

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 123/TT/2020**

**Coram:**

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

**Date of Order: 21.07.2021**

**In the matter of:**

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and revision of transmission tariff of 2004-09 and 2009-14 tariff periods, truing up of transmission tariff of the 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of the 2019-24 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 of Madurai-Trivandrum 400 kV D/C Transmission System in Southern Region.

**And in the matter of:**

Power Grid Corporation of India Ltd.,  
"SAUDAMINI", Plot No-2,  
Sector-29, Gurgaon-122001 (Haryana).

**.....Petitioner**

**Versus**

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.,  
(Formerly Tamil Nadu Electricity Board-TNEB),  
NPKRR Maaligai, 800, Anna Salai, Chennai-600002.
5. Electricity Department,  
Govt. of Pondicherry, Pondicherry-605001.



6. Eastern Power Distribution Company of Andhra Pradesh Ltd.,  
P&T Colony, Seethmadhara, Vishakhapatnam,  
Andhra Pradesh.
7. Southern Power Distribution Company of Andhra Pradesh Ltd.,  
Srinivasasa Kalyana Mandapam Backside,  
Tiruchanoor Road, Kesavayana Gunta,  
Chittoor District, Andhra Pradesh, Tirupati-517501.
8. Southern Power Distribution Company of Telangana Ltd.,  
Corporate Office, Mint Compound,  
Telangana, Hyderabad-500063.
9. Northern Power Distribution Company of Andhra Pradesh Ltd.,  
Opposite NIT Petrol Pump, Chaitanyapuri, Kazipet,  
Telangana, Warangal-506004.
10. Bangalore Electricity Supply Company Ltd.,  
Corporate Office, K. R. Circle,  
Bangalore, Karnataka-560001.
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-575001, Karnataka.
14. Chamundeswari Electricity Supply Corporation Ltd.,  
927, L J Avenue, Ground Floor, New Kantharaj URS Road,  
Saraswatipuram, Mysore-570009, Karnataka.
15. Electricity Department,  
Govt. of Goa, Vidyuti Bhawan, Panaji,  
Goa-403001.
16. Transmission Corporation of Telangana Ltd.,  
Vidhyut Sudha, Khairatabad,  
Hyderabad-500082.
17. Tamil Nadu Transmission Corporation,  
NPKRR Maaligai, 800, Anna Salai  
Chennai-600002.

.....Respondent(s)



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

**For Respondent:** Shri B. Vinodh Kanna, Advocate, TANGEDCO  
Shri. R. Srinivasan, TANGEDCO  
Ms. R. Ramalakshmi, TANGEDCO

### **ORDER**

The instant petition has been filed by the Petitioner, Power Grid Corporation of India Ltd., a deemed transmission licensee, for revision of transmission tariff of the 2004-09 and 2009-14 tariff periods, truing up of transmission tariff 2014-19 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) and for determination of tariff of 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 transmission asset i.e. Madurai-Trivandrum (now Thiruvananthapuram) 400 kV D/C Transmission System in Southern Region.

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

- “1) Approve the revised Transmission Tariff for 2004-09 block and transmission tariff for 2009-14 block for the assets covered under this petition, as per para 8 above.*
- 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 9 and 10 above.*
- 3) A. Allow the Petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2014 and Tariff regulations 2019 as per para 9 and 10 above for respective block.*  
  
*B. It is further submitted that deferred tax liability before 01.04.2009 shall be recoverable from the beneficiaries or long term transmission customers /DICs as the case may be, as and when materialized as per regulation 49 of 2014 and*

Page 3 of 49



*regulation 67 of 2019 tariff regulation. The Petitioner may be allowed to recover the deferred tax liability materialized directly without making any application before the commission as provided in the regulation.*

- 4) *Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, and other expenditure ( if any) in relation to the filing of petition.*
- 5) *Allow the Petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.*
- 6) *Allow the Petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2019-24 period, if any, from the respondents.*
- 7) *Allow the Petitioner to 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 10.5 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”*

### **3. Backdrop of the case**

a. The investment approval for the transmission asset was accorded by the Board of Directors (BOD) of the Petitioner company under Memo dated 22.11.2000 at an estimated cost of ₹19597.00 lakh, which included IDC of ₹2371.00 lakh. Revised Cost Estimate (RCE) was approved by BOD of the Petitioner company as per Memorandum dated 30.1.2006 for ₹26003.00 lakh, including IDC of ₹3422.00 lakh. Further, RCE-II was approved by BOD of the Petitioner company vide Memorandum No. C/CP/PA2021-05-0H-RCE002 dated 2.9.2020 for ₹28906.00 lakh, including IDC of ₹3323.00 lakh.

b. The scope of work of the transmission asset is as follows:



**Transmission Line:**

400 kV D/C Madurai-Thiruvananthapuram Transmission Line.

**Sub-stations:**

- i. 400/220 kV, Thiruvananthapuram Sub-station (New) with 2x315 MVA transformation capacity;
- ii. 400 kV Madurai (Extension) Sub-station with associated bays.

c. The transmission tariff of the transmission asset from 1.8.2005 to 31.3.2009 was allowed vide order dated 13.2.2006 in Petition No. 137/2005. The revised transmission tariff from 1.8.2005 to 31.3.2009 after accounting for Additional Capital Expenditure (ACE) during 2005-06 was allowed vide order dated 6.2.2007 in Petition No. 136/2006. The transmission tariff so allowed was revised subsequently vide order dated 7.6.2007 in I.A. No. 19/2007 in Petition No. 136/2006 on account of some inadvertent mathematical errors in the computation of Interest on Loan (IoL) which also resulted in marginal adjustments in Interest on Working Capital (IWC).

d. The transmission tariff for the period from 1.4.2006 to 31.3.2009 was revised on account of ACE incurred during 2006-07 and 2007-08 vide order dated 17.6.2009 in Petition No. 45/2009. Thereafter, for the period from 1.4.2008 to 31.3.2009, on account of ACE incurred during 2008-09, the transmission tariff was further revised vide order dated 3.2.2010 in Petition No. 291/2009.

e. The transmission tariff for the period from 1.4.2009 to 31.3.2014 was allowed vide order dated 20.10.2010 in Petition No. 116/2010 based on admitted capital cost of ₹25503.69 lakh as on 31.3.2009 in accordance with the 2009 Tariff Regulations. The tariff for 2009-14 period was trued-up and tariff for the period from 1.4.2014 to 31.3.2019 was allowed vide order dated 30.12.2015 in Petition No. 407/TT/2014.

f. The transmission asset was scheduled to be commissioned by October 2003 but it was declared under commercial operation on 1.6.2005 with time over-run of about 21 months which was condoned by the Commission vide order dated 6.2.2007 in Petition No. 136/2006.



g. The Petitioner has sought revision of transmission tariff allowed for the 2004-09 tariff period on account of change in IoL and IWC to the extent of revision in IoL and in Maintenance Spares in terms of the judgments of the Appellate Tribunal for Electricity (APTEL) dated 22.1.2007 in Appeal No. 81/2005 and batch matters and 13.6.2007 in Appeal No. 139/2006 and batch matters; consequential revision of transmission tariff allowed for the 2009-14 tariff period; truing up of tariff of the 2014-19 tariff period; and determination of transmission tariff of the 2019-24 tariff period for the transmission system.

h. APTEL in judgment dated 22.1.2007 in Appeal No. 81 of 2005 and batch matters pertaining to generating stations of NTPC had considered 4 (four) issues. The issues considered by APTEL and its decisions are as given in the following table:

<b>Sr. No.</b>	<b>Issue</b>	<b>APTEL's decision/direction</b>
1	Whether APTEL can enquire into the validity of Regulations framed by the Commission	Challenge to the validity of Regulations framed by the Commission falls outside the purview of APTEL
2	Computation of interest on loan	In view of the order of APTEL dated 14.11.2016 in Appeal Nos. 94 and 96 of 2005 and order dated 24.1.2007 passed in Appeal Nos. 81 to 87, 89 to 93 of 2005, computation of loan has to be based on loan repayment on normative basis. The Commission is required to recalculate the loan outstanding as on 31.3.2004 based on loan repayment on normative basis
3(a)	O&M Expenses: Inadequate provision of employee costs as part of O&M Expenses due to variation in salary and wages	Commission's view upheld
3(b)	O&M Expenses: Non-inclusion of incentives and ex-gratia payment to employees	Commission's view upheld
4	Cost of spares for calculation of working capital	Commission's view upheld

i. APTEL in its judgment dated 13.6.2007 in Appeal No. 139 of 2006 and batch matters pertaining to generating stations of NTPC had considered 9 (nine) issues. The issues considered and the decisions of APTEL are given in the following table:



Sr. No.	Issue	APTEL's decision/direction
I	Computation of outstanding loan at the beginning of the tariff period i.e. 1.4.2004	The Commission is required to recalculate the loan outstanding as on 31.3.2004 based on loan repayment on normative basis
II	Consequence of refinance of loan	Commission to consider the issue afresh
III	Treating depreciation available as deemed repayment of loan	Commission to make a fresh computation of outstanding loan
IV	Admissibility of depreciation up to 90%	Commission to consider the issue afresh
V	Cost of Maintenance Spares	Commission to consider the issue afresh
VI	Impact of de-capitalisation of the assets on cumulative repayment of Loan	The cumulative repayment of the loan proportionate to the assets decapitalized required to be reduced. Commission to act accordingly
VII	Non-consideration of normative transit loss for coal import	Commission to consider afresh the transit losses for coal imported from coal mines other than the dedicated ones
VIII	Foreign Exchange Rate Variation (FERV)	FERV has been kept as pass through to ensure that any liability or gain, if any, arising on account of any variation in foreign exchange rates is passed on to the beneficiary as held in order dated 4.10.2006 in Appeal Nos. 135 to 140 of 2005. Commission to act accordingly
IX	Computation of interest on loan in Singrauli Station	Net loan closing at the end of a year is reflected as net loan opening on the first day of the next year. Commission shall re-compute the interest accordingly

j. The Commission and certain interested parties preferred Civil Appeals against APTEL's judgments before the Hon'ble Supreme Court in 2007. The Appeals were admitted and initially stay was granted by the Hon'ble Supreme Court. Subsequently, on an assurance by NTPC that the issues under Appeal would not be pressed for implementation during the pendency of the Appeals, the stay was vacated by the Hon'ble Supreme Court.

k. Based on APTEL's judgments dated 22.1.2007 and 13.6.2007, the Petitioner has sought re-determination of tariff of its transmission assets for the 2001-04 and 2004-09 tariff periods in Petition No. 121/2007. The Commission after taking into consideration the pendency of Appeals before the Hon'ble Supreme Court adjourned the said petition *sine die* and directed that the same be revived after the disposal of Civil Appeals by the Hon'ble Supreme Court.





l. The Hon'ble Supreme Court vide its judgment dated 10.4.2018, dismissed the said Civil Appeals filed against APTEL's said judgments. Thus, the judgments of APTEL have attained finality.

m. Consequent to the Hon'ble Supreme Court's order dated 10.4.2018, Petition No. 121/2007 was listed for hearing on 8.1.2019. The Commission vide order dated 18.1.2019 in Petition No. 121/2007, directed the Petitioner to submit its claim separately for the assets at the time of filing of truing up petition for 2014-19 tariff period.

n. The instant petition was heard on 8.6.2021 and in view of APTEL's judgments dated 22.1.2007 and 13.6.2007 and the order of Hon'ble Supreme Court dated 10.4.2018, tariff is being revised. Period wise tariff is being re-worked based on the Tariff Regulations applicable for the respective tariff periods and suitable assumptions have been made at certain places and applied, which are indicated.

4. The Respondents are distribution licensees and power departments, which are procuring transmission service from the Petitioner, mainly beneficiaries of 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 suggestions have been received from the general public in response to the aforesaid notices published in the newspapers. Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO), Respondent No. 4 has filed its reply vide affidavit dated 5.6.2021 and has raised issues of retrospective revision of tariff for 2004-09 and 2009-14 periods, cost over-run due to ACE claimed after the cut-off date, non-submission of RCE, applicability and recovery of GST and sharing of transmission charges. The issues raised by





TANGEDCO and the clarifications given by the Petitioner have been dealt in the relevant paragraphs of this order.

**Re: Interest on Loan (IoL)**

6. APTEL while dealing with the issue of computation of IoL, in judgment dated 22.1.2007 observed that IoL for the period from 1.4.1998 to 31.3.2001 shall be computed only on normative loan repayment as per its judgement dated 14.11.2006 in Appeal Nos. 94 and 96 of 2005. APTEL vide its judgment dated 14.11.2006 had set aside the Commission's methodology of computation of loan on the actual repayment basis or normative repayment whichever is higher and held that the Commission is required to adopt normative debt repayment methodology for working out IoL liability for the period from 1.4.1998 to 31.3.2001. In view of the above, the interest allowed for the 2004-09 tariff period is revised on the basis of the normative debt repayment methodology.

**Re: Additional Capital Expenditure (ACE)**

7. APTEL vide judgment dated 13.6.2007 in Appeal No. 139/2006 and others held that ACE after COD should also be considered for computation of maintenance spares. In view of the above, the maintenance spares to be considered for computation of working capital for 2004-09 period are also required to be revised taking into consideration ACE after COD.

**Re: Depreciation**

8. As regards depreciation, APTEL in its judgment dated 13.6.2007 in Appeal No. 139 of 2006 observed that depreciation is an expense and it cannot be deployed for deemed repayment of loan and accordingly directed the Commission to compute the outstanding loan afresh. In view of the above, the outstanding loan allowed for the transmission system for the 2004-09 period is revised in the instant order.



9. The revision of transmission tariff allowed for the 2004-09 tariff period necessitates the revision of transmission tariff allowed for the 2009-14 tariff period, which is also being done in the present order. The implementation of the directions of APTEL in judgments dated 22.1.2007 in Appeal No. 81 of 2005 and batch matters and dated 13.6.2007 in Appeal No. 139 of 2006 and batch matters was kept pending in case of the Petitioner awaiting the outcome of the Civil Appeals filed before the Hon'ble Supreme Court. Taking into consideration the facts of the case and keeping in view the interest of the consumers, we are of the view that the beneficiaries should not be burdened with the carrying cost for the difference in the tariff allowed earlier and allowed in the instant order for the 2004-09 and 2009-14 tariff periods. Therefore, we direct that the Petitioner will neither claim nor pay any carrying cost from or to the beneficiaries for the difference, if any, in the tariff allowed earlier and the tariff being allowed in the instant order. Further, the said difference in tariff shall be recovered/ paid over a period of six months from the date of issue of this order.

10. This order is issued considering the submissions made by the Petitioner in the petition vide affidavit dated 6.1.2020, the Petitioner's affidavit dated 5.5.2020 filed in compliance of Technical Validation letter, the Petitioner's affidavit dated 1.6.2021, TANGEDCO's reply vide affidavit dated 5.6.2021 and the Petitioner's rejoinder to TANGEDCO's reply filed vide affidavit dated 25.6.2021.

11. The hearing in this matter was held on 8.6.2021 through video conference and the order was reserved. Having heard the representatives of the Petitioner, learned counsel for TANGEDCO and after perusal of the materials on record, we proceed to dispose of the petition.



12. TANGEDCO has submitted that the Electricity Act, 2003 and the Tariff Regulations do not envisage/ permit retrospective revision of the bills that is proposed by the Petitioner. TANGEDCO has referred to judgment of the Hon'ble Supreme Court dated 3.3.2009 in the Civil Appeal No. 1110 of 2007 in the matter of U.P. Power Corporation Ltd. vs. NTPC Ltd. {(2009) 6 SCC 235}.

13. TANGEDCO has further submitted that distribution companies have large customer base, which keeps changing every year. The various parameters on the basis of which ARR is determined and also the basis on which tariff for consumers is determined keep changing and it is not possible to charge the tariff retrospectively. The consumers of one tariff period are different from that of the subsequent and earlier tariff periods. The arrears pertaining to two decades cannot be recovered from the present consumers and it is legally not tenable. Accordingly, TANGEDCO has prayed that retrospective revision of tariff may not be allowed to the Petitioner and that the Petitioner may be directed to file a fresh petition for true-up of 2014-19 tariff period and determination of tariff of 2019-24 tariff period.

14. In response, the Petitioner vide affidavit dated 20.5.2021, has submitted that TANGEDCO's claim that the retrospective revision of the bills is not envisaged, is erroneous and misconceived as there have been numerous instances wherein the tariffs for the past periods have been revised and the same is adjusted and recovered in tariff of subsequent years. The concept of true-up by its very nature relates to adjustments for the past period. The Petitioner has submitted that reliance placed by TANGEDCO on decision of the Hon'ble Supreme Court dated 3.3.2009 in the Civil Appeal No. 1110 of 2007 in the matter of U.P. Power Corporation Ltd. vs. NTPC



Ltd. {(2009) 6 SCC 235} is misplaced as the said decision has upheld the Commission's power to revise the tariff of any utility.

15. The Petitioner referring to the matter of Chhattisgarh State Power Distribution Company Ltd. vs. Chhattisgarh State Electricity Regulatory Commission {(2012) SCC Online APTEL 140, paragraphs 7.1 to 7.4} submitted that it is a settled position of law that if in the tariff order, an aspect has been decided against the Regulations, the same can be corrected in truing up. The Petitioner further submitted that in the instant matter, the Regulations which had been interpreted by the Commission in the tariff orders have subsequently been interpreted differently by APTEL. Therefore, at the stage of truing up, the consequential relief can be given to the Petitioner and accordingly, the Petitioner has prayed to approve the tariff as claimed in the Petition. The Petitioner has relied upon the Commission's orders dated 31.7.2020 and 5.3.2021 in Petition No. 288/TT/2019 and Petition No. 290/TT/2020 respectively, wherein similar contentions of BRPL have been rejected and the Commission has allowed revision of tariff for 2001-04, 2004-09 and 2009-14 tariff periods.

16. We have considered the submissions made by the Petitioner and TANGEDCO. We observe that the contentions of TANGEDCO regarding revision of tariff for 2001-04, 2004-09 and 2009-14 tariff periods are similar to that of BRPL. It was placed before us that the Commission has decided the issue in various petitions including Petition No. 288/TT/2019 and Petition No. 290/TT/2020. TANGEDCO had raised this issue in several other petitions as well and the Commission, in terms of its findings in Petition No. 288/TT/2019 and Petition No. 290/TT/2020, rejected the contentions of TANGEDCO. Accordingly, in terms of orders dated 31.7.2020 and 5.3.2021 in Petition No. 288/TT/2019 and Petition No. 290/TT/2020 respectively, we do not find any merit



in the submissions of TANGEDCO and, therefore, reject the same and proceed with revision of tariff of 2004-09 tariff periods and consequent revision in the tariff allowed for the 2009-14 tariff period.

**Revision of transmission charges allowed for the 2004-09 and 2009-14 Tariff Periods**

**2004-09 Period**

17. The Commission vide order dated 6.2.2007, 7.6.2007, 17.6.2009 and 3.2.2010 in Petition No. 136/2006, IA No. 19/2007 in Petition No. 136/2006, Petition No. 45/2009 and Petition No. 291/2009 respectively had allowed the following transmission charges for the transmission asset for the 2004-09 tariff period:

(₹ in lakh)

Particulars	2005-06 (Pro-rata 8 months)	2006-07	2007-08	2008-09
Depreciation	446.29	682.90	689.09	691.54
Interest on Loan	945.73	1390.22	1319.99	1219.07
Return on Equity	645.35	988.46	998.34	1002.48
Interest on Working Capital	60.20	95.03	98.57	107.44
O&M Expenses	302.02	471.39	489.80	509.79
Advance against Depreciation	-	180.84	319.83	797.71
<b>Total</b>	<b>2399.60</b>	<b>3808.84</b>	<b>3915.62</b>	<b>4328.02</b>

18. The Petitioner has claimed the following revised transmission charges for the transmission asset for the 2004-09 tariff period in the instant petition:

(₹ in lakh)

Particulars	2005-06 (Pro-rata 8 months)	2006-07	2007-08	2008-09
Depreciation	446.29	682.90	689.09	691.54
Interest on Loan	948.54	1398.49	1327.71	1226.13
Return on Equity	645.35	988.46	998.34	1002.48
Interest on Working Capital	60.46	96.63	100.51	109.62
O&M Expenses	302.02	471.39	489.80	509.79
Advance against Depreciation	-	185.99	325.75	806.41
<b>Total</b>	<b>2402.66</b>	<b>3823.86</b>	<b>3931.20</b>	<b>4345.98</b>



19. We have considered the submissions of the Petitioner. The transmission tariff is allowed for the transmission asset on the basis of the following:

- a) Admitted capital cost of ₹24333.47 lakh and ₹25503.69 lakh as on 1.8.2005 (COD) and 31.3.2009 respectively for the transmission asset;
- b) Weighted Average Rate of Interest on normative loan adopted from order dated 7.6.2007, 17.6.2009 and 3.2.2010 in Petition No. 136/2006, Petition No. 45/2009 and Petition No. 291/2009 respectively;
- c) Weighted Average Rate of Depreciation (WAROD), Rate of IWC and O&M Expenses as per order dated 6.2.2007, 17.6.2009 and 3.2.2010 in Petition No. 136/2006, Petition No. 45/2009 and Petition No. 291/2009 respectively; and
- d) ACE of ₹600.21 lakh, ₹372.81 lakh, ₹97.60 lakh and ₹99.60 lakh in the years 2005-06, 2006-07, 2007-08 and 2008-09 respectively as allowed by the Commission in order dated 6.2.2007, 17.6.2009 and 3.2.2010 in Petition No. 136/2006, Petition No. 45/2009 and Petition No. 291/2009 respectively.

20. In view of the above, the revised transmission charges approved for the transmission asset for the 2004-09 tariff period is as follows:

Particulars	(₹ in lakh)			
	2005-06 (Pro-rata 8 months)	2006-07	2007-08	2008-09
Depreciation	446.29	682.90	689.09	691.54
Interest on Loan	948.55	1398.44	1327.72	1226.18
Return on Equity	645.35	988.46	998.34	1002.48
Interest on Working Capital	60.46	96.12	99.97	109.05
O&M Expenses	302.02	471.39	489.80	509.79
Advance against Depreciation	-	186.00	325.75	806.41
<b>Total</b>	<b>2402.67</b>	<b>3823.31</b>	<b>3930.68</b>	<b>4345.45</b>

21. The Annual Fixed Charges (AFC) allowed earlier for the 2004-09 period vide order dated 6.2.2007, 17.6.2009 and 3.2.2010 in Petition No. 136/2006, Petition No. 45/2009 and Petition No. 291/2009, revised AFC claimed in the instant petition and the revised AFC approved in the instant order is as follows:



(₹ in lakh)

Particulars	2005-06 (Pro-rata 8 months)	2006-07	2007-08	2008-09
AFC allowed vide order dated 6.2.2007, 17.6.2009 and 3.2.2010 in Petition No. 136/2006, Petition No. 45/2009 and Petition No. 291/2009	2399.60	3808.84	3915.62	4328.02
AFC claimed by the Petitioner in the instant petition	2402.66	3823.86	3931.20	4345.98
AFC approved in the instant order	2402.67	3823.31	3930.68	4345.45

### **2009-14 Tariff Period**

22. The Commission vide order dated 20.10.2010 in Petition No. 116/2010 had allowed the tariff for the transmission asset for the 2009-14 tariff period which was trued-up vide order dated 30.12.2015 in Petition No. 407/TT/2014. The trued-up tariff allowed vide order dated 30.12.2015 is as follows:

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	1302.70	1303.97	1310.17	1317.19	1323.00
Interest on Loan	1110.46	1007.12	913.87	809.72	702.84
Return on Equity	1340.48	1390.98	1399.16	1406.89	1430.30
Interest on Working Capital	111.75	112.59	112.98	113.26	113.90
O&M Expenses	670.01	708.39	748.94	791.73	836.93
<b>Total</b>	<b>4535.39</b>	<b>4523.06</b>	<b>4485.13</b>	<b>4438.78</b>	<b>4406.96</b>

23. The Petitioner has claimed the following revised transmission charges for the transmission asset for the 2009-14 tariff period in this petition:

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	1302.70	1303.97	1310.17	1317.19	1323.00
Interest on Loan	1117.22	1013.90	920.70	816.51	709.59
Return on Equity	1340.48	1390.98	1399.16	1406.89	1430.30
Interest on Working Capital	111.89	112.74	113.12	113.40	114.04
O&M Expenses	670.01	708.39	748.94	791.73	836.93
<b>Total</b>	<b>4542.30</b>	<b>4529.97</b>	<b>4492.09</b>	<b>4445.72</b>	<b>4413.86</b>

24. We have considered the submissions of the Petitioner. The revised transmission tariff is allowed for the transmission asset on the basis of the following:

- a) Admitted capital cost of ₹25503.69 lakh as on 1.4.2009;





- b) Weighted Average Rate of Interest on normative loan and WAROD derived/ adopted from order dated 30.12.2015 in Petition No. 407/TT/2014; and
- c) ACE of ₹18.50 lakh, ₹29.80 lakh, ₹204.76 lakh, ₹61.10 lakh and ₹159.44 lakh in the years 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14 respectively as approved by the Commission in order dated 30.12.2015 in Petition No. 407/TT/2014.

25. In view of the above, the revised transmission charges allowed for the transmission asset for the 2009-14 tariff period is as follows:

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	1302.70	1303.97	1310.17	1317.19	1323.00
Interest on Loan	1117.22	1013.89	920.70	816.52	709.59
Return on Equity	1340.48	1390.98	1399.16	1406.89	1430.30
Interest on Working Capital	111.89	112.74	113.12	113.40	114.04
O&M Expenses	670.01	708.39	748.94	791.73	836.93
<b>Total</b>	<b>4542.30</b>	<b>4529.97</b>	<b>4492.09</b>	<b>4445.73</b>	<b>4413.86</b>

26. AFC allowed for the 2009-14 tariff period vide order dated 30.12.2015 in Petition No. 407/TT/2014, the revised AFC claimed in the instant petition and AFC approved in the instant order are as follows:

(₹ in lakh)					
Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
AFC allowed vide order dated 30.12.2015 in Petition No. 407/TT/2014	4535.39	4523.06	4485.13	4438.78	4406.96
AFC claimed by the Petitioner in the instant petition	4542.30	4529.97	4492.09	4445.72	4413.86
AFC approved in the instant order	4542.30	4529.97	4492.09	4445.73	4413.86

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

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



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1335.38	1367.17	1405.61	1425.92	439.38
Interest on Loan	618.84	536.30	456.53	360.57	315.09
Return on Equity	1445.19	1487.43	1530.93	1554.91	1592.36
Interest on Working Capital	120.67	121.88	123.39	123.70	102.36
O&M Expenses	767.88	793.47	819.77	846.96	875.08
<b>Total</b>	<b>4287.96</b>	<b>4306.25</b>	<b>4336.23</b>	<b>4312.06</b>	<b>3324.27</b>

28. The details of the trued-up IWC claimed by the Petitioner in respect of the transmission asset for the 2014-19 tariff period are as follows:

(₹ in lakh)

Particular	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses	63.99	66.12	68.31	70.58	72.92
Maintenance Spares	115.18	119.02	122.97	127.04	131.26
Receivables	714.66	717.71	722.71	718.68	554.05
<b>Total Working Capital</b>	<b>893.83</b>	<b>902.85</b>	<b>913.99</b>	<b>916.30</b>	<b>758.23</b>
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
<b>Interest of Working Capital</b>	<b>120.67</b>	<b>121.88</b>	<b>123.39</b>	<b>123.70</b>	<b>102.36</b>

### **Capital Cost**

29. The capital cost of the transmission asset has been calculated in accordance with Regulation 9(3) and Regulation 9(6) of the 2014 Tariff Regulations.

30. The Commission vide order dated 30.12.2015 in Petition No. 407/TT/2014 had allowed the capital cost of ₹25977.29 lakh as on 1.4.2014. The Petitioner has claimed the same capital cost as on 1.4.2014. Accordingly, opening capital cost of ₹25977.29 lakh as on 1.4.2014 has been considered for truing up of transmission tariff for 2014-19 tariff period.

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

31. The Commission vide order dated 30.12.2015 in Petition No. 407/TT/2014 had disallowed ACE in 2014-19 tariff period for the transmission asset. However, the Petitioner has submitted that ACE of ₹2929.13 lakh has been claimed as per



Regulation 14(3)(i) of the 2014 Tariff Regulations on account of payment for compliance of the court order.

32. The Petitioner was directed vide technical validation letter dated 20.3.2020 to furnish detailed information regarding ACE claimed for the 2014-19 period. In response, the Petitioner vide affidavit dated 5.5.2020 has submitted the relevant assessment orders along with the court order for compensation.

33. TANGEDCO in its reply has submitted that documentary proofs on account of land compensation paid as per court orders are not legible and requested to direct the Petitioner to upload legible statements of compensation paid to the individual land owners as per the directions of the Court and further clarify whether the compensation paid/ said to be paid are in line with the guidelines of Government of India and if not, to furnish the action taken by the Petitioner to escalate the issue to the next forum. TANGEDCO has also sought clarification on the discrepancy whether ACE claimed under Regulation 14(3)(i) of the 2014 Tariff Regulations is on account of balance work to be executed (as given in Form 7) or is on account of balance payments for compliance of the Court order. In addition, TANGEDCO requested for submission of RCE, in the absence of which ACE claimed may be disallowed.

34. In response, the Petitioner vide affidavit dated 25.6.2021 has submitted legible copies of the various court orders and payments made. It has submitted that initial compensation paid by the Petitioner was limited towards damage to trees/ crops etc., based on the assessment of the appropriate Departments of Government of Kerala and no amount was paid towards diminution of land value. The compensation towards damages has been paid as per the Statutes governing Power Transmission Lines.



35. The Petitioner further referring to Section 16(3) of the Indian Telegraph Act, 1885 has submitted that in majority of the decreed cases, District Court has enhanced the initial compensation towards damages to trees/ crops etc. and has also awarded compensation towards diminution of land value in line with various precedents set by the Hon'ble High Court/s and Hon'ble Supreme Court of India, more particularly in: (2007) 6 SCC 792-Kerala State Electricity Board Vs. Livisha & Others; Civil Appeal No. 1345 of 2011 [arising out of SLP (C) No. 14294/2017] - Shaik Imambi Vs. Special Deputy Collector (Land Acquisition), Telegu Ganga Project.

36. The Petitioner has further submitted that in case of certain District Court orders, where the awarded amount is reasonable/ lesser than the amount assessed as Best Estimated Contingent Liability by the Management and Auditors and if it is cost effective to comply and deposit the decreed amount, are being complied/ settled by the Petitioner. Further, orders which are not in conformity with the above, are being challenged before the Hon'ble High Court of Kerala for seeking a favourable decision in favour of the Petitioner.

37. The Petitioner has further submitted that ACE claimed during the 2014-19 tariff period is as per Regulation 14(3)(i) of the 2014 Tariff Regulations and the same Regulation has been quoted both in the petition as well as in Form-7. Further, the reason "balance payment for compliance of the court" as mentioned in the petition is due to the fact that the major compensation was paid during construction stage of the line only. However, certain payments as claimed during the 2014-19 period is on account of the additional compensation demanded by landowners subsequently and thus these payments are termed as balance payments. However, such payments do not fall either under balance payments or balance work but owing to the template



specified by the Commission for Form-7. Therefore, the Petitioner has to choose from the options provided. Hence, the data is entered in the most relevant option in Form-7. The Petitioner has requested to allow ACE claimed during the 2014-19 period as per Regulation 14(3)(i) of 2014 Tariff Regulations. Also, the Petitioner vide affidavit dated 1.6.2021 has submitted RCE-II.

38. We have considered the submissions made by the Petitioner and TANGEDCO. The Petitioner vide affidavit dated 5.5.2020 has filed evidence regarding its liability to pay compensation to the landowners in compliance of the court order. Keeping in view the factual matrix of the petition and the court order, ACE claimed during the 2014-19 tariff period is allowed. The details of the approved capital cost in the instant order are as follows:

							(₹ in lakh)
Capital Cost as per RCE-II	Capital Cost as on 31.3.2014	ACE 2014-15	ACE 2015-16	ACE 2016-17	ACE 2017-18	ACE 2018-19	Approved Capital Cost as on 31.3.2019
28906.00	25977.29	309.20	895.11	602.40	208.87	913.55	28906.42

### Debt-Equity Ratio

39. The debt-equity ratio has been allowed in accordance with Regulation 19(3) of the 2014 Tariff Regulations. As per Regulation 19(3) of the 2014 Tariff Regulations, the debt-equity ratio allowed by the Commission for determination of transmission tariff for the period ending on 31.3.2014 shall be considered. Accordingly, the debt-equity ratio as on 1.4.2014 and 31.3.2019 of the transmission asset is as follows:

Funding	Capital Cost as on 1.4.2014 (₹ in lakh)	(in %)	Total Capital Cost as on 31.3.2019 (₹ in lakh)	(in %)
Debt	18659.67	71.83	20710.06	71.65
Equity	7317.62	28.17	8196.36	28.35
<b>Total</b>	<b>25977.29</b>	<b>100.00</b>	<b>28906.42</b>	<b>100.00</b>



## **Depreciation**

40. The Gross Block during the 2014-19 tariff period has been depreciated at WAROD. WAROD at Annexure-1 has been worked out after taking into account the depreciation rates of assets as specified in the 2014 Tariff Regulations. The transmission asset has completed 12 years of useful life as on 31.3.2018. Therefore, the remaining depreciable value is spread over the balance useful life in accordance with Regulation 27(5) of the 2014 Tariff Regulations and trued-up depreciation allowed 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>
<b>Depreciation</b>					
Opening Gross Block	25977.29	26286.49	27181.60	27784.00	27992.87
ACE	309.20	895.11	602.40	208.87	913.55
Closing Gross Block	26286.49	27181.60	27784.00	27992.87	28906.42
Average Gross Block	26131.89	26734.05	27482.80	27888.44	28449.65
Freehold Land	468.05	468.05	488.93	509.80	509.80
Weighted Average Rate of Depreciation (in %)	5.11	5.11	5.11	5.11	1.54
Aggregate Depreciable Value	23097.46	23639.40	24294.49	24640.77	25145.86
Balance useful life of the asset (Year)	25	24	23	22	21
Lapsed life at the beginning of the year (Year)	8	9	10	11	12
<b>Depreciation during the year</b>	<b>1335.37</b>	<b>1367.16</b>	<b>1405.59</b>	<b>1425.91</b>	<b>439.37</b>
Cumulative depreciation	11720.37	13087.53	14493.12	15919.03	16358.40
Remaining Depreciable Value	11377.09	10551.87	9801.37	8721.74	8787.46

41. The details of depreciation approved vide order dated 30.12.2015 in Petition No. 407/TT/2014, depreciation claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 30.12.2015 in Petition No. 407/TT/2014	1327.21	1327.21	1327.21	1327.21	346.88
Claimed by the Petitioner in the instant petition	1335.38	1367.17	1405.61	1425.92	439.38
Approved after true-up in this order	1335.37	1367.16	1405.59	1425.91	439.37

**Interest on Loan (IoL)**

42. The Petitioner has claimed the weighted average rate of IoL, based on its actual loan portfolio and rate of interest.

43. We have considered the submission of the Petitioner. IoL has been calculated based on actual interest rate submitted by the Petitioner in accordance with Regulation 26 of the 2014 Tariff Regulations. The trued-up IoL allowed in respect of the transmission asset is as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Interest on Loan</b>					
Gross Normative Loan	18659.67	18876.11	19502.69	19924.37	20070.58
Cumulative Repayments up to Previous Year	10571.32	11906.69	13273.85	14679.44	16105.35
Net Loan-Opening	8088.35	6969.42	6228.84	5244.93	3965.23
Additions	216.44	626.58	421.68	146.21	639.49
Repayment during the year	1335.37	1367.16	1405.59	1425.91	439.37
Net Loan-Closing	6969.42	6228.84	5244.93	3965.23	4165.34
Average Loan	7528.89	6599.13	5736.88	4605.08	4065.29
Weighted Average Rate of Interest on Loan (in %)	8.2196	8.1267	7.9579	7.8298	7.7508
<b>Interest on Loan</b>	<b>618.84</b>	<b>536.29</b>	<b>456.54</b>	<b>360.57</b>	<b>315.09</b>

44. The details of IoL allowed vide order dated 30.12.2015 in Petition No. 407/TT/2014, IoL claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:





(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 30.12.2015 in Petition No. 407/TT/2014	604.93	492.26	382.67	280.21	219.78
Claimed by the Petitioner in the instant petition	618.84	536.30	456.53	360.57	315.09
Approved after true-up in this order	618.84	536.29	456.54	360.57	315.09

### Return on Equity (RoE)

45. The Petitioner has claimed RoE for the transmission 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 rate (in %)	Grossed-up RoE [(Base Rate)/(1-t)] (in %)
2014-15	21.018	19.624
2015-16	21.382	19.716
2016-17	21.338	19.705
2017-18	21.337	19.704
2018-19	21.549	19.758

46. We have considered the submissions of the Petitioner. The Commission in 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 given in the table below:

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

47. The MAT rates considered in order dated 27.4.2020 for the purpose of grossing up of rate of RoE for trueing 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	Notified MAT rates (in %) (inclusive of surcharge & cess)	Base rate of RoE (in %)	Grossed up RoE [(Base Rate)/(1-t)] (in %)
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

48. 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 as per Regulation 25(3) of the 2014 Tariff Regulations. RoE is trued up on the basis of the MAT rate applicable in the respective years and is allowed for the transmission asset as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	7317.62	7410.38	7678.91	7859.63	7922.29
Additions	92.76	268.53	180.72	62.66	274.07
Closing Equity	7410.38	7678.91	7859.63	7922.29	8196.36
Average Equity	7364.00	7544.65	7769.27	7890.96	8059.33
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (in %)	20.961	21.342	21.342	21.342	21.549
Rate of Return on Equity (in %)	19.610	19.705	19.705	19.705	19.758
<b>Return on Equity</b>	<b>1444.08</b>	<b>1486.67</b>	<b>1530.94</b>	<b>1554.91</b>	<b>1592.36</b>

49. The details of RoE allowed vide order dated 30.12.2015 in Petition No. 407/TT/2014, RoE claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 30.12.2015 in Petition No. 407/TT/2014	1434.99	1434.99	1434.99	1434.99	1434.99
Claimed by the Petitioner in the instant petition	1445.19	1487.43	1530.93	1554.91	1592.36



Approved after true-up in this order	1444.08	1486.67	1530.94	1554.91	1592.36
--------------------------------------	---------	---------	---------	---------	---------

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

50. The total O&M Expenses claimed by the Petitioner for the transmission asset are as follows:

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Transmission line 400 kV Madurai- Thiruvananthpuram DC line</b>					
D/C Bundled (Twin/Triple conductors) (km)	216.150	216.150	216.150	216.150	216.150
Norms (₹ lakh/km)	0.707	0.731	0.755	0.78	0.806
<b>Sub-station Bays 400 kV (Conventional)</b>					
Thiruvananthpuram- Madurai Bay I and II	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Thiruvananthpuram- ICT I and II	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Madurai- Thiruvananthpuram Bay I and II at Madurai	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Norms (₹ lakh/bays)	60.30	62.30	64.37	66.51	68.71
<b>Sub-station Bays 220 kV (Conventional)</b>					
Thiruvananthpuram- ICT I and II at Trivandrum	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Thiruvananthpuram- Pothenode I, II, III and IV at Trivandrum	4 numbers	4 numbers	4 numbers	4 numbers	4 numbers
Norms (₹ lakh/bays)	42.21	43.61	45.06	46.55	48.1
<b>Total O&amp;M Expenses (₹ in lakh)</b>	<b>767.88</b>	<b>793.47</b>	<b>819.77</b>	<b>846.96</b>	<b>875.08</b>

51. The O&M Expenses are allowed for the transmission asset as per the norms specified in Regulation 29(3) of the 2014 Tariff Regulations and are as follows:

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Transmission line 400 kV Madurai- Thiruvananthpuram DC transmission line</b>					
D/C Bundled (Twin/Triple conductors) (km)	216.150	216.150	216.150	216.150	216.150



Norms (₹ lakh/km)	0.707	0.731	0.755	0.78	0.806
<b>Sub-station Bays 400 kV (Conventional)</b>					
Thiruvananthapuram-Madurai Bay I and II	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Thiruvananthapuram-ICT I and II	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Madurai -Thiruvananthapuram Bay I and II at Madurai	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Norms (₹ lakh/bays)	60.30	62.30	64.37	66.51	68.71
<b>Sub-station Bays 220 kV (Conventional)</b>					
Thiruvananthapuram-ICT-I and II at Trivandrum	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Thiruvananthapuram-Pothenode-I, II, III and IV at Trivandrum	4 numbers	4 numbers	4 numbers	4 numbers	4 numbers
Norms (₹ lakh/bays)	42.21	43.61	45.06	46.55	48.1
<b>Total O&amp;M Expenses (₹ in lakh)</b>	<b>767.88</b>	<b>793.47</b>	<b>819.77</b>	<b>846.96</b>	<b>875.08</b>

52. The details of O&M Expenses allowed vide order dated 30.12.2015 in Petition No. 407/TT/2014, claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 30.12.2015 in Petition No. 407/TT/2014	767.88	793.47	819.77	846.96	875.08
Claimed by the Petitioner in the instant petition	767.88	793.47	819.77	846.96	875.08
Approved after true-up in this order	767.88	793.47	819.77	846.96	875.08

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

53. IWC has been worked out as per the methodology provided in Regulation 28 of the 2014 Tariff Regulations and the trued-up IWC allowed for the transmission asset for the 2014-19 tariff period are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Interest on Working Capital</b>					
O&M Expenses (O&M Expenses for 1 month)	63.99	66.12	68.31	70.58	72.92



Maintenance Spares (15% of O&M Expenses)	115.18	119.02	122.97	127.04	131.26
Receivables (Equivalent to 2 months of annual fixed cost)	714.47	717.58	722.70	718.67	554.04
<b>Total Working Capital</b>	<b>893.64</b>	<b>902.72</b>	<b>913.98</b>	<b>916.30</b>	<b>758.23</b>
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>120.64</b>	<b>121.87</b>	<b>123.39</b>	<b>123.70</b>	<b>102.36</b>

54. The details of IWC allowed vide order dated 30.12.2015 in Petition No. 407/TT/2014, IWC claimed by the Petitioner in the instant petition and trued up in the instant order are shown 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>
Allowed vide order dated 30.12.2015 in Petition No. 407/TT/2014	119.92	118.74	117.68	116.82	94.42
Claimed by the Petitioner in the instant petition	120.67	121.88	123.39	123.70	102.36
Approved after true-up in this order	120.64	121.87	123.39	123.70	102.36

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

55. The trued-up AFC approved for the transmission asset for the 2014-19 tariff period 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	1335.37	1367.16	1405.59	1425.91	439.37
Interest on Loan	618.84	536.29	456.54	360.57	315.09
Return on Equity	1444.08	1486.67	1530.94	1554.91	1592.36
Interest on Working Capital	120.64	121.87	123.39	123.70	102.36
O&M Expenses	767.88	793.47	819.77	846.96	875.08
<b>Total</b>	<b>4286.81</b>	<b>4305.45</b>	<b>4336.23</b>	<b>4312.05</b>	<b>3324.26</b>

56. Accordingly, the Annual Transmission Charges allowed vide order dated 30.12.2015 in Petition No. 407/TT/2014, claimed by the Petitioner in the instant petition and approved after truing up in the instant order is as follows:



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 30.12.2015 in Petition No. 407/TT/2014	4254.94	4166.67	4082.32	4006.18	2971.13
Claimed by the Petitioner in the instant petition	4287.96	4306.25	4336.23	4312.06	3324.27
Approved after true-up in this order	4286.81	4305.45	4336.23	4312.05	3324.26

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

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

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	459.94	459.94	459.94	459.93	459.94
Interest on Loan	301.90	263.32	226.16	190.52	155.93
Return on Equity	1539.44	1539.44	1539.44	1539.44	1539.44
Interest on Working Capital	67.20	67.90	68.52	69.21	69.80
O&M Expenses	747.86	774.27	801.32	829.57	857.89
<b>Total</b>	<b>3116.34</b>	<b>3104.87</b>	<b>3095.38</b>	<b>3088.67</b>	<b>3083.00</b>

58. The details of IWC claimed by the Petitioner for the 2019-24 period are as follows:

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses (O&M Expenses for 1 month)	62.32	64.52	66.78	69.13	71.49
Maintenance Spares (15% of O&M Expenses)	112.18	116.14	120.20	124.44	128.68
Receivables (Equivalent to 45 days of annual transmission charges)	383.16	382.79	381.62	380.80	379.06
<b>Total Working Capital</b>	<b>557.66</b>	<b>563.45</b>	<b>568.60</b>	<b>574.37</b>	<b>579.23</b>
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
<b>Interest of Working Capital</b>	<b>67.20</b>	<b>67.90</b>	<b>68.52</b>	<b>69.21</b>	<b>69.80</b>

### Capital Cost

59. 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 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 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 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 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."

60. The Petitioner has claimed the capital cost of ₹28906.42 lakh as on 31.3.2019 for the transmission asset. The same has been worked out by the Commission as on



31.3.2019 and 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.

61. The Petitioner has not projected any ACE during the 2019-24 tariff period for the transmission asset.

### **Debt-Equity Ratio**

62. 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.”

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

Funding	Capital Cost as on 1.4.2019 (₹ in lakh)	(in %)	Capital Cost as on 31.3.2024 (₹ in lakh)	(in %)
Debt	20710.06	71.65	20710.06	71.65
Equity	8196.36	28.35	8196.36	28.35
<b>Total</b>	<b>28906.42</b>	<b>100.00</b>	<b>28906.42</b>	<b>100.00</b>

### Depreciation

64. Regulations 33(1), 33(2) and 33(5) 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 there of including communication system. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units:

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

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of a transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation



shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis”

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

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

65. Since the transmission asset has completed 12 years of useful life as on 31.3.2018, the remaining depreciable value is spread over the balance useful life of the assets in the 2019-24 period as mentioned in Regulation 33(5) of the 2019 Tariff Regulations. The depreciation allowed for the transmission asset for the 2019-24 period is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Depreciation</b>					
Opening Gross Block	28906.42	28906.42	28906.42	28906.42	28906.42
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	0.00	0.00	0.00	0.00	0.00
Average Gross Block	28906.42	28906.42	28906.42	28906.42	28906.42
Freehold Land	509.80	509.80	509.80	509.80	509.80
Weighted Average Rate of Depreciation (in %)	1.59	1.59	1.59	1.59	1.59
Aggregate Depreciable Value	25556.96	25556.96	25556.96	25556.96	25556.96
Balance useful life of the asset (Year)	20	19	18	17	16
Lapsed life (Year)	13	14	15	16	17
<b>Depreciation during the year</b>	<b>459.93</b>	<b>459.93</b>	<b>459.93</b>	<b>459.93</b>	<b>459.93</b>
Cumulative depreciation	16818.33	17278.26	17738.18	18198.11	18658.04
Remaining Depreciable Value	8738.63	8278.70	7818.78	7358.85	6898.92

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

66. 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.*

(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.”*

67. The weighted average rate of IoL has been considered on the basis of rate prevailing as on 1.4.2019. The Petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during 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. Therefore, IoL has been allowed in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL approved for the transmission asset for the 2019-24 tariff period is as follows:



(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	20710.06	20710.06	20710.06	20710.06	20710.06
Cumulative Repayments up to Previous Year	16544.72	17004.65	17464.57	17924.50	18384.43
Net Loan-Opening	4165.34	3705.41	3245.49	2785.56	2325.63
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	459.93	459.93	459.93	459.93	459.93
Net Loan-Closing	3705.41	3245.49	2785.56	2325.63	1865.70
Average Loan	3935.38	3475.45	3015.52	2555.59	2095.67
Weighted Average Rate of Interest on Loan (in %)	7.6716	7.5766	7.5000	7.4553	7.4408
<b>Interest on Loan</b>	<b>301.90</b>	<b>263.32</b>	<b>226.16</b>	<b>190.53</b>	<b>155.93</b>

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

68. 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.”

69. The Petitioner has submitted that MAT rate is applicable to the Petitioner's company. Accordingly, 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 for the transmission asset for the 2019-24 tariff period is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	8196.36	8196.36	8196.36	8196.36	8196.36
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	8196.36	8196.36	8196.36	8196.36	8196.36
Average Equity	8196.36	8196.36	8196.36	8196.36	8196.36
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (in %)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782	18.782
<b>Return on Equity</b>	<b>1539.44</b>	<b>1539.44</b>	<b>1539.44</b>	<b>1539.44</b>	<b>1539.44</b>

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

70. The O&M Expenses claimed by the Petitioner for the various elements included in the transmission asset for the 2019-24 tariff period are as under:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Transmission line Madurai-Thiruvananthpuram 400 kV DC Transmission line</b>					
D/C Bundled (Twin/Triple conductors) (km)	216.150	216.150	216.150	216.150	216.150
Norms (₹ lakh/km)	0.881	0.912	0.944	0.977	1.011
<b>Sub-station Bays 400 kV (Conventional)</b>					
Thiruvananthpuram-Madurai Bay I and II	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers





Thiruvananthapuram-ICT I and II	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Madurai-Thiruvananthapuram Bay I and II at Madurai	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Norms (₹ lakh/bays)	32.15	33.28	34.45	35.66	36.91
<b>Sub-station Bays 220 kV (Conventional)</b>					
Thiruvananthapuram-ICT I and II at Trivandrum	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Thiruvananthapuram-Pothenode I, II, III and IV at Trivandrum	4 numbers	4 numbers	4 numbers	4 numbers	4 numbers
Norms (₹ lakh/bays)	22.51	23.3	24.12	24.96	25.84
<b>400 kV Sub-Station ICT</b>					
Thiruvananthapuram-ICT I and II at Trivandrum	315 MVA	315 MVA	315 MVA	315 MVA	315 MVA
Number of units	2.00	2.00	2.00	2.00	2.00
Norms (₹ lakh/MVA)	0.358	0.371	0.384	0.398	0.411
O&M Claimed for PLCC (2% of ₹196.37)	3.93	3.93	3.93	3.93	3.93
<b>Total O&amp;M Expenses (₹ in lakh)</b>	<b>747.86</b>	<b>774.27</b>	<b>801.32</b>	<b>829.57</b>	<b>857.89</b>

71. Regulations 35(3)(a) and 33(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:*

<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	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-	0.755	0.781	0.809	0.837	0.867



Single Circuit (Twin & Triple)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single)	0.252	0.260	0.270	0.279	0.289
Double Circuit (Bundled conductor)	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple)	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	834	864	894	925	958
Gazuwaka HVDC Back- to-Back station (₹ Lakh	1,666	1,725	1,785	1,848	1,913
500 kV Rihand-Dadri HVDC bipole scheme	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bipole scheme	2,468	2,555	2,645	2,738	2,834
±500 kV Bhiwadi-Balia HVDC bipole scheme	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath- Agra HVDC bipole	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 year*

*(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.”*

72. We have considered the submissions of the Petitioner. The Petitioner has claimed O&M Expenses separately for PLCC under Regulation 35(4) of the 2019 @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 the sub-station in the 2014 Tariff Regulations and 2019 Tariff Regulations and the norms for sub-station has 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. Therefore, the Petitioner’s claim for separate O&M Expenses for PLCC @2% is not allowed.

73. The O&M Expenses allowed for the transmission asset is as follows:



(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Transmission line Madurai- Thiruvananthapuram 400 kV DC</b>					
D/C Bundled (Twin/Triple conductors) (km)	216.150	216.150	216.150	216.150	216.150
Norms (₹ lakh/km)	0.881	0.912	0.944	0.977	1.011
<b>Sub-station Bays 400 kV(Conventional)</b>					
Thiruvananthapuram- Madurai Bay I and II	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Thiruvananthapuram- ICT I and II	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Madurai – Thiruvananthapuram Bay I and II at Madurai	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Norms (₹ lakh/bays)	32.15	33.28	34.45	35.66	36.91
<b>Sub-station Bays 220 kV (Conventional)</b>					
Thiruvananthapuram- ICT I and II at Trivandrum	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Thiruvananthapuram- Pothenode I, II, III and IV at Trivandrum	4 numbers	4 numbers	4 numbers	4 numbers	4 numbers
Norms (₹ lakh/bays)	22.51	23.3	24.12	24.96	25.84
<b>400 kV Sub-Station ICT</b>					
Thiruvananthapuram- ICT I and II at Trivandrum	315 MVA	315 MVA	315 MVA	315 MVA	315 MVA
Number of units	2.00	2.00	2.00	2.00	2.00
Norms (₹ lakh/MVA)	0.358	0.371	0.384	0.398	0.411
<b>Total O&amp;M Expenses (₹ in lakh)</b>	<b>743.93</b>	<b>770.34</b>	<b>797.39</b>	<b>825.64</b>	<b>853.96</b>

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

74. 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)...*

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

*i. Receivables equivalent to 45 days of 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;”

75. The Petitioner has submitted that it has computed IWC for the 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. ROI considered is 12.05% (SBI 1 year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20, 11.25% (SBI 1 year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) for 2020-21 and 2021-22 onwards, the ROI has been considered as 10.50% (SBI 1 year MCLR applicable as on 1.4.2021 of 7.00% plus 350 basis points). The components of the working capital and interest allowed thereon is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses (O&M Expenses for 1 month)	61.99	64.19	66.45	68.80	71.16
Maintenance Spares (15% of O&M Expenses)	111.59	115.55	119.61	123.85	128.09
Receivables (Equivalent to 45 days of annual transmission charges)	382.65	381.72	380.02	379.18	377.44
<b>Total Working Capital</b>	<b>556.23</b>	<b>561.47</b>	<b>566.07</b>	<b>571.83</b>	<b>576.69</b>



Rate of Interest (in %)	12.05	11.25	10.50	10.50	10.50
<b>Interest on Working Capital</b>	<b>67.03</b>	<b>63.17</b>	<b>59.44</b>	<b>60.04</b>	<b>60.55</b>

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

76. The transmission charges allowed for the transmission asset for the 2019-24 tariff period are as follows:

<b>Particulars</b>	<b>(₹ in lakh)</b>				
	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Depreciation	459.93	459.93	459.93	459.93	459.93
Interest on Loan	301.90	263.32	226.16	190.53	155.93
Return on Equity	1539.44	1539.44	1539.44	1539.44	1539.44
Interest on Working Capital	67.03	63.17	59.44	60.04	60.55
O&M Expenses	743.93	770.34	797.39	825.64	853.96
<b>Total</b>	<b>3112.23</b>	<b>3096.19</b>	<b>3082.36</b>	<b>3075.58</b>	<b>3069.81</b>

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

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

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

78. The Petitioner has claimed for reimbursement of licence fee in accordance with Regulation 70(4) of the 2019 Tariff Regulations for the 2019-24 tariff period. The Petitioner also claimed recovery of RLDC fee and charges in accordance with Regulations 70(3) of the 2019 Tariff Regulations for 2019-24 tariff period. The Petitioner's prayer to claim Licence Fee & RLDC Fees and Charges is allowed.

### **Goods and Services Tax**

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



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

80. TANGEDCO has submitted that the transmission charges are exempted from the levy of GST and even if GST is levied in future, the same should not be allowed retrospectively. TANGEDCO has further submitted that the Hon'ble High Court of Gujarat in the judgment dated 19.12.2018 in the Special Civil Appeal No. 5343 of 2018 in the matter of Torrent Power Ltd. vs. Union of India has quashed the clarification with regard to levy of GST issued in para 4(1) of the impugned Circular No.34/8/2018-GST dated 1.3.2018 by the Government of India as *ultra vires* the provisions of the GST Laws as well as the notifications issued thereunder and made the rule absolute. TANGEDCO has submitted that the Commission may direct the Petitioner to restrain from including the paragraph relating to GST in all the petitions.

81. In response, PGCIL submitted that under CGST Act, 2017 implemented w.e.f.1.7.2017, the Government of India has exempted the charges of transmission of electricity vide notification no. 12/2017-Central Tax (Rate) dated 28.6.2017 at Serial No. 25 under the heading 9969 "Transmission or distribution of electricity by an electric transmission or distribution utility" by giving applicable GST rate as NIL. Hence, the transmission charges claimed in the instant petition is exclusive of GST. Further, if GST is levied at any rate and at any point of time in future on charges of transmission of electricity, the same shall be borne and additionally paid by the Respondent(s) to the Petitioner and the same shall be charged and billed separately by the Petitioner. Further, additional taxes, if any, are to be paid by the Petitioner on





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

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

### **Security Expenses**

83. The Petitioner has submitted that security expenses for the transmission 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 shall be filed on a yearly basis on the basis of the actual expenses of previous year subject to true up at the end of the year on actual expenses. The Petitioner has submitted that the difference, if any, between the estimated security expenses and actual security expenses as per the audited accounts may be allowed to be recovered from the beneficiaries on a yearly basis.

84. 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 the 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.





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**

85. The Petitioner has claimed 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**

86. TANGEDCO has submitted that the trued-up capital cost for 2014-19 tariff period has to be shared among the beneficiaries as per the 2010 Sharing Regulations. However, the 2020 Sharing Regulations was notified on 4.5.2020 and came into force w.e.f. 1.11.2020. Hence, Annual Transmission Charges (ATC) for the period from 31.3.2019 to 31.10.2020 have to be shared based on the 2010 Sharing Regulations and from 1.11.2020, it is to be based on the 2020 Sharing Regulations. Under this circumstance, it is essential to segregate the additional cost and tariff liability up to 31.10.2020 and from 1.11.2020 so as to allocate the charges based on the 2010 Sharing Regulations and the 2020 Sharing Regulations respectively. Hence, it has requested that the Commission may issue suitable directions to allocate ATC up to 31.10.2020 as per the 2010 Sharing Regulations and ATC from 1.11.2020 as per the 2020 Sharing Regulations.

87. In response, the Petitioner has submitted that the instant petition is filed for truing up of transmission tariff of 2014-19 tariff period and determination of transmission tariff of 2019-24 tariff period for transmission asset covered under subject petition. After the truing up and determination of transmission tariff, sharing of



transmission charges for 2014-19 and 2019-24 tariff periods up to 31.10.2020 shall be done as per the 2010 Sharing Regulations and from 1.11.2020 onwards shall be shared under the 2020 Sharing Regulations. Tariff determination and Sharing of transmission charges are two independent activities and they cannot be inter-linked. After the determination of tariff of the asset by the Commission, the aspects of ATC bifurcation raised by TANGEDCO shall be taken care by the Petitioner at the time of billing.

88. We have considered the submissions of the Petitioner and TANGEDCO. During the tariff periods 2004-09 and 2009-14 (up to 30.6.2011), the transmission charges for inter-State transmission systems were being shared in accordance with the Tariff Regulations for the respective tariff periods. 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 shall be recovered from the concerned DICs through Bill 2 under Regulation 15(2)(b) of the 2020 Sharing Regulations. For subsequent period, the billing, collection, and disbursement of the transmission charges approved in this order shall be governed by the provisions of the 2020 Sharing Regulations as provided in Regulation 57 of the 2019 Tariff Regulations.

89. To summarise:

- a) The revised AFC approved for the transmission asset for the 2004-09 tariff period are as follows:



(₹ in lakh)			
2005-06 (pro-rata 8 months)	2006-07	2007-08	2008-09
2402.67	3823.31	3930.68	4345.45

b) The consequential revision of AFC approved for the transmission asset for the 2009-14 tariff period are as follows:

(₹ in lakh)				
2009-10	2010-11	2012-13	2013-14	2014-15
4542.30	4529.97	4492.09	4445.73	4413.86

c) The trued-up AFC approved for the transmission asset for the 2014-19 tariff period are as follows:

(₹ in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
4286.81	4305.45	4336.23	4312.05	3324.26

d) AFC allowed for the transmission asset for the 2019-24 tariff period in this order are as follows:

(₹ in lakh)				
2019-20	2020-21	2021-22	2022-23	2023-24
3112.23	3096.19	3082.36	3075.58	3069.81

90. Annexure-1 given hereinafter shall form part of the order.

91. This order disposes of Petition No. 123/TT/2020 in terms of the above discussion and findings.

**sd/-**  
**(Pravas Kumar Singh)**  
**Member**

**sd/-**  
**(I.S. Jha)**  
**Member**

**sd/-**  
**(P.K. Pujari)**  
**Chairperson**



Annexure-1

2014-15 Capital Expenditure	Admitted Capital Cost as on 1.4.2014/COD (₹ in lakh)	Additional Capitalisation (₹ in lakh)					Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)				
		2015-16	2016-17	2017-18	2018-19	Total			2014-15	2015-16	2016-17	2017-18	2018-19
Land - Freehold	468.05	-	41.75	-	-	41.75	509.80	-	-	-	-	-	-
Land - Leasehold	-	-	-	-	-	-	-	3.34%	-	-	-	-	-
Building Civil Works & Colony	1120.95	-	-	-	-	-	1120.95	3.34%	37.44	37.44	37.44	37.44	-
Transmission Line	4969.93	895.11	560.65	208.87	913.55	2887.98	7857.31	5.28%	270.58	302.37	340.80	361.12	-
Sub Station	19221.99	-	-	-	-	-	19221.99	5.28%	1014.92	1014.92	1014.92	1014.92	-
PLCC	196.37	-	-	-	-	-	196.37	6.33%	12.43	12.43	12.43	12.43	-
IT Equipment (Incl. Software)	-	-	-	-	-	-	-	5.28%	-	-	-	-	-
<b>Total</b>	<b>25977.29</b>	<b>895.11</b>	<b>602.40</b>	<b>208.87</b>	<b>913.55</b>	<b>2929.15</b>	<b>28906.42</b>		<b>1305.37</b>	<b>1367.16</b>	<b>1405.59</b>	<b>1425.91</b>	<b>439.37</b>
									<b>Average Gross Block (₹ in lakh)</b>				
									26131.89	26734.05	27482.80	27888.44	28449.65
									<b>Weighted Average Rate of Depreciation</b>				
									5.11%	5.11%	5.11%	5.11%	1.54%

