CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 190/GT/2020

Coram:
Shri P.K. Pujari, Chairperson
Shri I.S Jha, Member
Shri Pravas Kumar Singh, Member

Date of Order: 21st May, 2022

In the matter of

Petition for truing-up of tariff of National Capital Thermal Power Station Stage-II (980 MW) for the 2014-19 tariff period.

AND

IN THE MATTER OF

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

Vs

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

2. Tata Power Delhi Distribution Limited,
   Grid Substation, Hudson Road, Kingsway Camp,
   New Delhi-110009

3. BSES Rajdhani Power Limited,
   BSES Bhawan, Nehru Place,
   New Delhi-110019

4. BSES Yamuna Power Limited,
   Shakti Kiran Building, Karkardooma,
   Delhi-110092 **...Respondents**

Parties present:

Ms. Swapna Seshadri, Advocate, NTPC
Shri Anand K. Ganesan, Advocate, NTPC
Ms. Ritu Apurva, Advocate, NTPC
Shri Rahul Kinra, Advocate, BRPL
Shri Anupam Varma, Advocate, BRPL
Shri Aditya Gupta, Advocate, BRPL

Shri Utkarsh Singh, Advocate, BRPL
Shri Anand Shrivastava, Advocate, TPDDL
Ms. Megha Bajpeyi, BRPL
Shri Shohit Dhar, BRPL
Shri Gurmeet Deogen, BRPL
Shri Mohit Mudgal, Advocate, BYPL
Shri Manish Garg, UPPCL

ORDER

This petition has been filed by the Petitioner, NTPC Limited for truing-up of tariff of National Capital Thermal Power Station Stage-II (980 MW) (hereinafter referred to as 'the generating station') for the 2014-19 tariff period, in accordance with Regulation 8(1) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as 'the 2014 Tariff Regulations').

2. The generating station with a capacity of 980 MW comprises of two units of 490 MW each with the COD of Unit-1 and Unit-2 as 31.1.2010 and 31.7.2010, respectively. Petition No. 324/GT/2014 was filed by the Petitioner for approval of tariff of the generating station for the 2014-19 tariff period, in accordance with the provisions of the 2014 Tariff Regulations. The Petitioner also filed Petition No. 377/TT/2014 for approval of tariff for 400 kV D/C Dadri-Loni Road transmission line (in short' the transmission line') for the 2014-19 tariff period for supplying power from Dadri Station to Delhi Discoms viz, Respondent BRPL, Respondent BYPL and Respondent TPDDL.

Background

3. The Commission vide its order dated 20.4.2015 in Petition No 377/TT/2014 decided that the transmission line from the generating station to Delhi discoms, being a dedicated transmission line, form part of the generating station and the tariff of the said transmission line should be determined as part of tariff of the generating station. Accordingly, the Petitioner, by the said order, was directed to claim tariff for the transmission line as part of tariff of the generating station as under:

"9. From the above provision it emerges that a dedicated transmission line is a point to point connection from the generating station to any transmission station or generating station or the load centre for evacuation of power from the generating station. It is the duty of the generating station to construct, own, operate and maintain the dedicated transmission line for which it is not required to obtain a licence under Section 12 of the Act. In other words, a dedicated transmission line is for all purposes a part of the generating station. In present case, the 400 kV transmission line is admittedly a dedicated transmission line executed by the petitioner for evacuation of power for NCTPS Stage II Dadri Station till the Loni Road Sub-station of Delhi Transco Ltd. It is not part of any meshed network and cannot be utilized by any other person for evacuation of power. We are of the view that the instant transmission line being part of the generating station, its tariff should be determined as part of generation tariff. Accordingly, the petitioner is directed to claim tariff for the instant transmission line as part of the generation tariff of NCTPS State II Dadri Station. The licence fee deposited by the petitioner shall be adjusted against the filing fee for the NCTPS State II Dadri Station."

4. In compliance to the above directions, the Petitioner revised the tariff petition (Petition No. 324/GT/2014) by incorporating its claim for tariff of the transmission line (from 2.8.2014 to 31.3.2019) in accordance with the provisions of the 2014 Tariff Regulations. Accordingly, the Commission vide its order dated 2.5.2017 in Petition No. 324/GT/2014 approved the capital cost and annual fixed charges of the generating station and the transmission line for the 2014-19 tariff period as under:

Capital Cost allowed

(i) Generating station

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	492158.64	495483.32	496861.31	496861.31	497551.31
Add: Additional Capital Expenditure	3324.67	1377.99	0.00	690.00	0.00
Closing Capital Cost	495483.32	496861.31	496861.31	497551.31	497551.31
Average Capital cost	**493820.98**	**496172.31**	**496861.31**	**497206.31**	**497551.31**

(ii) Transmission Line

(Rs. in lakh)

	2014-15 (2.8.2014 to 7.9.2014)	2014-15 (8.9.2014 to 31.3.2015)	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	5126.66	10583.53	10583.53	10583.53	10583.53	10583.53
Add: Additional Capital Expenditure	0.00	0.00	0.00	0.00	0.00	0.00
Closing Capital Cost	5126.66	10583.53	10583.53	10583.53	10583.53	10583.53
Average Capital cost	**5126.66**	**10583.53**	**10583.53**	**10583.53**	**10583.53**	**10583.53**

Annual Fixed Charges allowed

(i) Generating station

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	24901.38	25019.95	25054.69	25072.09	25089.49
Interest on Loan	23367.24	20980.03	18605.56	16229.24	13885.54
Return on Equity	29989.25	30277.92	30319.97	30341.02	30362.07
Interest on Working Capital	2849.64	2865.75	2877.86	2894.98	2915.61
O & M Expenses	15867.68	16857.48	17906.08	19023.28	20209.08
Total	**96975.20**	**96001.13**	**94764.16**	**93560.61**	**92461.79**

(ii) Transmission Line

(Rs. in lakh)

	2014-15 (2.8.2014 to 7.9.2014)	2014-15 (8.9.2014 to 31.3.2015)	2015-16	2016-17	2017-18	2018-19
Depreciation	27.44	313.85	558.81	558.81	558.81	558.81
Interest on Loan	34.61	387.50	643.28	588.82	535.01	482.28
Return on Equity	30.57	349.70	625.65	625.65	625.65	625.65
Interest on Working Capital	2.24	25.36	44.22	43.04	41.87	40.74
O & M Expenses	1.90	21.16	38.95	40.23	41.56	42.95
Total	**96.76**	**1097.57**	**1910.91**	**1856.55**	**1802.90**	**1750.42**

Present Petition

5. 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."*

6. In terms of the above regulations, the Petitioner has filed the present petition for truing-up of tariff of the generating station and the transmission line for the 2014-19 tariff period and has claimed the following capital cost and annual fixed charges:

Capital Cost claimed

(i) Generating station

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	492158.64	495483.31	496888.59	497300.75	498098.92

	2014-15	2015-16	2016-17	2017-18	2018-19
Add: Addition during the year/ period	2213.01	255.43	326.53	921.00	405.66
Less: Decapitalization during the year /period	229.64	325.04	475.33	727.93	501.87
Less: Reversal during the year/ period	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year /period	1341.30	1474.89	560.97	605.10	129.90
Closing Capital Cost	**495483.31**	**496888.59**	**497300.75**	**498098.92**	**498132.61**
Average Capital Cost	493820.98	496185.95	497094.67	497699.84	498115.77

(ii) Transmission Line

(Rs. in lakh)

	2014-15 (2.8.2014 to 7.9.2014)	2014-15 (8.9.2014 to 31.3.2015)	2015-16	2016-17	2017-18	2018-19
Capital cost	5126.66	10583.53	10743.77	10944.72	11202.30	11203.48
Add: Addition during the year/ period	0.00	160.24	134.10	137.19	(-)137.19	0.00
Less: Decapitalization during the year / period	0.00	0.00	0.00	0.00	0.00	0.00
Less: Reversal during the year/ period	0.00	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year/ period	0.00	0.00	66.85	120.39	138.37	0.09
Closing Capital Cost	5126.66	10743.77	10944.72	11202.30	11203.48	11203.57
Average Capital cost	**5126.66**	**10663.65**	**10844.24**	**11073.51**	**11202.89**	**11203.52**

Annual Fixed Charges claimed

(i) Generating station

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	24901.38	25013.88	25072.35	25116.59	25128.96
Interest on Loan	23372.53	20660.73	18072.35	15181.76	13087.27
Return on Equity	29989.51	30279.09	30334.54	30371.47	30477.06
Interest on Working Capital	12439.24	12490.76	12629.29	12934.66	12997.40
O & M Expenses	16040.90	17455.02	18382.57	19970.86	21080.02
Total	**106743.56**	**105899.48**	**104491.10**	**103575.34**	**102770.71**
Impact of Pay Revision	0.00	54.93	2488.13	2940.85	3487.95
Impact of GST	0.00	0.00	0.00	175.09	260.51
Ash Transportation Expenditure	0.00	0.00	0.00	0.00	0.00
Total Additional O&M Expenditure	**0.00**	**54.93**	**2488.13**	**3115.94**	**3748.46**
Total Annual Fixed Charges	**106743.56**	**105954.41**	**106979.23**	**106691.28**	**106519.17**

(ii) Transmission Line

(Rs. in lakh)

	2014-15 (2.8.2104 to 7.9.2014)	2014-15 (8.9.2014 to 31.3.2015)	2015-16	2016-17	2017-18	2018-19
Depreciation	270.69	563.04	572.58	584.68	591.51	591.55
Interest on Loan	341.43	695.19	648.96	598.74	529.78	479.59
Return on Equity	301.61	627.36	641.08	654.63	662.28	664.06
Interest on Working Capital	23.11	45.48	45.03	44.53	43.35	42.31
O & M Expenses	37.67	37.67	38.95	40.23	41.56	42.95
Total Annual Fixed Charges	**974.51**	**1968.75**	**1946.59**	**1922.81**	**1868.48**	**1820.46**

7. The Respondent UPPCL, Respondent TPDDL and Respondent BYPL have filed their reply affidavits on 9.6.2020 and 4.6.2021 respectively. The Petitioner vide affidavit dated 26.5.2021 has filed its rejoinder to the reply of the Respondent UPPCL. Thereafter, the Petitioner vide affidavit dated 4.6.2021 filed certain additional information related to the actual O&M expenses, impact of pay revision, GST etc., after serving copy to the Respondents. This Petition was heard along with Petition No. 2/GT/2020 (tariff of generating station for the period 2019-24), through virtual conferencing, on 11.6.2021 and the Commission, after permitting the Respondents to file their respective pleadings, reserved its order in the matter. In compliance to the directions, the Respondent UPPCL has filed additional submissions on 29.6.2021. While the Respondent BRPL and BYPL filed their replies on 7.7.2021 and 9.7.2021 respectively, the Respondent TPDDL filed its written submissions on 9.7.2021. In response to the replies and written submissions, the Petitioner has filed its rejoinders and written submissions on 19.7.2021. Taking into consideration the submissions of the parties and the documents available on record, we proceed to examine the claims of the Petitioner, in this Petition, on prudence check, as stated in the subsequent paragraphs.

Transmission Line

8. We notice, that the Commission, while determining the capital cost of the 400 kV D/C Dadri-Loni Road Transmission line had, vide order dated 2.5.2017 in Petition No. 324/GT/2014, directed the Petitioner to submit detailed justification for time over-run in a chronological order, along with the auditor's certificate of the capital cost incurred as on actual COD, indicating the actual payments made on cash basis, and the balance payments to be made, etc., at the time of truing up of tariff. The relevant portion of the order dated 2.5.2017 is extracted below:

> *"35. Thus from the above submissions of petitioner, we have the correspondence details regarding RoW issues in various districts of U.P from 9.4.2012 to 10.6.2014. This indicates that due to such RoW issues, it could be possible that the ckt-1 and ckt-2 of the 400 kV D/C Dadri-Loni road transmission line are commissioned on 2.8.2014 and 8.9.2014, respectively. Accordingly, the entire time over-run ckt-1 and ckt-2 of 400 kV D/C Dadri-Loni road transmission line is provisionally condoned and accordingly IDC and IEDC for the delay are allowed to be capitalized. However, the petitioner is directed to provide the detailed justification for time over-run in chronological order at the time of truing up.*
>
> *36. As discussed above, the petitioner vide its affidavit dated 14.9.2016 has submitted Auditor's Certificate as on COD for the asset. However, the petitioner is directed to submit the Auditor's Certificate as on COD along with the details of IDC and IEDC on cash basis at the time of truing up. As discussed above, we have condoned the entire time over-run in case of the instant transmission line."*

9. Though the Petitioner, vide affidavit dated 3.1.2020, has submitted the tariff filing formats for truing-up of tariff of the transmission line for the 2014-19 tariff period, it has not furnished the detailed justification for time over-run and the auditor's certificate as on COD along with details of IDC and IEDC on cash basis. In the absence of aforesaid details, it is difficult to prudently undertake the determination of capital cost as on COD of the said transmission line. In view of this, we are not inclined to revise the tariff of the said transmission line, determined by order dated 2.5.2017 in Petition No.324/GT/2014 for the 2014-19 tariff period. It is noticed that the Petitioner vide affidavit dated 24.1.2020, has also filed petition for determination of tariff of the said transmission line for the 2019-24 tariff period. Since the capital cost of

the transmission line as on 31.3.2019, is not being revised by this order, for the reasons as stated above, the capital cost and transmission tariff for the 2019-24 tariff period is also not being determined. The Petitioner is, however, granted liberty to approach the Commission with a separate tariff petition for revision of tariff for the 2014-19 tariff period and for determination of tariff for 2019-24 tariff period in respect of the said transmission line, in terms of the relevant tariff regulations. Needless to say, since the transmission line form part of the generating station, the tariff for the same, shall be treated as part of the generation tariff, in terms of the Commission's order dated 20.4.2015 as referred to in paragraph 3 above.

10. We therefore proceed for truing-up of tariff of the generating station for the 2014-19 tariff period, as stated in the subsequent paragraphs.

Capital Cost

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

> *"9. Capital Cost:*
> *(3) The Capital cost of an existing project shall include the following:*
> *(a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014;*
> *(b) additional 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."*

12. The Commission vide its order dated 23.8.2016 in Petition No. 300/GT/2014 had approved the closing capital cost of Rs.492158.64 lakh as on 31.3.2014, while truing-up the tariff for the 2009-14 period. This closing capital cost of Rs.492158.64 lakh, as on 31.3.2014, was considered as the opening capital cost as on 1.4.2014 vide order dated 2.5.2017 in Petition No. 324/GT/2014 for the 2014-19 tariff period. Accordingly, the capital cost of Rs.492158.64 lakh has been considered as the opening capital cost as on 1.4.2014 in accordance with Regulation 9(3) of the 2014 Tariff Regulations.

Additional Capital Expenditure

13. Regulation 14(3) and Regulation 14(4) of the 2014 Tariff Regulations provides as under:

> *"14(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 obsolesce of technology, replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system; and*
>
> *(x) Any capital expenditure found justified after prudence check necessitated on account of modifications required or done in fuel receiving system arising due to non-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-capitalisation 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-capitalisation takes place, duly taking into consideration the year in which it was capitalized."

Projected additional capital expenditure allowed vide order dated 2.5.2017 in Petition No. 324/GT/2014

14. The break-up details of the projected additional capital expenditure allowed vide order dated 2.5.2017 in Petition No. 324/GT/2014 is summarized as below:

(Rs. in lakh)

Sl. No.	Package Description	2014-15	2015-16	2016-17	2017-18	2018-19	Total
	Development Works						
1	Infrastructure and Site Development works	51.09	339.55	0.00	0.00	0.00	390.64
	Plant and Equipment						
2	Main Plant Package SG+TG (Unit V)	0.00	31.05	0.00	0.00	0.00	31.05
3	Main Plant Package SG+TG (Unit VI)	0.00	50.55	0.00	0.00	0.00	50.55
	BOP Mechanical						
4	Main Plant Civil Works	89.88	60.00	0.00	0.00	0.00	149.88
5	Coal Handling System	0.00	172.00	0.00	0.00	0.00	172.00
6	Ash Handling System including Ash Brick Plant	0.91	150.00	0.00	0.00	0.00	150.91
7	Pretreatment Plant Package	0.00	28.00	0.00	0.00	0.00	28.00
8	Railway siding and ST system	47.36	0.00	0.00	0.00	0.00	47.36
9	Lining of MAT branch canal	1392.86	0.00	0.00	0.00	0.00	1392.86
	Civil Works						
10	Township & Colony	595.13	539.55	0.00	0.00	0.00	1134.68
	BOP Electricals						
11	Switchyard Package (Bus Sectionalization in 400 kV Switchyard)	0.00	0.00	0.00	690.00	0.00	690.00

Sl. No.	Package Description	2014-15	2015-16	2016-17	2017-18	2018-19	Total
12	Lighting Mast	35.78	7.29	0.00	0.00	0.00	43.07
13	**Total Additional Capital Expenditure**	**2213.01**	**1377.99**	**0.00**	**690.00**	**0.00**	**4281.00**
14	Less: Decapitalization	229.64	0.00	0.00	0.00	0.00	229.64
15	**Net Additional Capital Expenditure**	**1983.38**	**1377.99**	**0.00**	**690.00**	**0.00**	**4051.37**

15. The Petitioner in Form-9A of the petition has submitted the actual additional capital expenditure incurred for the 2014-19 tariff period on accrual basis, as well as on cash basis, which also includes IDC. The additional capital expenditure claimed by the Petitioner (on cash basis) for the 2014-19 tariff period is as under:

(Rs. in lakh)

Sl. No.	Head of Work/ Equipment	Regulation	2014-15	2015-16	2016-17	2017-18	2018-19	Total
A	**Admitted**							
1	Infrastructure & Site development works	14(1)(ii) read with 54 and 14(3)(v)	51.09	8.62	(-) 13.13	164.80	3.28	214.65
2	Main Plant package SG +TG Unit #5		0.00	0.00	15.57	0.00	0.00	15.57
3	Township & Colony		595.13	63.23	64.20	4.40	3.62	730.59
4	Main Plant Civil works		89.88	36.70	0.00	617.57	0.00	744.15
5	Ash Handling Plant		0.91	0.00	0.00	27.46	0.00	28.37
6	DM Plant and Pretreatment Plant		0.00	0.00	0.00	0.00	0.00	0.00
7	Railway Siding & ST System		47.36	(-) 1.35	171.79	0.00	(-) 17.93	199.87
8	Lining of Mat Branch Canal		1392.86	0.00	0.00	0.00	26.08	1418.94
9	Lighting Mast		35.78	0.00	0.00	0.00	0.00	35.78
10	Coal Handling Plant		0.00	0.00	0.00	0.00	(-) 11.48	(-) 11.48
11	Fire Detection and protection system (adjustment)		0.00	0.00	0.00	0.00	(-) 34.38	(-) 34.38
12	Switchyard Package (Bus Sectionalization in 400 kV switchyard)		0.00	0.00	0.00	0.00	49.32	49.32
	Sub Total (A)		**2213.01**	**107.21**	**238.43**	**814.23**	**18.50**	**3391.38**
B	**New Claims**							
13	Acoustic Steam leak detection system for Stage-II	14(3) read with 54	0.00	71.28	0.00	0.00	0.00	71.28
14	CCTV System	14(3)(ii)	0.00	51.10	0.00	0.00	0.00	51.10
15	Effluent Quality Monitoring System		0.00	25.84	0.00	0.00	0.00	25.84
16	Solar Rooftop PV System		0.00	0.00	78.38	0.00	0.00	78.38
17	Supply Real Time Data Transmission Hardware	14(3)(ii) and	0.00	0.00	9.72	0.00	0.00	9.72

Sl. No.	Head of Work/ Equipment	Regulation	2014-15	2015-16	2016-17	2017-18	2018-19	Total
		14(3)(vii)						
18	Effluent treatment system (ETP)	14(3)(ii)	0.00	0.00	0.00	0.00	0.00	0.00
19	LED Electrification		0.00	0.00	0.00	106.77	387.15	493.93
	Sub Total (B)		**0.00**	**148.22**	**88.10**	**106.77**	**387.15**	**730.25**
C	**Additional Capital Expenditure (C)=(A+B)**		**2213.01**	**255.43**	**326.53**	**921.00**	**405.66**	**4121.63**
D	**Decapitalization**							
20	De-capitalization of Spares: Part of Capital Cost	14(4)	173.22	325.04	475.33	727.93	501.87	2203.39
21	De-capitalization of MBOAs: Part of Capital Cost		56.42	0.00	0.00	0.00	0.00	56.42
	Sub Total (D)		**229.64**	**325.04**	**475.33**	**727.93**	**501.87**	**2259.81**
E	**Liability Discharged**							
22	Add. Discharge of Liabilities pertaining to allowed works	14(3)(vi)	1341.30	1474.89	560.97	605.10	129.90	4112.15
	Sub Total (E)		**1341.30**	**1474.89**	**560.97**	**605.10**	**129.90**	**4112.15**
	Total Additional Capital Expenditure claimed (F)=(C-D+E)		**3324.67**	**1405.28**	**412.16**	**798.17**	**33.69**	**5973.97**

16. It is observed that there is a variation in the additional capital expenditure claimed by the Petitioner as against those allowed vide order dated 2.5.2017 in Petition No. 324/GT/2014. This variation is account of the difference between the projected additional capital expenditure allowed vide order dated 2.5.2017 in Petition No. 324/GT/2014 and the actual additional capital expenditure claimed by the Petitioner and also on account of certain new claims by the Petitioner, namely, Acoustic Steam leak detection system for Stage-II, CCTV system, Effluent Quality Monitoring System (EQMS), Solar Rooftop PV System, Supply Real Time Data Transmission Hardware, Effluent treatment system (ETP) and LED Electrification. The item-wise actual additional capital expenditure claimed by the Petitioner is examined below:

(A) Additional capital expenditure towards allowed works

(i) Additional capital expenditure related to Infrastructure & Site development works, Main Plant package SG +TG Unit #5, Township & Colony, Ash Handling

Plant, Lighting Mast, Coal Handling Plant and Switchyard Package (Bus Sectionalisation in 400 kV Switchyard)

17. As against the projected additional capital expenditure allowed vide order dated 2.5.2017 in Petition No. 324/GT/2014 towards Infrastructure & Site development works, Main Plant package SG +TG Unit-5, Township & Colony, Ash Handling Plant, Lighting Mast, Coal Handling Plant and Switchyard Package (Bus Sectionalization in 400 kV Switchyard), the actual additional capital expenditure (on cash basis) has been claimed by the Petitioner, for the above mentioned works, in terms of Regulation 14(1)(ii) read with Regulation 54 (power to relax) and Regulation 14(3)(v) of the 2014 Tariff Regulations as shown below:

(Rs. in lakh)

Sr. No.	Head of Work /Equipment		2014-15	2015-16	2016-17	2017-18	2018-19	Total
Additional Capital Expenditure allowed in order dated 2.5.2017 in Petition No. 324/GT/2014								
1	Infrastructure & Site development works	Allowed	51.09	339.55	0.00	0.00	0.00	390.64
		Claimed	51.09	8.62	(-)13.13	164.80	3.28	214.65
2	Main Plant package SG +TG Unit-5	Allowed	0.00	31.05	0.00	0.00	0.00	31.05
		Claimed	0.00	0.00	15.57	0.00	0.00	15.57
3	Township & Colony	Allowed	595.13	539.55	0.00	0.00	0.00	1134.68
		Claimed	595.13	63.23	64.20	4.40	3.62	730.59
4	Ash Handling Plant	Allowed	0.91	150.00	0.00	0.00	0.00	150.91
		Claimed	0.91	0.00	0.00	27.46	0.00	28.37
5	Lighting Mast	Allowed	35.78	7.29	0.00	0.00	0.00	43.07
		Claimed	35.78	0.00	0.00	0.00	0.00	35.78
6	Coal Handling Plant	Allowed	0.00	172.00	0.00	0.00	0.00	172.00
		Claimed	0.00	0.00	0.00	0.00	(-)11.48	(-)11.48
7	Switchyard Package (Bus Sectionalization in 400 kV Switchyard)	Allowed	0.00	0.00	0.00	690.00	0.00	690.00
		Claimed	0.00	0.00	0.00	0.00	49.32	49.32
	Total	**Allowed**	682.92	1239.44	0.00	690.00	0.00	2612.35
		Claimed	**682.92**	**71.86**	**66.64**	**196.66**	**44.74**	**1062.80**

18. In justification for the above, the Petitioner has submitted that these works form part of the original scope of work, which were awarded to various agencies prior the cut-off date of the generating station (i.e. 31.3.2014) and a major portion of these works were capitalised prior the cut-off date. The Petitioner has further submitted that the actual additional capital expenditure incurred is towards balance payments/ deferred liabilities/adjustments, under the original scope of work which was admitted vide order dated 2.5.2017 in Petition No. 324/GT/2014.

19. The Respondent, BRPL and Respondent BYPL have submitted that the projected additional capital expenditure admitted vide order dated 2.5.2017 in Petition No. 324/GT/2014 may be allowed, but the remaining additional capital expenditure claimed by the Petitioner may be disallowed. In response, the Petitioner has clarified that these works form part of the original scope of work and were awarded to different executing agencies. It has also submitted that the packages were awarded prior the COD of the generating station and major portion of the works were capitalized prior the cut-off date. The Petitioner has reiterated that the additional capital expenditure claimed is towards final adjustment of bills, material reconciliation etc. for the works which were completed and capitalized prior to the cut-off date. It has also submitted that the exercise of "power to relax" has been provided as a judicial discretion, to the Commission, depending on the facts of a particular case, to permit the recovery of additional charges validly incurred by the Petitioner.

20. The matter has been considered. It is observed that in order dated 2.5.2017 in Petition No. 324/GT/2014, the Commission, had approved the projected additional capital expenditure for the aforesaid works on the ground that the additional capital expenditure incurred is towards balance payments/deferred liabilities under original scope of work. It is noticed that the actual additional capital expenditure claimed by the Petitioner is lesser than the projected additional capital expenditure allowed vide order dated 2.5.2017 in Petition No. 324/GT/2014. In view of this, and considering the fact that the additional capital expenditure incurred is towards final adjustment of bills, material reconciliation etc. in respect of the works under the original scope, which have been completed and capitalized prior to the cut-off date, the claim of the Petitioner on this count, is allowed.

(ii) Additional capital expenditure related to Main Plant Civil Works, Railway Siding & ST System and Lining of Mat Branch Canal

21. As against the projected additional capital expenditure allowed vide order dated 2.5.2017 in Petition No. 324/GT/2014 towards Main Plant Civil Works, Railway Siding & ST System and Lining of Mat Branch Canal, the actual additional capital expenditure (on cash basis) claimed by the Petitioner towards the aforementioned works under Regulation 14(1)(ii) with Regulation 54 and Regulation 14(3)(v) of the 2014 Tariff Regulations is as under:

(Rs. in lakh)

Sl. No.	**Head of Work/ Equipment**		**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**Total**
Additional Capital Expenditure allowed in order dated 2.5.2017 in Petition No. 324/GT/2014								
1	Main Plant Civil works	Allowed	89.88	60.00	0.00	0.00	0.00	149.88
		Claimed	89.88	36.70	0.00	617.57	0.00	744.15
2	Railway Siding & ST System	Allowed	47.36	0.00	0.00	0.00	0.00	47.36
		Claimed	47.36	(-) 1.35	171.79	0.00	(-) 17.93	199.87
3	Lining of Mat Branch Canal	Allowed	1392.86	0.00	0.00	0.00	0.00	1392.86
		Claimed	1392.86	0.00	0.00	0.00	26.08	1418.94
	Total	Allowed	1530.10	60.00	0.00	0.00	0.00	1590.10
		Claimed	**1530.10**	**35.35**	**171.79**	**617.57**	**8.15**	**2362.96**

22. In justification of the above, the Petitioner has submitted that these works form part of the original scope of work, which were awarded to various agencies prior the cut-off date of the generating station and a major portion of these works were capitalised prior to the cut-off date. The Petitioner has further submitted that the additional capital expenditure incurred is towards balance payments/deferred liabilities/adjustments, under the original scope of work which was admitted vide order dated 2.5.2017 in Petition No. 324/GT/2014.

23. It is observed that the Commission vide its order dated 2.5.2017 in Petition No. 324/GT/2014 had approved the projected additional capital expenditure in respect of the aforesaid works. The actual additional capital expenditure claimed by the Petitioner is towards balance payments/ deferred liabilities, final adjustment of bills, material reconciliation etc. in respect of the works which were capitalized prior to the

cut-off date and already admitted by the Commission by order dated 2.5.2017. In view of this, the claim of the Petitioner on this count is allowed.

(iii) Main Plant package SG+TG, Coal Handling Plant, DM Plant and Pre-treatment Plant and Ash Handling System

24. The Petitioner has claimed additional capital expenditure (on accrual basis) in respect of the following works:

(Rs. in lakh)

	2014-15			**2015-16**			**2016-17**		
	Accrual basis	**Un-discharged liability**	**Cash basis**	**Accrual basis**	**Un-discharged liability**	**Cash basis**	**Accrual basis**	**Un-discharged liability**	**Cash basis**
Main Plant package SG +TG	24.50	24.50	0.00	1.13	1.13	0.00	0.00	0.00	0.00
Coal Handling Plant	0.00	0.00	0.00	51.91	51.91	0.00	0.00	0.00	0.00
DM Plant and Pretreatment Plant	19.44	19.44	0.00	1.16	1.16	0.00	0.00	0.00	0.00
Ash Handling System		0.00	0.00	0.00	0.00	0.00	2.38	2.38	0.00

25. In justification for the above, the Petitioner has submitted that these works form part of the original scope of works, which were awarded to various agencies prior to the cut-off date of the generating station and major portion of these works were capitalized prior the cut-off date. The Petitioner has further submitted that the actual additional capital expenditure incurred is towards balance payments/deferred liabilities/adjustments under the original scope of work which was admitted by the Commission vide its order dated 2.5.2017 in Petition No. 324/GT/2014.

26. It is noticed that the Petitioner has not claimed any additional capital expenditure, on cash basis, for the said works, during the period 2014-17. Since tariff is allowed only on cash basis and liabilities do not form part of tariff, the additional capital expenditure allowed on cash basis, under this head is 'nil'.

(iv) Fire Detection and protection system (Adjustment)

27. The Petitioner has claimed an adjustment of (-) Rs.34.38 lakh towards Fire

Detection and Protection system in 2018-19 under Regulation 14(1)(ii) read with Regulation 54 and Regulation 14(3)(v) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the additional capital expenditure incurred is towards balance payments/deferred liabilities/adjustments under the original scope of work and which was admitted by the Commission vide its order dated 2.5.2017 in Petition No. 324/GT/2014.

28. The Petitioner, in justification of the said claim, has submitted that the aforesaid work form part of the original scope of work, which was completed and capitalized within the cut-off date, but only adjustments in payments were made after the cut-off date. Since the adjustments made by the Petitioner is in respect of balance payments for the work which form part of the original scope, the additional capital expenditure claimed is allowed under Regulation 14(3)(v) of the 2014 Tariff Regulations.

(B) New Claims

(i) Acoustic Steam leak detection system for Stage-II

29. The Petitioner has claimed actual additional capital expenditure of Rs.96.08 lakh on accrual basis (including undischarged liability of Rs.24.80 lakh) towards Acoustic steam leak detection system for Stage-II in 2015-16 under Regulation 14(3) read with Regulation 54 of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the leak detection system would help in early and correct detection of boiler tube leakage points, resulting in reduction of unit shut down time and ensuring safety of the personnel. The Petitioner has also submitted that this asset is necessary to ensure safety of the equipment and the employees working round the clock to ensure running of the units in a safe and a healthy way.

30. The matter has been examined. Though the Petitioner has claimed additional capitalization for this asset under Regulation 14(3) read with Regulation 54 of the

2014 Tariff Regulations, it has not been clarified as to which provision of the said regulation is required to be relaxed to consider the expenditure. It is noticed from records that the claim of the Petitioner for additional capitalization of the same item in 2013-14 (in respect of Vindhyachal STPS- Stage-III for 2013-14) under change in law, was rejected by the Commission vide order dated 15.5.2014 in Petition No. 148/GT/2013. The relevant portion of the order is extracted below:

> *"23. The petitioner has claimed projected expenditure of `70.00 lakh in 2013-14 for installation of Acoustic Steam Leak detection. The petitioner has submitted that this system would help in early and correct detection of boiler tube leakage points resulting in reduction of unit shut down time and enhancement of availability. It has also been submitted that this asset is necessary to meet higher availability norms specified by the Commission in the 2009 Tariff Regulations and accordingly, claim has been made under Change in law. We appreciate the submission of petitioner that this system helps in the early detection of boiler tube leakage. However, we are of the view that if the boiler and water system of the generating station is properly maintained there would be no reason for tube leakages and consequent unavailability of the generating station. We notice that the generating station has been provided with reasonable O& M expenses for effective and efficiently maintenance of different systems/ components of the units/ generating station. We also hold that the requirement to meet higher availability of norms specified by the Commission in the 2009 Tariff Regulations cannot fall under 'Change in Law' as per definition provided under the 2009 Tariff Regulations. In view of the above, the claim has not been allowed."*

31. On a review filed by the Petitioner against this order, in Review Petition No. 19/RP/2014, seeking additional capitalization of this asset under power to relax, the Commission vide its order dated 20.11.2014 had rejected the additional capitalization of the said asset. In our view, the Petitioner may meet such expenditure from the O&M expenses allowed to the generating station. Based on the above, the additional capital expenditure claimed by the Petitioner under this head is not allowed.

(ii) CCTV System

32. The Petitioner has claimed additional capital expenditure of Rs.55.97 lakh on accrual basis (including undischarged liability of Rs.4.88 lakh) towards CCTV system in 2015-16 under Regulation 14(3)(iii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that as per the recommendations of Industrial

Security Inspection team of Intelligence Bureau (IB), Ministry of Home Affairs, CCTV cameras with continuous monitoring and recording facilities were installed in various gates of sensitive power generation areas. The Petitioner has further submitted that the recommendation of IB is through a confidential document, and therefore the same has not been attached with the petition.

33. It is observed that the Petitioner has claimed additional capital expenditure of Rs.51.10 lakh on cash basis in 2015-16 under Regulation 14(3)(iii) of the 2014 Tariff Regulations. Since the expenditure incurred for assets/ works are in terms of the recommendations of the IB, which are necessary for the safety & security of the generating station, the additional capital expenditure claimed by the Petitioner is allowed under Regulation 14(3)(iii) of the 2014 Tariff Regulations. Also, the corresponding un-discharge liability of Rs.4.88 lakh in 2015-16 shall be considered at the time of actual discharge of liability.

(iii) Effluent Quality Monitoring System

34. The Petitioner has claimed actual additional capital expenditure of Rs.33.19 lakh on accrual basis (including undischarged liability of Rs.7.34 lakh) towards Effluent Quality Monitoring System (EQMS) in 2015-16 under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification of the same, the Petitioner has submitted that the additional capital expenditure incurred in compliance to CPCB order dated 5.2.2014.

35. The matter has been considered. The Petitioner has claimed the actual additional capital expenditure of Rs.25.84 lakh (on cash basis) towards EQMS based on the Central Pollution Control Board (CPCB) order dated 5.2.2014, wherein, all State Pollution Control Board (SPCB) and Pollution Control Committees (PCC) have been mandated to manage common hazardous waste & biomedical waste and to comply with norms. It is observed that the said order dated 5.2.2014 also empowers

the SPCB and PCC to stipulate standards for discharge of environmental pollutants, for various categories of industries and common effluent treatment plants, common hazardous waste and biomedical waste incinerators, which are more stringent than those notified by the Central Government under the Environment Protection Act, 1986. Since the additional capital expenditure incurred is for compliance to the directions/ orders of CPCB/SPCB, the claim of the Petitioner is allowed under Regulation 14(3)(ii) of the 2014 Tariff Regulations. Also, the corresponding un-discharge liability of Rs.7.34 lakh in 2015-16 shall be considered at the time of actual discharge of liability.

(iv) Solar Rooftop PV System

36. The Petitioner has claimed actual additional capital expenditure of Rs.158.05 lakh on accrual basis (including undischarged liability of Rs.79.66 lakh) towards Solar Rooftop PV System in 2016-17 under Regulation 14(3)(ii) read with Regulation 54 of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that these works were awarded under policy framework of the Government of India to achieve its ambitious 2022 target for a grid connected rooftop solar projects. This project supports the shift to renewable energy by installation of at least 500 KW of rooftop solar photovoltaic unit in Dadri. The Petitioner has also submitted that the beneficiaries can, over time, enjoy a financial gain on account of reduction in auxiliary power consumption (APC). The Petitioner has further submitted that carbon emission reduction and sustainability is an important driver particularly for the Petitioner, which is committed to increase renewable electricity in energy mix across India as well as energy sustainability for the future.

37. The Respondent, BRPL has submitted that the Solar Rooftop PV System is purely a conservation measure, and in no way connected with Regulation 14(3)(ii) of the 2014 Tariff Regulations and therefore, such measures are solely for the benefit of

the Petitioner. In response, the Petitioner has clarified that the project supports the shift of the renewable energy by installation of atleast 500 KV of rooftop solar photovoltaic unit. It has also submitted that the expenditure towards the installation of Roof top solar would reduce greenhouse gases and thereby reduce emissions and the benefits in shape of reduced APC would be reaped by the beneficiaries.

38. The matter has been considered. The Petitioner has claimed actual additional capital expenditure towards Solar Rooftop PV System in 2016-17 under Regulation 14(3)(ii) read with Regulation 54 of the 2014 Tariff Regulations. Regulation 14(3)(ii) refers to the additional capital expenditure incurred after the cut-off date on account of change in law or compliance of any existing law. The Petitioner has neither justified that how such claim falls within the scope of change in law nor has submitted any document evidence in support of the same. As regards, exercise of the 'power to relax' the Appellate Tribunal for Electricity (APTEL) in its judgment dated 25.3.2011 in Appeal No. 130/2009 (RGPPL vs CERC & anr) had observed as under:

> *"18.1 The Regulations of the Central Commission and the decision of the Tribunal and the Supreme Court confer the judicial discretion to the Central Commission to exercise power to relax in exceptional case. However, while exercising the power to relax there should be sufficient reason to justify the relaxation and non-exercise of discretion would cause hardship and injustice to a party or lead to unjust result. It has also to be established by the party that the circumstances are not created due to act of omission or Commission attributable to the party claiming relaxation. Further the reasons justifying relaxation have to be recorded in writing."*

39. The Petitioner has not furnished any justification for capitalization of this asset, except the statement that the approach was to reduce emission of gases and to save electricity. The Petitioner has neither furnished the benefits/ advantages, which the beneficiaries will derive on account of installation of solar rooftop in plant premises, nr or has demonstrated the need for such additional capital expenditure. In our view, the benefit on account of reduction of auxiliary power consumption only accrues to the Petitioner. In the above background, we find no reason to relax the provisions of the

regulations and allow the additional capitalization of the said expenditure. Accordingly, the claim of the Petitioner for actual additional capital expenditure is not allowed.

(v) Supply Real Time Data Transmission Hardware

40. The Petitioner has claimed actual additional capital expenditure of Rs.9.97 lakh on accrual basis (including undischarged liability of Rs.0.26 lakh) towards Supply Real Time Data Transmission hardware in 2016-17 under Regulation 14(3)(ii) read with Regulation 54 of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that continuous monitoring of effluent quality has been made mandatory by Central Pollution Control Board (CPCB) vide its direction dated 5.2.2014 for the units including thermal power plant. The Petitioner has further submitted that the capitalization towards the above-mentioned work is for compliance to the CPCB order dated 5.2.2014 and the same may be allowed under Regulation 14(3)(ii) of the 2014 Tariff Regulations i.e. compliance of existing law.

41. The matter has been considered. The Petitioner has claimed the actual additional capital expenditure of Rs.9.72 lakh (on cash basis) towards Supply Real Time Data Transmission Hardware based on CPCB order dated 5.2.2014, wherein all the SPCB and PCC, have been mandated to manage common hazardous waste & biomedical waste and to comply with the norms. Since the additional capital expenditure incurred is in compliance to the directions/ orders of CPCB/SPCB, the claim of the Petitioner is allowed under Regulation 14(3)(ii) of the 2014 Tariff Regulations. Also, the corresponding un-discharge liability of Rs.0.26 lakh in 2016-17 shall be considered at the time of actual discharge of liability.

(vi) Effluent Treatment Plant (ETP)

42. The Petitioner has claimed additional capital expenditure of Rs.44.04 lakh on accrual basis, for the said work in 2017-18 under Regulation 14(3)(ii) of the 2014 Tariff

Regulations. In justification for the same, the Petitioner has submitted that Effluent Treatment Plant (ETP) is being implemented in the generating station to comply with the notification of the U.P. Pollution Control Board dated 15.3.2018. Accordingly, the Petitioner has prayed that the claim may be allowed under change in law.

43. The matter has been considered. The Petitioner has not claimed any additional capital expenditure 'on cash basis' for the said work in 2017-18 under Regulation 14(3)(ii) of the 2014 Tariff Regulations. Since tariff is allowed on 'cash basis' and since 'liabilities' do not form part of tariff, the claim of the Petitioner for additional capitalization on accrual basis is not allowed.

(vii) LED Electrification

44. The Petitioner has claimed total actual additional capital expenditure of Rs.106.77 lakh in 2017-18 and Rs.387.15 lakh in 2018-19 towards LED electrification under Regulation 14(3)(ii) of the 2014 Tariff Regulations. The Petitioner has submitted that the additional capital expenditure has been incurred in compliance to the Ministry of Power (MoP), GoI letter dated 2.8.2017, which mandated the Petitioner to replace all old bulbs with LED bulbs in all buildings of the Petitioner, including compound/ street lighting occupied by Petitioner. Accordingly, the Petitioner has prayed that the additional capital expenditure may be allowed under Change in law.

45. The submissions have been considered. It is noticed that the additional capital expenditure incurred towards LED electrification is in terms of the MoP, GoI letter dated 2.8.2017, which recommends the replacement of existing old bulbs with LED bulbs, thereby resulting in the reduction of about 50% to 90% in energy consumption by LED lighting. In our view, the MoP, GoI letter is recommendatory in nature and cannot be construed as a change in law event or for compliance to an existing law. Moreover, the benefits of replacement of existing lighting system with LED lighting

system, accrues to the Petitioner. In view of this, the additional capital expenditure claimed on account of LED electrification is not allowed.

Assumed Deletion

46. 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 gross value of the old asset. However, in certain cases, where the de-capitalization is proposed to be affected during the future years to the year of capitalization of the 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 as "Assumed Deletion". Therefore, the methodology of arriving at the fair value of the decapitalized asset, i.e., escalation rate of 5% per annum from the COD has been considered in order to arrive at the gross value of old asset in comparison to the cost of new asset. In the present petition, year of COD of the generating station was in 2010-11. We have considered the value of asset under consideration as on COD as 100% and escalated it @5% per annum till the year during which additional capital expenditure is claimed against replacement of the same. The amount claimed for additional capital expenditure against the asset is multiplied by the derived ratio from above two values i.e., value in year of COD divided by value in capitalized year.

47. The Petitioner has submitted that it has replaced the old in-efficient lights with efficient LED lighting in the premises of the station compound/ building owned and operated by the Petitioner. Accordingly, the de-capitalized value of the assets/ works has been calculated in terms of the abovementioned methodology. Accordingly, the 'assumed deletions' allowed for the purpose of tariff are as follows:

(Rs. in lakh)

	Year of put to use	Year of Decapitalisation	Additional capital expenditure disallowed	Assumed deletion
LED Electrification	2010-11	2017-18	106.77	73.45
		2018-19	387.15	253.63

Decapitalization

48. The Petitioner has claimed decapitalization of (-) Rs.2259.81 lakh during the period 2014-19 (i.e., (-) Rs.229.64 lakh in 2014-15, (-) Rs.325.04 lakh in 2015-16, (-) Rs.475.33 lakh in 2016-17, (-) Rs.727.93 lakh in 2017-18 and (-) Rs.501.87 lakh in 2018-19) under Regulation 14(4) of the 2014 Tariff Regulations. In justification of the same, the Petitioner has submitted that these assets were decapitalized as these became unserviceable. Regulation 14(4) of the 2014 Tariff Regulations provides that original value of de-capitalized assets shall be deducted from the capital cost allowed to the generating station. Accordingly, the de-capitalization of these assets as claimed by the Petitioner is allowed.

Un-discharged liabilities & Discharge of liabilities

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

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening liabilities corresponding to allowed capital cost	9973.59	9083.40	7713.15	7091.64	6818.32
Add: Liability additions corresponding to allowed capital cost	623.02	141.78	4.87	343.42	0.00
Less: Discharges of liabilities corresponding to allowed capital cost	1341.30	1471.71	560.24	605.10	72.82
Less: Reversal of liabilities corresponding to allowed capital cost	171.91	40.32	66.15	11.64	2.73
Closing liabilities corresponding to allowed capital cost	**9083.40**	**7713.15**	**7091.64**	**6818.32**	**6742.78**

50. In terms of the above, the balance un-discharged liabilities corresponding to the

admitted capital cost as on 31.3.2019, works out as Rs.6742.78 lakh.

Reconciliation of the actual Additional Capital Expenditure

51. The reconciliation of the actual additional capital expenditure for the 2014-19 tariff period with books of accounts is as follows:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Closing gross block as per audited books of accounts*	702670.68	708845.19	455269.23	459476.11	466953.03
Less: Opening gross block as per audited books of accounts*	684965.38	702670.68	447362.79	455269.23	459476.11
Additional capital expenditure as per audited books of accounts*	17705.31	6174.50	7906.43	4206.88	7476.92
Less: additional capital expenditure pertaining to other Stages / Solar Project/ Transmission Line*	15765.16	2489.51	3476.25	404.68	5476.31
Additional capital expenditure as per books of accounts pertaining to NCTPS Stage -II*	1940.15	3685.00	4430.19	3802.20	2000.61
Less: IND AS adjustments	0.00	0.00	1159.94	1141.73	1331.96
Additional capital expenditure pertaining to NCTPS Stage -II, as per IGAAP	1940.15	3685.00	3270.25	2660.48	668.66
Less: Exclusions	(-) 666.25	3588.03	3335.67	2123.98	764.86
Additional capital expenditure claimed for NCTPS Stage -II (on accrual basis)	2606.40	96.97	(-) 65.42	536.49	(-) 96.21
Less: Un-discharged liabilities	623.02	166.58	84.54	343.42	0.00
Additional capital expenditure claimed for NCTPS Stage -II (on cash basis)	1983.38	(-) 69.61	(-) 149.95	193.07	(-) 96.21
Add: Un-reconciled additional capital expenditure claimed by the Petitioner	0.00	0.00	1.15	0.00	0.00
Net Additional capital expenditure claimed for NCTPS Stage -II (on cash basis)	1983.38	(-) 69.61	(-) 148.80	193.07	(-) 96.21
Add: Discharges	1341.30	1474.89	560.97	605.10	129.90
Net Additional capital expenditure claimed including discharges for NCTPS Stage -II (on cash basis)	3324.67	1405.28	412.16	798.17	33.69

**As per IGAAP for the period 2014-16 and IND AS for the period 2016-19.*

Exclusions

52. The summary of exclusions claimed by the Petitioner for the 2014-19 tariff period is as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Capitalization of spares	778.19	2022.63	(-) 583.49	1702.06	1073.49
Capitalization of MBOA items	361.95	1311.48	529.44	145.26	219.52

	2014-15	2015-16	2016-17	2017-18	2018-19
Items not claimed	0.00	0.00	13.14	0.00	0.00
Disallowed schemes	36.48	0.00	4001.44	0.00	0.00
Decapitalization of capital spares (not forming part of capital cost)	0.00	(-) 281.68	(-) 23.94	(-) 235.40	(-) 403.83
Decapitalization of MBOA (forming part of capital cost)	0.00	(-) 83.35	(-) 119.45	(-) 18.44	(-) 59.02
Decapitalization of MBOA (not forming part of capital cost)	(-) 0.53	(-) 5.65	(-) 27.77	(-) 8.49	(-) 38.83
Loan ERV	(-) 1696.61	678.82	(-) 385.81	558.63	(-) 50.38
Inter-unit transfers	26.18	(-) 13.91	(-) 1.74	(-) 8.00	26.66
Reversal of liabilities	(-) 171.91	(-) 40.32	(-) 66.15	(-) 11.64	(-) 2.73
Regrouping of assets	0.00	0.00	0.00	0.00	0.00
Total Exclusions claimed	**(-) 666.25**	**3588.03**	**3335.67**	**2123.98**	**764.86**

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

(i) Capitalisation of spares

54. The Petitioner has claimed exclusion of capital spares amounting to Rs.778.19 lakh in 2014-15, Rs.2022.63 lakh in 2015-16, (-)Rs.583.49 lakh in 2016-17, Rs.1702.06 lakh in 2017-18 and Rs.1073.49 lakh in 2018-19. The Petitioner has submitted that as capital spares capitalized after the cut-off date are not allowed in terms of the 2014 Tariff Regulations, the same has been kept under exclusion. Since capitalization of spares over and above initial spares, procured after the cut-off date of the generating station, are not allowed for the purpose of tariff, the exclusion claimed under this head is in order and is allowed.

(ii) Capitalisation of MBOA items

55. The Petitioner has claimed exclusion of Miscellaneous Bought out Assets (MBOAs) amounting to Rs.361.95 lakh in 2014-15, Rs.1311.48 lakh in 2015-16, Rs.529.44 lakh in 2016-17, Rs.145.26 lakh in 2017-18 and Rs.219.52 lakh in 2018-19. In justification, 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. The exclusion claimed by the Petitioner under this head is in order and is allowed.

(iii) Items Not Claimed/ Disallowed Schemes

56. The Petitioner has claimed exclusion of Rs.36.48 lakh in 2014-15 and Rs.4001.44 lakh in 2016-17 towards items not allowed by the Commission and Rs.13.14 lakh in 2016-17 towards Biometric Time Attendance System under the head "Items not claimed". It is observed from the submissions of the Petitioner that these items have not been allowed in tariff and do not form part of the capital cost. Since these assets do not form part of the capital cost, the exclusion for these items for the said amount is allowed.

(iv) Decapitalization of Capital Spares (not forming part of capital cost)

57. The Petitioner has excluded de-capitalized spares amounting to (-) Rs.281.68 lakh in 2015-16, (-) Rs.23.94 lakh in 2016-17, (-) Rs.235.40 lakh in 2017-18 and (-) Rs.403.83 lakh in 2018-19 for the purpose of tariff. The Petitioner has submitted that these items do not pertain to the capital cost allowed by the Commission and accordingly, the capitalization of spares has been claimed as exclusion. Since capitalization of the above-mentioned spares were not allowed, they do not form part of the capital cost for the purpose of tariff. Hence, the exclusion of de-capitalization of the spares as claimed is in order and is allowed.

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

58. The Petitioner has excluded de-capitalized MBOAs, forming part of the allowed capital cost, amounting to (-) Rs.83.35 lakh in 2015-16, (-) Rs.119.45 lakh in 2016-17, (-) Rs.18.44 lakh in 2017-18 and (-) Rs.59.02 lakh in 2018-19. In terms of Regulation 14(4) of the 2014 Tariff Regulations, these de-capitalized assets needs to be removed from the admitted capital cost of the generating station. Accordingly, the exclusion claimed by the Petitioner under this head is not allowed.

(vi) De-capitalization of MBOA not forming part of the capital cost

59. The Petitioner has claimed exclusion of de-capitalized MBOA amounting to (-) Rs.0.53 lakh in 2014-15, (-) Rs.5.65 lakh in 2015-16, (-) Rs.27.77 lakh in 2016-17, (-) Rs.8.49 lakh in 2017-18 and (-) Rs.38.83 lakh in 2018-19, on the ground that the same do not form part of the allowed capital cost. It is observed from the submissions of the Petitioner that these MBOA items do not form part of the admitted capital cost of the generating station. Accordingly, the exclusion claimed under this head is allowed.

(vii) Loan ERV

60. The Petitioner has excluded amounts of (-) Rs.1696.61 lakh in 2014-15, Rs.678.82 lakh in 2015-16, (-) Rs.385.81 lakh in 2016-17, Rs.558.63 lakh in 2017-18 and (-) Rs.50.38 lakh in 2018-19 on account of Loan ERV. The Petitioner has submitted that it is entitled to directly claim ERV on foreign currency loans as per the 2014 Tariff Regulations and therefore, has kept FERV under exclusion. As the Petitioner is required to bill the said amounts directly on the beneficiaries, the exclusion of loan ERV is allowed.

(viii) Inter-unit transfer

61. The Petitioner has excluded amounts of Rs.26.18 lakh in 2014-15, (-) Rs.13.91 lakh in 2015-16, (-) Rs.1.74 lakh in 2016-17, (-) Rs.8.00 lakh in 2017-18 and Rs.26.66 lakh in 2018-19 on account of Inter-Unit transfer of assets. In justification of the same, the Petitioner has submitted that items under inter unit transfer were not considered by the Commission for tariff purpose and hence kept under exclusion. The Commission has consistently allowed exclusion of both positive and negative entries arising out of inter-unit transfer of assets of temporary nature for the purpose of tariff. Accordingly, the Petitioner's claim under this head is allowed.

(ix) Reversal of liability

62. The Petitioner has claimed reversal of liability of (-) Rs.171.91 lakh in 2014-15,

(-) Rs.40.32 lakh in 2015-16, (-) Rs.66.15 lakh in 2016-17, (-) Rs.11.64 lakh in 2017-18 and (-) Rs.2.73 lakh in 2018-19. The Petitioner has submitted that as tariff allowed is on cash basis, the reversal of liabilities has been kept under exclusion. Since, tariff is allowed on cash basis, the Commission in its various orders had consistently allowed the exclusion of reversal of un-discharged liabilities for the purpose of tariff. Accordingly, the claim under this head is allowed.

(x) Regrouping of Assets

63. As regards the expenditure on regrouping, Form-9D, as furnished by the Petitioner, indicates an expenditure of Rs.752.421 lakh in 2015-16 towards Steam Generator: Unit-5, Turbine Generator: Unit-5, Steam Generator: Unit-6 and Turbine Generator: Unit-6 with corresponding negative entries of the same amount, towards Dadri - Masoorie Road - Non NTPC Owned. As such, after adjustment, the net claim against regrouping of assets is reduced to ‘zero’. Considering the fact that the expenditure claimed in 2015-16 is an accounting adjustment entry, the exclusion of the same is allowed.

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

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Exclusions claimed (A)	(-) 666.25	3588.03	3335.67	2123.98	764.86
Exclusions allowed (B)	(-) 666.25	3671.38	3455.12	2142.42	823.89
Exclusion not Allowed (A-B)	0.00	(-) 83.35	(-) 119.45	(-) 18.44	(-) 59.02

<u>Additional Capital Expenditure allowed for the period 2014-19</u>

65. Based on the above discussions, the additional capital expenditure claimed and allowed for the 2014-19 tariff period is summarized as follows:

(Rs. in lakh)

Sl. No.	**Head of Work /Equipment**		**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**Total**
A	**Additional Capital Expenditure allowed in order dated 2.5.2017 in Petition No. 324/GT/2014**							
1	Infrastructure & Site development works	Claimed	51.09	8.62	(-) 13.13	164.80	3.28	214.65
		Allowed	51.09	8.62	(-) 13.13	164.80	3.28	214.65
2	Main Plant package SG +TG Unit #5	Claimed	0.00	0.00	15.57	0.00	0.00	15.57
		Allowed	0.00	0.00	15.57	0.00	0.00	15.57
3	Township & Colony	Claimed	595.13	63.23	64.20	4.40	3.62	730.59
		Allowed	595.13	63.23	64.20	4.40	3.62	730.59
4	Main Plant Civil works	Claimed	89.88	36.70	0.00	617.57	0.00	744.15

Sl. No.	Head of Work /Equipment		2014-15	2015-16	2016-17	2017-18	2018-19	Total
		Allowed	89.88	36.70	0.00	617.57	0.00	744.15
5	Ash Handling Plant	Claimed	0.91	0.00	0.00	27.46	0.00	28.37
		Allowed	0.91	0.00	0.00	27.46	0.00	28.37
6	DM Plant and Pretreatment Plant	Claimed	0.00	0.00	0.00	0.00	0.00	0.00
		Allowed	0.00	0.00	0.00	0.00	0.00	0.00
7	Railway Siding & ST System	Claimed	47.36	(-) 1.35	171.79	0.00	(-) 17.93	199.87
		Allowed	47.36	(-) 1.35	171.79	0.00	(-) 17.93	199.87
8	Lining of Mat Branch Canal	Claimed	1392.86	0.00	0.00	0.00	26.08	1418.94
		Allowed	1392.86	0.00	0.00	0.00	26.08	1418.94
9	Lighting Mast	Claimed	35.78	0.00	0.00	0.00	0.00	35.78
		Allowed	35.78	0.00	0.00	0.00	0.00	35.78
10	Coal Handling Plant	Claimed	0.00	0.00	0.00	0.00	(-) 11.48	(-) 11.48
		Allowed	0.00	0.00	0.00	0.00	(-) 11.48	(-) 11.48
11	Fire Detection and Protection System (Adjustment)	Claimed	0.00	0.00	0.00	0.00	(-) 34.38	(-) 34.38
		Allowed	0.00	0.00	0.00	0.00	(-) 34.38	(-) 34.38
12	Switchyard Package (Bus Sectionalization in 400 kV Switchyard)	Claimed	0.00	0.00	0.00	0.00	49.32	49.32
		Allowed	0.00	0.00	0.00	0.00	49.32	49.32
	Sub Total (A)	Claimed	2213.01	107.21	238.43	814.23	18.50	3391.38
		Allowed	**2213.01**	**107.21**	**238.43**	**814.23**	**18.50**	**3391.38**
B	**New Claims**							
13	Acoustic Steam leak detection system for Stage #II	Claimed	0.00	71.28	0.00	0.00	0.00	71.28
		Allowed	0.00	0.00	0.00	0.00	0.00	0.00
14	CCTV System	Claimed	0.00	51.10	0.00	0.00	0.00	51.10
		Allowed	0.00	51.10	0.00	0.00	0.00	51.10
15	Effluent Quality Monitoring System	Claimed	0.00	25.84	0.00	0.00	0.00	25.84
		Allowed	0.00	25.84	0.00	0.00	0.00	25.84
16	Solar Rooftop PV System	Claimed	0.00	0.00	78.38	0.00	0.00	78.38
		Allowed	0.00	0.00	0.00	0.00	0.00	0.00
17	Supply Real Time Data Transmission Hardware	Claimed	0.00	0.00	9.72	0.00	0.00	9.72
		Allowed	0.00	0.00	9.72	0.00	0.00	9.72
18	Effluent Treatment System (ETP)	Claimed	0.00	0.00	0.00	0.00	0.00	0.00
		Allowed	0.00	0.00	0.00	0.00	0.00	0.00
19	LED Electrification	Claimed	0.00	0.00	0.00	106.77	387.15	493.93
		Allowed	0.00	0.00	0.00	0.00	0.00	0.00
	Sub Total (B)	Claimed	0.00	148.22	88.10	106.77	387.15	730.25
		Allowed	**0.00**	**76.94**	**9.72**	**0.00**	**0.00**	**86.66**
C	**Total Additional Capital Expenditure (C=A+B)**	Claimed	2213.01	255.43	326.53	921.00	405.66	4121.63
		Allowed	**2213.01**	**184.15**	**248.15**	**814.23**	**18.50**	**3478.04**
D	**Decapitalization**							
20	Decapitalisation of Spares: Part of Capital Cost	Claimed	173.22	325.04	475.33	727.93	501.87	2203.39
		Allowed	173.22	325.04	475.33	727.93	501.87	2203.39
21	Decapitalisation of MBOAs: Part of Capital Cost	Claimed	56.42	0.00	0.00	0.00	0.00	56.42
		Allowed	56.42	0.00	0.00	0.00	0.00	56.42
22	Assumed Deletion towards LED Electrification	Allowed	0.00	0.00	0.00	73.45	253.63	327.08
	Sub Total (D)	Claimed	229.64	325.04	475.33	727.93	501.87	2259.81
		Allowed	**229.64**	**325.04**	**475.33**	**801.38**	**755.50**	**2586.89**
E	**Liability Discharged**							
22	Add. Discharge of Liabilities pertaining to allowed works for prior period	Claimed	1341.30	1474.89	560.97	605.10	129.90	4112.15
		Allowed	1341.30	1471.71	560.24	605.10	72.82	4051.17
	Total Additional Capital Expenditure	Claimed	3324.67	1405.28	412.16	798.17	33.69	5973.97
		Allowed	**3324.67**	**1330.82**	**333.05**	**617.95**	**(-) 664.18**	**4942.32**
23	**Exclusion not allowed**		0.00	(-) 83.35	(-) 119.45	(-) 18.44	(-) 59.02	(-) 280.26
	Net Additional Capitalisation allowed	Claimed	3324.67	1405.28	412.16	798.17	33.69	5973.97
		Allowed	**3324.67**	**1247.47**	**213.60**	**599.51**	**(-) 723.20**	**4662.06**

Capital Cost allowed for the period 2014-19

66. Accordingly, the capital cost allowed for the 2014-19 tariff period is as follows:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	492158.64	495483.31	496730.78	496944.38	497543.90
Add: Net additional capital expenditure allowed	3324.67	1247.47	213.60	599.51	(-) 723.20
Closing Capital Cost	**495483.31**	**496730.78**	**496944.38**	**497543.90**	**496820.70**
Average Capital Cost	493820.98	496107.05	496837.58	497244.14	497182.30

Debt-Equity Ratio

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

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

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

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

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

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

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

(4) In case of 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."

68. The gross normative loan and equity amounting to Rs.344511.05 lakh and Rs.147647.59 lakh, respectively as on 31.3.2014, as considered in Commission's

order dated 23.8.2016 in Petition No. 300/GT/2014 has been retained as gross normative loan and equity as on 1.4.2014 for the purpose of tariff. Further, the additional capital expenditure admitted as above has been allocated in the debt-equity ratio of 70:30. Accordingly, the debt-equity ratio in respect of the generating station, as on 1.4.2014 and 31.3.2019 allowed is as follows:

(Rs. in lakh)

	Capital cost as on 1.4.2014		**Additional Capital Expenditure in 2014-19**		**Capital cost as on 31.3.2019**	
	Amount	**(%)**	**Amount**	**(%)**	**Amount**	**(%)**
Debt (A)	344511.05	70.00	3263.44	70.00	347774.49	70.00
Equity (B)	147647.59	30.00	1398.62	30.00	149046.21	30.00
Total (A+B)	**492158.64**	**100.00**	**4662.06**	**100.00**	**496820.70**	**100.00**

Return on Equity

69. 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."

70. 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."

71. The Petitioner has claimed tariff considering rate of return on equity of 20.2432% in 2014-15, 20.3412% in 2015-18 and 20.3949% in 2018-19. The Petitioner has arrived at these rates after grossing up the base rate of return on equity of 16% as allowed in order dated 2.5.2017 in Petition No. 324/GT/2014 with the MAT rate of 20.961% in 2014-15, 21.342% in 2015-18 and 21.549% in 2018-19. However, after rectifying the rounding off errors, the rate of return on equity, considered for the purpose of tariff, works out to 20.243% for 2014-15, 20.341% for 2015-18 and 20.395% for 2018-19. Accordingly, return on equity has been worked out as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Normative Equity-Opening (A)	147647.59	148644.99	149019.23	149083.31	149263.17
Addition of Equity due to additional capital expenditure (B)	997.40	374.24	64.08	179.85	(-) 216.96
Normative Equity-Closing (C) = [(A) + (B)]	148644.99	149019.23	149083.31	149263.17	149046.21

	2014-15	2015-16	2016-17	2017-18	2018-19
Average Normative Equity (D) = [(A+C)/2]	148146.29	148832.11	149051.27	149173.24	149154.69
Return on Equity (Base Rate) (E)	16.000%	16.000%	16.000%	16.000%	16.000%
Effective Tax Rate (F)	20.961%	21.342%	21.342%	21.342%	21.549%
Rate of Return on Equity (Pre-Tax) (G) = [(E)/(1-F)]	20.243%	20.341%	20.341%	20.341%	20.395%
Return on Equity (Pre-Tax) annualized (H) = [(D)*(G)]	**29989.25**	**30273.94**	**30318.52**	**30343.33**	**30420.10**

Interest on Loan

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

"26. Interest on loan capital: (1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.
(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.
(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of Decapitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered up to the date of de-capitalization of such asset
(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.
(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:
Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:
Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered
(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.
(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such refinancing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.
(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.
(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute: Provided that the beneficiaries or the long term transmission customers /DICs shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the

pendency of any dispute arising out of re-financing of loan."

73. Interest on loan has been worked out as follows:

(a) Gross normative loan amounting to Rs.344511.05 lakh as on 31.3.2014 as considered in order dated 23.8.2016 in Petition No. 300/GT/2014 has been retained as on 1.4.2014.

(b) Cumulative repayment amounting to Rs.88581.24 lakh as on 31.3.2014 as considered order dated 23.8.2016 in Petition No. 300/GT/2014 has been retained as on 1.4.2014.

(c) Accordingly, the net normative opening loan as on 1.4.2014 is Rs.255929.82 lakh.

(d) Addition to normative loan on account of additional capital expenditure approved above has been considered.

(e) Depreciation allowed has been considered as repayment of normative loan during the respective year of the 2014-19 tariff period. Also, repayments have been adjusted for de-capitalization of assets considered for the purpose of tariff; and

(f) The Petitioner has claimed weighted average rate of interest (WAROI) of 9.5506% in 2014-15, 9.3228% in 2015-16, 9.1511% in 2016-17, 8.7635% in 2017-18 and 8.7930% in 2018-19. However, considering the details of actual loan portfolio and the rate of interest furnished by the Petitioner, duly adjusted for interest capitalized during the respective years the WAROI to be considered for the purpose of tariff works out to 9.5123% in 2014-15, 9.3225% in 2015-16, 9.1484% in 2016-17, 8.7328% in 2017-18 and 8.7654% in 2018-19.

74. Necessary calculation for interest on loan is as follows:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Gross opening loan (A)	344511.05	346838.32	347711.55	347861.07	348280.73
Cumulative repayment of loan upto previous year (B)	88581.24	113494.04	138512.98	163497.98	188392.92
Net Loan Opening (C) = [(A) - (B)]	255929.82	233344.28	209198.57	184363.09	159887.81
Addition due to additional capital expenditure (D)	2327.27	873.23	149.52	419.66	(-) 506.24
Repayment of loan during the year (E)	24964.07	25098.28	25167.18	25197.73	25190.66
Repayment adjustment on account of de-capitalization (F)	51.26	79.34	182.18	302.79	329.90
Net Repayment (G) = [(E) - (F)]	24912.81	25018.94	24985.00	24894.94	24860.76
Net Loan Closing	233344.28	209198.57	184363.09	159887.81	134520.80

	2014-15	2015-16	2016-17	2017-18	2018-19
(H) =[(C) + (D) - (G)]					
Average Loan (I) = [(C+H)/2]	244637.05	221271.42	196780.83	172125.45	147204.31
Weighted Average Rate of Interest on loan (J)	9.5123%	9.3225%	9.1484%	8.7328%	8.7654%
Interest on Loan (K) = [(I) x (J)]	**23270.59**	**20628.03**	**18002.30**	**15031.37**	**12903.06**

Depreciation

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

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

76. Cumulative depreciation amounting to Rs.88867.59 lakh as on 31.3.2014, as considered in order dated 23.8.2016 in Petition No. 300/GT/2014 has been retained as on 1.4.2014 for the purpose of tariff. Since, as on 1.4.2014, the used life of the generating station i.e. 3.92 years is less than 12 years from the effective station COD of 1.5.2010, depreciation has been calculated by applying the weighted average rate of depreciation (WAROD), calculated in terms of the Regulation 27 of the 2014 Tariff Regulations. The calculation of WAROD is enclosed as Annexure-I to this order. Accordingly, depreciation has been worked out and allowed as under:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Average capital cost (A)	493820.98	496107.05	496837.58	497244.14	497182.30
Value of freehold land included in average capital cost (B)	7941.18	7941.18	7941.18	7941.18	7941.18
Depreciable value (C) = [(A-B)*90%]	437291.81	439349.28	440006.76	440372.66	440317.01
Remaining depreciable value at the beginning of the year (D) = [(C) - Cumulative Depreciation (shown at K) at the end of the previous year]	348424.22	325568.88	301207.43	276588.33	251637.73
Number of completed years at the beginning of the year (E)	3.92	4.92	5.92	6.92	7.92
Balance useful life at the beginning of the year (F) = [25 - (E)]	21.08	20.08	19.08	18.08	17.08
Weighted Average Rate of Depreciation (G)	5.0553%	5.0590%	5.0655%	5.0675%	5.0667%
Depreciation during the year (H) = [(A) x (G)]	**24964.07**	**25098.28**	**25167.18**	**25197.73**	**25190.66**
Cumulative depreciation at the end of the year (before adjustment for de-capitalization)	113831.66	138878.68	163966.51	188982.07	213869.94

	2014-15	2015-16	2016-17	2017-18	2018-19
(I) = [(H) + Cumulative Depreciation (shown at K) at the end of the previous year]					
Less: Depreciation adjustment on account of de-capitalization (J)	51.26	79.34	182.18	302.79	329.90
Cumulative depreciation at the end of the year (K)= (I) - (J)	113780.40	138799.34	163784.34	188679.28	213540.04

O&M Expenses

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

"*Normative Operation and Maintenance expenses of thermal generating stations shall be as follows:*
(a) Coal based and lignite fired (including those based on Circulating Fluidised Bed Combustion (CFBC) technology) generating stations, other than the generating stations/units referred to in clauses (b) and (d):

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

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

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

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

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Normative O&M expenses in terms of Regulation 29(1)(a) of the 2014 Tariff Regulations	15680.00	16669.80	17718.40	18835.60	20021.40
O&M expenses under Regulation 29(2) of the 2014 Tariff Regulations					
Water Charges	187.68	178.49	164.89	171.93	152.92
Capital Spares consumed	173.22	606.72	499.28	963.33	905.70

Total O&M expenses claimed (Regulation 29(1) & Regulation 29 (2) of the 2014 Tariff Regulations	16040.90	17455.02	18382.57	19970.86	21080.02
Impact of Pay revision	0.00	54.93	2488.13	2940.85	3487.95
Impact of GST	0.00	0.00	0.00	175.09	260.51
Total O&M expenses claimed	**16040.90**	**17509.95**	**20870.70**	**23086.80**	**24828.48**

79. The normative O&M expenses claimed by Petitioner are in terms of Regulation 29(1)(a) of the 2014 Tariff Regulations and are the same as allowed by order dated 2.5.2017 in Petition No. 324/GT/2014. Hence, the claim of the Petitioner for normative O&M expenses is allowed.

<u>Water Charges</u>

80. First 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:*
>
> *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"*

81. The Petitioner in support of claim has submitted notification dated 15.7.2011 and 1.8.2011 from the State Irrigation Department for computation of water charges. The Petitioner vide affidavit dated 4.6.2021 has furnished Audited Form 3(B), in respect of the actual water charges incurred for the 2014-19 tariff period, along with the computation of the year-wise claim as shown in the table below:

Sr. No.	Item	Unit	2014-15	2015-16	2016-17	2017-18	2018-19
1	Type of Cooling Tower	-	Natural Draft				
2	Type of Cooling Water System	-					
3	Water Allocation/ Contracted	Cusec	18.89	17.96	16.60	17.30	15.39
4	Canal Running Days						
5	Actual water Consumption	1000 Cubic Feet	595683.07	566540.78	523368.86	545704.99	485373.60
6	Rate of Water Charge	Rs./1000 Cubic Feet	12.48	12.48	12.48	12.48	12.48
7	Water Charges = (5) x (6)	Rs. lakh	74.34	70.70	65.32	68.10	60.57

Sr. No.	Item	Unit	2014-15	2015-16	2016-17	2017-18	2018-19
8	*Rate of Royalty Charge*	Rs. lakh/ cusec/Year	6.00	6.00	6.00	6.00	6.00
9	*Royalty Charges = (3) x (8)*	Rs. lakh	113.33	107.79	99.58	103.83	92.35
10	**Water Charges Paid**	**Rs. lakh**	**187.68**	**178.49**	**164.89**	**171.93**	**152.92**

82. After scrutiny of the said information and on prudence check, the audited actual water charges claimed by the Petitioner, as above, are allowed.

Capital spares

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

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

84. As per the last proviso to Regulation 29(2) of the 2014 Tariff Regulations, capital spares are admissible separately. The Petitioner has claimed total actual capital spares for Rs.3148.26 lakh during the period 2014-19 (i.e. Rs.173.22 lakh in 2014-15, Rs.606.72 lakh in 2015-16, Rs.499.28 lakh in 2016-17, Rs.963.33 lakh in 2017-18 and Rs.905.70 lakh in 2018-19). The Petitioner has submitted that in order to meet the customers demand and to maintain high machine availability at all times by the generating station, the units/ equipment's are taken under overhaul/maintenance and inspected regularly for wear and tear. It has stated that during such works, spares parts of equipment's which had been damaged/ unserviceable are replaced/consumed so that the machines continue to perform at expected efficiency, on a sustained basis. Therefore, the Petitioner has prayed that capital spares replaced/consumed by the generating station during the 2014-19 tariff period may be allowed.

85. The Petitioner vide affidavit dated 4.6.2021 has submitted Audited Form-17 in support of capital spares consumed. The details of the capital spares submitted by the Petitioner in Form 9Bi are as follows:

(Rs. in lakh)

Year	**Capital Spares (part of capital cost) (A)**	**Capital Spares (not part of capital cost) (B)**	**Total Capital Spares consumed (A) + (B)**
2014-15	173.22	0.00	173.22
2015-16	325.04	281.68	606.72
2016-17	475.33	23.94	499.28
2017-18	727.93	235.40	963.33
2018-19	501.87	403.83	905.70

86. 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 capital spares claimed comprise of two categories i.e. (i) spares which form part of the capital cost and (ii) spares which do not form part of the capital cost of the project. In respect of capital spares which form part of the capital cost of the project, the Petitioner has been recovering tariff since their procurement and, therefore, the same cannot be allowed as part of additional O&M expenses. Accordingly, only those capital spares, which do not form part of the capital cost of the project, are being considered. 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 2014-19 tariff period is summarized as follows:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Capital Spares (not part of capital cost) claimed (A)	0.00	281.68	23.94	235.40	403.83
Value of capital spares (of Rs. 1 lakh and below) disallowed on individual basis (B)	0.00	0.14	0.65	0.00	0.91
Net total value of capital spares considered (C) = (A) - (B)	0.00	281.54	23.30	235.40	402.92

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

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Net total value of capital spares considered (A)	0.00	281.54	23.30	235.40	402.92
Salvage value @ 10% (B)	0.00	28.15	2.33	23.54	40.29
Net Claim allowed (C) = [(A)*(B)]	**0.00**	**253.39**	**20.97**	**211.86**	**362.63**

Impact of Goods and Service Tax (GST)

88. The Petitioner has claimed impact of GST for Rs.175.09 lakh in 2017-18 and Rs.260.51 lakh in 2018-19. It is observed that the Commission while specifying the O&M expense norms for the 2014-19 tariff period had considered taxes to form part of the O&M expense calculations and accordingly, had factored the same in the said norms. This is evident from para 49.6 of the SOR to the 2014 Tariff Regulations, which is extracted as follows:

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

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

Impact of wage revision

90. The Petitioner has claimed an amount of Rs.8971.86 lakh (Rs.54.93 lakh in 2015-16, Rs.2488.13 lakh in 2016-17, Rs.2940.85 lakh in 2017-18 and Rs.3487.95 lakh in 2018-19) as impact of wage revision in respect of employees of CISF and Kendriya Vidyalya Staff from 1.1.2016 and the employees of the Petitioner posted in 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.7864.93 lakh with the following year-wise break-up:

(Rs. in lakh)

	2015-16	**2016-17**	**2017-18**	**2018-19**	**Total**
Wage revision impact claimed excluding PRP/ exgratia	54.93	2488.13	2719.55	2602.33	7864.93

91. The Petitioner vide its affidavit dated 4.6.2021 has submitted the following:

(a) Comparative table indicating the actual O&M expenses incurred at this generating station versus the normative O&M expenses allowed for the 2014-19 tariff period for the whole generating station (i.e. all Stages of NCTPS);

(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;

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

> *"29.26 Some of the generating stations have suggested that the impact of pay revision should be allowed on the basis of actual share of pay revision instead of normative 40% and one generating company suggested that the same should be considered as 60%. In the draft Regulations, the Commission had provided for a normative percentage of employee cost to total O&M expenses for different type of generating stations with an intention to provide a ceiling limit so that it does not lead to any exorbitant increase in the O&M expenses resulting in spike in tariff. The Commission would however, like to review the same considering the macroeconomics involved as these norms are also applicable for private generating stations. In order to ensure that such increase in employee expenses on account of pay revision in case of central generating stations and private generating stations are considered appropriately,* ***the Commission is of the view that it shall be examined on case to case basis, balancing the interest of generating stations and consumers.***
>
> *33.2 The draft Regulations provided for a normative percentage of employee cost to total O&M expenses for generating stations and transmission system with an intention to provide a ceiling limit so that the same should not lead to any exorbitant increase in the O&M expenses resulting in spike in tariff. The Commission shall examine the increase in employee expenses on case to case basis and shall consider the same if found appropriate, to ensure that overall impact at the macro level is sustainable and thoroughly justified. Accordingly, clause 29(4) proposed in the draft Regulations has been deleted.* ***The impact of wage revision shall only be given after seeing impact of one full year and if it is found that O&M norms provided under Regulations are inadequate/insufficient to cover all justifiable O&M expenses for the particular year including employee expenses, then balance amount may be considered for reimbursement.****"*

93. The methodology indicated in the SOR above suggests a comparison of the normative O&M expenses with the actual O&M expenses, on a year to year basis. However, in this respect, the following facts need consideration:

a) The norms are framed based on the averaging of the actual O&M expenses of past five years to capture the year on year variations in sub-heads of O&M;

b) Certain cyclic expenditure may occur with a gap of one year or two years and as such adopting a longer duration i.e. five years for framing of norms also captures such expenditure which is not incurred on year to year basis;

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

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

95. The matter has been examined. The Petitioner has furnished the detailed break-up of the actual O&M expenses incurred during the 2014-19 tariff period for combined stages i.e. Stage-I and Stage-II of the generating station (1820.00 MW). It is noticed that the total O&M expenses incurred is more that the normative O&M expenses recovered during each year of the 2014-19 tariff period. The impact of the wage revision could not be factored by the Commission while framing the O&M expenses norms under the 2014-19 Tariff Regulations since the pay/ wage revision came into effect from 1.1.2016 (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 approach followed for arriving at the allowable impact of pay revision is given in the subsequent paragraphs.

96. First step is to compare the normative O&M expenses with the actual O&M expenses for the period from 2015-16 to 2018-19, commensurate to the period for which wage revision impact has been claimed. For like to like comparison, the components of O&M expenses like productivity linked incentive, water charges, filing fees, ex-gratia, loss of provisions, prior period expenses, community development, store expenses, ash utilization expenses, RLDC fee & charges and others (without breakup/ details) which were not considered while framing the O&M expenses norms for the 2014-19 tariff period, have been excluded from the yearly actual O&M expenses of the generating station as well as corporate centre. Having brought the normative O&M expenses and actual O&M expenses at same level, if normative O&M expenses for the period 2015-19 are higher than actual O&M expenses (normalized) for the same period, the impact of wage revision (excluding PRP and ex-gratia) as claimed for the period is not admissible/ allowed as the impact of pay revision gets accommodated within the normative O&M expenses. However, if the normative O&M expenses for the period 2015-19 are less than the actual O&M expenses (normalized) for the same period, the wage revision impact (excluding PRP and ex-gratia) to the extent of under recovery or wage revision impact (excluding PRP and ex-gratia), whichever is lower, is required to be allowed as wage revision impact for the period 2015-19.

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

(Rs. in lakh)

	2015-16	**2016-17**	**2017-18**	**2018-19**	**Total**
Actual O&M expenditure incurred for NCTPS Dadri Stage-II (980 MW) excluding water charges (A)	22474.73	24203.31	26418.57	27726.51	100823.12

	2015-16	2016-17	2017-18	2018-19	Total
Normative O&M recovery in tariff of NCTPS Dadri Stage- II (980 MW) (B)	16669.80	17718.40	18835.60	20021.40	73245.20
Under-recovery (C) = [(B) -(A)]	(-) 5804.93	(-) 6484.91	(-) 7582.97	(-) 7705.11	(-) 27577.92
Wage revision impact claimed excluding PRP/ex-gratia (D)	54.93	2488.13	2719.55	2602.33	7864.93

98. 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 (normalized) for the combined Stage-I and Stage-II of the generating station (1820 MW). Accordingly, the following table portrays the comparison of normative O&M expenses versus the actual O&M expenses (normalized) along with wage revision impact claimed by the Petitioner for the generating station (Stage-II 980 MW) for period 2015-19 (on combined basis) 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 NCTPS Stage (Combined for stage-I and II) (a)	37792.27	41888.88	43493.87	46048.45	169223.47
Actual O&M expenditure (normalized) for NCTP Stage -II prorated based on capacity (b)	20349.68	22555.55	23419.78	24795.32	91120.33
Normative O&M Expenses for NCPTS Stage -II (c)	16669.80	17718.40	18835.60	20021.40	73245.20
Under-recovery (d) = [(c)-(b)]	(-) 3679.88	(-) 4837.15	(-) 4584.18	(-) 4773.92	(-) 17875.13
Wage revision impact claimed excluding PRP/ ex-gratia	54.93	2488.13	2719.55	2602.33	7864.93
Wage revision impact allowed excluding PRP/ exgratia	54.93	2488.13	2719.55	2602.33	7864.93

99. It is observed that for the period 2015-19, the normative O&M expenses is lesser than the actual O&M expenses (normalized) incurred and the under recovery is to the tune of Rs.17875.13 lakh, which also includes the under recovery of Rs.7864.93 lakh due to wage revision impact. As such, in terms of methodology as discussed above, the wage revision impact (excluding PRP/incentive) of Rs.7864.93 lakh is

allowable for the generating station.

100. Accordingly, we, in exercise of the Power under Regulation 54 of the 2014 Tariff Regulations, relax Regulation 29(1) of the 2014 Tariff Regulations, and allow the reimbursement of the wage revision impact amounting to Rs.7864.93 lakh, as additional O&M expenses for the period 2015-19. The arrear payments on account of the wage revision impact is payable by the beneficiaries in twelve equal monthly instalments during 2022-23. Keeping in view the consumer interest, we as a special case, direct that no interest shall be charged by the Petitioner on the arrear payments on the wage revision impact allowed in this order. This arrangement, in our view, will balance the interest of both the Petitioner and the Respondents. Also, considering the fact that the impact of wage revision is being allowed in exercise of the power to relax, the expenses allowed are not made part of the O&M expenses and the consequent annual fixed charges determined in this order.

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

(Rs. in lakh)

		2014-15	2015-16	2016-17	2017-18	2018-19
Installed Capacity (MW) (A)		980.00	980.00	980.00	980.00	980.00
O&M Expenses under Regulation 29(1) in Rs. lakh / MW (B)		16.00	17.01	18.08	19.22	20.43
Total O&M Expenses (in Rs. lakh) (C) = [(A)*(B)]	Claimed	15680.00	16669.80	17718.40	18835.60	20021.40
	Approved	15680.00	16669.80	17718.40	18835.60	20021.40
Water Charges (in Rs. lakh) (D)	Claimed	187.68	178.49	164.89	171.93	152.92
	Approved	187.68	178.49	164.89	171.93	152.92
Capital Spares Consumed (in Rs. lakh) (E)	Claimed	173.22	606.72	499.28	963.33	905.70
	Approved	0.00	253.39	20.97	211.86	362.63
Total O&M Expenses as allowed (including Water Charges and Capital Spares Consumed) (F) = (C+D+E)	**Claimed**	**16040.90**	**17455.02**	**18382.57**	**19970.86**	**21080.02**
	Approved	**15867.68**	**17101.68**	**17904.26**	**19219.39**	**20536.95**
Additional O&M Expenditure						
Impact of Wage Revision (in Rs. lakh) (G)	Claimed	0.00	54.93	2488.13	2940.85	3487.95
	Approved	0.00	54.93	2488.13	2719.55	2602.33
Impact of GST (in Rs. lakh)	Claimed	0.00	0.00	0.00	175.09	260.51

		2014-15	2015-16	2016-17	2017-18	2018-19
(H)	Approved	0.00	0.00	0.00	0.00	0.00
Sub Total Additional O&M Expenditure (I) = (G+H)	Claimed	0.00	54.93	2488.13	3115.94	3748.46
	Approved	0.00	54.93	2488.13	2719.55	2602.33
Total O&M Expenses in Rs. lakh (J) = (F+I)	**Claimed**	**16040.90**	**17509.95**	**20870.70**	**23086.80**	**24828.48**
	Approved	**15867.68**	**17156.61**	**20392.39**	**21938.94**	**23139.28**

Operational Norms

Normative Annual Plant Availability Factor

102. The Normative Annual Plant Availability Factor of 83% for 2014-15 to 2016-17 and 85% for 2017-18 and 2018-19, as approved by order dated 2.5.2017 in Petition No. 324/GT/2014 in accordance with the provisions of Regulation 36 (A) of the 2014 Tariff Regulations, is allowed.

Auxiliary Energy Consumption

103. The Normative Auxiliary Energy Consumption of 5.25% for 2014-15 to 2018-19, as approved by order dated 2.5.2017 in Petition No. 324/GT/2014 in accordance with the provisions of Regulation 36 (E)(a)(ii) of the 2014 Tariff Regulations is allowed.

Station Heat Rate

104. The Gross Station Heat Rate of 2378.42 Kcal/ kWh as approved by order dated 2.5.2017 in Petition No. 324/GT/2014, in accordance with the provisions of Regulation 36 (C) of the 2014 Tariff Regulations has been allowed.

Interest on working capital

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

> *"28. Interest on Working Capital:*
>
> *(1) The working capital shall cover:*
>
> *(a) Coal-based/lignite-fired thermal generating stations:*
>
> *(i) Cost of coal or lignite and limestone towards stock if applicable for 15 days for pit-head generating stations and 30 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;*
>
> *(ii) Cost of coal or lignite and limestone for 30 days for generation corresponding to the*

normative annual plant availability factor;

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

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

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

(vi) Operation and maintenance expenses for one month.

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

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

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

Fuel Components for calculating working capital

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

107. In terms of Regulation 30 (6) of the 2014 Tariff Regulations, for determination of the Energy Charges in working capital, the GCV on 'as received 'basis is to be considered. Regulation 30 (7) of the 2014 Tariff Regulations provides as under:

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

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

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

108. The issue of ‘as received’ GCV for 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 ‘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 2014-19 tariff period), decided as under:

> *“58. In view of the above discussion, the issues referred by the Hon’ble High Court of Delhi are decided as under:*
>
> *“(a) There is no basis in the Indian Standards and other documents relied upon by NTPC etc. to support their claim that GCV of coal on as received basis should be measured by taking samples after the crusher set up inside the generating station, in terms of Regulation 30(6) of the 2014 Tariff regulations.*
>
> *(b)The samples for the purpose of measurement of coal on as received basis should be collected from the loaded wagons at the generating stations either manually or through the Hydraulic Auger in accordance with provisions of IS 436(Part1/Section1)-1964 before the coal is unloaded. While collecting the samples, the safety of personnel and equipment as discussed in this order should be ensured. After collection of samples, the sample preparation and testing shall be carried out in the laboratory in accordance with the procedure prescribed in IS 436(Part1/Section1)-1964 which has been elaborated in the CPRI Report to PSERC.”*

109. The review petition filed by the Petitioner against the aforesaid order dated 25.1.2016 was rejected by the Commission vide order dated 30.6.2016 in Petition No.11/RP/2016. The Petitioner filed Petition No. 244/MP/2016 before this Commission praying for 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 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 appeal before the APTEL in Appeal Nos. 291/2018 (GRIDCO v NTPC & others) and the same is pending.

110. In Petition No. 324/GT/2014 filed by the Petitioner for determination of tariff of this generating station for the 2014-19 tariff period, the Petitioner had not furnished GCV of coal on 'as billed' and on 'as received' basis for the preceding 3 months i.e. for January 2014, February 2014 and March 2014 that were required for determination of IWC. Therefore, in the absence of GCV of coal on 'as billed' as well as on 'as received' basis for the said preceding 3 months, the computation of fuel component and 2 months energy charges in working capital was not considered for the 2014-19 tariff period 2014-19.

111. The Petitioner, in this petition, has claimed the fuel related components of working capital based on GCV of coal as 3752.13 kCal/kg (as indicated at Form-13F) consequent to the order of the Commission dated 2.5.2017 in Petition No. 324/GT/2014. This "as received" GCV of 3752.13 kCal/kg represents the average of monthly as received GCVs for 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 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 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 fuel component in the working capital of the generating station as follows:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Cost of Coal towards stock (30 days)	17223.86	17223.86	17223.86	17638.89	17638.89
Cost of Coal towards	17223.86	17223.86	17223.86	17638.89	17638.89

	2014-15	2015-16	2016-17	2017-18	2018-19
Generation (30 days)					
Cost of Secondary fuel oil 2 months	216.58	217.18	216.58	221.80	221.80

112. The Petitioner has also submitted that it has filed separate petition (Petition No. 244/MP/2016) seeking appropriate reliefs due to extreme practical difficulty faced by the Petitioner in implementing Regulation 30(6) of the 2014 Tariff Regulations and directions issued by the Commission in its order dated 25.1.2016 and for consequential directions. It has also sought liberty to make additional submissions based on the final decision in Petition No. 244/MP/2016.

113. In response to the clarification sought from the Petitioner on the details of GCV on 'as received' basis for the months of January, 2014 to March, 2014, which was uploaded in the website of the Petitioner and shared with the beneficiaries, the Petitioner vide affidavit dated 4.6.2021, has submitted that though the computation of energy charges moved from 'as fired' basis to 'as received' basis, with effect from 1.4.2014, in terms of Regulation 30(6) of the 2014 Tariff Regulations, however, for calculation of IWC under Regulation 28(2) of the 2014 Tariff Regulations, the GCV shall be as per 'actuals' for the three months preceding the first month for which tariff is to be determined. It has further submitted that for the 2014-19 tariff period, Regulation 28(2) of the 2014 Tariff Regulations unequivocally provide that the actual cost and GCV of the preceding three months shall be considered and for these preceding three months (January 2014 to March 2014), by virtue of it falling under the 2009 Tariff Regulations, shall be computed on the basis of 'as fired' GCV. Referring to the judgment of the Hon'ble Supreme Court in PTC India v CERC (2010) 4 SCC 603 and the judgment of APTEL in NEEPCO v TERC (2006) APTEL 148, the Petitioner has submitted that the Commission is bound by the provisions of the tariff regulations and that purposive interpretation ought to be given to the 2014 Tariff

Regulations and interest on working capital ought to be computed in terms of Regulation 28 (2) of the 2014 Tariff Regulations, 2014 on actual GCV i.e. ‘as fired’ GCV. The Petitioner, without prejudice to the above submissions, has furnished the details of GCV on ‘as received’ basis for the months of January 2014 to March 2014, in compliance with the directions of the Commission, as under:

Sr. No.	Month	Weighted Average GCV of coal received (EM basis) (kcal/kg) (A)	Total Moisture (TM) (in %) (B)	Equilibrated Moisture (EM) (in %) (C)	Weighted Average GCV of coal received (TM basis) (kcal/kg) (D)=[A*(1-B%)/(1-C%)]
1	January 2014	4268.77	9.53	5.48	4085.98
2	February 2014	4031.15	10.82	6.57	3847.61
3	March 2014	4157.5	11.10	7.00	3974.19
	Average				**3969.26**

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

115. Regulation 28(2) of the 2014 Tariff Regulations provides that the computation of cost of fuel as a part of IWC is to be based on the landed price and gross calorific value of the fuel, as per actuals, for the three months preceding the first month for which the tariff is to be determined. Thus, calculation of IWC for 2014-19 tariff period is to be based on such values for months of January 2014, February 2014 and March 2014. The Petitioner has not been able to furnish these values at the time of determination of tariff for the 2014-19 tariff period in Petition No. 324/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 since the measurement of 'as received' GCV has been done in accordance with directions of the Commission vide order dated 25.1.2016 in Petition No. 283/GT/2014. In our view, the proposal of the Petitioner to consider the retrospective application of 30 months' (October 2016 to March 2019) average of 'as received' GCV data in place of 'as received' GCV of the preceding three months (January 2014 to March 2014) is not acceptable, keeping in view that the average GCV for 30 months may not be commensurate to the landed cost of coal for the preceding three months to be considered for calculating IWC in terms of Regulation 28(2) of the 2014 Tariff Regulations and that due to efflux of time (gap of 30 month), the quality of coal extracted from the linked mines would have undergone considerable changes. Also, the consideration of loss of GCV of 120 kCal/kg cannot be considered, as the same is not as per provisions of the 2014 Tariff Regulations.

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

> *"The following provisos shall be added under Clause (6) of Regulation 21 of the Principal Regulations as under, namely:*
>
> *Provided that generating company shall provide to the beneficiaries of the generating station the details of parameters of GCV and price of fuel i.e. domestic coal, imported*

coal, e-auction coal, lignite, natural gas, RLNG, liquid fuel etc., as per the form 15 of the Part-I of Appendix I to these regulations:

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

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

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

118. As per SOR to the 2014 Tariff Regulations, we note that the main consideration of the Commission while moving from 'as fired' GCV to 'as received' GCV for the purpose of energy charges under Regulation 30(6) of the 2014 Tariff Regulations for the 2014-19 tariff period was to ensure that GCV losses which might occur within the generating station after receipt of coal are not passed on to the beneficiaries on account of improper handling and storage of coal by the generating companies. As regards the allowable (normative) storage loss within the generating station, CEA had observed that there is negligible difference between 'as received' GCV and 'as fired' GCV. As such, for the purpose of calculating energy charges, the Commission moved from 'as fired' GCV to 'as received' GCV under Regulation 30(6) of the 2014 Tariff Regulations without allowing any margin between the two measurements of GCV. Thus, 'as received' GCV was made applicable for the purpose of calculating working capital requirements based on the actual GCV of coal for the preceding three months of the first month for which tariff is to be determined in terms of Regulation 28(2) of

2014 Tariff Regulations. In case the submission of the Petitioner that ‘as fired’ is to be considered ‘at actuals’ for the preceding three months for purpose of IWC, the same would mean allowing (and passing through) all storage losses which would have occurred during the preceding three months (January 2014 to March 2014) for the 2014-19 tariff period. This, according to us, defeats the very purpose of moving from ‘as fired’ GCV to ‘as received’ GCV in the 2014 Tariff Regulations. In this background and keeping in view that in terms of amended Regulation 21(6) of the 2009 Tariff Regulations, the Petitioner is required to share details of the weighted average GCV of the fuel on ‘as received’ basis, we consider the fuel component and energy charges 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.

119. The Petitioner has calculated GCV of 3752.13 kCal/kg which represents the simple average of GCV of the preceding three months. The weighted average GCV for three months, based on the net coal quantities as per Form-15 of the petition and the monthly GCVs as submitted by the Petitioner as discussed earlier, works out to 4152.47 kCal/kg.

120. Accordingly, the cost for fuel components in working capital has been computed considering the fuel details (price and GCV) as per Form-15 of the petition except for ‘as received’ GCV of coal, which is considered as 4152.47 kCal/kg as discussed above. All other operational norms such as Station Heat Rate Auxiliary Energy Consumption and Secondary Fuel Cost have been considered as per the 2014 Tariff Regulations for calculation of fuel components in working capital.

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

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal towards stock (30 days)	15503.58	15503.58	15503.58	15877.16	15877.16
Cost of Coal towards generation (30 days)	15503.58	15503.58	15503.58	15877.16	15877.16
Cost of Secondary fuel oil 2 months	216.58	217.18	216.58	221.80	221.80

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

123. The Petitioner has considered average GCV of coal for 30 months as 3752.13 kCal/kWh (including adjustment of GCV of 120 kCal/kg) and weighted average price of coal as 4649.19 Rs./MT, while the Commission has considered the same as 4152.47 kCal/kg and 4631.35 Rs./MT respectively. The storage loss of 120 kCal/kg, as considered by the Petitioner, has not been considered as there is no such provision in 2014 Tariff Regulations.

Energy Charge Rate (ECR) for calculating working capital

124. Regulation 30(6)(a) of the 2014 Tariff Regulations provides for computation and payment of Energy Charge for thermal generating stations:

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

(a) For coal based and lignite fired stations
ECR = {(GHR – SFC 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

125. The Petitioner has claimed Energy Charge Rate (ECR) ex-bus of 312.32 Paise/kWh for the generating station based on the landed cost of coal during preceding three months, GCV of coal [on 'as received' basis for average of 30 months] along with the storage loss of 120 kCal/kWh} & GCV and price of Oil procured and burnt for the preceding three months of 2014-19 tariff period for the generating station. Since these claims of the Petitioner has not be 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 4152.47 kCal/kg is worked out as follows:

	Unit	**2014-19**
Capacity	MW	980.00
Gross Station Heat Rate	Kcal/kWh	2378.42
Auxiliary Energy Consumption	%	5.25%
Weighted average GCV of oil (As received)	Kcal/lit	9780.12
Weighted average GCV of coal (As received)	Kcal/kg	4152.47
Weighted average price of oil	Rs./KL	36475.40
Weighted average price of Coal	Rs./MT	4631.35
Rate of energy charge ex-bus	**Rs./kWh**	**2.813**

Working Capital for Maintenance Spares

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

(Rs. in lakh)

2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
3208.18	3501.99	4174.14	4617.36	4965.70

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

(Rs. in lakh)

2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
3173.54	3420.34	3580.85	3843.88	4107.39

Working Capital for Receivables

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

(Rs.in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Variable Charges - for two months (A)	31652.35	31739.07	31652.35	32415.06	32415.06
Fixed Charges – for two months (B)	17593.66	17434.97	17146.69	16917.27	16799.51
Total (C) = (A+B)	**49246.01**	**49174.04**	**48799.05**	**49332.33**	**49214.57**

Working Capital for O & M Expenses

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

(Rs. in lakh)

2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
1336.74	1459.16	1739.22	1923.90	2069.04

130. Regulation 28(a)(vi) of the 2014 Tariff Regulations provides for O&M expenses for one month for coal-based generating station as a part of working capital. The one-month O&M expenses, as allowed for tariff purpose is shown in table as follows:

(Rs. in lakh)

2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
1322.31	1425.14	1492.02	1601.62	1711.41

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

Rate of interest on working capital

132. 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).

133. Accordingly, Interest on working capital has been computed as follows:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Working capital for cost of coal towards stock for 30 days (A)	15503.58	15503.58	15503.58	15877.16	15877.16
Working capital for cost of coal towards generation for 30 days (B)	15503.58	15503.58	15503.58	15877.16	15877.16
Working capital for cost of oil for 2 months (C)	216.58	217.18	216.58	221.80	221.80
Working capital for O&M expenses for 1 month (D)	1322.31	1425.14	1492.02	1601.62	1711.41
Working capital for Maintenance Spares (20% of O&M) (E)	3173.54	3420.34	3580.85	3843.88	4107.39
Working capital for Receivables for 2 months (F)	49246.01	49174.04	48799.05	49332.33	49214.57
Total Working Capital (G) = (A+B+C+D+E+F)	**84965.60**	**85243.87**	**85095.67**	**86753.95**	**87009.50**
Rate of Interest (H)	13.50%	13.50%	13.50%	13.50%	13.50%
Total Interest on Working capital (I) = [(G) x (H)]	**11470.36**	**11507.92**	**11487.92**	**11711.78**	**11746.28**

Annual Fixed Charges

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

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	24964.07	25098.28	25167.18	25197.73	25190.66
Interest on Loan	23270.59	20628.03	18002.30	15031.37	12903.06
Return on Equity	29989.25	30273.94	30318.52	30343.33	30420.10
Interest on Working Capital	11470.36	11507.92	11487.92	11711.78	11746.28
O&M Expenses	15867.68	17101.68	17904.26	19219.39	20536.95
Total Annual Fixed Charges	**105561.94**	**104609.85**	**102880.17**	**101503.61**	**100797.05**

135. The difference between the annual fixed charges recovered by the Petitioner in order dated 2.5.2017 in Petition No. 324/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.

Summary

136. The annual fixed charges approved for the 2014-19 tariff period in respect of the generating station is summarized as follows:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Total annual fixed charges	105561.94	104609.85	102880.17	101503.61	100797.05
Impact of Pay Revision	0.00	54.93	2488.13	2719.55	2602.33

137. Annexure-I given below shall form part of the order.

138. Petition No. 190/GT/2020 stands disposed of in terms of the above.

Sd/-	*Sd/-*	*Sd/-*
(Pravas Kumar Singh)	**(I.S. Jha)**	**(P.K. Pujari)**
Member	**Member**	**Chairperson**

Annexure-I

Depreciation for the 2014-19 Tariff Period

(Rs. in lakh)

S.NO.	Name of Asset	Gross Block as on 31.03.2014	Gross Block as on 31.03.2015	Gross Block as on 31.03.2016	Gross Block as on 31.03.2017	Gross Block as on 31.03.2018	CERC Dep. Rate	Depreciation as on 31.03.2014	Depreciation as on 31.03.2015	Cumulative Depreciation as on 31.03.2016	Cumulative Depreciation as on 31.03.2017	Cumulative Depreciation as on 31.03.2018
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9 = 3 x 8**	**10 = 4 x 8**	**11 = 5 x 8**	**12 = 6 x 8**	**13 = 7 x 8**
1	Freehold Land	7,941.18	7,941.18	7,941.18	7,941.18	7,941.18	0.00%	-	-	-	-	-
2	Roads, bridges, culverts & helipads	3,150.26	3,158.64	3,157.09	3,157.96	3,478.07	3.34%	105.22	105.50	105.45	105.48	116.17
3	Main Plant Buildings	35,650.53	35,649.53	35,659.60	35,632.62	35,632.62	3.34%	1,190.73	1,190.69	1,191.03	1,190.13	1,190.13
4	Other Buildings	4,071.15	5,006.45	5,165.38	5,213.14	5,910.50	3.34%	135.98	167.22	172.52	174.12	197.41
5	Temporary erection	-	-	-	-	-	100.00%	-	-	-	-	-
6	Water supply, drainage & sewage	669.96	681.94	675.39	675.39	675.39	5.28%	35.37	36.01	35.66	35.66	35.66
7	MGR track and signalling system	768.64	768.64	767.29	767.29	767.29	5.28%	40.58	40.58	40.51	40.51	40.51
8	Railway siding	5,660.46	5,690.48	5,690.48	5,862.86	5,862.28	5.28%	298.87	300.46	300.46	309.56	309.53
	Earth dam reservoir		-	-	4,001.44	4,001.44	5.28%	-	-	-	211.28	211.28
9	Plant and machinery	418,232.4	417,090.5	420,077.9	419,806.3	422,376.4	5.28%	22,082.67	22,022.38	22,180.11	22,165.77	22,301.47
10	Furniture and fixtures	1,287.84	1,657.19	1,682.24	1,798.80	1,887.81	6.33%	81.52	104.90	106.49	113.86	119.50
11	Other Office Equipments	530.41	639.73	909.98	972.56	1,033.88	6.33%	33.58	40.49	57.60	61.56	65.44
12	EDP, WP machines & SATCOM equipment	514.20	606.20	888.23	1,067.09	1,082.81	15.00%	77.13	90.93	133.23	160.06	162.42
13	Vehicles including speedboats	24.47	28.57	27.07	27.07	27.07	9.50%	2.32	2.71	2.57	2.57	2.57
14	Construction equipment	776.34	810.04	1,465.50	1,541.26	1,541.26	5.28%	40.99	42.77	77.38	81.38	81.38
15	Electrical installations	1,796.75	1,842.78	1,841.85	1,854.10	1,872.18	6.33%	113.73	116.65	116.59	117.36	118.51
16	Communication equipment	217.56	254.44	301.94	312.91	325.94	6.33%	13.77	16.11	19.11	19.81	20.63
17	Hospital equipment	123.09	133.76	134.04	135.50	153.57	5.28%	6.50	7.06	7.08	7.15	8.11
18	Laboratory and workshop equipment	15.11	15.11	17.57	62.58	62.58	5.28%	0.80	0.80	0.93	3.30	3.30
19	Software	249.80	252.17	262.01	264.82	264.82	15.00%	37.47	37.82	39.30	39.72	39.72
20	Capex on assets not owned by the company	752.21	752.41	-0.00	-0.00	-0.00	5.28%	39.72	39.73	- 0.00	- 0.00	- 0.00
21	Right of Use - Others	22,573.98	23,966.84	23,966.84	23,966.84	23,966.84	5.28%	1,191.91	1,265.45	1,265.45	1,265.45	1,265.45
	Total	**505,006.41**	**506,946.56**	**510,631.55**	**515,061.73**	**518,863.94**	**-**	**25,528.86**	**25,628.26**	**25,851.47**	**26,104.75**	**26,289.20**
	Weighted Average Rate of Depreciation (%)							**5.05529%**	**5.05904%**	**5.06547%**	**5.06748%**	**5.06668%**

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