

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 507/TT/2019

Coram:

**Shri P.K. Pujari, Chairperson
Shri I.S. Jha, Member**

Date of Order: 12.06.2020

In the matter of:

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and truing-up of transmission tariff of the 2014-19 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of the 2019-24 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 of Asset-I: 400 kV, 125 MVAR Bus Reactor along with associated bay at Biharsharif Sub-station, Asset-II: 220 kV/132 kV, 160 MVA ICT-I along with associated bay at Purnea Sub-station, Asset-III: 220 kV/132 kV, 160 MVA ICT-II along with associated bay at Purnea Sub-station under "Part-II i.e. Augmentation of transformation capacity and reactive compensation" in Eastern Region.

And in the matter of:

Power Grid Corporation of India Limited,
"Saudamini", Plot No. 2,
Sector 29, Gurgaon-122001
Haryana

...Petitioner

Vs

1. Bihar State Power (Holding) Company Ltd.,
(Formerly Bihar State Electricity Board-BSEB)
Vidyut Bhavan, Bailey Road,
Patna-800 001, (Bihar)
2. West Bengal State Electricity Distribution Company Ltd.,
Bidyut Bhawan, Bidhan Nagar
Block DJ, Sector-II, Salt Lake City
Calcutta- 700 091, (West Bengal)
3. Grid Corporation of Orissa Ltd.,
Shahid Nagar,
Bhubaneswar-751 007, (Orissa)



4. Jharkhand State Electricity Board,
In front of Main Secretariat, Doranda,
Ranchi-834002, (Jharkhand)
5. Damodar Valley Corporation,
DVC Tower, Maniktala
Civic Centre, VIP Road,
Calcutta - 700 054, (West Bengal)
6. Power Department,
Government of Sikkim,
Gangtok-737 101, (Sikkim)

...Respondents

For Petitioner : Shri A. K. Verma, PGCIL
Shri Mukesh Bhakar, PGCIL
Shri Amit Yadav, PGCIL
Shri Amit Jain, PGCIL

For Respondents : None

ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. (hereinafter referred to as “the Petitioner”), a deemed transmission licensee, for truing up of tariff for the period from 1.4.2014 to 31.3.2019 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) and for determination of tariff for the period from 1.4.2019 to 31.3.2014 under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) in respect of Asset-I: 400 kV, 125 MVAR Bus Reactor along with associated bay at Biharsharif Sub-station, Asset-II: 220 kV/132 kV, 160 MVA ICT-I along with associated bay at Purnea Sub-station and Asset-III: 220 kV/132 kV, 160 MVA ICT-II along with associated bay at Purnea Sub-station (hereinafter collectively referred to as “the transmission assets/ Combined Asset”)



under “Part-II i.e. Augmentation of transformation capacity and reactive compensation in Eastern Region” (hereinafter referred to as “the transmission project”).

2. The Petitioner has made the following prayers in this Petition:-

“1) Approve the trued-up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the assets covered under this petition, as per para 10.2 and 11.0 in the instant petition.

2) Approve the Completion cost and Additional Capitalization incurred during 2014-19 & 2019-24.

3) Allow the Petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2014 and Tariff regulations 2019 as per para 10.2 and 11.0 for respective block.

4) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, and other expenditure (if any) in relation to the filing of petition.

5) Allow the Petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.

6) Allow the Petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2019-24 period, if any, from the respondents.

7) Allow the Petitioner to claim initial spares.

8) Allow the Petitioner to file a separate petition before Hon’ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned at para 11.6 in the instant petition.

9) Allow the Petitioner to claim the capital spares at the end of tariff block as per actual.

10) Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if GST on transmission is levied at any rate in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.

and pass such other relief as the Hon’ble Commission deems fit and appropriate under the circumstances of the case and in the interest of justice”



3. The Respondents are the distribution licensees and transmission utilities, who are procuring transmission services from the Petitioner, mainly beneficiaries of Eastern Region.

Background

4. The brief facts of the case are as follows:-

(a) The Investment Approval for the transmission project was accorded by the Board of Directors of PGCIL on 27.6.2012 for ₹9197 lakh including IDC of ₹290 lakh for Part I (i.e. Augmentation of transformation capacity and reactive compensation in NR) and for ₹3080 lakh including IDC of ₹125 lakh for Part-II (i.e. Augmentation of transformation capacity and reactive compensation in ER) based on April 2012 price level.

(b) The Revised Cost Estimate (RCE) was approved by the Board of Directors of the Petitioner vide Memorandum No. C/CP/RCE Aug. Tfr NR and ER Part-II dated 11.3.2016 at ₹3294 lakh including IDC of ₹86 lakh based on the August, 2015 price level.

(c) The scope of work covered in the “Augmentation of Transformation Capacity and Reactive Compensation in Northern and Eastern Region” is as under:-

Part-I: Augmentation of transformation capacity in Northern Region:

Sub-station:-

- (i) 1x315 MVA, 400/220 kV transformer at Nalagarh Sub-station alongwith associated bays;
- (ii) 1x315 MVA, 400/220 kV transformer at Abdullapur Sub-station alongwith associated bays;
- (iii) 1x500 MVA, 400/220 kV transformer at Amritsar Sub-station alongwith associated bays and 3 nos. of 220 kV line bays;
- (iv) 4x105 MVA, 400/220 kV transformer at Kisenpur Sub-station alongwith associated bays.

Part-II: Augmentation of Transformation capacity and Reactive compensation in Eastern Region:



Sub-station:-

- (i) 2x160 MVA, 220/132 kV transformer at Purnea Sub-station alongwith associated bays;
 - (ii) 1x125 MVAR, 400 kV Bus Reactor at Biharsharif Sub-station alongwith associated bays.
- (d) As per the Investment Approval dated 27.6.2012, the instant assets were scheduled to be put into commercial operation within 20 months i.e. by 27.2.2014.
- (e) The details of the assets covered in the instant petition and the time over-run in respect of these assets are as follows:-

Asset	Covered in Petition	COD	Time over-run	Time over- run condoned
Asset-I	No. 498/TT/2014	30.3.2015	13 months	6 months
Asset-II	No. 257/TT/2015	3.4.2016	25 months and 7 days	Not condoned
Asset-III	No. 257/TT/2015	11.6.2015	15 months and 15 days	Not condoned

- (h) The transmission tariff was allowed for the instant assets for the 2014-19 period vide order dated 18.3.2016 in Petition No. 498/TT/2014 and order dated 26.5.2016 in Petition No. 257/TT/2015. The revised transmission tariff claimed by the Petitioner based on truing up is given as under:-

Project		2014-15	2015-16	2016-17	2017-18	2018- 19
Asset-I	AFC approved	0.91	203.24	249.85	259.93	257.09
	Revised AFC based on truing up	0.90	174.61	183.30	189.43	192.71
Asset-II	AFC approved	--	--	149.19	172.38	175.67
	Revised AFC based on truing up	--	--	136.90	139.86	136.24
Asset-III	AFC approved	--	88.04	136.84	155.69	159.38
	Revised AFC based on truing up	--	88.15	124.56	123.32	120.08



5. The Petitioner has served the petition on the Respondents and notice was also published in the newspapers in accordance with Section 64 of the Electricity Act, 2003 (hereinafter referred to as “the Act”). No comments or suggestions have been received from the general public in response to the aforesaid notices published in the newspapers by the Petitioner. None of the Respondents have filed their reply.

6. The hearing in this matter was held on 26.2.2020 and the order was reserved. The Petitioner was directed to submit certain information and the same was filed by the Petitioner vide affidavit dated 13.3.2020.

7. This order is issued considering the submissions made by the Petitioner in the petition accompanied by affidavits dated 28.9.2019, 18.2.2020, 25.2.2020 and 13.3.2020.

8. Having heard the representatives of the Petitioner and perused the material on record, we proceed to dispose of the petition.

9. The Petitioner has filed the instant petition for truing up of transmission tariff for the 2014-19 period in accordance with Regulation 8 of the 2014 Tariff Regulations and determination of transmission tariff of the 2019-24 period under Regulation 8 of the 2019 Tariff Regulations.

Truing up of Annual Fixed Charges for the 2014-19 Tariff Period

10. The details of the transmission charges claimed by the Petitioner in respect of the instant assets are as under: -



(₹ in lakh)

Asset-I					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	0.17	33.54	36.43	38.59	39.88
Interest on Loan	0.19	35.31	35.57	34.76	32.86
Return on Equity	0.19	37.57	40.78	43.21	44.76
Interest on working capital	0.03	5.89	6.15	6.36	6.50
O & M Expenses	0.32	62.30	64.37	66.51	68.71
Total	0.90	174.61	183.30	189.43	192.71

(₹ in lakh)

Asset-II			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
Depreciation	42.03	44.07	44.07
Interest on Loan	44.89	43.47	39.79
Return on Equity	47.06	49.34	49.47
Interest on working capital	2.92	2.98	2.91
O & M Expenses	0.00	0.00	0.00
Total	136.90	139.86	136.24

(₹ in lakh)

Asset-III				
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Depreciation	27.04	39.01	39.66	39.66
Interest on Loan	28.83	39.07	36.49	33.20
Return on Equity	30.30	43.68	44.40	44.52
Interest on working capital	1.98	2.80	2.77	2.70
O & M Expenses	0.00	0.00	0.00	0.00
Total	88.15	124.56	123.32	120.08

11. The details of the Interest on Working Capital claimed by the Petitioner in respect of the instant assets are as under:-

(₹ in lakh)

Asset-I					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
O & M Expenses	4.96	5.19	5.36	5.54	5.73
Maintenance Spares	8.93	9.35	9.66	9.98	10.31
Receivables	27.91	29.10	30.55	31.57	32.12
Total	41.80	43.64	45.57	47.09	48.16
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	0.03	5.89	6.15	6.36	6.50



(₹ in lakh)

Asset-II			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
O & M Expenses	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00
Receivables	22.94	23.31	22.71
Total	22.94	23.31	22.71
Rate of Interest (%)	12.80	12.80	12.80
Interest on Working Capital	2.92	2.98	2.91

(₹ in lakh)

Asset-III				
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
O & M Expenses	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00
Receivables	18.24	20.76	20.55	20.01
Total	18.24	20.76	20.55	20.01
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on Working Capital	1.98	2.80	2.77	2.70

Capital Cost

12. The Commission vide order dated 18.3.2016 in Petition No. 498/TT/2014 allowed the capital cost of ₹597.25 lakh as on COD for Asset-I and vide order dated 26.5.2016 in Petition No. 257/TT/2015 allowed capital cost of ₹766.24 lakh and ₹545.09 lakh as on COD for Assets-II and III respectively .

13. The Petitioner in the instant petition, vide Auditor's Certificate dated 18.7.2019, has submitted the actual capital cost incurred upto COD, Additional Capital Expenditure (ACE) upto 31.3.2019 and estimated ACE during the period 1.4.2019 to 31.3.2020. The details of apportioned approved cost, capital cost as on COD and ACE incurred upto 31.3.2019 as claimed by the Petitioner for instant transmission assets are as under:-



(₹ in lakh)

Asset	FR Appor- tioned Approved Cost	RCE Appor- tioned Approved Cost	Capital cost as on COD	Additional capitalisation (claimed)				Total completion cost as on 31.3.2019
				2015-16	2016-17	2017-18	2018-19	
Asset-I	1176.7	1233.10	597.25	75.92	33.45	48.61	0.00	755.23
Asset-II	956.19	1123.78	766.24	0.00	68.40	0.00	0.00	834.64
Asset-III	956.19	993.51	545.09	181.49	24.50	0.00	0.00	751.08

14. The Petitioner has claimed capital cost of ₹597.25 lakh, ₹766.24 lakh and ₹545.09 lakh for Assets-I, II and III respectively as on their date of commercial operation including IDC, IEDC and Initial Spares.

Initial Spares

15. The Petitioner has claimed Initial Spares of ₹46.00 lakh, ₹22.60 lakh and ₹22.60 lakh for Assets-I, II and III respectively in the instant petition. The Petitioner vide affidavit dated 25.2.2020 submitted the revised Plant and Machinery cost for computing the allowable ceiling of Initial Spares. The Petitioner has, however, submitted that in the present petition, inadvertently Initial Spares in respect of Asset-I was claimed on the estimated completion cost including IDC and IEDC. The Petitioner has clarified that Plant and Machinery cost for computation of Initial Spares is considered as per Regulation 13(d)(iii) of the 2014 Tariff Regulations. The Initial Spares claimed and allowed for the instant assets are as under:-



Assets	Plant & Machinery cost upto cut-off date (excluding IDC and IEDC) claimed vide affidavit dated 25.2.2020 (A) (₹ in lakh)	Initial Spares claimed (B) (₹ in lakh)	Ceiling Limit (%) (C)	Allowable Initial Spares	Initial Spares allowed (₹ in lakh)
				$D = [(A-B) * C / (100-C)]$ (₹ in lakh)	
Asset-I	863.83	46.00	6.0	52.20	46.00
Asset-II	811.45	22.60	6.0	50.35	22.60
Asset-III	811.45	22.60	6.0	50.35	22.60
TOTAL	2486.73	91.20	6.0	152.90	91.20

IDC and IEDC

16. The Commission vide order dated 18.3.2016 in Petition No. 498/TT/2014 and vide order dated 26.5.2016 in Petition No. 257/TT/2015 approved the IDC and IEDC for the instant assets and the same is considered in the instant petition. The details of the IDC and IEDC allowed and considered for computation of capital cost and tariff for the instant assets are as under:-

(₹ in lakh)		
Assets	IDC Allowed	IEDC Allowed
Asset-I	2.33	9.07
Asset-II	43.90	69.29
Asset-III	11.20	18.43

Capital cost as on COD

17. Accordingly, the capital cost allowed as on COD is summarized hereunder:-

(₹ in lakh)			
Assets	Capital Cost as on COD allowed	Capital Cost claimed as on COD	Capital Cost allowed as on COD
Asset-I	597.25	597.25	597.25
Asset-II	766.24	766.24	766.24
Asset-III	545.09	545.09	545.09



Additional Capital Expenditure (ACE)

18. The Petitioner has claimed ACE for the assets covered in the instant petition as under:-

(₹ in lakh)

Additional Capitalisation (claimed)					
Assets	2015-16		2016-17		2017-18
	As per Auditor's Certificate	Discharge of un-discharged IDC	As per Auditor's Certificate	Discharge of un-discharged IDC	As per Auditor's Certificate
Asset-I	73.59	2.33	33.45	0.00	48.61
Asset-II	0.00	0.00	24.50	43.90	0.00
Asset-III	170.29	11.20	24.50	000	0.00

19. The Petitioner vide affidavit dated 25.2.2020 has submitted that ACE incurred for the instant assets is on account of undischarged liability towards final payment/ withheld payment due to contractual exigencies for works executed within the cut-off date. The ACE for the years 2015-16, 2016-17, 2017-18 and 2018-19 for assets has been claimed under Regulation 14(1)(i) of the 2014 Tariff Regulations.

20. The Petitioner vide affidavit dated 25.2.2020 has also submitted that actual ACE upto 31.3.2019 is considered as per the Auditor's certificate and ACE claimed for the period 1.4.2019 to 31.3.2020 is on estimated basis which may vary due to final claim/ reconciliation at the time of contract closing.

21. The Petitioner has claimed Additional Capitalization during 2015-16 to 2018-19 period. It is observed that total estimated completion cost including Additional Capitalization during 2015-16 to 2018-19 period is within the approved apportioned capital cost.

22. The cut-off date of Assets-I, II and III is 31.3.2018, 31.3.2019 and 31.3.2018 respectively. The actual audited Additional Capitalization claimed by the Petitioner is



within the cut-off date and the same is considered for computation of total capital cost as on 31.3.2019. The admissible un-discharged liability of IDC as on COD is allowed as ACE during the year of its discharge. The Additional Capitalization claimed for the period 2015-16 to 2018-19 is allowed under Regulation 14(1)(i) of the 2014 Tariff Regulations as follows:-

Asset-I

(₹ in lakh)

Cost as per revised approved apportionment: ₹1233.10 lakh					
Asset-I	Capital cost as on COD	Additional Capitalization			Total capital cost including Additional Capitalization as on 31.3.2019
		2015-16	2016-17	2017-18	
As claimed	597.25	75.92	33.45	48.61	755.23
Approved in this order	597.25	75.92	33.45	48.61	755.23

Asset-II

(₹ in lakh)

Cost as per revised approved apportionment: ₹1123.78 lakh					
Asset-II	Capital cost as on COD	Additional Capitalization			Total capital cost including Additional Capitalization as on 31.3.2019
		2015-16	2016-17	2017-18	
As claimed	766.24	0.00	68.4	0.00	834.64
Approved in this order	766.24	0.00	68.4	0.00	834.64

Asset-III

(₹ in lakh)

Cost as per revised approved apportionment: ₹993.51 lakh					
Asset-III	Capital cost as on COD	Additional Capitalization			Total capital cost including Additional Capitalization as on 31.3.2019
		2015-16	2016-17	2017-18	
As claimed	545.09	181.49	24.5	0.00	751.08
Approved in this order	545.09	181.49	24.5	0.00	751.08



Debt-Equity Ratio

23. The Petitioner has considered debt-equity ratio of 70:30 as on COD and for Additional Capitalization after COD. The debt-equity ratio of 70:30 has been considered for capital cost as on COD and ACE during the 2014-19 tariff period as provided under Regulation 19 of the 2014 Tariff Regulations. The same has been summarised as under: -

Asset-I	As on COD		As on 31.3.2019	
	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)
Debt	418.08	70.00	528.67	70.00
Equity	179.17	30.00	226.56	30.00
Total	597.25	100.00	755.23	100.00

Asset-II	As on COD		As on 31.3.2019	
	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)
Debt	536.37	70.00	584.25	70.00
Equity	229.87	30.00	250.39	30.00
Total	766.24	100.00	834.64	100.00

Asset-III	As on COD		As on 31.3.2019	
	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)
Debt	381.56	70.00	525.75	70.00
Equity	163.53	30.00	225.33	30.00
Total	545.09	100.00	751.08	100.00

Interest on Loan (IOL)

24. The Petitioner has claimed IOL based on actual interest rates for each year during the 2014-19 period. The Petitioner has prayed for change in interest rates prevailing as on 1.4.2019 for respective loans. The change in interest rate is due to floating rate of interest applicable for the project to be claimed/adjusted over the period of 5 years directly from the beneficiaries. We have considered the submissions of the Petitioner and accordingly calculated IOL based on actual interest rate, in



accordance with Regulation 26 of the 2014 Tariff Regulations. IOL allowed is as under: -

- (i) Gross amount of loan, repayment of instalments and rate of interest and weighted average rate of interest on actual average loan have been considered as per the petition.
- (ii) The repayment for the tariff period 2014-19 has been considered to be equal to the depreciation allowed for that period.

25. The details of IOL calculated are as follows:-

(₹ in lakh)					
Asset-I					
Particular	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	418.08	418.08	471.22	494.64	528.67
Cumulative Repayments upto Previous Year	0.00	0.17	33.71	70.14	108.73
Net Loan-Opening	418.08	417.91	437.51	424.51	419.94
Additions due to Additional Capitalization	0.00	53.14	23.42	34.03	0.00
Repayment during the year	0.17	33.54	36.43	38.59	39.88
Net Loan-Closing	417.91	437.51	424.51	419.94	380.07
Average Loan	417.99	427.71	431.01	422.22	400.00
Weighted Average Rate of Interest on Loan (%)	8.253	8.257	8.253	8.233	8.215
Interest on Loan	0.19	35.31	35.57	34.76	32.86

(₹ in lakh)			
Asset-II			
Particular	2016-17 (Pro-rata)	2017-18	2018-19
Gross Normative Loan	536.37	584.25	584.25
Cumulative Repayments upto Previous Year	0.00	42.03	86.10
Net Loan-Opening	536.37	542.22	498.15
Additions due to Additional Capitalization	47.88	0.00	0.00
Repayment during the year	42.03	44.07	44.07
Net Loan-Closing	542.22	498.15	454.08
Average Loan	539.29	520.18	476.11
Weighted Average Rate of Interest on Loan (%)	8.370	8.356	8.356
Interest on Loan	44.89	43.47	39.78



(₹ in lakh)

Asset-III				
Particular	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Gross Normative Loan	381.56	508.61	525.76	525.76
Cumulative Repayments upto Previous Year	0.00	27.06	66.07	105.73
Net Loan-Opening	381.56	481.55	459.69	420.03
Additions due to Additional Capitalization	127.04	17.15	0.00	0.00
Repayment during the year	27.06	39.01	39.66	39.66
Net Loan-Closing	481.55	459.69	420.03	380.37
Average Loan	431.55	470.62	439.86	400.20
Weighted Average Rate of Interest on Loan (%)	8.294	8.302	8.296	8.296
Interest on Loan	28.85	39.07	36.49	33.20

Return on Equity (ROE)

26. The Petitioner is entitled for ROE for the instant assets in terms of Regulations 24 and 25 of the 2014 Tariff Regulations. The Petitioner has submitted that it is liable to pay income tax at MAT rates and has claimed following effective tax rates for the 2014-19 tariff period:-

Year	Claimed effective tax (in %)	Grossed up ROE (Base Rate/1-t) (in %)
2014-15	21.018	19.625
2015-16	21.382	19.716
2016-17	21.338	19.705
2017-18	21.337	19.704
2018-19	21.549	19.758

27. The Commission in order dated 27.4.2020 in Petition No. 274/TT/2019 has arrived at the effective tax rate based on the notified MAT rates for the Petitioner and the same is given in the table below. The same MAT rates are considered for the purpose of grossing up of rate of ROE for truing up of the tariff of the 2014-19 tariff period in terms of the provisions of the 2014 Tariff Regulations.

Year	MAT Rate (%)	Grossed up ROE [Base Rate/(1-t)] (%)
2014-15	20.961	19.610



Year	MAT Rate (%)	Grossed up ROE [Base Rate/(1-t)] (%)
2015-16	21.342	19.705
2016-17	21.342	19.705
2017-18	21.342	19.705
2018-19	21.549	19.758

28. Accordingly, ROE allowed for the instant transmission assets is as follows:-

(₹ in lakh)					
Asset-I					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	179.17	179.17	201.95	211.98	226.56
Addition due to Additional Capitalization	0.00	22.78	10.03	14.58	0.00
Closing Equity	179.17	201.95	211.98	226.56	226.56
Average Equity	179.17	190.56	206.97	219.27	226.56
Return on Equity (Base Rate %)	15.500	15.500	15.500	15.500	15.500
Tax Rate applicable (%)	20.961	21.342	21.342	21.342	21.549
Rate of Return on Equity (Pre-tax)	19.610	19.705	19.705	19.705	19.758
Return on Equity (Pre-tax)	0.19	37.55	40.78	43.21	44.76
(₹ in lakh)					
Asset-II					
Particulars		2016-17 (Pro-rata)	2017-18	2018-19	
Opening Equity		229.87	250.39	250.39	
Addition due to Additional Capitalization		20.52	0.00	0.00	
Closing Equity		250.39	250.39	250.39	
Average Equity		240.13	250.39	250.39	
Return on Equity (Base Rate %)		15.500	15.500	15.500	
Tax Rate applicable (%)		21.342	21.342	21.549	
Rate of Return on Equity (Pre-tax)		19.705	19.705	19.758	
Return on Equity (Pre-tax)		47.06	49.34	49.47	
(₹ in lakh)					
Asset-III					
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19	
Opening Equity	163.53	217.98	225.33	225.33	
Addition due to Additional Capitalization	54.45	7.35	0.00	0.00	
Closing Equity	217.98	225.33	225.33	225.33	
Average Equity	190.75	221.65	225.33	225.33	
Return on Equity (Base Rate %)	15.500	15.500	15.500	15.500	
Tax Rate applicable (%)	21.342	21.342	21.342	21.549	
Rate of Return on Equity (Pre-tax)	19.705	19.705	19.705	19.758	
Return on Equity (Pre-tax)	30.30	43.68	44.40	44.52	



Depreciation

29. The Petitioner has claimed depreciation considering capital expenditure of ₹597.25 lakh, ₹766.24 lakh and 545.09 lakh as on COD for Assets-I, II and III respectively and Additional Capitalization of ₹157.98 lakh, ₹68.4 lakh and ₹205.99 lakh for Assets-I, II and III respectively.

30. We have considered the submission of the Petitioner and have computed depreciation considering capital expenditure as on COD and Additional Capitalization approved for 2014-19 period. The weighted average useful life of the assets has been considered as 25 years for all the assets in accordance with the relevant regulation. Details of depreciation allowed for the instant assets under Regulation 27 of the 2014 Tariff Regulations is as under: -

(₹ in lakh)

Asset-I					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	597.25	597.25	673.17	706.62	755.23
Additional Capitalisation	0.00	75.92	33.45	48.61	0.00
Closing Gross Block	597.25	673.17	706.62	755.23	755.23
Average Gross Block	597.25	635.21	689.90	730.93	755.23
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Depreciable Value	537.53	571.69	620.91	657.83	679.71
Remaining Depreciable Value	537.53	571.52	587.19	587.69	570.98
Depreciation	0.17	33.54	36.43	38.59	39.88

(₹ in lakh)

Asset-II			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
Opening Gross Block	766.24	834.64	834.64
Additional Capitalisation	68.40	0.00	0.00
Closing Gross Block	834.64	834.64	834.64
Average Gross Block	800.44	834.64	834.64
Rate of Depreciation (%)	5.28	5.28	5.28
Depreciable Value	720.40	751.18	751.18
Remaining Depreciable Value	720.40	709.14	665.08
Depreciation	42.03	44.07	44.07



(₹ in lakh)

Asset-III				
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	545.09	726.58	751.08	751.08
Additional Capitalisation	181.49	24.50	0.00	0.00
Closing Gross Block	726.58	751.08	751.08	751.08
Average Gross Block	635.84	738.83	751.08	751.08
Rate of Depreciation (%)	5.28	5.28	5.28	5.28
Depreciable Value	572.25	664.95	675.97	675.97
Remaining Depreciable Value	572.25	637.89	609.90	570.25
Depreciation	27.06	39.01	39.66	39.66

Operation & Maintenance Expenses (O&M Expenses)

31. The Petitioner has not claimed any O&M Expenses for Assets-II and III. The details of the O&M Expenses claimed by the Petitioner for Asset-I and allowed under Regulation 29(3) of the 2014 Tariff Regulations for purpose of tariff computation are as under:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Norm (₹ lakh/bay)					
400 kV Bay	60.30	62.30	64.37	66.51	68.71
Total O&M Expenses (Pro-rata)	0.33	62.30	64.37	66.51	68.71

Interest of Working Capital (IWC)

32. The Petitioner is entitled to claim IWC as per Regulation 28(1)(c) of the 2014 Tariff Regulations as under:-

i. Maintenance spares:

Maintenance spares have been worked out based on 15% of Operation and Maintenance Expenses specified in Regulation 28.

ii. O & M Expenses:

O&M Expenses have been considered for one month of the allowed O&M Expenses.

iii. Receivables:



The receivables have been worked out on the basis of 2 months of annual transmission charges as worked out above.

iv. Rate of interest on working capital:

Rate of IWC is considered on normative basis in accordance with Clause (3) of Regulation 28 of the 2014 Tariff Regulations.

33. IWC allowed for the instant assets is as under:-

Asset-I					(₹ in lakh)
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
O & M Expenses	5.03	5.19	5.36	5.54	5.73
Maintenance Spares	9.05	9.35	9.66	9.98	10.31
Receivables	27.85	29.10	30.55	31.57	32.12
Total Working Capital	41.92	43.64	45.57	47.09	48.15
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	0.03	5.89	6.15	6.36	6.50

Accordingly, the IWC claimed by the Petitioner, allowed vide order dated 18.3.2016 in Petition No. 498/TT/2014 and trued up in the instant order in respect of Asset-I is shown in the table below:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed earlier in order dated 18.3.2016 in Petition No. 498/TT/2014	0.02	6.54	7.65	7.94	7.95
As claimed by the Petitioner	0.03	5.89	6.15	6.36	6.50
Allowed after truing up	0.03	5.89	6.15	6.36	6.50

Asset-II				(₹ in lakh)
Particulars	2016-17 (Pro-rata)	2017-18	2018-19	
O & M Expenses	0.00	0.00	0.00	
Maintenance Spares	0.00	0.00	0.00	
Receivables	22.94	23.31	22.71	
Total Working Capital	22.94	23.31	22.71	
Rate of Interest (%)	12.80	12.80	12.80	
Interest on working capital	2.92	2.98	2.91	



Accordingly, the IWC claimed by the Petitioner for Asset-II, allowed vide order dated 26.5.2016 in Petition No. 257/TT/2015 and trued up in the instant order is shown in the table below:-

(₹ in lakh)			
Particulars	2016-17	2017-18	2018-19
Allowed earlier in order dated 26.5.2016 in Petition No. 257/TT/2015	3.18	3.68	3.75
As claimed by the Petitioner	2.92	2.98	2.91
Allowed after Truing Up	2.92	2.98	2.91

Asset-III (₹ in lakh)				
Particulars	Asset-III			
	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
O & M Expenses	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00
Receivables	18.24	20.76	20.55	20.01
Total Working Capital	18.24	20.76	20.55	20.01
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on working capital	1.98	2.80	2.77	2.70

Accordingly, the IWC claimed by the Petitioner, allowed vide order dated 26.5.2016 in Petition No. 257/TT/2015 and trued up in the instant order in respect of Asset-III is shown in the table below:-

(₹ in lakh)				
Particulars	2015-16	2016-17	2017-18	2018-19
Allowed earlier in order dated 26.5.2016 in Petition No. 257/TT/2015	1.98	3.08	3.50	3.59
As claimed by the Petitioner	1.98	2.80	2.77	2.70
Allowed after truing up	1.98	2.80	2.77	2.70

Annual Transmission Charges for the 2014-19 period

34. Accordingly, the annual transmission charges in respect of the instant assets after truing up for the 2014-19 tariff period are as under:-

Asset-I

(₹ in lakh)

Asset-I					
Particulars	2014-15 (Pro-rata)	2016-17	2016-17	2017-18	2018-19
Depreciation	0.17	33.54	36.43	38.59	39.88
Interest on Loan	0.19	35.31	35.57	34.76	32.86
Return on Equity	0.19	37.55	40.78	43.21	44.76
Int. on Working Capital	0.03	5.89	6.15	6.36	6.50
Op. and Maintenance	0.33	62.30	64.37	66.51	68.71
Total	0.92	174.59	183.30	189.43	192.71

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed earlier in order dated 18.3.2016 in Petition No. 498/TT/2014	0.91	203.24	249.85	259.93	257.09
As claimed by the Petitioner	0.90	174.61	183.30	189.43	192.71
Allowed after Truing Up	0.92	174.59	183.30	189.43	192.71

Asset-II

(₹ in lakh)

Asset-II			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
Depreciation	42.03	44.07	44.07
Interest on Loan	44.89	43.47	39.78
Return on Equity	47.06	49.34	49.47
Int. on Working Capital	2.92	2.98	2.91
Op. and Maintenance	0.00	0.00	0.00
Total	136.91	139.86	136.23

(₹ in lakh)

Particulars	2016-17	2017-18	2018-19
Allowed earlier in order dated 26.5.2016 in Petition No. 257/TT/2015	149.19	172.38	175.67
As claimed by the Petitioner	136.90	139.86	136.24
Allowed after truing up	136.91	139.86	136.23

Asset-III

(₹ in lakh)

Asset-III				
Particulars	2016-17 (Pro-rata)	2016-17	2017-18	2018-19
Depreciation	27.06	39.01	39.66	39.66
Interest on Loan	28.85	39.07	36.49	33.20



Return on Equity	30.30	43.68	44.40	44.52
Int. on Working Capital	1.98	2.80	2.77	2.70
Op. and Maintenance	0.00	0.00	0.00	0.00
Total	88.19	124.56	123.32	120.08

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Allowed earlier in order dated 26.5.2016 in Petition No. 257/TT/2015	88.04	136.84	155.69	159.38
As claimed by the Petitioner	88.15	124.56	123.32	120.08
Allowed after truing up	88.19	124.56	123.32	120.08

35. The difference in the Annual Transmission Charges claimed by the Petitioner and that allowed after truing up is on account of the difference in the rate of tax claimed by the Petitioner.

Determination of Annual Fixed Charges for the 2019-24 tariff period

36. The Petitioner has submitted the tariff forms combining the Assets-I, II and III which achieved COD prior to 1.4.2019, as a single asset. Accordingly, as per proviso (i) of Regulation 8(1) of the 2019 Tariff Regulations, single tariff for the Combined Asset has been worked out for the 2019-24 tariff period.

37. The Petitioner has claimed the following transmission charges for the Combined Asset for the 2019-24 tariff period:-

(₹ in lakh)

Particulars	2019-20	2020-21	201-22	2022-23	2023-24
Depreciation	131.52	139.44	139.44	139.44	139.44
Interest on Loan	103.91	101.30	89.90	78.51	66.90
Return on Equity	140.35	148.81	148.81	148.81	148.81
Interest on Working Capital	10.47	10.87	10.88	10.88	10.88
Operation and Maintenance	110.55	114.56	118.61	122.70	127.15
Total	496.80	514.98	507.64	500.34	493.18

38. The Petitioner has claimed the following Interest on Working Capital (IWC) for the Combined Asset for the 2019-24 tariff period:-



(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Maintenance Spares	16.58	17.18	17.79	18.41	19.07
O&M expenses	9.21	9.55	9.88	10.23	10.60
Receivables	61.08	63.49	62.58	61.69	60.64
Total	86.87	90.22	90.22	90.33	90.31
Rate of Interest	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	10.47	10.87	10.88	10.88	10.88

Effective Date of Commercial Operation (E-COD)

39. The Petitioner has submitted E-COD of the Combined Asset as 1.9.2015. Accordingly, based on the trued up admitted capital cost and actual COD of all the assets, the E-COD has been worked out as follows:-

Computation of Effective COD						
Asset	Actual COD	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Weight of the cost (%)	No. of Days from last COD	Weighted Days	Effective COD (Latest COD – Total weighted Days)
Asset-I	30.3.2015	755.23	32.26	370.00	119.37	1.9.2015
Asset-II	3.4.2016	834.64	35.65	0.00	0.00	
Asset-III	11.6.2015	751.08	32.08	297.00	95.29	
Total		2340.95			214.66	

40. The E-COD is used to determine the lapsed life of the project as a whole which is considered as three years as on 1.4.2019 (i.e. the number of completed years as on 1.4.2019 from E-COD).

Weighted Average Life (WAL)

41. The life as defined in Regulation 33 of the 2019 Tariff Regulations has been considered for determination of WAL.

42. The Combined Asset may have multiple elements such as land, building, transmission line, sub-station and PLCC and each element may have different span



of life. Therefore, the concept of WAL has been used as the useful life of the project as a whole.

43. The WAL has been determined based on the admitted capital cost of individual elements as on 31.3.2019 and their respective life as stipulated in the 2019 Tariff Regulations. The element-wise life as was defined in 2014 Tariff Regulations that prevailed at the time of actual COD of individual assets has been ignored for this purpose. The life as defined in the 2019 Tariff Regulations has been considered for determination of WAL. Accordingly, the WAL of the Combined Asset has been considered as 25 years as shown below:-

(₹ in lakh)			
Admitted Capital Cost as on 31.3.2019			
Particulars	Combined Cost (₹ in lakh) (a)	Life as per 2019 Regulation (Years) (b)	Weight (a) x (b)
Freehold Land	0.00	-	-
Leasehold Land	0.00	25	0.00
Building & Other Civil Works	0.00	25	0.00
Transmission Line	0.00	35	0.00
Sub-station Equipment	2340.95	25	58523.75
PLCC	0.00	15	0.00
Total	2340.95	25	58523.75
WAL = Total Weight/ Capital cost of the project		25 Years	

44. WAL as on 1.4.2019 as determined above is applicable prospectively (i.e. for the 2019-24 tariff period onwards) and no retrospective adjustment of the depreciation in previous tariff period is required to be done. As calculated in paragraph 39 of this order, the Effective COD of the assets is 1.9.2015 and the lapsed life of the project as a whole is considered three years as on 1.4.2019 (i.e. the number of completed years as on 1.4.2019 from Effective COD). Accordingly, WAL has been used to determine the remaining useful life as on 31.3.2019 to be 22 years.



Capital Cost

45. Regulation 19(3) and (5) of the 2019 Tariff Regulations provide as follows:-

“19. Additional Capitalization

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

- (a) Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;*
- (b) Additional Capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;*
- (c) Capital expenditure on account of renovation and modernisation as admitted by this Commission in accordance with these regulations;*
- (d) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
- (e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and*
- (f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.*

(5) The following shall be excluded from the capital cost of the existing and new projects:

- (a) The assets forming part of the project, but not in use, as declared in the tariff petition;*
- (b) De-capitalised Assets after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:*

Provided that in case replacement of transmission asset is recommended by Regional Power Committee, such asset shall be de-capitalised only after its redeployment;

Provided further that unless shifting of an asset from one project to another is of permanent nature, there shall be no de-capitalization of the concerned assets.

- (c) In case of hydro generating stations, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State Government by following a transparent process;*
- (d) Proportionate cost of land of the existing project which is being used for generating power from generating station based on renewable energy; and*
- (e) Any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment. “*



46. The Petitioner has combined the three assets for claiming tariff during the 2019-24 tariff period. The combined capital cost of all the assets as on 31.3.2019 allowed by the Commission is ₹2340.95 lakh and the same has been considered as opening capital cost as on 1.4.2019 for determination of tariff in accordance with Regulation 19 of the 2019 Tariff Regulations.

47. The Petitioner vide Auditor's Certificate has claimed the capital cost of the individual assets which has been added to arrive at the capital cost claimed during the 2019-24 period for Combined Asset as per the following details:-

(₹ in lakh)

Assets	Capital Cost claimed as on COD	2015-16	2016-17	2017-18	2018-19	Total Capital Cost as on 31.3.2019
Asset-I	597.25	75.92	33.45	48.61	0.00	755.23
Asset-II	766.24	0.00	68.40	0.00	0.00	834.64
Asset-III	545.09	181.49	24.50	0.00	0.00	751.08

48. The capital cost has been dealt in line with clause (3) of Regulation 19 of the 2019 Tariff Regulations. The element-wise capital cost (i.e. land, building, transmission line, sub-station and PLCC) as admitted by the Commission as on 31.3.2019 for instant assets are clubbed together and the combined capital cost has been considered as capital cost of the Combined Asset as on 1.4.2019, as per the following details:-

(₹ in lakh)

Element	Asset-I	Asset-II	Asset-III
Free hold Land	0.00	0.00	0.00
Leasehold Land	0.00	0.00	0.00
Building & Other Civil Works	0.00	0.00	0.00
Transmission Line	0.00	0.00	0.00
Sub-station Equipment	755.23	834.64	751.08
PLCC	0.00	0.00	0.00
Total	755.23	834.64	751.08

(₹ in lakh)	
Particulars	Combined Cost as on 1.4.2019
Freehold Land	0.00
Leasehold Land	0.00
Building & Other Civil Works	0.00
Transmission Line	0.00
Sub-station Equipment	2340.95
PLCC	0.00
TOTAL	2340.95

The trued-up capital cost of ₹2340.95 lakh for the Combined Asset is considered as admitted capital cost as on 1.4.2019 for working out the tariff for the 2019-24 tariff period.

Additional Capital Expenditure

49. Regulation 24 of the 2019 Tariff Regulations provides as under: -

“24. Additional Capitalization within the original scope and upto the cut-off date

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

- (a) Undischarged liabilities recognized to be payable at a future date;*
- (b) Works deferred for execution;*
- (c) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 23 of these regulations;*
- (d) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority or order or decree of any court of law;*
- (e) Change in law or compliance of any existing law; and*
- (f) Force Majeure events:*

Provided that in case of any replacement of the assets, the additional capitalization shall be worked out after adjusting the gross fixed assets and cumulative depreciation of the assets replaced on account of de-capitalization.

(2) The generating company or the transmission licensee, as the case may be shall submit the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution.”

50. The Petitioner has claimed projected ACE of ₹300 lakh for the 2019-24 tariff period as under:-



(₹ in lakh)

Assets	Expenditure as on 31.3.2019	Projected Add Cap 2019-24	Capital Cost as on 31.3.2024
		2019-20	
Asset-I	755.23	120.00	875.23
Asset-II	834.64	90.00	924.64
Asset-III	751.08	90.00	841.08
Total	2340.95	300.00	2640.95

51. The Petitioner vide affidavit dated 25.2.2020 has submitted that ACE claimed for the period 1.4.2019 to 31.3.2020 is on estimated basis and may vary due to final claim/reconciliation at the time of contract closing. The contract wise details along with LOA No. for balance retention payments are as under:-

Assets	Parties	Package	LOA No.	Balance/ retention payments claimed as per Auditor's Certificate (₹ in lakh)
				2019-20
Asset-I	BHEL	Sub-station Supply and Service	CC-CS/153-ER-I/SS/1945/G8/R/CA-1/4737/4738/dated 8.8.2013	120.00
Asset-II			CC-CS/153-ER-I/SS/1945/G8/R/CA-1/4737/4738/dated 8.8.2013	90.00
Asset-III			CC-CS/153-ER-I/SS/1945/G8/R/CA-1/4737/4738/dated 8.8.2013	90.00

52. The projected ACE is against the balance and retention payments for works executed before the cut-off date of the respective assets. The allowed ACE is summarized as under which shall be subject to true up:-

(₹ in lakh)

Particulars	Regulation	Combined Asset
		2019-20
ACE to the extent of Balance and Retention Payments and works deferred for execution before cut-off date.	Regulation 25 (1) (d) of 2019 Tariff Regulations	300.00



Capital cost for the 2019-24 tariff period

53. Accordingly, the capital cost of the Combined Asset, considered for the tariff period 2019-24, subject to truing up, is as follows:-

(₹ in lakh)		
Capital Cost allowed as on 1.4.2019	ACE allowed for the year 2019-20	Total Estimated Completion Cost upto 31.3.2024
2340.95	300.00	2640.95

Debt-Equity Ratio

54. Regulation 18(3), 18(4) and 18(5) of the 2019 Tariff Regulations provides as under:-

“18. Debt-Equity Ratio: (3). In case of the generating station and the transmission system including communication, system declared under commercial operation prior to 1.4.2019, debt: equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2019 shall be considered:

Provided that in case of a generating station or a transmission system including communication, system which has completed its useful life as on or after 1.4.2019, if the equity actually deployed as on 1.4.2019 is more than 30% of the capital cost, equity in excess of 30% shall not be taken into account for tariff computation;

Provided further that in case of projects owned by Damodar Valley Corporation, the debt: equity ratio shall be governed as per sub-clause (ii) of clause (2) of Regulation 72 of these regulations.

(4). In case of the generating station and the transmission system including communication, system declared under commercial operation prior to 1.4.2019, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2019, the Commission shall approve the debt: equity ratio in accordance with clause (1) of this Regulation.

(5). Any expenditure incurred or projected to be incurred on or after 1.4.2019 as may be admitted by the Commission as Additional Capital Expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation.”

55. The debt and equity considered for the purpose of tariff for the 2019-24 tariff period is as follows:-



Component	Capital Cost as on 1.4.2019 (₹ in lakh)	(%)	Total Cost as on 31.3.2024 (₹ in lakh)	(%)
Debt	1638.68	70.00	1848.67	70.00
Equity	702.27	30.00	792.28	30.00
Total	2340.95	100.00	2640.95	100.00

Return on Equity

56. Regulations 30 and 31 of the 2019 Tariff Regulations provide as under: -

“30. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with Regulation 18 of these regulations.

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating station, transmission system including communication system and run-of-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 return on equity in respect of Additional Capitalization after cut-off date beyond the original scope excluding Additional Capitalization due to Change in Law, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system;

Provided further that:

i. In case of a new project, the rate of return on equity shall be reduced by 1.00% 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) or Free Governor Mode Operation (FGMO), data telemetry, communication system upto load dispatch centre or protection system based on the report submitted by the respective RLDC;

ii. in case of existing generating station, as and when any of the requirements under (i) above of this Regulation are found lacking based on the report submitted by the concerned RLDC, rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues;

iii. in case of a thermal generating station, with effect from 1.4.2020:

a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;

b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute, subject to ceiling of additional rate of return on equity of 1.00%:

Provided that the detailed guidelines in this regard shall be issued by National Load Dispatch Centre by 30.6.2019.

31. Tax on Return on Equity: (1) The base rate of return on equity as allowed by the Commission under Regulation 30 of these regulations 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 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 paid on income from other businesses including deferred tax liability (i.e. in come from business other than business of generation or transmission, as the case maybe) shall be excluded for the calculation of effective tax rate.

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

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

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

(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2019-24 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 customers, as the case may be, on year to year basis.”

57. The Petitioner vide affidavit dated 18.2.2020 has submitted revised MAT rate applicable for 2019-20 period on account of Taxation Laws (Amendment) Ordinance, 2019 published in the Gazette dated 20.9.2019. Accordingly, MAT rate of 17.472% (Base Rate 15% + Surcharge 12% + Cess 4%) is used for grossing up ROE. The same shall be trued up with actual tax rate in accordance with Clause (3) of Regulation 31 of the 2019 Tariff Regulations. The ROE allowed for the Combined Asset under Regulation 30 of the 2019 Tariff Regulations is as under:-

(₹ in lakh)

Combined Asset					
Particulars	2019-20	2020-21	201-22	2022-23	2023-24
Opening Equity	702.27	792.27	792.27	792.27	792.27
Addition due to Additional Capitalization	90.00	0.00	0.00	0.00	0.00
Closing Equity	792.27	792.27	792.27	792.27	792.27
Average Equity	747.27	792.27	792.27	792.27	792.27



Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
Tax Rate applicable (%)	17.472	17.472	17.472	17.472	17.472
Applicable ROE Rate (%)	18.782	18.782	18.782	18.782	18.782
Return on Equity	140.35	148.80	148.80	148.80	148.80

Interest on Loan (IOL)

58. Regulation 32 of the 2019 Tariff Regulations provides as under:-

“32. Interest on loan capital: (1) The loans arrived at in the manner indicated in Regulation 18 of these regulations shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2019 shall be worked out by deducting the cumulative repayment as admitted by the Commission upto 31.3.2019 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2019-24 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalisation of such asset.

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year. (5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest 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 changes to the terms and conditions of the loans shall be reflected from the date of such re-financing”.

59. The weighted average rate of IOL has been considered on the basis of rate prevailing as on 1.4.2019. The Petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during 2019-24 tariff period will be



adjusted. Accordingly, the floating rate of interest, if any, shall be considered at the time of true up. In view of the above, the IOL has been worked out in accordance with Regulation 32 of the 2019 Tariff Regulations. The IOL allowed is as follows:-

(₹ in lakh)					
Combined Asset					
Particular	2019-20	2020-21	201-22	2022-23	2023-24
Gross Normative Loan	1638.68	1848.68	1848.68	1848.68	1848.68
Cumulative Repayments upto Previous Year	424.16	555.68	695.13	834.57	974.01
Net Loan-Opening	1214.52	1293.00	1153.55	1014.11	874.67
Additions to Additional Capitalization	210.00	0.00	0.00	0.00	0.00
Repayment during the year	131.52	139.44	139.44	139.44	139.44
Net Loan-Closing	1293.00	1153.55	1014.11	874.67	735.23
Average Loan	1253.76	1223.28	1083.83	944.39	804.95
Weighted Average Rate of Interest on Loan (%)	8.288	8.281	8.295	8.313	8.310
Interest on Loan	103.91	101.30	89.90	78.51	66.90

Depreciation

60. Regulation 33(1), (2) and (5) of the 2019 Tariff Regulations provide as under:-

“33. Depreciation: (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system or element thereof including communication system. 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:

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 a 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.



(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-I 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.”

61. Depreciation for the Combined Asset has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation upto 31.3.2019. The depreciation of the Combined Asset is worked out and allowed as under:-

(₹ in lakh)					
Combined Asset					
Particulars	2019-20	2020-21	201-22	2022-23	2023-24
Opening Gross Block	2340.95	2640.95	2640.95	2640.95	2640.95
Additional Capitalisation	300.00	0.00	0.00	0.00	0.00
Closing Gross Block	2640.95	2640.95	2640.95	2640.95	2640.95
Average Gross Block	2490.95	2640.95	2640.95	2640.95	2640.95
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Depreciable Value	2241.86	2376.86	2376.86	2376.86	2376.86
Remaining Depreciable Value	1817.69	1821.17	1681.73	1542.29	1402.85
Depreciation	131.52	139.44	139.44	139.44	139.44

Operation & Maintenance Expenses (O&M Expenses)

62. Regulation 35(3) and (4) of the 2019 Tariff Regulations provides as under:-

“(3) Transmission system: (a) The following normative operation and maintenance expenses shall be admissible for the transmission system:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Norms for sub-station Bays (₹ Lakh per bay)					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
132 kV and below	16.08	16.64	17.23	17.83	18.46
Norms for Transformers (₹ Lakh per MVA)					
765 kV	0.491	0.508	0.526	0.545	0.564
400 kV	0.358	0.371	0.384	0.398	0.411
220 kV	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.245	0.254	0.263	0.272	0.282
Norms for AC and HVDC lines (₹ Lakh per km)					
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.881	0.912	0.944	0.977	1.011



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Single Circuit (Bundled conductor with four sub-conductors)	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple Conductor)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single Conductor)	0.252	0.260	0.270	0.279	0.289
Double Circuit (Bundled conductor with four or more sub-conductors)	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
Norms for HVDC stations					
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (₹ Lakh per 500 MW)	1,666	1,725	1,785	1,848	1,913
500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)	2,468	2,555	2,645	2,738	2,834
±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)	2,563	2,653	2,746	2,842	2,942

Provided that the O&M expenses for the GIS bays shall be allowed as worked out by multiplying 0.70 of the O&M expenses of the normative O&M expenses for bays;

Provided further that:

- i. the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed pro-rata on the basis of normative rate of operation and maintenance expenses of similar HVDC bi-pole scheme for the corresponding year of the tariff period;
- ii. the O&M expenses norms for HVDC bi-pole line shall be considered as Double Circuit quad AC line;
- iii. the O&M expenses of ±500 kV Mundra-Mohindergarh HVDC bipole scheme (2000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ±500 kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);
- iv. the O&M expenses of ±800 kV Champa-Kurukshetra HVDC bi-pole scheme (3000 MW) shall be on the basis of the normative O&M expenses for ±800 kV, Bishwanath-Agra HVDC bi-pole scheme;
- v. the O&M expenses of ±800 kV, Alipurduar-Agra HVDC bi-pole scheme (3000



MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ± 800 kV, Bishwanath-Agra HVDC bi-pole scheme; and

vi. the O&M expenses of Static Synchronous Compensator and Static Var Compensator shall be worked at 1.5% of original project cost as on commercial operation which shall be escalated at the rate of 3.51% to work out the O&M expenses during the tariff period. The O&M expenses of Static Synchronous Compensator and Static Var Compensator, if required, may be reviewed after three years.

(b) The total allowable operation and maintenance expenses for the transmission system shall be calculated by multiplying the number of sub-station bays, transformer capacity of the transformer (in MVA) and km of line length with the applicable norms for the operation and maintenance expenses per bay, per MVA and per km respectively.

(c) The Security Expenses and Capital Spares for transmission system shall be allowed separately after prudence check:

Provided that the transmission licensee shall submit the assessment of the security requirement and estimated security expenses, the details of year-wise actual capital spares consumed at the time of truing up with appropriate justification.

(4) Communication system: The operation and maintenance expenses for the communication system shall be worked out at 2.0% of the original project cost related to such communication system. The transmission licensee shall submit the actual operation and maintenance expenses for truing up.”

63. The O&M Expenses claimed by the Petitioner for the instant assets are as follows:-

Particulars	(₹ in lakh)				
	2019-20	2020-21	201-22	2022-23	2023-24
O&M for bays (as per norms)					
400 kV Bay	32.15	33.28	34.45	35.66	36.91
O&M for transformers (as per norms)					
220 kV	0.25	0.25	0.26	0.27	0.28
Total O&M Expenses	110.55	114.56	118.61	122.70	127.15

64. The O&M Expenses claimed by the Petitioner are in accordance with Regulation 35(3) of the 2019 Tariff Regulations. Hence, they are allowed as claimed.

Interest on Working Capital (“IWC”)

65. Regulation 34(1)(c), (3) and (4) and Clause (7) of Regulation 3 of the 2019 Tariff Regulations provide as under:

“34. Interest on Working Capital: (1) The working capital shall cover:



(c) For Hydro Generating Station (including Pumped Storage Hydro Generating Station) and Transmission System:

(i) Receivables equivalent to 45 days of annual fixed cost;

(ii) Maintenance spares @ 15% of operation and maintenance expenses including security expenses; and

(iii) Operation and maintenance expenses, including security expenses for one month.

(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2019 or as on 1st April of the year during the tariff period 2019-24 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:

Provided that in case of truing-up, the rate of interest on working capital shall be considered at bank rate as on 1st April of each of the financial year during the tariff period 2019-24.

(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.”

“3. **Definitions** - In these regulations, unless the context otherwise requires:-

(7) ‘**Bank Rate**’ means the one-year marginal cost of lending rate (MCLR) of the State Bank of India issued from time to time plus 350 basis points;”

66. The Petitioner has submitted that it has claimed IWC for the 2019-24 period considering the bank rate as on 1.4.2019.

67. The IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The rate of IWC is considered as 12.05%. The components of the working capital and interest thereon have been considered as follows:-

Particulars	(₹ in lakh)				
	2019-20	2020-21	201-22	2022-23	2023-24
O & M Expenses	9.21	9.55	9.88	10.23	10.60
Maintenance Spares	16.58	17.18	17.79	18.41	19.07
Receivables	61.08	63.49	62.58	61.69	60.64
Total Working Capital	86.88	90.22	90.26	90.32	90.30
Rate of Interest (%)	12.05	12.05	12.05	12.05	12.05
Interest on working capital	10.47	10.87	10.88	10.88	10.88

Annual Fixed Charges for the 2019-24 Tariff Period



68. The annual fixed charges for the combined transmission asset for the tariff period 2019-24 are summarized below:-

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	131.52	139.44	139.44	139.44	139.44
Interest on Loan	103.91	101.30	89.90	78.51	66.90
Return on Equity	140.35	148.80	148.80	148.80	148.80
Interest on Working Capital	10.47	10.87	10.88	10.88	10.88
Operation and Maintenance	110.55	114.56	118.61	122.70	127.15
Total	496.80	514.97	507.63	500.34	493.17

Filing Fee and Publication Expenses

69. The Petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. The Petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with Regulation 70(1) of the 2019 Tariff Regulations.

Licence Fee and RLDC Fees and Charges

70. The Petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Regulation 70(4) and (3) respectively of the 2019 Tariff Regulations.

Goods and Services Tax

71. The Petitioner has submitted that GST if imposed at any point of time in future on charges of Transmission of Electricity, the same shall be borne and be additionally paid by the Respondents to the Petitioner and the same shall be charged and billed separately by the Petitioner. Further, additional taxes, if any, are to be paid by the



Petitioner on account of demand from Government/Statutory authorities, the same may be allowed to be recovered from the beneficiaries.

72. We have considered the above submissions and prayer of the Petitioner and are of the opinion that GST is not levied at present on transmission of electricity, thus it cannot be entertained at this juncture being pre-mature.

Security Expenses

73. The Petitioner has submitted that security expenses for the instant assets are not claimed in the instant petition and it would file a separate petition for claiming the overall security expenses and the consequential Interest on Working Capital. The Petitioner has requested to consider the actual security expenses incurred during 2018-19 for claiming estimated security expenses for 2019-20 which shall be subject to true up at the end of the year based on the actuals. The Petitioner has submitted that similar petition for security expenses for 2020-21, 2021-22, 2022-23 and 2023-24 shall be filed on a yearly basis on the basis of the actual expenses of previous year subject to true up at the end of the year on actual expenses. The Petitioner has submitted that the difference, if any, between the estimated security expenses and actual security expenses as per the audited accounts may be allowed to be recovered from the beneficiaries on yearly basis. We have considered the submissions of the Petitioner. Any application filed by the Petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2019 Tariff Regulations.

Capital Spares



74. The Petitioner has sought reimbursement of capital spares at the end of tariff block. The Petitioner's claim, if any, shall be dealt with in accordance with the provisions of the 2019 Tariff Regulations.

Sharing of Transmission Charges

75. The billing, collection and disbursement of the transmission charges approved in this order shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010, as amended from time to time as provided in Regulation 43 of 2014 Tariff Regulations for the 2014-19 tariff period and Regulation 57 of the 2019 Tariff Regulations for the 2019-24 tariff period.

76. This order disposes of Petition No. 507/TT/2019.

sd/-
(I.S. Jha)
Member

sd/-
(P. K. Pujari)
Chairperson

