital expenditure claimed for the generating station (on accrual basis)	368.67	46.10	(-) 127.13	302.02	2801.63
Less: Un-discharged liabilities included above	367.92	10.74	9.17	20.49	125.47
Additional capital expenditure claimed for the generating station (on cash basis)	0.75	35.36	(-)136.30	281.53	2676.16
Add: Discharges of liabilities	11.82	0.00	0.00	4.98	11.06
<b>Net additional capital expenditure claimed including discharges for the generating station (on cash basis)</b>	<b>12.56</b>	<b>35.36</b>	<b>(-)136.30</b>	<b>286.51</b>	<b>2687.22</b>

\* As per IGAAP for the period 2014-16 and IND AS for the period 2016-19. # Duly certified by the auditor

## Exclusions

10. The summary of exclusions from books of accounts, as claimed (on accrual basis) by the Petitioner is as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Items not allowed in 2014-19	960.46	911.03	9518.92	541.24	50.80
Items not claimed as additional capitalisation in 2014-19	0.00	1699.37	2133.13	2509.18	201.14
Loan FERV	55.70	63.36	(-)619.22	943.92	(-)128.99
Capitalisation of Capital Spares	550.66	855.25	1309.20	1317.36	7729.51
Inter-Unit Transfer	0.00	(-)0.32	(-)0.50	9.91	(-)57.91
Reversal of Liabilities	0.00	(-)207.44	(-)7.45	(-)8.95	(-)194.84
De-capitalisation of Spares: Not Part of Capital Cost	(-)205.57	(-)174.96	(-)154.33	(-)30.73	(-)13.36
Capitalisation of MBOA	0.00	0.00	7.01	261.51	325.99
De-Capitalisation: MBOA Not Part of Capital Cost	0.00	0.00	0.00	(-)102.60	(-)6.02
De-capitalisation of MBOA: Part of Capital Cost	(-)23.79	(-)4.64	(-)60.02	(-)56.92	(-)1.36
De-capitalisation of MGR Wagon No. B23-Part of Capital Cost	(-)14.19	0.00	0.00	0.00	0.00
Ind-AS Adjustment- Capital Overhauling	0.00	0.00	0.00	0.00	0.00
<b>Total Exclusions claimed</b>	<b>1323.26</b>	<b>3141.64</b>	<b>12126.74</b>	<b>5383.92</b>	<b>7904.96</b>





11. We first examine the exclusions claimed by the Petitioner, as under:

***Items not allowed for the period 2014-19***

12. The Petitioner has claimed an amount of Rs. 960.46 lakh in 2014-15, Rs.911.03 lakh in 2015-16, Rs.9518. 92 lakh in 2016-17, Rs.541.24 lakh in 2017-18 and Rs.50.80 lakh in 2018-19 under exclusion, towards items that were not allowed during the period 2014-19. The items claimed by the Petitioner under this head include works related to raising of Ash dyke, works related to R&M activities of ESP, replacement of switchgear in CHP area, TG auxiliary control system and R&M of ash slurry pump house. It is observed that the Commission has not allowed any additional capital expenditure at the time of determination of tariff for the period 2014-19, in order dated 23.8.2016 in Petition 291/GT/2014. In view of the above, the capitalization of the above items is allowed under exclusion.

***Items not claimed as additional capitalisation for the period 2014-19***

13. The Petitioner has claimed an amount of Rs.1699.37 lakh in 2015-16, Rs.2133 lakh in 2016-17, Rs.2509.18 lakh in 2017-18 and Rs. 201.14 lakh in 2018-19, towards items that have not been claimed as additional capital expenditure during the period 2014-19. The items under this head include R&M activities of various systems and associated decapitalisation. It is observed that the Petitioner has not claimed any additional capital expenditure of these items during the period 2014-19. In view of the same, the claim of the Petitioner under the above heads is allowed under exclusion.

***Loan FERV***

14. The Petitioner has claimed exclusion of loan FERV of Rs.55.70 lakh in 2014-15, Rs.63.36 lakh in 2015-16, (-) Rs.619.22 lakh in 2016-17, Rs.943.92 lakh in 2017-18



and (-) Rs. 128.99 lakh in 2018-19. In justification for the same, the Petitioner has submitted that since it is entitled to directly claim FERV on foreign currency loans as per the 2014 Tariff Regulations the same has been kept under exclusions. As the Petitioner is entitled to bill the claim for loan FERV, directly from the beneficiaries, the Petitioner's claim under this head is allowed.

### ***Capitalisation of Capital Spares***

15. The Petitioner has claimed exclusion of capital spares of Rs. 550.66 lakh in 2014-15, Rs. 855.25 lakh in 2015-16, Rs. 1309.20 lakh in 2016-17, Rs. 1317.36 lakh in 2017-18 and Rs. 7729.51 lakh in 2018-19. In justification for the same, the Petitioner has submitted that the capital spares capitalized after the cut-off date, are not allowable as per the 2014 Tariff Regulations and accordingly the same has been claimed as exclusion. As the 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 claim of the Petitioner is allowed.

### ***Inter-Unit Transfer***

16. The Petitioner has claimed exclusion of (-) Rs.0.32 lakh in 2015-16, (-) Rs.0.50 lakh in 2016-17 and Rs.9.91 lakh in 2017-18 and (-) Rs.57.91 lakh in 2018-19, on account of inter-unit transfer of assets to/ from the generating station. In justification for the same, the Petitioner has submitted that since the Commission is not considering the temporary inter-unit transfer of assets, for the purpose of tariff, the same has been kept under exclusions. The Commission, in its various orders while dealing with the application for additional capitalisation 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.

### ***Reversal of Liabilities***

17. The Petitioner has claimed exclusion of reversal of liabilities of (-) Rs.207.44 lakh in 2015-16, (-) Rs.7.45 lakh in 2016-17, and (-) Rs.8.95 lakh in 2017-18 and (-) Rs. 194.84 lakh in 2018-19. In justification for the same, the Petitioner has submitted that the tariff is allowed on cash basis and liabilities do not form part of tariff, and accordingly 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.

### ***De-capitalisation of Spares (Not Part of Capital Cost)***

18. The Petitioner has claimed exclusion of de-capitalisation of capital spares of Rs.205.57 lakh in 2014-15, Rs.174.96 lakh in 2015-16, Rs.154.33 lakh in 2016-17, Rs.30.73 lakh in 2017-18 and Rs.13.36 lakh in 2018-19. In justification for the same, the Petitioner has submitted that these capital spares do not part of allowed capital cost of the generating station and accordingly their de-capitalisation has been claimed as exclusions. It is observed from the submission of the Petitioner that these capital spares do not form part of the capital cost allowed to the generating station. Accordingly, the Petitioner's claim for exclusion under this head is allowed.

### ***Capitalisation of MBOA***

19. The Petitioner has claimed an amount of Rs. 7.01 lakh in 2016-17, Rs.261.51 lakh in 2017-18 and Rs. 325.99 lakh in 2018-19 as capitalisation of MBOA under exclusion. In justification for the same, the Petitioner has submitted that capitalisation of MBOA beyond cut-off date is not admissible as per the 2014 Tariff Regulations and accordingly the capitalisation of these MBOA are claimed under exclusion. As



capitalization of MBOA after the cut-off date of the generating station is not allowed as part of the capital cost, in terms of the 2014 Tariff Regulations, the claim of the Petitioner is allowed.

***De-capitalisation of MBOA (Not Part of capital cost)***

20. The Petitioner has claimed exclusion of de-capitalisation of MBOA of Rs.102.60 lakh in 2017-18 and Rs.6.02 lakh in 2018-19. In justification for the same, the Petitioner has submitted that these MBOA's do not part of the allowed capital cost of the generating and accordingly their de-capitalisation has been claimed as exclusions. Since, these de-capitalised MBOA's do not form part of the allowed capital cost of the generating station, the exclusion claimed under this head is allowed.

***De-capitalisation of MBOA (Part of capital cost)***

21. The Petitioner has claimed exclusion of de-capitalisation of MBOA for Rs 23.79 lakh in 2014-15, Rs.4.64 lakh in 2015-16, and Rs.60.02 lakh in 2016-17, Rs.56.92 lakh in 2017-18 and Rs.1.36 lakh in 2018-19. In justification for the same, the Petitioner has submitted that as the capitalisation of expenditure against these items are not allowed for the purpose of tariff under the 2014 Tariff Regulations, the de-capitalisation of the same has been claimed as exclusions. Since Regulation 14(4) of the 2014 Tariff Regulations provides that in case of de-capitalisation of assets, the original cost of such assets shall be removed from the admitted capital cost of the generating station, the claim of the Petitioner under this head is not allowed.

***De-capitalisation of MGR Wagon (Part of capital cost)***

22. The Petitioner has claimed exclusion of de-capitalisation of MGR Wagon of Rs.14.19 lakh in 2014-15. In justification, the Petitioner has submitted that as the capitalisation of expenditure against these items are not being allowed for the purpose of tariff under the 2014 Tariff Regulations, the de-capitalisation of the same has been



claimed as exclusions. Since Regulation 14(4) of the 2014 Tariff Regulations provides that in case of de-capitalisation of assets, the original cost of such assets shall be removed from the admitted capital cost of the generating station, the claim of the Petitioner under this head is not allowed.

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

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Items not allowed in 2014-19	960.46	911.03	9518.92	541.24	50.80
Items not claimed as additional capitalisation in 2014-19	0.00	1699.37	2133.13	2509.18	201.14
Loan FERV	55.70	63.36	(-)619.22	943.92	(-)128.99
Capitalisation of Capital Spares	550.66	855.25	1309.20	1317.36	7729.51
Inter-Unit Transfer	0.00	(-)0.32	(-)0.50	9.91	(-)57.91
Reversal of Liabilities	0.00	(-)207.44	(-)7.45	(-)8.95	(-)194.84
De-capitalisation of Spares: Not Part of capital cost	(-)205.57	(-)174.96	(-)154.33	(-)30.73	(-)13.36
Capitalisation of MBOA	0.00	0.00	7.01	261.51	325.99
De-Capitalisation: MBOA Not Part of Capital Cost	0.00	0.00	0.00	(-)102.60	(-)6.02
De-capitalisation of MBOA: Part of Capital Cost	0.00	0.00	0.00	0.00	0.00
De-capitalisation of MGR Wagon No. B23-Part of capital cost	0.00	0.00	0.00	0.00	0.00
Ind As Adjustment Capital Overhauling	0.00	0.00	0.00	0.00	0.00
<b>Total Exclusions Allowed</b>	<b>1361.25</b>	<b>3146.28</b>	<b>12186.76</b>	<b>5440.84</b>	<b>7906.32</b>
<b>Total Exclusions Disallowed</b>	<b>(-)37.98</b>	<b>(-)4.64</b>	<b>(-)60.02</b>	<b>(-)56.92</b>	<b>(-)1.36</b>

### **Additional Capital Expenditure**

24. The additional capital expenditure claimed by the Petitioner, on cash basis, for the period 2014-19, is as under:

	<i>(Rs. in lakh)</i>					
	Regulation	2014-15	2015-16	2016-17	2017-18	2018-19
Compensation to Sh. Laxman/ Puja Singh	14 (3) (v)	0.75	-	-	-	-
Freehold land Plant/office	14(3)(i), 14(3)(ii) 14(3)(V)	-	0.74	-	0.13	3.00
Effluent Quality Monitoring System (EQMS) - Main Equipment Supply	14(3)(ii)	-	34.61	-	-	-
Land settlement, project affected persons (PAP)	14(3)(i), 14(3)(v)	-	-	36.00	-	-



1ST Raising of Central Ash Dyke Lagoon-II	14(3)(iv)	-	-	-	16.99	-
LED Lighting	14(3)(ii)	-	-	-	390.18	491.35
HFO to LDO conversion Stage-1		-	-	-	-	1618.25
3RD Raising of Central Ash Dyke Lagoon – I	14(3)(iv)	-	-	-	-	817.04
Decapitalization of Spares (Part of capital cost)	14(4)	-	-	(-)172.30	(-)87.92	(-)205.82
Decapitalization against LED Lighting		-	-	-	(-)37.84	(-)47.66
<b>Additional capital expenditure claimed (before discharge of liabilities)</b>		<b>0.75</b>	<b>35.35</b>	<b>(-)136.30</b>	<b>281.54</b>	<b>2676.16</b>
Add: Discharge of Liabilities		11.82	-	-	4.98	11.06
<b>Net Additional capital expenditure claimed (including discharges of liabilities)</b>		<b>12.57</b>	<b>35.35</b>	<b>(-)136.30</b>	<b>286.52</b>	<b>2687.22</b>

25. We now examine the actual additional capital expenditure claimed by the Petitioner for the period 2014-19, as under:

***Compensation to Sh. Laxman /Puja Singh***

26. The Petitioner has claimed expenditure of Rs. 0.75 lakh in 2014-15, under Regulation 14(3)(v) of the 2014 Tariff Regulations, towards compensation paid to Shri. Lakshman/Puja Singh. In justification for the same, the Petitioner has submitted that the said compensation amount was paid for fruit bearing trees which belonged to Sh. Lakshman/Puja Singh, that existed on the project site, which was damaged at the time of execution of the project. It has submitted that the additional payments incurred are in the nature of discharge of balance payments made by the Petitioner.

27. The Respondent UPPCL has submitted that the Petitioner has claimed the balance payment towards tree compensation with a delay of approximately 25 years. It has further submitted that the compensation payment is an inter-se settlement between the Petitioner and the concerned party and has not arisen out of any court award.



28. The matter has been considered. It has been observed that the Petitioner has claimed the expenditure of Rs. 0.75 lakh, as a discharge of liability in nature of balance payment under Regulation 14(3)(v) of the 2014 Tariff Regulations. However, it is observed that these liabilities do not form part of the undischarged liabilities approved by the Commission in its earlier tariff orders, and has only been brought out and claimed in the present petition. Further, the Petitioner has not stated reference of any court order or any other adjudicating authority based on which compensation has been paid. Accordingly, the claim of the Petitioner for additional capitalisation of the compensation payment made to Sh. Lakshman Singh/Puja Singh is **not allowed**.

***Freehold land plant/ office***

29. The Petitioner has claimed additional capital expenditure of Rs.0.74 lakh in 2015-16, Rs. 0.00 lakh in 2016-17, Rs.0.13 lakh in 2017-18 and Rs.3.00 lakh in 2018-19 on cash basis, along with undischarged liabilities of Rs. 367.92 lakh in 2014-15, Rs.10.74 lakh in 2015-16, Rs. 9.17 lakh in 2016-17, Rs. 7.80 lakh in 2017-18 and Rs.9.15 lakh in 2018-19, towards free hold land for Plant and Office under Regulations 14(3)(i), 14(3)(ii) 14(3)(v) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the interest portion paid/payable towards enhanced compensation for land, as per various court orders, was earlier not indicated in the cost of land, as accounting standards did not permit the same. It has however stated, that after the receipt of opinion of the Expert Advisory Committee of Institute of Chartered Accountants of India and as opined, the interest paid/ payable has been capitalised now as cost of land. Accordingly, the Petitioner has stated that the amount has been capitalised as interest, which would be payable for settlement of Land compensation cases, pending in various courts. It has also stated that some cases are still pending in various courts.



30. The Petitioner has submitted the copy of the opinion received from the Expert Advisory Committee of Institute of Chartered Accountants of India, wherein, it has been opined as follows:

*“The interest portion on the enhanced compensation awarded by the court should be included as cost of the land to extent they relate to the period upto the date of court’s award. Any interest beyond the period should be treated as revenue expenditure and charged to profit and loss account from the year of incurrence. “*

31. In view of the above, the claim of the Petitioner towards free hold land along with the corresponding undischarged liabilities, is **allowed**.

### ***Effluent Quality Monitoring System (EQMS)***

32. The Petitioner has claimed additional capital expenditure of Rs.34.61 lakh towards EQMS, main equipment supplies on cash basis under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that continuous monitoring of effluent quality has been made mandatory by Central Pollution Control Board (CPCB) vide its direction dated 5.2.2014 for the units including thermal power plant. The Petitioner has also submitted the copy of the directions dated 5.2.2014 received from CPCB.

33. The Respondent UPPCL has submitted that the Petitioner is eligible for Special allowance from 2015-16 and the Petitioner has claimed the benefits of Special Allowance from 2015-16 hence, these expenses should be met out of the Special Allowance.

34. The matter has been considered. It is noticed that CPCB vide its direction dated 5.2.2014 has mandated the Petitioner to install EQMS. Since the claim of the Petitioner is for compliance to the existing law and in terms of the directions of the statutory authority, the claim of the Petitioner for EQMS is **allowed** under Regulation 14(3)(ii) of the 2014 Tariff Regulations.





### ***Land settlement, Project affected Persons***

35. The Petitioner has claimed additional capital expenditure of Rs. 36 lakh in 2016-17, towards Land settlement, Project Affected Persons (PAP), under Regulation 14(3)(i) read with Regulation 14(3)(v) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that payments have been made, on account of settlement of long pending issues, relating to compensation to PAP and consequent cash disbursement to PAPs (12 Nos) for 3 lakhs each. The Petitioner has also furnished the list of PAPs and the methodology for arriving at the compensation amount of Rs. 3 lakh.

36. The Respondent UPPCL has submitted that the expenditure fails to satisfy the criteria of Regulation 14(3)(i) of the 2014 Tariff Regulations as the compensation has not been paid as a result of any legal action. It has further submitted that the Petitioner is claiming the Special allowance from 2015-16 and hence these expenditures should be met out of the same.

37. The matter has been considered. We agree with the submissions of the Respondent UPPCL. Since the compensation amount paid is not on account of any arbitration award or order of Court, the claim for additional capitalisation under Regulation 14(3)(i) of 2014 Tariff Regulations, does not arise. Moreover, the liabilities on this count, were also not admitted by the Commission in any of its previous orders and hence does not satisfy the criteria of Regulation 14(3)(v) of the 2014 Tariff regulations. In view of the above, the claim of the Petitioner under this head is **not allowed**.



### ***1st Raising of Central Ash Dyke Lagoon-II***

38. The Petitioner has claimed additional capital expenditure of Rs. 16.99 lakh on cash basis, along with undischarged liability of Rs. 12.70 lakh in 2017-18, under Regulation 14(3)(iv) of the 2014 Tariff Regulations. In justification of the same, the Petitioner has submitted that Commission vide its order dated 29.7.2016 in Petition No 317/GT/2014 had allowed the capitalisation towards 1<sup>st</sup> raising of the central ash dyke lagoon- II in 2013-14 and the amount claimed under this head, is the balance payments/ adjustments of already approved and capitalised works.

39. We have considered the matter. Since the Commission vide its order dated 29.7.2016 had approved the total expenditure of Rs.751.71 lakh towards the 1<sup>st</sup> raising of ash dyke lagoon II and since the present claim of the Petitioner is towards the balance payments/ adjustments against the approved works, the claim of the Petitioner of Rs.16.99 lakh, along with the undischarged liability of Rs.12.70 lakh is **allowed.**

### ***HFO to LDO conversion Stage-1***

40. The Petitioner has claimed additional capital expenditure of Rs. 1618.25 lakh along with undischarged liability of Rs. 53.66 lakh in 2018-19, under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that Hon'ble Supreme Court of India vide its order dated 24.10.2017 in W. P.(C) No (s).13029/1985 has banned the use of HFO (Furnace Oil) in the States of UP, Haryana & Rajasthan and has ordered for switching to Light Diesel Oil (LDO) in Thermal Power Plants. In view of this, the Petitioner has submitted that it has taken up the fuel system conversion in its various power stations including the present



generating station. The Petitioner has also submitted the copy of the judgement of Hon'ble Supreme Court.

41. The Respondent UPPCL has submitted that this claim should be met out of the Special allowance being availed by the Petitioner.

42. We have considered the matter. It has been observed that the Hon'ble Supreme Court vide its judgement dated 24.10.2017, had ordered ban of using the furnace oil and Pet Coke in the States of UP, Haryana and Rajasthan, with effect from 1.11.2017. Thus, the Petitioner, in compliance with the directions of Hon'ble Supreme Court, has carried out the work for conversion of HFO to LDO for the generating station. In this background, the claim of the Petitioner for Rs. 1618.25 lakh along with undischarged liability of Rs. 53.66 lakh **is allowed**.

### ***3<sup>rd</sup> Raising of Central Ash Dyke Lagoon-I***

43. The Petitioner has claimed additional capital expenditure of Rs. 817.04 lakh on cash basis, along with undischarged liability of Rs. 62.66 lakh in 2018-19, under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that in order to have optimum utilisation of land for ash disposal, conservation of forest/cultivating land and compliance with the directions of statutory bodies, capacity of the Central Ash dyke Lagoon-I is being enhanced by 3<sup>rd</sup> raising of the ash dyke for catering the need of disposal of ash from the generating station.

44. The Respondent UPPCL has submitted that the Commission has already disallowed similar claim of the Petitioner vide its order dated 23.8.2016 in Petition 291/GT/2014 and has directed the Petitioner to meet the claim from the special allowance.



45. The matter has been considered. It has been observed that a similar claim of the Petitioner for raising of Maithini Ash dyke was disallowed by the Commission vide its order dated 23.8.2016 in Petition 291/GT/2014. As such, considering the fact that the Petitioner has opted for “Special Allowance” in order to meet the expenses for R&M of the generating station. In this background, we are not inclined to allow the projected additional capital expenditure against the Ash Dyke work.

***LED Lighting with corresponding de-capitalisation***

46. The Petitioner has claimed additional capital expenditure of Rs. 390.18 lakh in 2017-18 Rs.491.35 lakh in 2018-19, along with corresponding de-capitalisation of Rs. 37.84 lakh in 2017-18 and Rs.47.66 lakh in 2018-19, under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the Hon’ble Prime Minister of India, on 5.1.2015, has launched National LED Programme, with an objective to reduce energy consumption, by using energy efficient lighting. In line with the objective, Unnat Jyoti by affordable LEDs for all (UJALA) and Street Lighting National Programme is being implemented by EESL. In this regard, Ministry of Power (MOP), GOI vide letter dated 2.8.2017, has mandated the Petitioner to replace all old bulbs with LED bulbs in all NTPC buildings including compound/ street lighting occupied by the Petitioner. The Petitioner has also submitted that since any directions of GOI are required to be implemented and has the force of law, it took the work of replacing the old lights with LED lighting in the premises of the station compound/ building owned and operated by the Petitioner.

47. The Respondent UPPCL has submitted that since the Petitioner is claiming Special Allowance and hence the expenditure under this head should be met out of the same. We have considered the matter. In our view, the MOP, GOI letter is



recommendatory in nature and cannot be construed as a 'change in law' event or compliance to an existing law. Moreover, the benefits of replacement of existing lighting system with LED lighting system, accrues to the Petitioner. It is pertinent to mention that the similar claim of the Petitioner has not been allowed by the Commission in various petitions of the Petitioner.

48. In view of the above, the additional capital expenditure claimed on account of installation of LED lighting system is **not allowed**. Therefore, the corresponding decapitalisation has also not been considered.

#### ***Decapitalisation of Spares***

49. The Petitioner has claimed de-capitalisation of capital spares forming part of the admitted capital cost of Rs.172.30 lakh in 2016-17, Rs.87.92 lakh in 2017-18, Rs.205.82 lakh in 2018-19, under Regulation 14(4) of the 2014 Tariff Regulations, which provides that in case of de-capitalisation of assets, the original cost of such asset shall be removed from the admitted capital cost of the generating station. Accordingly, the de-capitalisation claimed under this head is **allowed** for the purpose of tariff.

#### ***Discharge of Liabilities***

50. The discharges of liabilities claimed by the Petitioner, is as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Out of liabilities deducted as on 1.4.2009	-	-	-	-	-
Other liabilities	11.82	-	-	4.98	11.06
<b>Total</b>	<b>11.82</b>	<b>-</b>	<b>-</b>	<b>4.98</b>	<b>11.06</b>

51. The discharges as claimed above are in order and has been considered for the purpose of tariff. Further, considering the reversal of liabilities, during the period 2014-



19, corresponding to the admitted capital cost, the flow of un-discharged liabilities corresponding to the admitted capital cost is as under:

<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Out of Liabilities Prior to 2009</b>					
Opening Liabilities	188.68	188.68	188.68	188.68	188.68
Addition During the Period	0.00	0.00	0.00	0.00	0.00
Discharges during the Period	0.00	0.00	0.00	0.00	0.00
Reversal during the Period	0.00	0.00	0.00	0.00	0.00
Closing Liability	188.68	188.68	188.68	188.68	188.68
<b>Other liabilities</b>					
Opening Liabilities	188.94	545.04	555.78	564.95	580.46
Addition During the Period	367.92	10.74	9.17	20.49	62.81
Discharges during the Period	11.82	0.00	0.00	4.98	11.06
Reversal during the Period	0.00	0.00	0.00	0.00	1.64
Closing Liability	545.04	555.78	564.95	580.46	630.58

52. Accordingly, the additional capital expenditure allowed for the period 2014-19, is summarized as under:

<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19
Compensation to Shri. Laxman/ Puja Singh	0.00	0.00	0.00	0.00	0.00
Freehold Land Plant/Office	0.00	0.74	0.00	0.13	3.00
Effluent Quality Monitoring System (EQMS) - Main Equipment Supply	0.00	34.61 <sup>#</sup>	0.00	0.00	0.00
Land Settlement, Project Affected Persons (PAP)	0.00	0.00	0.00	0.00	0.00
1st Raising Of Central Ash Dyke Lagoon-II	0.00	0.00	0.00	16.99	0.00
LED Lighting	0.00	0.00	0.00	0.00	0.00
HFO to LDO conversion Stage-1	0.00	0.00	0.00	0.00	1618.25 <sup>#</sup>
3rd Raising of Central Ash Dyke Lagoon - I	0.00	0.00	0.00	0.00	0.00
Decapitalisation of Spares (Part of Capital Cost)	0.00	0.00	(-)172.30	(-)87.92	(-)205.82
Decapitalisation against LED Lighting	0.00	0.00	0.00	0.00	0.00
<b>Additional capital expenditure allowed (before discharge of liabilities)</b>	<b>0.00</b>	<b>35.36</b>	<b>(-)172.30</b>	<b>(-)70.80</b>	<b>1415.43</b>
Add: Discharge of Liabilities	11.82	0.00	0.00	4.98	11.06 <sup>#</sup>
Exclusion not allowed	(-)37.98	(-)4.64	(-)60.02	(-)56.92	(-)1.36
<b>Net Additional capital expenditure allowed (including discharges of liabilities)</b>	<b>(-)26.16</b>	<b>30.72</b>	<b>(-)232.32</b>	<b>(-)122.74</b>	<b>1425.12</b>

<sup>#</sup> Note: As these are new assets, admitted during the period 2014-19, depreciation has been computed by applying the weighted average rate of depreciation @ 5.28% p.a. The depreciation for existing assets has been computed considering the spreading over of the balance depreciable value.



### Capital cost allowed for the period 2014-19

53. Based on above, the capital cost allowed for the generating station is as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	242348.24	242322.08	242352.80	242120.48	241997.75
Add: Additional capital expenditure	(-)26.16	30.72	(-)232.32	(-)122.73	1425.12
<b>Closing capital cost</b>	<b>242322.08</b>	<b>242352.80</b>	<b>242120.48</b>	<b>241997.75</b>	<b>243422.87</b>
Average capital cost	242335.16	242337.44	242236.64	242059.11	242710.31

### Debt-Equity Ratio

54. Regulation 19 of the 2014 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 utilised 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 utilisation 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 modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”*

55. The gross normative loan and equity amounting to Rs.122192.46 lakh and Rs.120155.78 lakh, respectively, as on 1.4.2014, as considered in order dated 23.8.2016 in Petition No. 291/GT/2014, has been considered as the 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 the ratio of 70:30. Further, for the assets de-capitalised during the period 2014-19, the debt-equity ratio of 50:50 has been considered, as these assets were originally allocated to debt and equity, in the ratio of 50:50, in the respective tariff orders. Accordingly, the details of debt-equity ratio in respect of the generating station, as on 1.4.2014 and as on 31.3.2019, is as under:

*(Rs. in lakh)*

	Capital cost as on 1.4.2014	(%)	Additional capital expenditure	(%)	De-capitalization	(%)	Total cost as on 31.3.2019	(%)
<b>Debt</b>	122192.46	50.42%	1191.11	70%	313.48	50%	123070.09	50.56%
<b>Equity</b>	120155.78	49.58%	510.48	30%	313.48	50%	120352.78	49.44%
<b>Total</b>	<b>242348.24</b>	<b>100.00%</b>	<b>1701.59</b>	<b>100.00%</b>	<b>626.96</b>	<b>100.00%</b>	<b>243422.87</b>	<b>100.00%</b>

### **Return on Equity**

56. Regulation 24 of the 2014 Tariff Regulation 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 kilometre.”*

57. 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:*

*Rate of pre-tax return on equity = 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.”*

58. The Petitioner has claimed tariff considering rate of Return on Equity (ROE) of 19.611% in 2014-15, 19.706% in 2015-18 and 19.758% in 2018-19. The Petitioner has arrived at these rates after grossing up 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 ROE 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, ROE has been worked out 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>
Notional Equity- Opening	120155.78	120140.34	120148.62	120032.46	119966.68
Add: Addition of Equity due to additional capital expenditure	(-) 15.44	8.29	(-) 116.16	(-) 65.79	386.10
<b>Normative Equity – Closing</b>	<b>120140.34</b>	<b>120148.62</b>	<b>120032.46</b>	<b>119966.68</b>	<b>120352.78</b>
Average Normative Equity	120148.06	120144.48	120090.54	119999.57	120159.73
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate for respective years	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) - (annualised)</b>	<b>23561.03</b>	<b>23674.47</b>	<b>23663.84</b>	<b>23645.92</b>	<b>23741.16</b>

### Interest on loan

59. 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 Decapitalisation 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-capitalisation 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 capitalised:*

*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.”

60. Interest on loan has been computed as under:

- i) The gross normative loan amounting to Rs. 122192.46 lakh as consider in order dated 23.8.2016 in Petition No. 291/GT/2014, has been retained as on 1.4.2014.
- ii) Cumulative repayment of Rs. 122192.46 lakh, as considered in order dated 23.8.2016 in Petition No. 291/GT/2014, has been retained as on 1.4.2014.
- iii) Accordingly, the net normative opening loan as on 1.4.2014 is 'nil'.
- 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 period 2014-19. Further, the repayments have been adjusted for de-capitalisation of assets considered for the purpose of tariff. Further also, 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, corresponding to liabilities deducted, as on 1.4.2009
- vi) The Petitioner has claimed interest on loan considering weighted average rate of interest (WAROI) of 6.0690% in 2014-15, 7.3234% in 2015-16, 8.1413% in 2016-17, 8.5277% in 2017-18 and 8.2957% in 2018-19. The WAROI, has been calculated by applying the actual loan portfolio existing as on 1.4.2014, along with subsequent additions during the period 2014-19, for the generating station.

61. Accordingly, Interest on loan has been worked out as under:

		<i>(Rs. in lakh)</i>				
		2014-15	2015-16	2016-17	2017-18	2018-19
A	Gross opening loan	122192.46	122181.74	122204.17	122088.02	122031.07
B	Cumulative repayment of loan upto previous year	122192.46	122181.74	122204.17	122088.02	122008.75
C	Net Loan Opening (A-B)	0.00	0.00	0.00	0.00	22.33



D	Addition due to additional capital expenditure	(-) 10.72	22.43	(-) 116.16	(-) 56.94	1039.02
E	Repayment of loan during the year	8.27	26.61	(-) 69.87	51.08	44.84
F	Repayment adjustment on account of de-capitalisation	18.99	4.17	46.29	130.35	186.46
G	Net Repayment of loan during the year (E-F)	(-) 10.72	22.43	(-) 116.16	(-) 79.27	(-) 141.62
H	Net Loan Closing (C+D-G)	0.00	0.00	0.00	22.33	1202.97
I	Average Loan [(C+H)/2]	0.00	0.00	0.00	11.16	612.65
J	WAROI	6.0690%	7.3234%	8.1413%	8.5277%	8.2957%
K	<b>Interest on Loan (I x J)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.95</b>	<b>50.82</b>

## Depreciation

62. 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-capitalisation 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-capitalised asset during its useful services.”

63. The cumulative depreciation amounting to Rs.203221.03 lakh and balance useful life of 2.25 years as on 1.4.2014 as considered in order dated 6.4.2017 in Petition No. 58/RP/2016. has been considered as on 1.4.2014. The value of freehold land amounting to Rs.3110.86 lakh, as on 1.4.2014, as considered in order dated 6.4.2017 in Petition No. 58/RP/2016 along with additions during the period 2014-19, has been considered for the purpose of tariff. The depreciation for existing assets has been computed considering spreading over of the balance depreciable value and the depreciation for assets admitted during the period 2014-19, has been computed by applying the weighted average rate of depreciation of 5.28%, as mentioned in the note to the table in paragraph 54 above. Further, proportionate adjustment has been made to the cumulative depreciation on account of de-capitalisation of assets considered during the period 2014-19. Accordingly, depreciation has been worked out as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Existing Assets</b>					
Average capital cost (A)	242335.16	242320.13	242202.03	242024.50	241861.05
Value of freehold land included above (B)	3110.86	3111.23	3111.61	3111.67	3113.24
Aggregated depreciable value [C = (A-B) x 90%]	215301.87	215288.01	215181.38	215021.55	214873.03
Remaining aggregate depreciable value at the beginning of the year (D = C – ‘J’ of previous year)	12080.84	6731.90	1243.92	49.26	0.00



	2014-15	2015-16	2016-17	2017-18	2018-19
Balance useful life at the beginning of the year (E)	2.25	1.25	0.25	0.00	0.00
Weighted average rate of depreciation (F)	2.2156%	2.2225%	0.5136%	0.0204%	0.0000%
<b>Depreciation during the year (G = D/E)</b>	<b>5369.26</b>	<b>5385.52</b>	<b>1243.92</b>	<b>49.26</b>	<b>0.00</b>
Cumulative depreciation at the end of the year, before adjustment of de-capitalisation adjustment (H = G + 'J' of previous year)	208590.29	213941.63	215181.38	215021.55	214891.19
Cumulative depreciation adjustment on account of de-capitalisation (I)	34.18	4.17	209.09	130.35	186.46
<b>Cumulative depreciation, at the end of the year (J = H - I)</b>	<b>208556.11</b>	<b>213937.45</b>	<b>214972.29</b>	<b>214891.19</b>	<b>214704.73</b>
<b>Assets Admitted During the period 2014-19</b>					
Average capital cost (A1)	0.00	17.31	34.61	34.61	849.27
Value of freehold land included above (B1)	0.00	0.00	0.00	0.00	0.00
Aggregated depreciable value [C1 = (A1-B1) x 90%]	0.00	15.58	31.15	31.15	764.34
Remaining aggregate depreciable value at the beginning of the year (D1 = C1 - 'J1' of previous year)	0.00	15.58	30.24	28.41	759.77
Balance useful life at the beginning of the year (E1)	2.25	1.25	0.25	0.00	0.00
Weighted average rate of depreciation (F1)	5.2800%	5.2800%	5.2800%	5.2800%	5.2800%
<b>Depreciation during the year (G1 = D1/E1)</b>	<b>0.00</b>	<b>0.91</b>	<b>1.83</b>	<b>1.83</b>	<b>44.84</b>
Cumulative depreciation at the end of the year, before adjustment of de-capitalisation adjustment (H1 = G1 + 'J1' of previous year)	0.00	0.91	2.74	4.57	49.41
Cumulative depreciation adjustment on account of de-capitalisation (I1)	0.00	0.00	0.00	0.00	0.00
<b>Cumulative depreciation, at the end of the year (J1 = H1 - I1)</b>	<b>0.00</b>	<b>0.91</b>	<b>2.74</b>	<b>4.57</b>	<b>49.41</b>
<b>Total Depreciation during the Year (G+G1)</b>	<b>5369.26</b>	<b>5386.43</b>	<b>1245.75</b>	<b>51.08</b>	<b>44.84</b>

**Unrecovered Depreciation up to 31.3.2014 on account of lower availability of the generating station**

64. The Petitioner has claimed Rs.179.12 lakh towards unrecovered depreciation in 2012-13 on account of lower availability of the generating station based on APTEL judgment dated 13.6.2017 in Appeal No. 139 of 2006, on the issue of "admissibility of



depreciation up to 90% of the value of assets". APTEL in its judgment dated 13.6.2007 in Appeal Nos. 139 of 2006 and batch (NTPC Ltd. Vs CERC and ors) has held as follows:

*"In a regulatory cost-plus regime all costs have to be reimbursed. Depreciation amount up to 90% being a cost has to be allowed over the life of the plant. If due to underperformance in a particular year the appellant is not able to recover full depreciation allowed in that year and if this denial is forever, it will tantamount to a penalty. In a contract between the appellant and the beneficiaries, only levy of liquidated damages can be permitted. It will, therefore, be enough deterrent for the appellant if the depreciation is not allowed during the year of underperformance. However, the same cannot be denied forever and, therefore, it will be only fair to allow the unpaid portion of the depreciation after the plant has lived its designated useful life. In this view of the matter the CERC needs to examine this aspect as per the aforesaid observations."*

159. The APTEL judgment refers to consider allowing the recovery of unrecovered depreciation over the life of the plant, after the plant has lived its designated useful life. The matter has been examined. It is observed that the 2004 Tariff Regulations and the 2009 Tariff Regulations were silent about the recovery of unrecovered depreciation due to underperformance of the generating station in terms of plant availability factor (PAF) in comparison to NAPAF. As such, in absence of such explicit provision in the 2004 Tariff Regulations and the 2009 Tariff Regulations, APTEL in its above judgment observed that –

*"It will, therefore, be enough deterrent for the appellant if the depreciation is not allowed during the year of underperformance. However, the same cannot be denied forever and, therefore, it will be only fair to allow the unpaid portion of the depreciation after the plant has lived its designated useful life"*

65. The Commission vide order dated 23.8.2016 in Petition No. 291/GT/2014 had already allowed this unrecovered depreciation claim of the Petitioner as part of fixed cost in 2016-17 after the completion of useful life of the generating station. Also, consequent to the decision of the Appellate Tribunal for Electricity in order dated 13.6.2007 in Appeal No. 207 of 2006, the unrecovered depreciation of Rs.179.12 lakh in 2012-13 is allowed and is considered as part of the fixed cost in 2016-17, after the completion of the useful life of the generating station. The Petitioner may recover the



same from beneficiaries after reconciliation of the PAF, billed amount and unrecovered depreciation during the period of claim as indicated by the Petitioner.

### **O&M Expenses**

66. The Commission in its order dated 23.8.2016 in Petitioner No. 291/GT/2014 and read with order dated 6.4.2017 in Petition No. 58/RP/2016 had allowed O & M expenses as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
O&M expenses allowed under Regulation 29(1)(a)	16000.00	17010.00	18080.00	19220.00	20430.00
Water Charges allowed under Regulation 29(2)	394.82	394.82	394.82	394.82	394.82
Capital spares	0.00	0.00	0.00	0.00	0.00
<b>Total O&amp;M Expenses</b>	<b>16394.82</b>	<b>17404.82</b>	<b>18474.82</b>	<b>19614.82</b>	<b>20824.82</b>

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

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
O&M expenses under Regulation 29(1)(a) of the 2014 Tariff Regulations	16000.00	17010.00	18080.00	19220.00	20430.00
O&M expenses under Regulation 29(2) of the 2014 Tariff Regulations:					
- Water Charges	423.85	420.80	420.70	423.85	434.30
- Capital Spares consumed	205.57	174.96	326.64	118.65	219.18
<b>Sub-total O&amp;M Expenses</b>	<b>16629.42</b>	<b>17605.76</b>	<b>18827.34</b>	<b>19762.50</b>	<b>21083.48</b>
Impact of Wage revision	0.00	29.80	2377.91	2584.31	3100.97
Impact of GST	0.00			148.60	206.47
<b>Total O&amp;M Expenses</b>	<b>16629.42</b>	<b>17635.56</b>	<b>21205.25</b>	<b>22495.41</b>	<b>24390.92</b>

68. As the normative O&M expenses claimed by the Petitioner is in terms of Regulation 29(1)(a) of the 2014 Tariff Regulations, and is the same as allowed by order dated 23.8.2016 in Petitioner No. 291/GT/2014, the claim of the Petitioner is allowed.

### **Water Charges**

69. 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: “*

70. In terms of the above regulation, 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 (Satge-I). The water charges claimed by the Petitioner is as under:

<i>(Rs. in lakh)</i>						
	<b>Units</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Type of cooling tower	-					
Type of cooling water system	-	Open Cycle				
Water allocation/contracted	CUSEC	37.19	37.19	37.19	37.19	37.19
Actual water consumption for Stage-I	CUSEC	37.19	37.19	37.19	37.19	37.19
Rate of water charges	Paisa. /kWh	268.68				
<b>Water charges paid for Stage I and claimed in Petition</b>	<b>Rs. in lakh</b>	<b>423.85</b>	<b>420.80</b>	<b>420.70</b>	<b>423.85</b>	<b>434.30</b>

71. The water charges allowed, on projected basis, by the Commission in order dated 6.4.2017 in Petition No. 58/RP/2016 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>
394.82	394.82	394.82	394.82	394.82

72. It is observed that the instant generating station and Singrauli STPS (another power station of the Petitioner) draw their consumptive water from Rihand water reservoir. On the same reservoir two hydel power stations of UP (Rihand 6 x 50 MW) and Obra (3x30 MW) are also located, which meet the peaking/ emergency power requirement of Uttar Pradesh. There was a dispute between UP and the Petitioner over the consumptive water drawl by the Petitioner for the two thermal power stations viz Singrauli STPS and Rihand STPS and the same was referred to ‘Umpire’, wherein,



it was decided that the Petitioner should pay compensation towards generation loss of hydro power plants of UP viz Rihand and Obra. The cost of this energy would be double the rate of maximum energy charge rate charged by the Petitioner in any concerned year.

73. Further, there was an agreement between the Petitioner, Government of UP and erstwhile UPSEB, wherein the principles of consumptive water charges were decided. The Petitioner has submitted the copy of the agreement dated 3.4.1999. The principles decided in the agreement are as follows:

- i. Water level may be taken on theoretical basis i.e., minimum 830 feet and maximum 880 feet of Rihand reservoir.
- ii. T&D losses would be considered as 12%.
- iii. Auxiliary consumption of UP Hydro stations viz Rihand and Obra would be 0.5%.
- iv. The energy loss will be calculated taking into consideration the actual availability of Rihand hydro station of UP for the year 1998.
- v. Water charges shall be payable from the date of synchronisation of the units.
- vi. The per kilowatt hour charges to be applied will be the highest average annual rate during 1998 amongst Northern Region coal-based stations of the Petitioner and will be applicable w.e.f. 1.1.199 for next five years and there would be upward revision of 10% every 5 years.

74. Accordingly, in terms of the above agreement, the actual water charges incurred during the year 2013-14 was considered as projected water charges for the period 2014-19 in the Commission's order dated 6.4.2017 in Petition 58/RP/2016. The Petitioner vide its affidavit dated 4.6.2021 has furnished the Auditor certificate, in respect of the actual water charges incurred for the period 2014-19, along with the computation of the year-wise claim. After scrutiny of the said information, the audited actual water charges claimed by the Petitioner, as above, is allowed, on prudence check



## **Capital Spares**

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

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

*xxxxx*

*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 capitalisation or consumption of stores and spares and renovation and modernisation”.*

76. In terms of the above 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 for the period 2014-19 in terms of last proviso to 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>
205.57	174.96	326.64	118.65	219.18

77. We have examined the list of spares furnished by the Petitioner along with the de-capitalisation details as submitted in Form-9Bi. The capital spares consumption claimed by the Petitioner comprise of two categories 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>
Capital spares (forming part of allowed capital cost)	0.00	0.00	172.30	87.92	205.82
Capital spares (not forming part of allowed capital cost)	205.57	174.96	154.33	30.73	13.36
Total capital spares consumed claimed	205.57	174.96	326.64	118.65	219.18

78. 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 standardised 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 period 2014-19, is summarised 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	205.57	174.96	326.64	118.65	219.18
Total capital spares consumed (not part of capital cost)	205.57	174.96	154.33	30.73	13.36
Less: Value of capital spares below Rs.1.00 lakh disallowed on individual basis	0.42	0.83	0.26	0.84	0.40
<b>Net total value of capital spares considered</b>	<b>205.15</b>	<b>174.13</b>	<b>154.07</b>	<b>29.89</b>	<b>12.96</b>

79. Also, considering the fact that the original value of capital spares taken out of service is neither available nor has been furnished by the Petitioner for the period 2014-19, we are of the view that the salvage value of the capital spares being replaced is required to be deducted from the net total value of capital spares considered during the period 2014-19. In view of the above, the salvage value of 10% has been deducted from the net total value of capital spares considered during the period 2014-19. Accordingly, net capital spares allowed is summarised 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	205.15	174.13	154.07	29.89	12.96
Less: Salvage value @ 10%	20.52	17.41	15.41	2.99	1.30
<b>Net capital spares allowed</b>	<b>184.64</b>	<b>156.71</b>	<b>138.67</b>	<b>26.90</b>	<b>11.66</b>

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

80. The Petitioner has claimed additional O&M expenses of Rs.148.60 lakh in 2017-18 and Rs.206.47 lakh in 2018-19, on account of payment of Goods and Service Tax (GST). The Respondent UPPCL and TPDDL have submitted that the Petitioner



has not submitted the details of the calculation of the amount claimed towards the impact of GST. In reply to the same, the Petitioner has submitted that the details of the calculation towards impact of GST, duly certified by the auditor, has been submitted vide additional submission dated 30.8.2021.

81. The submissions of the parties have been considered. It is observed that the Commission while specifying the O&M expense norms for the period 2014-19, had considered taxes to form part of the O&M expense calculations and accordingly, had 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...”*

82. Further, the escalation rates considered in the normative O&M expenses were finalized only after the consideration of the variations during the last five years, which also, takes care of any variation in taxes also. It may be noted that in case of reduction of taxes or duties, the Petitioner is not required to reimburse any taxes in tariff. As such, additional O&M expenses on account of GST are not admissible separately.

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

83. The Petitioner has submitted that the Commission, while specifying the 2014 Tariff Regulations applicable for the period 2014-19, 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.29.80 lakh in 2015-16, Rs.2377.94 lakh in 2016-17, Rs.2584.32



lakh in 2017-18 and Rs.3100.96 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 30.6.2021 has submitted the following:

- (a) Detailed break-up of the actual O&M expenses booked by the Petitioner for the period 2014-19, for the whole generating station
- (b) Detailed break-up of actual O&M expense of the Corporate Centre and its allocation to various generating stations, for the period 2014-19.
- (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 period 2014-19.

84. We have examined the submissions and the documents available on record. As stated, the Petitioner has claimed total amount of Rs.8092.99 lakh (Rs.29.80 lakh in 2015-16, Rs.2377.94 lakh of in 2016-17, Rs.2584.32 lakh in 2017-18 and Rs.3100.96 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, consequent upon wage revision, of Rs.192.75 lakh in 2017-18 and Rs.766.02 lakh in 2018-19. As such, as per consistent methodology adopted by the Commission of excluding PRP/ex-gratia from actual O&M expenses of past data for finalisation 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.3262.39 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	29.80	2377.94	2391.57	2334.94	7134.25



85. 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 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 macroeconomics 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.*

*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.”*

86. 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.

87. 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 actual O&M expenses incurred shall be made for four years i.e. 2015-19, on a combined basis, which is commensurate with the wage revision claim being spread over these four years.

88. The matter has been examined. The Petitioner has furnished the detailed breakup of the actual O&M expenses incurred during the period 2014-19, for combined stages i.e. Stage-I, II, III of the generating station. It is noticed that the total O&M expenses incurred for the generating station is more than the normative O&M expenses recovered during each year of the period 2014-19. 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 relevant provisions of SOR of the 2014 Tariff Regulations, the following approach as given in the subsequent paragraphs, 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 utilisation expenses, RLDC fee & charges and others (without breakup/details) which were not considered while framing the O&M expense norms for the period 2014-19, 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 (normalised) 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 (normalised) 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.

89. The details as furnished by the Petitioner for actual O&M expenses incurred for Rihand STPS for the period from 1.4.2014 to 31.3.2019, and the wage revision impact (excluding PRP and ex-gratia) for this generating station (Stage-I 1000 MW) are as under:

<i>(Rs. in lakh)</i>		
Year	Actual O&M expenses for whole Rihand STPS, excluding water charges & capital spares	Wage revision impact claimed for the generating station i.e., Rihand Stage I (1000 MW)
2014-15	48738.63	0.00
2015-16	55519.27	29.80
2016-17	66699.02	2377.94
2017-18	62620.94	2584.32
2018-19	62614.07	3100.96
<b>Total</b>		<b>8093.02</b>

90. As a first step, the expenditure against sub-heads of O&M expenses as indicated above, have been excluded from the actual O&M expenses incurred to arrive at the actual O&M expenses (normalised) for the combined stages of the generating station (Stage I to Stage III 3000 MW). Accordingly, the comparison of the normative O&M expenses versus the actual O&M expenses (normalised) along with the wage revision impact claimed by the Petitioner for the generating station i.e. Rihand STPS, Stage-I (1000 MW) for the period 2015-19 is as under:



(Rs. in lakh)

	2015-16	2016-17	2017-18	2018-19	Total
Actual O&M expenses (normalised) for the combined stages of the generating station (Stage I to Stage III from 1.4.2015 to 31.3.2019 for 3000 MW) – (a)	49331.89	61094.40	56114.37	55509.83	222050.49
Actual O&M expenses (normalised) for the generating station i.e., Rihand STPS, Stage-I (1000 MW) pro-rated based on capacity – (b)	16443.96	20364.80	18704.79	18503.28	57572.87
Normative O&M expenses for Rihand STPS, Stage-I as per Regulation 29(1) of the 2014 Tariff Regulations – (c)	17010.00	18080.00	19220.00	20430.00	57730.00
Under/(Excess) recovery for the generating station (d)=(b)-(c)	(-)566.04	2284.80	(-)515.21	(-)1926.72	(-)723.17
Wage revision impact claimed (excluding PRP/ex-gratia)	29.80	2377.94	2391.57	2334.94	7134.25

91. It is observed that for the wage revision impact during the period 2015-19, the normative O&M expenses is in excess of the actual O&M expenses (normalised) and the excess recovery is to the tune of Rs.723.17 lakh. As such, in terms of methodology described above, the wage revision impact (excluding PRP/ ex-gratia) is not allowed for this generating station.

92. Accordingly, the total O&M expenses allowed to the generating station for the period 2014-19, is as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Normative O&M expenses claimed under Regulation 29(1)(a) of the 2014 Tariff Regulations (a)	16000.00	17010.00	18080.00	19220.00	20430.00
Normative O&M expenses allowed under Regulation 29(1)(a) of the 2014 Tariff Regulations (b)	16000.00	17010.00	18080.00	19220.00	20430.00
Water Charges claimed under Regulation 29(2) of the 2014 Tariff Regulations (c)	423.85	420.80	420.70	423.85	434.30
Water Charges allowed under Regulation 29(2) of the 2014 Tariff Regulations (d)	423.85	420.80	420.70	423.85	434.30
Capital Spares consumed claimed under Regulation	205.57	174.96	326.64	118.65	219.18



29(2) of the 2014 Tariff Regulations (e)					
Capital Spares consumed allowed under Regulation 29(2) of the 2014 Tariff Regulations (f)	184.64	156.72	138.67	26.90	11.66
Total O&M expenses claimed under Regulation 29 of the 2014 Tariff Regulations (a + c + e)	16629.42	17605.76	18827.34	19762.50	21083.48
Total O&M expenses allowed under Regulation 29 of the 2014 Tariff Regulations (b + d + f)	16608.49	17587.52	18639.37	19670.75	20875.96
Impact of Wage revision claimed	0.00	29.80	2377.91	2584.31	3100.97
<b>Impact of Wage revision allowed</b>	<b>0.00</b>	<b>0.00</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
Impact of GST claimed	0.00	0.00	0.00	148.60	206.47
<b>Impact of GST allowed</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

### **Compensation Allowance**

93. 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

94. The Commission in its order dated 23.8.2016 in Petition No. 291/GT/2014 had allowed Compensation allowance of Rs.1000.00 lakh in 2014-15 and Rs.500.00 lakh in 2015-16, for the generating station. The same has been considered by the Petitioner and hence allowed for the period 2014-19.



## **Operational Norms**

95. 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 as under:

### **(a) Normative Annual Plant Availability Factor (NAPAF)**

96. In terms of Regulation 36(A)(a) of the 2014 Tariff Regulations, the NAPAF of 83% for the period 2014-17 and 85% for the period 2017-19 is considered.

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

97. In terms of Regulation 36(C)(a) of the 2014 Tariff Regulations, the Gross Station Heat Rate (GSHR) of 2335 kCal/ kWh as allowed in order dated 23.8.2016 in Petition No. 291/GT/2014, is considered.

### **(c) Specific Oil Consumption**

98. In terms of Regulation 36(D)(a) of the 2014 Tariff Regulations, the secondary fuel oil consumption of 0.50 ml/kWh, as allowed in order dated 23.8.2016 in Petition No. 291/GT/2014, is considered.

### **(d) Auxiliary Power Consumption**

99. In terms of the Regulation 36(E)(a) of the 2014 Tariff Regulations, the auxiliary power consumption of 7.75% as allowed in order dated 23.8.2016 in Petition No. 291/GT/2014, is considered.

## **Interest on Working Capital**

100. Regulation 28 of the 2014 Tariff Regulations provides as under:

*“28. Interest on Working Capital:*

*(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.
- (2) The cost of fuel in cases covered under sub-clauses (a) and (b) of clause (1) of this regulation shall be based on the landed cost incurred (taking into account normative transit and handling losses) by the generating company and gross calorific value of the fuel as per actual for the three months preceding the first month for which tariff is to be determined and no fuel price escalation shall be provided during the tariff period.
- (3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the generating station or a unit thereof or the transmission system including communication system or element thereof as the case may be is declared under commercial operation whichever is later.
- (4) Interest on working capital shall be payable on normative basis notwithstanding that the generating company or the transmission licensee has not taken loan for working capital from any outside agency.”

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

101. 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. 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”.*

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

103. 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.”*

104. The issue of ‘as received’ GCV specified in Regulation 30 of the 2014 Tariff Regulations for computation of energy charges was challenged by the Petitioner through various writ petitions filed before the Hon’ble High Court of Delhi (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 period 2014-19) 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.”*

105. 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 by 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 in Appeal Nos. 291/2018 (GRIDCO v NTPC & Ors) and the same is pending adjudication.

106. In Petition No. 291/GT/2014 filed by the Petitioner for determination of tariff of this generating station for the period 2014-19, the Petitioner had furnished GCV of coal on 'as billed' but not 'as received' basis for the preceding 3 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 23.8.2016 in Petition No. 291/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.

107. As per the Commission's order dated 25.1.2016 in Petition No. 283/GT/2014, 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 period 2014-19. 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, has been claimed by the Petitioner in the working capital as under:

	<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)	3376.35	3376.35	3376.35	3457.70	3457.70
Cost of Coal towards Generation (30 days)	6752.69	6752.69	6752.69	6915.41	6915.41
Cost of Secondary fuel oil (2 months)	323.02	323.90	323.02	330.80	330.80

108. The Petitioner has claimed Energy Charge Rate (ECR) ex-bus of 125.379 paise/ kWh for the generating station based on GCV and price of fuel (coal and secondary fuel oil) as above.

109. The Petitioner, has submitted the additional details on the GCV on ‘as received’ basis which was sought by the Commission, in other similar matters, for the months of January, 2014 to March, 2014 which was uploaded in the website of the Petitioner and shared with the beneficiaries. The Petitioner vide its affidavit dated 30.6.2021 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 period 2014-19, 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 in PTC India v CERC (2010) 4 SCC 603 and the judgment of APTEL in NEEPCO v TERC (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, it has furnished the details of GCV on ‘as received’ basis for the months of January 2014 to March 2014 in compliance with the directions of the Commission in other similar matters as under:

Sl. No.	Month	Weighted Average GCV of coal received (EM basis) (kcal/kg) (A)	Total Moisture TM) (in %) (B)	Equilibrated Moisture (EM) (in %) (C)	Weighted Average GCV of coal received (TM basis) (kcal/kg) $D=A*(1-B\%)/(1-C\%)$
1	January 2014	3826.42	8.71	4.72	3666.18
2	February 2014	3773.94	12.08	4.39	3470.40
3	March 2014	3851.40	8.12	3.91	3682.66
	<b>Average</b>				<b>3606.41</b>

110. The submissions have been considered. As stated in paragraph 108 above, 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 period 2014-19. 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.

111. 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 period 2014-19, 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 period 2014-19 in Petition No. 291/GT/2014. In the instant truing 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 month), 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.



112. 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 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 period 2009-14, 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 provisions of Regulation 21(6) of the 2009 Tariff Regulations that 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."*

113. 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.



114. 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 period 2014-19. 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.

115. The Petitioner has calculated GCV 3606.41 kCal/ kg which represents average of GCVs of preceding three months. However, the corresponding revised ECR has not been submitted by the Petitioner. 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 works out to 3668.76 kCal/kg.

116. 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 3668.76 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. 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) generation corresponding to NAPAF	3491.02	3491.02	3491.02	3575.15	3575.15
Cost of Coal towards Generation (30 days) generation corresponding to NAPAF	6982.05	6982.05	6982.05	7150.29	7150.29
Cost of Secondary fuel oil 2 months generation corresponding to NAPAF	323.02	323.90	323.02	330.80	330.80

### **Energy Charge Rate (ECR) for calculating working capital**

117. Regulation 30(6)(a) of the 2014 Tariff Regulations provides for computation and payment of 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:*

*(b) 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".

118. The Petitioner has claimed ECR of 125.379 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 3668.76 kCal/ kg is worked out as under:

	Unit	2014-19
<b>Capacity</b>	<b>MW</b>	1000
Gross Station Heat Rate	kCal/kWh	2335
Aux. Energy Consumption	%	7.75%
Weighted average GCV of Oil	kCal/lit	10440.00
Weighted average GCV of Coal	Kcal/kg	3668.76
Weighted average price of Oil	Rs./KL	53312.05
Weighted average price of Coal	Rs./MT	1839.82
Rate of Energy Charge ex-bus	Rs./kWh	1.295

119. The Energy Charges for two months for computation of working capital based on ECR of Rs.1.295/kWh, has been worked out as under:

*(Rs. in lakh)*

2014-15	2015-16	2016-17	2017-18	2018-19
14476.62	14516.28	14476.62	14825.45	14825.45

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

*(Rs. in lakh)*

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal for 45 days (15 days for coal stock and 30	10473.07	10473.07	10473.07	10725.44	10725.44



days for generation) corresponding to generation at NAPAF					
Cost of Secondary fuel oil for 2 months corresponding to generation at NAPAF	323.02	323.90	323.02	330.80	330.80
Energy Charges for 2 months	14476.62	14516.28	14476.62	14825.45	14825.45

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

121. 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
3325.88	3527.11	4241.05	4499.08	4878.18

122. 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 period 2014-19, is as under:

*(Rs. in lakh)*

2014-15	2015-16	2016-17	2017-18	2018-19
3321.70	3517.50	3727.87	3934.15	4175.19

### **Receivables for working capital**

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

*(Rs. in lakh)*

	2014-15	2015-16	2016-17	2017-18	2018-19
Variable Charges - for two months (A)	14476.62	14516.28	14476.62	14825.45	14825.45
Fixed Charges - for two months (B)	8454.54	8651.05	8128.51	8118.52	8355.55
<b>Total (C = A+B)</b>	<b>22931.16</b>	<b>23167.33</b>	<b>22605.13</b>	<b>22943.98</b>	<b>23181.00</b>



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

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

*(Rs. in lakh)*

2014-15	2015-16	2016-17	2017-18	2018-19
1385.78	1469.63	1767.10	1874.62	2032.58

125. 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 part of the working capital.

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

*(Rs. in lakh)*

2014-15	2015-16	2016-17	2017-18	2018-19
1384.04	1465.63	1553.28	1639.23	1739.66

### **Rate of interest on working capital**

127. 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:

*(Rs. in lakh)*

	2014-15	2015-16	2016-17	2017-18	2018-19
Working capital for Cost of Coal towards Stock (15 days generation corresponding to NAPAF) (A)	3491.02	3491.02	3491.02	3575.15	3575.15
Working capital for Cost of Coal towards Generation (30 days generation corresponding to NAPAF) (B)	6982.05	6982.05	6982.05	7150.29	7150.29
Working capital for Cost of Secondary fuel oil (2 months generation corresponding to NAPAF) (C)	323.02	323.90	323.02	330.80	330.80





Working capital for Maintenance Spares (20% of O&M expenses) (D)	3321.70	3517.50	3727.87	3934.15	4175.19
Working capital for Receivables (2 months of sale of electricity at NAPAF) (E)	22931.16	23167.33	22605.13	22943.98	23181.00
Working capital for O&M expenses (1 month of O&M expenses) (F)	1384.04	1465.63	1553.28	1639.23	1739.66
<b>Total Working Capital (G = A+B+C+D+E+F)</b>	<b>38432.98</b>	<b>38947.44</b>	<b>38682.37</b>	<b>39573.59</b>	<b>40152.10</b>
Rate of Interest (H)	13.50%	13.50%	13.50%	13.50%	13.50%
<b>Interest on Working Capital (I = G x H)</b>	<b>5188.45</b>	<b>5257.90</b>	<b>5222.12</b>	<b>5342.43</b>	<b>5420.53</b>

128. The calculation of interest on working capital and energy charge calculated as above are subject to the final decision of the Commission in Petition No. 244/MP/2016.

### **Annual Fixed Charges fro the period 2014-19**

129. Based on the above, the annual fixed charges approved for the generating station for the period 2014-19, is summarised 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>
Depreciation	5369.26	5386.43	1245.75	51.08	44.84
Interest on Loan	0.00	0.00	0.00	0.95	50.82
Return on Equity	23561.03	23674.47	23663.84	23645.92	23741.16
Interest on Working Capital	5188.45	5257.90	5222.12	5342.43	5420.53
O&M Expenses	16608.49	17587.52	18639.37	19670.75	20875.96
Compensation Allowance	1000.00	500.00	0.00	0.00	0.00
Special Allowance	0.00	3988.13	8482.74	9021.40	9594.25
<b>Total</b>	<b>51727.24</b>	<b>56394.45</b>	<b>57253.82</b>	<b>57732.54</b>	<b>59727.57</b>
Unrecovered Depreciation	0.00	0.00	179.12	0.00	0.00
<b>Final AFC approved</b>	<b>51727.24</b>	<b>56394.45</b>	<b>57432.94</b>	<b>57732.54</b>	<b>59727.57</b>

*Note: All figures are on annualized basis. 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.*

130. The difference between the annual fixed charges already recovered in terms of the Commission's order dated 6.4.2017 in Review Petition 58/RP/2016 and the annual fixed charges determined by this order shall be adjusted in terms of Regulation 8(3) of the 2014 Tariff Regulations.



131. Petition No. 230/GT/2020 is disposed of in terms of the above.

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

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

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

