

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 40/TT/2021**

**Coram:**

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

**Date of Order: 31.12.2021**

**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 the 2014-19 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of 2019-24 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for **Asset-I:** 50 MVAR Line Reactor at Jaipur (South) in 400 kV D/C Kota - Jaipur (South) line (Part of 400 kV D/C Rapp- Jaipur TL) utilized as Bus Reactor at Jaipur (South) Sub-station and **Asset-II:** 400 kV D/C Kota - Jaipur (South) line along with associated bays at Kota and Jaipur (South) (Part of RAPP-Jaipur (S) 400 kV D/C line with one Ckt LILLO at Kota) under "Transmission System associated with RAPP 7 & 8, Part-B".

**And in the matter of:**

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

**.... Petitioner**

**Vs.**

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited,  
Vidyut Bhawan, Vidyut Marg,  
Jaipur - 302005.



2. Ajmer Vidyut Vitran Nigam Limited,  
132 kV, GSS RVPNL, Sub-station Building,  
Caligiri Road, Malviya Nagar,  
Jaipur - 302017 (Rajasthan).
3. Jaipur Vidyut Vitran Nigam Limited,  
132 kV, GSS RVPNL, Sub-station Building,  
Caligiri Road, Malviya Nagar,  
Jaipur - 302017 (Rajasthan).
4. Jodhpur Vidyut Vitran Nigam Limited,  
132 kV, GSS RVPNL, Sub-station Building,  
Caligiri Road, Malviya Nagar,  
Jaipur - 302017, (Rajasthan).
5. Himachal Pradesh State Electricity Board,  
Vidyut Bhawan, Kumar House Complex Building II,  
Shimla - 171004.
6. Punjab State Electricity Board,  
The Mall,  
Patiala - 147001.
7. Haryana Power Purchase Centre,  
Shakti Bhawan, Sector-6,  
Panchkula - 134109, (Haryana).
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 - 226001.
10. Delhi Transco Limited,  
Shakti Sadan, Kotla Road,  
New Delhi - 110002.
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 - 110009.
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 - 110002.
18. Nuclear Power Corporation of India Limited,  
Corporate office, Nabhikiya Urja Bhavan, Anushaktinagar,  
Mumbai - 400094.

....Respondent(s)

**For Petitioner** : Shri S.S. Raju, PGCIL  
Shri D.K.  
Biswal, PGCIL  
Shri Ved Prakash  
Rastogi, PGCIL  
Shri Amit Yadav, PGCIL

**For Respondents:** None

### **ORDER**

The Petitioner, Power Grid Corporation of India Limited, a deemed transmission licensee, has filed the instant petition for truing up of transmission tariff for the period from COD 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 determination of transmission tariff for the period 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 the following assets (hereinafter referred to as “the transmission assets”) under “Transmission System associated with RAPP 7 & 8, Part-B” (hereinafter referred to as “the transmission project”) in Northern Region.

**Asset-I:** 50 MVAR Line Reactor at Jaipur (South) in 400 kV D/C Kota- Jaipur (South) line (Part of 400 kV D/C Rapp- Jaipur TL) utilized as Bus Reactor at Jaipur (South) Sub-station.

**Asset-II:** 400 kV D/C Kota - Jaipur (South) line along with associated bays at Kota and Jaipur (South) (Part of RAPP-Jaipur (S) 400 kV D/C line with one Ckt LILO at Kota).

2. The Petitioner has made the following prayers in the instant 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 8 and 9 above.*

(a) *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 8 and 9 above for respective block.*

(b) *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.*

(c) *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.*

(d) *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.*



(e) 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 9.10 above.

(f) Allow the petitioner to claim the capital spares at the end of tariff block as per actual.

(g) 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 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) The Investment Approval (IA) and expenditure sanction in respect of the transmission project was accorded by the Board of Directors of the Petitioner's Company vide Memorandum No. C/CP/RAPP 7&8, Part-B dated 24.7.2015 at an estimated cost of ₹30718 lakh, including IDC of ₹1891 lakh based on April 2015, price level.

(b) The scope of work covered under the transmission project is as follows:

#### **Transmission Lines**

(i) Kota - Jaipur (South) 400 kV D/C line (part of RAPP-Jaipur (South) 400 kV D/C line with one Ckt LILOed at Kota.

#### **Sub-stations**

(i) Extension of 400/220 kV Jaipur (South) Sub-station

a. 2 numbers of 400 kV line bays at Jaipur (South)

(ii) Extension of 400/220 kV Kota Sub-station

a. 1 number of 400 kV line bays at Kota

b. Realignment line works near Kota so as to achieve the approved system configuration which is RAPP-Jaipur (South)



400 kV D/C line with one Ckt LILoed at Kota.

(c) The entire scope of work under the transmission project has been completed and is covered in the instant petition.

(d) The transmission assets were scheduled to be commissioned within 28 months from the date of IA i.e. by 24.11.2017.

(e) The details of scheduled commercial operation date (SCOD), date of commercial operation (COD) and time over-run are as follows:

<b>Nomenclature of the assets in the instant petition</b>	<b>SCOD</b>	<b>COD</b>	<b>Time over-run</b>
Asset – I	24.11.2017	5.3.2018	101 days (Not condoned)
Asset – II		29.3.2019	490 days (condoned)

(f) The transmission tariff in respect of Asset-I and Asset-II was approved by the Commission from their respective COD to 31.3.2019 vide order dated 5.2.2020 in Petition No. 283/TT/2018.

(g) The Annual Fixed Charges (AFC) approved by the Commission vide order dated 5.2.2020 in Petition No. 283/TT/2018 and trued up tariff claimed by the Petitioner in respect of the transmission assets for 2014-19 tariff period are as follows:

<b>Particulars</b>	<b>(₹ in lakh)</b>		
	<b>Asset – I</b>		<b>Asset – II</b>
	<b>2017-18 (Pro-rata for 27 days)</b>	<b>2018-19</b>	<b>2018-19 (Pro-rata for 3 days)</b>
AFC approved vide order dated 5.2.2020 in Petition No. 283/TT/2018	20.84	298.88	34.15
AFC claimed by the Petitioner based on truing up in the instant petition	21.13	297.43	34.39

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



5. The Petitioner has served the petition on the Respondents and notice regarding the filing of the petition has 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 notices published in the newspapers by the Petitioner. None of the Respondents have filed reply in the matter.

6. The hearing in this matter was held on 3.8.2021 through video conference and order was reserved.

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

8. This order is issued considering the submissions made by the Petitioner in the petition vide affidavit dated 29.6.2020 and affidavit dated 1.7.2021.

#### **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 assets are as follows:

Particulars	Asset – I		Asset – II
	2017-18 (Pro-rata for 27 days)	2018-19	2018-19 (Pro-rata for 3 days)
Depreciation	5.04	72.05	9.93
Interest on Loan	5.12	70.23	10.28
Return on Equity	5.46	78.17	11.10
Interest on working capital	0.59	8.27	0.77
O&M Expenses	4.92	68.71	2.31
<b>Total</b>	<b>21.13</b>	<b>297.43</b>	<b>34.39</b>

10. The details of the trued-up Interest on Working Capital (IWC) claimed by the



Petitioner in respect of the transmission assets are as follows:

Particulars	(₹ in lakh)		
	Asset – I		Asset – II
	2017-18 (Pro-rata for 27 days)	2018-19	2018-19 (Pro-rata for 3 days)
O&M Expenses	5.54	5.73	23.54
Maintenance Spares	9.98	10.31	42.36
Receivables	47.60	49.57	697.49
<b>Total</b>	<b>63.12</b>	<b>65.61</b>	<b>763.39</b>
Rate of Interest (in %)	12.60	12.60	12.20
<b>Interest on Working Capital</b>	<b>0.59</b>	<b>8.27</b>	<b>0.77</b>

### Capital Cost

11. The Commission vide order dated 5.2.2020 in Petition No. 283/TT/2018 has approved the capital cost as on COD and Additional Capital Expenditure (ACE) in respect of the transmission assets up to 31.3.2019. The details of the same are as follows:

Particulars	Approved Cost (FR)	Capital Cost allowed as on COD	ACE		Total Capital Cost as on 31.3.2019
			2017-18	2018-19	
			Asset – I	1614.48	
Asset – II	29103.52	22714.74	-	-	22714.74

12. The Petitioner in the instant petition has submitted capital cost as on COD and estimated ACE incurred or projected to be incurred in respect of the transmission assets as per Auditor's Certificate dated 9.4.2020 as follows:

Particulars	Apportioned Approved Cost (FR)	Capital Cost as on COD	ACE		Total Capital Cost as on 31.3.2019
			2017-18	2018-19	
			Asset – I	1614.48	
Asset – II	29103.52	23291.51	-	-	23291.51





### **Cost Over-run**

13. The Petitioner has claimed capital cost of ₹1267.99 lakh and ₹23291.51 lakh in respect of Asset-I and Asset-II respectively as on COD.

14. The total completion cost including ACE in respect of transmission assets is ₹24671.55 lakh and the approved cost is ₹30718.00 lakh. Hence, the completion cost in respect of the transmission assets is within the approved FR cost and as such there is no cost over-run with regard to the transmission assets.

### **Time Over-run**

15. As per IA, SCOD of the transmission assets was within 28 months from the date of IA. Accordingly, SCOD of the transmission assets was 24.11.2017 against which Asset-I and Asset-II were put under commercial operation on 5.3.2018 and 29.3.2019 respectively with delay of 101 days in case of Asset-I and 490 days in case of Asset-II. The Commission vide order dated 5.2.2020 in Petition No. 283/TT/2018 did not condone the delay of 101 days while approving the COD of Asset-I, while for Asset-II, the entire delay of 490 days was condoned.

### **Interest During Construction (IDC) and Incidental Expenditure During Construction (IEDC)**

16. The Petitioner has claimed IDC in respect of the transmission assets and has submitted the Auditor's Certificate dated 9.4.2020 in support of the same. The Petitioner has submitted the computation of IDC along with year-wise details of IDC discharged.

17. The allowable IDC has been worked out considering the information submitted by the Petitioner in respect of the transmission assets separately on cash basis. The loan details submitted in Form-9C for 2014-19 tariff period and IDC computation



sheet have been considered for the purpose of IDC calculation on cash basis and on accrued basis. The un-discharged IDC as on COD has been considered as ACE during the year in which it has been discharged.

18. Accordingly, based on the information furnished by the Petitioner, IDC considered is as follows:

(₹ in lakh)

Particulars	IDC as per Auditor's Certificate	IDC Admissible	IDC Discharged as on COD	IDC Undischarged as on COD	IDC Discharge During	
	A	B	C	D=B-C	2018-19	2019-20
	Asset-I	90.58	71.31	39.06	32.25	32.25
Asset-II	2279.72	2277.30	1775.44	501.86	-	501.86

19. The Petitioner has claimed IEDC of ₹26.74 lakh and ₹636.93 lakh in respect of Asset-I and Asset-II respectively and has submitted Auditor's Certificate in support of the same. The Petitioner has also submitted that entire IEDC has been discharged as on COD in respect of the transmission assets. IEDC amounting to ₹2.83 lakh has been disallowed on account of time over-run of 101 days in the case of Asset-I vide order dated 5.2.2020 in Petition No.283/TT/2018. Accordingly, IEDC of ₹23.91 lakh and ₹636.93 lakh has been allowed with respect to Asset-I and Asset-II respectively.

**Initial Spares**

20. Initial Spares are provided under Regulation 13(d) of the 2014 Tariff Regulations subject to the following ceiling norms:

- “(d) *Transmission system*
- (i) *Transmission line – 1.00%*
- (ii) *Transmission Sub-station (Green Field) – 4.00%*
- (iii) *Transmission Sub-station (Brown Field) – 6.00%*
- (iv) *Series Compensation devices and HVDC Station – 4.00%*
- (v) *Gas Insulated Sub-station (GIS) – 5.00%*
- (vi) *Communication system – 3.5%*
- .....”

21. The Petitioner has claimed Initial Spares in respect of the transmission



assets as follows:

(₹ in lakh)

Assets	Particulars	Estimated Completion Cost (A)	Initial Spares Claimed (B)	Ceiling Limit (in %) (C)	Allowable Initial Spares	Excess Initial Spares
					$D=[(A-B)*C/(100-C)]$	
Asset – I	Sub-station	1362.72	82.53	6.00	81.71	0.82
Asset – II	Transmission Line	20196.56	237.16	1.00	201.61	35.55
	Sub-station	1091.55	86.54	6.00	64.15	22.39

22. We have considered the submissions of the Petitioner. The Petitioner's claim for Initial Spares is restricted as per the ceiling specified under Regulation 13(d) of the 2014 Tariff Regulations. Accordingly, the details of Initial Spares allowed in respect of the transmission assets for 2014-19 tariff period are as follows:

### Sub-stations

(₹ in lakh)

Particulars	Capital Cost/Plant & Machinery cost considered as on cut-off date	Initial Spares claimed	Ceiling (in %)	Initial Spares allowable as per Ceiling Limit	Initial Spares worked out	Initial Spares Disallowed	Discharge of Initial Spares		
							As on COD	2017-18	2018-19
Asset-I	1362.72	82.53	6.00	81.71	81.71	0.82*	64.71	1.25	15.75
Asset-II	1091.55	86.54	6.00	64.15	64.15	22.39**	64.15	-	-

\* Deducted from ACE of 2018-19

\*\*Deducted ₹6.59 lakh from capital cost as on COD and ₹15.80 lakh from ACE of 2019-20

### Transmission Line

(₹ in lakh)

Particulars	Capital Cost / Plant & Machinery cost considered as on cut-off date	Initial Spares claimed	Ceiling (in %)	Initial Spares allowable as per Ceiling	Initial Spares worked out	Initial Spares Disallowed	Discharge of Initial Spares	
							2019-20	2020-21
Asset-II	20196.56	237.16	1.00	201.61	201.61	35.55*	68.47	133.13

\*Deducted from ACE of 2020-21

### Capital Cost allowed as on COD

23. Accordingly, capital cost allowed as on COD is as follows:



(₹ in lakh)

Particulars	Capital Cost as on COD as per Auditor's Certificate	Less: IDC as on COD due to		Less: Disallowed IEDC	Less: Excess Initial Spares disallowed	Capital Cost as on COD (on cash basis)
		IDC Disallowed	Un-discharged IDC			
Asset-I	1267.99*	19.27	32.25	2.83	0.00	1213.64
Asset-II	23291.51*	2.42	501.86	0.00	6.59	22780.64

\*The Petitioner has submitted that Initial Spares discharged up to COD are included in the capital cost as on COD as claimed in the Auditor's Certificate and has been considered accordingly.

### **Additional Capital Expenditure ("ACE")**

24. The Commission vide order dated 5.2.2020 in Petition No. 283/TT/2018 had allowed ACE in respect of the transmission assets for 2014-19 tariff period as follows:

(₹ in lakh)

Particulars	2017-18	2018-19
Asset – I	64.28	132.25
Asset – II	-	-

25. The Petitioner has claimed the following ACE and has submitted Auditor's Certificate dated 9.4.2020 for the same:

(₹ in lakh)

Particulars	2017-18	2018-19
Asset – I	64.28	47.77
Asset – II	-	-

26. The Petitioner has submitted that ACE for 2014-19 tariff period has been claimed on account of balance and retention payments due to undischarged liability for works executed before cut-off date/ works deferred for execution under Regulation 14(1)(i) and Regulation 14(1)(ii) of the 2014 Tariff Regulations and the same is within the cut-off date. The year-wise detailed break up of liability and works deferred for execution in respect of the transmission assets has been submitted by the Petitioner vide affidavit dated 1.7.2021.

27. We have considered the submissions of Petitioner. The un-discharged IDC as

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on COD has been allowed as ACE during the year of discharge. ACE claimed by the Petitioner has been allowed under Regulation 14(1)(i) and Regulation 14(1)(ii) of the 2014 Tariff Regulations which pertain to balance and retention payments due to undischarged liabilities for works executed before the cut-off date/work deferred for execution. Accordingly, ACE allowed for 2014-19 tariff period is as follows:

(₹ in lakh)

Asset	Particulars	ACE Allowed*	
		2017-18	2018-19
Asset – I	Balance & Retention Payment for liabilities	50.00	8.00
	Work deferred for execution	14.28	39.77
	IDC Discharged after COD	-	32.25
Asset – II	Balance & Retention Payment for liabilities	-	-
	Work deferred for execution	-	-
	IDC Discharged after COD	-	-

\* The Petitioner has submitted that Initial Spares discharged up to COD are included in the capital cost as on COD as claimed in the Auditor's Certificate and has been considered accordingly.

28. The capital cost allowed as on 31.3.2019 after inclusion of ACE in respect of the transmission assets is as follows:

(₹ in lakh)

Assets	Particulars	Capital cost as on COD on cash basis	2017-18	2018-19	Total capital cost including ACE as on 31.3.2019
Asset-I	Allowed vide order dated 5.2.2020 in Petition No. 283/TT/2018.	1209.89	64.28	132.25	1406.42
	Claimed by the Petitioner in the instant petition.	1267.99	64.28	47.77	1380.04
	Allowed after truing up in this order.	1213.64	64.28	79.20*	1357.12
Asset-II	Allowed vide order dated 5.2.2020 in Petition No. 283/TT/2018.	22714.74	-	-	22714.74
	Claimed by the Petitioner in the instant petition.	23291.51	-	-	23291.51
	Allowed after truing up in this order.	22780.64	-	-	22780.64

\*includes IDC Discharge



### **Debt-Equity Ratio**

29. The Petitioner has claimed debt-equity ratio of 70:30 as on COD and for ACE. Debt-equity ratio of 70:30 has been considered for capital cost as on COD and ACE during 2014-19 tariff period as provided under Regulation 19 of the 2014 Tariff Regulations. The details of debt-equity ratio in respect of the transmission assets as on COD and 31.3.2019 are as follows:

<b>Asset – I</b>	<b>Amount as on COD (₹ in lakh)</b>	<b>(in %)</b>	<b>Amount as on 31.3.2019 (₹ in lakh)</b>	<b>(in %)</b>
Debt	849.55	70.00	949.99	70.00
Equity	364.09	30.00	407.13	30.00
<b>Total</b>	<b>1213.64</b>	<b>100.00</b>	<b>1357.12</b>	<b>100.00</b>
<b>Asset – II</b>	<b>Amount as on COD (₹ in lakh)</b>	<b>(in %)</b>	<b>Amount as on 31.3.2019 (₹ in lakh)</b>	<b>(in %)</b>
Debt	15946.45	70.00	15946.45	70.00
Equity	6834.19	30.00	6834.19	30.00
<b>Total</b>	<b>22780.64</b>	<b>100.00</b>	<b>22780.64</b>	<b>100.00</b>

### **Depreciation**

30. Depreciation has been allowed out as per the methodology provided in Regulation 27 of the 2014 Tariff Regulations. Depreciation has been allowed considering the capital expenditure as on 1.4.2014 and approved ACE during 2014-19 tariff period. The Gross Block during 2014-19 tariff period has been depreciated at Weighted Average Rate of Depreciation (WAROD) and working of WAROD is given at Annexure-I and Annexure-II. WAROD has been worked out after taking into account the depreciation rates of assets as prescribed in the 2014 Tariff Regulations and depreciation allowed during 2014-19 tariff period is as follows:



(₹ in lakh)

Particulars	Asset – I		Asset – II
	2017-18 (Pro-rata for 27 days)	2018-19	2018-19 (Pro-rata for 3 days)
Opening Gross Block	1213.64	1277.92	22780.64
ACE	64.28	79.20	0.00
Closing Gross Block	1277.92	1357.12	22780.64
Average Gross Block	1245.78	1317.52	22780.64
Weighted average rate of Depreciation (WAROD) (in %)	5.28	5.28	5.30
Lapsed useful life of the Asset-at the beginning of the year (Year)	0	0	0
Balance useful life of the Asset-at the beginning of the year (Year)	25	25	34
Aggregated Depreciable Value	1121.20	1185.77	20502.58
<b>Depreciation during the year</b>	<b>4.87</b>	<b>69.56</b>	<b>9.93</b>
Remaining Aggregated Depreciable Value	1116.33	1111.34	20492.65

31. The details of depreciation allowed in respect of the transmission assets vide order dated 5.2.2020 in Petition No. 283/TT/2018, as claimed by the Petitioner in the instant petition and as trued up in the instant order are as follows:

(₹ in lakh)

Particulars	Asset – I		Asset – II
	2017-18 (Pro-rata for 27 days)	2018-19	2018-19 (Pro-rata for 3 days)
Allowed vide order dated 5.2.2020 in Petition No. 283/TT/2018.	4.85	70.77	9.87
Claimed by the Petitioner in the instant petition.	5.04	72.05	9.93
Approved after true-up in this order.	4.87	69.56	9.93

### **Interest on Loan (“IoL”)**

32. The Petitioner has claimed the Weighted Average Rate of IoL based on its actual loan portfolio and rate of interest. Accordingly, IoL is calculated based on



actual interest rate, in accordance with Regulation 26 of the 2014 Tariff Regulations.

The details of IoL allowed are as follows:

(₹ in lakh)

Particulars	Asset – I		Asset – II
	2017-18 (Pro-rata for 27 days)	2018-19	2018-19 (Pro-rata for 3 days)
Gross Normative Loan	849.55	894.55	15946.45
Cumulative Repayments up to Previous Year	0.00	4.87	0.00
Net Loan-Opening	849.55	889.68	15946.45
Addition due to ACE	45.00	55.44	0.00
Repayment during the year	4.87	69.56	9.93
Net Loan-Closing	889.68	875.56	15936.53
Average Loan	869.62	882.62	15941.49
Weighted Average Rate of Interest on Loan (in %)	7.940	7.961	7.844
<b>Interest on Loan</b>	<b>5.11</b>	<b>70.27</b>	<b>10.28</b>

33. The details of IoL approved vide order dated 5.2.2020 in Petition No. 283/TT/2018, as claimed by the Petitioner in the instant petition and trued up in this order are as follows:

(₹ in lakh)

Particulars	Asset – I		Asset – II
	2017-18 (Pro-rata for 27 days)	2018-19	2018-19 (Pro-rata for 3 days)
Allowed vide order dated 5.2.2020 in Petition No. 283/TT/2018.	5.17	72.25	10.26
Claimed by the Petitioner in the instant petition.	5.12	70.23	10.28
Approved after true-up in this order.	5.11	70.27	10.28

### **Return on Equity (“RoE”)**

34. The Petitioner has claimed RoE in respect of the transmission assets in terms of Regulations 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	19.625
2015-16	21.382	19.716
2016-17	21.338	19.705
2017-18	21.337	19.704
2018-19	21.549	19.758

35. The Commission vide order dated 27.4.2020 in Petition No. 274/TT/2019 has arrived at the effective tax rate for the Petitioner based on the notified MAT rates 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

36. MAT rates as considered vide order dated 27.4.2020 in Petition No. 274/TT/2019 for the purpose of grossing up of the rate of RoE for truing up of the tariff of 2014-19 period in terms of the provisions of the 2014 Tariff Regulations have been considered in the instant case which are as follows:

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

37. Accordingly, RoE allowed in respect of the transmission assets is as follows:

Particulars	(₹ in lakh)		
	Asset – I		Asset – II
	2017-18 (Pro-rata for 27 days)	2018-19	2018-19 (Pro-rata for 3 days)
Opening Equity	364.09	383.37	6834.19
Addition due to ACE	19.28	23.76	0.00



Closing Equity	383.37	407.13	6834.19
Average Equity	373.73	395.25	6834.19
Return on Equity (Base Rate) (in %).	15.500	15.500	15.500
Tax Rate applicable (in %)	21.342	21.549	21.549
Rate of Return on Equity (Pre-tax).	19.705	19.758	19.758
<b>Return on Equity (Pre-tax)</b>	<b>5.45</b>	<b>78.09</b>	<b>11.10</b>

38. The details of RoE allowed vide order dated 5.2.2020 in Petition No. 283/TT/2018, as claimed by the Petitioner in the instant petition and trued up in the instant order are as follows:

Particulars	(₹ in lakh)		
	Asset – I		Asset – II
	2017-18 (Pro-rata for 27 days)	2018-19	2018-19 (Pro-rata for 3 days)
Allowed vide order dated 5.2.2020 in Petition No. 283/TT/2018	5.41	78.85	10.98
Claimed by the Petitioner in the instant petition	5.46	78.17	11.10
Approved after true-up in this order	5.45	78.09	11.10

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

39. The details of O&M Expenses claimed by the Petitioner in respect of the transmission assets and as allowed under Regulation 29(4)(a) of the 2014 Tariff Regulations for the purpose of tariff are as follows:

Particulars	(₹ in lakh)	
	Asset – I	
	2017-18 (Pro-rata for 27days)	2018-19
<b>Sub-station</b>		
Kota: 50 MVAR Reactor Bay	1	1
<b>Norm (₹ lakh/ bay)</b>		
400 kV	66.51	68.71
<b>Total Sub-station Expenses</b>	<b>66.51</b>	<b>68.71</b>
<b>Total O&amp;M Expenses</b>	<b>4.92</b>	<b>68.71</b>



(₹ in lakh)

<b>Asset – II</b>	
<b>Particulars</b>	<b>2018-19 (Pro-rata for 3days)</b>
<b>Transmission Line</b>	
400 kV D/C Kota - Jaipur (South) Line along with associated bays at Kota and Jaipur (South).	179.90
<b>Norm (₹ lakh/ per km)</b>	
D/C Twin/Triple Conductor	0.81
<b>Total Transmission Line</b>	<b>145.00</b>
<b>Sub-station</b>	
Kota:400 kV Line Bay	1
Jaipur: Line Bay	1
<b>Norm (₹ lakh/ bay)</b>	
400 kV	68.71
<b>Total Sub-station Line</b>	<b>137.42</b>
<b>Total O&amp;M Expenses</b>	<b>2.32</b>

40. The details of O&M Expenses approved vide order dated 5.2.2020 in Petition No. 283/TT/2018, O&M Expenses claimed by the Petitioner in the instant petition and trued up O&M Expenses allowed in the instant order are as follows:

<b>Particulars</b>	<b>(₹ in lakh)</b>		
	<b>Asset – I</b>		<b>Asset – II</b>
	<b>2017-18 (Pro-rata for 27days)</b>	<b>2018-19</b>	<b>2018-19 (Pro-rata for 3days)</b>
Allowed vide order dated 5.2.2020 in Petition No. 283/TT/2018	4.83	68.71	2.28
Claimed by the Petitioner in the instant petition	4.92	68.71	2.32
Approved after true-up in this order	4.92	68.71	2.32

### **Interest on Working Capital (“IWC”)**

41. The Petitioner has claimed IWC as per Regulation 28 of the 2014 Tariff Regulations. The trued up IWC allowed in respect of the transmission assets is as follows:



(₹ in lakh)

Particulars	Asset – I		Asset – II
	2017-18 (Pro-rata for 27days)	2018-19	2018-19 (Pro-rata for 3days)
Working Capital for O&M Expenses (O&M Expenses for one month).	5.54	5.73	23.53
Working Capital for Maintenance Spares (15% of O&M Expenses).	9.98	10.31	42.36
Working Capital for Receivables (Equivalent to two months of annual fixed cost /annual transmission charges).	47.15	49.14	697.33
<b>Total Working Capital</b>	<b>62.67</b>	<b>65.17</b>	<b>763.23</b>
Rate of Interest on working capital (in %).	12.60	12.60	12.20
<b>Interest on working Capital</b>	<b>0.58</b>	<b>8.21</b>	<b>0.77</b>

42. The details of IWC approved vide order dated 5.2.2020 in Petition No. 283/TT/2018, as claimed by the Petitioner in the instant petition and trued up IWC allowed in the instant order is as follows:

(₹ in lakh)

Particulars	Asset – I		Asset – II
	2017-18 (Pro-rata for 27days)	2018-19	2018-19 (Pro-rata for 3days)
Allowed vide order dated 5.2.2020 in Petition No.283/TT/2018.	0.58	8.30	0.76
Claimed by the Petitioner in the instant petition.	0.59	8.27	0.77
Approved after true-up in this order.	0.58	8.21	0.77

### **Approved Annual Fixed Charges for the 2014-19 Tariff Period**

43. The trued up Annual Fixed Charges (AFC) allowed in respect of the transmission assets for the 2014-19 tariff period are as follows:

(₹ in lakh)

Particulars	Asset – I		Asset – II
	2017-18 (Pro-rata for 27days)	2018-19	2018-19 (Pro-rata for 3days)
Depreciation	4.87	69.56	9.93



Interest on Loan	5.11	70.27	10.28
Return on Equity	5.45	78.09	11.10
O&M Expenses	4.92	68.71	2.32
Interest on Working Capital	0.58	8.21	0.77
<b>Total</b>	<b>20.93</b>	<b>294.85</b>	<b>34.39</b>

44. Accordingly, AFC allowed vide order dated 5.2.2020 in Petition No. 283/TT/2018, trued up AFC claimed by the Petitioner in the instant petition and trued up AFC approved in the instant order are as follows:

(₹ in lakh)

Particulars	Asset – I		Asset – II
	2017-18 (Pro-rata for 27days)	2018-19	2018-19 (Pro-rata for 3days)
Allowed vide order dated 5.2.2020 in Petition No. 283/TT/2018.	20.84	298.88	34.15
Claimed by the Petitioner in the instant petition.	21.13	297.43	34.39
Approved after true-up in this order.	20.93	294.85	34.39

#### **DETERMINATION OF ANNUAL FIXED CHARGES FOR 2019-24 TARIFF PERIOD**

45. The Petitioner has submitted tariff forms for the 2019-24 tariff period the transmission assets. Accordingly, as per Regulation 8(1)(i), Regulation 14(5) and Regulation 15 of the 2019 Tariff Regulations, the tariff in respect of the transmission assets has been worked out for the 2019-24 tariff period.

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

(₹ in lakh)

Particulars	Asset – I				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	76.89	79.68	79.68	79.68	79.68
Interest on Loan	69.44	65.95	59.54	53.13	46.73
Return on Equity	79.29	82.11	82.11	82.11	82.11
Interest on Working Capital	4.79	4.89	4.84	4.80	4.75
O&M Expenses	32.15	33.28	34.45	35.66	36.91
<b>Total</b>	<b>262.56</b>	<b>265.91</b>	<b>260.62</b>	<b>255.38</b>	<b>250.18</b>



(₹ in lakh)

Particulars	Asset – II				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	1231.19	1268.20	1281.78	1281.78	1281.78
Interest on Loan	1226.63	1166.69	1083.45	985.45	882.88
Return on Equity	1308.56	1347.89	1362.39	1362.39	1362.39
Interest on Working Capital	66.51	67.27	66.79	65.67	64.35
O&M Expenses	226.51	234.35	242.45	250.80	259.42
<b>Total</b>	<b>4059.40</b>	<b>4084.40</b>	<b>4036.86</b>	<b>3946.09</b>	<b>3850.82</b>

47. The Petitioner has claimed the following IWC in respect of the transmission assets for the 2019-24 tariff period:

(₹ in lakh)

Particulars	Asset – I				
	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month).	2.68	2.77	2.87	2.97	3.08
Working Capital for Maintenance Spares (15% of O&M Expenses).	4.82	4.99	5.17	5.35	5.54
Working Capital for Receivables (Equivalent to two months of annual fixed cost /annual transmission charges).	32.28	32.78	32.13	31.48	30.76
<b>Total Working Capital</b>	<b>39.78</b>	<b>40.54</b>	<b>40.17</b>	<b>39.80</b>	<b>39.38</b>
Rate of Interest on working capital (in %).	12.05	12.05	12.05	12.05	12.05
<b>Interest on working Capital</b>	<b>4.79</b>	<b>4.89</b>	<b>4.84</b>	<b>4.80</b>	<b>4.75</b>

(₹ in lakh)

Particulars	Asset – II				
	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month).	18.88	19.53	20.20	20.90	21.62
Working Capital for Maintenance Spares (15% of O&M Expenses).	33.98	35.15	36.37	37.62	38.91
Working Capital for Receivables (Equivalent to two months of annual fixed cost /annual transmission charges).	499.11	503.56	497.70	486.50	473.46
<b>Total Working Capital</b>	<b>551.97</b>	<b>558.24</b>	<b>554.27</b>	<b>545.02</b>	<b>533.99</b>

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Rate of interest on working capital (in %).	12.05	12.05	12.05	12.05	12.05
<b>Interest on working Capital</b>	<b>66.51</b>	<b>67.27</b>	<b>66.79</b>	<b>65.67</b>	<b>64.35</b>

## **Capital Cost**

48. Regulation 19 of the 2019 Tariff Regulations provides 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 Asset-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 ash disposal and utilization including handling and transportation facility;*
  - (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 up to 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 Asset-forming part of the project, but not in use, as declared in the tariff petition;*
  - (b) *De-capitalised Asset-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 decapitalised 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 asset.*
- (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.”

49. The Petitioner has claimed the capital cost of individual assets which has been added to arrive at the capital cost claimed during 2019-24 period in respect of the transmission assets as per the following details:

Particulars	AppORTIONED Approved Capital Cost	Capital Cost claimed as on 31.3.2019	ACE		Estimated Completion Cost as on 31.3.2024
			2019-20	2020-21	
Asset – I	1614.48	1357.23	100.00	-	1457.23
Asset – II	29103.52	22782.85	881.67	514.45	24178.97

50. Against the overall apportioned approved capital cost of ₹30718.00 lakh, the estimated completion cost is ₹25636.20 lakh. The individual capital cost of each transmission asset is also within the respective FR apportioned capital cost. Therefore, there is no cost over-run in respect of the transmission assets.

51. The capital cost has been dealt in line with Regulation 19(3) 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 in respect of the transmission assets and has been considered as capital cost of the transmission assets as on 1.4.2019 are as follows:

Elements	Asset	
	Asset-I	Asset-II
Free hold Land	0.00	0.00
Building & Other Civil Works	0.00	0.00
Transmission Line	0.00	21766.41
Sub-station Equipment	1331.97	825.30
PLCC	0.00	156.11
Leasehold Land	0.00	0.00
IT Equipment and Software	25.15	32.82
<b>Total</b>	<b>1357.12</b>	<b>22780.64</b>



52. The trued-up capital cost of ₹1357.12 lakh and ₹22780.64 lakh in respect of Assets-I and Asset-II respectively is considered as admitted capital cost as on 31.3.2019 for working out tariff for the 2019-24 period.

### **Additional Capital Expenditure (“ACE”)**

53. 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 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.”*

**“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 cutoff 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 assets 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 assets and the cumulative depreciation, subject to prudence check on the following grounds:*

- (a) The useful life of the assets is not commensurate with the useful life of the project and such assets 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*
- (d) The replacement of such asset or equipment has otherwise been allowed by the Commission.”*

54. The Petitioner has claimed projected ACE for the 2019-24 period on account of balance and retention payments due to undischarged liability projected for works executed within the cut-off date and unexecuted works within the cuff-off date. The details of projected ACE in respect of the transmission assets are as follows:

**(₹ in lakh)**

<b>Particulars</b>	<b>ACE</b>	
	<b>2019-20</b>	<b>2020-21</b>
Asset – I	100.00	-
Asset – II	881.67	514.45
<b>Total</b>	<b>981.67</b>	<b>514.45</b>



55. We have considered the submissions of the Petitioner. ACE claimed on account of balance and retention payments and deferred works is allowed under Regulation 24(1)(a) and Regulation 24(1)(b) of the 2019 Tariff Regulations. ACE allowed is as follows:

(₹ in lakh)

Assets	Particulars	ACE*	
		2019-20	2020-21
Asset – I	Balance & Retention Payment	100.00	-
Asset – II	Balance & Retention Payment	395.40	550.00
	Discharge of IDC	501.86	-
	Less: Excess Initial Spares disallowed	-15.80	-35.55
<b>Total</b>		<b>981.46</b>	<b>514.45</b>

\* The Petitioner has submitted that Initial Spares discharged up to COD are included in the capital cost as on COD as claimed in the Auditor's Certificate and has been considered accordingly.

### Capital Cost for the 2019-24 Tariff Period

56. Accordingly, the capital cost of the transmission assets considered for the 2019-24 tariff period is as follows:

(₹ in lakh)

Particulars	Capital Cost as on 1.4.2019	Admitted ACE		Capital Cost as on 31.3.2024
		2019-20	2020-21	
Asset – I	1357.12*	100.00	-	1457.12
Asset – II	22780.64*	881.46	514.45	24176.55

\* The Petitioner has submitted that Initial Spares discharged up to COD are included in the capital cost as on COD as claimed in the Auditor's Certificate and has been considered accordingly.

### Debt-Equity Ratio

57. Regulations 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 utilized 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 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 modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation.”*

58. The details of debt-equity considered for the purpose of computation of tariff for



the 2019-24 period in respect of the transmission assets are as follows:

Asset – I	Capital Cost as on 1.4.2019 (₹ in lakh)	(in %)	Total Capital Cost as on 31.3.2024 (₹ in lakh)	(in %)
Debt	949.99	70.00	1019.99	70.00
Equity	407.13	30.00	437.13	30.00
<b>Total</b>	<b>1357.12</b>	<b>100.00</b>	<b>1457.12</b>	<b>100.00</b>
Asset – II	Capital Cost as on 1.4.2019 (₹ in lakh)	(in %)	Total Capital Cost as on 31.3.2024 (₹ in lakh)	(in %)
Debt	15946.45	70.00	16923.59	70.00
Equity	6834.19	30.00	7252.95	30.00
<b>Total</b>	<b>22780.64</b>	<b>100.00</b>	<b>24176.55</b>	<b>100.00</b>

### Depreciation

59. Regulation 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 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.”

(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 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 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 de-capitalized asset during its useful services.”*

60. We have considered the submissions of the Petitioner. WAROD has been worked out and placed as Annexure-III and Annexure-IV after taking into account the depreciation rates as prescribed in the 2019 Tariff Regulations. Depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. Depreciation allowed in respect of the transmission assets for the 2019-2024 tariff period is as follows:



(₹ in lakh)

Asset – I					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	1357.12	1457.12	1457.12	1457.12	1457.12
Addition during the year 2019-24 due to projected ACE.	100.00	0.00	0.00	0.00	0.00
Closing Gross Block	1457.12	1457.12	1457.12	1457.12	1457.12
Average Gross Block	1407.12	1457.12	1457.12	1457.12	1457.12
Weighted average rate of Depreciation (WAROD) (in %).	5.46	5.47	5.47	5.47	5.47
Lapsed useful life at the beginning of the year (Year)	1	2	3	4	5
Balance useful life at the beginning of the year (Year)	24	23	22	21	20
Aggregated Depreciable Value.	1269.07	1314.22	1314.22	1314.22	1314.22
<b>Combined Depreciation during the year</b>	<b>76.89</b>	<b>79.67</b>	<b>79.67</b>	<b>79.67</b>	<b>79.67</b>
Aggregate Cumulative Depreciation at the end of the year.	151.32	230.99	310.66	390.33	470.00
Remaining Aggregate Depreciable Value at the end of the year.	1117.75	1083.23	1003.56	923.89	844.22

(₹ in lakh)

Asset – II					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	22780.64	23662.10	24176.55	24176.55	24176.55
Addition during the year 2019-24 due to projected ACE.	881.46	514.45	0.00	0.00	0.00
Closing Gross Block	23662.10	24176.55	24176.55	24176.55	24176.55
Average Gross Block	23221.37	23919.32	24176.55	24176.55	24176.55
Weighted average rate of Depreciation (WAROD) (in %).	5.30	5.30	5.30	5.30	5.30
Lapsed useful life at the beginning of the year (Year).	0	1	2	3	4
Balance useful life at the beginning of the year (Year).	34	33	32	31	30
Aggregated Depreciable Value.	20902.83	21531.30	21762.81	21762.81	21762.81
<b>Combined Depreciation during the year</b>	<b>1231.07</b>	<b>1268.08</b>	<b>1281.66</b>	<b>1281.66</b>	<b>1281.66</b>
Aggregate Cumulative Depreciation at the end of the year.	1241.00	2509.07	3790.73	5072.39	6354.05





Remaining Aggregate Depreciable Value at the end of the year.	19661.83	19022.23	17972.08	16690.42	15408.76
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**Interest on Loan (“IoL”)**

61. 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 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”.*

62. The Petitioner has submitted that the weighted average rate of interest of IoL has been considered on the basis of the rates 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.

63. Accordingly, the floating rate of interest, if any, shall be considered at the time of true-up. In view of above, IoL has been worked out in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed in respect of the transmission assets for the 2019-2024 tariff period is as follows:

(₹ in lakh)

<b>Asset – I</b>					
<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Gross Normative Loan	949.99	1019.99	1019.99	1019.99	1019.99
Cumulative Repayments upto Previous Year.	74.43	151.32	230.99	310.66	390.33
Net Loan-Opening	875.56	868.68	789.00	709.33	629.66
Addition due to ACE	70.00	0.00	0.00	0.00	0.00
Repayment during the year	76.89	79.67	79.67	79.67	79.67
Net Loan-Closing	868.68	789.00	709.33	629.66	549.99
Average Loan	872.12	828.84	749.17	669.50	589.82
Weighted Average Rate of Interest on Loan (in %).	7.986	7.982	7.974	7.967	7.958
<b>Interest on Loan</b>	<b>69.65</b>	<b>66.15</b>	<b>59.74</b>	<b>53.34</b>	<b>46.94</b>

(₹ in lakh)

<b>Asset – II</b>					
<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Gross Normative Loan	15946.45	16563.47	16923.59	16923.59	16923.59
Cumulative Repayments upto Previous Year.	9.93	1241.00	2509.07	3790.73	5072.39
Net Loan-Opening	15936.53	15322.48	14414.52	13132.86	11851.21
Addition due to ACE	617.02	360.12	0.00	0.00	0.00
Repayment during the year	1231.07	1268.08	1281.66	1281.66	1281.66
Net Loan-Closing	15322.48	14414.52	13132.86	11851.21	10569.55
Average Loan	15629.50	14868.50	13773.69	12492.03	11210.38
Weighted Average Rate of Interest on Loan (%)	7.847	7.846	7.865	7.888	7.875
<b>Interest on Loan</b>	<b>1226.51</b>	<b>1166.56</b>	<b>1083.35</b>	<b>985.34</b>	<b>882.80</b>

### **Return on Equity (“RoE”)**

64. Regulation 30 and Regulation 31 of the 2019 Tariff Regulations provides 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 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 up to 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. 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."

65. The Petitioner has submitted that MAT rate is applicable to it. 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 assets is as follows:

(₹ in lakh)

<b>Asset – I</b>					
<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Opening Equity	407.13	437.13	437.13	437.13	437.13
Addition due to ACE	30.00	0.00	0.00	0.00	0.00
Closing Equity	437.13	437.13	437.13	437.13	437.13
Average Equity	422.13	437.13	437.13	437.13	437.13
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
Tax Rate applicable (in %)	17.470	17.470	17.470	17.470	17.470
Rate of Return on Equity (Pre-tax)	18.780	18.780	18.780	18.780	18.780
<b>Return on Equity (Pre-tax)</b>	<b>79.28</b>	<b>82.10</b>	<b>82.10</b>	<b>82.10</b>	<b>82.10</b>

(₹ in lakh)

<b>Asset – II</b>					
<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Opening Equity	6834.19	7098.62	7252.95	7252.95	7252.95
Addition due to ACE	264.44	154.33	0.00	0.00	0.00
Closing Equity	7098.62	7252.95	7252.95	7252.95	7252.95
Average Equity	6966.41	7175.79	7252.95	7252.95	7252.95
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
Tax Rate applicable (in %)	17.470	17.470	17.470	17.470	17.470
Rate of Return on Equity (Pre-tax)	18.780	18.780	18.780	18.780	18.780
<b>Return on Equity (Pre-tax)</b>	<b>1308.43</b>	<b>1347.76</b>	<b>1362.25</b>	<b>1362.25</b>	<b>1362.25</b>

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

66. O&M Expenses claimed and allowed in respect of Asset - I is as follows:

(₹ in lakh)

<b>Asset – I</b>					
<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
<b>Sub-station Bays</b>					
Kota:50 MVAR Reactor Bay	1	1	1	1	1
<b>Norm (₹ lakh/bay)</b>					
400 kV	32.15	33.28	34.45	35.66	36.91
<b>Total Sub-station O&amp;M Expenses</b>	<b>32.15</b>	<b>33.28</b>	<b>34.45</b>	<b>35.66</b>	<b>36.91</b>
<b>Total O&amp;M Expenses</b>	<b>32.15</b>	<b>33.28</b>	<b>34.45</b>	<b>35.66</b>	<b>36.91</b>

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67. O&M Expenses claimed in respect of Asset - II is as follows:

(₹ in lakh)

Asset – II					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>AC Transmission Lines</b>					
400 kV D/C Kota-Jaipur (South) Line along with associated bays at Kota and Jaipur (South) (km)	179.90	179.90	179.90	179.90	179.90
<b>Norm (₹ lakh/kms)</b>					
Double Circuit (Twin Conductor)	0.88	0.91	0.94	0.98	1.01
<b>Total Transmission Line O&amp;M Expenses</b>	<b>158.49</b>	<b>164.07</b>	<b>169.83</b>	<b>175.76</b>	<b>181.88</b>
<b>Sub-station</b>					
Kota: 400 kV Line Bay	1	1	1	1	1
Jaipur: Line Bay	1	1	1	1	1
<b>Norm (₹ lakh/bay)</b>					
400 kV	32.15	33.28	34.45	35.66	36.91
<b>Total Sub-station O&amp;M Expenses</b>	<b>64.30</b>	<b>66.56</b>	<b>68.90</b>	<b>71.32</b>	<b>73.82</b>
<b>Communication System</b>					
PLCC	186.16	186.16	186.16	186.16	186.16
<b>Norms (in %)</b>					
	2	2	2	2	2
<b>Total Communication Expenses</b>	<b>3.72</b>	<b>3.72</b>	<b>3.72</b>	<b>3.72</b>	<b>3.72</b>
<b>Total O&amp;M Expenses</b>	<b>226.52</b>	<b>234.35</b>	<b>242.45</b>	<b>250.81</b>	<b>259.42</b>

68. Regulation 35(3)(a) and Regulation 35(4) of the 2019 Tariff Regulations provide as follows:

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

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Norms for sub-station Bays (₹ Lakh per bay)</b>					
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
<b>Norms for Transformers (₹ Lakh per MVA)</b>					
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
<b>Norms for AC and HVDC lines (₹ Lakh per km)</b>					



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 (₹ 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.”*

69. We have considered the submissions of the Petitioner. The Petitioner has claimed O&M Expenses separately for PLCC under Regulation 35(4) of the 2019 Tariff Regulations @2% of its original project cost for Asset-II in the instant petition. The Petitioner has made similar claim in other petitions as well. Though PLCC is a





communication system, it has been considered as part of the Sub- station in the 2014 Tariff Regulations and the 2019 Tariff Regulations and the norms for Sub-station have been specified accordingly. Accordingly, the Commission vide order dated 24.1.2021 in Petition No. 126/TT/2020 has already concluded that no separate O&M Expenses can be allowed for PLCC under Regulation 35(4) of the 2019 Tariff Regulations even though PLCC is a communication system. Therefore, the Petitioner’s claim for separate O&M Expenses for PLCC @2% is not allowed.

70. O&M Expenses allowed in respect of the Asset - II is as follows:

(₹ in lakh)					
Asset – II					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>AC Lines</b>					
400 kV D/C Kota-Jaipur (South) Line along with associated bays at Kota and Jaipur (South)	179.90	179.90	179.90	179.90	179.90
<b>Norm (₹ lakh/kms)</b>					
Double Circuit (Twin Conductor)	0.88	0.91	0.94	0.98	1.01
<b>Total Transmission Line O&amp;M Expenses</b>	<b>158.49</b>	<b>164.07</b>	<b>169.83</b>	<b>175.76</b>	<b>181.88</b>
<b>Sub-station</b>					
Kota: 400 kV Line Bay	1	1	1	1	1
Jaipur: Line Bay	1	1	1	1	1
<b>Norm (₹ lakh/bay)</b>					
400 kV	32.15	33.28	34.45	35.66	36.91
<b>Total Sub-station O&amp;M Expenses</b>	<b>64.30</b>	<b>66.56</b>	<b>68.90</b>	<b>71.32</b>	<b>73.82</b>
<b>Total O&amp;M Expenses</b>	<b>222.79</b>	<b>230.63</b>	<b>238.73</b>	<b>247.08</b>	<b>255.70</b>

### **Interest on Working Capital (“IWC”)**

71. Regulation 34(1)(c), Regulation 34(3), 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 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. 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;”*

72. The Petitioner has submitted that it has computed IWC for the 2019-24 tariff 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 and 11.25% (SBI 1year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) for 2020-24. The components of the working capital and interest allowed thereon in respect of the transmission assets are as follows:



(₹ in lakh)

Asset – I					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M expenses for one month)	2.68	2.77	2.87	2.97	3.08
Working Capital for Maintenance Spares (15% of O&M expenses)	4.82	4.99	5.17	5.35	5.54
Working Capital for Receivables (Equivalent to 45 days of annual fixed cost / annual transmission charges)	32.31	32.77	32.08	31.43	30.71
<b>Total Working Capital</b>	<b>39.81</b>	<b>40.53</b>	<b>40.11</b>	<b>39.75</b>	<b>39.32</b>
Rate of Interest on Working Capital (in %)	12.05	11.25	10.50	10.50	10.50
<b>Interest on working capital</b>	<b>4.80</b>	<b>4.56</b>	<b>4.21</b>	<b>4.17</b>	<b>4.13</b>

(₹ in lakh)

Asset – II					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M expenses for One month)	18.57	19.22	19.89	20.59	21.31
Working Capital for Maintenance Spares (15% of O&M expenses)	33.42	34.59	35.81	37.06	38.35
Working Capital for Receivables (Equivalent to 45 days of annual fixed cost / annual transmission charges)	498.58	502.47	496.10	484.93	471.91
<b>Total Working Capital</b>	<b>550.57</b>	<b>556.29</b>	<b>551.80</b>	<b>542.58</b>	<b>531.58</b>
Rate of Interest on Working Capital (in %)	12.05	11.25	10.50	10.50	10.50
<b>Interest on working capital</b>	<b>66.34</b>	<b>62.58</b>	<b>57.94</b>	<b>56.97</b>	<b>55.82</b>

### Annual Fixed Charges for the 2019-24 Tariff Period

73. The transmission charges allowed in respect of the transmission assets for the 2019-24 tariff period are as follows:



(₹ in lakh)

<b>Asset – I</b>					
<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Depreciation	76.89	79.67	79.67	79.67	79.67
Interest on Loan	69.65	66.15	59.74	53.34	46.94
Return on Equity	79.28	82.10	82.10	82.10	82.10
O&M Expenses	32.15	33.28	34.45	35.66	36.91
Interest on Working Capital	4.80	4.56	4.21	4.17	4.13
<b>Total</b>	<b>262.77</b>	<b>265.77</b>	<b>260.18</b>	<b>254.94</b>	<b>249.75</b>

(₹ in lakh)

<b>Asset – II</b>					
<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Depreciation	1231.07	1268.08	1281.66	1281.66	1281.66
Interest on Loan	1226.51	1166.56	1083.35	985.34	882.80
Return on Equity	1308.43	1347.76	1362.25	1362.25	1362.25
O&M Expenses	222.79	230.63	238.73	247.08	255.70
Interest on Working Capital	66.34	62.58	57.94	56.97	55.82
<b>Total</b>	<b>4055.15</b>	<b>4075.61</b>	<b>4023.92</b>	<b>3933.31</b>	<b>3838.22</b>

#### **Filing Fee and Publication Expenses**

74. 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.

#### **License Fee and RLDC Fees and Charges**

75. The Petitioner shall be entitled for reimbursement of license fee in accordance with Regulation 70(4) of the 2019 Tariff Regulations for the 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 the 2019-24 tariff period.



### **Goods and Services Tax**

76. 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.

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

### **Security Expenses**

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

79. We have considered the above submissions of Petitioner. The Petitioner has claimed consolidated security expenses for all the transmission assets owned by it 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. 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**

80. 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**

81. The Petitioner has submitted that Asset-II, has been executed and implemented as per Implementation Agreement with NPCIL and, therefore, NPCIL should bear transmission charges till COD of generating station. The Commission vide order dated 5.2.2020 in Petition No. 283/TT/2018 held that the tariff allowed in respect of Asset-II will be borne by NPCIL from the date of commercial operation of Asset-II till COD of RAPP-7&8, as provided under Regulation 8(5) of the Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses Regulations), 2010 (hereinafter referred to as "2010 Sharing Regulations) as amended from time to time. During the course of hearing dated 3.8.2021, the Petitioner informed the Commission that the generating station under the scope of NPCIL is still not ready and as such the transmission charges allowed for Asset-II shall be borne by NPCIL till the commissioning of the generating station and thereafter it shall be included in the computation of PoC charges. Transmission charges for Asset-I shall be included in the computation of PoC charges.

82. We have considered the submissions of the Petitioner. The Commission vide order dated 5.2.2020 in Petition No. 283/TT/2018 observed as under:

*"87. With regard to Asset-I, the line reactor as bus reactor has been approved in the 40th NRPC meeting held on 28.10.2017 and accordingly, the Asset-I was put into*



commercial operation and put into use from 5.3.218. Therefore, the Transmission Charges for Assets-I allowed in this order shall be recovered in accordance with Regulation 43 of the 2014 Tariff Regulations.

.....

“89. In the instant case, the Asset-II i.e. 400 kV D/C Kota - Jaipur (South) line along with associated bays at Kota and Jaipur (South) (part of RAPP-Jaipur (S) 400 kV D/C line with one ckt LILLO at Kota) has been put into use w.e.f. 29.3.2019 but the associated generation under the scope of NPCIL is not yet ready. Thus, we note that the facts of the case in petition no. 118/TT/2017 and 206/TT/2017 are distinct from the instant petition and are not applicable. Therefore, the tariff allowed for the Asset-II will be borne by RAPP-7&8 from the COD of the Asset-II till the COD of the RAPP-7&8, as provided under Regulation 8(5) of the Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses Regulations), 2010 (hereinafter referred to as “2010 Sharing Regulations) as amended from time to time. Thereafter billing, collection and disbursement of the transmission charges shall be governed by the provisions of the 2010 Sharing Regulations. Further, the transmission charges allowed in this order shall be subject to adjustment as per Regulation 7(7) of the 2014 Tariff Regulations.”

83. In view of the above, the transmission charges in respect of Asset-I shall be included in PoC pool and the transmission charges in respect of Asset-II will be borne by RAPP-7&8 from COD of Asset-II till COD of RAPP-7&8.

84. 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. With effect from 1.11.2020, sharing of transmission charges is governed by the 2020 Sharing Regulations. Accordingly, the liabilities of the 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 Bills under Regulation 15(2)(b) of the 2020 Sharing Regulations. Billing, collection and disbursement of the 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.



85. To summarize,

(a) The trued-up AFC allowed in respect of the transmission assets for the 2014-19 tariff period is as follows:

(₹ in lakh)

Particulars	Asset-I		Asset-II
	2017-18 (Pro-rata for 27 days)	2018-19	2018-19 (Pro-rata for 3 days)
AFC	20.93	294.85	34.39

(b) AFC allowed in respect of the transmission assets for the 2019-24 tariff period in the instant order are as follows:

(₹ in lakh)

Particulars	Asset – I				
	2019-20	2020-21	2021-22	2022-23	2023-24
AFC	262.77	265.77	260.18	254.94	249.75

(₹ in lakh)

Particulars	Asset – II				
	2019-20	2020-21	2021-22	2022-23	2023-24
AFC	4055.15	4075.61	4023.92	3933.31	3838.22

86. Annexure-I, Annexure-II, Annexure-III and Annexure-IV given hereinafter shall form part of the order.

87. This order disposes of Petition No. 40/TT/2021 in terms of the above discussions and findings.

sd/-  
(P. K. Singh)  
Member

sd/-  
(Arun Goyal)  
Member

sd/-  
(I.S. Jha)  
Member

sd/-  
(P.K. Pujari)  
Chairperson





<b>Petition No.:</b>	<b>40/TT/2021</b>
<b>Period</b>	<b>2014-19 Tariff</b>

**Annexure – I**

**Asset-I**

2014-19 Capital Expenditure as on COD	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)		Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations				
		2017-18	2018-19			2014-15 (₹ in lakh)	2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Transmission Line	1191.56	61.80	78.61	<b>1331.97</b>	5.28	-	-	-	64.48	68.25
IT Equipment & Software	22.08	2.48	0.59	<b>25.15</b>	5.28	-	-	-	1.22	1.31
<b>TOTAL</b>	<b>1213.64</b>	<b>64.28</b>	<b>79.20</b>	<b>1357.12</b>		-	-	-	<b>65.70</b>	<b>69.56</b>
<b>Average Gross Block (₹ in lakh)</b>						-	-	-	1245.78	1317.52
<b>Weighted Average Rate of Depreciation (in %)</b>						-	-	-	<b>5.28</b>	<b>5.28</b>



<b>Petition No.:</b>	<b>40/TT/2021</b>
<b>Period</b>	<b>2014-19 Tariff</b>

**Annexure – II**

**Asset-II**

2014-19  Capital Expenditure as on COD	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations				
		2014-19			2014-15 (₹ in lakh)	2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Transmission Line	21766.41	0.00	<b>21766.41</b>	5.28	-	-	-	-	1149.75
Sub Station	825.30	0.00	<b>825.30</b>	5.28	-	-	-	-	43.80
PLCC	156.11	0.00	<b>156.11</b>	6.33	-	-	-	-	9.73
IT Equipment & Software	32.82	0.00	<b>32.82</b>	5.28	-	-	-	-	4.87
<b>TOTAL</b>	<b>22780.64</b>	<b>0.00</b>	<b>22780.64</b>		-	-	-	-	<b>1208.15</b>
<b>Average Gross Block (₹ in lakh)</b>					-	-	-	-	22780.64
<b>Weighted Average Rate of Depreciation (in %)</b>					-	-	-	-	<b>5.30</b>



<b>Petition No.:</b>	<b>40/TT/2021</b>
<b>Period</b>	<b>2019-24 Tariff</b>

### Annexure – III

#### Asset – I

2019-24 Capital Expenditure as on 1.4.2019	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	ACE	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations				
		2019-20			2019-20 (₹ in lakh)	2020-21 (₹ in lakh)	2021-22 (₹ in lakh)	2022-23 (₹ in lakh)	2023-24 (₹ in lakh)
Sub Station	1331.97	97.00	<b>1428.97</b>	5.28	72.89	75.45	75.45	75.45	75.45
IT Equipment & Software	25.15	3.00	<b>28.15</b>	15.00	4.00	4.22	4.22	4.22	4.22
<b>TOTAL</b>	<b>1357.12</b>	<b>100.00</b>	<b>1457.12</b>		<b>76.89</b>	<b>79.67</b>	<b>79.67</b>	<b>79.67</b>	<b>79.67</b>
<b>Average Gross Block (₹ in lakh)</b>					1407.12	1457.12	1457.12	1457.12	1457.12
<b>Weighted Average Rate of Depreciation (in %)</b>					<b>5.46</b>	<b>5.47</b>	<b>5.47</b>	<b>5.47</b>	<b>5.47</b>



<b>Petition No.:</b>	<b>40/TT/2021</b>
<b>Period</b>	<b>2019-24 Tariff</b>

**Annexure – IV**

**Asset – II**

2019-24 Capital Expenditure as on 1.4.2019	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	ACE		Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations				
		2019-20	2020-21			2019-20 (₹ in lakh)	2020-21 (₹ in lakh)	2021-22 (₹ in lakh)	2022-23 (₹ in lakh)	2023-24 (₹ in lakh)
Building	0.00	32.15	0.00	<b>32.15</b>	3.34	0.54	1.07	1.07	1.07	1.07
Transmission Line	21766.41	702.76	514.45	<b>22983.63</b>	5.28	1167.82	1199.95	1213.54	1213.54	1213.54
Sub Station	825.30	110.18	0.00	<b>935.48</b>	5.28	46.48	49.39	49.39	49.39	49.39
PLCC	156.11	30.04	0.00	<b>186.14</b>	6.33	10.83	11.78	11.78	11.78	11.78
IT Equipment & Software	32.82	6.32	0.00	<b>39.15</b>	15.00	5.40	5.87	5.87	5.87	5.87
<b>TOTAL</b>	<b>22780.64</b>	<b>881.46</b>	<b>514.45</b>	<b>24176.55</b>		<b>1231.07</b>	<b>1268.08</b>	<b>1281.66</b>	<b>1281.66</b>	<b>1281.66</b>
<b>Average Gross Block (₹ in lakh)</b>						23221.37	23919.32	24176.55	24176.55	24176.55
<b>Weighted Average Rate of Depreciation (in %)</b>						<b>5.30</b>	<b>5.30</b>	<b>5.30</b>	<b>5.30</b>	<b>5.30</b>

