

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 712/TT/2020

Coram:

**Shri P. K. Pujari, Chairperson
Shri Arun Goyal, Member
Shri P. K. Singh, Member**

Date of Order: 29.11.2021

In the matter of:

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and truing-up of transmission tariff of 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of 2019-24 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 in respect of the Transmission System associated with Bairasuil in Northern Region.

And in the matter of:

Power Grid Corporation of India Limited,
"Saudamini", Plot No. 2, Sector 29,
Gurgaon – 122 001, (Haryana)

... Petitioner

Vs.

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited,
Vidyut Bhawan, Vidyut Marg,
Jaipur – 302 005.
2. Ajmer Vidyut Vitran Nigam Limited,
132 kV, GSS RVPNL Sub-Station Building,
Caligiri Road, Malviya Nagar,
Jaipur – 302 017, Rajasthan.
3. Jaipur Vidyut Vitran Nigam Limited,
132 kV, GSS RVPNL Sub-Station Building,
Caligiri Road, Malviya Nagar,
Jaipur – 302 017, Rajasthan.
4. Jodhpur Vidyut Vitran Nigam Limited,
132 kV, GSS RVPBL Sub-Station Building,
Caligiri Road, Malviya Nagar,
Jaipur – 302 017, Rajasthan.



5. Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House Complex Building II,
Shimla – 171 004.
6. Punjab State Electricity Board,
The Mall,
Patiala – 147 001.
7. Haryana Power Purchase Centre,
Shakti Bhawan, Sector-6,
Panchkula (Haryana) – 134 109.
8. Power Development Department,
Government of Jammu & Kashmir,
Mini Secretariat,
Jammu.
9. Uttar Pradesh Power Corporation Limited,
(Formerly Uttar Pradesh State Electricity Board)
Shakti Bhawan, 14, Ashok Marg,
Lucknow – 226 001.
10. Delhi Transco Limited,
Shakti Sadan, Kotla Road,
New Delhi – 110 002.
11. BSES Yamuna Power Limited,
BSES Bhawan, Nehru Place,
New Delhi.
12. BSES Rajdhani Power Limited,
BSES Bhawan, Nehru Place,
New Delhi.
13. Tata Power Delhi Distribution Limited,
33 kV Sub-station, Building,
Hudson Lane, Kingsway Camp,
North Delhi – 110 009.
14. Chandigarh Administration,
Sector -9,
Chandigarh.
15. Uttarakhand Power Corporation Limited,
Urja Bhawan, Kanwali Road,
Dehradun.



16. North Central Railway,
Allahabad.
17. New Delhi Municipal Council,
Palika Kendra, Sansad Marg,
New Delhi – 110 002.

...**Respondents**

For Petitioner : Shri S. S. Raju, PGCIL
Shri D.K. Biswal, PGCIL
Shri Ved Prakash Rastogi, PGCIL
Shri A.K. Verma, PGCIL

For Respondents : None

ORDER

The instant petition has been filed by the Petitioner, Power Grid Corporation of India Limited, a deemed transmission licensee, for truing up of transmission tariff of 2014-19 tariff period 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 from 1.4.2019 to 31.3.2024 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) in respect of Transmission system associated with Bairasuil (hereinafter referred to as the “transmission system”) in the Northern Region.

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 7 and 8 above.

2) Allow fresh add- cap projected during 2019-24 under clause 25(2) of Tariff regulation’2019.

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 regulations 2014 and tariff regulation'19 as per para 7 & 8 above for respective block.

Further it is submitted that deferred tax liability before 01.04.2009 shall be recoverable from the beneficiaries or long term customers / DIC as the case may be, as and when the same is materialized as per regulation 49 of 2014 and regulation 67 of 2019 tariff regulation. The petitioner may be allow to recover the deferred tax liability materialised directly without making any application before the commission as provided in the regulation.

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 recover FERV on the foreign loans deployed as provided under clause 68 of the Tariff Regulations,2019.

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 8.5 & 8.6 above.

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 withdrawn from negative list at any time 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 Hon'ble Commission deems fit and appropriate under the circumstances of the case and in the interest of justice."

Background

3. The brief facts of the case are as follows:

- a) Approval of the Central Government for setting up transmission system associated with Baira-Suil Hydro Electric Project was accorded by Ministry of



Power, vide letter dated 9.3.1979, for a total capital investment of ₹10885.00 lakh, including IDC of ₹1663.00 lakh. Subsequently, Ministry of Power vide letter dated 16.10.1981 approved Revised Cost Estimate (RCE) of Baira-Suil Electric Project which included an amount of ₹662.52 lakh (including IDC of ₹78.85 lakh on pro-rata basis) for the transmission system. The above said transmission system was implemented by NHPC and subsequently taken over by the Petitioner.

- b) The scope of work covered under the transmission project is as follows:
- A. Transmission Lines:**
- i. 220 kV D/C Bairasuil – -Jessore- Pong Transmission Line.
- B. Sub-station (Pong)**
- i. 1 number of 220 kV bay at Bairasuil.
- ii. 1 number of 220 kV bay at Jessore.
- c) The entire scope of the work is covered in the instant petition.
- d) The instant transmission asset was put under commercial operation on 18.5.1980.
- e) The transmission tariff for 2009-14 period was trued-up and tariff for the period from 1.4.2014 to 31.3.2019 was allowed *vide* order dated 18.3.2016 in Petition No. 491/TT/2014.

4. The Respondents are the distribution licensees, transmission utilities and power departments, who are procuring transmission services from the Petitioner and are mainly beneficiaries of the Northern Region.

5. The Petitioner has served the petition on the Respondents and notice regarding filing of this petition has also been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or suggestions have been received from the general public in response to the aforesaid notice published in the newspapers by the Petitioner. None of the Respondents have filed reply in the matter.



6. This order is issued considering the submissions made by the Petitioner in the petition vide affidavit dated 14.1.2020 and affidavit dated 12.2.2021.

7. The hearing in this matter was held on 10.9.2021 through video conference and the order was reserved.

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

Truing-up of Annual Fixed Charges for 2014-19 tariff period

9. The details of the trued-up transmission charges claimed by the Petitioner in respect of the transmission system for 2014-19 period is as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	11.42	11.41	0.00	0.00	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	62.03	62.32	62.28	62.28	62.45
Interest on Working Capital	7.97	8.19	8.14	8.36	8.60
O&M Expenses	113.76	117.52	121.49	125.44	129.70
Total	195.18	199.44	191.91	196.08	200.75

10. The details of trued-up Interest on Working Capital (IWC) claimed by the Petitioner in respect of the transmission system are as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses	9.48	9.79	10.12	10.45	10.81
Maintenance Spares	17.06	17.63	18.22	18.82	19.46
Receivables	32.53	33.24	31.99	32.68	33.46
Total	59.07	60.66	60.33	61.95	63.73
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	7.97	8.19	8.14	8.36	8.60

Capital Cost as on 1.4.2014

11. The capital cost of the transmission system has been calculated in accordance with Regulations 9(3) and 9(6) of the 2014 Tariff Regulations. The Commission vide



order dated 18.3.2016 in Petition No. 491/TT/2014 had allowed the transmission tariff for the 2014-19 period based on admitted capital cost of ₹632.16 lakh as on 1.4.2014. The Petitioner has not claimed any Additional Capital Expenditure (ACE) during the 2014-19 tariff period. Accordingly, the capital cost of ₹632.16 lakh in respect of the transmission system has been considered for the purpose of truing up of the tariff for 2014-19 tariff period.

Capital Cost considered for true up of tariff for the 2014-19 period

12. Accordingly, the capital cost considered for truing up of tariff of 2014-19 period is as follows:

(₹ in lakh)		
Capital Cost (as on 1.4.2014)	ACE (2014-19)	Capital Cost (as on 31.3.2019)
632.16	0.00	632.16

Debt-Equity Ratio

13. Debt-equity ratio has been allowed in accordance with Regulation 19(3) of the 2014 Tariff Regulations. As per Regulation 19(3) of the 2014 Tariff Regulations, debt-equity ratio allowed by the Commission for determination of tariff for the period ending on 31.3.2014 shall be considered. Accordingly, the admitted debt-equity ratio of 50:50 for the period ending on 31.3.2014 has been considered for the purpose of truing up of tariff of 2014-19 period.

14. Accordingly, the details of debt-equity ratio as on 1.4.2014 and 31.3.2019 in respect of the transmission system is as follows:

Funding	As on 1.4.2014		As on 31.3.2019	
	Capital cost (₹ in lakh)	(in %)	Capital cost (₹ in lakh)	(in %)
Debt	316.08	50.00	316.08	50.00
Equity	316.08	50.00	316.08	50.00
Total	632.16	100.00	632.16	100.00



Depreciation

15. Depreciation has been allowed as per the methodology provided in Regulation 27 of the 2014 Tariff Regulations. Depreciation has been allowed considering capital expenditure as on 1.4.2014 and approved ACE during 2014-19 tariff period. The transmission system having already completed 12 years of life, the remaining depreciable value has been spread across the balance useful life of the asset and depreciation allowed during 2014-19 period in respect of the transmission system is as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	632.16	632.16	-	-	-
Addition during 2014-19 due to ACE	0.00	0.00	-	-	-
Closing Gross Block	632.16	632.16	-	-	-
Average Gross Block	632.16	632.16	-	-	-
Weighted Average Rate of Depreciation (in %)	1.81	1.81	-	-	-
Balance useful life of the asset at the beginning of the year (Year)	2.00	1.00	-	-	-
Lapsed life at the beginning of the year (Year)	33.00	34.00	-	-	-
Aggregated Depreciable Value	568.94	568.94	-	-	-
Depreciation during the year	11.42	11.42	-	-	-
Cumulative Depreciation at the end of the year	557.53	568.94	-	-	-
Remaining Aggregate Depreciable Value at the end of the year	11.42	0.00	-	-	-

16. The details of depreciation allowed *vide* order dated 18.3.2016 in Petition No. 491/TT/2014 in respect of the transmission system, depreciation claimed by Petitioner in the instant petition and trued-up depreciation approved in the instant order is as follows:



Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 18.3.2016 in Petition No. 491/TT/2014	11.42	11.42	-	-	-
Claimed by the Petitioner in the instant petition	11.42	11.41	-	-	-
Approved after true-up in this order	11.42	11.42	-	-	-

17. The Petitioner has not claimed IoL for 2014-19 Tariff period as the entire loan has been repaid. Accordingly, IoL has not been allowed for 2014-19 tariff period.

Return on Equity ("RoE")

18. The Petitioner has claimed RoE in respect of the transmission system in terms of Regulation 24 and Regulation 25 of the 2014 Tariff Regulations. The Petitioner has submitted that it is liable to pay income tax at MAT rates and has claimed the following effective tax rates for 2014-19 tariff period:

Year	Claimed effective tax (in %)	Grossed up RoE (in %) [(Base Rate)/(1-t)]
2014-15	21.018	19.624
2015-16	21.382	19.624
2016-17	21.338	19.715
2017-18	21.337	19.704
2018-19	21.549	19.704

19. The Commission vide 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 as follows:

Year	Notified MAT rates (in %) (inclusive of surcharge & cess)	Effective Tax (in %)
2014-15	20.961	20.961
2015-16	21.342	21.342
2016-17	21.342	21.342
2017-18	21.342	21.342
2018-19	21.549	21.549



20. MAT rates considered in Petition No. 274/TT/2019 for the purpose of grossing up of rate of RoE for truing up of the tariff of 2014-19 tariff period in terms of the provisions of the 2014 Tariff Regulations is considered in the instant case as follows:

Year	Notified MAT rates (in %) (inclusive of surcharge & cess)	Base rate of RoE (in %)	Grossed-up RoE (in %) [(Base Rate)/(1-t)]
2014-15	20.961	15.50	19.610
2015-16	21.342	15.50	19.705
2016-17	21.342	15.50	19.705
2017-18	21.342	15.50	19.705
2018-19	21.549	15.50	19.758

21. Accordingly, RoE allowed in respect of the transmission system is as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	316.08	316.08	316.08	316.08	316.08
Addition due to ACE	0.00	0.00	0.00	0.00	0.00
Closing Equity	316.08	316.08	316.08	316.08	316.08
Average Equity	316.08	316.08	316.08	316.08	316.08
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
MAT rate for the respective financial year (in %)	20.961	21.342	21.342	21.342	21.549
Rate of Return on Equity (Pre-tax) (in %)	19.610	19.705	19.705	19.705	19.758
Return on Equity (Pre-tax)	61.98	62.28	62.28	62.28	62.45

22. The details of RoE allowed vide order dated 18.3.2016 in Petition No. 491/TT/2014 in respect of the transmission system, RoE claimed by Petitioner in the instant petition and trued-up RoE approved in the instant order are as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 18.3.2016 in Petition No. 491/TT/2014	61.98	61.98	61.98	61.98	61.98
Claimed by the Petitioner in the instant petition	62.03	62.32	62.28	62.28	62.45
Approved after true-up in this order	61.98	62.28	62.28	62.28	62.45



Operation & Maintenance Expenses (“O&M Expenses”)

23. O&M Expenses claimed by the Petitioner are within the norms specified under the 2014 Tariff Regulations. O&M Expenses approved in respect of the transmission system for 2014-19 tariff period are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Sub-station Bays (Numbers)					
220 kV: Pong: Bay of Bairasuil	1	1	1	1	1
220 kV: Pong: Bay of Jessore	1	1	1	1	1
Norm (₹ lakh/bay)					
220 kV Bay (AIS)	42.210	43.610	45.060	46.550	48.100
Total Sub-station O&M Expenses (A)	84.42	87.22	90.12	93.10	96.20
Transmission Lines (km)					
220 kV D/C Bairasuil-Jessore-Pong Transmission Line	96.820	96.820	96.820	96.820	96.820
Norm (₹ lakh/km)					
D/C Single Conductor	0.303	0.313	0.324	0.334	0.346
Total Transmission Line O&M Expenses (B)	29.34	30.30	31.37	32.34	33.50
Total O&M Expenses (C=A+B)	113.76	117.52	121.49	125.44	129.70

24. The details of O&M Expenses allowed *vide* order dated 18.3.2016 in Petition No. 491/TT/2014 in respect of the transmission system, as claimed by Petitioner in the instant petition and true-up O&M Expenses approved in the instant order are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed <i>vide</i> order dated 18.3.2016 in Petition No. 491/TT/2014	113.76	117.52	121.49	125.44	129.70
Claimed by the Petitioner in the instant petition	113.76	117.52	121.49	125.44	129.70
Approved after true-up in this order	113.76	117.52	121.49	125.44	129.70



Interest on Working Capital (“IWC”)

25. The Petitioner has claimed IWC as per Regulation 28(1)(c) of the 2014 Tariff Regulations.

26. The trued-up IWC allowed in respect of the transmission system for 2014-19 tariff period is as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Working Capital for O&M Expenses (O&M Expenses for one Month)	9.48	9.79	10.12	10.45	10.81
Working Capital for Maintenance Spares (15% of O&M)	17.06	17.63	18.22	18.82	19.45
Working Capital for Receivables (Equivalent to two months of annual transmission charges)	32.52	33.24	31.99	32.68	33.46
Total Working Capital	59.06	60.66	60.33	61.95	63.72
Rate of Interest on working capital (in %)	13.50	13.50	13.50	13.50	13.50
Interest of working capital	7.97	8.19	8.15	8.36	8.60

27. The details of IWC allowed *vide* order dated 18.3.2016 in Petition No. 491/TT/2014 in respect of the transmission system, as claimed by Petitioner in the instant petition and trued-up IWC approved in the instant order are as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed <i>vide</i> order dated 18.3.2016 in Petition No. 491/TT/2014	7.97	8.18	8.14	8.36	8.59
Claimed by the Petitioner in the instant petition	7.97	8.19	8.14	8.36	8.60
Approved after true-up in this order	7.97	8.19	8.15	8.36	8.60

Approved Annual Fixed Charges for 2014-19 Tariff Period

28. Accordingly, the annual transmission charges approved after truing up for 2014-19 tariff period are as follows:



(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	11.42	11.42	0.00	0.00	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	61.98	62.28	62.28	62.28	62.45
O&M Expenses	113.76	117.52	121.49	125.44	129.70
Interest on Working Capital	7.97	8.19	8.15	8.36	8.60
Total	195.13	199.41	191.92	196.08	200.75

29. The details of Annual Transmission Charges allowed *vide* order dated 18.3.2016 in Petition No. 491/TT/2014 in respect of the transmission system, as claimed by Petitioner in the instant petition and approved after truing-up in the instant order are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed in order dated 18.3.2016 in Petition No. 491/TT/2014	195.13	199.10	191.61	195.78	200.28
Claimed by the Petitioner in the instant petition	195.18	199.44	191.91	196.08	200.75
Approved after true-up in this order	195.13	199.41	191.92	196.08	200.75

Determination of Annual Fixed Charges for 2019-24 tariff period

30. The Petitioner has claimed the following transmission charges in respect of the transmission system for 2019-24 tariff period:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	0.00	4.50	19.60	36.32	40.32
Interest on Loan	0.00	2.06	5.16	6.42	3.93
Return on Equity	35.62	37.03	38.88	39.83	40.33
Interest on Working Capital	4.09	4.34	4.77	5.19	5.35
Operation and Maintenance	81.52	84.46	87.36	90.49	93.60
Total	121.23	132.39	155.77	178.25	183.53

31. The details of IWC claimed by the Petitioner in respect of the transmission system for 2019-24 tariff period are as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M expenses	6.79	7.04	7.28	7.54	7.80
Maintenance Spares	12.23	12.67	13.10	13.57	14.04
Receivables	14.91	16.32	19.20	21.98	22.57



Total	33.93	36.03	39.58	43.09	44.41
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	4.09	4.34	4.77	5.19	5.35

Capital Cost

32. Regulation 19 of the 2019 Tariff Regulations provide as follows:

*“19. **Capital Cost** (1) The Capital cost of the generating station or the transmission system, as the case may be, as determined by the Commission after prudence check in accordance with these regulations shall form the basis for determination of tariff for existing and new projects.*

(2) The Capital Cost of a new project shall include the following:

- (a) The expenditure incurred or projected to be incurred up to the date of commercial operation of the project;*
- (b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;*
- (c) Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period;*
- (d) Interest during construction and incidental expenditure during construction as computed in accordance with these regulations;*
- (e) Capitalised initial spares subject to the ceiling rates in accordance with these regulations;*
- (f) Expenditure on account of additional capitalization and de-capitalisation determined in accordance with these regulations;*
- (g) Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the date of commercial operation as specified under Regulation 7 of these regulations;*
- (h) Adjustment of revenue earned by the transmission licensee by using the assets before the date of commercial operation;*
- (i) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
- (j) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;*
- (k) Capital expenditure on account of biomass handling equipment and facilities, for co-firing;*
- (l) Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;*
- (m) Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;*
- (n) Expenditure on account of change in law and force majeure events; and*
- (o) 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.*



- (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.*
- (4) *The capital cost in case of existing or new hydro generating station shall also include:*
- (a) *cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and*
 - (b) *cost of the developer's 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) project in the affected area.*
- (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."*



33. The admitted capital cost of ₹632.16 lakh as on 31.3.2019 in respect of the transmission system 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.

Additional Capital Expenditure (“ACE”)

34. Regulation 24 and Regulation 25 of the 2019 Tariff Regulations provide as follows:

“24. Additional Capitalization within the original scope and up to 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 up to 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 Asset, the additional capitalization shall be worked out after adjusting the gross fixed Asset and cumulative depreciation of the Asset 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.”

25. Additional Capitalisation within the original scope and after the cut-off date:

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

- (a) 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;*
- (b) Change in law or compliance of any existing law;*
- (c) Deferred works relating to ash pond or ash handling system in the original scope of work;*
- (d) Liability for works executed prior to the cut-off date;*



- (e) Force Majeure events;
- (f) Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments; and
- (g) Raising of ash dyke as a part of ash disposal system.

(2) In case of replacement of Asset deployed under the original scope of the existing project after cut-off date, the additional capitalization may be admitted by the Commission, after making necessary adjustments in the gross fixed Asset and the cumulative depreciation, subject to prudence check on the following grounds:

- (a) The useful life of the Asset is not commensurate with the useful life of the project and such Asset have been fully depreciated in accordance with the provisions of these regulations;
- (b) The replacement of the asset or equipment is necessary on account of change in law or Force Majeure conditions;
- (c) The replacement of such asset or equipment is necessary on account of obsolescence of technology; and
- (d) The replacement of such asset or equipment has otherwise been allowed by the Commission.

35. The Petitioner vide Auditor's Certificate dated 6.1.2019 has projected net ACE of ₹83.51 lakh in respect of the transmission system after adjusting for de-capitalisation during 2019-24 tariff period.

36. The Petitioner has submitted that the projected ACE during 2019-24 period is for replacement of some of the component/ equipment in the system which has deteriorated due to ageing and may affect the stability and reliability of the Grid in case of sudden failure and that its claim is covered under Regulation 25(2) of the 2019 Tariff regulations. The Petitioner vide Auditor's Certificate dated 6.1.2019 has submitted the cost details for ACE/ de-capitalization projected during 2019-24 is tabulated below:

Particulars	(₹ in lakh)	
	Amount	Sub-station
Projected ACE in 2020-21	50.00	
Projected ACE in 2021-22	50.00	
Projected De-capitalisation in 2021-22	(34.26)	
Projected ACE in 2022-23	56.72	
Projected De-capitalisation in 2022-23	(38.95)	
NET ACE	83.51	



37. The Petitioner has submitted that some problematic equipment like CT, Isolators, C&R panel, Control and Power cable are proposed for replacement to ensure system reliability. In addition to equipment proposed to be replaced, there are many other equipment/ materials like other CT, CB, CVT, earthing system, tower and gantry structures, cables, which play a very important role in operation of any sub-station. The equipment is replaced based on condition monitoring. However, balance of the system remains under service, for which replacement may be required in near future. The Petitioner has further submitted that the gross block of old equipment, being proposed to be replaced in the instant petition is hardly 11.58% of the total gross block of the project. However, other equipment of the project remains the same as commissioned with original project. As only some of the equipment are proposed to be replaced, it is difficult to determine the life extension of entire project including old equipment. The Petitioner has submitted that the new equipment can definitely run for more than five years but considering the combination of equipment, in which majority of items are old, and may require replacement in future, which cannot be assessed at this stage, the Petitioner has proposed the life extension of five years with respect to the transmission system.

38. In response to the Commission's query with respect to the details of ACE and de-capitalization during 2019-24 tariff period, the Petitioner has submitted that the equipment proposed for replacement are installed/ to be installed at Pong sub-station of PSTCL. PSTCL is carrying out O&M activities of these equipment on behalf of the Petitioner. PSTCL has also raised issue pertaining to O&M of old sub-station equipment and requested the Petitioner to replace these equipment. The Petitioner has submitted the following details of the proposed replacement of equipment:



A. Isolators (08 sets):

- i. These Isolators are of ABB make and were installed in 1980 and manufactured in 1976-77. All isolators have completed about 39 years of useful service. No spares are available at site for these isolators. Due to ageing, hot spots are very frequent in these isolators.
- ii. These isolators are mainly of horizontal centre break type and frequent problem of misalignment is being faced. Current transfer assembly on isolator top and other spares are now no more available in most of the cases due to old make of isolators and this is creating problem in maintaining these old isolators. Due to these constraints in maintaining isolators, sometimes the isolators are getting opened in live line condition which is dangerous to the system as well as to the operating personnel.
- iii. These isolators are of pneumatic operated type and due to non-availability of spare parts and service for this technology, presently drive mechanism is non-functional causing frequent operational problems.
- iv. Due to rusting, many MOM boxes got damaged and operation of motors is not possible. Due to ageing, TBs inside MOM boxes has become brittle and on many occasions, DC cables come in contact with boxes and creates DC earth fault, which is detrimental to the system.
- v. Many times, even local operation becomes difficult. As these isolators have become obsolete, neither timely support from OEM nor spares are available.

B. Current Transformer (3 numbers):

- i. These current transformers are of TELK make commissioned in 1980 and were manufactured in 1976. These have completed 39 years of useful service life. Due to ageing, leakage from multiple points is observed. In some cases, the oil seepage from bottom of tank has also been observed. Hot-spots are observed at many points.



- ii. As there is leakage in current transformer, in the long run, it may lead to moisture ingress and subsequent failures. The current transformers are hermetically sealed equipment and repair at site is not feasible. Further, there is ingress of moisture and complete replacement of winding is required at the manufacturer's works, which is not techno-economically viable.

C. Control and Relay panels (2 sets):

- i. Panels were commissioned in 1980 and have completed about 39 years of useful working life. These relays are of electromagnetic type and are now obsolete. OEMs have phased out these models of relays as there is no spares support.
- ii. Cable, wiring and terminal blocks inside both the control and protection panels have become brittle leading to DC leakages and other circuit failures. It is also not feasible to replace TBs and wiring inside these panels.
- iii. In case of any failure, the relays are to be kept out of service to avoid malfunctioning and the only option left is replacement.
- iv. Due to ageing, problem of malfunctioning/ non-operation occurs because of sticking-up of contacts and problem in the coils.
- v. As system is very old and proper drawing is not available, it is difficult to work in protection panel. Hence, it may cause delay during contingencies.
- vi. Non-functioning of relays may result not only in failure of costly switchyard equipment but may also cause grid disturbance.
- vii. Further, these relays are not numerical type and do not comply IEC 61850. The relays do not have DR and time synchronization facility. Therefore, they do not help in fault analysis through stored tripping and event data.



D. Power and Control cables:

- i. The power and control cables at BBMB Pong Sub-station were installed in 1980. Due to climatic conditions, large number of cables in the cable trenches have got damaged over a period of time. The ageing process of the cables has got expedited due to the sub-zero climatic conditions in the valley during winters. At many places, the outer sheath/ armour of the cables got damaged. An unhealthy cable, in addition to being a source of DC earth fault, can also lead to mal-operation/ spurious signalling etc. which are not desirable in a healthy power system. Cable is also required during retrofitting of isolators and CT to be carried out under ACE for 2019-24 period. It is, therefore, proposed to replace inter-pole power and control cable for retrofitting of equipment and damaged cables in cable trenches at BBMB Pong.

39. The Petitioner has further submitted that it has carried out periodic maintenance of Sub-station equipment as per the standard practice and in case of violation of parameters based on conditions monitoring test, action for repair/ replacement of equipment is carried out. The Petitioner has submitted that due to advancement in technology, new design equipment being used in the transmission system and in many cases either the manufacturers have closed the manufacturing units of old equipment or have migrated to the new design equipment. The Petitioner has submitted that the service support for old equipment either becomes unavailable or available with very high cost and high lead time. The Petitioner has further submitted that the reliability of old equipment also becomes poor due to ageing and wear and tear and may lead to safety risk for O&M staff. In order to achieve better reliability and security of system, replacement of the equipment is planned under ACE and the details regarding de-capitalization claimed have been submitted vide Form-10.



40. We have considered the submissions of the Petitioner. The proposed ACE is towards replacement of Isolators, Current Transformer, Control and Relay panels, Power and Control cables. These items are of critical nature and their failure may affect the stability and reliability of the grid. As such, the replacement of these obsolete equipment and the consequent ACE is approved, subject to true-up on actual basis. However, it is observed that the Petitioner has not submitted the OEM Certificate in respect of the sub-station equipment that is sought to be replaced in 2019-24 tariff period. The Petitioner is directed to submit the OEM Certificate in respect of the sub-station equipment that is sought to be replaced and actual cost details of the replaced equipment and cost details of the new equipment sub-station-wise at the time of truing up. It is observed that letter dated 6.11.2020 has been addressed by BBMB to the Petitioner about replacement of equipment of 220 kV Pong-Bairasuil and Pong-Jassore Ckt. at PPH BBMB, but the Petitioner has mentioned in the petition that Pong sub-station is under the control of PSTCL. The Petitioner is directed to clarify the same at the time of truing up.

41. ACE and de-capitalisation allowed for 2019-24 tariff period is as follows:

(₹ in lakh)				
Sl. No.	Particulars	2020-21	2021-22	2022-23
(1)	ACE	50.00	50.00	56.72
(2)	Decapitalization	0.00	34.26	38.95
(3)	Net ACE (1)-(2)	50.00	15.74	17.77

42. Accordingly, capital cost in respect of the transmission system as on 31.3.2024 is allowed as follows:

(₹ in lakh)				
Capital Cost allowed (as on 1.4.2019)	ACE			Capital Cost (as on 31.3.2024)
	2020-21	2021-22	2022-23	
632.16	50.00	15.74	17.77	715.67



Adjustments to Equity

43. COD of the transmission asset was 18.5.1980. Debt-equity ratio as on COD was 50:50. The weighted average Life of the transmission system is determined as 35 years. Thus, the transmission system has completed its useful life on 31.3.2016. First proviso to Regulation 18(3) of the 2019 Tariff Regulations provides that in case a transmission system including communication system has completed its useful life on or after 1.4.2019, and if the actual equity actually deployed as on 1.4.2019 is more than 30% of the capital cost, then the equity shall be restricted to 30% of the total equity deployed. Regulation 18(3) of the 2019 Tariff Regulations provides as follows:

“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;.....”

44. Debt-equity ratio as on 31.3.2019 is 50:50 i.e., the equity deployed is more than 30%. Therefore, as per the first proviso to Regulation 18(3) of the 2019 Tariff Regulations, equity from 1.4.2019 onwards has been restricted to 30%. The loan has already been repaid prior to 1.4.2019. Accordingly, the capital cost for 2019- 24 tariff period is allowed as follows:

	(₹ lakh)
Funding	Amount
Closing equity as on 31.3.2019* (a)	316.08
Equity in excess of 30% (b)	126.43
Equity admissible as on 1.4.2019** (a)-(b)	189.65

*Represents 50.00% of Gross Block of ₹632.16 lakh

**Represents 30% of Gross Block of ₹632.16 lakh

Debt-Equity Ratio

45. Regulation 18 of the 2019 Tariff Regulations provides as follows:



“18. Debt-Equity Ratio: 1) For new projects, the debt-equity ratio of 70:30 as on date of commercial operation shall be considered. 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, as the case may be, shall submit the resolution of the Board of the company or approval of the competent authority in other cases regarding infusion of funds 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 project including communication, project 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 project including communication project 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 project including communication project 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.”



46. The transmission system has completed its useful life in 2015-16 (on 31.3.2016) and de-capitalisation of elements of transmission system is proposed after the completion of its useful life. In accordance with Regulation 18 of the 2019 Tariff Regulations, ACE for 2019-24 period is allowed in the ratio of 70:30. As decided above, the equity from the year 2019-20 onwards is restricted to 30%. The details of debt-equity considered for the purpose of computation of tariff for 2019-24 tariff period is as follows:

Debt-Equity for Gross Capital Cost as on 1.4.2019

Funding	Amount (₹ in lakh) (A)	(in %)
Debt	316.08	50.00%
Equity	189.65	30.00%
Total	505.73	80.00%

Debt-Equity for ACE and De-capitalisation during 2019-24 Period

Funding	ACE (B)		ACE (C)		De-capitalization (D)	
	2020-21 (₹ in lakh)	(in %)	2021-22 (₹ in lakh)	(in %)	2021-22 (₹ in lakh)	(in %)
Debt	35.00	70.00	35.00	70.00	23.98	70.00
Equity	15.00	30.00	15.00	30.00	10.28	30.00
Total	50.00	100.00	50.00	100.00	34.26	100.00

Funding	ACE (E)		De-capitalization (F)	
	2022-23 (₹ in lakh)	(in %)	2022-23 (₹ in lakh)	(in %)
Debt	39.70	70.00	27.27	70.00
Equity	17.02	30.00	11.69	30.00
Total	56.72	100.00	38.95	100.00

Debt-Equity for Gross Capital Cost as on 31.3.2024

Funding	Amount (₹ in lakh) (G)=(A)+(B)+(C)-(D)+(E)-(F)
Debt	374.54
Equity	214.70
Total	589.24



Depreciation

47. Regulations 33 of the 2019 Tariff Regulations provides as follows:

“33. Depreciation: (1) *Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission project or element thereof including communication project. In case of the tariff of all the units of a generating station or all elements of a transmission project including communication project 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 project 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 project, 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 project, weighted average life for the generating station of the transmission project 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 the salvage value for IT equipment and software shall be considered as NIL and 100% value of the assets shall be considered depreciable;

Provided further that in case of hydro generating stations, the salvage value shall be as provided in the agreement, if any, signed by the developers with the State Government for development of the generating station:

Provided also 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 unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life or 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-I to these regulations for the Asset of the generating station and transmission project:*

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 Asset.”



(6) In case of the existing projects, the balance depreciable value as on 1.4.2019 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2019 from the gross depreciable value of the assets.

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

(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 decapitalized asset during its useful services.”

48. The transmission system has already completed its life before 1.4.2019. Accordingly, no depreciation is allowed on existing transmission system. As discussed above, the Petitioner has proposed life extension for the transmission system by five years, but there is no basis for the same. Hence, depreciation for ACE (new additions) claimed for the year 2020-21 onwards is allowed at normative rate of depreciation as specified in the 2019 Tariff Regulations. Depreciation allowed in respect of the transmission system for 2019-24 tariff period is as follows:

	(₹ in lakh)				
Existing Assets	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	632.16	632.16	632.16	597.90	558.95
Addition during the year 2019-24 due to projected ACE	0.00	0.00	0.00	0.00	0.00
De-capitalisation	0.00	0.00	34.26	38.95	0.00
Closing Gross Block	632.16	632.16	597.90	558.95	558.95
Average Gross Block	632.16	632.16	615.03	578.43	558.95
Weighted average rate of Depreciation (WAROD) (in %)	-	-	-	-	-
Balance useful life at the beginning of the year (Year)	-	-	-	-	-
Lapsed life at the beginning of the year (Year)	-	-	-	-	-
Depreciable Value	568.94	568.94	538.11	533.89	568.94
Cumulative Depreciation at the beginning of the year	568.94	568.94	568.94	568.94	568.94
Depreciation adjustment on account of de-capitalisation	0.00	0.00	30.83	35.06	0.00
Net cumulative depreciation after de-capitalisation	568.94	568.94	538.11	533.89	568.94
Remaining depreciable value at	-	-	-	-	-



the beginning of the year					
Depreciation during the year	-	-	-	-	-

	(₹ in lakh)				
New Additions	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	-	0.00	50.00	100.00	156.72
Addition during the year	-	50.00	50.00	56.72	0.00
Closing Gross Block	-	50.00	100.00	156.72	156.72
Average Gross Block	-	25.00	75.00	128.36	156.72
WAROD	-	5.28	5.28	5.28	5.28
Depreciable Value	-	22.50	67.50	115.52	141.05
Cumulative Depreciation at the beginning of the year	-	0.00	1.32	5.28	12.06
Depreciation	-	1.32	3.96	6.78	8.27
Cumulative Depreciation at the end of the year	-	1.32	5.28	12.06	20.33
Remaining Depreciation at the end of the year	-	21.18	62.22	103.47	120.72

Interest on Loan (“IoL”)

49. Regulation 32 of the 2019 Tariff Regulations provides as follows:

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

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



(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”.

50. Gross normative loan has already been repaid prior to 1.4.2019 and, therefore, IoL has been considered on ACE (new additions). 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 change in interest rate due to floating rate of interest applicable, if any, during 2019-24 tariff period may be adjusted. Accordingly, the floating rate of interest, if any, shall be considered at the time of truing up. Therefore, IoL has been allowed in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed in respect of the transmission asset is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	316.08	316.08	316.08	298.95	279.47
Cumulative Repayments up to Previous Year	316.08	316.08	316.08	298.95	279.47
Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
Addition due to ACE	0.00	0.00	0.00	0.00	0.00
Adjustment of gross loan pertaining to de-capitalised asset	0.00	0.00	17.13	19.48	0.00
Repayment during the year	-	-	-	-	-
Adjustment of cumulative repayment pertaining to de-capitalised asset	0.00	0.00	17.13	19.48	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Loan	0.00	0.00	0.00	0.00	0.00
Weighted Average Rate of Interest on Loan (in %)	13.50%	13.50%	13.50%	13.50%	13.50%



Interest on Loan	0.00	0.00	0.00	0.00	0.00
-------------------------	------	------	------	------	------

(₹ in lakh)

New Additions	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	0.00	0.00	35.00	70.00	109.70
Cumulative Repayments up to Previous Year	0.00	0.00	1.32	5.28	12.06
Net Loan-Opening	0.00	0.00	33.68	64.72	97.65
Addition due to ACE	0.00	35.00	35.00	39.70	0.00
Repayment during the year	0.00	1.32	3.96	6.78	8.27
Net Loan-Closing	0.00	33.68	64.72	97.65	89.37
Average Loan	0.00	16.84	49.20	81.18	93.51
Weighted Average Rate of Interest on Loan (in %)	13.50	13.50	13.50	13.50	13.50
Interest on Loan	0.00	2.27	6.64	10.96	12.62

Return on Equity ("RoE")

51. Regulation 30 and Regulation 31 of the 2019 Tariff Regulations provide as follows:

"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 project including communication project 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 project;

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 project 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 project up to load dispatch centre or protection project 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. income from business other than business of generation or transmission, as the case may be) 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.

Illustration-

(i) In case of a generating company or a transmission licensee paying Minimum Alternate Tax (MAT) @ 21.55% including surcharge and cess:

$$\text{Rate of return on equity} = 15.50 / (1 - 0.2155) = 19.758\%$$

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

(a) Estimated Gross Income from generation or transmission business for FY 2019- 20 is Rs 1,000 crore;

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

(c) Effective Tax Rate for the year 2019-20 = Rs 240 Crore/Rs 1000 Crore = 24%;

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

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

52. The Petitioner has submitted that MAT rate is applicable to it. As observed above, equity from the year 2019-20 onwards has been restricted to 30% as per first proviso to Regulation 18(3) of the 2019 Tariff Regulations. MAT rate applicable in the year 2019-20 has been considered for the purpose of RoE, which shall be trued-up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. RoE allowed in respect of the transmission system is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	189.65	189.65	204.65	209.37	214.70
Addition due to ACE	0.00	15.00	15.00	17.02	0.00
Decrease due to de-capitalisation during the period	0.00	0.00	10.28	11.69	0.00
Closing Equity	189.65	204.65	209.37	214.70	214.70
Average Equity	189.65	197.15	207.01	212.04	214.70
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
Tax Rate applicable (in %)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (Pre-tax) (in %)	18.782	18.782	18.782	18.782	18.782
Return on Equity (Pre-tax)	35.62	37.03	38.88	39.82	40.33

Operation & Maintenance Expenses (“O&M Expenses”)

53. Regulation 35(3)(a) of the 2019 Tariff Regulations specifies the norms for O&M Expenses for the transmission project as:

“(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 (Rs 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 (Rs Lakh per MVA)					
765 kV	0.491	0.508	0.526	0.545	0.564



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
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 (Rs Lakh per km)					
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.881	0.912	0.944	0.977	1.011
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 (Rs. 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;

(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.”

54. O&M Expenses claimed by the Petitioner and allowed in respect of the transmission system are as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Sub-station Bays (Numbers)					
220 kV: Pong: Bay of Bairasuil	1	1	1	1	1
220 kV: Pong: Bay of Jessore	1	1	1	1	1
Norm (₹ lakh/bay)					
220 kV Bay (AIS)	22.51	23.30	24.12	24.96	25.84
Total Sub-station O&M Expenses (A)	45.02	46.60	48.24	49.92	51.68
Transmission Lines (km)					
220 kV D/C Bairasuil-Jessore-Pong transmission line	96.820	96.820	96.820	96.820	96.820
Norm (₹ lakh/km)					
D/C Single Conductor	0.377	0.391	0.404	0.419	0.433
Total Transmission Line O&M Expenses (B)	36.50	37.86	39.12	40.57	41.92
Total O&M Expenses (C=A+B)	81.52	84.46	87.36	90.49	93.60

* The petitioner has not claimed O&M towards PLCC.

Interest on Working Capital (“IWC”)

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

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

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

(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 project including communication project 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. **Definition** - 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;”

56. The Petitioner has submitted that it has computed IWC for 2019-24 period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of IWC as 12.05%. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The rate of IWC considered is 12.05% (SBI 1year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20. 11.25% (SBI 1-year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) for 2020-21 and 10.50% (SBI 1-year MCLR applicable as on 1.4.2021 of 7.00% plus 350 basis points) for 2021-24. The components of the working capital and interest allowed thereon in respect of the transmission system are as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one Month)	6.79	7.04	7.28	7.54	7.80
Working Capital for Maintenance Spares (15% of O&M)	12.23	12.67	13.10	13.57	14.04
Working Capital for Receivables (Equivalent to two months of annual transmission charges)	14.91	15.91	17.36	18.77	19.57
Total Working Capital	33.93	35.62	37.74	39.88	41.41
Rate of Interest of working	12.05	11.25	10.50	10.50	10.50



capital (in %)					
Interest of working capital	4.09	4.01	3.96	4.19	4.35

Annual Fixed Charges for 2019-24 Tariff Period

57. The detailed computation of the various components of the Annual Fixed Charges (AFC) in respect of the transmission system for 2019-24 tariff period is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	0.00	1.32	3.96	6.78	8.27
Interest on Loan	0.00	2.27	6.64	10.96	12.62
Return on Equity	35.62	37.03	38.88	39.82	40.33
O&M Expenses	81.52	84.46	87.36	90.49	93.60
Interest on Working Capital	4.09	4.01	3.96	4.19	4.35
Total	121.23	129.09	140.80	152.24	159.17

Filing Fee and Publication Expenses

58. The Petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 70(1) of the 2019 Tariff Regulations. 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

59. The Petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 70(4) of the 2019 Tariff Regulations for 2019-24 tariff period. The Petitioner shall also be entitled for recovery of RLDC fee and charges in accordance with Regulations 70(3) of the 2019 Tariff Regulations for 2019-24 tariff period.

Goods and Services Tax

60. The Petitioner has submitted that, if GST is levied at any rate and at any point of time in future on charges of transmission of electricity, the same shall be borne and additionally paid by the Respondent(s) 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.

61. We have considered the submissions of the Petitioner. Since GST is not levied on transmission services at present, we are of the view that Petitioner's prayer is premature.

Security Expenses

62. The Petitioner has submitted that security expenses in respect of the transmission system is not claimed in the instant petition and it would file a separate petition for claiming the overall security expenses and the consequential IWC.

63. We have considered the submissions of the Petitioner. The Petitioner has claimed consolidated security expenses on projected basis for 2019-24 tariff period on the basis of actual security expenses incurred in 2018-19 in Petition No. 260/MP/2020. The said petition has already been disposed of by the Commission vide order dated 3.8.2021 wherein the Commission has approved security expenses from 1.4.2019 to 31.3.2024. Therefore, security expenses will be shared in terms of the order dated 3.8.2021 in Petition No. 260/MP/2020. Therefore, the Petitioner's prayer in the instant petition for allowing it to file a separate petition for claiming the overall security expenses and consequential IWC has become infructuous.

Capital Spares

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



Sharing of Transmission Charges

65. With effect from 1.7.2011, sharing of transmission charges for inter-State transmission systems was governed by the provisions of the 2010 Sharing Regulations. However, with effect from 1.11.2020, the 2010 Sharing Regulations has been repealed and sharing is governed by the provisions of the 2020 Sharing Regulations. Accordingly, the liabilities of DICs for arrears of transmission charges determined through this order shall be computed DIC-wise in accordance with the provisions of respective Tariff Regulations and Sharing Regulations and shall be recovered from the concerned DICs through Bill 2 under Regulation 15(2)(b) of the 2020 Sharing Regulations. Billing, collection and disbursement of transmission charges for subsequent period shall be recovered in terms of provisions of the 2020 Sharing Regulations as provided in Regulation 57 of the 2019 Tariff Regulations.

66. To summarise:

- a. The trued-up AFC approved in respect of the transmission system for 2014-19 tariff period are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
AFC	195.13	199.41	191.92	196.08	200.75

- b. AFC allowed in respect of the transmission system for 2019-24 tariff period are as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
AFC	121.23	129.09	140.80	152.24	159.17

67. This order disposes of Petition No. 712/TT/2020 in terms of the above discussions and findings.

sd/-
(P. K. Singh)
Member

sd/-
(Arun Goyal)
Member

sd/-
(P. K. Pujari)
Chairperson

