

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 353/TT/2020

Coram:

Shri P.K. Pujari, Chairperson

Shri I.S. Jha, Member

Shri P.K. Singh, Member

Date of Order: 17.10.2021

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 the 2001-04, 2004-09 and 2009-14 tariff periods and 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 the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 in respect of **Asset-I:** 400 kV S/C line-2 Ramagundam-Hyderabad in Southern Region and **Asset-II:** Bhadrawati (Chandrapur) HVDC back-to-back station (2x500 MW) between Western Region and Southern Region associated with Chadrapur HVDC back-to-back project (2x500 MW).

And in the matter of:

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

.....Petitioner

Versus

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



5. Electricity Department,
Government of Pondicherry,
Pondicherry-605001.
6. Eastern Power Distribution Company of Andhra Pradesh Limited,
P&T Colony, Seethmmadhara, Vishakhapatnam,
Andhra Pradesh.
7. Southern Power Distribution Company of Andhra Pradesh Limited,
Srinivasasa Kalyana Mandapam Backside, Tiruchanoor Road,
Kesavayana Gunta, Chittoor District, Tirupati-517501,
Andhra Pradesh.
8. Southern Power Distribution Company of Telangana Limited,
Corporate Office, Mint Compound,
Hyderabad-500063 (Telangana).
9. Northern Power Distribution Company of Telangana Limited,
Opp. NIT Petrol Pump, Chaitanyapuri, Kazipet,
Warangal-506004 (Telangana).
10. Bangalore Electricity Supply Company Limited,
Corporate Office, K.R. Circle,
Bangalore-560001 (Karnataka).
11. Gulbarga Electricity Supply Company Limited,
Station Main Road, Gulbarga,
Karnataka.
12. Hubli Electricity Supply Company Limited,
Navanagar, PB Road, Hubli,
Karnataka.
13. MESCOM Corporate Office,
Paradigm Plaza, AB Shetty Circle,
Mangalore-575001 (Karnataka).
14. Chamundeswari Electricity Supply Corporation Limited,
927, LJ Avenue, Ground Floor, New Kantharaj URS Road,
Saraswatipuram,
Mysore-570009 (Karnataka).
15. Electricity Department,
Government of Goa,
Vidyuti Bhawan, Panaji,
Goa-403001.



16. Transmission Corporation of Telangana Limited,
Vidhyut Sudha, Khairatabad,
Hyderabad-500082.
17. Tamil Nadu Transmission Corporation,
NPKRR Maaligai, 800, Anna Salai,
Chennai-600002.
18. Madhya Pradesh Power Management Company Limited,
Shakti Bhawan, Rampur,
Jabalpur-482008.
19. Maharashtra State Electricity Distribution Company Limited,
Prakashgad, 4th Floor, Andheri (East),
Mumbai-400052.
20. Gujarat Urja Vikas Nigam Limited,
Sardar Patel Vidyut Bhawan,
Race Course Road,
Vadodara-390007.
21. Electricity Department,
Administration of Daman & Diu,
Daman-396210.
22. Electricity Department,
Administration of Dadra Nagar Haveli,
U.T. of Silvassa-396230.
23. Chhattisgarh State Electricity Board,
P.O. Sunder Nagar, Dangania, Raipur,
Chhatisgaarh-492013.
24. Madhya Pradesh Audyogik Kendra Vikas Nigam (Indore) Limited,
3/54, Press Complex, Agra-Bombay Road,
Indore-452008
-Respondent(s)

For Petitioner : Shri S. S. Raju, PGCIL
Shri D. K. Biswal, PGCIL
Shri A. K. Verma, PGCIL
Shri V. P. Rastogi, PGCIL

For Respondents : Shri B. Vinodh Kanna, Advocate, TANGEDCO
Dr. R. Kathiravan, TANGEDCO
Ms. R. Ramalakshmi, TANGEDCO



ORDER

The Petitioner, Power Grid Corporation of India Limited has filed the instant petition for revision of transmission tariff of the 2001-04, 2004-09 and 2009-14 tariff periods; truing of transmission tariff of the 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”); and for determination of transmission tariff for the period from 1.4.2019 to 31.3.2024 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) in respect of the following assets(hereinafter collectively referred to as “the transmission assets”) associated with HVDC back-to-back project (2x500 MW) [hereinafter referred to as “the transmission project”]:

Asset-I: 400 kV S/C line-2 Ramagundam-Hyderabad in Southern Region; and

Asset-II: Bhadrawati (Chandrapur) HVDC back-to-back station (2x500 MW) between Western Region and Southern Region.

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

“1) Approve the revised Transmission Tariff for 2001-04, 2004-09 and 2009-14 block 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. Further it is submitted that deferred tax liability before 01.04.2009 shall be recoverable from the beneficiaries or long term customers / DIC as the case may be, as and when the same is materialized as per regulation 49 of 2014 and regulation 67 of 2019 tariff regulation. The petitioner may be allow to recover the deferred tax liability materialised directly without making any application before the commission as provided in the regulation.



- 4) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, and other expenditure (if any) in relation to the filing of petition.
- 5) Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.
- 6) Allow the petitioner to 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.
- 7) Allow the petitioner to adjust the cumulative depreciation by taking into account the depreciation recovered in tariff by the decapitalized asset during its useful life and to recover the unrecovered depreciation in case of Asset-I separately on account of de-capitalization.
- 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 Ministry of Power (MoP) vide letter dated 12.11.1993 conveyed the approval of the Central Government to the capital investment for setting up transmission assets associated with the transmission project.
- b) The transmission project was to be commissioned within 48 months from the date of issue of the sanction i.e. by 11.11.1997 against which Asset-I (along with extension of sub-station at Ramagundam and Hyderabad) and (Pole-I, Pole-II) of Asset-II were put into commercial operation on 1.8.1997 and (1.10.1997, 1.3.1998) respectively.
- c) MoP vide letter 10.1.2000 conveyed revised sanction for expenditure of the transmission assets associated with the transmission project at a cost ₹102859.00 lakh, including IDC of ₹7694.00 lakh (based on 1st Quarter, 1998 price level).



d) In line with the terms and conditions of tariff contained in the MoP notification dated 16.12.1997, the provisional transmission tariff of Asset-I (along with extension of sub-station at Ramagundam and Hyderabad) and Pole-I, Pole-II of Asset-II for the period from their respective COD up to 31.3.2001 was allowed by the Commission vide order dated 20.8.2002 in Petition No. 46/2000. The said provisional transmission tariff order pertaining to Chandrapur HVDC back-to-back component was revised vide order dated 31.3.2003 in Review Petition No. 145/2002 (in Petition No. 46/2000).

e) Based on the terms and conditions of tariff contained in the Commission's notification dated 26.3.2001, the transmission tariff of Asset-I (along with extension of sub-station at Ramagundam and Hyderabad) and Asset-II for the period from 1.4.2001 to 31.3.2004 was allowed [after considering Foreign Exchange Rate Variation (FERV) on the outstanding loan as on 31.3.2001] by the Commission vide order dated 19.7.2004 in Petition No. 69/2002.

f) The Appellate Tribunal for Electricity (APTEL) vide a common judgment dated 4.10.2006 in Appeal No. 135/2005 (against the Commission's order dated 30.6.2006 in Petition No. 40/2002) and other related appeals, *inter-alia*, held that addition of notional equity on account of FERV is not to be considered for computation of Return on Equity (RoE) and as a consequence, the entire amount of FERV shall form part of loan. The said decision was reiterated by the APTEL vide judgment dated 22.12.2006 in Appeal No. 161/2006 (M.P. State Electricity Board vs. Power Grid Corporation of India Limited & Ors.).

g) The APTEL vide judgment dated 31.10.2007 in Appeal No. 159/2005, *inter-alia*, held that Interest on Loan (IoL) capital should be determined based on normative debt repayment formula.

h) The above judgments of the APTEL involving interpretation of MoP's notification dated 16.12.1997 and question of apportionment of FERV and computation of IoL have been considered to be judgments *in rem* and, therefore, based on the implementation of the above-mentioned judgments in the instant



case, the revised transmission tariff of the transmission assets for the 2001-04 tariff period was allowed vide order dated 17.1.2008 in Petition No. 69/2002.

i) The transmission tariff of Asset-I (along with extension of sub-station at Ramagundam and Hyderabad) and Asset-II for the period from 1.4.2004 to 31.3.2009 was allowed vide order dated 2.5.2006 in Petition No. 137/2004. While allowing tariff, the Commission adopted capital cost, loan, equity etc. considered for determination of tariff for the 2001-04 tariff period and FERV for the period upto 31.3.2004 was capitalized and apportioned between debt and equity in the same ratio as considered for the period 1.4.2001 to 31.3.2004.

j) Based on the above-mentioned judgments of the APTEL, the transmission tariff of the Asset-I (along with extension of sub-station at Ramagundam and Hyderabad) and Asset-II for the 2004-09 tariff period was revised vide order dated 16.4.2008 in Petition No. 137/2004.

k) The transmission tariff of the transmission assets for the period from 1.4.2009 to 31.3.2014 was allowed vide order dated 20.6.2011 in Petition No. 178/2010 which was subsequently trued-up with determination of tariff of the transmission assets for the 2014-19 tariff period vide order dated 11.1.2016 in Petition No. 493/TT/2014.

l) The entire scope of work covered under the transmission project is complete and is covered in the instant petition.

m) The Petitioner has sought revision of transmission tariff approved for the 2001-04 and 2004-09 tariff periods on account of change in IoL and Interest on Working Capital (IWC) to the extent of revision in IoL and in Maintenance Spares in terms of the judgments of the 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 tariff allowed for the 2009-14 tariff period; truing up of tariff of the 2014-19 tariff period and determination of tariff of the 2019-24 tariff period for the transmission assets. The APTEL vide judgment dated 22.1.2007 in Appeal No. 81/2005 and batch matters pertaining to generating stations of NTPC had considered 4 (four) issues. The issues considered by the APTEL and its decisions/ directions are as follows:



Sl. No.	Issue	APTEL's decisions/ directions
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 IoL	In view of the order of the 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

n) The APTEL in its judgment dated 13.6.2007 in Appeal No. 139/2006 and batch matters pertaining to generating stations of NTPC had considered 9 (nine) issues. The issues considered and the decisions/ directions of the APTEL are as follows:

Sl. No.	Issue	APTEL's decisions/ directions
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	The Commission to consider the issue afresh
III	Treating depreciation available as deemed repayment of loan	The Commission to make a fresh computation of outstanding loan
IV	Admissibility of depreciation up to 90%	The Commission to consider the issue afresh
V	Cost of Maintenance Spares	The 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. The Commission to act accordingly
VII	Non-consideration of normative transit loss for coal import.	The Commission to consider afresh the transit losses for coal imported from coal mines other than the dedicated ones.
VIII	FERV	FERV has been kept as pass through to ensure that any liability or gain, if any, arising on account of any variation in



Sl. No.	Issue	APTEL's decisions/ directions
		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. The Commission to act accordingly
IX	Computation of IoL 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.

o) The Commission and certain interested parties preferred Civil Appeals against the 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.

p) Based on the APTEL's judgments dated 22.1.2007 and 13.6.2007, the Petitioner had 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 the Civil Appeals by the Hon'ble Supreme Court.

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

r) Consequent to the Hon'ble Supreme Court's order dated 10.4.2018 in NTPC matter, 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 of the petition for the 2014-19 tariff period.

s) The instant petition was heard on 22.6.2021 and in view of the APTEL's judgments dated 22.1.2007 and 13.6.2007 and the judgment of Hon'ble Supreme Court dated 10.4.2018, tariff is being revised. Period-wise transmission 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, power departments and transmission licensees which are procuring transmission services from the Petitioner, mainly beneficiaries of Southern Region and Western 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. Madhya Pradesh Power Management Company Limited (MPPMCL), Respondent No. 18, has filed its reply vide affidavit dated 7.6.2021 and has raised the issues of revision of transmission tariff of the 2001-04, 2004-09 and 2009-14 tariff periods, income tax rates for grossing-up of RoE, Additional Capital Expenditure (ACE) and de-capitalization during the 2019-24 tariff period. Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO), Respondent No. 4, has filed its reply vide affidavit dated 9.7.2021 and has raised the issues of truing-up of tariff of the 2014-19 tariff period, ACE claimed by the Petitioner during the 2019-24 tariff period, GST and sharing of transmission charges. The Petitioner has filed its rejoinders to the reply of MPPMCL and TANGEDCO vide affidavits dated 15.6.2021 and 14.7.2021 respectively.

6. It has been placed before us that MPPMCL has been raising the same issue(s) in other petitions as well despite clear findings of the Commission. The contention(s) of MPPMCL have been dealt with by the Commission in other petitions including Petition No. 326/TT/2020. As MPPMCL has not challenged the findings, the same have attained finality. In view of these, the plea(s) raised by MPPMCL are rejected.



The issues which are specific to the instant petition and not dealt by the Commission earlier are considered in the relevant paragraphs of this order.

7. Similarly, issues raised by TANGEDCO and the clarifications thereto by the Petitioner have also already been dealt in earlier petitions decided by the Commission. The issues which are specific to the instant petition and not dealt by the Commission earlier are considered in the relevant paragraphs of this order.

Re: Interest on Loan

8. The 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 judgment dated 14.11.2006 in Appeal Nos. 94 and 96 of 2005. The APTEL vide 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 the 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

9. The 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 the 2001-04 and 2004-09 tariff periods are also required to be revised taking into consideration ACE after COD.

Re: Depreciation



10. As regards depreciation, the APTEL in judgment dated 13.6.2007 in Appeal No. 139/2006 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 directions of the APTEL, the outstanding loan allowed for the transmission assets for the 2001-04 and 2004-09 tariff periods is revised in the instant order.

11. The revision of transmission tariff allowed for 2001-04 and 2004-09 tariff periods 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 the APTEL vide judgments dated 22.1.2007 in Appeal No. 81/2005 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 was kept 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 2001-04, 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.

12. This order is issued considering the submissions made by the Petitioner in the petition vide affidavit dated 20.1.2020, the Petitioner's affidavit dated 30.3.2021 filed in response to technical validation letter, MPPMCL's reply filed vide affidavit dated 7.6.2021, the Petitioner's rejoinder to MPPMCL's reply and additional information filed



vide separate affidavit dated 15.6.2021, TANGEDCO's reply filed vide affidavit dated 9.7.2021 and the Petitioner's rejoinder to TANGEDCO's reply filed vide affidavit dated 14.7.2021.

13. The hearing in this matter was held on 22.6.2021 through video conference and the order was reserved. Having heard the learned counsel for TANGEDCO, representatives of the Petitioner and after perusal of the materials on record, we proceed to dispose of the petition.

REVISION OF TRANSMISSION CHARGES ALLOWED FOR THE 2001-04, 2004-09 AND 2009-14 TARIFF PERIODS

2001-04 Period

14. The Commission vide order dated 19.7.2004 in Petition No. 69/2002 had allowed the transmission charges of the transmission assets for the 2001-04 tariff period which were subsequently revised vide order dated 17.1.2008 in Petition No. 69/2002 and the same are as follows:

(₹ in lakh)

Asset-I			
Particulars	2001-02	2002-03	2003-04
Depreciation	238.69	238.69	238.69
Interest on Loan	413.58	200.81	187.22
Return on Equity	167.27	167.27	167.27
Advance against Depreciation	404.11	0.00	0.00
Interest on Working Capital	37.61	26.38	26.98
O&M Expenses	131.51	139.40	147.77
Total	1392.77	772.55	767.93

(₹ in lakh)

Asset-II			
Particulars	2001-02	2002-03	2003-04
Depreciation	2194.04	2194.04	2194.04
Interest on Loan	2525.98	1810.53	1504.44
Return on Equity	1266.74	1266.74	1266.74
Advance against Depreciation	2319.70	1498.97	1686.80
Interest on Working Capital	254.91	230.44	234.02
O&M Expenses	346.74	367.54	389.59
Total	8908.10	7368.26	7275.64



15. The Petitioner has claimed the revised transmission charges in respect of the transmission assets for the 2001-04 tariff period in this petition as follows:

(₹ in lakh)

Asset-I			
Particulars	2001-02	2002-03	2003-04
Depreciation	238.69	238.69	238.69
Interest on Loan	371.98	180.50	168.25
Return on Equity	167.27	167.27	167.27
Advance against Depreciation	404.11	0.00	0.00
Interest on Working Capital	36.80	25.98	26.61
O&M Expenses	131.51	139.40	147.77
Total	1350.36	751.83	748.59

(₹ in lakh)

Asset-II			
Particulars	2001-02	2002-03	2003-04
Depreciation	2194.04	2194.04	2194.04
Interest on Loan	2523.05	1814.30	1513.35
Return on Equity	1266.74	1266.74	1266.74
Advance against Depreciation	2319.70	1407.88	1601.22
Interest on Working Capital	254.85	228.74	232.52
O&M Expenses	346.74	367.54	389.59
Total	8905.12	7279.25	7197.46

16. In response to the similar contentions of MPPMCL regarding revision of transmission tariff of the 2001-04, 2004-09 and 2004-09 tariff periods as raised in various other petitions, where the Commission has already given its findings, the Petitioner has submitted that vide order dated 31.7.2020 and 5.3.2021 in Petition No. 288/TT/2019 and Petition No. 290/TT/2020 respectively, the Commission had allowed the revision of tariff for the 2001-04, 2004-09 and 2009-14 tariff periods.

17. The transmission tariff is revised for the transmission assets on the basis of the following:

- a) Admitted capital cost as on 1.4.2001 of ₹8759.02 lakh and ₹62082.01 lakh for Asset-I and Asset-II respectively allowed vide order dated 17.1.2008 in Petition No. 69/2002;



- b) Weighted Average Rate of Interest (WAROI) on actual loan, Weighted Average Rate of Depreciation (WAROD), Rate of IWC and O&M Expenses as per order dated 17.1.2008 in Petition No. 69/2002; and
- c) Admitted capital cost as on 31.3.2004 of ₹8759.02 lakh and ₹62082.01 lakh for Asset-I and Asset-II respectively allowed vide order dated 17.1.2008 in Petition No. 69/2002;
- d) There being no ACE during the 2001-04 tariff period, there is no requirement to revise the maintenance spares component for calculating IWC.

19. In view of the above, the revised transmission charges approved for the transmission assets for the 2001-04 tariff period are as follows:

(₹ in lakh)

Asset-I			
Particulars	2001-02	2002-03	2003-04
Depreciation	238.69	238.69	238.69
Interest on Loan	371.92	180.58	168.36
Return on Equity	167.27	167.27	167.27
Advance against Depreciation	404.11	0.00	0.00
Interest on Working Capital	36.79	25.98	26.61
O&M Expenses	131.51	139.40	147.77
Total	1350.29	751.91	748.70

(₹ in lakh)

Asset-II			
Particulars	2001-02	2002-03	2003-04
Depreciation	2194.04	2194.04	2194.04
Interest on Loan	2523.61	1814.77	1514.21
Return on Equity	1266.74	1266.74	1266.74
Advance against Depreciation	2319.70	1407.88	1601.22
Interest on Working Capital	254.86	228.75	232.54
O&M Expenses	346.74	367.54	389.59
Total	8905.69	7279.71	7198.34

20. The Annual Fixed Charges (AFC) of the transmission assets allowed vide order dated 17.1.2008 in Petition No. 69/2002, claimed in the instant petition and approved in the instant order are as follows:



(₹ in lakh)

Asset-I			
Particulars	2001-02	2002-03	2003-04
Allowed vide order dated 17.1.2008 in Petition No. 69/2002	1392.77	772.55	767.93
Claimed by the Petitioner in the instant petition	1350.36	751.83	748.59
Approved in the instant order	1350.29	751.91	748.70

(₹ in lakh)

Asset-II			
Particulars	2001-02	2002-03	2003-04
Allowed vide order dated 17.1.2008 in Petition No. 69/2002	8908.10	7368.26	7275.64
Claimed by the Petitioner in the instant petition	8905.12	7279.25	7197.46
Approved in the instant order	8905.69	7279.71	7198.34

2004-09 Tariff Period

21. The Commission vide order dated 2.5.2006 in Petition No. 137/2004 had allowed the transmission charges of the transmission assets for the 2004-09 tariff period which were subsequently revised vide order dated 16.4.2008 in Petition No. 137/2004 and the same are as follows:

(₹ in lakh)

Asset-I					
Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	246.66	246.66	246.66	246.66	246.66
Interest on Loan	179.68	165.08	149.63	133.01	115.13
Return on Equity	146.36	146.36	146.36	146.36	146.36
Advance against Depreciation	0.00	10.06	29.48	50.33	72.80
Interest on Working Capital	24.74	25.49	26.45	27.45	28.52
O&M Expenses	100.51	104.52	108.81	112.99	117.67
Total	697.95	698.17	707.38	716.80	727.14

(₹ in lakh)

Asset-II					
Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	2442.33	2442.33	2442.33	2442.33	2442.33
Interest on Loan	1278.98	971.60	658.09	434.08	322.03
Return on Equity	1108.40	1108.40	1108.40	1108.40	1108.40
Advance against Depreciation	2376.20	2516.03	2758.99	0.00	0.00
Interest on Working Capital	287.67	294.05	302.65	261.21	270.27
O&M Expenses	871.72	906.75	943.02	980.53	1019.90
Total	8365.29	8239.15	8213.48	5226.54	5162.92



22. The Petitioner has claimed the revised transmission charges in respect of the transmission assets for the 2004-09 tariff period in this petition as follows:

(₹ in lakh)

Asset-I					
Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	246.66	246.66	246.66	246.66	246.66
Interest on Loan	163.07	149.76	135.44	120.03	103.45
Return on Equity	146.36	146.36	146.36	146.36	146.36
Advance against Depreciation	0.00	0.00	9.33	28.72	49.47
Interest on Working Capital	24.45	25.05	25.85	26.85	27.91
O&M Expenses	100.51	104.52	108.81	112.99	117.67
Total	681.05	672.36	672.45	681.60	691.53

(₹ in lakh)

Asset-II					
Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	2442.33	2442.33	2442.33	2442.33	2442.33
Interest on Loan	1285.88	977.22	662.46	454.10	382.13
Return on Equity	1108.40	1108.40	1108.40	1108.40	1108.40
Advance against Depreciation	2395.17	2533.95	2773.56	0.00	0.00
Interest on Working Capital	288.12	294.46	302.98	261.55	271.31
O&M Expenses	871.72	906.75	943.02	980.53	1019.90
Total	8391.62	8263.11	8232.75	5246.91	5224.07

23. The transmission tariff is allowed for the transmission assets on the basis of the following:

- a) The admitted capital cost as on 1.4.2004 of ₹9051.09 lakh and ₹69107.40 lakh for Asset-I and Asset-II respectively allowed by the Commission vide order dated 16.4.2008 in Petition No. 137/2004; and
- b) WAROI on actual loan, WAROD, Rate of IWC and O&M Expenses as per order dated 16.4.2008 in Petition No. 137/2004.

24. In view of the above, the revised transmission charges approved for the transmission assets for the 2004-09 tariff period are as follows:



(₹ in lakh)

Asset-I					
Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	246.66	246.66	246.66	246.66	246.66
Interest on Loan	163.07	149.76	135.44	120.03	103.45
Return on Equity	146.36	146.36	146.36	146.36	146.36
Advance against Depreciation	0.00	0.00	9.33	28.72	49.47
Interest on Working Capital	24.45	25.05	25.85	26.85	27.91
O&M Expenses	100.51	104.52	108.81	112.99	117.67
Total	681.06	672.36	672.45	681.61	691.53

(₹ in lakh)

Asset-II					
Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	2442.33	2442.33	2442.33	2442.33	2442.33
Interest on Loan	1285.89	977.23	662.45	454.10	382.14
Return on Equity	1108.40	1108.40	1108.40	1108.40	1108.40
Advance against Depreciation	2395.18	2533.95	2773.56	0.00	0.00
Interest on Working Capital	288.12	294.46	302.98	261.55	271.31
O&M Expenses	871.72	906.75	943.02	980.53	1019.90
Total	8391.64	8263.11	8232.75	5246.91	5224.07

25. AFC of the transmission assets as allowed vide order dated 16.4.2008 in Petition No. 137/2004, claimed in the instant petition and approved in the instant order are as follows:

(₹ in lakh)

Asset-I					
Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Allowed vide order dated 16.4.2008 in Petition No. 137/2004	697.95	698.17	707.38	716.80	727.14
Claimed by the Petitioner in the instant petition	681.05	672.36	672.45	681.60	691.53
Approved in the instant order	681.06	672.36	672.45	681.61	691.53

(₹ in lakh)

Asset-II					
Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Allowed vide order dated 16.4.2008 in Petition No. 137/2004	8365.29	8239.15	8213.48	5226.54	5162.92
Claimed by the Petitioner in the instant petition	8391.62	8263.11	8232.75	5246.91	5224.07
Approved in the instant order	8391.64	8263.11	8232.75	5246.91	5224.07



2009-14 Tariff Period

26. The Commission vide order dated 20.6.2011 in Petition No. 178/2010 had allowed the transmission tariff of the transmission assets for the 2009-14 tariff period which was trued-up vide order dated 11.1.2016 in Petition No. 493/TT/2014 as follows:

(₹ in lakh)

Asset-I					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	478.60	159.13	159.13	159.13	160.05
Interest on Loan	133.31	110.81	99.22	85.15	69.69
Return on Equity	195.23	202.38	202.58	202.58	206.16
Interest on Working Capital	25.56	19.07	19.37	19.63	19.99
O&M Expenses	174.61	184.51	195.14	206.33	218.09
Total	1007.31	675.90	675.43	672.81	673.98

(₹ in lakh)

Asset-II					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	3596.99	834.37	834.37	834.37	834.37
Interest on Loan	213.06	137.29	108.07	80.36	53.66
Return on Equity	1478.44	1532.60	1534.10	1534.10	1552.55
Interest on Working Capital	154.54	99.01	101.14	103.36	106.19
O&M Expenses	886.00	936.00	990.00	1046.00	1106.00
Total	6329.03	3539.27	3567.68	3598.19	3652.77

27. The Petitioner has claimed revised transmission charges for the transmission assets for the 2009-14 tariff period in this petition as follows:

(₹ in lakh)

Asset-I					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	478.60	159.13	159.13	159.13	160.05
Interest on Loan	117.37	94.22	82.23	68.13	53.23
Return on Equity	195.23	202.38	202.58	202.58	206.16
Interest on Working Capital	25.22	18.73	19.01	19.28	19.65
O&M Expenses	174.61	184.51	195.14	206.33	218.09
Total	991.03	658.97	658.10	655.45	657.18



(₹ in lakh)

Asset-II					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	3596.99	834.37	834.37	834.37	834.37
Interest on Loan	296.93	219.98	189.40	160.92	134.22
Return on Equity	1478.44	1532.60	1534.10	1534.10	1552.55
Interest on Working Capital	156.29	100.74	102.83	105.04	107.87
O&M Expenses	886.00	936.00	990.00	1046.00	1106.00
Total	6414.65	3623.69	3650.70	3680.43	3735.01

28. The revised transmission tariff is allowed for the transmission assets on the basis of the following:

- Admitted capital cost as on 1.4.2009 of ₹9051.09 lakh and ₹69107.40 lakh for Asset-I and Asset-II respectively; and
- WAROI on actual loan, WAROD, Rate of IWC and O&M Expenses as per order dated 11.1.2016 in Petition No. 493/TT/2014.

29. In view of the above, the revised transmission charges approved for the transmission assets for the 2009-14 tariff period are as follows.

(₹ in lakh)

Asset-I					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	478.60	163.06	163.06	163.06	163.98
Interest on Loan	117.37	94.05	81.71	67.25	52.03
Return on Equity	195.23	202.38	202.58	202.58	206.16
Interest on Working Capital	25.22	18.81	19.08	19.34	19.71
O&M Expenses	174.61	184.51	195.14	206.33	218.09
Total	991.03	662.80	661.57	658.55	659.97

(₹ in lakh)

Asset-II					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	3596.99	871.92	871.92	871.92	871.92
Interest on Loan	296.93	219.36	187.58	157.91	130.01
Return on Equity	1478.44	1532.60	1534.10	1534.10	1552.55
Interest on Working Capital	156.29	101.51	103.58	105.76	108.56
O&M Expenses	886.00	936.00	990.00	1046.00	1106.00
Total	6414.66	3661.39	3687.18	3715.70	3769.05

30. AFC allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014, claimed in the instant petition and approved in the instant order are as follows:



(₹ in lakh)

Asset-I					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014	1007.31	675.90	675.43	672.81	673.98
Claimed by the Petitioner in the instant petition	991.03	658.97	658.10	655.45	657.18
Approved in the instant order	991.03	662.80	661.57	658.55	659.97

(₹ in lakh)

Asset-II					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014	6329.03	3539.27	3567.67	3598.18	3652.77
Claimed by the Petitioner in the instant petition	6414.65	3623.69	3650.70	3680.43	3735.01
Approved in the instant order	6414.66	3661.39	3687.18	3715.70	3769.05

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

31. TANGEDCO has submitted that for truing up of the 2014-19 tariff period, Tariff Filing Formats along with other relevant information and supporting documentation have not been enclosed with the instant petition, contrary to their enclosure as stated by the Petitioner in the petition. In response, the Petitioner has requested to consider Enclosure-6 of the Petition wherein Tariff Forms for the 2014-19 tariff period are enclosed.

32. The details of the trued-up transmission charges claimed by the Petitioner in respect of the transmission assets for the 2014-19 tariff period are as follows:

(₹ in lakh)

Asset-I					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	165.83	165.83	165.83	165.83	165.83
Interest on Loan	40.27	25.88	11.48	2.14	0.00
Return on Equity	207.46	208.42	208.31	208.31	208.87
Interest on Working Capital	20.53	20.60	20.64	20.81	21.18
O&M Expenses	199.38	206.11	212.98	219.99	227.32
Total	633.47	626.84	619.24	617.08	623.20



(₹ in lakh)

Asset-II					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	888.61	888.62	888.60	888.62	888.60
Interest on Loan	106.65	78.22	53.63	22.87	3.84
Return on Equity	1553.73	1560.86	1560.07	1560.07	1564.26
Interest on Working Capital	122.53	127.46	132.62	138.21	144.61
O&M Expenses	1156.00	1254.00	1358.00	1472.00	1594.00
Total	3827.52	3909.16	3992.92	4081.77	4195.31

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

(₹ in lakh)

Asset-I					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses	16.62	17.18	17.75	18.33	18.94
Maintenance Spares	29.91	30.92	31.95	33.00	34.10
Receivables	105.58	104.47	103.21	102.85	103.87
Total Working Capital	152.11	152.57	152.91	154.18	156.91
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	20.53	20.60	20.64	20.81	21.18

(₹ in lakh)

Asset-II					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses	96.33	104.50	113.17	122.67	132.83
Maintenance Spares	173.40	188.10	203.70	220.80	239.10
Receivables	637.92	651.53	665.49	680.30	699.22
Total Working Capital	907.65	944.13	982.36	1023.77	1071.15
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	122.53	127.46	132.62	138.21	144.61

Capital Cost

34. The Petitioner has claimed the capital cost as on 1.4.2014 of ₹9090.06 lakh and ₹69107.40 lakh for Asset-I and Asset-II respectively. The same capital cost was admitted by the Commission vide order dated 11.1.2016 in Petition No. 493/TT/2014. The Petitioner has not claimed any ACE during the 2014-19 tariff period and accordingly, the capital cost of ₹9090.06 lakh and ₹69107.40 lakh for Asset-I and Asset-II respectively has been considered as opening capital cost as on 1.4.2014 as



well as closing capital cost as on 31.3.2019, in accordance with Regulation 9(3) of the 2014 Tariff Regulations.

Debt-Equity Ratio

35. 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 approved by the Commission for determination of transmission tariff for the period ending on 31.3.2014 shall be considered. Accordingly, the details of the debt-equity ratio as on 1.4.2014 and 31.3.2019 for the transmission assets is as follows:

Funding	Capital Cost (as on 1.4.2014) (₹ in lakh)	(in %)	ACE (2014-19) (₹ in lakh)	(in %)	Capital Cost (as on 31.3.2019) (₹ in lakh)	(in %)
Asset-I						
Debt	8032.92	88.37	0.00	N/A	8032.92	88.37
Equity	1057.14	11.63	0.00		1057.14	11.63
Total	9090.06	100.00	0.00		9090.06	100.00
Asset-II						
Debt	61190.27	88.54	0.00	N/A	61190.27	88.54
Equity	7917.13	11.46	0.00		7917.13	11.46
Total	69107.40	100.00	0.00		69107.40	100.00

Depreciation

36. Depreciation has been allowed as per the methodology provided in Regulation 27 of the 2014 Tariff Regulations. The transmission assets have already completed 12 years of life prior to 1.4.2014. Therefore, the remaining depreciable value has been spread across the balance useful life in accordance with Regulation 27(5) of the 2014 Tariff Regulations and trued-up depreciation approved for the 2014-19 tariff period is as follows:



(₹ in lakh)

Asset-I					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	9090.06	9090.06	9090.06	9090.06	9090.06
Additional Capitalization	0.00	0.00	0.00	0.00	0.00
Decapitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	9090.06	9090.06	9090.06	9090.06	9090.06
Average Gross Block	9090.06	9090.06	9090.06	9090.06	9090.06
Weighted average rate of Depreciation (WAROD) (in %)	1.81	1.81	1.81	1.81	1.81
Balance useful life of the asset (Year)	18	17	16	15	14
Lapsed life of the asset (Year)	16	17	18	19	20
Aggregated Depreciable Value	8181.05	8181.05	8181.05	8181.05	8181.05
Depreciation during the year	164.96	164.96	164.96	164.96	164.96
Cumulative Depreciation at the end of the year	5376.80	5541.76	5706.71	5871.67	6036.63
Aggregate Depreciable Value at the end of the year	2804.25	2639.30	2474.34	2309.39	2144.43

(₹ in lakh)

Asset-II					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	69107.40	69107.40	69107.40	69107.40	69107.40
Additional Capitalization	0.00	0.00	0.00	0.00	0.00
Decapitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	69107.40	69107.40	69107.40	69107.40	69107.40
Average Gross Block	69107.40	69107.40	69107.40	69107.40	69107.40
Freehold Land	56.42	56.42	56.42	56.42	56.42
Weighted average rate of Depreciation (WAROD) (in %)	1.26	1.26	1.26	1.26	1.26
Balance useful life of the asset (Year)	9	8	7	6	5
Lapsed life of the asset (Year)	16	17	18	19	20
Aggregated Depreciable Value	62145.88	62145.88	62145.88	62145.88	62145.88
Depreciation during the year	871.92	871.92	871.92	871.92	871.92
Cumulative Depreciation at the end of the year	55170.53	56042.45	56914.36	57786.28	58658.20
Aggregate Depreciable Value at the end of the year	6975.36	6103.44	5231.52	4359.60	3487.68

37. The details of depreciation in respect of the transmission assets as allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014, claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:



(₹ in lakh)

Asset-I					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014	161.02	161.02	161.02	161.02	161.02
Claimed by the Petitioner in the instant petition	165.83	165.83	165.83	165.83	165.83
Approved after true-up in this order	164.96	164.96	164.96	164.96	164.96

(₹ in lakh)

Asset-II					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014	834.37	834.37	834.37	834.37	834.37
Claimed by the Petitioner in the instant petition	888.61	888.62	888.60	888.62	888.60
Approved after true-up in this order	871.92	871.92	871.92	871.92	871.92

Interest on Loan

38. The Petitioner has claimed WAROI on loan, based on its actual loan portfolio and rate of interest. Accordingly, IoL has been calculated based on actual interest rates submitted by the Petitioner in accordance with Regulation 26 of the 2014 Tariff Regulations. The trued-up IoL approved in respect of the transmission assets is as follows:

(₹ in lakh)

Asset-I					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	8032.92	8032.92	8032.92	8032.92	8032.92
Cumulative Repayments up to Previous Year	7501.79	7666.75	7831.70	7996.66	8032.92
Net Loan-Opening	531.13	366.17	201.22	36.26	0.00
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	164.96	164.96	164.96	36.26	0.00
Net Loan-Closing	366.17	201.22	36.26	0.00	0.00
Average Loan	448.65	283.69	118.74	18.13	0.00
Weighted Average Rate of Interest on Loan (%)	8.6800	8.6800	8.6800	8.6800	0.00
Interest on Loan	38.94	24.62	10.31	1.57	0.00

(₹ in lakh)

Asset-II					
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Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	61190.27	61190.27	61190.27	61190.27	61190.27
Cumulative Repayments up to Previous Year	57563.32	58435.24	59307.16	60179.08	61051.00
Net Loan-Opening	3626.95	2755.03	1883.11	1011.19	139.27
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	871.92	871.92	871.92	871.92	139.27
Net Loan-Closing	2755.03	1883.11	1011.19	139.27	0.00
Average Loan	3190.99	2319.07	1447.15	575.23	69.64
Weighted Average Rate of Interest on Loan (%)	3.2000	3.2000	3.4472	3.4286	3.4286
Interest on Loan	102.11	74.21	49.89	19.72	2.39

39. The details of IoL in respect of the transmission assets as allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014, claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:

(₹ in lakh)

Asset-I					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014	56.94	42.97	28.99	15.01	4.01
Claimed by the Petitioner in the instant petition	40.27	25.88	11.48	2.14	0.00
Approved after true-up in this order	38.94	24.62	10.31	1.57	0.00

(₹ in lakh)

Asset-II					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014	26.96	6.80	0.00	0.00	0.00
Claimed by the Petitioner in the instant petition	106.65	78.22	53.63	22.87	3.84
Approved after true-up in this order	102.11	74.21	49.89	19.72	2.39

Return on Equity

40. The Petitioner has claimed RoE for the transmission assets in terms of Regulations 24 and 25 of the 2014 Tariff Regulations. The Petitioner has submitted that it is liable to pay income tax at Minimum Alternate Tax (MAT) rates and has claimed the effective tax rates for the 2014-19 tariff period as follows:



Year	Claimed effective tax rate (in %)	Grossed-up RoE (in %) [(Base Rate)/(1-t)]
2014-15	21.018	19.625
2015-16	21.382	19.716
2016-17	21.338	19.705
2017-18	21.337	19.704
2018-19	21.549	19.758

41. In response to the similar contentions of MPPMCL regarding Income Tax rate for grossing-up of RoE, as raised in various other petitions, where the Commission has already given its findings, the Petitioner has submitted that the rejoinder filed in Petition No. 326/TT/2020 on this aspect may be considered. The Commission has disposed the Petition No. 326/TT/2-020 vide order dated 21.9.2021.

42. We have considered the submissions of the Petitioner who brought to our notice that similar contentions were raised by MPPMCL in this context. The Commission vide order dated 2.2.2021 in Petition No. 312/TT/2020 has already dealt with MPPMCL's contentions of Income Tax rate for grossing-up of RoE observing that the Petitioner has submitted assessment orders issued by the Income Tax Department for the years 2014-15, 2015-16 and 2016-17 and Income Tax returns have been filed by the Petitioner for the years 2017-18 and 2018-19. The Commission in the said order further observed that the Petitioner has submitted the documents as pointed out by MPPMCL. In view of our finding in the order dated 2.2.2021 in Petition No. 312/TT/2020, no fresh consideration on the issue is required. Accordingly, the contentions of MPPMCL are rejected.

43. The Commission vide order dated 27.4.2020 in Petition No. 274/TT/2019 had arrived at the effective tax rates based on the notified MAT rates for the Petitioner which are as follows:



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

44. MAT rates considered in order dated 27.4.2020 for the purpose of grossing up of rate of RoE for truing up of the tariff of the 2014-19 tariff period in terms of the provisions of the 2014 Tariff Regulations, is considered in the instant case which are as follows:

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

45. The Petitioner has claimed RoE for the 2014-19 tariff period after grossing up 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 MAT rate applicable in the respective years and is allowed for the transmission assets as follows:

(₹ in lakh)

Asset-I					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	1057.14	1057.14	1057.14	1057.14	1057.14
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	1057.14	1057.14	1057.14	1057.14	1057.14
Average Equity	1057.14	1057.14	1057.14	1057.14	1057.14
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	20.961	21.342	21.342	21.342	21.549
Rate of Return on Equity (%)	19.610	19.705	19.705	19.705	19.758
Return on Equity	207.31	208.31	208.31	208.31	208.87



(₹ in lakh)

Asset-II					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	7917.13	7917.13	7917.13	7917.13	7917.13
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	7917.13	7917.13	7917.13	7917.13	7917.13
Average Equity	7917.13	7917.13	7917.13	7917.13	7917.13
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	20.961	21.342	21.342	21.342	21.549
Rate of Return on Equity (%)	19.610	19.705	19.705	19.705	19.758
Return on Equity	1552.55	1560.07	1560.07	1560.07	1564.27

46. The details of RoE in respect of the transmission assets as allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014, claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:

(₹ in lakh)

Asset-I					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014	207.31	207.31	207.31	207.31	207.31
Claimed by the Petitioner in the instant petition	207.46	208.42	208.31	208.31	208.87
Approved after true-up in this order	207.31	208.31	208.31	208.31	208.87

(₹ in lakh)

Asset-II					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014	1552.55	1552.55	1552.55	1552.55	1552.55
Claimed by the Petitioner in the instant petition	1553.73	1560.86	1560.07	1560.07	1564.26
Approved after true-up in this order	1552.55	1560.07	1560.07	1560.07	1564.27

Operation & Maintenance Expenses (O&M Expenses)

47. The total O&M Expenses claimed by the Petitioner in respect of the transmission assets are as follows:



(₹ in lakh)

Asset-I					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Ramagundam-Hyderabad 400 kV S/C line-2195.000 km S/C (Double Conductor): 02 Numbers of 400 kV bays at Hyderabad-Ramagundam-II and Ramagundam-Hyderabad-II					
Claimed by the Petitioner in the instant petition	199.38	206.11	212.98	219.99	227.32

(₹ in lakh)

Asset-II					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
HVDC back-to-back station at Bhadrawati (Chandrapur): 02 Numbers of 400 kV bays at HVDC back-to-back sub-station at Bhadrawati					
Claimed by the Petitioner in the instant petition	1156.00	1254.00	1358.00	1472.00	1594.00

48. Regulation 29(3) of the 2014 Tariff Regulations specifies the norms for O&M Expenses for the transmission system. The norms specified in respect of the elements covered in the transmission assets are as follows:

Element	Norms for 2014-15	Norms for 2015-16	Norms for 2016-17	Norms for 2017-18	Norms for 2018-19
S/C (Double Conductor) Transmission Line	₹0.404 lakh/km	₹0.418 lakh/km	₹0.432 lakh/km	₹0.446 lakh/km	₹0.461 lakh/km
400 kV Sub-station	₹60.30 lakh/ bay	₹ 62.30 lakh/ bay	₹64.37 lakh/ bay	₹66.51 lakh/ bay	₹68.71 lakh/ bay
HVDC Back to Back Sub-station	₹578 lakh/500MW	₹627 lakh/500MW	₹679 lakh/500MW	₹736 lakh/500MW	₹797 lakh/500MW

49. The O&M Expenses are approved in respect of the transmission assets as per the norms specified in Regulation 29(3) of the 2014 Tariff Regulations and are as follows:

(₹ in lakh)

Asset-I					
Details	2014-15	2015-16	2016-17	2017-18	2018-19
02 Numbers 400 kV sub-station Bays	120.60	124.60	128.74	133.02	137.42
195.00 kms S/C (Double Conductor) (02 Numbers Bays)	78.78	81.51	84.24	86.97	89.90
Total	199.38	206.11	212.98	219.99	227.12



(₹ in lakh)

Asset-II					
Details	2014-15	2015-16	2016-17	2017-18	2018-19
HVDC back-to-back station at Bhadrawati (Chandrapur): 02 Numbers 400 kV bays at HVDC back-to-back sub-station at Bhadrawati	1156.00	1254.00	1358.00	1472.00	1594.00
Total	1156.00	1254.00	1358.00	1472.00	1594.00

50. The details of O&M Expenses in respect of the transmission assets as allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014, claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:

(₹ in lakh)

Asset-I					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014	199.38	206.11	212.98	219.99	227.32
Claimed by the Petitioner in the instant petition	199.38	206.11	212.98	219.99	227.32
Approved after true-up in this order	199.38	206.11	212.98	219.99	227.32

(₹ in lakh)

Asset-II					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014	1156.00	1254.00	1358.00	1472.00	1594.00
Claimed by the Petitioner in the instant petition	1156.00	1254.00	1358.00	1472.00	1594.00
Approved after true-up in this order	1156.00	1254.00	1358.00	1472.00	1594.00

Interest on Working Capital

51. IWC has been worked out as per the methodology provided in Regulation 28 of the 2014 Tariff Regulations and the trued-up IWC allowed in respect of the transmission assets is as follows:

(₹ in lakh)

Asset-I					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
WC for O&M Expenses (O&M Expenses for 1 month)	16.62	17.18	17.75	18.33	18.94
WC for Maintenance Spares (15% of O&M Expenses)	29.91	30.92	31.95	33.00	34.10
WC for Receivables (Equivalent to 2 months of annual fixed	105.18	104.09	102.86	102.60	103.72

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Asset-I					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
costs/annual transmission charges)					
Total Working Capital	151.70	152.18	152.55	153.93	156.76
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
Interest of Working Capital	20.48	20.54	20.59	20.78	21.16

(₹ in lakh)

Asset-II					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
WC for O&M Expenses (O&M Expenses for 1 month)	96.33	104.50	113.17	122.67	132.83
WC for Maintenance Spares (15% of O&M Expenses)	173.40	188.10	203.70	220.80	239.10
WC for Receivables (Equivalent to 2 months of annual fixed costs/annual transmission charges)	634.10	647.86	662.00	676.91	696.13
Total Working Capital	903.83	940.46	978.87	1020.38	1068.06
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
Interest of Working Capital	122.02	126.96	132.15	137.75	144.19

52. The details of IWC in respect of the transmission assets as allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014, claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:

(₹ in lakh)

Asset-I					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014	20.80	20.85	20.91	20.98	21.13
Claimed by the Petitioner in the instant petition	20.53	20.60	20.64	20.81	21.18
Approved after true-up in this order	20.48	20.54	20.59	20.78	21.16

(₹ in lakh)

Asset-II					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014	119.42	124.37	129.96	136.26	143.00
Claimed by the Petitioner in the instant petition	122.53	127.46	132.62	138.21	144.61
Approved after true-up in this order	122.02	126.96	132.15	137.75	144.19



Approved Annual Fixed Charges for the 2014-19 Tariff Period

53. The trued-up AFC for the transmission assets for the 2014-19 tariff period are as follows:

(₹ in lakh)

Asset-I					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	164.96	164.96	164.96	164.96	164.96
Interest on Loan	38.94	24.62	10.31	1.57	0.00
Return on Equity	207.31	208.31	208.31	208.31	208.87
O&M Expenses	199.38	206.11	212.98	219.99	227.32
Interest on Working Capital	20.48	20.54	20.59	20.78	21.16
Total	631.06	624.55	617.15	615.61	622.30

(₹ in lakh)

Asset-II					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	871.92	871.92	871.92	871.92	871.92
Interest on Loan	102.11	74.21	49.89	19.72	2.39
Return on Equity	1552.55	1560.07	1560.07	1560.07	1564.27
O&M Expenses	1156.00	1254.00	1358.00	1472.00	1594.00
Interest on Working Capital	122.02	126.96	132.15	137.75	144.19
Total	3804.60	3887.16	3972.02	4061.46	4176.76

54. Accordingly, the Annual Transmission Charges as allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014, claimed by the Petitioner in the instant petition and approved after truing up in the instant order are as follows:

(₹ in lakh)

Asset-I					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014	645.46	638.26	631.21	624.31	620.79
Claimed by the Petitioner in the instant petition	633.47	626.84	619.24	617.08	623.20
Approved after true-up in this order	631.06	624.55	617.15	615.61	622.30

(₹ in lakh)

Asset-II					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 11.1.2016 in Petition No. 493/TT/2014	3689.30	3772.10	3874.88	3995.18	4123.92



Claimed by the Petitioner in the instant petition	3827.52	3909.16	3992.92	4081.77	4195.31
Approved after true-up in this order	3804.60	3887.16	3972.02	4061.46	4176.76

DETERMINATION OF ANNUAL FIXED CHARGES FOR THE 2019-24 TARIFF PERIOD

55. The Petitioner has claimed the transmission charges in respect of the transmission assets for the 2019-24 tariff period as follows:

(₹ in lakh)

Asset-I					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	165.83	165.83	165.83	165.83	165.83
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	198.55	198.55	198.55	198.55	198.55
O&M Expenses	163.74	169.51	175.36	181.48	187.88
Interest on Working Capital	12.62	12.89	13.14	13.41	13.67
Total	540.74	546.78	552.88	559.27	565.93

(₹ in lakh)

Asset-II					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	888.62	888.60	1992.51	17447.02	5340.28
Interest on Loan	0.00	0.00	23.07	96.68	265.70
Return on Equity	1486.99	1486.99	1625.22	2592.77	3523.19
O&M Expenses	1670.62	1730.62	1790.62	1852.62	1918.62
Interest on Working Capital	108.53	111.32	133.01	384.48	184.18
Total	4154.76	4217.53	5564.43	22373.57	11231.97

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

(₹ in lakh)

Asset-I					
Particular	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	13.65	14.13	14.61	15.12	15.66
Maintenance Spares	24.56	25.43	26.30	27.22	28.18
Receivables	66.48	67.41	68.16	68.95	69.58
Total Working Capital	104.69	106.97	109.07	111.29	113.42
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	12.62	12.89	13.14	13.41	13.67



Asset-II					
Particular	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	139.22	144.22	149.22	154.39	159.89
Maintenance Spares	250.59	259.59	268.59	277.89	287.79
Receivables	510.83	519.97	686.03	2758.39	1080.79
Total Working Capital	900.64	923.78	1103.84	3190.67	1528.47
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	108.53	111.32	133.01	384.48	184.18

Capital Cost

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

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

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

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



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

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

- (a) Capital cost admitted by the Commission prior to 1.4.2019 duly tried up by excluding liability, if any, as on 1.4.2019;
- (b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;
- (c) Capital expenditure on account of 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.”

58. The Petitioner has claimed capital cost as on 1.4.2019 of ₹9090.06 lakh and ₹69107.40 lakh for Asset-I and Asset-II respectively. The same capital cost has been trued-up 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.

Additional Capital Expenditure

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

“24. Additional Capitalisation within the original scope and upto the cut-off date

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

- (a) Undischarged liabilities recognized to be payable at a future date;*
- (b) Works deferred for execution;*
- (c) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 23 of these regulations;*
- (d) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority or order or decree of any court of law;*
- (e) Change in law or compliance of any existing law; and*
- (f) Force Majeure events:*

Provided that in case of any replacement of the assets, the additional capitalization shall be worked out after adjusting the gross fixed assets and cumulative depreciation of the assets replaced on account of de-capitalization.

(2) The generating company or the transmission licensee, as the case may be shall submit the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution.”

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

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

- (a) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority, or order or decree of any court of law;*
- (b) Change in law or compliance of any existing law;*
- (c) Deferred works relating to ash pond or ash handling system in the original scope of work;*



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

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

(a) The useful life of the assets is not commensurate with the useful life of the project and such assets have been fully depreciated in accordance with the provisions of these regulations;

(b) The replacement of the asset or equipment is necessary on account of change in law or Force Majeure conditions;

(c) The replacement of such asset or equipment is necessary on account of obsolescence of technology; and

(d) The replacement of such asset or equipment has otherwise been allowed by the Commission.”

60. The Petitioner has not projected any ACE for Asset-I during the 2019-24 tariff period but ACE of ₹34410.00 lakh and de-capitalization of ₹26586.41 lakh for Asset-II during the 2019-24 tariff period towards replacement/ refurbishment works of Bhadrawati back-to-back station has been projected and claimed under Regulation 25(2)(c) of the 2019 Tariff Regulations. The Petitioner has submitted that some of the equipment proposed to be replaced were commissioned in 1997, with their useful life getting completed during the 2019-24 tariff period.

61. The Petitioner has submitted that the DC control and Protection are of GEC Alstom Series IV which are out of production. The spare cards for DC controls such as Valve Base Electronics, Valve Control, Master Control etc. are series IV based and are not easily available leading to long outages of HVDC system. The Petitioner has submitted that the designs have undergone substantial changes over the period and manufacturers have discontinued the product models. The suppliers are unable to replenish parts required for quick restoration and repairs have turned out to be unviable and in view of the absence of proper support from suppliers, due to



obsolescence of design, the maintenance of these equipment is not possible anymore and this is a serious threat to the reliability and security of grid operation.

62. The Petitioner has submitted that Thyristor Valve and Gate units at Chandrapur HVDC are also very old and obsolete and will pose interfacing issues with new Control and Protection System and OEM is also unable to supply the thyristor owing to very old design and, therefore, the Petitioner has proposed to replace the control and protection system at Chandrapur HVDC, Thyristor Valves, Valve Cooling System, PLC filters and Battery Chargers based on failure rates, non-availability of spare for control cards and non-availability of support from OEM for series IV controls.

63. The Petitioner vide affidavit dated 30.3.2021 has claimed projected ACE of ₹49062.00 lakh for Asset-II during the 2019-24 tariff period. The Petitioner has submitted that earlier projected ACE of ₹34410.00 lakh for Asset-II was based on SIEMENS quotation dated 19.9.2019. However, at the time of preparation of Detailed Project Report, budgetary quotations for Supply and Services were taken from SIEMENS, ABB and GE and as per Budgetary offer, SIEMENS was qualified as L1 which subsequently revised its budgetary offer vide quotation dated 9.4.2020 which lead to said revised projected ACE.

64. The Petitioner has submitted that it has proposed to extend the life of Asset-II by 10 years with effect from 2023-24 based on recommendation of OEM of HVDC under the refurbishment plan, which involves replacement of control and protection, Valve Hall equipment, Valve cooling system and PLC Filter.

65. The Petitioner has submitted that Asset-II had been continuously serving the operational requirements since its commissioning and recently problems in different



areas of Asset-II have been encountered which have resulted in the frequent interruption of power flow, rendering Asset-II out of service for long periods such as outage of Pole-I of Asset-II from 15.11.2019 to 21.11.2019 due to mal-functioning of Control and Protection System. These mal-functioning have increased considerably in last 2-3 years largely due to ageing of the equipment and obsolescence of technology/ non-availability of spares and service support.

66. The Petitioner has submitted that the tripping of Asset-II in recent years has decreased its availability and reliability. In view of the number of trippings, the matter was taken up with M/s GE (OEM) and post consultation, it was decided to undergo replacement/ upgradation of some crucial components which had already experienced failures because of ageing. The details of the problems faced, justification along with various correspondences with supplier with regard to non-availability of spare parts and maintenance due to obsolescence of technology have been submitted by the Petitioner vide affidavit dated 30.3.2021.

67. MPPMCL in its reply has submitted that no study has been provided by the Petitioner which details the reason and priority for replacement of old and obsolete equipment against which ACE and de-capitalisation has been claimed during the 2019-24 tariff period. In response, the Petitioner has submitted that the equipment are getting replaced in a phased manner and, accordingly, ACE has been claimed from 2021-22 to 2023. The details of ACE along with correspondences from OEM of HVDC with regard to replacement of equipment have been submitted by the Petitioner vide affidavit dated 30.3.2021.

68. TANGEDCO in its reply has submitted that the Petitioner has not furnished the details of discussion held during the operation coordination committee meetings along



with minutes and the Petitioner must bring on record the benefits derived from the instant assets from COD to till date and cost benefit analysis for upgradation of the HVDC equipment. TANGEDCO has submitted that as the beneficiaries are liable to pay the transmission charges, the Petitioner must obtain RPC Approval/ beneficiaries' approval for ACE in case of necessary replacement. TANGEDCO has further submitted that the budgetary quotations for Supply and Services received from ABB and GE may also be furnished and to be discussed in RPC meeting as SIEMENS has increased its budgetary offer. TANGEDCO has requested to direct the Petitioner to discuss the proposal with the beneficiaries and get the consents apart from compliance of the mandatory requirements under the Regulations. In response, the Petitioner has submitted that vide Record of Proceedings dated 22.6.2021, the Commission had directed the Petitioner to obtain and submit the technical approval and report of CTU and POSOCO on the requirement and usefulness of Asset-II. Further, the Commission had granted liberty to the Petitioner to file a separate petition, if required under the provisions of Regulation 27 of the 2019 Tariff Regulations for the proposed ACE along with the detailed study and report from CTU and POSOCO for the system and day-to-day operation. The Petitioner has submitted that accordingly the matter is being taken up with CTU and POSOCO and the reports so obtained shall be submitted along with justification and details of ACE claimed in a separate petition.

69. We have considered the submissions of the Petitioner, MPPMCL and TANGEDCO. In view of the observations made by the Commission during the hearing held on 22.6.2021, the said ACE projected during the 2019-24 tariff period will not be considered in the instant petition and the Petitioner is directed to file a separate



petition to claim the projected ACE for Asset-II during the 2019-24 tariff period as above.

Debt-Equity Ratio

70. 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.”

71. 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 %)	ACE (2019-24) (₹ in lakh)	(in %)	Capital Cost (as on 31.3.2024) (₹ in lakh)	(in %)
Asset-I						
Debt	8032.92	88.37	0.00	N/A	8032.92	88.37
Equity	1057.14	11.63	0.00		1057.14	11.63
Total	9090.06	100.00	0.00		9090.06	100.00
Asset-II						
Debt	61190.27	88.54	0.00	N/A	61190.27	88.54
Equity	7917.13	11.46	0.00		7917.13	11.46
Total	69107.40	100.00	0.00		69107.40	100.00

Depreciation

72. 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.”

73. The depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. The transmission project has already completed 12 years of useful life before 1.4.2019. Accordingly, depreciation has been calculated based on the remaining depreciable value (upto 90% of existing gross block of assets) to be recovered over the balance useful life as per Proviso 4 of Regulation 33(5) of the 2019 Tariff Regulation. The depreciation allowed for the transmission assets for the 2019-24 tariff period is as follows:

(₹ in lakh)

Asset-I					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	9090.06	9090.06	9090.06	9090.06	9090.06
Additional Capitalization	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	9090.06	9090.06	9090.06	9090.06	9090.06
Average Gross Block	9090.06	9090.06	9090.06	9090.06	9090.06
Freehold Loan	0.00	0.00	0.00	0.00	0.00
Weighted average rate of Depreciation (WAROD)	1.81%	1.81%	1.81%	1.81%	1.81%
Balance useful life of the asset (Year)	13	12	11	10	9
Lapsed life of the asset (Year)	21	22	23	24	25
Aggregated Depreciable Value	8181.05	8181.05	8181.05	8181.05	8181.05
Depreciation during the year	164.96	164.96	164.96	164.96	164.96
Cumulative Depreciation at the end of the year	6201.58	6366.54	6531.49	6696.45	6861.41
Aggregate Depreciable Value at the end of the year	1979.47	1814.52	1649.56	1484.60	1319.65

(₹ in lakh)

Asset-II					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	69107.40	69107.40	69107.40	69107.40	69107.40
Additional Capitalization	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	69107.40	69107.40	69107.40	69107.40	69107.40
Average Gross Block	69107.40	69107.40	69107.40	69107.40	69107.40
Freehold Land	56.42	56.42	56.42	56.42	56.42



Asset-II					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Weighted average rate of Depreciation (WAROD)	1.26%	1.26%	1.26%	1.26%	
Balance useful life of the asset (Year)	4	3	2	1	
Lapsed life of the asset (Year)	21	22	23	24	
Aggregated Depreciable Value	62145.88	62145.88	62145.88	62145.88	62145.88
Depreciation during the year	871.92	871.92	871.92	871.92	0.00
Cumulative Depreciation at the end of the year	59530.12	60402.04	61273.96	62145.88	62145.88
Aggregate Depreciable Value at the end of the year	2615.76	1743.84	871.92	0.00	0.00

Interest on Loan

74. The Petitioner has not claimed any IoL for Asset-I for the 2019-24 tariff period. The Petitioner has claimed IoL of ₹385.45 lakh for Asset-II for the 2019-24 tariff period corresponding to projected ACE. As decided above, ACE proposed for Asset-II during 2019-24 tariff period is not being considered in the instant petition and entire loan in respect of Asset-II already having been repaid, IoL in respect of Asset-II works out as nil.

Return on Equity

75. 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:

Rate of pre-tax return on equity = 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:

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.”

76. 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 assets for the 2019-24 tariff period is as follows:

(₹ in lakh)

Asset-I					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	1057.14	1057.14	1057.14	1057.14	1057.14
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	1057.14	1057.14	1057.14	1057.14	1057.14
Average Equity	1057.14	1057.14	1057.14	1057.14	1057.14
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
Return on Equity	198.55	198.55	198.55	198.55	198.55

(₹ in lakh)

Asset-II					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	7917.13	7917.13	7917.13	7917.13	7917.13
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	7917.13	7917.13	7917.13	7917.13	7917.13
Average Equity	7917.13	7917.13	7917.13	7917.13	7917.13
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year	17.472	17.472	17.472	17.472	17.472



Asset-II					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
(in %)					
Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782	18.782
Return on Equity	1487.00	1487.00	1487.00	1487.00	1487.00

Operation & Maintenance Expenses

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

(₹ in lakh)

Asset-I					
Details	2019-20	2020-21	2021-22	2022-23	2023-24
02 Numbers 400 kV sub-station Bays	64.30	66.56	68.90	71.32	73.82
195.00 kms S/C (Double Conductor) (02 Numbers Bays)	98.09	101.60	105.11	108.81	112.71
O&M for PLCC	1.35	1.35	1.35	1.35	1.35
Total	163.74	169.51	175.36	181.48	187.88

(₹ in lakh)

Asset-II					
Details	2019-20	2020-21	2021-22	2022-23	2023-24
02 Numbers 400 kV bays at HVDC back-to-back sub-station	1668.00	1728.00	1788.00	1850.00	1916.00
O&M for PLCC	2.62	2.62	2.62	2.62	2.62
Total	1670.62	1730.62	1790.62	1852.62	1918.62

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

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

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Norms for sub-station Bays (₹ Lakh per bay)					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
132 kV and below	16.08	16.64	17.23	17.83	18.46
Norms for Transformers (₹ Lakh per MVA)					
765 kV	0.491	0.508	0.526	0.545	0.564



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
400 kV	0.358	0.371	0.384	0.398	0.411
220 kV	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.245	0.254	0.263	0.272	0.282
Norms for AC and HVDC lines (₹ Lakh per km)					
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
Norms for HVDC stations					
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.”

“35(4) Communication system: The operation and maintenance expenses for the communication system shall be worked out at 2.0% of the original project cost related to such communication system. The transmission licensee shall submit the actual operation and maintenance expenses for truing up.”

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



80. The O&M Expenses allowed for the transmission assets for the 2019-24 tariff period are as follows:

(₹ in lakh)

Asset-I					
	2019-20	2020-21	2021-22	2022-23	2023-24
02 Numbers 400 kV sub-station Bays					
Norms (₹ lakh/Bay)	32.15	33.28	34.45	35.66	36.91
Total	64.30	66.56	68.90	71.32	73.82
195.00 kms S/C (Double Conductor) (02 Numbers Bays)					
Norms (₹ lakh/km)	0.503	0.521	0.539	0.558	0.578
Total	98.09	101.60	105.11	108.81	112.71
Total O&M Expenses allowed (₹ in lakh)	162.39	168.16	174.01	180.13	186.53

(₹ in lakh)

Asset-II					
	2019-20	2020-21	2021-22	2022-23	2023-24
02 Numbers 400 kV bays at HVDC back-to-back sub-station					
Norms (₹ lakh/500MW)	834	864	894	925	958
Total O&M Expenses allowed	1668.00	1728.00	1788.00	1850.00	1916.00

Interest on Working Capital

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

“34. Interest on Working Capital:

(1) The working capital shall cover:

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

- i. Receivables equivalent to 45 days of 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;”

82. The Petitioner has submitted that it has computed IWC for the 2019-24 tariff period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of IWC as 12.05%. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The Rate of Interest considered is 12.05% (SBI 1 year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20, for 2020-21 has been considered as 11.25% (SBI 1 year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) whereas 2021-22 onwards 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 are as follows:

(₹ in lakh)

Asset-I					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
WC for O&M Expenses (O&M Expenses for 1 month)	13.53	14.01	14.50	15.01	15.54
WC for Maintenance Spares (15% of O&M Expenses)	24.36	25.22	26.10	27.02	27.98
WC for Receivables (Equivalent to 45 days of annual fixed costs/annual transmission charges)	66.20	67.02	67.67	68.45	69.08
Total Working Capital	104.09	106.26	108.27	110.48	112.61
Rate of Interest (in %)	12.05	11.25	10.50	10.50	10.50
Interest on Working Capital	12.54	11.95	11.37	11.60	11.82

(₹ in lakh)

Asset-II					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
WC for O&M Expenses (O&M Expenses for 1 month)	139.00	144.00	149.00	154.17	159.67
WC for Maintenance Spares (15% of O&M Expenses)	250.20	259.20	268.20	277.50	287.40

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Asset-II					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
WC for Receivables (Equivalent to 45 days of annual fixed costs/annual transmission charges)	508.41	516.62	523.44	531.37	429.72
Total Working Capital	897.61	919.82	940.64	963.04	876.79
Rate of Interest (in %)	12.05	11.25	10.50	10.50	10.50
Interest on Working Capital	108.16	103.48	98.77	101.12	92.06

Annual Fixed Charges of the 2019-24 Tariff Period

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

(₹ in lakh)

Asset-I					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	164.96	164.96	164.96	164.96	164.96
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	198.55	198.55	198.55	198.55	198.55
O&M Expenses	162.39	168.16	174.01	180.13	186.53
Interest on Working Capital	12.54	11.95	11.37	11.60	11.82
Total	538.44	543.62	548.88	555.24	561.86

(₹ in lakh)

Asset-II					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	871.92	871.92	871.92	871.92	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	1487.00	1487.00	1487.00	1487.00	1487.00
O&M Expenses	1668.00	1728.00	1788.00	1850.00	1916.00
Interest on Working Capital	108.16	103.48	98.77	101.12	92.06
Total	4135.08	4190.40	4245.68	4310.03	3495.06

Filing Fee and the Publication Expenses

84. The Petitioner has sought 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.



Licence Fee & RLDC Fees and Charges

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

Goods and Services Tax

86. 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.

87. TANGEDCO in its reply has submitted its similar contentions regarding GST (as submitted vide reply in Petition No. 150/TT/2020 already disposed by the Commission vide order dated 26.9.2021). In response to the said contentions of TANGEDCO, the Petitioner has submitted its rejoinder as submitted in Petition No. 150/TT/2020 and prayed to consider the same in the instant petition.

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

Security Expenses

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



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

Capital Spares

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

Sharing of Transmission Charges

92. TANGEDCO in its reply has submitted similar contentions regarding sharing of transmission charges as submitted vide reply in Petition No. 503/TT/2019. The Petition No. 503/TT/2019 has already been disposed by the Commission vide order dated 24.9.2021. In response to the said reply of TANGEDCO, the Petitioner has submitted that its rejoinder as submitted vide rejoinder in Petition No. 503/TT/2019 may be considered.

93. We have considered the submissions of the Petitioner, contentions of TANGEDCO and the Petitioner's rejoinder thereto. During the tariff periods 2001-04, 2004-09 and 2009-14 (upto 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 provisions of the 2010 Sharing Regulations. With effect from 1.11.2020, sharing of transmission charges is governed by the 2020 Sharing Regulations. Accordingly, the liabilities of the DICs for arrears of transmission charges determined through this order shall be computed DIC-wise in accordance with the provisions of respective Tariff Regulations and shall be recovered from the concerned DICs through Bills under Regulation 15(2)(b) of the 2020 Sharing Regulations. Billing, collection and disbursement of the transmission charges for subsequent period shall be recovered in terms of provisions of the 2020 Sharing Regulations as provided in Regulation 57 of the 2019 Tariff Regulations.

94. To summarise:

a) The revised AFC approved in respect of the transmission assets as per the APTEL's judgments for the 2001-04 and 2004-09 tariff periods are as follows:

(₹ in lakh)								
Asset	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Asset-I	1350.29	751.91	748.70	681.06	672.36	672.45	681.61	691.53
Asset-II	8905.69	7279.71	7198.34	8391.64	8263.11	8232.75	5246.91	5224.07

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

(₹ in lakh)					
Asset	2009-10	2010-11	2012-13	2013-14	2014-15
Asset-I	991.03	662.80	661.57	658.55	659.97
Asset-II	6414.66	3661.39	3687.18	3715.70	3769.05

c) The trued-up AFC approved in respect of the transmission assets for the 2014-19 tariff period are as follows:

(₹ in lakh)



Asset	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-I	631.06	624.55	617.15	615.61	622.30
Asset-II	3804.60	3887.16	3972.02	4061.46	4176.76

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

Asset	2019-20	2020-21	2021-22	2022-23	2023-24
Asset-I	538.44	543.62	548.88	555.24	561.86
Asset-II	4135.08	4190.40	4245.68	4310.03	3495.06

(₹ in lakh)

95. This order disposes of Petition No. 353/TT/2020 in terms of the above discussions and findings.

sd/-
(P.K. Singh)
Member

sd/-
(I. S. Jha)
Member

sd/-
(P. K. Pujari)
Chairperson

