

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 450/GT/2020

Coram:

**Shri Jishnu Barua, Chairperson
Shri Arun Goyal, Member
Shri Pravas Kumar Singh, Member**

Date of Order: 16th April, 2024

In the matter of

Petition for truing-up of tariff of Tanda Thermal Power Station (440 MW) for the period 2014-19.

AND

In the matter of

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

...Petitioner

Vs

Uttar Pradesh Power Corporation Limited
Shakti Bhawan, 14, Ashok Marg, Lucknow,
Uttar Pradesh- 226 001

...Respondent

Parties Present:

Shri Venkatesh, Advocate, NTPC
Shri Nihal Bhardwaj, Advocate, NTPC
Shri Kartikay Trivedi, Advocate, NTPC
Shri Ashutosh K. Srivastava, Advocate, NTPC

ORDER

This petition has been filed by the Petitioner, NTPC Limited, for the truing-up of the tariff of Tanda Thermal Power Station (440 MW) (in short, “the generating station”) for the period 2014-19, in terms of Regulation 8(1) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (in short “the 2014 Tariff Regulations”). The generating station, with a capacity of 440 MW, comprises four units of 110 MW each and the dates of commercial operation of the



units are as under:

Unit-I	21.3.1988
Unit-II	11.3.1989
Unit-III	28.3.1990
Unit-IV / Generating Station	20.2.1998
(Date of taken over by NTPC)	(14.1.2000)

2. The Commission, vide its order dated 21.3.2017 in Petition No. 336/GT/2014, had approved the capital cost and annual fixed charges of the generating station for the period 2014-19 as under:

Capital Cost allowed

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	115680.89	120071.42	120729.40	123529.69	124929.69
Add: Additional Capital Expenditure	4390.53	657.98	2800.29	1400.00	296.48
Closing Capital Cost	120071.42	120729.40	123529.69	124929.69	125226.17
Average Capital cost	117876.155	120400.41	122129.545	124229.69	125077.93

Annual Fixed Charges allowed

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	3193.90	3430.45	3609.48	3856.58	3969.07
Interest on Loan	725.44	716.56	677.77	574.41	238.94
Return on Equity	6934.65	7117.47	7219.69	7343.84	7393.98
Interest on Working Capital	4289.09	4364.60	4431.55	4580.78	4650.91
O & M Expenses	16026.74	17021.14	18077.14	19199.14	20391.54
Sub-Total	31169.82	32650.22	34015.63	35554.74	36644.44

3. Further, the Commission, vide its order dated 18.7.2017 in Petition No. 77 of 2001, had revised the tariff of the generating station for different tariff periods, i.e. from 15.1.2000-04 till 2014-19, in terms of the judgement dated 22.3.2017 of the Hon'ble Supreme Court in Civil Appeal No. 4817/2007 (filed by the Petitioner), setting aside the order passed by the APTEL, on the issue of reduction of Rs.175.91 crore for the purpose of depreciation. Accordingly, the annual fixed charges revised and allowed for the period 2014-19, vide order dated 18.7.2017 as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	3578.68	3815.25	3994.30	4241.45	4353.94
Interest on Loan	665.85	621.86	529.26	359.37	97.06
Return on Equity	6934.65	7117.47	7219.69	7343.84	7393.98
Interest on Working Capital	4296.58	4371.28	4436.99	4584.69	4656.50



O & M Expenses	16026.74	17021.14	18077.14	19199.14	20391.54
Sub-Total	31502.51	32947.00	34257.38	35728.48	36893.02

Truing-up of tariff for the period 2014-19

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

“8. Truing up

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

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

5. In terms of the above regulation, the Petitioner, vide affidavit dated 7.6.2022, has claimed the capital cost and the annual fixed charges, as under:

Capital Cost claimed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	115680.89	119408.51	121236.70	122809.08	123943.65
Add: Addition during the year / period	4221.94	1313.45	1496.31	625.91	1713.78
Less: Decapitalization during the year /period	518.42	53.67	0.00	0.00	17.94
Less: Reversal during the year / period	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year /period	24.10	568.42	76.08	508.65	5.91
Closing Capital Cost	119408.51	121236.70	122809.08	123943.65	125645.40
Average Capital Cost	117544.70	120322.60	122022.89	123376.36	124794.52

Annual Fixed Charges claimed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	3585.68	3843.84	4017.74	4168.94	4358.85
Interest on Loan	661.10	619.09	510.88	271.23	61.86
Return on Equity	6915.51	7113.23	7213.75	7293.76	7397.07
Interest on Working Capital	5335.22	5456.60	5632.63	5821.82	5965.42
O&M Expenses	16494.87	18025.54	18862.34	19668.03	20605.13
Sub-total	32992.37	35058.30	36237.34	37223.78	38388.33
Additional O&M expenses					
Impact of Pay Revision	0.00	178.29	2203.22	2714.74	3996.36
Impact of GST	0.00	0.00	0.00	158.50	219.38
5 Km Scheme	297.64	13.56	0.00	0.00	0.00
Total	33290.01	35250.15	38440.56	40097.02	42604.07

6. The Respondent, UPPCL, has filed its reply vide affidavits dated 2.7.2020 and 23.7.2021 and the Petitioner has filed its rejoinders to the same on 15.12.2020 and



1.11.2021. The Petitioner has also submitted certain additional information, vide affidavits dated 30.6.2021, 12.7.2021 and 7.6.2022, after serving copies to the Respondent. The Petition was heard on 16.2.2023 and the Commission, after hearing the parties, reserved its order in the matter. The Petitioner has also filed a note of the arguments made during the hearing. However, since the order in the petition could not be issued prior to one Member of this Commission, who heard the matter, demitting office, the petition was re-listed and heard on 31.1.2024, and after directing the Petitioner to file additional information, the Commission reserved its order in the matter. Accordingly, based on the consent of the parties, orders were reserved in this matter. None appeared for the Respondent, despite notice. The Petitioner has also filed a fresh note of arguments made during the hearing. In compliance with the ROP dated 31.1.2024, the Petitioner has filed an additional affidavit on 21.2.2024 to place on record additional information for additional capital expenditure claimed for the period 2014-19 and has also submitted revised tariff filing forms. Further, the Petitioner has also corrected the amount of FERV claimed for the years 2014-15 and 2015-16 and has submitted the revised Forms 9E and 9F of the tariff forms. Based on the submissions of the parties and the documents available on record and on prudence check, we proceed to truing up the tariff of the generating station for the period 2014-19, as stated in the subsequent paragraphs.

Capital Cost

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 of the determination of tariff for existing and new projects. Clause (3) of Regulation 9 of the 2014 Tariff Regulations provides as under:



“9. Capital Cost:

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

- (a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014;*
- (b) additional 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.”*

8. The Commission, vide its order dated 21.3.2017, had trued up the tariff of the generating station for the period 2009-14, considering the closing capital cost of Rs. 115680.89 lakh, on a cash basis, as on 31.3.2014. This has been claimed by the Petitioner as the opening capital cost, as on 1.4.2014. Accordingly, in terms of Regulation 9 of the 2014 Tariff Regulations, the closing capital cost of Rs. 115680.89 lakh has been considered as the opening capital cost as on 1.4.2014.

Additional Capital Expenditure

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

“14. Additional Capitalisation and De-capitalisation:

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

- (i) Undischarged 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 undischarged 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 undischarged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.;

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

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

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

(ix) In case of transmission system, any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement due to obsolescence of technology, replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system; and

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

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

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

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



(4) In case of de-capitalization of assets of a generating company or the transmission licensee, as the case may be, the original cost of such asset as on the date of decapitalization shall be deducted from the value of gross fixed asset and corresponding loan as well as equity shall be deducted from outstanding loan and the equity respectively in the year such de-capitalization takes place, duly taking into consideration the year in which it was capitalized.”

10. The actual additional capital expenditure claimed by the Petitioner vide affidavit dated 7.6.2022, on a cash basis, duly supported by the auditor certificate, is as under:

Sl. No.	Head of Work /Equipment						(Rs. in lakh)
		2014-15	2015-16	2016-17	2017-18	2018-19	Regulation
1	Allowed Works						
A1	R&M Schemes						
1	Air washer System	131.97	-	-	-	-	15 (1)
	Notional Decapitalisation	(-)15.53	-	-	-	-	
2	R&M of SG Package	7.40	13.96	-	-	85.22	
	Notional Decapitalisation	(-)0.85	(-)1.61	-	-	(-)9.80	
3	Digital Distributed Control & Management Information System (DDCMIS)	0.30	0.19	-	-	-	15 (1)
	Notional Decapitalisation	(-)0.03	(-)0.02	-	-	-	
4	Civil work for Installation of DDCIMS Unit-2	0.16	-	-	-	-	
	Notional Decapitalisation	(-)0.02	-	-	-	-	
5	Stacker cum Reclaimer	2.05	0.48	0	35.56	-	
6	Roads for Township	2.62	-	-	-	-	
7	Laying of Sewer pipe-lines in township	2.69	-	-	-	-	
	Notional Decapitalisation	(-)0.31	-	-	-	-	
8	Construction of Boundary wall for 300 buildings	2.37	-	-	-	-	
	Notional Decapitalisation	(-)0.27	-	-	-	-	
9	Stone aggregation & anti-weed treatment switchyard	0.25	-	-	-	-	
10	Construction of 32 nos Residential Building Type- D and 16 nos of Type-C Quarters	2.38	-	-	322.98	433.93	
11	R&M of MP Rotor of Unit-2	-	446.03	-	-	-	
	Notional Decapitalisation	-	(-)51.29	-	-	-	



Sl. No.	Head of Work /Equipment						Regulation
		2014-15	2015-16	2016-17	2017-18	2018-19	
12	R&M of MP Rotor of Unit 1	-	0.13	-	-	-	
	Notional Decapitalisation	-	(-)0.75	-	-	-	
13	R & M of LP Rotor Unit -3	-	-	-	-	70.80	
	Notional Decapitalisation	-	-	-	-	(-)8.14	
A1	Sub Total A1 (excluding de-cap)	152.19	460.79	-	358.54	589.95	
A2	Change in Law						
14	Dry Fly Ash Extraction system	2960.18	66.88	3.07	10.59	0.33	14 (3) (ii)
A3	Ash Handling system						
15	2 nd Raising Ash Dyke-B	1014.96	25.47	-	-	-	14 (3) (iv)
16	3 rd Raising of Ash dyke A&B	-	-	1479.51	-	1055.33	
A3	Sub Total-A3	1014.96	25.47	1479.51	-	1055.33	
A4	Claims where liberty was granted						
17	Fire Fighting system for CHP Area	9.94	-	-	-	-	14(3)(ii) with 54
18	Renovation of Lifts in boiler area	-	-	-	96.39	-	15 with 54 (power to relax)
19	Replacement of BFP cartridge by Energy Efficient cartridge	40.03	670.59	0.26	-	0.13	14(3) (iii) & 9(5) with 54 (power to relax)
20	Ash Slurry Pump Up-gradation	28.87	-	-	-	-	
A4	Sub Total-A4	78.85	670.59	0.26	96.39	-	
	Sub Total (1)	4206.18	1223.74	1482.84	465.53	1645.73	
2	New Claims						
19	Construction of drain & pit in CHP	15.76	-	-	-	-	14(3)(ii)
20	Continuous Emission Monitoring System (CEMS)	-	43.25	-	1.12	-	14 (3) (x)
21	Effluent Quality monitoring system (EQMS)	-	12.50	13.47	-	-	14 (3) (ii)
22	Electronic Weighbridge for DAES	-	25.94	-	-	-	
23	In Motion Weigh Bridge	-	8.07	-	-	-	
24	Zero Liquid discharge (ZLD) System	-	-	-	112.53	5.16	
25	Sprinkler system for dust suppression of Ash Dyke-A	-	-	-	10.75	-	14 (3) (ii) & (iv)
26	Generator Relay Panels for Units-1 & Unit-3	-	-	-	10.85	-	15 with 54 (power to relax)
27	Bio Methanation Plant	-	-	-	25.14	-	14 (3) (ii)
28	Solar PV Roof Top	-	-	-	-	62.90	15 with 54



Sl. No.	Head of Work /Equipment						Regulation (power to relax)
		2014-15	2015-16	2016-17	2017-18	2018-19	
	Sub Total (2)	15.76	89.76	13.47	160.39	68.05	
3	Adjustment	-	(-)0.06	-	-	-	
4	Sub Total 1 + 2 + 3	4221.94	1313.45	1496.31	625.91	1713.78	
5	Decapitalisation of Spares (part of capital cost)	(-)501.41	-	-	-	-	14 (4)
6	Sub Total 4 + 5	3720.53	1313.45	1496.31	625.91	1713.78	
7	Discharge of liabilities of allowed/ New claims	24.10	152.50	76.08	508.65	5.91	14 (3) (vi)
8	Sub Total 6 + 7	3744.63	1881.86	1572.38	1134.57	1719.69	
9	Notional Decapitalisation	(-)17.01	(-)53.67	-	-	(-)17.94	
10	Total Additional capital expenditure claimed (8 + 9)	3727.62	1828.19	1572.38	1134.57	1701.75	

11. The reconciliation of additional capital expenditure claimed by the Petitioner from the audited books of accounts is as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Closing gross block as per audited books *	179334.14	189896.58	57902.87	62333.19	62874.03
Less: Opening gross block as per audited books *	171364.63	179334.14	56331.60	58592.34	62333.59
Additional capital expenditure as per audited books *	7969.51	10562.44	1571.28	3740.85	540.44
Less: Additional capital expenditure pertaining to other stages	1223.44	8887.69	1579.12	3626.44	519.80
Additional capital expenditure for the generating station	6746.07	1674.75	(-)7.84	114.41	20.64
Less: IND AS adjustment	0.00	0.00	(-)4557.21	(-)1761.89	(-)2224.20
Additional capital expenditure as per IGAAP for the generating station	6746.07	1674.75	4549.37	1876.30	2244.84
Less: Exclusions	2474.51	954.43	3025.71	1118.01	315.42
Additional capital expenditure claimed (on an accrual basis) as per books of accounts	4271.56	720.33	1523.65	758.29	1929.42
Add: Items claimed over and above additional capital expenditure as per books of accounts	187.19	657.02	0.26	0.00	0.13
Additional capital expenditure claimed (on an accrual basis) as per Form-	4458.75	1377.35	1523.91	758.29	1929.55



9A					
Less: Un-discharged liabilities included above	738.22	63.91	27.61	132.38	215.77
Additional capital expenditure claimed (on cash basis)	3720.53	1313.44	1496.30	625.91	1713.79
Add: Discharges of liabilities	24.10	568.42	76.08	508.65	5.91
Less: Notional de-capitalization considered as per Form-9A	17.01	53.67	0.00	0.00	17.94
Net additional capital expenditure claimed, including discharges (on a cash basis)	3727.62	1828.19	1572.38	1134.57	1701.75

12. Based on the above reconciliation it is clear that the additional capital expenditure as claimed above by the Petitioner is in excess of the allowable additional capital expenditure as per the books of accounts. Accordingly, the unreconciled gap between the additional capital expenditure as per the audited books for the generating station and that as per Form-9A/9D as submitted by the Petitioner, shown as under, is disallowed for the purpose of tariff:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
187.19	657.02	0.26	0.00	0.13

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

A. Allowed Works

(a) *Air Washer system*

14. The Petitioner has claimed the actual additional capital expenditure of Rs.131.97 lakh in 2014-15 towards the Air Washer system under Regulation 15(1) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the projected additional capital expenditure of Rs.126.11 lakh in 2012-13 was allowed vide order dated 11.12.2015 in Petition No. 235/GT/2013. The Petitioner has further submitted that though the work was completed in 2012-13, the same was not put into service due to technical issues. However, the Commission, vide its order dated



21.3.2017 in Petition No. 336/GT/2014, had allowed the projected additional capitalization of Rs. 154 lakh in 2014-15 since, after rectification of the technical issues, the same has been capitalised in 2014-15.

15. The Respondent UPPCL has submitted that the claim of the Petitioner may be disallowed under Regulation 15 of the 2014 Tariff Regulations, since the plant has not completed its initial useful life.

16. The matter has been considered. As stated, the projected additional capital expenditure claimed by the Petitioner was allowed by order dated 21.3.2017 in Petition No. 336/GT/2014, as the work was completed and put to service in 2014-15 after the rectification of the technical issues. Against this background, the Petitioner's claim for an actual additional capital expenditure of Rs.131.97 lakh is allowed. The corresponding decapitalization of the old assets claimed by the Petitioner has been considered under 'decapitalization'.

(b) R & M of SG Package

17. The Petitioner has claimed the actual additional capital expenditure of Rs. 7.40 lakh in 2014-15, Rs. 13.96 lakh in 2015-16 and Rs. 85.22 lakh in 2018-19 towards the R&M of SG Package under Regulation 15(1) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that it was allowed projected additional capital expenditure of Rs.100 lakh in 2015-16 vide order dated 21.3.2017 in Petition No. 336/GT/2014. The Petitioner has further submitted that the Performance Guarantee (PG) test has been completed, and part payment, on completion of evaluation of the PG test for all 4 units, was released in 2014-15, and the balance payment for the PG test was capitalized in 2015-16. The Petitioner has also stated that the balance work has been completed, and an amount of Rs. 85.22 lakh was capitalized in 2018-19. The Respondent UPPCL has submitted that the claim of the



Petitioner may be disallowed under Regulation 15 of the 2014 Tariff Regulations, since the plant has not completed its initial useful life.

18. The matter has been considered. As stated, the projected additional capital expenditure was allowed by order dated 21.3.2017 in Petition No. 336/GT/2014. In view of the above, the Petitioner's claim for actual additional capital expenditure of Rs. 7.40 lakh for 2014-15, Rs. 13.96 lakh for 2015-16 and Rs. 85.22 lakh in 2018-19 is allowed. The corresponding decapitalization of the old assets claimed by the Petitioner has been considered under 'decapitalization'.

(c) Digital Distributed Control & Management Information System

19. The Petitioner has claimed the actual additional capital expenditure of Rs. 0.30 lakh in 2014-15 and Rs.0.19 lakh in 2015-16 towards Digital Distributed Control & Management Information System (DDCMIS) under Regulation 15(1) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that it was allowed projected additional capital expenditure of Rs. 641.02 lakh during the period 2009-14 vide order dated 17.10.2012 in Petition No. 229/GT/2009. The Petitioner has also submitted that the R&M work was completed and capitalized during the period 2009-14, and the same was also allowed vide orders dated 11.12.2015 and 23.8.2016 in Petition No. 235/GT/2013 and Petition No. 329/GT/2014, respectively. The Petitioner has further stated that the PG test amount of Rs. 40 lakh was projected for capitalisation during 2015-16, and the same, which was allowed vide order dated 21.3.2017 in Petition No. 336/GT/2014. The Petitioner has added that an amount of Rs. 0.30 lakh was capitalised in 2014-15, and the balance amount was capitalised in 2015-16. The Respondent UPPCL has submitted that the claim of the Petitioner may be disallowed under Regulation 15 of the 2014 Tariff Regulations, since the plant has not completed its initial useful life.



20. The matter has been considered. As stated, the projected additional capital expenditure was allowed vide order dated 21.3.2017 in 2015-16. Accordingly, the Petitioner's claim for actual additional capital expenditures of Rs. 0.30 lakh and Rs. 0.19 lakh for 2014-15 and 2015-16, respectively, are allowed. The corresponding decapitalization of old assets claimed by the Petitioner has been considered under 'decapitalization'.

(d) Civil work for Installation of DDCMIS Unit-2

21. The Petitioner has claimed the actual additional capital expenditure of Rs. 0.16 lakh in 2014-15 towards Civil work for the Installation of DDCMIS Unit-2 under Regulation 15(1) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has pointed out that the projected additional capital expenditure of Rs. 10.92 lakh in 2011-12, Rs. 1.84 lakh in 2011-12 and Rs. 2.22 lakh in 2012-13 was allowed vide order dated 17.10.2012 in Petition No.229/GT/2009. It has also submitted that thereafter, additional capital expenditure on this count, was allowed vide orders dated 11.12.2015 and 23.8.2016 in Petition No. 235/GT/2013 and Petition No. 329/GT/2014, respectively. The Petitioner has also stated that a minor amount of Rs. 0.16 lakh for part payment was capitalised in 2014-15. The Respondent UPPCL has submitted that the claim of the Petitioner may be disallowed under Regulation 15 of the 2014 Tariff Regulations, since the plant has not completed its initial useful life.

22. The matter has been considered. It is observed that the additional capital expenditure for the said works/items was allowed by the Commission in its previous orders, as stated above. Against this background, the Petitioner's claim for the additional capital expenditure of Rs.0.16 lakh in 2014-15 is allowed. The corresponding decapitalization of old assets claimed by the Petitioner has been considered under 'decapitalisation'.



(e) Stacker cum Reclaimer

23. The Petitioner has claimed the actual additional capital expenditure of Rs. 2.05 lakh in 2014-15, Rs. 0.48 lakh in 2015-16 and Rs. 35.56 lakh in 2017-18 towards Stacker cum-Reclaimer under Regulation 15(1) of 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that expenditure for Rs. 20.54 lakh and Rs. 3.06 lakh in 2012-13 and 2013-14 was allowed vide order dated 11.12.2015 and 23.8.2016 in Petition No. 235/GT/2013 and Petition No. 329/GT/2014, respectively. The Petitioner has further submitted that a projected amount of Rs. 20.00 lakh was claimed for capitalisation in 2015-16 towards final payment, and the same was allowed vide order dated 21.3.2017 in Petition No. 336/GT/2014. The Petitioner has also stated that the PG test amount of Rs 2.05 lakh was capitalised in 2014-15, and another part of the PG test amount was released in 2015-16. The Petitioner has added that major work was completed in 2017-18, and Rs 35.56 lakh was capitalised. The Respondent UPPCL has submitted that the claim of the Petitioner may be disallowed under Regulation 15 of the 2014 Tariff Regulations, since the plant has not completed its initial useful life.

24. The matter has been considered. Considering that the additional expenditure for the said work had already been approved vide order dated 21.3.2017, the Petitioner's claim for actual additional capitalisation of Rs. 2.05 lakh in 2014-15, Rs. 0.48 lakh in 2015-16 and Rs. 35.56 in 2017-18, on this count, is allowed.

(f) Roads for Township

25. The Petitioner has claimed the actual additional capital expenditure of Rs. 2.62 lakh in 2014-15 towards Roads for the township under Regulation 15(1) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that an expenditure of Rs. 41.72 lakh during the period 2012-14 was allowed vide order dated



23.8.2016 in Petition No. 329/GT/2014. The Petitioner has also submitted that major work was completed in 2012-14, and expenditures for Rs 9.52 lakh and Rs. 32.20 lakh were capitalized during the years 2012-13 and 2013-14, respectively, and the balance of work amounting to Rs 2.62 lakh was capitalized in 2014-15. The Respondent UPPCL has submitted that the claim of the Petitioner may be disallowed, since the plant has not completed its initial useful life.

26. The matter has been considered. Considering that the additional expenditure for the said work had already been approved vide order dated 23.8.2016, the Petitioner's claim for Rs. 2.62 lakh in 2014-15 is allowed.

(g) Laying of sewer pipelines in the township

27. The Petitioner has claimed the actual additional capital expenditure of Rs. 2.69 lakh in 2014-15 towards laying of sewer pipelines in the township under Regulation 15(1) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the additional capitalization of Rs 195.54 lakh claimed in 2012-13 was allowed vide order dated 23.8.2016 in Petition No. 329/GT/2014. It has further submitted that major work was completed in 2012-13, and the balance payment of Rs 2.69 lakh was released and capitalized in 2014-15. The Respondent UPPCL has submitted that the claim of the Petitioner may be disallowed, since the plant has not completed its initial useful life.

28. The Petitioner has claimed the actual additional capital expenditure of Rs. 2.69 lakh in 2014-15 towards laying of sewer pipelines in the township, under Regulation 15(1) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the additional capitalization of Rs 195.54 lakh claimed in 2012-13 was allowed vide order dated 23.8.2016 in Petition No. 329/GT/2014. It has further submitted that major work was completed in 2012-13, and the balance payment of Rs



2.69 lakh was released and capitalized in 2014-15. The Respondent UPPCL has submitted that the claim of the Petitioner may be disallowed, since the plant has not completed its initial useful life.

29. The matter has been considered. Considering that the additional expenditure for the said work had already been approved vide order dated 23.8.2016, the Petitioner's claim for Rs. 2.69 lakh in 2014-15 is allowed. The corresponding decapitalisation of old assets claimed by the Petitioner has been considered under 'decapitalisation'.

(h) Construction of Boundary wall for 300 buildings:

The Petitioner has claimed the actual additional capital expenditure of Rs. 2.37 lakh in 2014-15 towards the Construction of the boundary wall for 300 buildings under Regulation 15(1) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the projected additional capital expenditure for Rs 2.82 lakh claimed in 2012-13 was allowed vide order dated 11.12.2015 in Petition No. 235/GT/2013. The Petitioner has also stated that the amount of Rs 2.37 lakh was capitalised in 2014-15. The Respondent UPPCL has submitted that the claim of the Petitioner may be disallowed, since the plant has not completed its initial useful life.

30. Considering the fact that the additional expenditure for the said work had already been approved vide order dated 11.12.2015 in Petition No. 235/GT/2013, the claim of the Petitioner for actual additional capital expenditure of Rs. 2.37 lakh in 2014-15 is allowed. The corresponding decapitalisation of old assets claimed by the Petitioner has been considered under 'decapitalisation'.

(i) Stone aggregation & anti-weed treatment of switchyard

31. The Petitioner has claimed the actual additional capital expenditure of Rs. 0.25 lakh in 2014-15 towards Stone aggregation & antiweed treatment of the switchyard under Regulation 15(1) of the 2014 Tariff Regulations. In justification for the same, the



Petitioner has submitted that the projected additional capitalisation of Rs. 64.62 lakh in 2012-13 was allowed vide order dated 23.8.2016 in Petition No. 329/GT/2014. The Petitioner has also submitted that major work was completed during the period 2012-14, and expenditures of Rs. 22.46 lakh and Rs. 42.16 lakh were capitalised in 2012-13 and 2013-14, respectively. It has also stated that a minor amount of Rs. 0.25 lakh for the balance payment was released and capitalised in 2014-15. The Respondent UPPCL has submitted that the claim of the Petitioner may be disallowed, since the plant has not completed its initial useful life.

32. The matter has been considered. Since the additional capital expenditure claimed under this head had already been approved vide order dated 23.8.2016 in Petition No. 329/GT/2014, the claim of the Petitioner for actual additional capital expenditure of Rs. 0.25 lakh in 2014-15 is allowed.

(j) Construction of 32 No. Residential Building Type-D and 16 Nos. of Type-C Quarters:

33. The Petitioner has claimed the actual additional capital expenditure of Rs. 2.38 lakh in 2014-15, Rs. 322.98 lakh in 2017-18 and Rs. 433.93 lakh in 2018-19 towards the Construction of Residential Building Type-D (32 nos) and Type-C Quarters (16 nos), under Regulation 15(1) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the projected additional capital expenditure of Rs 787.30 lakh for the period 2014-19 for the Construction of Type C and D quarters was allowed vide order dated 21.3.2017 in Petition No. 336/GT/2014. The Petitioner has also submitted that an expenditure of Rs. 2.38 lakh was capitalised in 2014-15. The Petitioner has further submitted that the work on Type-D quarters was completed, and an expenditure of Rs 383.86 lakh was capitalised in 2017-18. It has been added that the balance work was completed in 2018-19, and Rs. 433.93 lakh was capitalised



in 2018-19. The Respondent UPPCL has submitted that the claim of the Petitioner may be disallowed, since the plant has not completed its initial useful life.

34. The matter has been considered. Since the additional capital expenditure claimed under this head had already been approved vide order dated 21.3.2017 in Petition No. 336/GT/2014, the Petitioner's claim for actual additional capital expenditure is allowed.

(k) R&M of MP Rotor of Unit-2

35. The Petitioner has claimed the actual additional capital expenditure of Rs. 446.03 lakh in 2015-16 towards the R&M of MP Rotor of Unit-2 under Regulation 15(1) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the projected additional capital expenditure of Rs 427 lakh claimed was allowed vide order dated 21.3.2017 in Petition No. 336/GT/2014. The Petitioner has also submitted that the said work was completed in 2015-16, but there is a minor deviation from the projected additional capitalisation amount allowed. The Respondent UPPCL has submitted that the claim of the Petitioner may be disallowed, since the plant has not completed its initial useful life.

36. The matter has been considered. Since the additional capital expenditure claimed under this head had already been approved vide order dated 21.3.2017 in Petition No. 336/GT/2014, the Petitioner's claim for Rs. 446.03 lakh in 2015-16 is allowed. The corresponding decapitalization of old assets claimed by the Petitioner has been considered under 'decapitalisation.'

(l) R&M of MP Rotor of Unit-1

37. The Petitioner has claimed the actual additional capital expenditure of Rs. 0.13 lakh in 2015-16 towards the R&M of MP Rotor of Unit 1 under Regulation 15(1) of the



2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the projected additional capitalisation of Rs 5.72 lakh claimed was approved vide order dated 21.3.2017 in Petition No. 336/GT/2014. It has also been submitted that the work was completed in 2015-16. The Respondent UPPCL has submitted that the claim of the Petitioner may be disallowed, since the plant has not completed its initial useful life.

38. The matter has been considered. Since the additional capital expenditure claimed under this head had already been approved vide order dated 21.3.2017 in Petition No. 336/GT/2014, the Petitioner's claim is allowed. The corresponding decapitalisation of old assets claimed by the Petitioner has been considered under 'decapitalisation.'

(m) R & M of LP Rotor Unit-3

39. The Petitioner has claimed an actual additional capital expenditure of Rs. 70.80 lakh in 2018-19 towards the R&M of LP Rotor Unit-3 under Regulation 15(1) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that R&M of LP Rotor Unit-3 of Rs 53.00 lakh was allowed vide order dated 21.3.2017 in Petition No. 336/GT/2014. The Petitioner has also submitted that the work was completed, and the expenditure of Rs 70.80 lakh was capitalised in 2018-19. The Respondent UPPCL has submitted that the claim of the Petitioner may be disallowed, since the plant has not completed its initial useful life.

40. The matter has been considered. Since the additional capital expenditure claimed under this head was already approved vide order dated 21.3.2017 in Petition No. 336/GT/2014, the claim of the Petitioner for Rs. 70.80 lakh in 2018-19 is allowed. The corresponding decapitalisation of old assets claimed by the Petitioner has been considered under 'decapitalisation'.



B. Change in law claims

(n) Dry Fly Ash Extraction system:

41. The Petitioner has claimed actual additional capital expenditure of Rs. 2960.18 lakh in 2014-15, Rs. 66.88 lakh in 2015-16, Rs. 3.07 lakh in 2016-17, Rs. 10.59 lakh in 2017-18 and Rs. 0.33 lakh in 2018-19, towards Dry Fly Ash Extraction System, under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the projected additional capital expenditure for Rs. 3430 lakh claimed was allowed vide order dated 21.3.2017 in Petition No. 336/GT/2014. It has also submitted that major work was completed and capitalised in 2014-15, and balance works were capitalised during the period 2015-19. The Respondent has prayed that the Petitioner may be directed to provide more details on the same.

42. The matter has been considered. Considering the fact that the projected additional capital expenditure claimed under this head was already approved vide order dated 21.3.2017 in Petition No. 336/GT/2014, wherein the Commission had considered MOEF notification dated 3.11.2009 as a CIL event, the claim of the Petitioner for actual additional capital expenditure, as above, is allowed.

C. Ash Handling system

(o) 2nd Raising Ash Dyke-B

43. The Petitioner has claimed actual additional capital expenditure of Rs. 1014.96 lakh in 2014-15 and Rs. 25.47 lakh in 2015-16 towards the 2nd Raising Ash Dyke-B, under Regulation 14(3)(iv) of 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the projected additional capital expenditure for Rs 1050 lakh was allowed vide order dated 21.3.2017 in Petition No. 336/GT/2014. It has also submitted that major work was completed and capitalized in 2014-15 and the balance



work was completed and capitalised in 2015-16. The Respondent has prayed that the Petitioner may be directed to provide more details on the same.

44. The matter has been considered. As regards the respondent's submission that the Petitioner should have provided more details on capital expenditure incurred under the said head, it may be mentioned that the detailed year-wise capital expenditure claimed under this head has been furnished in the petitioner's additional submissions. Considering the fact that the projected additional capital expenditure claimed under this head was already approved vide order dated 21.3.2017 in Petition No. 336/GT/2014, the claim of the Petitioner for actual additional capital expenditure, as above, is allowed.

(p) 3rd Raising of Ash dyke A&B

45. The Petitioner has claimed actual additional capital expenditure of Rs. 1479.51 lakh in 2016-17 and Rs. 1055.33 lakh in 2018-19 towards the 3rd Raising of Ash dyke A&B under Regulation 14(3)(iv) of 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the projected additional capitalisation of Rs 3600 lakh was allowed vide order dated 21.3.2017 in Petition No. 336/GT/2014. The Petitioner has also submitted that part work was completed, and Rs. 1479.51 lakh was capitalized in 2016-17, and the balance work was completed, and Rs. 1211.39 lakh was capitalised in 2018-19. The Respondent has prayed that the Petitioner may be directed to provide more details on the same.

46. The matter has been considered. In regard to the respondent's submission seeking more details, it may be mentioned that the same has been dealt with order dated 21.3.2017 in Petition No. 336/GT/2014. Considering the fact that the projected additional capital expenditure claimed under this head was already approved vide



order dated 21.3.2017 in Petition No. 336/GT/2014, the Petitioner's claim for actual additional capital expenditure, as above, is allowed.

D. Claims wherein liberty was granted

(q) Fire Fighting System for CHP Area:

47. The Petitioner has claimed actual additional capital expenditure of Rs. 9.94 lakh in 2014-15 towards Fire Fighting System for CHP Area, under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the assessment of availability, reliability & design adequacy of the fire detection and protection system of all coal based thermal stations of the Petitioner was carried out in line with Regulation 12(5) of Central Electricity Authority (Technical Standards for construction of electrical Parts & Electrical Lines) Regulations, 2010. The Petitioner has also submitted that the augmentation required for the Fire detection and Protection system for the Stacker reclaimer and Coal conveyors area of CHP were identified and taken to prevent any catastrophic damage in case a fire breaks out in CHP, as the existence of coal in CHP area makes it vulnerable to fire hazard and mobile fire protection equipment may not be able to control the spread of fire.

48. The Respondent has submitted that in terms of the order dated 16.2.2017, the Petitioner is required to submit the confirmation that the expenditure is in compliance with the TAC guidelines and also furnish the details of the discount received, if any. In response, the Petitioner has reiterated its submissions made in the Petition and has furnished a true copy of the letter from the contractor.

49. The matter has been considered. It is observed that the Petitioner was directed, vide order dated 21.3.2017 in Petition No. 336/GT/2014, to place on record the confirmation that the said expenditure on augmentation of the firefighting system/ protection system was in compliance with the TAC guidelines and the discount, if any,



received from the Insurance companies was to be submitted, at the time of truing-up of tariff, for the period 2014-19. The Petitioner has submitted that the said work executed was in compliance with the TAC guidelines and has also enclosed a copy of a letter dated 6.7.2020 received from the Contractor engaged for the installation of the fire detection and protection system. Furthermore, the Petitioner has also averred that the actual expenditure is in line with TAC guidelines and the expenditure claimed is for balance payment. In view of this, the claim of the Petitioner for Rs. 9.94 lakh in 2014-15 is allowed.

(r) Renovation of lifts in the Boiler area

50. The Petitioner has claimed an actual additional capital expenditure of Rs. 96.39 lakh in 2017-18 towards the Renovation of lifts in the Boiler area under Regulation 15 of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the existing lifts in the boiler area were installed in the year 2002. The Petitioner has also submitted that the replacement of spares has become difficult due to the obsolescence of the technology as the OEM M/s Otis, vide its email dated 11.2.2012, had declared that the lifts have become technically obsolete and arranging spares would be very difficult for them. The Petitioner has also submitted that since the boiler lifts are essentially required for transporting spares/materials for maintaining boiler healthiness, a reliable lift, in line with the safety standards, is essential. Therefore, keeping in view the remaining life of the generating station till the year 2025, this work was completed.

51. The Respondent has prayed that the Petitioner may be directed to furnish the justification for undertaking work based on the requirement for the remaining life of the station up to 2025. In response, the Petitioner has submitted that renovation of lifts in the Boiler area, was necessary as the existing lifts were installed in the year



2002, i.e., about 17 years ago. In addition, the Petitioner has submitted that the renovation of lifts was essential to ensure the safety of the boiler area. It has also been pointed out that in view of the decision of the APTEL in Appeal No. 93 of 2017, a generating company is entitled to the recovery of expenses with respect to the security and safety of the generating station.

52. The matter has been considered. It is noticed that the Petitioner was directed vide order dated 21.3.2017 in Petition No. 336/GT/2014 to approach the Commission at the time of truing up of tariff to claim such additional capital expenditure. The relevant portion of the order is extracted below:

“21. However, with respect to assets like Renovation of Lift in Boiler area, procurement of 2 nos. Of Dozers, Procurement of 1 no. Of Pay loader, procurement of 1 no. Of Front-End loader, procurement of 1 no. Of Skid Steel loader and Procurement of 2 nos. Of Trippers/Dumpers, the petitioner is directed to submit the justification for procuring these assets/undertaking these works based on the requirement for remaining life of station upto 2025. Further the gross block of Dozers, Pay Loader, Front end loader, Skid Steel Loader and Trippers/ Dumpers etc. At the time of truing-up of tariff of the generating station. Accordingly, liberty is granted to the petitioner to approach the Commission at the time of truing-up for Dozers, Pay Loader, Front end loader, Skid steel loader and Trippers/ Dumpers and Renovation of lift in Boiler area, etc. with the above details/ justification.”

53. The Petitioner has furnished a copy of the email of the OEM dated 11.2.2012, which states that the lifts had become obsolete in terms of technology and arranging the spares would be very difficult for them. In the above background, the Petitioner's claim is allowed.

(s) Replacement of BFP cartridge by Energy Efficient cartridge and Ash Slurry Pump Upgradation

54. The Petitioner has submitted that in Petition No 336/GT/2020 it had claimed the projected additional capital expenditure of 28.00 lakh in 2015-16 towards Ash Slurry Pump Up-gradation, Rs.189.24 lakh in 2015-16 for Energy Efficient Cartridge of Upgraded design for Boiler Feed Pump-200KHI, Rs.220.00 lakh in 2015-16 for Energy Efficient Cartridge with casing & barrel of upgraded design for Boiler Feed



Pump-200KHI and Rs. 614.00 lakh (Rs.189.00 lakh in 2016-17 and Rs.425.00 lakh in 2017-18) towards the Replacement of BFP cartridge by Energy Efficient cartridge under Regulation 14(3)(ii) and Regulation 15(1) read with Regulation 54 (Power to Relax) of the 2014 Tariff Regulations. The Petitioner has also claimed the additional expenditure towards Ash Slurry Pump up-gradation and replacement of the BFP Cartridge with Energy Efficient Cartridge of upgraded design, in compliance with the energy conservation and efficiency policy of the Bureau of Energy Efficiency (BEE) under the Perform, Achieve & Trade (PAT) scheme of the Ministry of Power, GOI, in terms of the National Mission for enhancing energy efficiency. The Petitioner has further stated that as against the above claim for additional capitalisation under the PAT scheme, the Commission vide order dated 21.3.2017 in Petition No. 336/GT/2014 had decided as under:

“28. The matter has been examined. As stated, the petitioner has claimed the said expenditure under Regulation 14 (3) (ii), and Regulation 15 (1) read with Regulation 54 of the 2014 Tariff Regulations. As regards the claim of the petitioner for capitalization of the expenditure under the PAT scheme, Regulation 9(5) of the 2014 Tariff Regulations provides as under:

“9 (5) The capital cost with respect to thermal generating station, incurred or projected to be incurred on account of the Perform, Achieve and Trade (PAT) scheme of Government of India will be considered by the Commission on case to case basis and shall include:

a) cost of plan proposed by developer in conformity with norms of PAT Scheme; and b) sharing of the benefits accrued on account of PAT Scheme.”

29. The petitioner in this tariff petition has not furnished the quantifiable details of improvement in the heat rate along with other performance parameters by replacement of old equipment with the energy efficient new ones. It has also not submitted the analysis of the energy saved on this count and the benefits accrued and passed on to the beneficiaries. It is noticed that similar claim for expenditure under PAT scheme was made by DVC in Petition No. 350/GT/2014 (tariff of Bokaro TPS unit- I to III) and the Commission by order dated 27.9.2016 had disallowed the said claim with liberty to the petitioner to claim the expenditure with proper details/ justification at the time of truing-up of tariff. The relevant portion of the said order is extracted as under:

“47. We have examined the matter. Regulation 9(5)(b) of the 2014 Tariff Regulations provides that the petitioner is required to submit the benefits arising out of the expenditure under the PAT scheme so that the same can be shared with the beneficiaries. As the quantifiable details of improvement in the heat rate along with other performance parameters has not been submitted by the petitioner, we are not inclined to permit the additional capital expenditure towards replacement of two HP Bypass valve with control systems (AV-6) and revamping of cooling tower 1 under PAT



scheme. However, the petitioner is granted liberty to submit proper justification along with the details of benefit arising out of the expenditure for claiming this asset at the time of truing-up of tariff in terms of Regulation 8 of the 2014 Tariff Regulations and the same will be considered in accordance with law.”

30. In line with the above decision, the expenditure claimed by the petitioner for works under the PAT scheme is not allowed. The petitioner is however granted liberty to claim the expenditure with proper justification along with the details of the benefits arising out of the expenditure claimed for the assets at the time of truing-up of tariff in terms of Regulation 8 of the 2014 Tariff Regulations.”

55. The Petitioner has submitted that it has inadvertently claimed the additional capital expenditure against the PAT scheme, under exclusion, and accordingly revised the tariff filing forms after incorporating the expenditure incurred against the PAT scheme, under additional capitalization, by replacing it from ‘exclusions’ in line with the liberty granted in an order dated 21.3.2017 as above. The Petitioner has also submitted that the GOI has notified the PAT Cycle-I, vide Gazette notification dated 30.3.2012, in the exercise of the powers conferred to it by clause (g) and (n) of the Energy Conservation Act, 2001 (52 of 2001) in consultation with the BEE and in terms of this notification, the generating station, being a designated consumer as per energy conservation act, was required to reduce its Specific energy consumption, in terms of Net Heat Rate, from its baseline value of 3083 Kcal/kwh to 3051 Kcal/kwh. The Petitioner has stated that the baseline year for the PAT cycle-I was 2007-10, while the assessment year is 2014-15.

56. The Petitioner has also submitted that the net heat rate is the function of both the Gross Station Heat Rate (SHR) as well as the Auxiliary Energy Consumption (AEC) wherein $NHR = SHR / (1 - AEC/100)$ and to improve the Specific Energy Consumption, the Petitioner has used both strategies, that is to improve the heat rate as well as the auxiliary energy consumption. The Petitioner has further stated that in order to reduce the Specific Energy Consumption of the generating station, the Energy Audit was conducted by the BEE Certified Energy Auditor, and priority areas



were identified based on the potential savings in the auxiliary energy consumption. It has further stated that the strategy was made based on the potential savings and available technology to achieve the same in realistic timelines. The Petitioner has further submitted that Boiler Feed Pumps are the largest power-consuming drives in a thermal power station, and a small deterioration in the efficiency of the boiler feed pump results in a high impact on auxiliary power consumption. For example, in the instant station full load shaft power rating (@ 75% Efficiency) of the BFP drive is 3200 KW, while the normative AEC of 110 MW for the 2014-19 period was 12%, which is equivalent to 13.2 MW and based on power rating, BFP alone contributes to approximately 24.24 % of total AEC. Therefore, a 5% deterioration in BFP power may cause an AEC increase from 12% to 12.15%. The Petitioner has further stated that for the above reasons, the replacement of the BFP cartridge with an energy efficient cartridge was chosen as a preferred measure to improve the auxiliary energy consumption. The Petitioner has stated that BFP cartridges were replaced by energy efficient cartridges in a phased manner, in line with the recommendation of the energy audit report of the generating station in 2014-15, as annexed with the Petition.

57. The Petitioner has stated that the Ash slurry pump upgradation work was carried out to improve the auxiliary energy consumption of the generating station. The Petitioner has attached the M&V Audit report submitted for the purpose of PAT compliance and pointed out that on page-17 of the said report, the benefits achieved due to the replacement of BFP cartridges with energy efficient cartridges, and the Upgradation of ash slurry pump is 8.16001 MUs during the period 2016-19. The Petitioner has further submitted that Form-A furnished to the BEE, in compliance with the PAT cycle-II has been annexed with the submission towards the work of BFP cartridge replacement and the benefits arrived out of it. Accordingly, the Petitioner has



prayed to allow the additional capital expenditure claimed towards the implementation of the PAT scheme and has further submitted as under:

(i) The key performance parameters during PAT cycle-II in the relevant years are as under:

	2014-15 (Baseline year)	2016-17	2017-18	2018-19 (Assessment year)	
				Actual	corrected to 82.02% PLF
Gross Heat Rate	2783.47	2778	2726	2805	2701.88
APC	11.456	11.47	11.46	12.86	12.21
Net Heat Rate	3143.86	3137.91	3078.83	3218.54	3077.66
PLF	82.02%	84.10	85.04	61.53%	82.02% (assumed)

- i) From the table above, it is clearly seen that there had been consistent improvement in the Net Heat Rate of Tanda TPS starting from 2014-15 up to 2017-18. However, in 2018-19 the Net Heat Rate had abnormally deteriorated due to very low PLF. The average net heat rate baseline year and years 2016-17 & 2017-18 is 3120 Kcal/kwh, while the average Net Heat Rate for 2016-17 and 2017-18 is 3108.7 Kcal/kwh, which is very much near to the set target of 3101.97 kcal/kwh.
- ii) In 2017-18, the net heat rate achieved was 3078.83 kcal/kwh which is well below the set target of 3101.97. Had there not been exceptional deterioration in station PLF due to low demand from beneficiaries, station could have achieved desired Net Heat rate as per the target of PAT cycle-II, which the station had clearly demonstrated in 2017-18.
- iii) Central Electricity Regulatory Commission (Indian Electricity Grid Code) (Fourth Amendment) Regulations, 2016 (IEGC Fourth Amendment) provides for compensation in Heat Rate and Aux Energy Consumption depending on the average unit loading. The extract of Regulation 6.3B (3) of IEGC, Fourth Amendment is produced as under:

“3. Where the CGS or ISGS, whose tariff is either determined or adopted by the Commission, is directed by the concerned RLDC to operate below normative plant availability factor but at or above technical minimum, the CGS or ISGS may be compensated depending on the average unit loading duly taking into account the forced outages, planned outages, PLF, generation at generator terminal, energy sent out ex-bus, number of start-stop, secondary fuel oil consumption and auxiliary energy consumption, in due consideration of actual and normative operating parameters of station heat rate, auxiliary energy consumption and secondary fuel oil consumption etc. on monthly basis duly supported by relevant data verified by RLDC or SLDC, as the case may be.

Provided that:

- (i) In case of coal / lignite based generating stations, following station heat rate degradation or actual heat rate, whichever is lower, shall be considered for the purpose of compensation:*



S.No.	Unit loading as a % of Installed Capacity of the Unit	Increase in SHR (for supercritical units) (%)	Increase in SHR (for sub-critical units) (%)
1	85-100	Nil	Nil
2	75-84.99	1.25	2.25
3	65-74.99	2	4
4	55-64.99	3	6

(ii) In case of coal / lignite based generating stations, the following Auxiliary Energy Consumption degradation or actual, whichever is lower, shall be considered for the purpose of compensation:"

Sl. No	Unit Loading (% of MCR)	% Degradation in AEC admissible
1.	85 – 100	NIL
2.	75 – 84.99	0.35
3.	65 – 74.99	0.65
4.	55 - 64.99	1.00

- iv) In 2018-19 PLF of the station was merely 61.53%. At an average loading of 61.53 %, the instant station was entitled to compensation of 6% in Heat Rate and 1% in Aux Energy Consumption. The normative compensated heat rate and normative compensated Aux Energy Consumption at this loading factor would be 2915 kcal/kwh and 13%, respectively, leading to a compensated Net Heat Rate of 3351 kcal/kwh against a normative Net Heat Rate of 3150 kcal/kwh. The actual net heat rate achieved by the instant station in 2018-19 was 3218.96 kcal/kwh.
- v) Compensation is paid based on the actual net Heat Rate and Compensated Net Heat Rate, whichever is lower. That is, if the actual net heat rate is lower than the compensated net heat rate, no compensation shall be paid. In the instant case the actual net heat rate of 3219 kcal/kwh is lower than compensated net heat rate of 3351 kcal/kwh by 132 kcal/kwh. Therefore, the benefit of 132 kcal/kwh has already been passed on to the beneficiary.
- vi) Moreover, when PAT targets were set based on performance in the baseline year of 2014-15 which PLF was 82.02%, while in the assessment year PLF was 61.53%. Considering the above, the baseline year loading factor was in the range of 75-85%, while the assessment year loading factor was in the compensation range of 55-65%. So, in comparison to the baseline year, there is differential compensation of $6.00-2.25=3.75$ (%) in Gross Heat Rate equivalent to 103.13 Kcal/kwh and differential compensation of $1.00-0.35=0.65$ (%) in APC in the assessment year 2018-19 as per IEGC (Fourth Amendment). The net impact of compensation in the Net Heat Rate is 141.30 Kcal/kwh. In other words, we can say that if the plant had run at the same PLF of 82.02% in the assessment year, the achieved Net Heat Rate would have been $3218.96-141.30=3077.66$ Kcal/kwh as per Compensation allowed under IEGC



(Fourth Amendment) for 2018-19. This figure is well below the PAT-II Target of 3101.97 kcal/kwh.

- vii) Due to improvement in Net Heat Rate on account of various measures taken, including the benefits accrued from implementation of the PAT schemes, Petitioner had already shared gains of Rs 6.06 Crore on a net basis on account of operational parameters to the beneficiary based on performance parameters.

58. The matter has been considered. As regards the expenditure related to the PAT scheme, clause (5) of Regulation 9 of the 2014 Tariff Regulations provides as under:

“9 (5) The capital cost with respect to thermal generating station, incurred or projected to be incurred on account of the Perform, Achieve and Trade (PAT) scheme of Government of India will be considered by the Commission on case to case basis and shall include:

a) cost of plan proposed by developer in conformity with norms of PAT Scheme; and b) sharing of the benefits accrued on account of PAT Scheme.”

59. The Commission, vide its order dated 21.3.2017 in Petition No. 336/GT/2014, had directed as under:

“.....The petitioner is however granted liberty to claim the expenditure with proper justification along with the details of the benefits arising out of the expenditure claimed for the assets at the time of truing-up of tariff in terms of Regulation 8 of the 2014 Tariff Regulations.”

60. Based on the submission of the Petitioner and considering that the claimed expenditure complies with the targets as per the PAT scheme, the Petitioner's claim is justified and hence, it is allowed. The corresponding decapitalization value of Rs. 210.40 lakh in 2014-15, Rs. 277.16 lakh in 2015-16 and Rs.0.10 lakh in 2016-17 has been considered as per the methodology under Assumed Deletion.

E. New claims

(t) Construction of drain and pit in Coal Handling Plant

61. The Petitioner has claimed the actual additional capital expenditure of Rs. 15.76 lakh in 2014-15 towards the Construction of drain and pit in Coal Handling Plant (CHP) under Regulation 14 (3)(ii) and Regulation 15 of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the waste drain water from



CHP contains highly suspended solids and, therefore, a proper drain system and a settling pit are required. The Petitioner has further submitted that the wastewater from the coal stockyard, transfer points etc., would be routed to the pit through the drainage system, and after settling in the pit, clear water from there may be used for other purposes such as cleaning etc., so that waste liquid discharge outside the plant is zero/nil. The Petitioner has also submitted that the Central Pollution Control Board (CPCB), vide its notification dated 7.12.2015, had issued a directive for a Zero Liquid Discharge, and for complying with the above direction, additional linkage of drainage system was required for wastewater discharge treatment in CHP area. The Respondent has prayed that the Petitioner may be directed to provide the details of the change in law/ policy/ rules necessitating such expenditure.

62. The matter has been considered. The Petitioner has submitted the details of the claim and has also provided the Central Pollution Control Board (CPCB) notification dated 7.12.2015 in support of the same. Accordingly, the Commission considers the CPCB notification dated 7.12.2015 as a CIL event. Considering the requirement of zero waste liquid discharge based on the CPCB notification, the additional capital expenditure incurred by the Petitioner is allowed.

(u) Continuous Emission Monitoring System

63. The Petitioner has claimed the actual additional capital expenditure of Rs. 43.25 lakh in 2015-16 and Rs.1.12 lakh in 2017-18 towards Continuous Emission Monitoring System (CEMS) under Regulation 14 (3)(ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that in compliance with the statutory direction of the CPCB dated 5.2.2014, CEMS was installed at the generating station for monitoring purposes. The Respondent UPPCL has prayed that the



Petitioner may be directed to provide the details of the change in law/ policy/ rules necessitating such expenditure.

64. The matter has been considered. Since the actual additional capital expenditure has been incurred by the Petitioner for complying with the directions of the CPCB dated 5.2.2014, the claim of the Petitioner is allowed.

(v) Effluent Quality Monitoring System

65. The Petitioner has claimed the actual additional capital expenditure of Rs. 12.50 lakh in 2015-16 and Rs. 13.47 lakh in 2016-17 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 in compliance with the statutory directions of the CPCB dated 5.2.2014, EQMS was installed at the generating station for monitoring purposes. The Respondent UPPCL has prayed that the Petitioner may be directed to provide the details of the change in law/ policy/ rules necessitating such expenditure.

66. The matter has been considered. Since the actual additional capital expenditure has been incurred by the Petitioner for complying with the directions of the CPCB dated 5.2.2014, the Petitioner's claim is allowed.

(w) Electronic Weighbridge for Dry Ash Extraction System

67. The Petitioner has claimed the actual additional capital expenditure of Rs. 25.94 lakh in 2015-16 towards Electronic Weighbridge for Dry Ash Extraction System (DAES) under Regulation 14 (3)(ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that a Weighbridge of 100 MT capacity was installed for DAES for Ash utilization measurement purposes. The Respondent



UPPCL has prayed that the Petitioner may be directed to provide the details of the change in law/ policy/ rules necessitating such expenditure.

68. The matter has been considered. The Petitioner has claimed the additional capital expenditure under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In support of the same, the Petitioner has referred to the MOEF&CC notification dated 25.5.2015, which provides for 100% Ash utilisation. It is observed that for meeting 100% ash utilisation, the sale of fly ash was envisaged to the various customer segments, for which the weighment of ash is a must. Therefore, the electronic weighment system was a key part of the overall dry fly ash system, involving its collection and utilisation, required for meeting 100% Ash utilisation as mandated by the said notification dated 25.5.2015. Since the electronic weighment bridge form part of the DAES, we are inclined to allow the claim of the Petitioner on this count under Regulation 14(3)(i) of the 2014 Tariff Regulations.

(x) In-motion Weigh Bridge

69. The Petitioner has claimed the actual additional capital expenditure of Rs. 8.07 lakh in 2015-16 towards In motion Weigh Bridge, under Regulation 14(3)(ii) of the 2014 Tariff Regulations, which provides for the consideration of any additional capital expenditure incurred beyond the cut-off date due to any change in law or compliance with the existing law. In justification for the same, the Petitioner has submitted that as per the Circular dated 9.9.2013 of the Vigilance Department, the in-Motion Weigh Bridge was installed for coal weight measurement purposes. The Respondent UPPCL has prayed that the Petitioner may be directed to provide the details of the change in law/ policy/ rules necessitating such expenditure.

70. The matter has been considered. The Petitioner has claimed the additional capital expenditure under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In



support of the same, the Petitioner has referred to the Vigilance department circular dated 9.9.2013. Though the Petitioner has relied upon the said circular to claim the expenditure, no document has been furnished in support of the same to demonstrate that the expenditure claimed is based on the change in law or in compliance with the existing law. Accordingly, the additional capital expenditure claimed by the Petitioner on this count is not allowed.

(y) Zero Liquid Discharge System

71. The Petitioner has claimed the actual additional capital expenditure of Rs. 112.53 lakh in 2017-18 and Rs. 5.16 lakh in 2018-19 towards Zero Liquid Discharge (ZLD) System under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that as per the MOEF Notification dated 7.12.2015, all existing Cooling Tower (CT) based Thermal Power Plants shall reduce the specific water consumption up to a maximum of 3.5 m³/MWH and comply with the statutory direction, Zero Water Discharge System was installed at the generating station, for reusing the water, reducing water consumption, separating effluent/ oil waste from draining into storm drains and subsequently to water sources. The Respondent UPPCL has prayed that the Petitioner may be directed to provide the details of the change in law/ policy/rules necessitating such expenditure.

72. The matter has been considered. As the expenditure incurred by the Petitioner is for compliance with the MOEF notification dated 7.12.2015, the Petitioner's claim for additional capital expenditure is allowed.

(z) Sprinkler system for dust suppression of Ash Dyke-A

73. The Petitioner has claimed the actual additional capital expenditure of Rs. 10.75 lakh in 2017-18 towards the Sprinkler system for dust suppression of Ash Dyke-A, under Regulations 14(3)(ii) and 14(3)(iv) of the 2014 Tariff Regulations. In justification



for the same, the Petitioner has submitted that the ash dyke, being adjacent to the neighbouring villages, the sprinkler system has been implemented for the reduction of Particulate Matter (PM) in the air. The Petitioner has also submitted that in this system, the water droplets are sprayed into the air, and it captures the dust floating in the air, therefore, this system is effective in the suppression of dust in Ash dyke. The Petitioner has further submitted that this system has been installed to meet the ambient air quality, as per the norms, which will help in providing clean air to the villagers living around the ash dyke area. The Respondent UPPCL has prayed that the Petitioner may be directed to provide the details of the change in law/ policy/ rules necessitating such expenditure.

74. The matter has been considered. The Petitioner has claimed the additional capital expenditure under Regulation 14(3)(ii) and 14(3)(iv) of the 2014 Tariff Regulations. Since the additional capital expenditure claimed by the Petitioner is not related to the deferred works relating to the ash pond, the claim of the Petitioner on this count is not allowed.

(aa) Generator Relay Panels for Unit-1 & Unit-3

75. The Petitioner has claimed the actual additional capital expenditure of Rs. 10.85 lakh in 2017-18 towards Generator Relay Panels for Units-1 and 3, under Regulation 15 of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the existing Electro Static Relays for the generator protection system were in service for about 15 years, and due to obsolescence, the availability & reliability of the same was difficult. The Petitioner has further submitted that in order to enhance the reliability of the protection system, it has replaced the existing old relays with the most reliable numerical relay.



76. The Respondent has submitted that the claim of the Petitioner may be disallowed, as the plant has not completed its initial useful life and to consider the decapitalization in the year of capitalization itself. In response, the Petitioner has submitted that the asset was replaced since there was an issue of availability and reliability of the panels. The Petitioner has also submitted that the Commission may deduct the notional de-capitalization value at the rate of 11.5%.

77. The matter has been considered. As regards the respondent's submission that the replacement of old relay panels should not be allowed for capitalization because the plant had completed its useful plant., the instant plant was a taken-over project, and the Petitioner has claimed the expenditure due to obsolesce of technology. Further as regards the petitioner's submission for considering the notional de-capitalization value of the replaced asset. we have considered the same under 'assumed deletions' as per the consistent methodology adopted. Considering the vintage of the plant, the Petitioner has incurred the additional capital expenditure due to obsolescence of the technology of relays in the generator protection system. Accordingly, the claim of the Petitioner is allowed under Regulation 14 (3)(vii) of the 2014 Tariff Regulations under power to relax.

(bb) Bio Methanation Plant

78. The Petitioner has claimed the actual additional capital expenditure of Rs. 25.14 lakh in 2017-18 towards the Bio-Methanation Plant under Regulation 14 (3)(ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that a bio gas plant consists of a large tank, wherein Biogas is produced by bacteria through the decomposition/ breakdown of the organic matter. It has also submitted that as an initiative towards a clean environment, a Bio methanation gas plant was installed at the generating station, as it will not only address the waste management



issue but also help in reducing greenhouse gases through the use of methane gas. The Respondent UPPCL has prayed that the Petitioner may be directed to provide the details of the change in law/ policy/ rules necessitating such expenditure.

79. The matter has been considered. As the additional capital expenditure incurred by the Petitioner is in terms of the Solid Waste Management Rules, 2016, notified by the MOEF&CC GOI, the additional capital expenditure claimed on this count is allowed.

(cc) Solar PV Roof top

80. The Petitioner has claimed the actual additional capital expenditure of Rs. 62.90 lakh in 2018-19 towards Solar PV Rooftop, under Regulation 15 of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the Government of India has set up a target of 175 GW renewable power installed capacity by the end of 2022, which includes 60 GW from wind power, 100 GW from solar power, 10 GW from biomass power and 5 GW from small hydro power and in order to achieve this target, a number of initiatives are being taken up towards installation of Renewable Energy. It has also stated that Rooftop Solar PV was installed at the generating station of the Petitioner. It is further submitted that the said installation would reduce greenhouse gases and thereby reduce emissions. Further, the benefits in the shape of reduced APC would be reaped by the beneficiaries.

81. The Respondent has submitted that the Petitioner may be directed to provide the justification for procuring these assets/undertaking these works, considering the remaining life of the generating station up to the year 2025. In response, the Petitioner has submitted that the Commission, vide its order dated 13.7.2020 in Petition No. 270/ GT/2019 (Sugen Power Plant), had allowed the same. The



Petitioner has also submitted that savings in the auxiliary power consumption are passed on to all beneficiaries in tariff as per the provisions of the Tariff Regulations.

82. The matter has been considered. It is observed that the actual additional capital expenditure claimed by the Petitioner is for the new item, which does not form part of the Capital cost. The Petitioner has not justified the claim with any technical justification duly supported by documentary evidence like test results carried out by an independent agency. It is also not clear as to the benefits/advantages, the beneficiary would derive on account of the installation of Rooftop Solar by the Petitioner. Further, the Commission, in an order dated 7.11.2021 in Petition No. 288/GT/2020 (tariff of Dadri Gas Power Station of NTPC for the 2014-19 tariff period), had disallowed the additional capital expenditure claimed for the Solar PV system.

The relevant portion of the Order is extracted below:

“43. The matter has been considered. It is observed that the actual additional capital expenditure claimed by the Petitioner is for new item which neither forms part of the capital cost nor has been replaced due to obsolescence or for non-availability of spares required for successful and efficient operation of the generating station. The Petitioner has not justified the claim with any technical justification, duly supported by documentary evidence like test results carried out by an independent agency. The Petitioner has also not demonstrated the need for an alternate back-up system, when the 24 DC battery bank is already in place. It is also not clear as to what benefits/advantages, the beneficiaries would derive on account of installation of the Solar PV system by the Petitioner to augment the existing DCS power supply. In this background, the total actual additional capital expenditure claimed for Rs. 24.09 lakh during the years 2015-16 and 2016-17 is not allowed.”

83. In this background, the actual additional capital expenditure claimed of Rs.62.90 lakh in 2018-19 towards the installation of rooftop solar is not allowed.

Decapitalization

84. The Petitioner has claimed notional de-capitalization, in Form 9Bi, as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Decapitalisation of Assets: part of capital cost	(-)17.01	(-)53.67	(-)0.00	(-)0.00	(-)17.94



85. It is noticed that the decapitalization claimed as above is on a notional basis. The Petitioner has submitted that it has claimed the notional decapitalization @ 11.5% for the additional capital expenditure claimed under R&M on the basis of an earlier tariff order.

86. As per consistent methodology adopted by the Commission, the expenditure on replacement of assets, if found justified, is allowed for the purpose of tariff, provided that the capitalization of the said asset is followed by de-capitalization of the original value of the old asset. However, in certain cases where de-capitalization is carried out in books during the following years, to the year of capitalization of a new asset, the de-capitalization of the old asset for the purpose of tariff is shifted to the very same year in which the capitalization of the new asset is allowed. Such decapitalization, which is not a book entry in the year of capitalization, is termed an “Assumed deletion”. Further, in the absence of the gross value of the asset being de-capitalized, the same is calculated by de-escalating the gross value of the new asset @ 5% per annum till the year of capitalization of the old asset. Accordingly, based on the above methodology, the assumed deletion has been considered.

87. Accordingly, based on the above methodology, the assumed deletion has been considered.

Decapitalization of Spares

88. The Petitioner has claimed the decapitalization of capital spares, forming part of the admitted capital cost, in Form 9Bi, under Regulation 14(4) of the 2014 Tariff Regulations, as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
(-)501.41	(-)0.00	(-)0.00	(-)0.00	(-)0.00



89. Regulation 14(4) of the 2014 Tariff Regulations provides that in case of de-capitalisation of assets, the original cost of such assets shall be removed from the admitted capital cost of the generating station. Accordingly, the de-capitalisation claimed under this head, is allowed for the purpose of tariff.

Exclusions

90. The summary of exclusions from books of accounts claimed on an accrual basis is discussed as under:

	<i>(Rs in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Items not allowed	90.51	-	76.24	139.94	1.99
Items not claimed	-	0.03	33.17	4.52	-
Scheme for the supply of electricity within a 5 km radius	-	(-)1111.55	-	-	-
Loan FERV	231.07	299.97	-	-	-
Capitalisation of capital spares	1523.57	2075.84	2697.51	2328.06	404.33
Inter-Unit Transfer	474.03	7.63	1093.88	3.15	451.09
Reversal of liabilities	(-)64.84	-	(-)82.71	(-)824.91	(-)138.38
Decapitalisation of capital spares- Not part of capital cost	(-)17.02	(-)391.78	(-)854.23	(-)567.79	(-)436.93
Capitalisation of MBOAs	296.46	95.14	116.62	215.61	69.53
Decapitalisation of MBOAs: Not part of capital cost	(-)59.61	(-)12.57	(-)54.30	(-)56.06	(-)36.20
Decapitalisation of MBOAs: Part of the capital cost	(-)0.72	(-)8.08	(-)0.47	(-)124.49	-
Accounting adjustment	1.06	(-)0.21	-	(-)0.02	-
Total Exclusions claimed	2474.51	954.43	3025.71	1118.01	315.42

91. We examine the exclusions claimed by the Petitioner as under:

(a) Disallowed Items

92. The Petitioner has claimed exclusions for Rs. 90.51 lakh in 2014-15, Rs. 76.24 lakh in 2016-17, Rs. 139.94 lakh in 2017-18 and Rs. 1.99 lakh in 2018-19, which includes works/items such as Replacement of Fluid coupling with Magna drive coupling, ET Hostel, CCTV system, 125MVA Generator Transformer, Construction of FQA Lab, Dust extraction system etc. In justification for the same, the Petitioner has submitted that these items were disallowed by order dated 21.3.2017 in Petition No. 336/GT/2014, and hence, they do not form part of the capital cost. Since these items



have not been allowed in tariff and do not form part of the capital cost of the generating station, the exclusions claimed are allowed.

(b) Items not claimed

93. The Petitioner has claimed the exclusion of Rs. 0.03 lakh in 2015-16, Rs. 33.17 lakh in 2016-17, and Rs. 4.52 lakh in 2017-18, under the head “Items not claimed,” which includes items/works like Telephone Exchange-Cable works and Extension of State Bank Building. In justification for the same, the Petitioner has submitted that the expenditures are not allowed under the 2014 Tariff Regulations. In view of this, the Petitioner’s claim under this head is allowed.

(c) Capitalisation of Spares

94. The Petitioner has claimed the exclusion of Rs. 1523.57 lakh in 2014-15, Rs. 2075.84 lakh in 2015-16, Rs. 2697.51 lakh in 2016-17, Rs. 2328.06 lakh in 2017-18 and 404.33 lakh in 2018-19 pertaining to capitalization of spares. In justification for the same, the Petitioner has submitted that as the 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 the capitalization of spares, over and above the initial spares procured after the cut-off date of the generating station, are not allowed as part of capital cost, 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) Reversal of liabilities

95. The Petitioner has claimed the reversal of liability of (-) Rs. 64.84 lakh in 2014-15, (-) Rs. 82.71 lakh in 2016-17, (-) Rs. 824.91 lakh in 2017-18 and (-) Rs. 138.38 lakh in 2018-19 which is the same value as un-discharged liability (zero on net basis). The Petitioner has submitted that as the tariff allowed is on a cash basis, the reversal of liabilities has been kept under the exclusion. The submissions of the Petitioner that



reversal of liabilities shall not impact the capital cost considered for the purpose of the tariff determined on a cash basis is accepted. Hence, the exclusion claimed by the Petitioner is in order and allowed.

(e) Decapitalisation of MBOAs (forming part of capital cost)

96. The Petitioner has claimed the exclusion of de-capitalization of MBOAs, forming part of the admitted capital cost of the generating station for (-) Rs.0.72 lakh in 2014-15, (-) Rs. 8.08 lakh in 2015-16, (-) Rs.0.47 lakh in 2016-17 and (-) Rs.124.49 lakh in 2017-18. In justification for the same, the Petitioner has submitted that as the capitalization of expenditure against these items is not allowed, their de-capitalization has been claimed as exclusions. In terms of Regulation 14(4) of the 2014 Tariff Regulations, the decapitalized amount needs to be deducted to arrive at the capital cost for the purpose of tariff. The exclusion claimed by the Petitioner on account of decapitalization of MBOA has to be treated in accordance with Regulation 14(4) of the 2014 Tariff Regulations. Accordingly, the exclusions claimed is not allowed.

(f) Decapitalisation of MBOAs (not part of the capital cost)

97. The Petitioner has claimed the exclusion of de-capitalization of MBOAs of (-) Rs. 59.61 lakh in 2014-15, (-) Rs. 12.57 lakh in 2015-16, (-) Rs.54.30 lakh in 2016-17, (-) Rs.56.06 lakh in 2017-18 and (-) Rs.36.20 lakh in 2018-19, on the ground that the same do not form part of the capital cost allowed. On scrutiny of Form-9Bi, it is observed that the Petitioner, in respect of MBOAs capitalized before 2014-15, has mentioned the order in which the particular MBOA was disallowed. For assets capitalized after 2014-15, the Petitioner has submitted that the capitalization of these MBOAs beyond the cut-off date was not admissible as per the 2014 Tariff Regulations and, hence, the decapitalization of these items is claimed under exclusion. As the assets claimed under exclusion do not form part of the capital cost, the exclusion for the same is allowed for the purpose of tariff.



(g) Capitalisation of MBOAs

98. The Petitioner has claimed the exclusion of Rs. 296.46 lakh in 2014-15, Rs. 95.14 lakh in 2015-16, Rs.116.62 lakh in 2016-17, Rs.215.61 lakh in 2017-18 and Rs. 69.53 lakh in 2018-19, which includes items like Office equipment and Plant and Machinery. In justification for the same, the Petitioner has submitted that as capitalization of MBOAs 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. Hence, the exclusion claimed under this head, is in order and allowed.

(h) Decapitalization of Capital Spares-Not part of the capital cost

99. The Petitioner has excluded de-capitalized spares amounting to (-) Rs. 17.02 lakh in 2014-15 and (-) Rs. 391.78 lakh in 2015-16, (-) Rs. 854.23 lakh in 2016-17, (-) Rs. 567.79 lakh in 2017-18 and (-) Rs. 436.93 lakh in 2018-19, for the purpose of tariff. In justification for 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 an exclusion in the present petition. The Petitioner has certified that these spares were not allowed by order dated 29.4.2011 in Petition No. 186/GT/2009, Order dated 11.12.2015 in Petition No. 235/GT/2013 and Order dated 23.8.2016 in Petition No. 329/GT/2014. It appears that the decapitalized spares claimed under exclusion (as not part of capital cost) form part of the spares disallowed vide the aforesaid orders. Since the capitalization of the above-mentioned spares was not allowed, as they do not form part of the capital cost for the purpose of tariff, the exclusion of de-capitalization of the spares claimed by the Petitioner, is in order and allowed.

(i) Inter Unit Transfer

100. The Petitioner has claimed the exclusion of Rs. 474.03 lakh in 2014-15, Rs. 7.63 lakh in 2015-16, Rs. 1093.88 lakh in 2016-17, Rs. 3.15 lakh in 2017-18 and Rs.



451.09 lakh in 2018-19, on account of the Inter-unit transfer of assets to/from the generating station. In justification for the same, the Petitioner has submitted that as per practice, the Commission is not considering the temporary Inter-Unit Transfer for tariff; the same has been kept under exclusion. Accordingly, the exclusion for inter-unit transfer is allowed.

(j) Loan FERV

101. The Petitioner has claimed the exclusion of loan FERV of Rs. 231.07 lakh in 2014-15 and Rs. 299.97 lakh in 2015-16. In justification for the same, the Petitioner has submitted that as per the 2014 Tariff Regulations, FERV is being recovered from beneficiaries separately and, hence, kept under the exclusion. In view of this, the exclusion of loan FERV is allowed.

(k) Scheme for the supply of electricity within a 5 km radius

102. The Petitioner has claimed the exclusion of decapitalization of the expenditure under the scheme for the supply of electricity within the 5 km radius for (-) Rs. 1111.55 lakh in 2015-16. In justification for the same, the Petitioner has submitted that in an order dated 21.3.2017 in Petition No. 336/GT/2014, the Petitioner was granted liberty to claim the said expenditure, with proper justification and documentary evidence, in support of handing over the assets to the State utility, at the time of truing-up of the tariff, in terms of the Regulation 8 of the 2014 Tariff Regulations. Accordingly, the expenditure has been claimed as reimbursement in the present Petition and the decapitalization of assets after handing over the assets to the State utility has been claimed under the exclusion. It is observed that the Petitioner has furnished the document in respect of handing over of the assets to State utility, in this petition. Since the said expenditure was not allowed in the capital cost allowed earlier, the corresponding decapitalisation is also not considered. Hence, the exclusion claimed by the Petitioner is allowed.



(I) Accounting Adjustment

103. The Petitioner has claimed an accounting adjustment of Rs. 1.06 lakh in 2014-15, (-) Rs. 0.21 lakh in 2015-16, and (-) Rs. 0.02 lakh in 2017-18 under exclusions and the same is allowed.

104. Based on the above, the exclusions allowed/ not allowed is summarized below:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Exclusions claimed (A)	2474.51	954.43	3025.71	1118.01	315.42
Exclusions allowed (B)	2475.24	962.51	3026.18	1242.50	315.42
Exclusion not allowed (A-B)	(-)0.72	(-)8.08	(-)0.47	(-)124.49	-

Discharge of liabilities

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

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
	24.10	568.42	76.08	508.65	5.91

106. Considering the details of liabilities corresponding to assets allowed for the purpose of tariff, the discharges to be considered for the purpose of tariff for the period 2014-19 work out as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
	24.10	568.42	71.49	502.83	12.65

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

		<i>(Rs. in lakh)</i>				
		2014-15	2015-16	2016-17	2017-18	2018-19
1)	Out of liabilities deducted as on 1.4.2014					
A	Opening liabilities	972.85	884.77	856.67	721.15	174.59
B	Addition during the year	0.00	0.00	0.00	0.00	0.00
C	Discharges during the year	24.10	28.09	54.78	498.80	0.00
D	Reversals during the year	63.99	0.00	80.74	47.76	123.90
E	Closing liability (A+B-C-D)	884.77	856.67	721.15	174.59	50.69
2)	Other liabilities					
F	Opening liabilities	0.00	738.22	251.35	262.25	377.93
G	Addition during the year	738.22	53.46	27.61	119.70	156.07
H	Discharges during the year	0.00	540.32	16.71	4.03	12.65
I	Reversal during the year	0.00	0.00	0.00	0.00	0.00
J	Closing liability (F+G-H-I)	738.22	251.35	262.25	377.93	521.36
3)	Total closing liabilities (E+J)	1622.98	1108.03	983.41	552.52	572.04

108. Based on the above discussions, the additional capital expenditure allowed for the period 2014-19 is summarized as under:

(Rs. in lakh)

Sl. No.	Head of Work /Equipment	Actual Additional capital expenditure allowed					Total
		2014-15	2015-16	2016-17	2017-18	2018-19	
1	Allowed Works						
A1	R&M Schemes						
1	Air washer System	131.97	0.00	0.00	0.00	0.00	131.97
	Decapitalisation	(-)64.95	0.00	0.00	0.00	0.00	(-)64.95
2	R & M of SG Package	7.40	13.96	0.00	0.00	85.22	106.58
	Decapitalisation	(-)3.56	(-)6.40	0.00	0.00	(-)33.72	(-)43.68
3	Digital Distributed Control & Management Information System (DDCMIS)	0.30	0.19	0.00	0.00	0.00	0.49
	Decapitalisation	(-)0.14	(-)0.09	0.00	0.00	0.00	(-)0.23
4	Civil work for Installation of DDCIMS Unit-2	0.16	0.00	0.00	0.00	0.00	0.16
	Decapitalisation	(-)0.08	0.00	0.00	0.00	0.00	(-)0.08
5	Stacker cum Reclaimer	2.05	0.48	0.00	35.56	0.00	38.10
6	Roads for Township	2.62	0.00	0.00	0.00	0.00	2.62
7	Laying of sewer pipe-lines in township	2.69	0.00	0.00	0.00	0.00	2.69
	Decapitalisation	(-)1.29	0.00	0.00	0.00	0.00	(-)1.29
8	Construction of Boundary wall for 300 buildings	2.37	0.00	0.00	0.00	0.00	2.37
	Decapitalisation	(-)1.14	0.00	0.00	0.00	0.00	(-)1.14
9	Stone aggregates & antiweed treatment switchyard	0.25	0.00	0.00	0.00	0.00	0.25
10	Construction of 32 Nos Residential Building Type- D and 16 Nos of Type - C Quarters	2.38	0.00	0.00	322.98	433.93	759.29
11	R&M of MP Rotor of Unit-2	0.00	446.03	0.00	0.00	0.00	446.03
	De-capitalization	0.00	(-)204.33	0.00	0.00	0.00	(-)204.33
12	R&M of MP Rotor of Unit 1	0.00	0.13	0.00	0.00	0.00	0.13
	Decapitalisation	0.00	(-)3.00	0.00	0.00	0.00	(-)3.00
13	R&M of LP Rotor Unit – 3	0.00	0.00	0.00	0.00	70.80	70.80
	Decapitalisation	0.00	0.00	0.00	0.00	(-)28.02	(-)28.02
A1	Sub Total A1	152.19	460.79	0.00	358.54	589.95	1561.48
A2	Change in law						
14	Dry Fly Ash Extraction system	2960.18	66.88	3.07	10.59	0.33	3041.05
A3	Ash Handling system						
15	2 nd Raising Ash Dyke-B	1014.96	25.47	0.00	0.00	0.00	1040.43
16	3 rd Raising of Ash dyke A&B	0.00	0.00	1479.51	0.00	1055.33	2534.84
A3	Sub Total A3	1014.96	25.47	1479.51	0.00	1055.33	3575.27
A4	Liberty to Claim at the time of truing-up						
17	Fire Fighting System for CHP Area	9.94	0.00	0.00	0.00	0.00	9.94
18	Renovation of Lifts in boiler area	0.00	0.00	0.00	96.39	0.00	96.39
19	Replacement of BFP cartridge by Energy Efficient cartridge	40.03	670.59	0.26	0.00	0.13	711.01



Sl. No.	Head of Work /Equipment	Actual Additional capital expenditure allowed					Total
		2014-15	2015-16	2016-17	2017-18	2018-19	
20	Ash Slurry Pump Upgradation	28.87	0.00	0.00	0.00	0.00	28.87
21	Decapitalization	(-)210.40	(-)277.16	(-)0.10	0.00	0.00	(-)487.66
A4	Sub Total A4	78.85	670.59	0.26	96.39	0.13	846.21
	Sub Total (1)	4206.18	1223.74	1482.84	465.53	1645.73	9024.02
2	New Claims						
22	Construction of drain & pit in CHP	15.76	0.00	0.00	0.00	0.00	15.76
23	Continuous Emission Monitoring System (CEMS)	0.00	43.25	0.00	1.12	0.00	44.37
24	Effluent Quality monitoring system (EQMS)	0.00	12.50	13.47	0.00	0.00	25.96
25	Electronic weighbridge for DAES	0.00	25.94	0.00	0.00	0.00	25.94
26	In motion weigh bridge	0.00	0.00	0.00	0.00	0.00	0.00
27	Zero Liquid discharge (ZLD) System	0.00	0.00	0.00	112.53	5.16	117.69
28	Sprinkler system for dust suppression of Ash Dyke-A	0.00	0.00	0.00	0.00	0.00	0.00
29	Generator relay panels for Unit-1 & Unit-3	0.00	0.00	0.00	10.85	0.00	10.85
30	Bio Methanation Plant	0.00	0.00	0.00	25.14	0.00	25.14
31	Solar PV Roof Top	0.00	0.00	0.00	0.00	0.00	0.00
	Sub Total (2)	15.76	81.69	13.47	149.64	5.16	265.72
3	Adjustment	0.00	(-)0.06	0.00	0.00	0.00	(-)0.06
4	Sub Total 1 + 2 + 3	4221.94	1305.38	1496.31	615.16	1650.89	9289.68
5	Decapitalisation of Spares (part of capital cost)	(-)501.41	0.00	0.00	0.00	0.00	(-)501.41
6	Sub Total 4 + 5	3720.53	1305.38	1496.31	615.16	1650.89	8788.27
7	Discharge of liabilities of allowed/ new claim	24.10	568.42	71.49	502.83	12.65	1179.49
8	Sub Total 6 + 7	3744.63	1873.80	1567.80	1117.99	1663.54	9967.76
9	Decapitalisation	(-)281.56	(-)490.97	(-)0.10	0.00	(-)61.74	(-)834.37
10	Exclusions not allowed	(-)0.72	(-)8.08	(-)0.47	(-)124.49	0.00	(-)133.76
11	Additional capital expenditure claimed over and above books of account	187.19	657.02	0.26	0.00	0.13	844.61
12	Total Additional capital expenditure allowed (8+ 9 + 10 + 11)	3275.15	717.72	1566.96	993.51	1601.66	8155.00

Capital Cost allowed for the period 2014-19

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

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	115680.89	118956.04	119673.76	121240.72	122234.23
Add: Net additional capital expenditure allowed	3275.15	717.72	1566.96	993.51	1601.66
Closing Capital Cost	118956.04	119673.76	121240.72	122234.23	123835.89
Average Capital Cost	117318.47	119314.90	120457.24	121737.48	123035.06



Debt-Equity Ratio

110. Regulation 19 of the 2014 Tariff Regulations provides as under:

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

Provided that:

(i) where equity actually deployed is less than 30% of the capital cost actual equity shall be considered for determination of tariff:

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

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

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

(2) The generating Company or the transmission licensee shall submit the resolution of the Board of the company or approval from Cabinet Committee on Economic Affairs (CCEA) regarding infusion of fund from internal resources in support of the 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 generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014 but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2014 the Commission shall approve the debt: equity ratio based on actual information provided by the generating company or the transmission licensee as the case may be.

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

111. The gross normative loan and equity amounting to Rs. 80976.62 lakh and Rs. 34704.27 lakh, respectively, as on 1.4.2014, as considered in an order dated 23.8.2016 in Petition No. 329/GT/2014, has been considered as gross normative loan and equity as on 1.4.2014. Further, the additional capital expenditure approved as above has been allocated in the debt-equity ratio of 70:30. Also, for the assets de-



capitalised during the period 2014-19, the debt-equity ratio of 70:30 has been considered, as these assets were originally allocated to debt and equity, in the ratio of 70:30, in the respective tariff orders. Accordingly, the debt-equity ratio in respect of the generating station, as on 1.4.2014 and as on 31.3.2019, is as under:

(Rs. in lakh)

	Capital cost up to COD / 1.4.2014		Additional Capital Expenditure 2014-19		Capital cost as on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt (A)	80976.62	70%	5708.50	70%	86685.12	70%
Equity (B)	34704.27	30%	2446.50	30%	37150.77	30%
Total (C) = (A) + (B)	115680.90	100%	8155.00	100%	123835.90	100%

Return on Equity

112. Regulation 24 of the 2014 Tariff Regulation provides as under:

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

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

Provided that:

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

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

“Tax on Return on Equity: (1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered



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

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

Rate of pre-tax return on equity = Base rate / (1-t)

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

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

114. The Petitioner has claimed tariff considering the rate of Return on Equity (ROE) of 19.6106% in 2014-15, 19.7056% in 2015-18 and 19.7575% in 2018-19. The Petitioner has arrived at these rates after grossing up the base rate of ROE of 15.50% with the MAT rate of 20.961% in 2014-15, 21.342% in 2015-18 and 21.5488% in 2018-19. However, after rounding off, the rate of ROE considered for the purpose of tariff works out to 19.610% in 2014-15, 19.705% during 2015-18 and 19.758% in 2018-19. Accordingly, ROE has been worked out as under:

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Normative Equity-Opening (A)	34704.27	35686.82	35902.13	36372.22	36670.27
Addition of Equity due to additional capital expenditure (B)	982.55	215.32	470.09	298.05	480.50
Normative Equity-Closing (C) = (A) + (B)	35686.82	35902.13	36372.22	36670.27	37150.77
Average Normative Equity (D) = (A+C)/2	35195.54	35794.47	36137.18	36521.25	36910.52
Return on Equity (Base Rate) (E)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate for the year (F)	20.961%	21.342%	21.342%	21.342%	21.549%



	2014-15	2015-16	2016-17	2017-18	2018-19
Rate of Return on Equity (Pre-Tax) (G) = (E)/(1-F)	19.610%	19.705%	19.705%	19.705%	19.758%
Return on Equity (Pre-Tax) annualized (H) = (D)*(G)	6901.85	7053.30	7120.83	7196.51	7292.78

Interest on Loan

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

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

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

(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of 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.”

116. Interest on the loan has been computed as under:

- (a) The gross normative loan and cumulative repayment of Rs. 80976.62 lakh and Rs. 69244.85 lakh, as considered in an order dated 21.3.2017 in Petition No. 336/GT/2014, has been retained as on 1.4.2014. Accordingly,



the net normative opening loan as on 1.4.2014 works out to Rs.11731.77 lakh.

- (b) Addition to normative loan on account of additional capital expenditure approved above has been considered.
- (c) Depreciation allowed has been considered as repayment of normative loan during the respective year of the period 2014-19. Also, the repayments have been adjusted for de-capitalization of assets considered for the purpose of tariff, along with the discharges/reversal of liabilities, out of un-discharged liabilities deducted as on 1.4.2009; and
- (d) Weighted Average Rate of Interest (WAROI), as claimed by the Petitioner, has been considered for the purpose of tariff. Further, appropriate accounting adjustment has been made for the interest capitalized in the additional capital expenditure claimed during the period.

117. Accordingly, interest on loan has been worked out as under:

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross opening loan (A)	80976.62	83269.23	83771.63	84868.50	85563.96
Cumulative repayment of loan up to previous year (B)	69244.85	71877.99	74917.79	78457.78	82106.73
Net Loan Opening I = (A) - (B)	11731.77	11391.24	8853.84	6410.72	3457.23
Addition due to additional capital expenditure (D)	2292.61	502.40	1096.87	695.45	1121.16
Repayment of loan during the period (E)	3146.22	3382.17	3538.88	3686.60	3862.64
Repayment adjustment on account of de-capitalization (F)	513.09	349.34	0.39	78.05	43.22
Add: Repayment adjustment on a/c of discharges / reversals corresponding to un-discharged liabilities deducted as on 1.4.2009 (G)	0.00	6.97	1.49	40.39	27.84
Net Repayment of during the year-I = (E) - (F) + (G)	2633.14	3039.81	3539.99	3648.95	3847.25
Net Loan Closing (I) = (C) + (D) - (H)	11391.24	8853.84	6410.72	3457.23	731.14
Average Loan (J) = (C+I)/2	11561.50	10122.54	7632.28	4933.98	2094.19
Weighted Average Rate of Interest on loan (K)	6.2029%	6.8149%	8.0348%	8.4986%	8.3378%
Interest on Loan (L) = (K)*(J)	717.15	689.84	613.24	419.32	174.61
Less: Interest capitalized (M)	109.07	2.03	0.00	0.02	23.52
Net Interest on loan (N) = (L-M)	608.08	687.81	613.24	419.30	151.09

Depreciation

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

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



the transmission system taking into consideration the depreciation of individual units or elements thereof.

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

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

(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset: Provided that in case of hydro generating station, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the Plant:

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

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

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

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-II to these regulations for the assets of the generating station and transmission system:

Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

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

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

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

119. Cumulative depreciation amounting to Rs. 70131.62 lakh, as on 1.4.2014, as considered in an order dated 23.8.2016 in Petition No. 329/GT/2014, has been retained for the purpose of tariff. Further, the value of freehold land, included in the average capital cost, has been adjusted while calculating the depreciable value. Since the elapsed life of the generating station, as on 1.4.2014, from the effective station



COD of the generating station, exceeds 12 years, the depreciation for the period 2014-19 shall be calculated by spreading over the remaining depreciable value to the balance useful life for the respective years. Further, proportionate adjustment has been made to the cumulative depreciation on account of the de-capitalization of assets considered during the respective years of the period 2014-19. Accordingly, depreciation has been computed as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Average Capital Cost (A)	117318.47	119314.90	120457.24	121737.48	123035.06
Value of freehold land included in average capital cost (B)	1674.71	1674.71	1674.71	1674.71	1674.71
Depreciable Value (C)= (A-B)*90%	104079.38	105876.17	106904.28	108056.49	109224.32
Remaining aggregate depreciable value at the beginning of the year (D) = (C) - Cumulative Depreciation (shown at K) at the end of the previous year]	33947.76	33111.42	31106.77	28718.62	26227.30
Balance useful life at the beginning of the year (E)	10.79	9.79	8.79	7.79	6.79
Weighted Average Rate of Depreciation (WAROD) (F) = (G) / (A) x 100	2.6818%	2.8347%	2.9379%	3.0283%	3.1395%
Depreciation during the year/ period (G) = (D) / (E)	3146.22	3382.17	3538.88	3686.60	3862.64
Cumulative depreciation at the end of the year (before adjustment for de-capitalization) (H) = (G) + (Cumulative Depreciation (shown at K, at the end of the previous year)	73277.84	76146.92	79336.39	83024.47	86859.66
Add: Cumulative Depreciation adjustment on a/c of un-discharged liabilities deducted (I)	0.00	8.74	1.87	50.60	34.87
Less: Depreciation adjustment on account of de-capitalization (J)	513.09	358.15	0.39	78.05	45.66
Cumulative depreciation at the end of the year (K) = (H) + (I) - (J)	72764.76	75797.51	79337.87	82997.02	86848.86



O&M Expenses

120. The Commission vide its order dated 21.3.2017 in Petition No. 336/GT/2014 had allowed the O&M expenses as under:

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
O&M expenses allowed under Regulation 29(1)(a)	15787.20	16781.60	17837.60	18959.60	20152.00
Water Charges allowed under Regulation 29(2)	239.54	239.54	239.54	239.54	239.54
Capital spares	-	-	-	-	-
Total O&M Expenses	16026.74	17021.14	18077.17	19199.14	20391.54

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

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
O&M expenses (normative) under Regulation 29 (1) of the 2014 Tariff Regulations	15787.20	16781.60	17837.60	18959.60	20152.00
O&M expenses under Regulation 29(2) of the 2014 Tariff Regulations					
Water Charges	189.24	852.16	170.51	140.64	16.20
Capital Spares consumed	518.43	391.78	854.23	567.79	436.93
Total O&M expenses claimed (Regulation 29(1) & Regulation 29 (2) of the 2014 Tariff Regulations	16494.87	18025.54	18862.34	19668.03	20605.13
Impact of Pay revision	0.00	178.29	2203.22	2714.74	3996.36
Impact of GST	0.00	0.00	0.00	158.50	219.38
5 Km scheme	297.64	13.56	-	-	-
Total O&M expenses claimed	16792.50	18217.38	21065.56	22541.27	24820.87

122. As the normative O&M expenses claimed by Petitioner, are in terms of Regulation 29(1)(a) of the 2014 Tariff Regulations and were allowed by order dated 21.3.2017 in Petition No. 336/GT/2014, the Petitioner's claim is allowed.

Water Charges

123. Regulation 29(2) of the 2014 Tariff Regulations provides as under:

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

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:

xxx"



124. In terms of the above regulation, water charges are to be allowed based on water consumption depending upon the type of plant, type of cooling water system etc., subject to prudence check. The Petitioner has claimed water charges based on actual water consumption of the generating station as per details below:

		<i>(Rs. in lakh)</i>					
	Units	2014-15	2015-16	2016-17	2017-18	2018-19	
1	Type of Cooling Tower	-	Induced Draft Cooling Tower (IDCT)				
2	Type of Cooling Water System	-	Closed circuit cooling				
3	Water Allocation/Contracted	cusec	45.00	45.00	45.00	45.00	45.00
4	Actual water Consumption	1000 cft	600650	518728	541201	446393	358568
5		Cusec	19.05	16.40	17.16	14.16	11.37
6	Rate of Water Charges	Rs/1000 cft	12.48	12.48	12.48	12.48	12.48
7	Water Charges = (4) x (6)	Rs Lakh	74.96	64.74	67.54	55.71	44.75
8	Rate of Royalty Charge	Rs Lakh/cusec/yr	6	6	6	6	6
9	Royalty Charges = (5) x (8)	Rs lakh	114.28	98.42	102.97	84.93	68.22
10	Sub Total (7) + (9)	Rs lakh	189.24	163.16	170.51	140.64	112.97
11	Previous period Charges (June'04 to Aug'15)	Rs lakh	-	689.00	-	-	-
12	Reversal of Liability provided during FY 2015-16 for previous period charges	Rs lakh	-	-	-	-	(-) 96.77
13	Total Water Charges (10) + (11) + (12)	Rs lakh	189.24	852.16	170.51	140.64	16.20

125. The Commission, vide its order dated 21.3.2017 in Petition No. 336/GT/2014, had allowed the Water charges, amounting to Rs.1197.70 lakh, during the period 2014-19 (or Rs. 239.54 each year from 2014-15 to 2018-19). Accordingly, the details of the Water charges, comprising the contracted quantity, allocation of water, the actual water consumed during the period 2014-19, the basis of calculation of the quantity of consumptive water and computation of water charges have been submitted in Form 3B. In addition, the Petitioner has submitted the notification dated 15.7.2011 for Water charges from the Uttar Pradesh Government. The Petitioner has claimed the total actual water charges of Rs. 1368.75 lakh during the period 2014-19 (i.e. Rs.189.24 lakh in 2014-15, Rs. 852.16 lakh in 2015-16, Rs.170.51 lakh in 2016-17, Rs.140.64 lakh in 2017-18 and Rs.16.20 lakh in 2018-19). The Petitioner, in its additional submission dated 12.7.2021, has also furnished the auditor certified statement of the water charges claimed for the period 2014-19. On prudence check of



the said information, the audited actual water charges claimed by the Petitioner, as above, are in order and allowed.

Capital spares

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

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

Xxx

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.”

127. In terms of the above proviso, the capital spares consumed are admissible separately at the time of truing up of tariff, based on the details furnished by the Petitioner. The capital spares claimed by the Petitioner for the period 2014-19 are as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
518.43	391.78	854.23	567.79	436.93

128. We have examined the list of the capital spares consumed by the Petitioner. It is evident from the audited statement and Form 9Bi of the respective years that the capital spares claimed comprise two categories as under:

<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19
Capital spares (forming part of allowed capital cost)	501.41	0.00	0.00	0.00	0.00
Capital spares (not forming part of allowed capital cost)	17.02	391.78	854.23	567.79	436.93
Total capital spares consumed claimed	518.43	391.78	854.23	567.79	436.93

129. It is evident from the above that the capital spares claimed comprise two categories, i.e. (i) spares which form part of the capital cost of the project 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. It is pertinent to mention that the term 'capital spares' has not been defined in the 2014 Tariff Regulations. The term capital spares, in our view, is a piece of equipment, or a spare part, of significant cost that is maintained in inventory for use in the event that a similar piece of critical equipment fails or must be rebuilt. Keeping in view the principle of materiality and to ensure standardized practices in respect of earmarking and treatment of capital spares, the value of capital spares exceeding Rs. 1 (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 period 2014-19 are summarized below:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Capital Spares (not part of capital cost) claimed (A)	17.02	391.78	854.23	567.79	436.93
Value of capital spares (of Rs 1 lakh and below) disallowed on individual basis (B)	0.00	8.61	6.83	10.24	11.57
Net total value of capital spares considered (C) = (A) - (B)	17.02	383.17	847.40	557.55	425.36

130. Since the original value of capital spares taken out of service is neither available nor furnished by the Petitioner for the period 2014-19, 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 the 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 period 2014-19. In view of the above, the salvage value of 10% has been deducted from the net total value of capital spares considered during the period 2014-19. Accordingly, the net capital spares allowed are summarized as under:



(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Net total value of capital spares considered (A)	17.02	383.17	847.40	557.55	425.36
Salvage value @ 10% (B)	1.70	38.32	84.74	55.76	42.54
Net Claim allowed (C) = (A)-(B)	15.32	344.85	762.66	501.80	382.82

Additional O&M expenses on account of GST

131. The Petitioner has claimed additional O&M expenses for Rs. 158.50 lakh in 2017-18 (1.7.2017 to 31.3.2018) and Rs. 219.38 lakh in 2018-19 on account of payment of GST. It is observed that the Commission, while specifying the O&M expense norms for the period 2014-19, had considered taxes to form part of the O&M expense calculations and, accordingly, had factored the same in the said norms. This is evident from para 49.6 of the SOR (Statement of Objects and Reasons) issued with the 2014 Tariff Regulations, which is extracted hereunder:

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

132. Further, the escalation rates considered in the O&M expense norms under the 2014 Tariff Regulations are only after accounting for the variations during the past five years of the period 2014-19, 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.

Additional O&M Expenses on account of impact of Wage revision

133. The Petitioner has submitted that the Commission, while specifying the 2014 Tariff Regulations applicable for the period 2014-19, had taken note in SOR to the said regulations that any increase in the employee expenses, on account of pay revision shall be considered appropriately, on a case-to-case basis, balancing the interest of generating stations and consumers. The Petitioner has, therefore, claimed



an amount of Rs. 9092.61 lakh (Rs. 178.29 lakh in 2015-16, Rs. 2203.22 lakh in 2016-17, Rs. 2714.74 lakh in 2017-18 and Rs.3996.36 lakh in 2018-19) towards the impact of wage revision in respect of employees of CISF and Kendriya Vidyalaya (KV) Staff from 1.1.2016 and the employees of the Petitioner posted in the generating station, with effect from 1.1.2017. In this regard, the Petitioner, vide affidavit dated 30.6.2021, has submitted the following:

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

134. We have examined the submissions and the documents available on record. As stated, the Petitioner has claimed a total amount of Rs. 9092.61 lakh as the impact of wage revision of employees of CISF and KV staff from 1.1.2016 and for employees of the Petitioner posted at the generating station with effect from 1.1.2017. However, it is noticed that the said claim of the Petitioner includes 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 in the present case. Accordingly, the claim of the Petitioner in respect of wage revision impact stands reduced to Rs. 7588.93 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	178.30	2203.22	2409.87	2797.54	7588.93

2. The Petitioner, vide its 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 period 2014-19 for 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;

135. The Petitioner has also furnished the actual O&M expenses of the generating station for the period 2014-19, along with the Wage revision impact for the generating station as shown below:

(Rs. in lakh)

Year	Actual O&M expenses for the generating Station	Wage Revision impact claimed for the generating station
2014-15	19871.76	0.00
2015-16	23222.99	178.29
2016-17	23327.07	2203.22
2017-18	26849.02	2714.74
2018-19	26067.18	3996.36
Total	119338.02	9092.61

136. The Commission, while specifying the O&M expense norms under the 2014 Tariff Regulations, had considered the actual O&M expense data for the period from 2008-09 to 2012-13. However, considering the submissions of the stakeholders, the Commission in the SOR to the 2014 Tariff Regulations had observed that the increase in employee cost due to the impact of pay revision impact would 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.**"

137. 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 the generating companies find that their actual expenditure has gone beyond the normative O&M expenses, in a particular year, they put departmental restrictions, and try to bring the expenditure for the next year below the norms.

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

139. The matter has been considered. The Petitioner has furnished a detailed break-up of the actual O&M expenses incurred during the period 2014-19 for the generating



station. It is noticed that the total O&M expenses incurred are more than the normative O&M expenses recovered during each year of the period 2014-19. 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 (for CISF & KV employees) and 1.1.2017 (for employees of the Petitioner), respectively. As such, in terms of relevant provisions of SOR of the 2014 Tariff Regulations, the following approach has been adopted for arriving at the allowable impact of pay revision:

a) First step is to compare the normative O&M expenses with the actual O&M expenses incurred for the period from 2015-16 to 2018-19, commensurate to the period for which wage revision impact has been claimed. For like to like comparison, the components of O&M expenses like productivity linked incentive, water charges, filing 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 period 2014-19, 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.

140. In this regard, the details as furnished by the Petitioner for the actual O&M expenses for the generating station and the wage revision impact (excluding PRP and ex-gratia) of the generating station are as under:

	<i>(Rs. in lakh)</i>				
	2015-16	2016-17	2017-18	2018-19	Total
Actual O&M expenditure for generating station excluding water charges (A)	19360.65	20719.05	22949.73	22264.73	85294.16
Normative O&M recovery in tariff of generating station excluding water charges allowed by the Commission vide order dated 21.03.2017 in Petition No. 336/GT/2014 (B)	16781.60	17837.60	18959.60	20152.00	73730.80



	2015-16	2016-17	2017-18	2018-19	Total
Under-recovery of O&M Charges in generating Station (A-B)	2579.05	2881.45	3990.13	2112.73	11563.36

141. 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 above, has been excluded from the actual O&M expenses to arrive at the actual O&M expenses (normalised) for the generating station. Accordingly, the following table portrays the comparison of normative O&M expenses versus the actual O&M expenses (normalised) along with wage revision impact claimed by the Petitioner for the generating station for period 2015-19 commensurate with the wage revision claim being spread over these four years:

(Rs. in lakh)

	2015-16	2016-17	2017-18	2018-19	Total
Actual O&M expenditure (normalized) for generating station (a)	19360.65	20719.05	22949.73	22264.73	85294.16
Normative O&M Expenses for generating station (b)	16781.60	17837.60	18959.60	20152.00	73730.80
Under/(Excess) recovery for the generating station (c)=(a)-(b)	2579.05	2881.45	3990.13	2112.73	11563.36
Wage revision impact claimed	178.30	2203.22	2409.87	2797.54	7588.93
Wage revision impact allowed excluding PRP/ ex-gratia	178.30	2203.22	2409.87	2797.54	7588.93

142. It is observed that, for the period 2015-19, the normative O&M expenses are less than the actual O&M expenses (normalized) incurred and that there is no excess recovery. As such, in terms of methodology, as discussed above, the wage revision impact (excluding PRP/incentive) is allowable for the generating station.

143. Based on the above discussions, the total annualized O&M expenses allowed for the period 2014-19 in respect of the generating station is summarized as under:

(Rs. in lakh)

		2014-15	2015-16	2016-17	2017-18	2018-19
Installed Capacity (MW) (A)		440.00	440.00	440.00	440.00	440.00
O&M Expenses under Reg.29(1) in Rs lakh / MW (B)		35.88	38.14	40.54	43.09	45.8
Total O&M Expenses (in Rs lakh) (C) = (A)*(B)	Claimed	15787.20	16781.60	17837.60	18959.60	20152.00
	Allowed	15787.20	16781.60	17837.60	18959.60	20152.00
Water Charges (in Rs lakh)	Claimed	189.24	852.16	170.51	140.64	16.20



		2014-15	2015-16	2016-17	2017-18	2018-19
(D)	Allowed	189.24	852.16	170.51	140.64	16.20
Capital Spares consumed (in Rs lakh) (E)	Claimed	518.43	391.78	854.23	567.79	436.93
	Allowed	15.32	344.85	762.66	501.80	382.82
Total O&M Expenses as allowed (including Water Charges and Capital Spares Consumed) (F) = (C+D+E)	Claimed	16494.87	18025.54	18862.34	19668.03	20605.13
	Allowed	15991.76	17978.61	18770.77	19602.04	20551.02
Additional O&M Expenditure						
Impact of Wage Revision (in Rs lakh) (G)	Claimed	0.00	178.30	2203.22	2714.74	3996.36
	Allowed	0.00	178.30	2203.22	2409.87	2797.54
Impact of GST (in Rs lakh) (H)	Claimed	0.00	0.00	0.00	158.50	219.38
	Allowed	0.00	0.00	0.00	0.00	0.00
Sub Total additional O&M expenditure (J) = (F+G+H)	Claimed	0.00	178.30	2203.22	2873.24	4215.74
	Allowed	0.00	178.30	2203.22	2409.87	2797.54
Total O&M Expenses in Rs lakh (K) = (F+J)	Claimed	16494.87	18203.84	21065.56	22541.27	24820.87
	Allowed	15991.76	18156.91	20973.99	22011.91	23348.56

Scheme for the supply of electricity within a 5 km radius

144. The Petitioner has claimed the reimbursement of expenditure of Rs.297.64 lakh in 2014-15 and Rs. 13.56 lakh in 2015-16 towards the Scheme for the supply of electricity within the 5 km radius of the generating station under Regulation 14(3) (ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the Commission, vide its order dated 23.8.2016 in Petition No. 329/GT/2014 (for the period 2009-14), had allowed the reimbursement of Rs 775.70 lakh on 2013-14 and by order dated 21.3.2017 in Petition No. 336/GT/2014, had granted liberty to claim the said expenditure, with proper justification and documentary evidence, in support of the handing over the assets to the State utility, at the time of truing-up of tariff, in terms of the Regulation 8 of the 2014 Tariff Regulations. The Petitioner has submitted that an amount of Rs 297.64 lakh has been capitalized in 2014-15, and the balance work has been capitalized during subsequent years. It is observed that the Petitioner has furnished the documents in respect of the handing over of the assets to the State utility in this petition. Accordingly, the said expenditure is allowed as reimbursement to the Petitioner in the year in which the expenditure has been capitalized.



Operational Norms

Normative Annual Plant Availability Factor (NAPAF)

145. In terms of Regulation 36 (A)(a) of the 2014 Tariff Regulations, the Commission vide its order dated 21.3.2017 in Petition No. 336/GT/2014, had allowed the NAPAF of 83% for 2014-15 to 2016-17 and 85% for 2017-18 and 2018-19. The same is considered for the purpose of tariff.

Auxiliary Energy Consumption

146. The Normative Auxiliary Energy Consumption of 12% for the period 2014-19 as approved by order dated 21.3.2017 in terms of Regulation 36 (E)(a)(ii) of the 2014 Tariff Regulations, is allowed.

Station Heat Rate

147. The Gross Station Heat Rate of 2750.00 Kcal/ kWh, which was approved by order dated 21.3.2017, is in accordance with Regulation 36(C) of the 2014 Tariff Regulations and hence allowed.

Specific oil consumption

148. The specific oil consumption of 0.5 ml/ kWh approved by order dated 21.3.2017 is in accordance with Regulation 36(E)(b) of the 2014 Tariff Regulations and hence allowed.

Interest on working capital

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

“28. Interest on Working Capital:

(1) The working capital shall cover:

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

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



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

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

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

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

(vi) Operation and maintenance expenses for one month.

(2) The cost of fuel in cases covered under sub-clauses (a) and (b) of clause (1) of this regulation shall be based on the landed cost incurred (taking into account normative transit and handling losses) by the generating company and gross calorific value of the fuel as per actual for the three months preceding the first month for which tariff is to be determined and no fuel price escalation shall be provided during the tariff period.

(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the generating station or a unit thereof or the transmission system including communication system or element thereof as the case may be is declared under commercial operation whichever is later.

(4) Interest on working capital shall be payable on normative basis notwithstanding that the generating company or the transmission licensee has not taken loan for working capital from any outside agency.”

Fuel Components and Energy Charges in working capital

150. Clause (2) of Regulation 28 of the 2014 Tariff Regulations provides that the computation of the 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. Clause (6) of Regulation 30 of the 2014 Tariff Regulations provides as under:

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

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

(a) For coal based and lignite fired stations

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

Where,

AUX = Normative auxiliary energy consumption in percentage.

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

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



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

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

LC = Normative limestone consumption in kg per kWh.

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

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

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

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

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

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

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

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

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

152. The issue of ‘as received’ GCV for the computation of energy charges was challenged by the Petitioner and other generating companies through various writ petitions filed before the Hon’ble High Court of Delhi (W.P. No.1641/2014-NTPC v CERC) challenged Regulations 30(6) of the 2014-19 Tariff Regulations with regard to measurement of GCV of coal on an ‘as received’ basis for purpose of Energy Charges and the Hon’ble Court had directed the Commission to decide the place from where the sample of coal should be taken for measurement of GCV of coal on ‘as received’ basis on the request of Petitioners. In terms of the directions of the Hon'ble High Court, the Commission vide order dated 25.1.2016 in Petition No. 283/GT/2014 (approval of tariff of Kahalgaon STPS for the period 2014-19), decided as under:

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



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

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

153. The Review Petition filed by the Petitioner against the aforesaid order dated 25.1.2016, was rejected by the Commission, vide its order dated 30.6.2016 in Petition No.11/RP/2016. The Petitioner has also filed Petition No. 244/MP/2016 before this Commission, praying for the removal of difficulties and 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 and the Commission by its order dated 19.9.2018 had 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 an appeal before the APTEL in Appeal No. 291/2018 (GRIDCO v NTPC & ors) and the same is pending adjudication.

154. In Petition No. 292/GT/2014, filed by the Petitioner, for the determination of tariff of this generating station for the period 2014-19, the Petitioner had furnished GCV of coal on 'as billed' but not an '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 24.1.2017 in Petition No. 292/GT/2014, had considered GCV of coal on an 'as billed' basis and provisionally allowed adjustment for total moisture while allowing the cost of coal towards generation & stock and two months of energy charges in the working capital.



155. In Petition No. 336/GT/2014 filed by the Petitioner for the determination of tariff of this generating station for the period 2014-19, the Petitioner had not furnished GCV of coal on an 'as billed' and on an '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 21.3.2017 in Petition No. 336/GT/2014 had considered GCV of coal on a '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.

156. The Petitioner, in this petition, has claimed fuel-related components of working capital based on GCV of coal as 4150.57 Kcal/kg (as indicated in Form-13F). This "as received" GCV of 4150.57 kcal/kg represents the average monthly as-received GCVs for the period from October 2016 to March 2019 (30 months). Further, the Petitioner has submitted that CEA vide letter dated 17.10.2017 has opined that 85-100 kcal/kg for a pit-head station and a margin of 105-120 kcal/kg for a non-pit head station may be considered as a loss of GCV of coal between 'as received' and 'as fired'. Accordingly, the Petitioner has considered a 120 kcal/kg margin on the average GCV of the period from October 2016 to March 2019 for computing working capital. Accordingly, the cost of the fuel component in the working capital, as claimed by the Petitioner, is as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal towards stock (1 month)	7209.26	7209.26	7209.26	7382.97	7382.97
Cost of Coal towards Generation (1 month)	7209.26	7209.26	7209.26	7382.97	7382.97
Cost of Secondary fuel oil 2 months	155.29	155.71	155.29	159.03	159.03



157. The Petitioner has claimed Energy Charge Rate (ECR) ex-bus of 314.900 paise/kWh for the generating station based on GCV and price of fuel (coal and secondary fuel oil) as above.

158. In response to the clarification sought from the Petitioner on the details of GCV on an 'as received' basis for the months of January 2014 to March 2014, which were uploaded to the website of the Petitioner and shared with the beneficiaries, the Petitioner, vide affidavit dated 30.6.2021, had 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. The Petitioner has further submitted that for the period 2014-19, Regulation 28(2) of the 2014 Tariff Regulations unequivocally provide that the actual cost and GCV of the preceding three months shall be considered and for these preceding three months (January 2014 to March 2014), by virtue of it falling under the 2009 Tariff Regulations, shall be computed on the basis of 'as fired' GCV. Referring to the judgment of the Hon'ble Supreme Court in PTC India v CERC (2010) 4 SCC 603 and the judgment of APTEL in NEEPCO v TERC (2006) APTEL 148, the Petitioner has submitted that the Commission is bound by the provisions of the tariff regulations and that purposive interpretation ought to be given to the 2014 Tariff Regulations and interest on working capital ought to be computed in terms of Regulation 28(2) of the 2014 Tariff Regulations, on actual GCV i.e. 'as fired' GCV. The Petitioner, without prejudice to the above submissions, has furnished the details of GCV on an 'as received' basis for the months of January 2014 to March 2014, in compliance with the directions of the Commission vide affidavit dated 30.6.2021, as shown under:



Sl.	Month	Wt. Avg GCV of coal received (EM basis) (kcal/kg) (A)	Total Moisture (TM) (in %) (B)	Equilibrated Moisture (EM) (in %) (C)	Wt. Avg GCV of coal received (TM basis) (kcal/kg) (D=A*(1-B%)/(1-C%))
1	January 2014	3625	6.51	3.45	3510.11
2	February 2014	3750	7.29	4.33	3633.98
3	March 2014	3800	7.03	4.13	3685.05
	Average				3609.71

159. The submissions have been considered. As discussed above, the Petitioner in Form-13 F, has considered the average GCV of coal on an “as received basis” i.e. from wagon top for the period from October 2016 to March 2019 for the purpose of computation of working capital for the period 2014-19. In addition to the average GCV, it has also considered a margin of 120 kCal/kg for computation of the working capital of the generating station.

160. Clause (2) of Regulation 28 of the 2014 Tariff Regulations provides that the computation of the 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, the calculation of IWC for the period 2014-19 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 period 2014-19 in Petition No. 336/GT/2014. In the present 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. 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.

161. Though the Petitioner has furnished the details of 'as received' GCV for the three months of January 2014 to March 2014 as discussed above, it has submitted that the GCV of fuel is to be considered 'on actuals' for January 2014 to March 2014 and as such, GCV is required to be considered on an 'as fired' basis. In other words, the Petitioner has contended that since the period of January 2014 to March 2014 falls in the period 2009-14 for measurement of GCV of coal, Regulation 18(2) read with Regulation 21(6) of the 2009 Tariff Regulations was applicable which mandates that generating company shall measure GCV on 'as fired' basis (and not on 'as received' basis). This submission of the Petitioner is also not acceptable in view of provisions of Regulation 21(6) of the 2009 Tariff Regulations that was amended on 31.12.2012 by the 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."

162. Accordingly, in terms of the above amendment to the 2009 Tariff Regulations, the details regarding the weighted average GCV of the fuels on an 'as received' basis



were also required to be furnished by the Petitioner along with bills of the respective month. Also, bills detailing the parameters of GCV and the price of fuel were to be displayed by the Petitioner on its website on a monthly basis.

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



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.

164. 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 domestic coal submitted vide affidavit dated 30.6.2021, which is considered as 3609.71 kCal/kg as discussed above. All other operational norms, such as the Station Heat Rate, Auxiliary Energy Consumption, and Secondary Fuel Cost, have been considered, as per the 2014 Tariff Regulations, for the calculation of fuel components in the working capital. Based on the above discussion, the cost for the fuel component in working capital is worked out and allowed as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal towards stock (30 days) corresponding to NAPAF	8049.80	8049.80	8243.77	8243.77	8243.77
Cost of Coal towards generation (30 days) corresponding to NAPAF	8049.80	8049.80	8243.77	8243.77	8243.77
Cost of Secondary fuel oil 2 months corresponding to NAPAF	155.29	155.71	155.29	159.03	159.03

Energy Charge Rate (ECR) for calculating working capital

165. Regulation 30(6)(a) of the 2014 Tariff Regulations provides for computation and payment of energy charge for thermal generating stations:

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

(b) For coal based and lignite fired stations

ECR = {(GHR – SFC x CVSF) x LPPF / CVPF+SFC x LPSFi + LC x LPL} x 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

166. The Petitioner has claimed an Energy Charge Rate (ECR) ex-bus of 314.90 Paise/kWh for the generating station based on the landed cost of coal during the preceding three months, GCV of coal [on 'as received' basis for average of 30 months] along with the storage loss of 120 kCal/kWh, GCV of oil and price of Oil procured/burnt for the preceding three months of the period 2014-19 for the generating station. Since these claims of the Petitioner have not been allowed, as stated above, the allowable ECR, based on the operational norms as specified under the 2014 Tariff Regulations and on weighted average of 'as received' GCV of 3609.71 kcal/kg is worked out as under:

	Unit	2014-19
Capacity	MW	440
Gross Station Heat Rate	Kcal/kWh	2750
Auxiliary Energy Consumption	%	12
Weighted average GCV of oil (As received)	Kcal/lit	9340.00
Weighted average GCV of coal (As received)	Kcal/kg	3609.71
Weighted average price of oil	Rs./KL	58248.61
Weighted average price of Coal	Rs./MT	4025.31
Rate of energy charge ex-bus	Rs./kWh	3.512

Working Capital for Maintenance Spares

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

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
3298.97	3640.77	4213.11	4508.25	4964.17

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

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
3198.35	3595.72	3754.15	3920.41	4110.20



Working Capital for Receivables

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

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Variable Charges - for two months (A) corresponding to NAPAF	16478.62	16523.77	16478.62	16875.69	16875.69
Fixed Charges – for two months (B) corresponding to NAPAF	5401.30	5833.72	5998.42	6168.75	6337.44
Total (C) = (A+B)	21879.92	22357.48	22477.04	23044.45	23213.14

Working Capital for O&M expenses (1 month)

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

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
1374.57	1516.99	1755.46	1878.44	2068.41

171. For consideration of working capital, the O&M expenses of 1 month are to be considered. The normative O&M expenses allowed as per Regulation 29(1) of the 2014 Tariff Regulations, water charges and capital spares allowed as per Regulation 29(2) of the 2014 Tariff Regulations, have been considered for calculating O&M expenses for one month, as a part of the working capital. Accordingly, in terms of Regulation 28(a)(vi) of the 2014 Tariff Regulations, one month's O&M expenses is allowed as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
1332.65	1498.22	1564.23	1633.50	1712.59

Rate of interest on working capital

172. 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 10.00 + 350 bps). Accordingly, Interest on working capital has been computed as under:



(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Working capital for Coal towards stock - 30 days (A) corresponding to NAPAF	8049.80	8049.80	8049.80	8243.77	8243.77
Working capital for Coal towards generation - 30 days (B) corresponding to NAPAF	8049.80	8049.80	8049.80	8243.77	8243.77
Working capital for Secondary Fuel Oil - 2 months (C) corresponding to NAPAF	155.29	155.71	155.29	159.03	159.03
Working Capital for O&M expenses - 1 month (D)	1332.65	1498.22	1564.23	1633.50	1712.59
Working Capital for Maintenance Spares - 20% of O&M (E)	3198.35	3595.72	3754.15	3920.41	4110.20
Working Capital for Receivables - 2 months (F)	21879.92	22357.48	22477.04	23044.45	23213.14
Total Working Capital (G) = (A+B+C+D+E+F)	42665.79	43706.72	44050.30	45244.92	45682.49
Rate of Interest (H)	13.50%	13.50%	13.50%	13.50%	13.50%
Total Interest on Working capital (I) = (GxH)	5759.88	5900.41	5946.79	6108.06	6167.14

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

174. The interest on working capital allowed vide order dated 18.7.2017, claimed and allowed, in the present petition, for the period 2014-19, is as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed in order dated 18.7.2017	4296.58	4371.28	4436.99	4584.69	4656.50
Claimed in this Petition	5335.22	5456.60	5632.63	5821.82	5965.42
Allowed in this Petition	5759.88	5900.41	5946.79	6108.06	6167.14

Annual Fixed Charges approved for the period 2014-19

175. Accordingly, the annual fixed charges approved in respect of the generating station for the period 2014-19, is summarized as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	3146.22	3382.17	3538.88	3686.60	3862.64
Interest on Loan	608.08	687.81	613.24	419.30	151.09
Return on Equity	6901.85	7053.30	7120.83	7196.51	7292.78
Interest on Working Capital	5759.88	5900.41	5946.79	6108.06	6167.14
O&M Expenses	15991.76	17978.61	18770.77	19602.04	20551.02
Total	32407.79	35002.29	35990.51	37012.52	38024.67

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.

176. The difference between the annual fixed charges already recovered in terms of the Commission's order dated 21.3.2017 in Petition No. 336/GT/2014 and the annual fixed charges determined by this order, shall be adjusted in terms of Regulation 8(13) of the 2014 Tariff Regulations. The annual fixed charges allowed vide order dated 18.7.2017, claimed and allowed in the instant Petition for the period 2014-19, is as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed in order dated 18.7.2017	31502.51	32947.00	34257.38	35728.48	36893.02
Claimed in this Petition	32992.37	35058.30	36237.34	37223.78	38388.33
Allowed in this Petition	32407.79	35002.29	35990.51	37012.52	38024.67

177. Petition No. 450/GT/2020 is disposed of in terms of the above.

Sd/-
(Pravas Kumar Singh)
Member

Sd/-
(Arun Goyal)
Member

Sd/-
(Jishnu Barua)
Chairperson

