

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 480/TT/2020**

**Coram:**

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

**Date of Order: 22.07.2021**

**In the matter of:**

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and truing up of transmission tariff of 2014-19 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of 2019-24 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for Transmission System associated with Neyveli Lignite Corporation – II (NLC-II) Expansion Project in Southern Region.

**And in the matter of:**

Power Grid Corporation of India Ltd.,  
“Saudamini”, Plot No. 2,  
Sector 29, Gurgaon-122001 (Haryana)

**....Petitioner**

**Vs.**

1. Karnataka Power Transmission Corporation Ltd.,  
Kaveri Bhavan, Bangalore – 560009.
2. Transmission Corporation of Andhra Pradesh Ltd.,  
Vidyut Soudha, Hyderabad – 500082.
3. Kerala State Electricity Board,  
Vaidyuthi Bhavanam, Pattom, Thiruvananthapuram – 695004.
4. Tamil Nadu Generation and Distribution Corporation Ltd.,  
(Formely Tamil Nadu Electricity Board – TNEB),  
NPKRR Maaligai, 800, Anna Salai, Chennai – 600002.
5. Electricity Department,  
Government of Pondicherry,  
Pondicherry - 605001.



6. Eastern Power Distribution Company of Andhra Pradesh Ltd.,  
P&T Colony,  
Seethmmadhara, Vishakhapatnam, Andhra Pradesh.
7. Southern Power Distribution Company of Andhra Pradesh Ltd.,  
Srinivasasa Kalyana Mandapam Backside,  
Tiruchanoor Road, Kesavayana Gunta, Tirupati – 517501,  
Chittoor District, Andhra Pradesh.
8. Southern Power Distribution Company of Telangana Ltd.,  
Corporate office, Mint Compound,  
Hyderabad – 500063, Telangana.
9. Northern Power Distribution Company of Telangana Ltd.,  
Opp. NIT Petrol Pump,  
Chaitanyapuri, Kazipet,  
Warangal – 506004, Telangana.
10. Bangalore Electricity Supply Company Ltd.,  
Corporate office, K.R. Circle,  
Bangalore – 560 001, Karnataka.
11. Gulbarga Electricity Supply Company Ltd.,  
Station Main Road,  
Gulbarga, Karnataka.
12. Hubli Electricity Supply Company Ltd.,  
Navanagar, PB Road,  
Hubli, Karnataka.
13. MESCOM Corporate Office,  
Paradigm Plaza, AB Shetty Circle,  
Mangalore – 575 001, Karnataka.
14. Chamundeswari Electricity Supply Corporation Ltd.,  
927, L J Avenue, Ground Floor, New Kantharaj Urs Road,  
Saraswatipuram, Mysore – 570009, Karnataka.
15. Electricity Department,  
Government of Goa,  
Vidyuti Bhawan, Panaji, Goa - 403001.
16. Transmission Corporation of Telangana Ltd.,  
Vidyut Sudha, Khairatabad,  
Hyderabad – 500082.
17. Tamil Nadu Transmission Corporation,  
NPKRR Maaligai, 800, Anna Salai,  
Chennai – 600 002.

...Respondent(s)



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

**For Respondents** : None

### **ORDER**

The instant petition has been filed by Power Grid Corporation of India Ltd., a deemed transmission licensee, for truing up of transmission tariff for the period from 1.4.2014 to 31.3.2019 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) and determination of transmission tariff for the period from 1.4.2019 to 31.3.2024 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) in respect of the Combined Asset comprising of the following “Transmission System associated with Neyveli Lignite Corporation–II (NLC-II) Expansion Project” in Southern Region (hereinafter referred to as ‘the transmission project”):

**Asset-1:** LILO of Ramagundam - Khammam Transmission Line at Warangal Sub-station.

**Asset-2:** 2x315 MVA Auto Transformer & 400/220 kV Bays Equipment at Warangal Sub-station.

**Asset-3:** Combined Asset of LILO of Ramagundam – Khammam Transmission Line and Neyveli - Pugalur –Madurai 400 kV D/C Transmission Line.

**Asset-4:** 2x315 MVA Auto Transformer & 400/220 kV Bays Equipment at Pugalur.



**Asset-5:** Udumalpet- Arasur 400 kV D/C Line along with 400/220 kV Sub-station at Arasur and associated bays at Udumalpet and LILO of Neyveli Sriperumbudur 400 kV S/C line at Puducherry Sub-station with associated bays.

**Asset-6:** 315 MVA ICT-I along with associated bays and 220 kV downstream equipment at Arasur 400/220 kV Sub-station.

**Asset-7:** 315 MVA ICT-II along with associated bays and 220 kV downstream equipment at Arasur 400/220 kV Sub-station.

**Asset-8:** 2 Nos. 315 MVA ICTs along with associated bays and 220 kV downstream equipment at Puducherry 400/220 kV Sub-station.

**Asset-9:** 2 Nos. of 50 MVAR line Reactors at Pugalur 400/220 kV Sub-station along with associated bays at Pugalur Sub-station.

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

*“1) Approve the trued up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the assets covered under this petition, as per para 9 and 10.0 above.*

*2) Approve the Completion cost and additional capitalization incurred during 2014-19.*

*3) Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2014 and Tariff regulations 2019 as per para 10.1 and 11 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 recover FERV on the foreign loans deployed as provided under clause 68 of the Tariff Regulations, 2019.*

*6) 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.*

*7) 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.

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

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

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

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

### **Background**

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

(a) The Investment Approval (IA) and expenditure sanction for the transmission project was accorded by the Ministry of Power vide letter dated 11.1.2005 at an estimated cost of ₹69183 lakh including IDC of ₹4135 lakh (based on 2<sup>nd</sup> Quarter, 2004 price level). Subsequently, approval for the Revised Cost Estimate (RCE) for the project was accorded by the Board of Directors of the Petitioner vide Memorandum No. C/CP/RCE NLC-II, dated 22.3.2010 for a total cost of ₹96239 lakh, including IDC of ₹10732 lakh based on 3<sup>rd</sup> Quarter, 2009 price level. As per IA, the transmission project was scheduled to be completed in 35 months from the date of IA, i.e. by 1.1.2008.

(b) The scope of the work as per IA is as follows:

#### **Transmission line**

- (i) 400 kV D/C line between Neyveli TS-II switchyard to Pugalur (one circuit each terminating at Neyveli TS-II expansion switchyard and Neyveli TS-II existing switchyard and TS-II expn. switchyard)
- (ii) Pugalur-Madurai 400 kV D/C line
- (iii) Udumalpet- Arasur 400 kV D/C line
- (iv) LILO of Neyveli-Sriperumbudur 400 kV S/C line at Pondichery
- (v) LILO of Ramagundam-Khammam 400 kV S/C line at Warangal



### **Sub-stations**

- (i) Pugalur 400/220 kV Sub-station (New)
- (ii) Warangal 400/220 kV Sub-station (New)
- (iii) Arasur 400/220 kV Sub-station (New)
- (iv) Pondichery 400/220 kV Sub-station (New)
- (v) Madurai 400/220 kV Sub-station (Extn.)
- (vi) Udumalpet 400/220 kV Sub-station (Extn.)

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

(d) The Petitioner has combined all the assets (1 to 9) during 2014-19 tariff period with effective COD of the Combined Asset as 1.1.2010.

(e) The transmission tariff of the instant transmission assets, forming part of the Combined Asset, from their respective CODs to 31.3.2014 was trued-up vide order dated 25.4.2016 in Petition No. 32/TT/2015 and in the same petition, the transmission tariff for 2014-19 tariff period was also allowed for the Combined Asset.

(f) The Annual Fixed Charges (AFC) approved by the Commission vide order dated 25.4.2016 in Petition No. 32/TT/2015 and the trued up tariff claimed by the Petitioner in respect of the Combined Asset for 2014-19 tariff period are as follows:

<b>Particulars</b>	<b>(₹ in lakh)</b>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
AFC approved vide order dated 25.4.2016 in Petition No. 32/TT/2015	14725.03	14558.27	14401.67	14255.70	14120.88
AFC claimed by the Petitioner based on truing up in the instant petition	14801.62	14754.67	14748.79	14663.57	14644.62

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



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

6. The hearing in this matter was held on 20.4.2021 through video conference and order was reserved.

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

8. This order is issued considering the submissions made by the Petitioner in the petition vide affidavit dated 21.12.2019 and additional information vide affidavit dated 12.4.2021.

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

9. The details of the transmission charges claimed by the Petitioner in respect of the Combined Asset are as follows:

	(₹ in lakh)				
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	4515.01	4515.01	4515.01	4515.01	4515.01
Interest on Loan	1961.23	1771.98	1671.47	1487.63	1351.16
Return on Equity	5152.51	5201.47	5198.83	5198.83	5212.81
Interest on working capital	419.76	421.58	424.43	425.58	428.33
O & M Expenses	2753.11	2844.63	2939.05	3036.52	3137.31
<b>Total</b>	<b>14801.62</b>	<b>14754.67</b>	<b>14748.79</b>	<b>14663.57</b>	<b>14644.62</b>

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



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M expenses	229.43	237.05	244.92	253.04	261.44
Maintenance Spares	412.97	426.69	440.86	455.48	470.60
Receivables	2466.94	2459.11	2458.13	2443.93	2440.77
<b>Total</b>	<b>3109.34</b>	<b>3122.85</b>	<b>3143.91</b>	<b>3152.45</b>	<b>3172.81</b>
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>419.76</b>	<b>421.58</b>	<b>424.43</b>	<b>425.58</b>	<b>428.33</b>

### **Capital Cost**

11. The capital cost allowed for the Combined Asset vide order dated 25.4.2016 in Petition No. 32/TT/2015 was ₹87088.05 lakh as on 31.3.2014 and as on 31.3.2019. The Petitioner has not claimed any Additional Capital Expenditure (ACE) for 2014-19 tariff period.

12. The Petitioner in the instant true-up petition has submitted the details of FR approved capital cost, capital cost admitted as on 1.4.2014 and ACE incurred upto 31.3.2019 in respect of the Combined Asset and the same is as follows:

(₹ in lakh)

Approved Cost (RCE)	Actual Capital Cost as on COD	ACE	Total Capital Cost as on 31.3 2019
		2014-15	
96239.00	87088.05	856.26	87944.31

13. The Petitioner has claimed the same capital cost of ₹87088.05 lakh in respect of the assets as on 1.4.2014 which was admitted by the Commission vide order dated 25.4.2016 in Petition No. 32/TT/2015.

### **Cost Over-run**

14. The completion cost including ACE in respect of the Combined Asset is ₹87944.31 lakh and approved RCE cost is ₹96239.00 lakh. Hence, the completion cost in respect of the Combined Asset is within the approved RCE cost and, therefore, there is no cost over-run with regard to the Combined Asset.





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

15. The Petitioner has claimed ACE in respect of the Combined Asset covered in the instant petition and submitted the Auditor's Certificate in support of its claim and the same is as follows:

(₹ in lakh)	
<b>Asset</b>	<b>ACE 2014-15</b>
Combined Asset	856.26

16. The Petitioner has submitted that ACE in the year 2014-15 has been claimed under Regulation 14(3)(i) of the 2014 Tariff Regulations on account of un-discharged liability towards final payment against land compensation of 400/230 kV Pugalur (Karur) Sub-station as per Court orders.

17. We have considered the submissions of the Petitioner. ACE claimed by the Petitioner for 2014-15 period is allowed under Regulation 14(3)(i) of the 2014 Tariff Regulations. The capital cost allowed as on 31.3.2019 after inclusion of ACE in respect of the Combined Asset is as follows:

(₹ in lakh)				
<b>Asset</b>	<b>Particulars</b>	<b>Capital cost as on COD on cash basis</b>	<b>ACE 2014-15</b>	<b>Total Capital cost including ACE as on 31.3.2019</b>
Combined Asset	Allowed vide order dated 25.4.2016 in Petition No. 32/TT/2015	87088.05	0.00	87088.05
	Claimed by the Petitioner in the instant petition	87088.05	856.26	87944.31
	Approved after truing up in this order	87088.05	856.26	87944.31

### **Debt-Equity Ratio**

18. The Petitioner has claimed debt-equity ratio of 70.00:30.00 as on 1.4.2014. The debt-equity ratio of 70.00:30.00 has been considered for capital cost as on 1.4.2014 and ACE during 2014-19 tariff period as provided under Regulation 19 of the 2014 Tariff Regulations. The same has been summarised as follows:



Particulars	Amount as on 1.4.2014 (₹ in lakh)	(%)	Amount as on 31.3.2019 (₹ in lakh)	(%)
Debt	60961.64	70.00	61561.02	70.00
Equity	26126.41	30.00	26383.29	30.00
<b>Total</b>	<b>87088.05</b>	<b>100.00</b>	<b>87944.31</b>	<b>100.00</b>

### Depreciation

19. The Petitioner's claim towards depreciation in this petition was found higher than the depreciation allowed vide order dated 25.4.2016 in Petition No. 32/TT/2015. The Petitioner has neither given any justification for claiming higher depreciation than what was allowed earlier nor made any specific prayer for allowing higher depreciation in this petition. It is observed that the Commission vide order dated 25.4.2016 in Petition No. 32/TT/2015 allowed depreciation for IT equipment @5.28%. The Petitioner now at the time of truing-up of the tariff of 2014-19 period has segregated the IT equipment cost from the sub-station cost and has considered depreciation rate for IT Equipment @15% and the salvage value for IT Equipment is NIL as per the 2014 Tariff Regulations. Similar issue had come up in some earlier petitions filed by the Petitioner. In this regard, the Commission vide order dated 9.5.2020 in Petition No. 19/TT/2020 held as follows:

*"31. We have considered the submissions of the Petitioner. The instant assets were put into commercial operation during the 2009-14 period and the tariff from the respective CODs to 31.3.2014 was allowed vide orders dated 30.8.2012 and 9.5.2013 in Petition No.343/2010 and Petition No. 147/TT/2011 respectively. Further, the tariff of the 2009-14 period was trued up and tariff for the 2014-19 period was allowed vide order dated 25.2.2016 in Petition No.10/TT/2015. The Petitioner did not claim any capital expenditure towards "IT Equipment" in the above said three petitions where tariff for the instant assets for the 2009-14 period was allowed, tariff of the 2009-14 period was trued up and tariff for 2014- 19 period was allowed even though there was a clear provision in the 2009 Tariff Regulations and 2014 Tariff Regulations providing depreciation @15% for IT Equipment. Having failed to make a claim as per the 2009 Tariff Regulations (the period during which COD of assets was achieved), the Petitioner has now, at the time of truing up of the tariff allowed for the 2014-19 period has apportioned apart of the capital expenditure to "IT Equipment". The Petitioner has adopted similar methodology not only in this but in some of the other petitions listed along with the instant petition on 26.2.2020. It is observed that the Petitioner has for the first time apportioned a part of the capital expenditure towards IT Equipment and has claimed depreciation under the head "IT Equipment" @15% at the time of truing up of the tariff of 2014- 19 period.*



*Regulation 8(1) of the 2014 Tariff Regulations provides for truing up of the capital expenditure including the additional capital expenditure, incurred upto 31.3.2019, admitted by the Commission after prudence check. We are of the view that scope of truing up exercise is restricted to truing up of the capital expenditure already admitted and apportionment or reapportionment of the capital expenditure cannot be allowed at the time of truing up. Therefore, we are not inclined to consider the Petitioner's prayer for apportionment of capital expenditure towards IT Equipment and allowing depreciation @ 15% from 1.4.2014 onwards. Accordingly, the depreciation @ 5.28% has been considered for IT Equipment as part of the substation upto 31.3.2019 while truing up the capital expenditure for the 2014-19 period. During the 2019-24 tariff period, the IT Equipment has been considered separately and depreciation has been allowed @ 15% for the balance depreciable value of IT Equipment in accordance with Regulation 33 read with Sr. No. (p) of the Appendix-I (Depreciation Schedule) of the 2019 Tariff Regulations."*

20. In line with the above decision in order dated 9.5.2020 in Petition No. 19/TT/2020, depreciation has been considered for IT Equipment @5.28% as part of the Sub-station upto 31.3.2019 while truing up the capital expenditure for the 2014-19 period. However, for the 2019-24 tariff period, the IT Equipment has been considered separately and depreciation has been allowed @15% for the balance depreciable value of IT Equipment in accordance with Regulation 33 of the 2019 Tariff Regulations. The Gross Block during the 2014-19 tariff period has been depreciated at Weighted Average Rate of Depreciation (WAROD) and working of WAROD is given at Annexure-I. WAROD has been worked out after taking into account the depreciation rates of assets as prescribed in the 2014 Tariff Regulations and depreciation allowed during tariff period 2014-19 is as follows:

	(₹ in lakh)				
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Gross Block	87088.05	87944.31	87944.31	87944.31	87944.31
ACE	856.26	0.00	0.00	0.00	0.00
Closing Gross Block	87944.31	87944.31	87944.31	87944.31	87944.31
Average Gross Block	87516.18	87944.31	87944.31	87944.31	87944.31
Weighted average rate of Depreciation (WAROD) (%)	5.14	5.12	5.12	5.12	5.12
Lapsed useful life of the asset at the beginning of the year	4	5	6	7	8
Balance useful life of the asset at the beginning of the year (Year)	27	26	25	24	23
Aggregated Depreciable	77492.05	77492.05	77492.05	77492.05	77492.05



Value					
<b>Combined Depreciation during the year</b>	<b>4498.69</b>	<b>4498.69</b>	<b>4498.69</b>	<b>4498.69</b>	<b>4498.69</b>
Remaining Aggregated Depreciable Value	53933.21	49434.53	44935.84	40437.15	35938.46

21. The details of the depreciation allowed in respect of the Combined Asset vide order dated 25.4.2016 in Petition No. 32/TT/2015, as claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 25.4.2016 in Petition No. 32/TT/2015	4498.90	4498.90	4498.90	4498.90	4498.90
Claimed by the Petitioner in the instant petition	4515.01	4515.01	4515.01	4515.01	4515.01
Approved after true-up in this order	4498.69	4498.69	4498.69	4498.69	4498.69

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

22. 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:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	60961.64	61561.02	61561.02	61561.02	61561.02
Cumulative Repayments up to Previous Year	19060.15	23558.84	28057.53	32556.22	37054.90
Net Loan-Opening	41901.49	38002.18	33503.50	29004.81	24506.12
Addition due to ACE	599.38	0.00	0.00	0.00	0.00
Repayment during the year	4498.69	4498.69	4498.69	4498.69	4498.69
Net Loan-Closing	38002.18	33503.50	29004.81	24506.12	20007.43
Average Loan	39951.84	35752.84	31254.15	26755.46	22256.77
Weighted Average Rate of Interest on Loan (%)	4.910	4.960	5.355	5.572	6.091
<b>Interest on Loan</b>	<b>1961.62</b>	<b>1773.19</b>	<b>1673.52</b>	<b>1490.81</b>	<b>1355.63</b>



23. The details of IoL allowed in respect of Combined Asset vide order dated 25.4.2016 in Petition No. 32/TT/2015, claimed by the Petitioner in the instant petition and trued up vide this order is as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 25.4.2016 in Petition No. 32/TT/2015	1931.50	1674.07	1423.60	1180.36	944.63
Claimed by the Petitioner in the instant petition	1961.23	1771.98	1671.47	1487.63	1351.16
Approved after true-up in this order	1961.62	1773.19	1673.52	1490.81	1355.63

### **Return on Equity (RoE)**

24. The Petitioner has claimed RoE in respect of the Combined Asset 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:

Year	Claimed effective tax (in %)	Grossed up RoE [(Base Rate)/(1-t)] (in %)
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

25. The Commission vide order dated 27.4.2020 in Petition No. 274/TT/2019 has arrived at the effective tax rate for the Petitioner based on the notified MAT rates and the same is as follows:

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

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

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

27. Accordingly, RoE allowed in respect of the Combined Asset is as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	26126.41	26383.29	26383.29	26383.29	26383.29
Addition due to ACE	256.88	0.00	0.00	0.00	0.00
Closing Equity	26383.29	26383.29	26383.29	26383.29	26383.29
Average Equity	26254.85	26383.29	26383.29	26383.29	26383.29
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
Tax Rate applicable (%)	20.961	21.342	21.342	21.342	21.549
Rate of Return on Equity (Pre-tax)	19.610	19.705	19.705	19.705	19.758
<b>Return on Equity (Pre-tax)</b>	<b>5148.58</b>	<b>5198.83</b>	<b>5198.83</b>	<b>5198.83</b>	<b>5212.81</b>

28. The details of RoE allowed in respect of the Combined Asset vide order dated 25.4.2016 in Petition No. 32/TT/2015, as claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 25.4.2016 in Petition No. 32/TT/2015	5123.51	5123.51	5123.51	5123.51	5123.51
Claimed by the Petitioner in the instant petition	5152.51	5201.47	5198.83	5198.83	5212.81
Approved after true-up in this order	5148.58	5198.83	5198.83	5198.83	5212.81

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

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

	(₹ in lakh)				
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Sub-station Bays</b>					
400 kV-Arasur/Coimbatore: ICT-I and II Bay	2	2	2	2	2
400 kV-Warangal: Ramagundam Bay	1	1	1	1	1
400 kV-Warangal: Khammam Bay	1	1	1	1	1
400 kV-Pugalur: Neyveli-I and II Bay	2	2	2	2	2
400 kV-Pugalur: Madurai-I and II Bay	2	2	2	2	2
400 kV-Madurai: Pugalur-I and II Bay	2	2	2	2	2
400 kV-Udumalpet: Arasur-I and II Bay	2	2	2	2	2
400 kV-Arasur/Coimbatore: Udumalpet -I and II Bay	2	2	2	2	2
400 kV-Puducherry: Neyveli TS-II Bay	1	1	1	1	1
400 kV-Puducherry: Sriperumbudur Bay	1	1	1	1	1
400 kV-Pugalur: Line Reactor Bay for Neyveli I and II	2	2	2	2	2
400 kV-Puducherry: ICT-I and II Bay	2	2	2	2	2
400 kV-Pugalur: ICT-I and II Bay	2	2	2	2	2
400 kV-Warangal: ICT- I and II Bay	2	2	2	2	2
220 kV-Warangal: Nagaram-I and II Bay	2	2	2	2	2
220 kV-Warangal: Durshed-I and II Bay	2	2	2	2	2
220 kV-Puducherry: Thodamanatham I and II Bay	2	2	2	2	2
220 kV-Puducherry: Bahoor Bay	1	1	1	1	1
220 kV-Puducherry: Villianur Bay	1	1	1	1	1
220 kV-Arasur/Coimbatore: ICT-I and II Bay	2	2	2	2	2



220 kV-Arasur/ Coimbatore: Palladam Bay	1	1	1	1	1
220 kV-Arasur/ Coimbatore: Karamadai Bay	1	1	1	1	1
220 kV-Puducherry: ICT-I and II Bay	2	2	2	2	2
220 kV-Pugalur: Pugalur I and II Bay	2	2	2	2	2
220 kV-Pugalur: Myvadi Bay	1	1	1	1	1
220 kV-Pugalur: Alandur Bay	1	1	1	1	1
220 kV-Warangal: ICT-I and II Bay	2	2	2	2	2
220 kV-Arasur/Coimbatore: Arasur-I and II Bay	2	2	2	2	2
220 kV-Pugalur: ICT I and II Bay	2	2	2	2	2
<b>Norm (₹ lakh/bay)</b>					
400 kV	60.30	62.30	64.37	66.51	68.71
220 kV	42.21	43.61	45.06	46.55	48.10
<b>Total Sub-station O&amp;M Expenses</b>	<b>2460.24</b>	<b>2541.84</b>	<b>2626.32</b>	<b>2713.44</b>	<b>2803.44</b>
<b>AC &amp; HVDC Lines</b>					
LILO of Ramagundam- Khammam TL at Warrangal 400 kV S/S Double Circuit Line (Twin/ Triple Conductor)	13.619	13.619	13.619	13.619	13.619
Pugalur-Madurai 400 kV Double Circuit Line (Twin/ Triple Conductor)	123.643	123.643	123.643	123.643	123.643
Neyveli-Pugalur 400 kV Double Circuit Line (Twin/ Triple Conductor)	198.047	198.047	198.047	198.047	198.047
Udumalpet Asasur 400 kV Double Circuit Line (Twin/ Triple Conductor)	65.116	65.116	65.116	65.116	65.116
LILO of Neyveli-Sriperumbudur at Pondicherry 400 kV Double Circuit Line (Twin/ Triple Conductor)	12.543	12.543	12.543	12.543	12.543
LILO of Ramagundam- Khammam TL at Warrangal S/S 400 kV Single Circuit Line (Twin/ Triple Conductor)	0.558	0.558	0.558	0.558	0.558
Neyveli-Pugalur 400 kV Single Circuit Line (Twin/ Triple Conductor)	1.624	1.624	1.624	1.624	1.624
<b>Norm (₹ lakh/KM)</b>					
Double Circuit Line (Twin/ Triple Conductor)	0.7070	0.7310	0.7550	0.7800	0.8060





Single Circuit Line (Twin/ Triple Conductor)	0.4032	0.4170	0.4308	0.4445	0.4628
<b>Total Transmission Line</b>	<b>292.85</b>	<b>302.79</b>	<b>312.73</b>	<b>323.09</b>	<b>333.86</b>
<b>Total O&amp;M Expenses</b>	<b>2753.09</b>	<b>2844.63</b>	<b>2939.05</b>	<b>3036.53</b>	<b>3137.30</b>

30. The details of the O&M Expenses allowed in respect of the Combined Asset vide order dated 25.4.2016 in Petition No. 32/TT/2015, as claimed in the instant petition and trued up O&M Expenses allowed in the instant order are as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 25.4.2016 in Petition No. 32/TT/2015	2753.09	2844.63	2939.05	3036.53	3137.30
Claimed by the Petitioner in the instant petition	2753.09	2844.63	2939.05	3036.53	3137.30
Approved after true-up in this order	2753.09	2844.63	2939.05	3036.53	3137.30

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

31. The Petitioner has claimed IWC as per Regulation 28(1)(c) of the 2014 Tariff Regulations as under:-

**i. Maintenance spares:**

Maintenance spares have been worked out based on 15% of Operation and Maintenance Expenses.

**ii. O & M Expenses:**

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

**iii. Receivables:**

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

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

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

32. The trued up IWC allowed in respect of the Combined Asset is as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses (O&M expenses for One month)	229.42	237.05	244.92	253.04	261.44
Maintenance Spares (15% of O&M expenses)	412.96	426.69	440.86	455.48	470.59
Receivables (Equivalent to Two months of annual fixed cost / annual transmission charges)	2463.55	2456.09	2455.70	2441.69	2438.75
<b>Total</b>	<b>3105.93</b>	<b>3119.83</b>	<b>3141.48</b>	<b>3150.21</b>	<b>3170.78</b>
Rate of Interest on working capital (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest of working Capital</b>	<b>419.30</b>	<b>421.18</b>	<b>424.10</b>	<b>425.28</b>	<b>428.06</b>

33. The details of the IWC allowed in respect of Combined Asset vide order dated 25.4.2016 in Petition No. 32/TT/2015, trued up IWC claimed by the Petitioner and trued up IWC allowed in the instant order are as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 25.4.2016 in Petition No. 32/TT/2015	418.04	417.17	416.62	416.40	416.54
Claimed by the Petitioner in the instant petition	419.76	421.59	424.43	425.58	428.33
Approved after true-up in this order	419.30	421.18	424.10	425.28	428.06

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

34. The trued up annual fixed charges allowed in respect of the Combined Asset for 2014-19 tariff period are as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	4498.69	4498.69	4498.69	4498.69	4498.69
Interest on Loan	1961.62	1773.19	1673.52	1490.81	1355.63
Return on Equity	5148.58	5198.83	5198.83	5198.83	5212.81
Int. on Working Capital	419.30	421.18	424.10	425.28	428.06
Operation and Maintenance	2753.09	2844.63	2939.05	3036.53	3137.30
<b>Total</b>	<b>14781.27</b>	<b>14736.51</b>	<b>14734.19</b>	<b>14650.13</b>	<b>14632.48</b>



35. Accordingly, the Annual Transmission Charges approved vide order dated 25.4.2016 in Petition No. 32/TT/2015, trued up AFC claimed by the Petitioner in the instant petition and trued up AFC allowed in the instant order are as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 25.4.2016 in Petition No. 32/TT/2015	14725.03	14558.27	14401.67	14255.70	14120.88
Claimed by the Petitioner in the instant petition	14801.62	14754.67	14748.79	14663.57	14644.62
Approved after true-up in this order	14781.27	14736.51	14734.19	14650.13	14632.48

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

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

Particulars	(₹ in lakh)				
	2019-20	2020-21	201-22	2022-23	2023-24
Depreciation	4491.15	4489.81	4489.81	1176.96	1176.96
Interest on Loan	1083.99	788.77	501.58	320.46	250.58
Return on Equity	4955.31	4955.31	4955.31	4955.31	4955.31
Interest on Working Capital	271.25	271.33	271.09	222.68	225.50
Operation and Maintenance	2590.53	2682.21	2775.99	2874.13	2972.09
<b>Total</b>	<b>13392.23</b>	<b>13187.43</b>	<b>12993.78</b>	<b>9549.54</b>	<b>9580.44</b>

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

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	215.88	223.52	231.33	239.51	247.67
Maintenance Spares	388.58	402.33	416.40	431.12	445.81
Receivables	1646.59	1625.85	1601.97	1177.34	1177.92
<b>Total</b>	<b>2251.05</b>	<b>2251.70</b>	<b>2249.70</b>	<b>1847.97</b>	<b>1871.40</b>
Rate of Interest	12.05%	12.05%	12.05%	12.05%	12.05%
<b>Interest on Working Capital</b>	<b>271.25</b>	<b>271.33</b>	<b>271.09</b>	<b>222.68</b>	<b>225.50</b>

#### **Capital Cost**

38. Regulation 19 of the 2019 Tariff Regulations provides as follows:

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



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

- (3) *The Capital cost of an existing project shall include the following:*
- (a) *Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;*
  - (b) *Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;*
  - (c) *Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
  - (d) *Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
  - (e) *Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal up to the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and*

*(f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.”*

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

*(a) cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and*

*(b) cost of the developer’s 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) project in the affected area.*

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

*(a) The asset forming part of the project, but not in use, as declared in the tariff petition;*

*(b) De-capitalised Asset after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:*

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

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

*(c) In case of hydro generating stations, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State Government by following a transparent process;*

*(d) Proportionate cost of land of the existing project which is being used for generating power from generating station based on renewable energy; and*

*(e) Any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment.”*

39. The Petitioner has claimed capital cost of ₹87944.31 lakh as on 31.3.2019 in respect of the Combined Asset. Against the overall approved capital cost (as per RCE) of ₹96239.00 lakh, the estimated completion cost including ACE is ₹87944.31 lakh as on 31.3.2024. The Petitioner has not claimed any ACE for 2019-24 period. Accordingly, the admitted capital cost of ₹87944.31 lakh as on 31.3.2019 as trued up in above paragraphs is considered as the capital cost as on 1.4.2019 for the purpose of determination of tariff for 2019-24 tariff period.



## **Debt-Equity Ratio**

40. Regulations 18 of the 2019 Tariff Regulations provides as follows:

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

*Provided that:*

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

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

41. The details of debt-equity considered for the purpose of computation of tariff for 2019-24 tariff period in respect of the Combined Asset are as follows:

Particulars	Capital Cost as on 1.4.2019 (₹ in lakh)	(%)	Total Capital Cost as on 31.3.2024 (₹ in lakh)	(%)
Debt	61561.02	70.00	61561.02	70.00
Equity	26383.29	30.00	26383.29	30.00
<b>Total</b>	<b>87944.31</b>	<b>100.00</b>	<b>87944.31</b>	<b>100.00</b>

### Depreciation

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

**“33. Depreciation:** (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system or element thereof including communication system. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units:

*Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.*

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of a transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:

*Provided that the salvage value for IT equipment and software shall be considered as NIL and 100% value of the assets shall be considered depreciable;*

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

*Provided also that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciated value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff:*



*Provided also that any depreciation disallowed on account of lower availability of the generating station or unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life or the extended life.*

*(4) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset*

*(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-I to these regulations for the asset of the generating station and transmission system:*

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

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

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

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

43. The IT equipment has been considered as a part of the Gross Block and depreciated using Weighted Average Rate of Depreciation (WAROD). WAROD at Annexure-II has been worked out after taking into account the depreciation rates of IT and non-IT assets as prescribed in the 2019 Tariff Regulations. The salvage value of IT equipment has been considered nil, i.e. IT asset has been considered as 100% depreciable. The Combined Asset has already completed 12 years of life as on 31.3.2022. The remaining depreciable value of ₹22410.21 lakh has been spread across the balance useful life of 19 years in accordance with Regulation 33(5) of 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 in respect of the Combined Asset is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	87944.31	87944.31	87944.31	87944.31	87944.31
Addition during the year 2019-24 due to projected ACE	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	87944.31	87944.31	87944.31	87944.31	87944.31
Average Gross Block	87944.31	87944.31	87944.31	87944.31	87944.31
Weighted average rate of Depreciation (WAROD) (%)	5.13	5.13	5.13	1.34	1.34
Lapsed useful life at the beginning of the year	9.00	10.00	11.00	12.00	13.00
Balance useful life at the beginning of the year "(Year)	22.00	21.00	20.00	19.00	18.00
Aggregated Depreciable Value	77508.85	77508.85	77508.85	77508.85	77508.85
<b>Combined Depreciation during the year</b>	<b>4515.02</b>	<b>4515.02</b>	<b>4515.02</b>	<b>1179.48</b>	<b>1179.48</b>
Aggregate Cumulative Depreciation at the end of the year	46068.61	50583.63	55098.65	56278.13	57457.61
Remaining Aggregate Depreciable Value at the end of the year	31440.24	26925.22	22410.21	21230.72	20051.24

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

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

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

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

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

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

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



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

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

*(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.*

*(7) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing”.*

45. The weighted average rate of IoL has been considered on the basis of the rates prevailing as on 1.4.2019. The Petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during 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 above, IoL has been worked out in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed is follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	61561.02	61561.02	61561.02	61561.02	61561.02
Cumulative Repayments up to Previous Year	41553.59	46068.61	50583.63	55098.65	56278.13
Net Loan-Opening	20007.43	15492.41	10977.39	6462.38	5282.89
Addition due to ACE	0.00	0.00	0.00	0.00	0.00
Repayment during the year	4515.02	4515.02	4515.02	1179.48	1179.48
Net Loan-Closing	15492.41	10977.39	6462.38	5282.89	4103.41
Average Loan	17749.92	13234.90	8719.89	5872.63	4693.15
Weighted Average Rate of Interest on Loan (%)	6.131	5.980	5.765	5.462	5.343
<b>Interest on Loan</b>	<b>1088.26</b>	<b>791.47</b>	<b>502.73</b>	<b>320.79</b>	<b>250.77</b>

### **Return on Equity (RoE)**

46. 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 due to Change in Law, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system;*

*Provided further that:*

*i. In case of a new project, the rate of return on equity shall be reduced by 1.00% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO) or Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system based on the report submitted by the respective RLDC;*

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

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

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

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

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

**31. Tax on Return on Equity:** (1) The base rate of return on equity as allowed by the Commission under Regulation 30 of these regulations shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax paid on income from other businesses including deferred tax liability (i.e. income from business other than business of generation or transmission, as the case may be) shall be excluded for the calculation of effective tax rate.

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

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

Where “t” is the effective tax rate in accordance with clause (1) of this Regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the



relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), "t" shall be considered as MAT rate including surcharge and cess.

**Illustration-**

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

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

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

- (a) Estimated Gross Income from generation or transmission business for FY 2019-20 is Rs 1,000 crore;
- (b) Estimated Advance Tax for the year on above is Rs 240 crore;
- (c) Effective Tax Rate for the year 2019-20 = Rs 240 Crore / Rs 1000 Crore = 24%;
- (d) Rate of return on equity =  $15.50 / (1 - 0.24) = 20.395\%$ .

(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2019-24 on actual gross income of any financial year. However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee, as the case may be. Any under-recovery or over-recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long term customers, as the case may be, on year to year basis."

47. The Petitioner has submitted that MAT rate is applicable to the Petitioner's company. The MAT rate applicable in 2019-20 has been considered for the purpose of RoE, which shall be trued up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. RoE allowed in respect of the Combined Asset under Regulation 30 of the 2019 Tariff Regulations is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	26383.29	26383.29	26383.29	26383.29	26383.29
Addition due to ACE	0.00	0.00	0.00	0.00	0.00
Closing Equity	26383.29	26383.29	26383.29	26383.29	26383.29
Average Equity	26383.29	26383.29	26383.29	26383.29	26383.29
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500



Tax Rate applicable (%)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (Pre-tax)	18.782	18.782	18.782	18.782	18.782
<b>Return on Equity (Pre-tax)</b>	<b>4955.31</b>	<b>4955.31</b>	<b>4955.31</b>	<b>4955.31</b>	<b>4955.31</b>

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

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

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

<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
<b>Norms for sub-station Bays (₹ Lakh per bay)</b>					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
132 kV and below	16.08	16.64	17.23	17.83	18.46
<b>Norms for Transformers (₹ Lakh per MVA)</b>					
765 kV	0.491	0.508	0.526	0.545	0.564
400 kV	0.358	0.371	0.384	0.398	0.411
220 kV	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.245	0.254	0.263	0.272	0.282
<b>Norms for AC and HVDC lines (₹ Lakh per km)</b>					
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-conductors)	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple Conductor)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single Conductor)	0.252	0.260	0.270	0.279	0.289
Double Circuit (Bundled conductor with four or more sub-conductors)	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
<b>Norms for HVDC stations</b>					
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (₹ Lakh per 500 MW)	1,666	1,725	1,785	1,848	1,913
500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)	2,468	2,555	2,645	2,738	2,834



$\pm 500$ kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)	1,696	1,756	1,817	1,881	1,947
$\pm 800$ kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)	2,563	2,653	2,746	2,842	2,942

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

*Provided further that:*

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

49. The O&M Expenses claimed by the Petitioner in respect of the Combined Asset are as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Sub-station Bays</b>					
400 kV-Arasur/Coimbatore: ICT-I and II Bay	2	2	2	2	2
400 kV-Warangal: Ramagundam Bay	1	1	1	1	1
400 kV-Warangal: Khammam Bay	1	1	1	1	1
400 kV-Pugalur: Neyveli-I and II Bay	2	2	2	2	2
400 kV-Pugalur: Madurai-I and II Bay	2	2	2	2	2
400 kV-Madurai: Pugalur-I and II Bay	2	2	2	2	2
400 kV-Udumalpet: Arasur-I and II Bay	2	2	2	2	2
400 kV-Arasur/Coimbatore: Udumalpet -I and II Bay	2	2	2	2	2
400 kV-Puducherry: Neyveli TS-II Bay	1	1	1	1	1
400 kV-Puducherry: Sriperumbudur Bay	1	1	1	1	1
400 kV-Pugalur:Line Reactor Bay for Neyveli I and II	2	2	2	2	2
400 kV-Puducherry: ICT-I and II Bay	2	2	2	2	2
400 kV-Pugalur:ICT-I and II Bay	2	2	2	2	2
400 kV-Warangal: ICT- I and II Bay	2	2	2	2	2
220 kV-Warangal: Nagaram-I and II Bay	2	2	2	2	2
220 kV-Warangal: Durshed-I and II Bay	2	2	2	2	2
220 kV-Puducherry: Thodamanatham I and II Bay	2	2	2	2	2
220 kV-Puducherry:Bahoor Bay	1	1	1	1	1
220 kV-Puducherry:Villianur Bay	1	1	1	1	1
220 kV-Arasur/Coimbatore: ICT-I and II Bay	2	2	2	2	2
220 kV-Arasur/ Coimbatore: Palladam Bay	1	1	1	1	1
220 kV-Arasur/ Coimbatore: Karamadai Bay	1	1	1	1	1
220 kV-Puducherry: ICT-I and II Bay	2	2	2	2	2



220 kV-Pugalur: Pugalur I and II Bay	2	2	2	2	2
220 kV-Pugalur:Myvadi Bay	1	1	1	1	1
220 kV-Pugalur:Alandur Bay	1	1	1	1	1
220 kV-Warangal: ICT-I and II Bay	2	2	2	2	2
220 kV-Arasur/Coimbatore: Arasur-I and II Bay	2	2	2	2	2
220 kV-Pugalur: ICT I and II Bay	2	2	2	2	2
<b>Norm (₹ lakh/bay)</b>					
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
<b>Total Sub-station O&amp;M Expenses</b>	<b>1311.84</b>	<b>1357.92</b>	<b>1405.68</b>	<b>1454.88</b>	<b>1506.00</b>
<b>AC Transmission Lines</b>					
LILO of Ramagundam-Khammam TL at Warrangal 400 kV S/S Double Circuit Line (Twin/ Triple Conductor) (km)	13.619	13.619	13.619	13.619	13.619
Pugalur-Madurai 400 kV Double Circuit Line (Twin/ Triple Conductor) (km)	123.643	123.643	123.643	123.643	123.643
Neyveli-Pugalur 400 kV Double Circuit Line (Twin/ Triple Conductor) (km)	198.047	198.047	198.047	198.047	198.047
Udumalpet Asasur 400 kV Double Circuit Line (Twin/ Triple Conductor) (km)	65.116	65.116	65.116	65.116	65.116
LILO of Neyveli-Sriperumbudur at Pondicherry 400 kV Double Circuit Line (Twin/ Triple Conductor) (km)	12.543	12.543	12.543	12.543	12.543
LILO of Ramagundam-Khammam TL at Warrangal S/S 400 kV Single Circuit Line (Twin/ Triple Conductor) (km)	0.558	0.558	0.558	0.558	0.558
Neyveli-Pugalur 400 kV Single Circuit Line (Twin/ Triple Conductor) (km)	1.624	1.624	1.624	1.624	1.624
<b>Norm (₹ lakh/km)</b>					
Double Circuit Line (Twin/ Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Single Circuit Line (Twin/ Triple Conductor)	0.503	0.521	0.539	0.558	0.578
<b>Total Transmission Line</b>	<b>364.92</b>	<b>377.76</b>	<b>391.02</b>	<b>404.69</b>	<b>418.77</b>
<b>Transformer</b>					
400 kV-Pugalur: ICT-1 & 2 at Pugalur	630	630	630	630	630
400 kV-Arasur/Coimbatore: ICT 1 & 2 AT Arasur	630	630	630	630	630





400 kV-Puducherry: ICT-1 & 2 at Pondy	630	630	630	630	630
400 kV-Warangal: ICT I and II at Warangal	630	630	630	630	630
<b>Norm (₹ lakh/MVA capacity)</b>					
400 kV	0.358	0.371	0.384	0.398	0.411
<b>Total Transformer</b>	<b>902.16</b>	<b>934.92</b>	<b>967.68</b>	<b>1002.96</b>	<b>1035.72</b>
<b>Communication System</b>					
PLCC (₹ in lakh)	579.83	579.83	579.83	579.83	579.83
<b>Norms (%)</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>
<b>Total Communication System</b>	<b>11.60</b>	<b>11.60</b>	<b>11.60</b>	<b>11.60</b>	<b>11.60</b>
<b>Total O&amp;M Expenses</b>	<b>2590.52</b>	<b>2682.20</b>	<b>2775.97</b>	<b>2874.12</b>	<b>2972.09</b>

50. The Petitioner has claimed O&M Expenses separately for PLCC under Regulation 35(4) of the 2019 Tariff Regulations @2% of its original project cost in the instant petition. The Petitioner has made similar claim in other petitions as well. Though PLCC is a communication system, it has been considered as part of sub-station in the 2014 Tariff Regulations and the 2019 Tariff Regulations and the norms for sub-station have been specified accordingly. Accordingly, the Commission vide order dated 24.1.2021 in Petition No.126/TT/2020 has already concluded that no separate O&M Expenses can be allowed for PLCC under Regulation 35(4) of the 2019 Tariff Regulations even though PLCC is a communication system. Therefore, the Petitioner's claim for separate O&M Expenses for PLCC @2% is not allowed.

51. Accordingly, O&M Expenses allowed in respect of the Combined Asset covered in the instant petition are as follows:

	(₹ in lakh)				
<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
<b>Sub-station Bays</b>					
400 kV-Arasur/Coimbatore:ICT-I and II Bay	2	2	2	2	2
400 kV-Warangal:Ramagundam Bay	1	1	1	1	1
400 kV-Warangal:Khammam Bay	1	1	1	1	1
400 kV-Pugalur:Neyveli-I and II Bay	2	2	2	2	2



400 kV-Pugalur:Madurai-I and II Bay	2	2	2	2	2
400 kV-Madurai:Pugalur-I and II Bay	2	2	2	2	2
400 kV-Udumalpet:Arasur-I and II Bay	2	2	2	2	2
400 kV-Arasur/Coimbatore: Udumalpet -I and II Bay	2	2	2	2	2
400 kV-Puducherry:Neyveli TS-II Bay	1	1	1	1	1
400 kV-Puducherry:Sriperumbudur Bay	1	1	1	1	1
400 kV-Pugalur:Line Reactor Bay for Neyveli I and II	2	2	2	2	2
400 kV-Puducherry:ICT-I and II Bay	2	2	2	2	2
400 kV-Pugalur:ICT-I and II Bay	2	2	2	2	2
400 kV-Warangal:ICT- I and II Bay	2	2	2	2	2
220 kV-Warangal:Nagaram-I and II Bay	2	2	2	2	2
220 kV-Warangal:Durshed-I and II Bay	2	2	2	2	2
220 kV-Puducherry:Thodamanatham I and II Bay	2	2	2	2	2
220 kV-Puducherry:Bahoor Bay	1	1	1	1	1
220 kV-Puducherry:Villianur Bay	1	1	1	1	1
220 kV-Arasur/Coimbatore:ICT-I and II Bay	2	2	2	2	2
220 kV-Arasur/Coimbatore:Palladam Bay	1	1	1	1	1
220 kV-Arasur/Coimbatore:Karamadai Bay	1	1	1	1	1
220 kV-Puducherry:ICT-I and II Bay	2	2	2	2	2
220 kV-Pugalur:Pugalur I and II Bay	2	2	2	2	2
220 kV-Pugalur:Myvadi Bay	1	1	1	1	1
220 kV-Pugalur:Alandur Bay	1	1	1	1	1
220 kV-Warangal:ICT-I and II Bay	2	2	2	2	2
220 kV-Arasur/Coimbatore:Arasur-I and II Bay	2	2	2	2	2
220 kV-Pugalur:ICT I and II Bay	2	2	2	2	2
<b>Norm (₹ lakh/bay)</b>					
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
<b>Total Sub-station O&amp;M Expenses</b>	<b>1311.84</b>	<b>1357.92</b>	<b>1405.68</b>	<b>1454.88</b>	<b>1506.00</b>
<b>AC Transmission Lines</b>					



LILO of Ramagundam-Khammam TL at Warrangal 400 kV S/S Double Circuit Line (Twin/ Triple Conductor)	13.619	13.619	13.619	13.619	13.619
Pugalur-Madurai 400 kV Double Circuit Line (Twin/ Triple Conductor)	123.643	123.643	123.643	123.643	123.643
Neyveli-Pugalur 400 kV Double Circuit Line (Twin/ Triple Conductor)	198.047	198.047	198.047	198.047	198.047
Udumalpet Asasur 400 kV Double Circuit Line (Twin/ Triple Conductor)	65.116	65.116	65.116	65.116	65.116
LILO of Neyveli-Sriperumbudur at Pondicherry 400 kV Double Circuit Line (Twin/ Triple Conductor)	12.543	12.543	12.543	12.543	12.543
LILO of Ramagundam-Khammam TL at Warrangal S/S 400 kV Single Circuit Line (Twin/ Triple Conductor)	0.558	0.558	0.558	0.558	0.558
Neyveli-Pugalur 400 kV Single Circuit Line (Twin/ Triple Conductor)	1.624	1.624	1.624	1.624	1.624
<b>Norm (₹ lakh/KM)</b>					
Double Circuit Line (Twin/ Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Single Circuit Line (Twin/ Triple Conductor)	0.503	0.521	0.539	0.558	0.578
<b>Total Transmission Line O&amp;M Expenses</b>	<b>364.92</b>	<b>377.76</b>	<b>391.02</b>	<b>404.69</b>	<b>418.77</b>
<b>Transformer</b>					
400 kV-Pugalur:ICT-1 & 2 at Pugalur (2X315 MVA)	630	630	630	630	630
400 kV-Arasur/Coimbatore:ICT 1 & 2 at Arasur (2X315 MVA)	630	630	630	630	630
400 kV-Puducherry:ICT-1 & 2 at Pondy chery (2x315 MVA)	630	630	630	630	630
400 kV-Warangal:ICT I and II at Warangal (2X315 MVA)	630	630	630	630	630
<b>Norm (₹lakh/MVA capacity)</b>					
400 kV	0.358	0.371	0.384	0.398	0.411
<b>Total Transformer O&amp;M Expenses</b>	<b>902.16</b>	<b>934.92</b>	<b>967.68</b>	<b>1002.96</b>	<b>1035.72</b>
<b>Total O&amp;M Expenses</b>	<b>2578.92</b>	<b>2670.60</b>	<b>2764.38</b>	<b>2862.53</b>	<b>2960.49</b>



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

52. Regulations 34(1)(c), 34(3) and 34(4) and 3(7) of the 2019 Tariff Regulations provides as follows:

**“34. Interest on Working Capital:**

*(1) The working capital shall cover:*

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

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

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

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

*(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2019 or as on 1st April of the year during the tariff period 2019-24 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later:*

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

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

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

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

53. The Petitioner has submitted that it has computed IWC for 2019-24 period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of IWC as 12.05%. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The rate of IWC considered is 12.05% (SBI 1 year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20 and 11.25% (SBI 1 year MCLR applicable as on 1.4.2020 of 7.75% plus 350



basis points) for 2020-24. The components of the working capital and interest allowed thereon is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
O & M Expenses (O&M expenses for One month)	214.91	222.55	230.36	238.54	246.71
Maintenance Spares (15% of O&M expenses)	386.84	400.59	414.66	429.38	444.07
Receivables (Equivalent to 45 days of annual fixed cost / annual transmission charges)	1648.61	1625.60	1601.53	1174.36	1174.91
<b>Total</b>	<b>2250.36</b>	<b>2248.74</b>	<b>2246.55</b>	<b>1842.28</b>	<b>1865.69</b>
Rate of Interest (%)	12.05	11.25	11.25	11.25	11.25
<b>Interest of working capital</b>	<b>271.17</b>	<b>252.98</b>	<b>252.74</b>	<b>207.26</b>	<b>209.89</b>

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

54. The transmission charges allowed in respect of the Combined Asset for 2019-24 tariff period are as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	4515.02	4515.02	4515.02	1179.48	1179.48
Interest on Loan	1088.26	791.47	502.73	320.79	250.77
Return on Equity	4955.31	4955.31	4955.31	4955.31	4955.31
Interest on Working Capital	271.17	252.98	252.74	207.26	209.89
Operation and Maintenance	2578.92	2670.60	2764.38	2862.53	2960.49
<b>Total</b>	<b>13408.68</b>	<b>13185.39</b>	<b>12990.17</b>	<b>9525.37</b>	<b>9555.94</b>

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

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

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



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

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

### **Goods and Services Tax**

58. The Petitioner has submitted that if GST is levied at any rate and at any point of time in future on charges of transmission of electricity, the same shall be borne and additionally paid by the Respondent(s) to the Petitioner and the same shall be charged and billed separately by the Petitioner. Further additional taxes, if any, are to be paid by the Petitioner on account of demand from Govt. / Statutory authorities, the same may be allowed to be recovered from the beneficiaries.

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

### **Security Expenses**

60. The Petitioner has submitted that security expenses in respect of the Combined Asset are not claimed in the instant petition and it would file a separate petition for claiming the overall security expenses and the consequential IWC. The Petitioner has requested to consider the actual security expenses incurred during 2018-19 for claiming estimated security expenses for 2019-20 which shall be subject to true up at the end of the year based on the actuals. The Petitioner has submitted that similar petition for security expenses for 2020-21, 2021-22, 2022-23 and 2023-24 will be filed on yearly basis on the basis of the actual expenses of previous year subject to true up



at the end of the year on actual expenses. The Petitioner has submitted that the difference, if any, between the estimated security expenses and actual security expenses as the audited accounts may be allowed to be recovered from the beneficiaries on a yearly basis.

61. We have considered the submissions of the Petitioner. We are of the view that the Petitioner should claim security expenses for all the transmission assets in one petition. It is observed that the Petitioner has already filed Petition No. 260/MP/2020 claiming consolidated security expenses on projected basis for the 2019-24 tariff period on the basis of actual security expenses incurred in 2018-19.

62. Therefore, security expenses will be dealt with in Petition No. 260/MP/2020 in accordance with the applicable provisions of the 2019 Tariff Regulations.

### **Capital Spares**

63. 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**

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



Billing, collection and disbursement of transmission charges for subsequent period shall be recovered in terms of provisions of the 2020 Sharing Regulations as provided in Regulation 57 of the 2019 Tariff Regulations.

65. To summarise:,

a) The trued-up Annual Fixed Charges allowed in respect of the Combined Asset for 2014-19 tariff period are as follows:

	(₹ in lakh)				
Combined Asset	2014-15	2015-16	2016-17	2017-18	2018-19
AFC	14781.27	14736.51	14734.19	14650.13	14632.48

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

	(₹ in lakh)				
Combined Asset	2019-20	2020-21	2021-22	2022-23	2023-24
AFC	13408.68	13185.39	12990.17	9525.37	9555.94

66. The Annexure-I and Annexure-II given hereinafter form part of the order.

67. This order disposes of Petition No. 480/TT/2020 in terms of the above discussions and findings.

sd/-  
(Pravas Kumar Singh)  
Member

sd/-  
(Arun Goyal)  
Member

sd/-  
(I.S. Jha)  
Member

sd/-  
(P. K. Pujari)  
Chairperson





## Annexure – I

2014-19 Capital Expenditure as on COD	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depre- ciatio n (%)	Annual Depreciation as per Regulations				
		2014-15			2014-15 (₹ in lakh)	2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Free Hold Land	985.77	856.26	1842.03	0.00	0.00	0.00	0.00	0.00	0.00
Building	2762.90	0.00	2762.90	3.34	92.28	92.28	92.28	92.28	92.28
Transmission Line	50992.13	0.00	50992.13	5.28	2692.38	2692.38	2692.38	2692.38	2692.38
Sub Station	31599.42	0.00	31599.42	5.28	1668.45	1668.45	1668.45	1668.45	1668.45
PLCC	579.83	0.00	579.83	6.33	36.70	36.70	36.70	36.70	36.70
IT Equipment and software	168.00	0.00	168.00	5.28	8.87	8.87	8.87	8.87	8.87
<b>TOTAL</b>	<b>87088.05</b>	0.00	<b>87944.31</b>		<b>4498.69</b>	<b>4498.69</b>	<b>4498.69</b>	<b>4498.69</b>	<b>4498.69</b>
<b>Average Gross Block (₹ in lakh)</b>					87516.18	87944.31	87944.31	87944.31	87944.31
<b>Weighted Average Rate of Depreciation (%)</b>					5.14	5.12	5.12	5.12	5.12



## Annexure – II

2019-24 Capital Expenditure as on 1.4.2019	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations				
				2019-20 (₹ in lakh)	2020-21 (₹ in lakh)	2021-22 (₹ in lakh)	2022-23 (₹ in lakh)	2023-24 (₹ in lakh)
Free Hold Land	1842.03	1842.03	0.00	0.00	0.00	0.00		
Building	2762.90	2762.90	3.34	92.28	92.28	92.28		
Transmission Line	50992.13	50992.13	5.28	2692.38	2692.38	2692.38		
Sub Station	31599.42	31599.42	5.28	1668.45	1668.45	1668.45		
PLCC	579.83	579.83	6.33	36.70	36.70	36.70		
IT Equipment and software	168.00	168.00	15.00	25.20	25.20	25.20		
<b>TOTAL</b>	<b>87944.31</b>	<b>87944.31</b>		<b>4515.02</b>	<b>4515.02</b>	<b>4515.02</b>	<b>1179.48</b>	<b>1179.48</b>
		<b>Average Gross Block (₹ in lakh)</b>		87944.31	87944.31	87944.31	87944.31	87944.31
		<b>Weighted Average Rate of Depreciation (%)</b>		5.13	5.13	5.13	1.34	1.34

