

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 287/GT/2020

Coram:

**Shri I. S. Jha, Member
Shri Arun Goyal, Member
Shri Pravas Kumar Singh, Member**

Date of Order: 1st October, 2022

In the matter of

Petition for truing up of annual fixed charges for the 2014-19 tariff period in respect of the Feroze Gandhi Unchahar Thermal Power Station Stage-III (210 MW).

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 – 226 001
2. Rajasthan Urja Vikas Nigam Limited,
(*on behalf of Discoms of Rajasthan*),
Vidyut Bhawan, Janpath,
Jaipur-302 005
3. Tata Power Delhi Distribution Limited,
Grid Substation, Hudson Road
Kingsway Camp,
New Delhi – 110009
4. BSES Rajdhani Power Limited,
BSES Bhawan, Nehru Place,
New Delhi – 110019
5. BSES Yamuna Power Limited,
Shakti Kiran Building, Karkardooma,
Delhi- 110092



6. Haryana Power Purchase Centre,
Shakti Bhawan, Sector – VI,
Panchkula, Haryana – 134109
7. Punjab State Power Corporation Limited,
The Mall, Patiala – 147001.
8. Himachal Pradesh State Electricity Board Limited,
Kumar Housing Complex Building-II
Vidyut Bhawan, Shimla – 171004.
9. Power Development Department,
Govt. of J&K, Civil Secretariat,
Srinagar
10. Electricity Department,
Union Territory of Chandigarh,
Additional Office Building, Sector-9 D,
Chandigarh.
11. Uttarakhand Power Corporation Limited,
Urja Bhavan, Kanwali Road,
Dehradun – 248001

...Respondents

Parties Present:

Shri Anand K. Ganesan, Advocate, NTPC
Ms. Swapna Seshadri, Advocate, NTPC
Ms. Ritu Apurva, Advocate, NTPC
Ms. Ashabari Basu Thakur, Advocate, NTPC
Shri R.B. Sharma, Advocate, BRPL
Ms. Megha Bajpeyi, BRPL
Shri Mansoor Ali Shoket, Advocate, TPDDL
Shri Nitin Kala, Advocate, TPDDL
Shri Kunal Singh, Advocate, TPDDL
Shri Aditya Ajay, Advocate, BYPL
Shri Rahul Kinra, Advocate, BYPL
Shri Hemant Khera, Advocate, BYPL

ORDER

This petition has been filed by the Petitioner, NTPC for truing-up of tariff of Feroze Gandhi Unchahar Thermal Power Station Stage-3 (1 x 210 MW) (hereinafter referred to as ‘the generating station’) for the 2014-19 tariff period, in accordance with Regulation 8(1) of the Central Electricity Regulatory Commission (Terms and



Conditions of Tariff) Regulations, 2014 (hereinafter referred to as 'the 2014 Tariff Regulations').

2. The generating station comprises of one unit of 210 MW capacity with the date of commercial operation as 1.1.2007. The Commission vide its order dated 19.4.2017 in Petition No. 373/GT/2014 had approved the capital cost and the annual fixed charges of the generating station for the 2014-19 tariff period as under:

Capital Cost allowed

(Rs. in lakh)

		2014-15	2015-16	2016-17	2017-18	2018-19
A	Opening Capital Cost	87440.42	87538.42	87913.42	87913.42	87913.42
B	Admitted Projected additional capital expenditure	98.00	375.00	0.00	0.00	0.00
C	Closing Capital Cost (A+B)	87538.42	87913.42	87913.42	87913.42	87913.42
D	Average Capital Cost (A+C)/2	87489.42	87725.92	87913.42	87913.42	87913.42

Annual fixed charges allowed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	4547.94	4560.23	4569.98	4569.98	4569.98
Interest on Loan	2238.56	1916.73	1625.17	1260.89	871.80
Return on Equity	5147.00	5185.92	5197.00	5197.00	5197.00
Interest on Working Capital	613.27	626.67	641.27	655.55	670.21
O&M Expenses	5130.79	5445.79	5781.79	6138.79	6518.89
Compensation Allowance	0.00	0.00	0.00	42.00	42.00
Total	17677.56	17735.34	17815.21	17864.21	17869.88

3. Regulation 8(1) of the 2014 Tariff Regulations provides as follows:

“(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. In terms of the above regulations, the Petitioner has filed the present petition for truing-up of tariff for the 2014-19 tariff period and has claimed the following annual fixed charges:



(Rs in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	4562.42	4573.43	4600.17	4632.19	4629.21
Interest on Loan	2244.41	1919.68	1640.10	1331.34	958.98
Return on Equity	5154.30	5190.18	5224.44	5267.28	5277.88
Interest on Working Capital	2449.40	2476.09	2526.88	2592.06	2711.04
O&M Expenses	5165.32	5645.86	6020.16	6271.38	6904.14
Compensation Allowance (if applicable)	0.00	0.00	0.00	42.00	42.00
Sub-total	19575.84	19805.23	20011.75	20136.24	20523.24
Additional O&M Expenses					
Impact of Pay Revision	0.00	10.23	575.77	695.50	810.87
Impact of GST	0.00	0.00	0.00	45.88	78.83
Ash Transportation Expenditure	0.00	0.00	0.00	0.00	1268.61
Total Additional O&M Expenditure	0.00	10.23	575.77	741.38	2158.31
Total Annual fixed Charges claimed	19575.84	19815.46	20587.52	20877.62	22681.55

5. The Respondent UPPCL has filed its reply vide affidavits dated 1.6.2020 and 17.7.2021 and the Petitioner has filed its rejoinders to the said replies, vide affidavits dated 15.12.2020 and 28.7.2021 respectively. The Respondent, TPDDL has filed its reply vide affidavit dated 30.8.2021 and 30.5.2022 and the Petitioner has filed its rejoinder to the same vide affidavits dated 29.10.2021 and 12.7.2022. The Respondents BRPL and BYPL have filed their replies on 13.3.2022. The Petitioner has also filed certain additional information vide affidavits dated 21.12.2020, 30.6.2021 and 15.7.2021. The Petition was thereafter heard on 15.3.2022 and the Commission had directed the Petitioner to submit certain additional information. In response, the Petitioner vide affidavit dated 11.4.2022, has filed the additional information after serving copies to the Respondents. The Petition was thereafter heard on 14.7.2022 and the Commission after permitting the parties to complete the pleadings, if any, reserved its order in the matter. In response, the Petitioner vide affidavit dated 25.7.2022 has filed the additional information, after serving copies to the Respondents. Based on the submissions of the parties and the documents



available on record, we proceed for truing-up the tariff of the generating station for the 2014-19 tariff period as stated in the subsequent paragraphs.

Capital Cost claimed

6. The capital cost claimed by the Petitioner in Form-1(I) of the petition, is as follows:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	87440.42	87777.65	87809.39	88936.74	89258.60
Add: Additions during the period	336.81	66.85	145.02	55.19	(-) 24.78
Less: De-capitalization during the period	0.30	110.24	241.18	119.17	419.02
Less: Reversal during the year / period	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the period	0.71	75.13	1223.50	385.84	10.64
Closing Capital Cost	87777.65	87809.39	88936.74	89258.60	88825.45
Average Capital Cost	87609.03	87793.52	88373.06	89097.67	89042.03

Capital cost as on 1.4.2014

7. Clause (1) of Regulation 9 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 for determination of tariff for existing and new projects.

Clause 3 of Regulation 9 of the 2014 Tariff Regulations provides as follows:

“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 capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and

(c) expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 15.

xxx...”

8. The Commission vide its order dated 27.6.2016 in Petition No. 321/GT/2014 had admitted the closing capital cost of Rs. 87440.43 lakh, as on 31.3.2014, and the same was considered as the opening capital cost as on 1.4.2014, vide order dated 19.4.2017 in Petition No. 373/GT/2014. Therefore, the capital cost of Rs. 87440.43



lakh, as on 31.3.2014, has been considered as the opening capital cost as on 1.4.2014, in terms of Regulation 9(3) of the 2014 Tariff Regulations.

Additional Capital Expenditure

9. Regulations 14 of the 2014 Tariff Regulations provides as follows:

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

(i) Un-discharged liabilities recognized to be payable at a future date;

(ii) Works deferred for execution;

(iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;

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

(v) Change in law or compliance of any existing law:

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

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

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

(ii) Change in law or compliance of any existing law:

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

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

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

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

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

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

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

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

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

(vii) Any additional capital expenditure which has become necessary for efficient operation of generating station other than coal/lignite based stations or



transmission system as the case may be. The claim shall be substantiated with the technical justification duly supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level;

xxx “

Projected additional capital expenditure allowed vide order dated 19.4.2017 in Petition No. 373/GT/2014

10. The details of the projected additional capital expenditure allowed vide order dated 19.4.2017 in Petition No. 373/GT/2014 are summarized below:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Construction of 16 Nos 'D' Type quarters	98.00	0.00	0.00	0.00	0.00	98.00
Installation of CCTV cameras in Plant premises	0.00	375.00	0.00	0.00	0.00	375.00
Total projected additional capital expenditure allowed	98.00	375.00	0.00	0.00	0.00	473.00

11. The Petitioner vide Form-9A has claimed the actual additional capital expenditure incurred for the 2014-19 tariff period, on accrual basis, and on cash basis. The additional capital expenditure claimed by the Petitioner (on cash basis) for the 2014-19 tariff period are as under:

(Rs. in lakh)

Sl. No.	Head of Work /Equipment	Regulation	2014-15	2015-16	2016-17	2017-18	2018-19	Total
A	Admitted							
1	Construction of 16 No.(s) D type quarters	14(3)(i)	53.66	0.00	0.00	54.88	0.00	108.54
2	Installation of CCTV cameras in plant premises	14(3)(iii)	280.35	7.39	1.80	0.31	0.00	289.85
	Sub Total (A)		334.01	7.39	1.80	55.19	0.00	398.39
B	New Claim							
1	Making of settling pits in marshal yard CHP area	14(3)(vi)	2.81	0.00	0.00	0.00	0.00	2.81
2	Combined Foam Tender	14(3)(iii)	0.00	33.26	0.00	0.00	0.00	33.26
3	Effluent Quality Monitoring	14(3)(ii)	0.00	26.20	0.71	0.00	0.42	27.33



Sl. No.	Head of Work /Equipment	Regulation	2014-15	2015-16	2016-17	2017-18	2018-19	Total
	System							
4	Installation of 120 KW rooftop solar plant	54	0.00	0.00	142.51	0.00	(-) 25.20	117.31
	Sub Total (B)		2.81	59.46	143.22	0.00	(-) 24.78	180.71
C	Total Additional Capital Expenditure (C=A+B)		336.81	66.85	145.02	55.19	(-) 24.78	579.09
D	Decapitalization							
5	De-capitalization of capital spares: Part of capital cost	14 (4)	0.30	110.24	241.18	119.17	419.02	889.90
	Sub Total (D)		0.30	110.24	241.18	119.17	419.02	889.90
E	Liability Discharges							
6	Discharge of Liabilities	14 (3)(v) & 14(3)(vi)	0.71	75.13	1223.50	385.84	10.64	1695.83
	Sub Total (E)		0.71	75.13	1223.50	385.84	10.64	1695.83
	Total additional capital expenditure claimed (F=C-D+E)		337.23	31.74	1127.35	321.87	(-) 433.16	1385.03

12. There is a variation in the additional capital expenditure claimed by the Petitioner in the present petition, as against those allowed by order dated 19.4.2017 in Petition No. 373/GT/2014. We examine the item-wise actual additional capital expenditure claimed for the 2014-19 tariff period as under:

A. Additional capital expenditure towards allowed works

(a) Construction of 16 No.(s) D type quarters

13. The Petitioner has claimed additional capital expenditure for Rs. 53.66 lakh in 2014-15 and Rs. 54.88 lakh in 2017-18 towards D-Type Quarters under Regulation 14(3)(i) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the Commission vide its order dated 19.4.2017 had already allowed the additional capital expenditure towards the said work and has therefore, has prayed that the same may be allowed. It is noticed from records that the Commission vide its order dated 25.5.2012 in Petition No. 279/2009 had allowed the actual additional



capital expenditure tards this asset/work in 2013-14 under Regulation 9(2)(i) of the 2009 Tariff Regulations, on the ground that the expenditure is based on the settlement of court cases/arbitration process. The relevant portion of the said order is quoted hereunder:

“16. We have examined the matter. The Commission in order dated 25.5.2012 in Petition No. 279/2009 had allowed the projected additional capital expenditure for this work and had observed as under:

27. From the justification submitted by the petitioner, it is observed that though the work was placed before the cut-off date, the delay in completion of the said work was only on account of poor mobilization of the agent of the contractor, thereby leading to court cases, arbitration between the contractor and agent and finally leading to out of court settlement. Hence, the delay in execution of the work is not attributable to the petitioner. Since mediation and settlement form part of arbitration process, the capitalization of the said expenditure during 2011-12 and 2012-13 is allowed, under Regulation 9(2)(i) of the 2009 Tariff Regulations

17. In the above background and in view of the justification submitted by the petitioner, the actual additional capital expenditure of Rs.99.61 lakh towards Construction of ‘D’ type quarters in 2013-14 is allowed under Regulation 9(2)(i) of the 2009 Tariff Regulations. As regards the claim for balance expenditure during 2014-19, the same will be considered in accordance with law based on the justification submitted by the petitioner for the same.”

14. In line with the above decision, the projected additional capital expenditure of Rs.98.00 lakh was allowed for the said asset/work in 2014-15 under Regulation 14(3)(i) of the 2014 Tariff Regulations. Since the actual additional capital expenditure incurred for the said work, which was admitted by said order dated 19.4.2017 is Rs 108.54 lakh (Rs. 53.66 lakh in 2014-15 and Rs. 54.88 lakh in 2017-18) the claim of the Petitioner, is allowed under Regulation 14(3)(i) of the 2014 Tariff Regulations.

(b) Installation of CCTV cameras in plant premises

15. The Petitioner has claimed total additional capital expenditure of Rs. 289.85 lakh (Rs. 280.35 lakh in 2014-15, Rs. 7.39 lakh in 2015-16, Rs. 1.80 lakh in 2016-17 and Rs. 0.31 lakh in 2017-18) towards installation of CCTV cameras in Plant premises in terms of Regulation 14(3)(iii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the Commission vide its order dated 19.4.2017 in Petition No. 373/GT/2014 had allowed the additional capital expenditure



towards the said work and has accordingly prayed to allow the same. It is noticed that the Commission vide its order dated 19.4.2017 in Petition No. 373/GT/2014 had approved the additional capital expenditure for Rs. 375.00 lakh in 2015-16 for installation of CCTV cameras in Plant premises based on the recommendations of the CISF, the statutory agency. As the claim of the Petitioner is for security based on the recommendations of CISF and is also lesser than the projected additional capital expenditure of Rs. 375.00 lakh allowed vide order dated 19.4.2017, the claim of the Petitioner is allowed under Regulation 14(3)(iii) of the 2014 Tariff Regulations.

B. New Claims

(a) Making of settling pits in marshal yard CHP area

16. The Petitioner has claimed actual additional capital expenditure of Rs. 2.81 lakh in 2014-15 for Making of settling pits in marshal yard CHP area under Regulation 14(3)(vi) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the said capitalization is towards balance payments for the scheme allowed by order dated 7.8.2015 in Petition No. 254/GT/2013. The Petitioner has submitted that the job was completed and put to use in 2012-13 and Rs. 15.10 lakh was capitalised in 2012-13. It has however submitted that the amount of Rs 2.81 lakh was capitalized in 2014-15 as per settlement of final bill and contract closure. Since the additional capital expenditure claimed is towards balance payments which have been discharged/ adjusted on account of closure of contract, the same is allowed under Regulation 14(3)(vi) of the 2014 Tariff Regulations.

(b) Combined Foam Tender

17. The Petitioner has claimed actual additional capital expenditure of Rs. 33.26 lakh towards Procurement of combined foam tender in 2015-16 under Regulation 14(3)(iii)



of the 2014 Tariff Regulations. In justification of the same, the Petitioner has submitted that the procurement of fire tender was carried out based on the recommendations of CISF as per letter dated 2.6.2012 and the same is necessary for the safety of the plant and the personnel. It is observed that the Petitioner has procured combined foam tender based on the recommendations of CISF, statutory agency, and has also furnished documentary evidence in support of the same. As the expenditure incurred is necessary for the security and safety of the plant and as advised by the statutory agency, the claim of the Petitioner is allowed under Regulation 14(3)(iii) of the 2014 Tariff Regulations.

(c) Effluent Quality Monitoring System

18. The Petitioner has claimed total actual additional capital expenditure of Rs. 27.33 lakh (i.e. Rs. 26.20 lakh in 2015-16, Rs. 0.71 lakh in 2016-17 and Rs. 0.42 lakh in 2017-18) towards Effluent Quality Monitoring System (EQMS) under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the additional capital expenditure incurred is in compliance to the Central Pollution Control Board (CPCB) order dated 5.2.2014. It is observed that the Commission vide order dated 21.5.2022 in Petition No. 190/GT/2020 had allowed the additional capital expenditure towards EQMS claimed by the Petitioner, in its petition for truing up of tariff of NCTPS, Stage-II in terms of the 2014 Tariff Regulations, as under:

“35. The matter has been considered. The Petitioner has claimed the actual additional capital expenditure of Rs.25.84 lakh (on cash basis) towards EQMS based on the Central Pollution Control Board (CPCB) order dated 5.2.2014, wherein, all State Pollution Control Board (SPCB) and Pollution Control Committees (PCC) have been mandated to manage common hazardous waste & biomedical waste and to comply with norms. It is observed that the said order dated 5.2.2014 also empowers the SPCB and PCC to stipulate standards for discharge of environmental pollutants, for various categories of industries and common effluent treatment plants, common hazardous waste and biomedical waste incinerators, which are more stringent than those notified by the Central Government under the Environment Protection Act, 1986. Since the



additional capital expenditure incurred is for compliance to the directions/ orders of CPCB/SPCB, the claim of the Petitioner is allowed under Regulation 14(3)(ii) of the 2014 Tariff Regulations. Also, the corresponding un-discharge liability of Rs.7.34 lakh in 2015-16 shall be considered at the time of actual discharge of liability.”

19. In line with the above decision and keeping in view that the additional capital expenditure incurred is in compliance to the directions/orders of the CPCB, the actual additional capital expenditure claimed by the Petitioner is allowed, under Regulation 14(3)(ii) of the 2014 Tariff Regulations.

(d) Installation of 120 KW Rooftop Solar Plant

20. The Petitioner has claimed actual additional capital expenditure of Rs. 142.51 lakh in 2016-17 and adjustment of (-) Rs. 25.20 lakh in 2018-19 towards the installation of 120 KW Rooftop Solar Plant under Regulation 54 of the 2014 Tariff Regulations. In justification of the same, the Petitioner has submitted that the scheme was planned in the light of resolution of the Central Government to promote renewable energy. Further, the Petitioner has submitted that the Commission vide its order dated 13.7.2020 in Petition No. 270/GT2019 (tariff of Sugden Power Plant) had allowed the claim under this head. The Petitioner has submitted that the gain due to reduction in auxiliary power consumption is being shared with the beneficiaries in terms of Regulation 8(6) of the 2014 Tariff Regulations. It is noticed that the Commission vide its order dated 19.4.2017 in Petition No. 373/GT/2014 had disallowed the additional capital expenditure towards installation of this asset/item as under:

“25. The matter has been examined. It is noticed that the petitioner has not submitted the benefits accrue to the beneficiaries by installation of Roof top Solar PV plant at the generating station. Moreover, the said assets do not form an essential part or is a component used for operation of the generating station. Accordingly, in the absence of any justification to support the claim for the said expenditure, the projected expenditure of Rs. 168.00 lakh claimed by the petitioner in 2015-16 is not allowed.”

21. The Petitioner has claimed additional capital expenditure for installation of this asset under Regulation 54 of the 2014 Tariff Regulations but has not indicated the



relevant provision of the regulations which is required to be relaxed. d which regulation of the 2014 Tariff Regulations needs to be relaxed. Also, the Petitioner has neither furnished the benefits/ advantages, which the beneficiaries would derive on account of the installation of solar rooftop in plant premises, nor has demonstrated the need for such expenditure. Further, the benefit on account of reduction of auxiliary power consumption only accrues to the Petitioner. Moreover, the said assets do not form an essential part or is a component used for operation of the generating station. In this background, we find no reason to 'relax' the provisions of the regulations and allow the expenditure on this count. Accordingly, the claim of the Petitioner is not allowed.

Decapitalization

22. The Petitioner has claimed the decapitalization of Rs. 889.90 lakh during the 2014-19 tariff period (Rs. 0.30 lakh in 2014-15, Rs. 110.24 lakh in 2015-16, Rs. 241.18 lakh in 2016-17, Rs. 119.17 lakh in 2017-18 and Rs. 419.02 lakh in 2018-19) under Regulation 14(4) of the 2014 Tariff Regulations. In justification of the same, the Petitioner has submitted that these assets were decapitalized as these became unserviceable. The matter has been examined. Regulation 14(4) of the 2014 Tariff Regulations provides that the original value of de-capitalised assets shall be deducted from the capital cost allowed to the generating station. Accordingly, the de-capitalisation of these assets as claimed by the Petitioner is allowed.

C. Discharges and Un-discharged Liabilities

23. The discharge of liabilities allowed as part of the additional capital expenditure, corresponding to allowed assets, are as under:

		<i>(Rs. in lakh)</i>				
		2014-15	2015-16	2016-17	2017-18	2018-19
A	Opening Un-discharged liabilities as on 1.4.2014	2841.66	2910.79	2847.27	1624.40	1245.19



		2014-15	2015-16	2016-17	2017-18	2018-19
B	Discharges during the period out of liabilities as on 1.4.2009	0.00	11.30	1211.89	385.84	0.00
C	Reversals during the period out of liabilities as on 1.4.2009	0.00	0.00	0.00	0.00	65.84
D	Additions during the period	69.84	11.61	0.63	6.63	0.27
E	Discharges during the period	0.71	63.83	11.61	0.00	10.64
F	Reversal of liabilities out of liabilities added during the period	0.00	0.00	0.00	0.00	0.00
G	Discharges of liabilities during the period (B+E)	0.71	75.13	1223.50	385.84	10.64
H	Reversal of liability during the period (C+F)	0.00	0.00	0.00	0.00	65.84
I	Total Discharges (G+H)	0.71	75.13	1223.50	385.84	76.48
J	Closing Un-discharged liabilities (A+D-I)	2910.79	2847.27	1624.40	1245.19	1168.98

The balance un-discharged liabilities corresponding to admitted capital cost as on 31.3.2019, works out to be Rs. 1168.98 lakh.

D. Exclusions

24. The admissibility of exclusions claimed by the Petitioner are discussed below:

(a) Schemes Disallowed

25. The Petitioner has claimed the exclusion of Rs. 1187.54 lakh in 2014-15 and decapitalisation of (-) Rs. 1346.07 lakh in 2015-16, towards items not allowed by the Commission under the head "Schemes Disallowed". The Petitioner has submitted that these items were disallowed by the Commission vide orders dated 19.4.2017 and 25.5.2012 in Petition No.373/GT/2014 and Petition No. 279/2009 respectively. It is observed from the submissions of the Petitioner that these items have not been allowed in tariff and do not form part of the capital cost. Since these assets do not form part of the capital cost, the exclusion for these items for the said amount is allowed.

(b) Schemes not claimed



26. The Petitioner has claimed the exclusion of Rs. 0.35 lakh in 2016-17 towards items not allowed by the Commission under the head "Schemes not claimed". It is observed from the submissions of the Petitioner that these items do not form part of the capital cost. Since these assets do not form part of the capital cost, the exclusion for these items for the said amount is allowed.

(c) Capitalization of Spares

27. The Petitioner has procured capital spares amounting to Rs. 309.14 lakh in 2014-15, Rs. 258.12 lakh in 2015-16, Rs. 904.41 lakh in 2016-17, Rs. 772.16 lakh in 2017-18 and Rs. 545.95 lakh in 2018-19. In justification, the Petitioner has submitted that as capital spares capitalized after the cut-off date are not allowed in terms of the 2014 Tariff Regulations, the same has been kept under exclusions. Since capitalization of spares over and above Initial spares, procured after the cut-off date of the generating station are not allowed for the purpose of tariff, as they form part of O&M expenses as and when consumed, the Petitioner has excluded the said amount. Accordingly, the exclusion claimed by the Petitioner under this head is in order and is allowed.

(d) Capitalisation of MBOA Items

28. The Petitioner has procured Miscellaneous Bought out Assets (MBOAs) amounting to Rs. 16.47 lakh in 2014-15, Rs. 0.17 lakh in 2015-16 and Rs. 0.05 lakh in 2018-19. In justification of the same, the Petitioner has submitted that as capitalization of MBOA procured after the cut-off date of the generating station is not allowed for the purpose of tariff, the Petitioner has excluded the said amount. The exclusion claimed by the Petitioner under this head is in order and is allowed.

(e) Procurement of T&P Items



29. The Petitioner has claimed Rs. 19.69 lakh in 2018-19 towards procurement of tool and tackles. In justification of the same, the Petitioner has submitted that as capitalization of tool and tackles procured after the cut-off date of the generating station is not allowed for the purpose of tariff, the Petitioner has excluded the said amount. The exclusion claimed by the Petitioner under this head is in order and is allowed.

Decapitalization

(a) Decapitalization of Capital Spares (not part of capital cost)

30. The Petitioner has excluded de-capitalized spares amounting to (-) Rs. 37.22 lakh in 2014-15 and (-) Rs. 84.70 lakh in 2015-16 for the purpose of tariff. In justification of the same, the Petitioner has submitted that the items do not pertain to the capital cost allowed by the Commission and accordingly, the capitalization of spares has been claimed as exclusion in the present petition. The Petitioner has submitted that these spares were not allowed by the Commission in order dated 7.8.2015 in Petition No. 254/GT/2013 and order dated 27.6.2016 in Petition No. 321/GT/2014 and can therefore be construed that the decapitalised spares claimed under exclusion (as not part of capital cost), are part of the spares disallowed vide above mentioned orders. Since capitalization of the above-mentioned spares were not allowed, they do not form part of the capital cost for the purpose of tariff. Hence, the exclusion of de-capitalization of the spares as claimed by the Petitioner, is in order and allowed.

(b) De-capitalization of Miscellaneous Bought out Assets (MBOA) forming part of the capital cost

31. The Petitioner has claimed de-capitalized MBOA amounting to (-) Rs. 0.99 lakh in 2014-15, (-) Rs. 21.70 lakh in 2015-16, (-) Rs. 0.39 lakh in 2016-17 and (-) Rs. 4.10 lakh in 2018-19. The decapitalization of MBOA includes Furniture & Fixture, Other



Office Equipment's and Hospital Equipment's which were capitalized prior to the cut-off date of the generating station i.e., 31.3.2014 and hence, the decapitalized amount pertains to MBOA which form part of the capital cost of the generating station for the purpose of the tariff. As such, in terms of Regulation 14(4) of the 2014 Tariff Regulations, the decapitalized amount needs to be deducted for arriving at the capital cost for the purpose of tariff. Accordingly, the exclusion claimed by the Petitioner on account of decapitalization of MBOA is not in accordance to Regulation 14(4) of the 2014 Tariff Regulations and hence not allowed for the purpose of tariff.

(c) De-capitalization of Miscellaneous Bought out Assets (MBOA) not forming part of the capital cost

32. The Petitioner has claimed the exclusion of de-capitalized MBOA amounting to (-) Rs. 34.52 lakh in 2014-15, (-) Rs. 28.54 lakh in 2015-16, (-) Rs. 78.49 lakh in 2016-17 (-) Rs. 5.04 lakh in 2017-18 and (-) Rs. 4.77 lakh in 2018-19, on the ground that the same do not form part of the allowed capital cost. On scrutiny of Form-9Bi, it is observed that the Petitioner in respect of assets capitalised before 2014-15 has mentioned the order in which particular asset was disallowed and for assets capitalised after 2014-15, the Petitioner has mentioned that capitalization of these MBOAs, beyond the cut-off date was not admissible as per the 2014 Tariff Regulations and accordingly has claimed the de-capitalization of these items under exclusion. As, the assets claimed under exclusion do not form part of capital cost, the exclusion for the same is allowed for the purpose of tariff.

(d) Loan ERV

33. The Petitioner has excluded amounts of Rs. 397.84 lakh in 2014-15 and Rs. 850.42 lakh in 2015-16 on account of Loan ERV. The Petitioner has submitted that it is entitled to directly claim ERV on foreign currency loans as per the 2014 Tariff



Regulations and therefore, has kept ERV under exclusion. As the Petitioner is required to bill the said amount directly on the beneficiaries, the exclusion of loan ERV is allowed.

(e) Inter-Unit Transfer

34. The Petitioner has excluded amounts of Rs. 4.39 lakh in 2014-15, Rs. 8.35 lakh in 2015-16, Rs. 8.69 lakh in 2016-17, Rs. 20.85 lakh in 2017-18 and (-) Rs. 6.28 lakh in 2018-19 on account of Inter-Unit Transfer. In justification of the same, the Petitioner has submitted that items under inter unit transfer were not considered by the Commission for tariff purpose and hence kept under exclusion. We are of the considered view that both positive and negative entries arising out of inter unit-transfers of temporary nature shall be ignored for the purpose of tariff. In view of above, the exclusion of inter-unit transfer as claimed by the Petitioner is allowed.

(f) Reversal of Liability

35. The Petitioner has claimed reversal of liability for (-) Rs. 65.84 lakh in 2018-19 for MPP-Chimney & Chimney Elevators ST-III and has submitted that the said liability was excluded while determining capital cost for the purpose of tariff and therefore, liability reversal kept under exclusion. The submission of the Petitioner that reversal of liabilities shall not impact the capital cost considered for the purpose of tariff determined on cash basis is accepted. Accordingly, the exclusion claimed by the Petitioner is in order and allowed.

(g) Ind As Adjustment (Overhauling)



36. As regards Overhauling, the reconciliation statement submitted by the Petitioner indicates an expenditure of Rs. 1039.32 lakh in 2018-19, with corresponding negative entries of the same amounts as Ind-As Adjustment (Overhauling). As such, after adjustment, the net claim against overhauling reduces to zero as per IGAPP. Considering the fact that the expenditure on overhauling form part of the normative O&M expenses, the accounting adjustment leading to zero expenditure is in order and does not impact the claim made by the Petitioner. Therefore, the exclusion claimed by the Petitioner is allowed.

37. Accordingly, the summary of exclusions allowed/ not allowed is as follows:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Exclusions claimed (A)	1842.64	(-) 363.94	834.58	787.96	550.54
Exclusions allowed (B)	1843.63	(-) 342.24	834.97	787.96	554.64
Exclusion not allowed (A-B)	(-) 0.99	(-) 21.70	(-) 0.39	0.00	(-) 4.10

38. Based on the above discussion, the additional capital expenditure claimed and those allowed for the 2014-19 tariff period is summarised as follows:

(Rs. in lakh)

Sl. No.	Head of Work /Equipment		2014-15	2015-16	2016-17	2017-18	2018-19	Total
A	ACE allowed in order dated 19.4.2017 in Petition No. 373/GT/2014							
1	Construction of 16 No.(s) D type quarters	Allowed in 373/GT/2014	98.00	0.00	0.00	0.00	0.00	98.00
		Claimed	53.66	0.00	0.00	54.88	0.00	108.54
		Allowed	53.66	0.00	0.00	54.88	0.00	108.54
2	Installation of CCTV cameras in plant premises	Allowed in 373/GT/2014	0.00	375.00	0.00	0.00	0.00	375.00
		Claimed	280.35	7.39	1.80	0.31	0.00	289.85
		Allowed	280.35	7.39	1.80	0.31	0.00	289.85
	Sub Total (A)	Allowed in 373/GT/2014	98.00	375.00	0.00	0.00	0.00	473.00
		Claimed	334.01	7.39	1.80	55.19	0.00	398.39
		Allowed	334.01	7.39	1.80	55.19	0.00	398.39
B	New Claim							
1	Making of settling pits in marshal yard CHP area	Claimed	2.81	0.00	0.00	0.00	0.00	2.81
		Allowed	2.81	0.00	0.00	0.00	0.00	2.81
2	Combined Foam Tender	Claimed	0.00	33.26	0.00	0.00	0.00	33.26
		Allowed	0.00	33.26	0.00	0.00	0.00	33.26
3	Effluent Quality Monitoring System	Claimed	0.00	26.20	0.71	0.00	0.42	27.33
		Allowed	0.00	26.20	0.71	0.00	0.42	27.33
4	Installation of 120 KW rooftop solar plant	Claimed	0.00	0.00	142.51	0.00	(-) 25.20	117.31
		Allowed	0.00	0.00	0.00	0.00	0.00	0.00
	Sub Total (B)	Claimed	2.81	59.46	143.22	0.00	(-) 24.78	180.71
		Allowed	2.81	59.46	0.71	0.00	0.42	63.40



Sl. No.	Head of Work /Equipment		2014-15	2015-16	2016-17	2017-18	2018-19	Total
C	Total ACE (C=A+B)	Claimed	336.81	66.85	145.02	55.19	(-) 24.78	579.09
		Allowed	336.81	66.85	2.51	55.19	0.42	461.78
D	Decapitalization							
	Decapitalization of capital spares: Part of capital cost Sub Total (D)	Claimed	0.30	110.24	241.18	119.17	419.02	889.90
		Allowed	0.30	110.24	241.18	119.17	419.02	889.90
E	Liability Discharged							
	Add. Discharge of Liabilities pertaining to allowed works for prior period Sub Total (E)	Claimed	0.71	75.13	1223.50	385.84	10.64	1695.83
		Allowed	0.71	75.13	1223.50	385.84	10.64	1695.83
F	Exclusion not allowed		0.99	21.70	0.39	0.00	4.10	27.18
G	Net additional capital expenditure allowed excluding Exclusions (G=C-D+E-F)	Claimed	337.23	31.74	1127.35	321.87	(-) 433.16	1385.03
		Allowed	336.24	10.05	984.44	321.87	(-) 412.06	1240.53

Capital cost allowed for the 2014-19 tariff period

39. Accordingly, the capital cost approved for the 2014-19 tariff period is summarized below:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	87440.43	87776.67	87786.71	88771.16	89093.02
Add: Admitted additional capital expenditure	336.24	10.05	984.44	321.87	(-) 412.06
Closing Capital Cost	87776.67	87786.71	88771.16	89093.02	88680.96
Average Capital Cost	87608.55	87781.69	88278.93	88932.09	88886.99

Debt-Equity Ratio

40. Regulation 19 of the 2014 Tariff Regulations provides as follows:

“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 utilization made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.

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

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

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

41. The Commission vide its order dated 19.4.2017 in Petition No. 373/GT/2014 had considered the gross normative loan of Rs. 61208.30 lakh and equity amounting to Rs. 26232.13 lakh as on 31.3.2014. Accordingly, the same debt-equity has been considered as on 1.4.2014 for the purpose of tariff as provided under Regulation 19(3) of the 2014 Tariff Regulations. Further, the admitted additional capital expenditure has been allocated in the debt-equity ratio of 70:30. The details of debt and equity considered for the purpose of tariff are as follows:

(Rs. in lakh)

Funding	Capital cost as on 1.4.2014		Capital cost as on 31.3.2019	
	Amount	(%)	Amount	(%)
Debt	61208.30	70.00%	62076.67	70.00%
Equity	26232.13	30.00%	26604.29	30.00%
Total	87440.43	100.00%	88680.96	100.00%

Return on Equity

42. Regulation 24 of the 2014 Tariff Regulations provides as follows:



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

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

Provided that:

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

43. Regulation 25 of the 2014 Tariff Regulations provides as follows:

“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.

Illustration.



(i) In case of the generating company or the transmission licensee paying Minimum Alternate Tax (MAT) @ 20.96% including surcharge and cess: Rate of return on equity = $15.50/(1-0.2096) = 19.610\%$

(ii) In case of generating company or the transmission licensee paying normal corporate tax including surcharge and cess:

(a) Estimated Gross Income from generation or transmission business for FY 2014-15 is Rs 1000 crore.

(b) Estimated Advance Tax for the year on above is Rs 240 crore.

(c) Effective Tax Rate for the year 2014-15 = Rs 240 Crore/Rs 1000 Crore = 24%

(d) Rate of return on equity = $15.50/(1-0.24) = 20.395\%$

(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.”

44. The Petitioner has claimed Return on Equity (ROE) for the 2014-19 tariff period after grossing up the base rate of ROE of 15.50% with the effective tax rates (based on Minimum Alternative Tax rates) for each year, as per Regulation 25 of the 2014 Tariff regulations. The Respondent UPPCL has submitted that the Petitioner has not submitted the detailed calculation of effective tax rate. It has further submitted that the Petitioner may be asked to submit the detailed calculation of effective tax rate duly certified by the Tax Auditor / Chartered Accountant. In response, the Petitioner vide affidavit dated 15.12.2020 has submitted that it has claimed ROE based on tax rate applicable to the Petitioner's company as provided under Regulation 25(2) of the 2014 Tariff Regulations. The Petitioner has further submitted that the Petitioner is paying Minimum Alternative Tax (MAT) for the 2014-19 tariff period as per Income Tax Act and the same has been considered for grossing up of ROE. We have considered the submission of the parties. ROE has been trued-up on the basis of the MAT rate applicable in the respective years and is allowed as under:

(Rs. in lakh)



	2014-15	2015-16	2016-17	2017-18	2018-19
Normative Equity-Opening	26232.13	26333.00	26336.01	26631.35	26727.91
Add: Addition of Equity due to additional capital expenditure	100.87	3.01	295.33	96.56	(-) 123.62
Normative Equity-Closing	26333.00	26336.01	26631.35	26727.91	26604.29
Average Normative Equity	26282.57	26334.51	26483.68	26679.63	26666.10
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%
Return on Equity (Pre-Tax) (annualized)	5154.01	5189.21	5218.61	5257.22	5268.69

Interest on Loan

45. Regulation 26 of the 2014 Tariff Regulations provides as follows:

“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 Decapitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered up to the date of de-capitalization of such asset

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

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

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

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

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

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



generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

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

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

Provided that the beneficiaries or the long term transmission customers /DICs shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan."

46. Interest on loan has been worked out as under:

- (a) Gross normative loan amounting to Rs. 61208.30 lakh as considered in order dated 27.6.2016 in Petition No. 321/GT/2014 as on 31.3.2014 has been retained as on 1.4.2014;
- (b) Cumulative repayment amounting to Rs. 31871.21 lakh as considered in order dated 27.6.2016 in Petition No. 321/GT/2014 as on 31.3.2014 has been retained as on 1.4.2014;
- (c) Accordingly, the net normative opening loan as on 1.4.2014 is Rs. 29337.09 lakh;
- (d) Addition to normative loan on account of ACE approved above has been considered;
- (e) Depreciation allowed has been considered as repayment of normative loan during the respective year of the 2014-19 tariff period. Further, proportionate adjustment has been made to the repayments corresponding to discharges considered during the respective years on account of cumulative repayment adjusted as on 1.4.2009. Also, repayments have been adjusted for de-capitalization of assets considered for the purpose of tariff;
- (f) The Petitioner has claimed WAROI of 8.2594% in 2014-15, 8.4293% in 2015-16, 8.7632% in 2016-17, 9.0365% in 2017-18 and 9.3544% in 2018-19. In line with the provisions of the regulations stated above, the weighted average rate of interest has been calculated by applying the actual loan portfolio existing as on 1.4.2014, along with subsequent additions during the 2014-19 tariff period, if any, for the generating station. In case of loans carrying floating rate of interest, the details of rate of interest, as furnished by the Petitioner, has been considered for the purpose of tariff.

47. Necessary calculation for interest on loan is as under:

(Rs in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross opening loan (A)	61208.30	61443.66	61450.70	62139.81	62365.12



	2014-15	2015-16	2016-17	2017-18	2018-19
Cumulative repayment of loan upto previous year (B)	31871.21	36430.24	40945.35	45551.59	50151.02
Net Loan Opening (C) = (A) - (B)	29337.09	25013.42	20505.35	16588.22	12214.10
Addition due to additional capital expenditure (D)	235.36	7.03	689.11	225.31	(-) 288.44
Repayment of loan during the period (E)	4559.44	4567.46	4588.77	4619.90	4617.53
Less: Repayment adjustment on account of de-capitalization (F)	0.41	53.57	113.33	62.11	242.26
Add: Repayment adjustment on account of discharges corresponding to un-discharged liabilities deducted as on 1.4.2009 (G)	0.00	1.22	130.80	41.64	0.00
Net Repayment during the year (H) = (E) - (F) + (G)	4559.03	4515.11	4606.24	4599.43	4375.27
Net Loan Closing (I) = (C) + (D) - (H)	25013.42	20505.35	16588.22	12214.10	7550.38
Average Loan (J) = (C+I)/2	27175.26	22759.39	18546.78	14401.16	9882.24
Weighted Average Rate of Interest of loan (K)	8.2594%	8.4293%	8.7632%	9.0365%	9.3544%
Interest on Loan (L) = (J)*(K)	2244.50	1918.45	1625.30	1301.36	924.43

Depreciation

48. Regulation 27 of the 2014 Tariff Regulations provides as follows:

“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 upto 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) alongwith justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure during the fag end of the project.

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

49. Cumulative depreciation amounting to Rs. 31968.59 lakh as on 1.4.2014, as considered in order dated 19.4.2017 in Petition No. 373/GT/2014, has been retained for the purpose of tariff. The generating station will complete 12 years of useful life beyond 2014-19 tariff period. Accordingly, depreciation has been computed based on the weighted average rate of depreciation (WAROD) for the period 2014-19, which



has been worked out after taking into account the depreciation rates specified in the 2014 Tariff Regulations as at Annexure-I of this order. Accordingly, depreciation has been worked out and allowed is as under:

		<i>(Rs. in lakh)</i>				
		2014-15	2015-16	2016-17	2017-18	2018-19
A	Average Capital Cost	87608.55	87781.69	88278.93	88932.09	88886.99
B	Value of freehold land included in 'A'	0.00	0.00	0.00	0.00	0.00
C	Aggregate Depreciable Value = [(A-B) *90%]	78847.69	79003.52	79451.04	80038.88	79998.29
D	Remaining aggregate depreciable value at the beginning of the year [(C) - (Cumulative Depreciation (shown at K) at the end of the previous year)]	46879.10	42475.90	38408.31	34389.91	29749.90
E	Balance useful life at the beginning of the year	17.75	16.75	15.75	14.75	13.75
F	Weighted average rate of depreciation	5.2043%	5.2032%	5.1980%	5.1949%	5.1948%
G	Depreciation during the year (A) * (F)	4559.44	4567.46	4588.77	4619.90	4617.53
H	Cumulative depreciation at the end of the year (before adjustment for de-capitalization) [(G) + (Cumulative Depreciation (shown at K) at the end of the previous year)]	36528.03	41095.08	45631.50	50268.87	54865.93
I	Add: Cumulative depreciation adjustment on account of discharges out of un-discharged liabilities deducted as on 1.4.2009	0.00	1.22	130.80	41.64	0.00
J	Less: Depreciation adjustment on account of de-capitalization	0.41	53.57	113.33	62.11	242.26
K	Cumulative depreciation at the end of the year = (H) + (I) – (J)	36527.62	41042.73	45648.97	50248.40	54623.67

Operation & Maintenance Expenses



49. Regulation 29(1)(a) of the 2014 Tariff Regulations provides as follows:

“Normative Operation and Maintenance expenses of thermal generating stations shall be as follows:

(a) Coal based and lignite fired (including those based on Circulating Fluidised Bed Combustion (CFBC) technology) generating stations, other than the generating stations/units referred to in clauses (b) and (d):

Year	200/210/250 MW Sets	300/330/350 MW Sets	500 MW Sets	600 MW Sets and above
FY 2014-15	23.90	19.95	16.00	14.40
FY 2015-16	25.40	21.21	17.01	15.31
FY 2016-17	27.00	22.54	18.08	16.27
FY 2017-18	28.70	23.96	19.22	17.30
FY 2018-19	30.51	25.47	20.43	18.38

Provided that the norms shall be multiplied by the following factors for arriving at norms of O&M expenses for additional units in respective unit sizes for the units whose COD occurs on or after 1.4.2014 in the same station:

200/210/250 MW	Additional 5th& 6th units	0.90
	Additional 7th& more units	0.85
300/330/350 MW	Additional 4th& 5th units	0.90
	Additional 6th& more units	0.85
500 MW and above	Additional 3rd& 4th units	0.90
	Additional 5th& above units	0.85

50. The O&M expenses claimed by the Petitioner in Form-3A of the petition are as follows:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
O&M expenses (normative) under Regulation 29 (1) of the 2014 Tariff Regulations (A)	5019.00	5334.00	5670.00	6027.00	6407.10
O&M expenses under Regulation 29(2) of the 2014 Tariff Regulations					
Water Charges (B)	108.80	116.92	108.98	125.21	78.01
Capital Spares consumed (C)	37.51	194.94	241.18	119.17	419.02
Total O&M expenses claimed (Regulation 29(1) & Regulation 29 (2) of the 2014 Tariff Regulations (D) = (A+B+C)	5165.32	5645.86	6020.16	6271.38	6904.14
Impact of Pay revision (E)	0.00	10.23	575.77	695.50	810.87
Impact of GST (F)	0.00	0.00	0.00	45.88	78.83
Ash Transportation Expenditure (G)	0.00	0.00	0.00	0.00	1268.61
Total O&M expenses claimed	5165.32	5656.09	6595.93	7012.76	9062.45



(H) = (D+E+F+G)					
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51. The normative O&M expenses claimed by Petitioner are in terms of Regulation 29(1)(a) of the 2014 Tariff Regulations and are the same as allowed by order dated 19.4.2017 in Petition No. 373/GT/2014. Hence, the claim of the Petitioner for normative O&M expenses is allowed as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
5019.00	5334.00	5670.00	6027.00	6407.10

Water Charges

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

“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”

53. The Petitioner, in support of the claim towards water charges, has submitted the notification dated 15.7.2011 from the Irrigation Department of the State, for computation of water charges. The Petitioner vide its affidavit dated 11.4.2022 has also furnished Form-3(B) duly certified by Auditor, in respect of the actual water charges incurred for the 2014-19 tariff period, along with the computation of the year-wise claim. The Petitioner vide its affidavit dated 25.7.2022 has submitted the computation of water charges. Accordingly, the details of water charges furnished by the Petitioner are summarised below:

		2014-15	2015-16	2016-17	2017-18	2018-19
Type of Cooling Tower	-	Induced Draft Cooling Tower				
Type of Cooling Water System	-	Closed Cycle				
Water Consumption	Cusec	9.98	9.52	9.98	9.64	7.23



		2014-15	2015-16	2016-17	2017-18	2018-19
Actual water Consumption	1000 Cubic Feet	310526.78	296099.71	310350.53	299720.14	224885.03
Rate of Water Charges	Rs/ 1000 cubic feet	12.48	12.48	12.48	12.48	12.48
Rate of Royalty	Rs lakh/ cusec/ year	6	6	6	6	6
Water Charges Paid	Rs. lakh	98.65	94.07	98.60	95.22	71.45
Maintenance Charges	Rs. lakh	10.15	22.85	10.38	29.99	6.57
Total water Charges Paid	Rs. lakh	108.80	116.92	108.98	125.21	78.01

54. We have considered the submissions of the Petitioner. The Petitioner has submitted the Auditor Certificate in respect of Water charges claimed. After scrutiny of the said information and on prudence check, the audited actual water charges paid and claimed by the Petitioner as above, is allowed

Capital Spares

54. The second proviso to Regulation 29(2) of the 2014 Tariff Regulations provides as follows:

“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 capitalization or consumption of stores and spares and renovation and modernization.”

55. As per Regulation 29(2) of the 2014 Tariff Regulations, capital spares are admissible separately. The Petitioner has claimed total capital spares for Rs. 1011.82 lakh for 2014-19 tariff period (i.e., Rs. 37.51 lakh in 2014-15, Rs. 194.94 lakh in 2015-16, Rs. 241.18 lakh in 2016-17, Rs. 119.17 lakh in 2017-18 and Rs. 419.02 lakh in 2018-19). The Petitioner has submitted that in order to meet the customers demand



and to maintain high machine availability at all times by the generating station, the units/ equipment's are taken under overhaul/maintenance and inspected regularly for wear and tear. The Petitioner has further submitted that during such works, spare parts of equipment's which had been damaged/ unserviceable are replaced/consumed so that the machines continue to perform at expected efficiency, on a sustained basis. Therefore, the Petitioner has prayed for allowing capital spares as claimed during the 2014-19 tariff period.

56. The Petitioner vide affidavit dated 25.7.2022 has submitted Form-17 duly certified by the Auditor containing list of capital spares claimed. The same has been summarised as follows:

(Rs. in lakh)

Year	Capital Spares		
	Part of capital cost	Not part of capital cost	Total Consumed
	(A)	(B)	(A+B)
2014-15	0.30	37.22	37.51
2015-16	110.23	84.70	194.94
2016-17	241.18	0.00	241.18
2017-18	119.17	0.00	119.17
2018-19	419.02	0.00	419.02

57. We have examined the list of the capital spares consumed by the Petitioner. We also note that the Petitioner while claiming the details of de-capitalisation vide Form-9Bi has claimed the de-capitalisation of the Capital Spares. The same has been summarised as follows:

(Rs. in lakh)

Year	Details of de-capitalization of Spares as per Form-9Bi		
	Part of capital cost claimed under additional capitalization	Not part of capital cost claimed under exclusion	Total
	(A)	(B)	(A+B)
2014-15	0.30	37.22	37.51
2015-16	110.23	84.70	194.94
2016-17	241.18	0.00	241.18
2017-18	119.17	0.00	119.17
2018-19	419.02	0.00	419.02



58. It is evident from the audited statement and Form 9Bi of the respective years, that capital spares claimed comprise of two categories i.e. (i) spares which form part of the capital cost and (ii) spares which do not form part of the capital cost of the project. In respect of capital spares which form part of the capital cost of the project, the Petitioner has been recovering tariff since their procurement and, therefore, the same cannot be allowed as part of additional O&M expenses. Accordingly, only those capital spares, which do not form part of the capital cost of the project, are being considered.

59. 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 (one) 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 the allowed capital spares considered for the 2014-19 tariff period is summarized as follows:

		<i>(Rs. in lakh)</i>				
		2014-15	2015-16	2016-17	2017-18	2018-19
A	Capital spares claimed (not part of capital cost)	37.22	84.70	0.00	0.00	0.00
B	Value of capital spares disallowed (Less than Rs 1 lakh on individual basis)	3.92	2.22	0.00	0.00	0.00
C	Total value of capital spares considered (A-B-C)	33.30	82.48	0.00	0.00	0.00

60. Further, we are of the view that spares do have a salvage value. Accordingly, in line with the practice of considering the salvage value, presumed to be recovered by



the Petitioner on sale of other capital assets, on becoming unserviceable, the salvage value of 10% has been deducted from the cost of capital spares considered above, for the 2014-19 tariff period. Therefore, on prudence check of the information furnished by the Petitioner in Form-17 and on applying the said ceiling limit along with deduction of the salvage value @10%, the net capital spares allowed in terms of Regulation 29(2) of 2014 Tariff Regulations is as follows:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Net total value of capital spares considered (A)	33.30	82.48	0.00	0.00	0.00
Salvage value @ 10% (B)	3.33	8.25	0.00	0.00	0.00
Net value of capital spares allowed (C) = (A)-(B)	29.97	74.23	0.00	0.00	0.00

Impact of Goods and Service Tax (GST)

61. The Petitioner has claimed amount of Rs. 45.88 lakh in 2017-18 and Rs. 78.83 lakh in 2018-19 on account of impact of GST. It is observed that the Commission while specifying the O&M expense norms for the 2014-19 tariff period had considered taxes to form part of the O&M expense calculations and accordingly, had factored the same in the said norms. This is evident from para 49.6 of the SOR to the 2014 Tariff Regulations, which is extracted as follows:

“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...”

62. Further, the escalation rates considered in the O&M expense norms under the 2014 Tariff Regulations is only after accounting for the variations during the past five years of the 2014-19 tariff period, which in our view, takes care of any variation in taxes also. It is pertinent to mention that in case of reduction of taxes or duties; no



reimbursement is ordered. In this background, we find no reason to grant additional O&M expenses towards payment of GST.

Impact of wage revision

63. The Petitioner has claimed an amount of Rs. 2092.37 lakh (Rs. 10.23 lakh during 2015-16, Rs. 575.77 lakh during 2016-17, Rs. 695.50 lakh during 2017-18 and Rs. 810.87 lakh during 2018-19) as impact of wage revision of employees of CISF and Kendriya Vidyalya Staff from 1.1.2016 and 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 employee’s consequent upon wage revision. As such, as per consistent methodology adopted by the Commission, 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. Accordingly, the claim of the Petitioner in respect of wage revision impact stands reduced to Rs. 1850.09 lakh with the following year-wise break-up:

	<i>(Rs. in lakh)</i>				
	2015-16	2016-17	2017-18	2018-19	Total
Wage revision impact claimed excluding PRP/ ex-gratia	10.23	575.77	646.04	618.05	1850.09

64. The Petitioner vide affidavit dated 30.6.2021 has submitted the following:

- (a) Comparative table indicating the actual O&M expenses incurred at this generating station versus the normative O&M expenses allowed for the 2014-19 tariff period for the whole generating station (i.e., all Stages of the generating station);
- (b) Actual impact of pay revision duly certified by Auditor, Expenses after comparing salaries wages before and after pay revision; and
- (c) Detailed break-up of the actual O&M expenses booked by the Petitioner on gross basis

65. The Petitioner vide its affidavit dated 30.6.2021 has furnished the comparative table indicating the actual O&M expenses incurred vis-a-vis the normative O&M



expenses recovered in tariff in respect of the generating station (all stages combined) (1550 MW) and for this generating station (210 MW) for the 2014-19 tariff period as under:

(Rs. in lakh)

S.No.		2014-15	2015-16	2016-17	2017-18	2018-19
1	Actual O&M expenditure for Unchahar STPS excluding water charges (1550 MW)	31183	34983	35960	42561	64281
2	Total Normative O&M recovery excluding water charges in tariff for Unchahar STPS (1550MW)	25095	26670	28350	34953	42250
3	Under-recovery of O&M Charges in Unchahar TPS (1550 MW)	(-) 6088	(-) 8313	(-) 7610	(-) 7608	(-) 22031

66. The Petitioner has also submitted the actual O&M expenses (prorated) to MW ratio in comparison to the normative O&M expenses allowed, as under:

(Rs. in lakh)

S.No.		2014-15	2015-16	2016-17	2017-18	2018-19
1	Actual O&M expenditure incurred for Unchahar Stage –III (1x210 MW) excluding water charges (Pro rata in the ratio of installed capacity)	4225	4740	4872	5766	8709
2	Normative O&M recovery in tariff of Unchahar Stage –III (1x210 MW) allowed in order dated 19.4.2017 in Petition No. 373/GT/2014	5019	5334	5670	6027	6407
3	Difference (Normative - Actual) / Under Recovery for Unchahar Stage-III (2 - 1)	794	594	798	261	(-)2302

67. The Petitioner has also submitted that O&M norms for the 2014 Tariff Regulations, were decided on actual O&M expenses for 2008-09 to 2012-13 period. However, the 3rd Pay Revision Committee for CPSU's was not in existence and/ or



incorporated while the 2014 Tariff Regulations were being framed by the Commission. The Petitioner has further submitted that the implementation of recommendations of 7th Pay Commission and Office Memorandum of Department of Public Enterprises (DPE) were communicated in 2016/2017, whereas the 2014 Tariff Regulations were notified much prior to 3.8.2017. Accordingly, the Petitioner has submitted that the impact thereof, ought to be made pass through in terms of Regulation 54 and 55 of the 2014 Tariff Regulations.

68. We have considered the submission of the Petitioner. 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 Statement of Object and Reasons (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 SOR is extracted as follows:

*"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.”

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

However, in this respect, the following facts need consideration:

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

70. As such, 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 whether the O&M expense norms provided under the 2014 Tariff Regulations are inadequate/ insufficient to cover all justifiable O&M expenses including employee expenses, the comparison of the normative O&M expenses and the actuals O&M expenses incurred shall be made for 2015-19 on a combined basis which is commensurate with the wage revision claim being spread over these four years.

71. The Petitioner has furnished the detailed break-up of the actual O&M expenses incurred during the 2014-19 tariff period for combined stages i.e. Stage-I, II, III and IV of the generating station (1550 MW). It is noticed that the total O&M expenses incurred is more than the normative O&M expenses recovered during each year of the 2014-19 tariff period. The impact of the wage revision could not be factored by the Commission while framing the O&M expenses 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, the approach followed for arriving at the allowable impact of pay revision is given in the subsequent paragraphs.

72. First step is to compare the normative O&M expenses with the actual O&M expenses 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 fees, ex-gratia, loss of provisions, prior period expenses, community development, store expenses, ash utilization expenses, RLDC fee & charges and others (without breakup/ details) which were not considered while framing the O&M expenses norms for the 2014-19 tariff period, have been excluded from the yearly actual O&M expenses of the generating station as well as corporate centre. Having brought the normative O&M expenses and actual O&M expenses at same level, if normative O&M expenses for the period 2015-19 are higher than actual O&M expenses (normalized) for the same period, the impact of wage revision (excluding PRP and ex-gratia) as claimed for the 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 less than the actual O&M expenses (normalized) for the same period, the wage revision impact (excluding PRP and ex-gratia) to the extent of under recovery or wage revision impact (excluding PRP and ex-gratia), whichever is lower, is required to be allowed as wage revision impact for the period 2015-19.



73. As stated, for like to like comparison of the actual O&M expenses and normative O&M expenses, the expenditure against O&M expenses sub-heads as discussed at above has been excluded from the actual O&M expenses to arrive at the actual O&M expenses (normalized) for the Stage-III of the generating station (210 MW). Accordingly, the following table portrays the comparison of normative O&M expenses versus the actual O&M expenses (normalized) along with wage revision impact claimed by the Petitioner for the generating station (Stage-III 210 MW) for period 2015-19 (on combined basis) commensurate with the wage revision claim being spread over these four years:

(Rs. in lakh)

Sl. No		2015-16	2016-17	2017-18	2018-19	Total for 2015-19
1	Actual O&M expenditure (normalized) for the generating station (Combined for stage-I, II, III and IV) (a)	31162.56	33682.91	37531.98	50644.03	153021.47
2	Actual O&M expenditure (normalized) for Stage-III of the generating station prorated based on capacity (b)	4222.02	4563.49	5084.98	6861.45	20731.94
3	Normative O&M Expenses for Stage -III of the generating station (c)	5334.00	5670.00	6027.00	6407.10	23438.10
4	Under-recovery (d) = (c)-(b)	1111.98	1106.51	942.02	-454.35	2706.16
5	Wage revision impact excluding PRP/ex-gratia (Claimed)	10.23	575.77	646.04	618.05	1850.09
6	Wage revision impact excluding PRP/ex-gratia (Allowed)	0.00	0.00	0.00	0.00	0.00



74. It is observed that for the period 2015-16 to 2018-19, the normative O&M expenses is more than the actual O&M expenses (normalized) incurred and the over recovery is to the tune of Rs. 2706.16 lakh. As such, in terms of methodology as discussed above, we are not inclined to allow the wage revision impact (excluding PRP/incentive) of Rs. 5344.75 lakh for this generating station.

Fly Ash Transportation expenses

75. The Petitioner has claimed an amount of Rs. 1268.61 lakh on account of Ash Transportation expenses in 2018-19 as additional O&M expenses. The Petitioner has submitted that the Ministry of Environment, Forest & Climate Change (MOEF&CC) notification dated 25.1.2016, under the statutory provisions of Environment (Protection) Act 1986, provides for transportation cost of Fly ash generated at power stations to be borne by such generating companies. The Petitioner has stated that it had filed Petition No. 172/MP/2016 before this Commission, seeking reimbursement of the additional expenses incurred towards Fly Ash transportation, directly from the beneficiaries as the same are statutory expenses.

76. The Petitioner vide affidavit dated 30.6.2021 has submitted the following details:

- (i) Award of fly ash transportation contract through a transparent competitive bidding procedure. Alternatively, the schedule rates of the respective State Governments, as applicable for transportation of fly ash.*
- (ii) Details of the actual additional expenditure incurred on Ash transportation after 25.1.2016, duly certified by auditors.*
- (iii) Details of the Revenue generated from sale of fly ash/ fly ash products and the expenditure incurred towards Ash utilization up to 25.1.2016 and from 25.1.2016 to till date, separately.*
- (iv) Revenue generated from fly Ash sales maintained in a separate account as per the MoEF notification.*

77. The Petitioner has submitted the details along with the computation of the cost claimed towards Ash Transportation. The Petitioner has also submitted that a



Memorandum of Understanding (MoU) was entered into between NTPC and National Highways Authority of India (NHAI) on 9.10.2017 for bearing the cost of transportation of ash from Unchahar generating station, for utilization in the construction of road embankment at four-laning of Sultanpur to Varanasi section of NH-56 and four-laning of Ghaghra bridge to Varanasi section of NH-233 in the State of Uttar Pradesh, in compliance to the MOEF&CC notification dated 3.11.2009, as amended on 25.1.2016.

78. The Petitioner has also enclosed copy of the prevailing Schedule of Rates (SoR) of the State of Uttar Pradesh in support of its claim for rate for transportation of fly ash. The Petitioner has further submitted that it had already furnished the ash transportation expenses that was charged to P&L account, over and above the amount accumulated in ash fund through sale of ash, for the generating station, duly certified by Auditor. It has claimed the same amount as additional O&M expenses on account of transportation of fly ash in terms of the MOEF&CC notification dated 25.1.2016. The Petitioner has stated that the net expenses charged to P&L account has been arrived at by deducting the revenue earned from sale of fly ash/fly ash products after 25.1.2016, as tabulated below:

<i>(Rs. in lakh)</i>	
	2018-19
Revenue from Sale of Fly Ash/Fly Ash Products (A)	5867.38
Expenditure on Ash Transportation (B)	15230.95
Ash Transportation expense charged to P&L (B-A)	9363.57

79. The Petitioner has further submitted that it has furnished the details of the actual additional expenditure incurred towards transportation of fly ash after 25.1.2016 along with details of the revenue generated from sale of ash from 25.1.2016 to 31.3.2019 and Auditor certificate in respect of the year-wise ash transportation expenses met out of P&L accounts.



80. The matter has been examined. As regards the reimbursement of ash transportation expenses, the Commission in its order dated 5.11.2018 in Petition No.172/MP/2016, while directing compliance of certain conditions by the Petitioner, had granted liberty to the Petitioner to approach the Commission at the time of truing-up exercise for the 2014-19 tariff period along with all details/ information, duly certified by auditor. In compliance to the above, the Petitioner has furnished the details of the distance to which fly ash has been transported from the generating station, schedule rates applicable for transportation of fly ash, as notified by the Government of Uttar Pradesh along with details, including Auditor certified accounts. These documents have been examined and on prudence check, the reimbursement of Rs. 1268.61 lakh (pro rata based on capacity) as claimed by the Petitioner for the year 2018-19 towards fly ash transportation expenses is allowed to be recovered in 6 (six) equal monthly installments. Considering the fact that reimbursement of ash transportation expenses is being allowed based on the MOEF&CC notification, these expenses are not made part of the O&M expenses and the consequent annual fixed charges being determined in this order under the 2014 Tariff Regulations.

81. Based on the above discussions, the total annualized O&M expenses allowed in respect of the generating station is summarized below:

(Rs. in lakh)

		2014-15	2015-16	2016-17	2017-18	2018-19
Installed Capacity (MW) (A)		210.00	210.00	210.00	210.00	210.00
O&M Expenses under Reg.29(1) in Rs lakh / MW (B)		23.90	25.40	27.00	28.70	30.51
Total O&M Expenses (in Rs lakh) (C) = (A)*(B)	Claimed	5019.00	5334.00	5670.00	6027.00	6407.10
	Approved	5019.00	5334.00	5670.00	6027.00	6407.10
Water Charges	Claimed	108.80	116.92	108.98	125.21	78.01



		2014-15	2015-16	2016-17	2017-18	2018-19
(in Rs lakh) (D)	Approved	108.80	116.92	108.98	125.21	78.01
Capital Spares Consumed (in Rs lakh) (E)	Claimed	37.51	194.94	241.18	119.17	419.02
	Approved	29.97	74.23	0.00	0.00	0.00
Total O&M Expenses as allowed (including Water Charges and Capital Spares Consumed) (F) = (C+D+E)	Claimed	5165.32	5645.86	6020.16	6271.38	6904.14
	Approved	5157.77	5525.16	5778.98	6152.21	6485.11
Additional O&M Expenditure						
Impact of Wage Revision (in Rs lakh) (G)	Claimed	0.00	10.23	575.77	695.50	810.87
	Approved	0.00	0.00	0.00	0.00	0.00
Impact of GST (in Rs lakh) (H)	Claimed	0.00	0.00	0.00	45.88	78.83
	Approved	0.00	0.00	0.00	0.00	0.00
Ash Transportation Expenditure (I)	Claimed	0.00	0.00	0.00	0.00	1268.61
	Approved	0.00	0.00	0.00	0.00	1268.61
Sub Total Additional O&M Expenditure (J) = (F+G+H+I)	Claimed	0.00	10.23	575.77	741.38	2158.31
	Approved	0.00	0.00	0.00	0.00	1268.61
Total O&M Expenses in Rs lakh (K) = (F+J)	Claimed	5165.32	5656.09	6595.93	7012.76	9062.45
	Approved	5157.77	5525.16	5778.98	6152.21	7753.72

Compensation Allowance

82. Regulation 17(1) 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 useful life.”

Years of operation	Compensation Allowance (Rs. lakh/MW/year)
0-10	Nil



Years of operation	Compensation Allowance (Rs. lakh/MW/year)
11-15	0.20
16-20	0.50
21-25	1.00

83. The Petitioner has claimed total Compensation Allowance of Rs. 84.00 lakh as also allowed by order dated 19.4.2017 in Petition No. 373/GT/2014. Accordingly, the claim of the Petitioner for Rs. 84.00 lakh as Compensation Allowance is in order and is allowed under Regulation 17(1) of the 2014 Tariff Regulations.

Operational Norms

(a) Normative Annual Plant Availability Factor

84. The Normative Annual Plant Availability Factor of 83% for 2014-15 to 2016-17 and 85% for 2017-18 and 2018-19, in accordance with the provisions of Regulation 36 (A) of the 2014 Tariff Regulations as approved in order dated 19.4.2017 in Petition No. 373/GT/2014 has been allowed.

(b) Auxiliary Energy Consumption

85. The Auxiliary Energy Consumption (AEC) of 9% claimed as per Regulation 36(E)(a)(ii) of the 2014 Tariff Regulations and approved by order dated order dated 19.4.2017 in Petition No. 373/GT/2014 has been allowed.

(c) Station Heat Rate

86. The Gross Station Heat Rate of 2450 Kcal/ kWh as approved in order dated 19.4.2017 in Petition No. 373/GT/2014 in terms of Regulation 36 (C) of the 2014 Tariff Regulations has been allowed.

(d) Specific Oil Consumption



87. The specific oil consumption of 0.5 ml/ kWh as approved in order dated 19.4.2017 in Petition No. 373/GT/2014 in terms of Regulation 36 (C) of the 2014 Tariff Regulations has been allowed.

Interest on Working Capital

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

“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

89. Regulation 28(2) of the 2014 Tariff Regulations provides that the computation of cost of fuel as a part of Interest on Working Capital (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.

90. Regulation 30 (6) of the 2014 Tariff Regulations provides as follows:

“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 places in accordance with the following formula:

(a) For coal based and lignite fired stations

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

(b) xxxxx

Where,

AUX = Normative auxiliary energy consumption in percentage.

*CVPF=(a) Weighted Average Gross calorific value of coal **as received**, in kCal per kg for coal based stations*

*(b) Weighted Average Gross calorific value of primary fuel **as received**, in kCal per kg, per litre or per standard cubic meter, as applicable for lignite, gas and liquid fuel based stations.*

(c) In case of blending of fuel from different sources, the weighted average Gross calorific value of primary fuel shall be arrived in proportion to blending ratio.

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. (In case of blending of fuel from different sources, the weighted average landed price of primary fuel shall be arrived in proportion to blending ratio)

SFC = Normative Specific fuel oil consumption, in ml per kWh.

LPSFi = Weighted Average Landed Price of Secondary Fuel in Rs./ml during the month

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

92. Regulation 30 (7) of the 2014 Tariff Regulations provides as follows:

“(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.”

93. The Regulations for computation of energy charges was challenged by the Petitioner and other generating issue of 'as received' GCV specified in Regulation 30 of the 2014 Tariff companies through various writ petitions filed before the Hon'ble High Court of Delhi (W.P. No.1641/2014-NTPC v CERC). The Hon'ble Court directed the Commission to decide the place from where the sample of coal should be taken for measurement of GCV of coal on 'as received' basis on the request of Petitioners. In terms of the directions of the Hon'ble High Court, the Commission vide order dated 25.1.2016 in Petition No. 283/GT/2014 (approval of tariff of Kahalgaon STPS for the 2014-19 tariff period) decided as follows:

“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.”

94. The Review Petition No.11/RP/2016 filed by the Petitioner against the aforesaid order dated 25.1.2016 in Petition No. 283/GT/2014 was rejected by the Commission vide order dated 30.6.2016. The Petitioner has also filed Petition No.244/MP/2016 before this Commission inter alia praying for removal of difficulties in view of the



issues faced by it in implementing the Commission's orders dated 25.1.2016 and 30.6.2016 with regard to sampling of coal from loaded wagon top for measurement of GCV. The Commission by 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.

95. In Petition No. 373/GT/2014 filed by the Petitioner for determination of tariff of this generating station for the 2014-19 tariff period, the Petitioner had not furnished GCV of coal on 'as billed' and on 'as received' basis for the preceding 3 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 order dated 22.3.2017 in Petition No.373/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.

96. The Petitioner, in this petition, has furnished the average GCV of coal as 3668.33 Kcal/kg on "as received" basis for the period from October 2016 to March 2019. As per the Commission's order dated 25.1.2016 in Petition No. 283/GT/2014, the Petitioner in Form-13 F has considered the average GCV of coal on "as received basis" i.e., from wagon top for the period from October 2016 to March 2019 for the purpose of computation of working capital for the 2014-19 tariff period. The Petitioner has further submitted that CEA vide letter dated 17.10.2017 has opined that a margin of 85-100 kCal/kg for pit-head station and a margin of 105-120 kCal/kg for non-pit head station is required to be considered as loss of GCV of coal on "as received" and



on “as fired basis respectively. Accordingly, the Petitioner has considered a margin of 120 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 120 kCal/kg towards storage loss, (ii) landed price of coal for preceding three months i.e. January 2014 to March 2014 and (iii) GCV and landed price of Secondary fuel oil procured for the preceding three months i.e. January 2014 to March 2014 for the generating station, the Petitioner has claimed the cost of fuel component in the working capital as follows:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal towards stock (30 days)	3296.01	3296.01	3296.01	3375.43	3375.43
Cost of Coal towards Generation (30 days)	3296.01	3296.01	3296.01	3375.43	3375.43
Cost of Secondary fuel oil 2 months	70.98	71.17	70.98	72.69	72.69

97. The Petitioner has claimed Energy Charge Rate (ECR) ex-bus of 291.679 paise/kWh for the generating station based on GCV and price of fuel (coal and secondary fuel oil) as indicated above.

98. In response to the clarification sought from the Petitioner on the details of GCV on ‘as received’ basis 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 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, however, for calculation of IWC under Regulation 28(2) of the 2014 Tariff Regulations, the GCV shall be as per ‘actuals’ for the three months preceding the first month for which tariff



is to be determined. It has further submitted that for the 2014-19 tariff period, Regulation 28(2) of the 2014 Tariff Regulations unequivocally provide that the actual cost and GCV of the preceding three months shall be considered and for these preceding three months (January 2014 to March 2014), by virtue of it falling under the 2009 Tariff Regulations, shall be computed on the basis of 'as fired' GCV. Referring to the judgment of the Hon'ble Supreme Court 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, 2014 on actual GCV i.e., 'as fired' GCV. The Petitioner, without prejudice to the above submissions, 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, as follows:

Sl. No	Month	Wt. Avg. GCV of coal received (EM basis) (kcal/kg)	Total moisture (TM) (in %)	Equilibrated moisture (EM) (in %)	Wt. Avg. GCV of coal received (TM basis) (kcal/kg)
		(A)	(B)	(C)	(D)= (A)*(1-B%)/(1-C%)
1	January 2014	3975	8.71	4.72	3808.54
2	February 2014	4056	12.08	4.39	3729.77
3	March 2014	3975	8.12	3.91	3800.84
	Average				3779.72

99. We have considered the submission of the Petitioner. As stated 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 2014-19 tariff period. In addition to



the average GCV, it has also considered a margin of 120 kCal/kg for computation of the working capital of the generating station.

100. Regulation 28(2) of the 2014 Tariff Regulations provides that the computation of cost of fuel as a part of IWC is to be based on the landed price and gross calorific value of the fuel, as per actuals, for the three months preceding the first month for which the tariff is to be determined. Thus, calculation of IWC for the 2014-19 tariff period is to be based on such values for the months of January 2014, February 2014 and March 2014. The Petitioner has not been able to furnish these values at the time of determination of tariff for the 2014-19 tariff period in Petition No. 373/GT/2014. In this 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 120 kCal/kg cannot be considered, as the same is not as per provisions of the 2014 Tariff Regulations.



101. It is observed that though the Petitioner has furnished the details of 'as received' GCV for the three months of January 2014 to March 2014 as in table under paragraph 98 above, it has submitted that GCV of fuel is to be considered 'on actuals' for January 2014 to March 2014 and as such, GCV is required to be considered on an 'as fired' basis. In other words, the Petitioner has contended that since the period of January 2014 to March 2014 falls in the 2009-14 tariff period for measurement of GCV of coal, Regulation 18(2) read with Regulation 21(6) of the 2009 Tariff Regulations was applicable which mandates that generating company shall measure GCV on 'as fired' basis (and not on 'as received' basis). This submission of the Petitioner is also not acceptable in view of 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."

102. Accordingly, 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 furnished 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.



103. As per SOR to the 2014 Tariff Regulations, we note that the main consideration of the Commission while moving from 'as fired' GCV to 'as received' GCV for the purpose of energy charges under Regulation 30(6) of the 2014 Tariff Regulations for the 2014-19 tariff period was to ensure that GCV losses which might occur within the generating station after receipt of coal are not passed on to the beneficiaries on account of improper handling and storage of coal by the generating companies. As regards the allowable (normative) storage loss within the generating station, CEA had observed that there is negligible difference between 'as received' GCV and 'as fired' GCV. As such, for the purpose of calculating energy charges, the Commission moved from 'as fired' GCV to 'as received' GCV under Regulation 30(6) of the 2014 Tariff Regulations without allowing any margin between the two measurements of GCV. Thus, 'as received' GCV was made applicable for the purpose of calculating working capital requirements based on the actual GCV of coal for the preceding three months of the first month for which tariff is to be determined in terms of Regulation 28(2) of 2014 Tariff Regulations. In case the submission of the Petitioner that 'as fired' is to be considered 'at actuals' for the preceding three months for purpose of IWC, the same would mean allowing (and passing through) all storage losses which would have occurred during the preceding three months (January 2014 to March 2014) for the 2014-19 tariff period. This, according to us, defeats the very purpose of moving from 'as fired' GCV to 'as received' GCV in the 2014 Tariff Regulations. In this background and keeping in view that in terms of amended Regulation 21(6) of the 2009 Tariff Regulations, the Petitioner is required to share details of the weighted average GCV of the fuel on 'as received' basis, we consider the fuel component and energy charges for two months based on 'as received' GCV of the preceding three months (January



2014 to March 2014) for the purpose of computation of IWC in terms of Regulation 28(2) of the 2014 Tariff Regulations.

104. The Petitioner has calculated GCV of 3668.33 kcal/kg which represents the simple average of GCV of the preceding three months. The weighted average GCV for three months, based on the net coal quantities as per Form-15 of the petition and the monthly GCVs as submitted by the Petitioner in the table under paragraph 98 above, works out to 4002.00 kcal/kg.

105. 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 4002.00 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.

106. Based on the above discussion, the cost of fuel components in working capital is worked out and allowed as follows:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal towards stock (30 days)	3013.60	3013.60	3013.60	3086.21	3086.21
Cost of Coal towards generation (30 days)	3013.60	3013.60	3013.60	3086.21	3086.21
Cost of Secondary fuel oil 2 months	70.99	71.18	70.99	72.70	72.70

107. The cost of coal towards stock and generation allowed for the 2014-19 tariff period is more than the cost claimed by the Petitioner for the following reasons:

- a) The Petitioner has considered average GCV of coal for 30 months as 3668.33 kCal/kWh (including adjustment of GCV of 120 kCal/kg) and



weighted average price of coal as 3940.46 Rs/MT while the Commission has considered the same as weighted average GCV 4002.00 kCal/kg and 3930.54 Rs/MT respectively. Storage loss of 120 kCal/kg as considered by the Petitioner has not been considered as there is no such provision in 2014 Tariff Regulations.

- b) The Petitioner has considered the 'Normative Transit & Handling losses of 0.80% which is within the limit as prescribed in Regulation 30(8) of the 2014 Tariff Regulations.

Energy Charge Rate (ECR) for calculating working capital

108. 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:

(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"

109. The Petitioner has claimed Energy Charge Rate (ECR) ex-bus of 291.718 Paise/kWh for the generating station based on the landed cost of coal during preceding three months, GCV of coal [on 'as received' basis for average of 30 months) along with the storage loss of 120 kCal/kg} & GCV and price of Oil procured and burnt for the preceding three months of 2014-19 for the generating station. Since these claims of the Petitioner has not be allowed in the para as stated above, the



allowable Energy Charge Rate (ECR), based on the operational norms as specified under the 2014 Regulations and on weighted average of 'as received' GCV of 4002.00 kcal/kg is worked out as follows:

	Unit	2014-19
Capacity	MW	210.00
Gross Station Heat Rate	kCal/kWh	2450.00
Aux. Energy Consumption	%	9.00%
Weighted average GCV of oil	kCal/lit	9990.00
Weighted average Average GCV of Coal for Jan to March 2014	kCal/kg	4002.00
Weighted average price of oil	Rs. /KL	55789.96
Weighted average price of Coal	Rs. /MT	3930.54
Rate of Energy Charge ex-bus	Rs. /kWh	2.6690

110. The Energy Charges for two months for computation of working capital based on ECR of Rs. 2.6690/kWh, has been worked out as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
37084.42	37186.02	37084.42	37978.02	37978.02

Working Capital for Maintenance Spares

111. The Petitioner in Form-13B has claimed maintenance spares in the working capital shown in the table as follows:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
1033.06	1131.22	1319.19	1402.55	1812.49

112. Regulation 28(1)(a)(iv) of the 2014 Tariff Regulations provide for maintenance spares @ 20% of the O&M expenses. As specified under Regulation 29(2) of the 2014 Tariff Regulations, the cost of maintenance spares @20% of the O&M expenses, including water charges and cost of capital spares consumed, allowed are as follows:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
1031.55	1105.03	1155.80	1230.44	1297.02

Working Capital for Receivables



113. Receivables equivalent to two months of capacity charge and energy charge has been worked out duly taking into account mode of operation of the generating station on secondary fuel, as follows:

	<i>(Rs.in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Energy charge (equivalent to two months of sale of electricity on NAPAF) (A)	6180.74	6197.67	6180.74	6329.67	6329.67
Fixed Charges (equivalent to two months of sale of electricity on NAPAF) (B)	3234.55	3251.76	3254.96	3288.63	3284.40
Total (C) = (A+B)	9415.29	9449.43	9435.70	9618.30	9614.07

Working Capital for O & M Expenses (1 month)

114. O&M expenses for 1 month claimed by the Petitioner in Form-13B for the purpose of working capital is shown in the table as follows:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
430.44	471.34	549.66	584.40	755.20

115. Regulation 28(a)(vi) of the 2014 Tariff Regulations provides for O&M expenses for one month for coal-based generating station as a part of working capital. The one-month O&M expenses, as allowed for is as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
429.81	460.43	481.58	512.68	540.43

116. The difference in the O&M expenses for 1 month and the maintenance spares claimed (as in the tables under paragraphs 114 and 0 above) and the O&M expenses for 1 month and cost of maintenance spares allowed (as in tables under paragraphs 111 and 112 above) is due to the fact that, while the Petitioner's claim is based on the O&M expenses inclusive of the expenses on impact of GST and wage revision, these components have not been included in our calculations towards working capital requirements.



Rate of interest on working capital

117. In terms of clause (3) of Regulation 28 of the 2014 Tariff Regulations, the rate of interest on working capital has been considered as 13.50% (Bank rate of 10.00% + 350 bps). Accordingly, Interest on working capital has been computed as follows:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Working capital for Cost of Coal Stock (30 days generation corresponding to NAPAF) (A)	3013.60	3013.60	3013.60	3086.21	3086.21
Working capital for Cost of Coal/Lignite for generation (30 days generation corresponding to NAPAF) (B)	3013.60	3013.60	3013.60	3086.21	3086.21
Working capital for Cost of secondary fuel oil (2 months generation corresponding to NAPAF) (C)	70.99	71.18	70.99	72.70	72.70
Working capital for O & M expenses (1 month of O&M Expenses) (D)	429.81	460.43	481.58	512.68	540.43
Working capital for Maintenance Spares (20% of Annual O&M Expenses) (E)	1031.55	1105.03	1155.80	1230.44	1297.02
Working capital for Receivables – (2 months of sale of electricity at NAPAF) (F)	9415.29	9449.43	9435.70	9618.30	9614.07
Total Working Capital (G) = (A+B+C+D+E+F)	16974.83	17113.27	17171.26	17606.55	17696.64
Rate of Interest (H)	13.50%	13.50%	13.50%	13.50%	13.50%
Total Interest on Working capital (I) = (GxH)	2291.60	2310.29	2318.12	2376.88	2389.05

Annual Fixed Charges

118. Based on the above discussion, the annual fixed charges approved for the 2014-19 tariff period in respect of the generating station is summarized as follows:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	4559.44	4567.46	4588.77	4619.90	4617.53
Interest on Loan	2244.50	1918.45	1625.30	1301.36	924.43
Return on Equity	5154.01	5189.21	5218.61	5257.22	5268.69
Interest on Working Capital	2291.60	2310.29	2318.12	2376.88	2389.05
O&M Expenses	5157.77	5525.16	5778.98	6152.21	6485.11
Special Allowance	0.00	0.00	0.00	42.00	42.00
Total	19407.32	19510.57	19529.78	19749.58	19726.81

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.



Summary

119. The total expenses allowed in respect of the generating station for the 2014-19 tariff period after truing-up is summarized below:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Fixed Charges	19407.32	19510.57	19529.78	19749.58	19726.81
Ash Transportation Expenditure	0.00	0.00	0.00	0.00	1268.61

120. The difference between the annual fixed charges already recovered by the Petitioner and the annual fixed charges determined by this order shall be adjusted in terms of Regulation 8 (13) of the 2014 Tariff Regulations.

121. Petition No. 287/GT/2020 is disposed of in terms of the above.

Sd/-
(Pravas Kumar Singh)
Member

Sd/-
(Arun Goyal)
Member

Sd/-
(I.S. Jha)
Member



Annexure-I

Depreciation for the 2014-19 Tariff Period

(Rs. in lakh)

Sl No	Description	Rate of Dep (%)	GB as on 01.04.2014	Depreciation	GB as on 01.04.2015	Depreciation	GB as on 01.04.2016	Depreciation	GB as on 01.04.2017	Depreciation	GB as on 01.04.2018	Depreciation
1	Freehold Land	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Leasehold Land	3.34%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Roads, bridges, culverts & helipad	3.34%	395.57	13.21	395.57	13.21	395.57	13.21	395.57	13.21	395.57	13.21
4	Main Plant Buildings	3.34%	8308.00	277.49	8308.00	277.49	8308.00	277.49	8308.00	277.49	8308.00	277.49
5	Other Buildings	3.34%	1430.20	47.77	1481.06	49.47	1481.06	49.47	1481.06	49.47	1542.57	51.52
6	Temporary erection	100.00%	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
7	Water supply, drainage & sewerage system	5.28%	262.71	13.87	272.32	14.38	272.32	14.38	272.32	14.38	272.32	14.38
8	MGR track and signalling system	5.28%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Railway siding	5.28%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	Earth dam reservoir	5.28%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Plant and machinery	5.28%	86697.82	4577.64	87377.41	4613.53	88713.75	4684.09	89526.06	4726.98	90179.05	4761.45
12	Furniture and fixtures	6.33%	420.14	26.59	422.50	26.74	422.94	26.77	424.46	26.87	436.74	27.65
13	Other Office Equipments	6.33%	457.94	28.99	809.68	51.25	817.07	51.72	820.97	51.97	820.77	51.95
14	EDP, WP machines & SATCOM equipment	15.00%	670.08	100.51	642.04	96.31	599.89	89.98	526.71	79.01	530.75	79.61
15	Vehicles including speedboats	9.50%	13.06	1.24	13.06	1.24	13.06	1.24	13.06	1.24	13.06	1.24
16	Construction equipment	5.28%	113.17	5.98	113.17	5.98	113.17	5.98	113.17	5.98	113.17	5.98
17	Electrical installations	6.33%	52.84	3.34	52.84	3.34	52.84	3.34	52.84	3.34	52.84	3.34
18	Communication equipment	6.33%	156.55	9.91	156.55	9.91	156.55	9.91	156.55	9.91	156.55	9.91
19	Hospital equipment	5.28%	134.25	7.09	134.80	7.12	134.80	7.12	134.80	7.12	134.80	7.12
20	Laboratory and workshop equipment	5.28%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	Leased assets - Vehicles	9.50%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	Software	15.00%	57.41	8.61	57.41	8.61	57.41	8.61	57.41	8.61	57.41	8.61
23	Assets Not Owned By company	5.28%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	Unserviceable/Obsolete assets	6.33%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	5 Km Scheme	5.28%	103.26	5.45	1346.07	71.07	0.00	0.00	0.00	0.00	0.00	0.00
	Total		99313.00	5167.70	101622.48	5289.65	101578.43	5283.31	102322.98	5315.56	103053.60	5353.47
	Weighted Average Depreciation Rate (%)			5.2043%		5.2032%		5.1980%		5.1949%		5.1948%

*Calculated as per rate of depreciation in Appendix-II of the 2014 Tariff Regulations.

