

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 655/TT/2020**

**Coram:**

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

**Date of Order: 29.03.2022**

**In the matter of:**

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and truing-up of transmission tariff of the 2014-19 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of the 2019-24 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for **Asset-I:** 1X500 MVA,765/400 kV Transformer as spare ICT at Agra Sub-station; **Asset-II:** 1X500 MVA, 765/400 kV Transformer as spare ICT at Fatehpur Sub-station; and **Asset-III:** 765/400 kV,500 MVA, single phase Auto Transformer as spare ICT at Jhatikara Sub-station under "Spare 765/400 kV Transformers for Northern Region" in Northern Region.

**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 (Rajasthan).
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 (Himachal Pradesh).
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 (Uttar Pradesh).
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 Lines,  
Kingsway Camp, North Delhi – 110009.
14. Chandigarh Administration,  
Sector -9, Chandigarh
15. Uttarakhand Power Corporation Limited,  
Urja Bhawan, Kanwali Road,



Dehradun (Uttarakhand).

16. North Central Railway,  
Allahabad (Uttar Pradesh)
17. New Delhi Municipal Council,  
Palika Kendra, Sansad Marg,  
New Delhi-110002

## Respondents

For Petitioner : Shri S.S. Raju, PGCIL  
Ms. Anshul Garg, PGCIL  
Shri D.K. Biswal, PGCIL  
Shri Ved Prakash Rastogi, PGCIL

For Respondents : None

## ORDER

The Petitioner, Power Grid Corporation of India Ltd., a deemed transmission licensee has filed the instant petition for truing-up of the transmission tariff of the period from COD to 31.3.2019 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (herein referred to as “the 2014 Tariff Regulations”) and determination of 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 (herein after referred to as “the 2019 Tariff Regulations”) in respect of the following assets (hereinafter referred to as “transmission assets/Combined Asset”) under “Spare 765/400 kV Transformers in Northern Region” (hereinafter referred to as the “the transmission project”) in Northern Region:

**Asset-I:** 1X500 MVA,765/400 kV Transformer as spare ICT at Agra Sub-station;

**Asset-II:** 1X500 MVA, 765/400 kV Transformer as spare ICT at Fatehpur Sub-station; and



**Asset- III:** 765/400 kV, 500 MVA, single phase Auto Transformer as spare ICT at Jhatikara Sub-station.

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

*"1) The delay in filing of the petition is due to prevailing lockdown situation due to COVID-19 pandemic. However, Hon'ble commission vide order dated:06.04.2020 in petition 7/SM/2020 permit to file the tariff petition for 2019-24 period along with truing up petitions for 2014-19 period, by 30.6.2020.*

*2) 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.*

*3) Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2014 and Tariff regulations 2019 as per para 8 and 9 above for respective block.*

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

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

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

*7) Allow the petitioner to 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.*

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

*9) 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"*



### **Backdrop of the case**

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

- a) The Investment Approval (IA) for the project was accorded by Board of Directors of the Petitioner in 311<sup>th</sup> Meeting dated 4.3.2015 with an estimated cost of ₹6356.00 lakh including Interest During Construction of ₹364.00 lakh based on October 2014 price level (communicated vide Memorandum No. C/CP/Spare Transformers in NR dated 9.3.2015).
- b) The scope of work covered under the project “Spare 765/400 kV Transformers for Northern Region” is as follows:

#### **Sub-stations:**

- (i) Three (3) nos. single phase 765/400 kV ICTs of 500 MVA as spare ICTs (to be kept in readiness for charging condition and to be located at Jhatikara, Agra and Fatehpur Sub-stations).
  - (ii) One (1) no. single phase 765/400 kV ICT of 333 MVA capacity as spare ICT (to be kept in readiness for charging condition and to be located at Bhiwani Sub-station).
- c) The entire scope of the work under the transmission project has been completed and the details of the transmission assets covered in the transmission project and the petitions in which they are covered are as follows:

<b>S. No.</b>	<b>Name of Asset</b>	<b>Covered under petition</b>
1.	Asset-I:1X500 MVA,765/400 kV Transformer as spare ICT at Agra Sub-station	Current petition
2.	Asset-II: 1X500 MVA, 765/400 kV Transformer as spare ICT at Fatehpur Sub-station	
3.	Asset-III: 765/400 kV,500 MVA, single phase Auto Transformer as spare ICT at Jhatikara sub-station	
4.	Asset-IV: 765/400 kV, 333 MVA single phase auto transformer as spare ICT at Bhiwani	Covered in Petition No. 22/TT/2022



- d) The transmission tariff for all the four transmission assets covered in the transmission project, from their respective COD to 31.3.2019, was claimed by the Petitioner in Petition No.247/TT/2017. Asset-IV could not be put into commercial operation in the 2014-19 tariff period and it was put into commercial operation in 2019-24 tariff period. Accordingly, the Commission approved tariff for Asset-I, Asset-II and Asset-III from their respective COD to 31.3.2019 vide order dated 10.1.2020 in Petition No. 247/TT/2017 and directed the Petitioner to file a separate petition claiming tariff for Asset-IV. Accordingly, the Petitioner has filed Petition No. 22/TT/2022 claiming tariff for Asset-IV as per the 2019 Tariff Regulations.
- e) The transmission assets were scheduled to be put into commercial operation within 24 months from the date of the IA i.e., 4.3.2015. Accordingly, the project was scheduled to be put into commercial operation by 4.3.2017.
- f) The details of scheduled commercial operation date (SCOD), date of commercial operation (COD) and time over-run in case of the transmission assets are as follows:

<b>Particulars</b>	<b>SCOD</b>	<b>COD</b>	<b>Time over-run</b>
Asset-I	4.3.2017	1.5.2017	58 days (Fully condoned)
Asset-II		1.10.2017	211 days (Not condoned)
Asset-III		30.6.2018	483 days (Not condoned)

- g) The transmission tariff in respect of Assets-I, II and III was approved by the Commission vide order dated 10.1.2020 in Petition No. 247/TT/2017 for the period from their respective COD to 31.3.2019.
- h) The Annual Fixed Charges (AFC) approved by the Commission vide order dated 10.1.2020 in Petition No. 247/TT/2017, tried up tariff claimed by the



Petitioner in respect of the transmission assets for the 2014-19 tariff period in the instant petition are as follows:

(₹ in lakh)					
Particulars	Asset-I		Asset-II		Asset-III
	2017-18 (Pro-rata)	2018-19	2017-18 (Pro-rata)	2018-19	2018-19 (Pro-rata)
AFC approved vide order dated 10.01.2020 in Petition No.247/TT/2017	121.25	228.62	51.91	202.55	146.73
AFC claimed by the Petitioner based on truing up in the instant petition	118.60	214.67	50.82	163.03	143.05

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

5. The Petitioner has served the petition on the Respondents and notice of this application has also been published in the newspapers in accordance with Section 64 of the Electricity Act 2003. No comments or suggestions have been received from the general public in response to the aforesaid notices published in the newspapers by the Petitioner. Uttar Pradesh Power Corporation Limited (UPPCL), i.e. Respondent No. 9, has filed its reply vide affidavit dated 28.1.2021 and has raised issues such as apportionment of cost, time over-run and cost over-run, grossing up of RoE, Adoption of Indian Accounting Standard, Additional Capital Expenditure and Interest on Loan. In response, the Petitioner has filed its rejoinder to UPPCL's reply vide affidavit dated 13.8.2021.

6. The hearing in this matter was held on 11.2.2022 through video conference and the order was reserved.

7. Having heard the representative of the Petitioner and after perusal of the materials on record, we proceed to dispose of the petition.



8. This order is issued considering the submissions made by the Petitioner in the petition, affidavit dated 1.7.2021, reply by UPPCL and the Petitioner's rejoinder thereto.

9. It has been placed before us that UPPCL has been raising the issue of Indian Accounting Standards and grossing up of RoE in other petitions as well despite clear findings of the Commission rejecting the contentions of UPPCL. Said contentions have been rejected by the Commission in other petitions including Petition No. 2/TT/2020. As UPPCL has not challenged the findings, the same have attained finality. In view of these, the plea(s) raised by UPPCL are rejected. The issues which are specific to the instant petition and not dealt by the Commission earlier are considered in the relevant paragraphs of this order.

**TRUING-UP OF ANNUAL FIXED CHARGES FOR THE 2014-19 TARIFF PERIOD**

10. The details of the transmission charges claimed by the Petitioner for the transmission assets are as follows:

Particulars	Asset-I		Asset-II		Asset-III
	2017-18 ( Pro-rata for 335 days)	2018-19	2017-18 ( Pro-rata for 182 days)	2018-19	2018-19 ( Pro-rata for 275 days)
Depreciation	37.64	69.52	15.74	51.33	44.50
Interest on Loan	36.33	62.60	16.39	50.66	45.68
Return on Equity	42.14	78.04	17.62	57.62	49.96
Interest on Working Capital	2.49	4.51	1.07	3.42	2.91
O&M Expenses	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>118.60</b>	<b>214.67</b>	<b>50.82</b>	<b>163.03</b>	<b>143.05</b>

11. The details of the Interest on Working Capital (IWC) claimed by the Petitioner in respect of the transmission assets are as follows:

Particulars	Asset-I		Asset-II		Asset-III
	2017-18 ( Pro-rata for 335 days)	2018-19	2017-18 ( Pro-rata for 182 days)	2018-19	2018-19 ( Pro-rata for 275 days)





	2017-18 ( Pro-rata for 335 days)	2018- 19	2017-18 ( Pro-rata for 182 days)	2018- 19	2018-19 ( Pro- rata for 275 days)
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
Receivables	21.54	35.78	16.99	27.17	31.64
<b>Total Working Capital</b>	<b>21.54</b>	<b>35.78</b>	<b>16.99</b>	<b>27.17</b>	<b>31.64</b>
Rate of Interest (in %)	12.60	12.60	12.60	12.60	12.20
<b>Interest on Working Capital</b>	<b>2.49</b>	<b>4.51</b>	<b>1.07</b>	<b>3.42</b>	<b>2.91</b>

### Capital Cost

12. The Commission vide order dated 10.1.2020 in Petition No.247/TT/2017 has approved the following capital cost and ACE in respect of Asset-I, Asset-II and Asset-III:

(₹ in lakh)

Asset	Approved cost	Admitted Cost as on COD	ACE		Admitted Cost as on 31.3.2019
			2017-18	2018-19	
Asset-I	1677.20	208.85	1166.38	87.41	1462.64
Asset-II	1677.20	194.58	833.79	378.80	1407.17
Asset-III	1603.53	1017.81	0.00	277.59	1295.39

13. The Petitioner in the instant true-up petition has claimed the following capital cost as on COD in respect of Asset-I, Asset-II and Asset-III and has submitted the Auditor certificate dated 20.5.2020 and 3.4.2020.

(₹ in lakh)

Asset	Approved cost	Cost as on COD	ACE		Admitted Cost as on 31.3.2019
			2017-18	2018-19	
Asset-I	1677.20	239.70	1076.88	0.00	1316.58
Asset-II	1677.20	242.57	726.95	21.42	990.94
Asset-III	1603.53	1084.83	0.00	171.35	1256.18

14. UPPCL has submitted that the Petitioner has failed to produce the original approval of completion cost and has failed to demonstrate if the original scope of work was segregated into 4 different assets. UPPCL also submitted that the Petitioner must produce the details regarding status of Asset-IV not covered in



the instant petition. Further, as per UPPCL, the Petitioner has failed to provide the rationale behind splitting the project into different assets, when the completion cost is being discovered through competitive bidding. Further, the Petitioner has failed to explain the reason for the original estimated completion cost being too high as compared to the actual completion cost. UPPCL also submitted that as the project has been delayed, the Commission may subject the capital cost of the project to prudence check on the basis of bid price received by the Petitioner for execution of the project and escalation in price paid in accordance with the contract signed with the executing company. Further, UPPCL has submitted that the price escalations claimed by the successful bidder over and above the quoted-bid-price might be considered as cost over run-on account of delay in execution of the project.

15. In response, the Petitioner along with the rejoinder submitted a copy of the Investment Approval. The Petitioner also submitted that there are 4 Nos of spare transformers approved at different locations namely Agra, Fatehpur, Jhatikara and Bhiwani and commercial operation date of the assets different based on delivery of ICTs and pre-commissioning work completion. The Petitioner has further submitted that the same has been done in line with Regulation 6(2) of the 2014 Tariff Regulations. Further, with regard to Asset-IV, the Petitioner submitted that the same has been put under commercial operation in 2019-24 tariff period for which a separate Petition No. 22/TT/2022 has been filed as per 2019 Tariff Regulations. The Petitioner has also submitted that the tariff has been claimed only as per the actual expenditure and as per the regulations and as per the Auditor's certificate. Further, the actual cost is within the approved apportioned cost and hence there is no cost over-run.



16. We have considered the submissions of the petitioner and UPPCL. The Petitioner has claimed capital cost of ₹239.70 lakh, ₹242.57 lakh, and ₹1084.83 lakh for Asset-I, Asset-II, and Asset-III, respectively, as on COD. The total completion cost including ACE in respect of the transmission assets is ₹3563.70 lakh and the approved capital cost as per FR is ₹4957.93 lakh. Hence, the completion cost in respect of the instant assets is within the FR approved apportioned capital cost.

### **Time Over-run**

17. As per the IA, the instant assets were scheduled to be put under commercial operation within 24 months from the date of IA i.e., which is 4.3.2015. The scheduled date of commercial operation (SCOD) of the transmission assets and the actual COD of the transmission assets are as follows:

<b>Particulars</b>	<b>SCOD</b>	<b>COD</b>	<b>Time over-run</b>
<b>Asset-I</b>	4.3.2017	1.5.2017	58 days
<b>Asset-II</b>		1.10.2017	211 days
<b>Asset-III</b>		30.6.2018	483 days

18. The Commission in order dated 10.1.2020 in Petition No.247/TT/2017 has condoned the time over-run of 58 days in case Asset-I. However, the time over-run of 211 days and 483 days in case of Asset-II and Asset-III respectively was not condoned.

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

19. The Petitioner has claimed Interest During Construction (IDC) for the transmission assets and has submitted Auditor's Certificates dated 20.5.2020 and 3.4.2020 in support of the same. The Petitioner has submitted computation of IDC along with the year-wise details of the IDC discharged.



20. The allowable IDC has been worked out considering the information submitted by the Petitioner for individual assets separately on cash basis. The loan details submitted in Form-9C for the 2014-19 tariff period and the IDC computation sheet have been considered for the purpose of IDC calculation on cash and accrued basis. The undischarged IDC as on COD has been considered as ACE during the year in which it has been discharged.

21. Accordingly, based on the information filed by the Petitioner, the IDC considered is summarized as follows:

(₹ in lakh)

Assets	IDC as per Auditor's Certificate	IDC Admissible	IDC disallowed due to time over-run/computational difference	IDC Discharge as on COD	IDC Undischarged on COD	IDC Discharge during
	A	B	C=A-B	D	E=B-D	2017-18
Asset-I	19.85	19.61	0.24	16.59	3.02	3.02
Asset-II	32.43	24.44	7.99	24.44	0.00	0.00
Asset-III	90.33	38.57	51.76	38.57	0.00	0.00

22. The Petitioner has claimed IEDC for the instant assets and submitted Auditors' Certificate in support of the same. Accordingly, the IEDC is allowed as claimed subject to adjustment as per condonation of time over-run. The details of claimed and allowed IEDC are as follows:

(₹ in lakh)

Assets	IEDC claimed as per Auditor Certificate	IEDC disallowed due to time over-run	IEDC allowed as on COD
	1	2	3= (1-2)
Asset-I	10.74	0.00	10.74
Asset-II	1.03	0.23	0.80
Asset-III	-26.33	0.00	-26.33

### Initial Spares

23. Initial Spares are provided in 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%  
 .....

24. The Petitioner has claimed the following Initial Spares in respect of the transmission assets:

Assets	Particulars	P&M cost (excluding IDC and IEDC, land cost and cost of civil works) (A)	Initial Spares Claimed (B)	Ceiling Limit (%) (C)	(₹ in lakh)
					Initial Spares Worked Out D = [(A-B) * C / (100-C)]
Asset – I	Sub-station	1285.99	42.28	6.00	79.39
Asset – II	Sub-station	1393.91	112.09	6.00	81.26
Asset – III	Sub-station	1237.11	61.58	6.00	75.03

25. We have considered the submission of the Petitioner. As per APTEL’s judgment dated 14.9.2019 in Appeal No. 74 of 2017, Initial Spares are to be allowed as per the ceiling on overall project cost. However, in the present case, the entire scope of the transmission project has not been completed as on 31.3.2019. The 765/400 kV, 333 MVA, single phase Auto Transformer as spare ICT at Bhiwani Sub-station was put into commercial operation on 31.1.2020 and as stated above, the Petitioner has claimed tariff for the same in Petition No.22/TT/2022 and tariff is yet to be approved.

26. The overall project cost of the transmission assets can be ascertained only after the scope of the project is complete. Therefore, Initial Spares are allowed on the basis of cost of the individual asset during 2014-19 tariff period. However, the



initial spares shall be considered on the basis of the overall project cost when all the transmission assets are put into commercial operation and combined.

27. Accordingly, the details of Initial Spares allowed in respect of the transmission assets for 2014-19 true-up tariff period are as follows:

Sub-station						(₹ in lakh)		
Assets	P&M cost considered as on cut-off date	Initial Spares claimed	Norms as per 2014 Tariff Regulations (in %)	Initial Spares allowable as per 2014 Tariff Regulations	Initial Spares allowed	Discharge of Initial Spares		
						As on COD	2017-18	2018-19
Asset – I	1285.99	42.28	6	79.39	42.28	4.23	38.05	0.00
Asset – II	1073.78	112.09	6	61.38	61.38	11.21	0.00	0.00
Asset – III	1237.11	61.58	6	75.03	61.58	12.21	0.00	24.14

### Capital cost as on COD

28. Accordingly, the capital cost allowed as on COD is summarized as follows:

Particulars	Capital cost as on 1.4.2014 or COD whichever is later as per Auditor's Certificate	Less: IDC as on COD due to		Less: IEDC disallowed as on COD due to time over-run	Capital cost considered as on COD
		Time over-run/ Computation difference	Un-discharged		
Asset-I	239.70	0.24	3.02	0.00	236.44
Asset-II	242.57	7.99	0.00	0.23	234.35
Asset-III	1084.83	51.76	0.00	0.00	1033.07

### Additional Capital Expenditure (ACE)

29. The Commission vide order dated 10.1.2020 in Petition No.247/TT/2017 in respect of Asset-I, Asset-II and Asset-III, has approved ACE for the transmission assets covered in the instant petition which is as follows:

Particulars	Additional Capital Expenditure	
	2017-18	2018-19
Asset-I	1166.38	87.41
Asset-II	833.79	378.80
Asset-III	0.00	277.59



30. The Petitioner has claimed the following ACE in respect of the transmission assets and submitted Auditor's Certificate in support of its claim:

Particulars	(₹ in lakh)	
	Additional Capital Expenditure	
	2017-18	2018-19
Asset-I	1076.88	0.00
Asset-II	726.95	21.42
Asset-III	0.00	171.35

31. Thus, the ACE claimed includes the accrued IDC discharged during the 2014-19 tariff period. It is observed that the total estimated completion cost including ACE for the 2014-19 period is within the approved cost as per FR.

#### **Capital Cost for the 2014-19 tariff period**

32. Accordingly, the capital cost of the transmission assets considered for the 2014-19 tariff period is as follows:

Particulars	Approved Capital Cost	Capital Cost as on COD on cash basis	(₹ in lakh)		Total Capital Cost as on 31.3.2019
			Additional Capital Expenditure (ACE)*		
			2017-18	2018-19	
Asset-I	1677.20	236.44	1079.90	0.00	1316.34
Asset-II	1677.20	234.35	726.95	21.42	982.72
Asset-III	1603.53	1033.07	0.00	171.35	1204.42

\*includes discharge of Initial spares

#### **Debt-Equity Ratio**

33. The Petitioner has considered a debt-equity ratio of 70:30 as on COD and for Additional Capital Expenditure post COD. The debt-equity ratio of 70:30 has been considered for capital cost as on COD and ACE during the 2014-19 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 the date of commercial operation and as on 31.3.2019 is as follows:

Asset-I	As on COD		As on 31.3.2019	
	Amount	(in %)	Amount	(in %)
	(₹ in lakh)		(₹ in lakh)	
Debt	165.51	70.00	921.45	70.00



Equity	70.93	30.00	394.89	30.00
Total	<b>236.44</b>	<b>100.00</b>	<b>1316.34</b>	<b>100.00</b>
<b>Asset-II</b>	<b>As on COD</b>		<b>As on 31.3.2019</b>	
	<b>Amount</b>	<b>(in %)</b>	<b>Amount</b>	<b>(in %)</b>
	<b>(₹ in lakh)</b>		<b>(₹ in lakh)</b>	
Debt	164.05	70.00	687.92	70.00
Equity	70.29	30.00	294.80	30.00
Total	<b>234.35</b>	<b>100.00</b>	<b>982.72</b>	<b>100.00</b>
<b>Asset-III</b>	<b>As on COD</b>		<b>As on 31.3.2019</b>	
	<b>Amount</b>	<b>(in %)</b>	<b>Amount</b>	<b>(in %)</b>
	<b>(₹ in lakh)</b>		<b>(₹ in lakh)</b>	
Debt	723.15	70.00	843.10	70.00
Equity	309.92	30.00	361.32	30.00
Total	<b>1033.07</b>	<b>100.00</b>	<b>1204.42</b>	<b>100.00</b>

### Depreciation

34. The depreciation has been allowed as per the methodology provided in Regulation 27 of the 2014 Tariff Regulations. Depreciation has been allowed considering capital expenditure as on COD and approved ACE during the 2014-19 tariff period. The Gross Block during the 2014-19 tariff period has been depreciated at weighted average rate of depreciation (WAROD) and working of WAROD is at Annexures-I, II, and III. The depreciation for the 2014-19 period is trued-up for the transmission assets as per the methodology provided in Regulation 27 of the 2014 Tariff Regulations and the same is as follows:

(₹ in lakh)						
	Particulars	Asset-I		Asset-II		Asset-III
		2017-18 (Pro-rata for 335 days)	2018-19	2017-18 (Pro-rata for 182 days)	2018-19	2018-19 (Pro-rata for 275 days)
	<b>Depreciation</b>					
A	Opening Gross Block	236.44	1316.34	234.35	961.30	1033.07
B	ACE	1079.90	0.00	726.95	21.42	171.35
C	Closing Gross Block (A+B)	1316.34	1316.34	961.30	982.72	1204.42
D	Average Gross Block (A+C)/2	776.39	1316.34	597.82	972.01	1118.75
E	Depreciable Value (D*90%)	698.75	1184.70	538.04	874.81	1006.87
F	Weighted Average Rate of Depreciation	5.28	5.28	5.28	5.28	5.28





Asset-I			Asset-II		Asset-III	
	Particulars	2017-18 (Pro-rata for 335 days)	2018-19	2017-18 (Pro-rata for 182 days)	2018-19	2018-19 (Pro-rata for 275 days)
	(WAROD) (in %)					
G	Elapsed useful life at the beginning of the year (Year)	0.00	0.00	0.00	0.00	0.00
H	Balance useful life at the beginning of the year (Year)	25.00	25.00	25.00	25.00	25.00
I	<b>Depreciation during the year (E*F)</b>	<b>37.62</b>	<b>69.50</b>	<b>15.74</b>	<b>51.32</b>	<b>44.50</b>
J	Aggregate Cumulative Depreciation at the end of the year	37.62	107.13	15.74	67.06	44.50
K	Remaining Aggregate Depreciable Value at the end of the year(E-J)	661.12	1077.58	522.30	807.74	962.37

35. The details of depreciation allowed for the transmission assets *vide* order dated 10.1.2020 in Petition No.247/TT/2017 in respect of Asset-I, Asset-II and Asset-III, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

(₹ in lakh)

Asset	Particulars	2017-18	2018-19
Asset-I	Allowed vide order dated 10.1.2020 in Petition No. 247/TT/2017	38.38	74.92
	As claimed by the Petitioner	37.64	69.52
	Approved after Truing Up	37.62	69.50
Asset- II	Allowed vide order dated 10.1.2020 in Petition No. 247/TT/2017	16.10	64.30
	As claimed by the Petitioner	15.74	51.33
	Approved after Truing Up	15.74	51.32
Asset- III	Allowed vide order dated 10.1.2020 in Petition No. 247/TT/2017	0.00	46.01
	As claimed by the Petitioner	0.00	44.50
	Approved after Truing Up	0.00	44.50

### **Interest on Loan (IoL)**

36. 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)						
Asset-I			Asset-II		Asset-III	
	Particulars	2017-18 (Pro-rata for 335 days)	2018-19	2017-18 (Pro-rata for 182 days)	2018-19	2018- 19(Pro- rata for 275 days)
A	Gross Normative Loan	165.51	921.45	164.05	672.92	723.15
B	Cumulative Repayments upto Previous Year	0.00	37.62	0.00	15.74	0.00
C	Net Loan-Opening (A-B)	165.51	883.83	164.05	657.18	723.15
D	Addition due to Additional Capitalization	755.94	0.00	508.87	14.99	119.95
E	Repayment during the year	37.62	69.50	15.74	51.32	44.50
F	Net Loan-Closing (C+D-E)	883.83	814.32	657.18	620.85	798.60
G	Average Loan (C+F)/2	524.67	849.07	410.62	639.02	760.87
H	Weighted Average Rate of Interest on Loan (%)	7.542	7.371	8.007	7.928	7.969
I	<b>Interest on Loan (G*H)</b>	<b>36.32</b>	<b>62.59</b>	<b>16.39</b>	<b>50.66</b>	<b>45.68</b>

37. The details of IoL allowed for the transmission assets *vide* order dated 10.1.2020 in Petition No. 247/TT/2017 in respect of Assets-I, II and III, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

(₹ in lakh)			
Asset	Particulars	2017-18	2018-19
Asset-I	Allowed <i>vide</i> order dated 10.1.2020 in Petition No. 247/TT/2017	37.56	65.42
	As claimed by the Petitioner	36.33	62.60
	Approved after Truing Up	36.32	62.59
Asset- II	Allowed <i>vide</i> order dated 10.1.2020 in Petition No. 247/TT/2017	16.78	62.35
	As claimed by the Petitioner	16.39	50.66
	Approved after Truing Up	16.39	50.66
Asset- III	Allowed <i>vide</i> order dated 10.1.2020 in Petition No. 247/TT/2017	0.00	46.47
	As claimed by the Petitioner	0.00	45.68
	Approved after Truing Up	0.00	45.68

### Return on Equity (RoE)



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

<b>Year</b>	<b>Claimed effective tax (in %)</b>	<b>Grossed-up RoE [Base Rate/(1-t)] (in %)</b>
2014-15	21.018	19.624
2015-16	21.382	19.715
2016-17	21.338	19.704
2017-18	21.337	19.704
2018-19	21.549	19.757

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

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

40. The Petitioner has claimed RoE for the 2014-19 period after grossing up the RoE of 15.50% with Effective Tax rates (based on MAT rates) each year. Trued-up RoE on the basis of the MAT rate applicable in the respective years and allowed for the transmission asset are as follows:



(₹ in lakh)

Asset-I			Asset-II		Asset-III	
	Particulars	2017-18 (Pro-rata for 335 days)	2018-19	2017-18 (Pro-rata for 182 days)	2018-19	2018-19 (Pro-rata for 275 days)
A	Opening Equity	70.93	394.89	70.29	288.37	309.92
B	Additions	323.96	0.00	218.08	6.43	51.40
C	Closing Equity (A+B)	394.89	394.89	288.37	294.80	361.32
D	Average Equity (A+C)/2	232.91	394.89	179.33	291.59	335.62
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
F	MAT Rate for respective year (%)	21.342	21.549	21.342	21.549	21.549
G	Rate of Return on Equity (%)	19.705	19.758	19.705	19.758	19.758
H	<b>Return on Equity (D*G)</b>	<b>42.12</b>	<b>78.02</b>	<b>17.62</b>	<b>57.61</b>	<b>49.96</b>

41. The details of RoE allowed for the transmission assets vide order dated 10.1.2020 in Petition No.247/TT/2017 in respect of Asset-I, Asset-II and Asset-III, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

(₹ in lakh)

Asset	Particulars	2017-18	2018-19
Asset-I	Allowed vide order dated 10.1.2020 in Petition No. 247/TT/2017	42.77	83.48
	As claimed by the Petitioner	42.14	78.04
	Approved after Truing Up	42.12	78.02
Asset- II	Allowed vide order dated 10.1.2020 in Petition No. 247/TT/2017	17.94	71.64
	As claimed by the Petitioner	17.62	57.62
	Approved after Truing Up	17.62	57.61
Asset- III	Allowed vide order dated 10.1.2020 in Petition No. 247/TT/2017	0.00	51.27
	As claimed by the Petitioner	0.00	49.96
	Approved after Truing Up	0.00	49.96

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

42. The Petitioner has not claimed any O&M Expenses for the transmission assets for the 2014-19 tariff period.

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



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

i. **Maintenance spares:**

Maintenance spares have been worked out based on 15% of O&M Expenses as specified in Regulation 28.

ii. **O & M Expenses:**

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

iii. **Receivables:**

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

iv. **Rate of interest on working capital:**

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

44. The IWC allowed for the transmission assets is as follows:

(₹ in lakh)						
Asset-I			Asset-II		Asset-III	
	Particulars	2017-18 (Pro-rata for 335 days)	2018-19	2017-18 (Pro-rata for 182 days)	2018-19	2018-19 (Pro-rata for 275 days)
A	WC for O&M Expenses (1 month of O&M Expenses)	0.00	0.00	0.00	0.00	0.00
B	WC for Maintenance Spares (Maintenance Spares @15% of O&M expenses)	0.00	0.00	0.00	0.00	0.00
C	WC for Receivables (Receivable equivalent to 2 months of fixed cost)	21.53	35.77	16.99	27.17	31.65
D	<b>Total Working Capital (A+B+C)</b>	<b>21.53</b>	<b>35.77</b>	<b>16.99</b>	<b>27.17</b>	<b>31.65</b>
E	Rate of Interest (in %)	12.60	12.60	12.60	12.60	12.20
F	<b>Interest on Working Capital (DxE)</b>	<b>2.49</b>	<b>4.51</b>	<b>1.07</b>	<b>3.42</b>	<b>2.91</b>



45. The details of IWC allowed for the transmission assets vide order dated 10.1.2020 in Petition No.247/TT/2017 in respect of Assets-I, II and III, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

(₹ in lakh)			
Asset	Particulars	2017-18	2018-19
Asset-I	Allowed vide order dated 10.1.2020 in Petition No. 247/TT/2017	2.55	4.80
	As claimed by the Petitioner	2.49	4.51
	Approved after Truing Up	2.49	4.51
Asset- II	Allowed vide order dated 10.1.2020 in Petition No. 247/TT/2017	1.09	4.25
	As claimed by the Petitioner	1.07	3.42
	Approved after Truing Up	1.07	3.42
Asset- III	Allowed vide order dated 10.1.2020 in Petition No. 247/TT/2017	0.00	2.98
	As claimed by the Petitioner	0.00	2.91
	Approved after Truing Up	0.00	2.91

**Annual Fixed Charges for the 2014-19 trued-up tariff period**

46. Accordingly, the annual fixed charges in respect of the transmission assets after truing-up for the 2014-19 tariff period are as follows:

(₹ in lakh)					
Particulars	Asset-I		Asset-II		Asset-III
	2017-18 (Pro-rata for 335 days)	2018-19	2017-18 (Pro-rata for 182 days)	2018-19	2018-19 (Pro-rata for 275 days)
Depreciation	37.62	69.50	15.74	51.32	44.50
Interest on Loan	36.32	62.59	16.39	50.66	45.68
Return on Equity	42.12	78.02	17.62	57.61	49.96
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	2.49	4.51	1.07	3.42	2.91
<b>Total</b>	<b>118.55</b>	<b>214.62</b>	<b>50.82</b>	<b>163.02</b>	<b>143.06</b>

47. The details of Annual Fixed Charges allowed for transmission asset vide order dated 10.1.2020 in Petition No.247/TT/2017 in respect of Asset-I, Asset-II and Asset-III, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:



(₹ in lakh)			
Asset	Particulars	2017-18	2018-19
Asset-I	Allowed vide order dated 10.1.2020 in Petition No. 247/TT/2017	121.25	228.62
	As claimed by the Petitioner	118.60	214.67
	Approved after Truing Up	118.55	214.62
Asset- II	Allowed vide order dated 10.1.2020 in Petition No. 247/TT/2017	51.91	202.55
	As claimed by the Petitioner	50.83	163.03
	Approved after Truing Up	50.82	163.02
Asset- III	Allowed vide order dated 10.1.2020 in Petition No. 247/TT/2017	0.00	146.73
	As claimed by the Petitioner	0.00	143.06
	Approved after Truing Up	0.00	143.06

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

#### **PERIOD**

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

49. The Petitioner has claimed the following transmission charges in respect of the Combined Asset for the 2019-24 tariff period:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	188.23	200.93	210.40	210.40	210.40
Interest on Loan	168.65	166.18	159.67	143.17	126.73
Return on Equity	200.87	214.42	224.53	224.53	224.53
Interest on Working Capital	40.48	42.01	43.38	44.38	45.31
O&M Expenses	736.50	762.00	789.00	817.50	846.00
<b>Total</b>	<b>1334.73</b>	<b>1385.54</b>	<b>1426.98</b>	<b>1439.98</b>	<b>1452.97</b>

50. The Petitioner has claimed the following IWC in respect of the Combined Asset for the 2019-24 tariff period:



(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M expenses	61.38	63.50	65.75	68.13	70.50
Maintenance Spares	110.48	114.30	118.35	122.63	126.90
Receivables	164.11	170.82	175.93	177.53	178.65
<b>Total Working Capital</b>	<b>335.97</b>	<b>348.62</b>	<b>360.03</b>	<b>368.29</b>	<b>376.05</b>
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
<b>Interest on Working Capital</b>	<b>40.48</b>	<b>42.01</b>	<b>43.38</b>	<b>44.38</b>	<b>45.31</b>

### **Effective Date of Commercial Operation (E-COD)**

51. The Petitioner has claimed E-COD of the Combined Asset as 6.11.2017.

Accordingly, based on the trued-up admitted capital cost and actual COD of all the assets, the E-COD has been worked out as follows:

<b>Computation of Effective COD</b>					
Asset	Actual COD	Admitted Capital Cost as on 31.3.2019	Weight of the cost (%)	No. of Days from last COD	Weighted Days
Asset-I	1.5.2017	1316.34	37.57	425	159.68
Asset-II	1.10.2017	982.72	28.05	272	76.30
Asset-III	30.6.2018	1204.42	34.38	0.00	0.00
<b>Total</b>		<b>3503.47</b>	<b>100</b>		<b>235.98</b>
<b>Effective COD (Latest COD – Total weighted Days) – 6.11.2017</b>					

52. The E-COD is used to determine the lapsed life of the project as a whole, which works out as one (1) year as on 1.4.2019 (i.e., the number of completed years as on 1.4.2019 from E-COD).

### **Weighted Average Life (WAL)**

53. The life as defined in Regulation 33 of the 2019 Tariff Regulations has been considered for determination of Weighted Average Life.

54. The Combined Asset may have multiple elements such as land, building, transmission line, Sub-station and PLCC and each element may have different span of life. Therefore, the concept of Weighted Average Life (WAL) has been used as the useful life of the project as a whole.





55. The WAL has been determined based on the admitted capital cost of individual elements as on 31.3.2019 and their respective life as stipulated in the 2019 Tariff Regulations. The element-wise life as defined in the 2014 Tariff Regulations prevailing at the time of actual COD of individual assets has been ignored for this purpose. The life as defined in the 2019 Tariff Regulations has been considered for determination of WAL. Accordingly, WAL of the Combined Asset has been worked out as 25 years and is demonstrated as follows:

Admitted Capital Cost as on 31.03.2019				
Particulars	Combined Asset Cost (₹ in lakh) (1)	Life as per 2019 Regulation (Years) (2)	Weighted Cost (₹ in lakh) (3) = (1)x(2)	Weighted Average Life of Asset (in years) (4) =(3)/(1)
Sub-station	3503.47	25	87586.80	25 years

56. The WAL as on 1.4.2019 as determined above is applicable prospectively i.e., for the 2019-24 tariff period. No retrospective adjustment of depreciation in previous tariff period is required to be done. As discussed, E-COD of the combined Asset is 6.11.2017 and the lapsed life of the project as a whole, works out as one (1) year as on 1.4.2019 (i.e., the number of completed years as on 1.4.2019 from Effective COD). Accordingly, WAL has been used to determine the remaining useful life as on 31.3.2019 to be 24 years.

### **Capital Cost**

57. 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 assets before the date of commercial operation;
- (i) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;
- (j) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;
- (k) Capital expenditure on account of biomass handling equipment and facilities, for co-firing;
- (l) Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;
- (m) Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;
- (n) Expenditure on account of change in law and force majeure events; and
- (o) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.

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

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



Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.

(4) The capital cost in case of existing or new hydro generating station shall also include:

- (a) cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and  
 (b) cost of the developer's 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) project in the affected area.

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

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

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

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

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

58. The Petitioner has claimed the capital cost of individual asset which has been added to arrive at the capital cost claimed during the 2019-24 period for the Combined Asset as per following details:

(₹ in lakh)

Particulars	FR Apportioned Approved capital cost	Capital cost claimed as on 31.3.2019	ACE		Estimated Completion cost
			2019-20	2020-21	
Asset-I	1677.20	1316.58	0.00	0.00	1316.58
Asset-II	1677.20	990.94	116.30	320.13	1427.37
Asset-III	1603.53	1256.18	6.00	38.63	1300.81
<b>Combined</b>	<b>4957.93</b>	<b>3563.70</b>	<b>122.30</b>	<b>358.76</b>	<b>4044.76</b>



59. Against the overall apportioned approved capital cost (as per FR) of ₹4957.93 lakh, the estimated completion cost is ₹4044.76 lakh. The individual capital cost of each asset is also within the respective RCE apportioned capital cost.

60. UPPCL has raised the same queries as raised for the 2014-19 tariff period and hence the same is not being repeated here.

61. 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 Combined assets as on 1.4.2019 as per the following details:

(₹ in lakh)				
Element	Asset-I	Asset-II	Asset-III	Capital Cost for Combined Assets as on 31.3.2019
Sub-Station	1316.34	982.72	1204.42	3503.47

62. The Commission has worked out capital cost of ₹3503.47 lakh as on 31.3.2019 in preceding paragraphs and it has been considered as the opening capital cost as on 1.4.2019 for determination of tariff in accordance with Regulation 19 of the 2019 Tariff Regulations.

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

63. Regulation 24 of the 2019 Tariff Regulations provides 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.”*

64. Regulation 25 of the 2019 Tariff Regulations provides as follows:

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

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

- (a) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority, or order or decree of any court of law;*
- (b) Change in law or compliance of any existing law;*
- (c) Deferred works relating to ash pond or ash handling system in the original scope of work;*
- (d) Liability for works executed prior to the cut-off date;*
- (e) Force Majeure events;*
- (f) Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments; and*
- (g) Raising of ash dyke as a part of ash disposal system.*

*2) In case of replacement of 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 obsolescence of technology; and*
- (d) The replacement of such asset or equipment has otherwise been allowed by the Commission.”*



65. The Petitioner has claimed ACE in respect of the transmission assets during 2019-24 in accordance with Regulation 25(1)(d) of the 2019 Tariff Regulations as follows:

(₹ in lakh)

Asset	Apportioned approved cost	Capital Expenditure as on 31.03.2019	ACE*		Capital Cost as on 31.03.2024
			2019-20	2020-21	
Combined Asset	4957.93	3503.47	122.30	308.05	3933.82

*\*Includes initial spares discharge*

66. UPPCL has submitted that the ACE may be allowed only upto the cut-off date.

In response, the Petitioner has submitted that the liability flow statement has been submitted vide affidavit dated 1.7.2021.

67. We have considered the submissions of the Petitioner and UPPCL. The ACE claimed for 2019-20 towards balance & retention payments and unexecuted work is allowed under Regulation 24(1) (a) and (b) and Regulation 25(1)(d) of the 2019 Tariff Regulations which is subject to true-up. The ACE allowed in respect of the Combined Asset is considered as follows:

(₹ in lakh)

Particulars	Regulation	ACE* (2019-24)
ACE to extent of Balance & Retention Payments and work deferred for execution before cut-off date/ after cut-off date	Regulation 25(1)(d) of the 2019 Tariff Regulations	430.35

*\*Includes initial spares discharge*

### **Capital Cost for the 2019-24 tariff period**

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



(₹ in lakh)		
Capital Cost (as on 1.4.2019)	ACE* (2019-20)	Total Estimated Completion Cost (up to 31.3.2024)
3503.47	430.35	3933.82

*\*Includes initial spares discharge*

### **Debt-Equity Ratio**

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

**“18. Debt-Equity Ratio:** (1) For new projects, the debt-equity ratio of 70:30 as on date of commercial operation shall be considered. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

*Provided that:*

- i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:*
- ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:*
- iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt: equity ratio.*

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

(2) The generating company or the transmission licensee, as the case may be, shall submit the resolution of the Board of the company or approval of the competent authority in other cases regarding infusion of funds from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.

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

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

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



Regulation 72 of these regulations.

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

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

(6) Any expenditure incurred for the emission control system during the tariff period as may be admitted by the Commission as additional capital expenditure for determination of supplementary tariff, shall be serviced in the manner specified in clause (1) of this Regulation.”

70. The details of the debt-equity considered for the purpose of tariff for the 2019- 24 tariff period are as follows:

Funding	Capital Cost (as on 1.4.2019) (₹ in lakh)	(in %)	Capital Cost (as on 31.3.2024) (₹ in lakh)	(in %)
Debt	2452.46	70.00	2753.71	70.00
Equity	1051.01	30.00	1180.11	30.00
<b>Total</b>	<b>3503.47</b>	<b>100.00</b>	<b>3933.82</b>	<b>100.00</b>

### **Depreciation**

71. Regulations 33 of the 2019 Tariff Regulations provide 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 assets of the generating station and transmission system:

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

(6) In case of the existing projects, the balance depreciable value as on 1.4.2019 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.

(9) Where the emission control system is implemented within the original scope of the generating station and the date of commercial operation of the generating station or unit thereof and the date of operation of the emission control



system are the same, depreciation of the generating station or unit thereof including the emission control system shall be computed in accordance with Clauses (1) to (8) of this Regulation.

(10) Depreciation of the emission control system of an existing or a new generating station or unit thereof where the date of operation of the emission control system is subsequent to the date of commercial operation of the generating station or unit thereof, shall be computed annually from the date of operation of such emission control system based on straight line method, with salvage value of 10%, over a period of-

- a) twenty five years, in case the generating station or unit thereof is in operation for fifteen years or less as on the date of operation of the emission control system; or
- b) balance useful life of the generating station or unit thereof plus fifteen years, in case the generating station or unit thereof is in operation for more than fifteen years as on the date of operation of the emission control system; or
- c) ten years or a period mutually agreed by the generating company and the beneficiaries, whichever is higher, in case the generating station or unit thereof has completed its useful life.”

72. The weighted average rate of depreciation (WAROD) has been worked out at Annexure-V considering the depreciation rates of IT and non-IT assets as prescribed in the 2019 Tariff Regulations. The depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. The depreciation allowed for the Combined Asset is as follows:

(₹ in lakh)						
Combined Asset						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	<b>Depreciation</b>					
A	Opening Gross Block	3503.47	3625.77	3933.82	3933.82	3933.82
B	ACE	122.30	308.05	0.00	0.00	0.00
C	Closing Gross Block (A+B)	3625.77	3933.82	3933.82	3933.82	3933.82
D	Average Gross Block (A+C)/2	3564.62	3779.80	3933.82	3933.82	3933.82
E	Depreciable Value (D*90%)	3208.16	3401.82	3540.44	3540.44	3540.44
F	Weighted Average Rate of Depreciation (WAROD) (in %)	5.28	5.28	5.28	5.28	5.28
G	Elapsed useful life at the beginning of the year (Year)	1.00	2.00	3.00	4.00	5.00
H	Balance useful life at the beginning of the	24.00	23.00	22.00	21.00	20.00



Combined Asset						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	year (Year)					
I	<b>Depreciation during the year (D*F)</b>	<b>188.21</b>	<b>199.57</b>	<b>207.71</b>	<b>207.71</b>	<b>207.71</b>
J	Aggregate Cumulative Depreciation at the end of the year	406.90	606.48	814.18	1021.89	1229.59
K	Remaining Aggregate Depreciable Value at the end of the year (E-J)	2801.26	2795.34	2726.26	2518.55	2310.84

### **Interest on Loan (IoL)**

73. 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 assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalisation of such asset.*

*(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.*

*(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:*

*Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered;*

*Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.*

*(5a) The rate of interest on loan for installation of emission control system shall be the weighted average rate of interest of actual loan portfolio of the emission control*



system or in the absence of actual loan portfolio, the weighted average rate of interest of the generating company 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”.

74. UPPCL has submitted that the Petitioner is proposing to claim or adjust the change in interest rate due to floating-interest-rates directly from beneficiaries. Therefore, in line with the order dated 30.12.2015 passed in Petition No. 435/TT/2014, the Petitioner may be directed that ‘weighted average rate’ of interest based on loan prevailing as on 1.4.2014 be considered for calculation of interest and the impact of floating rate of interest may be considered at the time of true-up of 2019-24 period. In response, the Petitioner has not made any specific denial.

75. We have considered the submissions of the Petitioner and UPPCL. The weighted average rate of IoL has been considered on the basis of the rate prevailing as on 1.4.2019. The Petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during the 2019-24 tariff period will be adjusted. Accordingly, the floating rate of interest, if any, shall be considered at the time of true-up. In view of the above, IoL has been worked out in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL considered for the Combined Asset is as follows:

(₹ in lakh)

Combined Asset						
	Particular	2019-20	2020-21	2021-22	2022-23	2023-24
A	Gross Normative Loan	2452.46	2538.07	2753.71	2753.71	2753.71
B	Cumulative Repayments upto Previous Year	218.69	406.90	606.48	814.18	1021.89
C	Net Loan-Opening (A-B)	2233.77	2131.17	2147.23	1939.53	1731.82
D	Additions	85.61	215.64	0.00	0.00	0.00



Combined Asset						
	Particular	2019-20	2020-21	2021-22	2022-23	2023-24
E	Repayment during the year	188.21	199.57	207.71	207.71	207.71
F	Net Loan-Closing (C+D-E)	2131.17	2147.23	1939.53	1731.82	1524.11
G	Average Loan (C+F)/2	2182.47	2139.20	2043.38	1835.67	1627.97
H	Weighted Average Rate of Interest on Loan (in %)	7.727	7.706	7.690	7.673	7.655
I	<b>Interest on Loan (G*H)</b>	<b>168.64</b>	<b>164.85</b>	<b>157.13</b>	<b>140.85</b>	<b>124.62</b>

### Return on Equity (RoE)

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

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

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating station, transmission 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 on 7 account of emission control system, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system or in the absence of actual loan portfolio of the generating station or the transmission system, the weighted average rate of interest of the generating company or the transmission licensee, as the case may be, as a whole shall be considered, subject to ceiling of 14%.*

*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.

(3) The return on equity in respect of additional capitalization on account of emission control system shall be computed at the base rate of one year marginal cost of lending rate (MCLR) of the State Bank of India as on 1st April of the year in which the date of operation (ODe) occurs plus 350 basis point, subject to ceiling of 14%.”

**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.”

77. The RoE considered for the Combined Asset under Regulation 30 of the 2019 Tariff Regulations is as follows:

(₹ in lakh)						
<b>Combined Asset</b>						
	<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
A	Opening Equity	1051.01	1087.70	1180.11	1180.11	1180.11
B	Additions	36.69	92.42	0.00	0.00	0.00
C	Closing Equity (A+B)	1087.70	1180.11	1180.11	1180.11	1180.11
D	Average Equity (A+C)/2	1069.35	1133.91	1180.11	1180.11	1180.11
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
F	MAT Rate for respective year (in %)	17.472	17.472	17.472	17.472	17.472
G	Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782	18.782
H	<b>Return on Equity (D*G)</b>	200.85	212.97	221.65	221.65	221.65

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

78. The norms specified under Regulation 35(3)(a) and Regulation 35(4) of the 2019 Tariff Regulations provide as follows:

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

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<i>Norms for sub-station Bays (₹ Lakh per bay)</i>					
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



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
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-	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
<b>Norms for HVDC stations</b>					
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except	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 bi-pole scheme (Rs Lakh) (1500	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bi-pole scheme (Rs Lakh) (2000	2,468	2,555	2,645	2,738	2,834
±500 kV Bhiwadi-Balia HVDC bi-pole scheme (Rs Lakh) (2500	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath-Agra HVDC bi-pole scheme (Rs Lakh)	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.”*

79. The O&M Expenses claimed by the Petitioner of the Combined Asset for the 2019-24 period is as follows:

<b>O&amp;M Expenses</b>					
	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
<b>Transformers</b>					
765 kV					
Input MVA	1500	1500	1500	1500	1500



O&M Expenses					
<b>Total O&amp;M Expense (₹ in lakh)</b>	<b>736.50</b>	<b>762.00</b>	<b>789.00</b>	<b>817.50</b>	<b>846.00</b>

80. We have considered the submissions of the Petitioner. The Petitioner has claimed O&M Expenses for the combined transmission assets as per the normative O&M Expenses rates provided in Regulation 35(3)(a) of the 2019 Tariff Regulations. The Commission vide order dated 24.1.2021 in Petition No. 136/TT/2020 had dealt with the issue relating to O&M Expenses for spares ICTs. The relevant portion of the order dated 24.1.2021 is as follows:

*“28. We are also not convinced with the Petitioner’s clarification that it has not claimed O&M Expenses for the 2014-19 tariff period since the 2019 Tariff Regulations provide for O&M Expenses for transformers based on their rating. The norms specified in the 2019 Tariff Regulations are for transmission elements that are in regular use and not for spares which are used only in case of any eventualities. As already stated earlier, the “assets in use as spares” are being granted tariff only on the basis of consent and approval of the concerned Regional Power Committee and as these assets are not being in regular use, we are of the view that O&M Expenses cannot be granted to the transmission assets. Accordingly, O&M Expenses are not allowed for the Combined Asset for the 2019-24 tariff period. We also feel that it is pertinent to mention here that disallowance of O&M Expenses for the Combined Asset does not mean that they do not need any maintenance and the consequent expenditure. The Combined Asset requires maintenance and the expenditure involved in maintaining them would be miniscule compared to the O&M Expenses in respect of transformers put to regular use. We are also of the view that the Petitioner should meet this expenditure from the O&M Expenses allowed for the regular ICTs installed at Mandola and Ludhiana in Northern Region. In case, the expenses are unusually high and cannot be met from the O&M Expenses allowed for the regular ICTs, the Petitioner may approach the Commission with certification of O&M Expenses from RPC at the time of true-up.”*

81. In view of the foregoing findings, as the combined transmission asset is a spare ICT, O&M Expenses for the same are not allowed.

**Interest on Working Capital (IWC)**

82. Regulations 34(1)(c), 34(3), 34(4) and Regulation 3(7) of the 2019 Tariff Regulations specify 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. Definitions ....*

*(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;”*

83. The Petitioner has submitted that it has computed IWC for 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, 11.25% (SBI 1year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) for 2020-21 and 10.50% (SBI 1year MCLR applicable as on 1.4.2021 of 7.00% plus 350 basis points) for 2021-24. The components of the working capital and interest allowed thereon in respect of the Combined Asset are as follows:



(₹ in lakh)

Combined Asset						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
A	WC for O&M Expenses (Equivalent to annualized O&M Expenses for 1 month)	0.00	0.00	0.00	0.00	0.00
B	WC for Maintenance Spares (Equivalent to 15% of O&M Expenses)	0.00	0.00	0.00	0.00	0.00
C	WC for Receivables (Equivalent to 45 days of annual transmission charges)	69.60	72.19	73.25	71.22	69.00
D	<b>Total Working Capital (A+B+C)</b>	69.60	72.19	73.25	71.22	69.00
E	Rate of Interest (in %)	12.05	11.25	10.50	10.50	10.50
F	<b>Interest on Working Capital (DxE)</b>	<b>8.39</b>	<b>8.12</b>	<b>7.69</b>	<b>7.48</b>	<b>7.25</b>

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

84. The various components of the annual fixed charges for the Combined Asset for the 2019-24 tariff period are summarized as follows:

(₹ in lakh)

Combined Asset					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	188.21	199.57	207.71	207.71	207.71
Interest on Loan	168.64	164.85	157.13	140.85	124.62
Return on Equity	200.85	212.97	221.65	221.65	221.65
Operation and Maintenance	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	8.39	8.12	7.69	7.48	7.25
<b>Total</b>	<b>566.08</b>	<b>585.51</b>	<b>594.18</b>	<b>577.68</b>	<b>561.22</b>

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

85. The Petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses.

86. Regulation 70(1) of the 2019 Tariff Regulations provides for reimbursement of filing fees and publication expenses paid by the Petitioner. Accordingly, The Petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries



on pro-rata basis in accordance with Regulation 70(1) of the 2019 Tariff Regulations.

### **Licence Fee & RLDC Fees and Charges**

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

### **Good and Service Tax**

88. 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 Respondents to the Petitioner and the same shall be charged and billed separately by the Petitioner. Further additional taxes, if any, are to be paid by the Petitioner on account of demand from Government / Statutory authorities, the same may be allowed to be recovered from the beneficiaries.

### **Security Expenses**

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

90. 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 the 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, security expenses will be shared in terms of the order dated 3.8.2021 in Petition No. 260/MP/2020. Accordingly, 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**

91. 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**

92. With effect from 1.7.2011, sharing of transmission charges for inter-State transmission systems was governed by the 2010 Sharing Regulations and with effect from 1.11.2020 (after repeal of the 2010 Sharing Regulations), sharing of transmission charges is governed by the 2020 Sharing Regulations. Accordingly, the liabilities of DICs for arrears of transmission charges determined through this order shall be computed DIC-wise in accordance with the provisions of respective Tariff Regulations and Sharing Regulations and shall be recovered from the concerned DICs through 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.

93. To summarise:

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



(₹ in lakh)

Asset-I		
Particulars	2017-18 (Pro-rata for 335 days)	2018-19
AFC	118.55	214.62

(₹ in lakh)

Asset-II		
Particulars	2017-18 (Pro-rata for 182 days)	2018-19
AFC	50.82	163.02

(₹ in lakh)

Asset-III		
Particulars	2017-18	2018-19 (Pro-rata for 275 days)
AFC	0.00	143.06

b) Annual Fixed Charges allowed for the Combined Asset for the 2019-24 tariff period in the instant order are as follows:

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Combined Asset	566.08	585.51	594.18	577.68	561.22

94. The Annexures-I, II, III, and IV given hereinafter shall form part of the order.

95. This order disposes of Petition No.655/TT/2020 in terms of the above discussion and findings.

sd/-

**(P. K. Singh)**  
Member

sd/-

**(Arun Goyal)**  
Member

sd/-

**(I. S. Jha)**  
Member



<b>Petition No.:</b>	<b>655/TT/2020</b>
<b>Period</b>	<b>2014-19 Tariff</b>

**Annexure-I**

**Asset-I**

Particulars	Admitted Capital Cost as on COD (₹ in lakh)	ACE 2014-19		Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations (₹ in lakh)	
		2017-18	2018-19			2017-18	2018-19
Substation	236.44	1079.90	0.00	1316.34	5.28	40.99	69.50
<b>Total</b>							
<b>Average Gross Block (₹ in lakh)</b>						776.39	1316.34
<b>Weighted Average Rate of Depreciation (%)</b>						5.28	5.28





<b>Petition No.:</b>	<b>655/TT/2020</b>
<b>Period</b>	<b>2014-19 Tariff</b>

**Annexure-II**

Asset-II

Particulars	Admitted Capital Cost as on COD	ACE 2014-19		Admitted Capital Cost as on 31.3.2019	Rate of Depreciation	Annual Depreciation as per Regulations (₹ in lakh)	
	(₹ in lakh)	2017-18	2018-19	(₹ in lakh)	(%)	2017-18	2018-19
Substation	234.55	726.95	21.42	982.72	5.28	31.56	51.32
<b>Total</b>							
<b>Average Gross Block (₹ in lakh)</b>						597.82	972.01
<b>Weighted Average Rate of Depreciation (%)</b>						5.28	5.28



<b>Petition No.:</b>	<b>655/TT/2020</b>
<b>Period</b>	<b>2014-19 Tariff</b>

**Annexure-III**

Asset-III

Particulars	Admitted Capital Cost as on COD	ACE 2014-19		Admitted Capital Cost as on 31.3.2019	Rate of Depreciation	Annual Depreciation as per Regulations (₹ in lakh)	
	(₹ in lakh)	2017-18	2018-19	(₹ in lakh)	(%)	2017-18	2018-19
Substation	1033.07	0.00	171.35	1204.42	5.28	0.00	59.07
<b>Total</b>							
<b>Average Gross Block (₹ in lakh)</b>						0.00	1118.75
<b>Weighted Average Rate of Depreciation (%)</b>						5.28	5.28



**Annexure - IV**

**Combined Assets**

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 (%)	Annual Depreciation as per Regulations				
		2019-24			2019-20 (₹ in lakh)	2020-21 (₹ in lakh)	2021-22 (₹ in lakh)	2022-23 (₹ in lakh)	2023-24 (₹ in lakh)
Substation	3503.47	430.35	3933.82	5.28	188.21	199.57	207.71	207.71	207.71
<b>TOTAL</b>									
<b>Average Gross Block (₹ in lakh)</b>					3564.62	3779.80	3933.82	3933.82	3933.82
<b>Weighted Average Rate of Depreciation (%)</b>					5.28	5.28	5.28	5.28	5.28

