

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 311/TT/2020**

**Coram:**

**Shri P.K. Pujari, Chairperson**

**Shri I.S. Jha, Member**

**Shri P. K. Singh, Member**

**Date of order: 17.01.2022**

**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 2001-04, 2004-09 and 2009-14 tariff periods, truing up of transmission tariff of 2014-19 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of 2019-24 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 in respect of the "Vindhyachal Stage-I Additional Transmission System" in Western Region.

**And in the Matter of:**

Power Grid Corporation of India Limited,  
"Saudamini", Plot No-2,  
Sector-29, Gurgaon - 122 001 (Haryana).

**.....Petitioner**

**Vs.**

1. Madhya Pradesh Power Management Company Limited,  
Shakti Bhawan, Rampur,  
Jabalpur - 482 008.
2. Madhya Pradesh Power Transmission Company Limited,  
Shakti Bhawan, Rampur,  
Jabalpur - 482 008.
3. Madhya Pradesh Audyogik Kendra Vikas Nigam (Indore) Limited,  
3/54, Press Complex,  
Agra-Bombay Road,  
Indore - 452 008.
4. Maharashtra State Electricity Distribution Company Limited,  
Hongkong Bank Building, 3rd Floor,



M.G. Road, Fort,  
Mumbai - 400 001.

5. Maharashtra State Electricity Transmission Company Limited,  
Prakashganga, 6th Floor, Plot No. C-19, E-Block,  
Bandra Kurla Complex, Bandra (East)  
Mumbai - 400 051.
6. Gujarat Urja Vikas Nigam Limited,  
Sardar Patel Vidyut Bhawan,  
Race Course Road,  
Vadodara - 390 007.
7. Gujarat Energy Transmission Corporation Limited,  
Sardar Patel Vidyut Bhawan,  
Race Course Road,  
Vadodara - 390 007.
8. Electricity Department,  
Government of Goa,  
Vidyut Bhawan, Near Mandvi Hotel,  
Panaji, Goa - 403 001.
9. Electricity Department,  
Administration of Daman and Diu,  
Daman - 396 210.
10. Electricity Department,  
Administration of Dadra Nagar Haveli,  
U.T., Silvassa - 396 230.
11. Chhattisgarh State Electricity Board,  
P. O. Sunder Nagar, Dangania,  
Raipur, Chhattisgarh - 492 013.
12. Chhattisgarh State Power Transmission Company Limited,  
State Load Despatch Building,  
Dangania, Raipur - 492 013.
13. Chhattisgarh State Power Distribution Company Limited,  
P. O. Sunder Nagar, Dangania,  
Raipur, Chhattisgarh - 492 013.

**...Respondent(s)**

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



**For Respondents :** Shri Anindya Khare, MPPMCL

**ORDER**

The Petitioner, Power Grid Corporation of India Limited, a deemed transmission licensee, has filed the instant petition for revision of transmission tariff of 2001-04, 2004-09 and 2009-14 periods; truing up of transmission tariff of 2014-19 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 of 2019-24 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) in respect of Vindhyachal Stage-I Additional Transmission System (hereinafter referred to as “the transmission asset”) in Western Region.

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

*“1) Approve the revised Transmission Tariff for 2001-04 block, Transmission Tariff for 2004-09 block and transmission tariff for 2009-14 block for the asset covered under this petition, as per para 8 above.*

*2) Approve the trued up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the assets covered under this petition, as per para 9 and 10 above.*

*3) (a) Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff regulation 2014 and tariff regulations’19 as per para 9.0 & 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 materialized directly without making any application before the commission as provided in the regulation.*



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

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

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

7) Allow the petitioner to file a separate petition before Hon'ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned at para 10.5 above.

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

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

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

### **Background of the case**

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

(a) Investment Approval (IA) of ₹33969.00 lakh in respect of the transmission asset was accorded by the Ministry of Energy, Department of Power vide its letter dated 31.5.1989. The approval for revised cost estimates of ₹79211.00 lakh, including IDC of ₹14675.00 lakh was subsequently accorded by the Ministry of Power vide its letter dated 23.2.2001, based on 1<sup>st</sup> quarter 1998 price level.

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

#### **A. Transmission Line**

- i. 400 kV Itarsi-Khandwa-Dhule Ckt. I and II
- ii. 400 kV Jabalpur-Itarsi Ckt. III and IV
- iii. 400 kV Vindychal-Jabalpur Ckt. III and IV



## **B. Sub-Station**

- i. 400 kV Dhule Sub-station
- ii. 400 kV: Itarsi II Sub-station
- iii. 400 kV Jabalpur Sub-station
- iv. 400 kV: Bus Reactor at Jabalpur

(c) The transmission asset was put into commercial operation on 1.2.1998. The transmission tariff in respect of the transmission asset from COD to 31.3.2001 was determined by the Commission vide order dated 19.9.2002 in Petition No. 70/2000.

(d) The transmission tariff in respect of the transmission asset from 1.4.2001 to 31.3.2004 was determined vide order dated 17.7.2003 in Petition No. 66/2002. The transmission tariff was revised for 2001-04 tariff period vide order dated 17.1.2008 in Petition No. 66/2002.

(e) The transmission tariff in respect of the transmission asset from 1.4.2004 to 31.3.2009 was determined vide order dated 2.5.2006 in Petition No. 72/2004. The transmission tariff for 2004-09 tariff period was revised vide order dated 29.4.2008 in Petition No. 72/2004.

(f) The transmission tariff in respect of the transmission asset from 1.4.2009 to 31.3.2014 was determined vide order dated 28.10.2011 in Petition No. 144/2009. Further, the transmission tariff of 2009-14 period was trued-up and transmission tariff of 2014-19 period was determined vide order dated 11.1.2016 in Petition No. 397/TT/2014.

(g) The Petitioner has sought revision of transmission tariff approved for 2001-04 and 2004-09 tariff periods on account of change in Interest on Loan ("IoL") and Interest on Working Capital ("IWC") to the extent of revision in IoL and in Maintenance Spares in terms of the judgements of the Appellate Tribunal for Electricity ("the APTEL") dated 22.1.2007 in Appeal No. 81 of 2005 and batch matters and dated 13.6.2007 in Appeal No.139 of 2006 and batch matters. The Petitioner has sought consequential revision of transmission tariff allowed for



2009-14 tariff period, truing-up of tariff of 2014-19 tariff period and determination of transmission tariff of 2019-24 tariff period in respect of the transmission asset.

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

<b>Sl. No</b>	<b>Issue</b>	<b>APTEL's decisions/ directions</b>
1	Whether APTEL can enquire into the validity of Regulations framed by the Commission	Challenge to the validity of Regulations framed by the Commission falls outside the purview of APTEL.
2	Computation of 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. Commission is required to recalculate the loan outstanding as on 31.3.2004 based on loan repayment on normative basis.
3(a)	O&M Expenses: Inadequate provision of employee costs as part of O&M Expenses due to variation in salary and wages	Commission's view upheld.
3(b)	O&M Expenses: Non-inclusion of incentives and ex-gratia payment to employees	Commission's view upheld.
4	Cost of spares for calculation of working capital	Commission's view upheld.

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

<b>Sl. No.</b>	<b>Issue</b>	<b>APTEL's decisions/ directions</b>
I	Computation of outstanding loan at the beginning of the tariff period i.e. 1.4.2004	The Commission is required to recalculate the loan outstanding as on 31.3.2004 based on loan repayment on normative basis.
II	Consequence of refinance of loan	Commission to consider the issue afresh.
III	Treating depreciation available as deemed repayment of loan	Commission to make a fresh computation of outstanding loan.



IV	Admissibility of depreciation up to 90%	Commission to consider the issue afresh.
V	Cost of Maintenance Spares	Commission to consider the issue afresh.
VI	Impact of de-capitalisation of the assets on cumulative repayment of Loan	The cumulative repayment of the loan proportionate to the assets decapitalized required to be reduced. Commission to act accordingly.
VII	Non-consideration of normative transit loss for coal import.	Commission to consider afresh the transit losses for coal imported from coal mines other than the dedicated ones.
VIII	Foreign Exchange rate variation (FERV)	FERV has been kept as pass through to ensure that any liability or gain, if any, arising on account of any variation in foreign exchange rates is passed on to the beneficiary as held in order dated 4.10.2006 in Appeal No.135 to 140 of 2005. Commission to act accordingly.
IX	Computation of interest on loan in Singrauli Station	Net loan closing at the end of a year is reflected as net loan opening on the first day of the next year. Commission shall re-compute the interest accordingly.

(j) The Commission and certain interested parties preferred Civil Appeals against 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.

(k) Based on the APTEL's judgments dated 22.1.2007 in Appeal No. 81 of 2005 and batch matters and dated 13.6.2007 in Appeal No. 139 of 2007 and batch matters, the Petitioner had sought revision of tariff of its transmission assets for 2001-04 and 2004-09 tariff periods vide Petition No. 121/2007. The Commission after taking into consideration the pendency of Appeals before the Hon'ble Supreme Court adjourned the said petition *sine die* and directed that the same be revived after the disposal of Civil Appeals by the Hon'ble Supreme Court.

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



(m) Consequent to the Hon'ble Supreme Court's order dated 10.4.2018 in NTPC matters, Petition No. 121/2007 was listed for hearing before the Commission 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 in respect of the transmission assets at the time of filing of truing up petition for 2014-19 tariff period.

(n) 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 order 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 the Western Region.

5. The Petitioner has served the petition on 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 notice published in the newspapers by the Petitioner. Madhya Pradesh Power Management Company Ltd. (MPPMCL), Respondent No. 1, has filed its reply vide affidavit dated 27.5.2020 and has raised the issues of prudence check before revising the tariff and grossing up of Return on Equity ("RoE") and Additional Capital Expenditure ("ACE") claimed in 2014-19 and 2019-24 periods. The Petitioner has submitted its rejoinder vide affidavit dated 8.6.2021 to the reply filed by MPPMCL.





**Re: Interest on Loan (“IoL”)**

6. 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. APTEL vide its judgment dated 14.11.2006 had set aside the Commission’s methodology of computation of loan on the actual repayment basis or normative repayment whichever is higher and held that the Commission is required to adopt normative debt repayment methodology for working out IoL liability order for the period 1.4.1998 to 31.3.2001. In view of the above, the interest allowed for 2001-04 and 2004-09 tariff periods is revised on the basis of the normative debt repayment methodology.

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

7. The APTEL vide judgment dated 13.6.2007 in Appeal No. 139/2006 and others held that additional capitalisation after the date of commercial operation (“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 2001-04 and 2004-09 periods are also required to be revised taking into consideration the ACE after COD.

**Re: Depreciation**

8. As regards depreciation, the APTEL in its judgement dated 13.6.2007 in Appeal No.139 of 2006 and batch matters 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 in respect of the transmission asset for 2001-04 and 2004-09 tariff periods is revised in the instant order.

9. The revision of transmission tariff allowed for 2001-04 and 2004-09 tariff periods necessitates the revision of transmission tariff allowed for 2009-14 tariff period, which is also allowed in the present order. The implementation of the directions of the APTEL vide judgments dated 22.1.2007 in Appeal No. 81 of 2005 and batch matters and 13.6.2007 in Appeal No. 139 of 2006 and batch matters, in case of the Petitioner was kept pending awaiting for 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 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.

10. The hearing in this matter was held on 22.6.2021 through video conference and order was reserved.

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

12. This order is issued considering the submissions made by the Petitioner in the Petition vide affidavits dated 15.1.2020, 7.4.2021 and 11.6.2021, MPPMCL's reply



vide affidavit dated 27.5.2020 and the Petitioner's rejoinder affidavit dated 8.6.2021 to the reply of MPPMCL.

**Revision of transmission charges allowed for 2001-04, 2004-09 and 2009-14 Tariff Periods**

**2001-04 Tariff Period**

13. The Commission vide order dated 17.7.2003 in Petition No. 66/2002 had approved transmission charges in respect of the transmission asset for 2001-04 tariff period based on admitted capital cost of ₹76505.20 lakh as on 31.3.2001. The tariff in respect of the transmission asset was revised on account of FERV upto 2001 vide order dated 17.1.2008 in Petition No. 66/2002.

14. The transmission charges approved for 2001-04 period vide order dated 17.1.2008 in Petition No. 66/2002 are as follows:

Particulars	(₹ in lakh)		
	2001-02	2002-03	2003-04
Depreciation	2073.55	2073.55	2073.55
Return on Equity	852.40	852.40	852.40
O&M Expenses	800.05	848.05	898.93
Advance against Depreciation	2608.18	1162.96	1602.31
Interest on Loan	3520.02	3205.52	2987.25
Interest on Working Capital	295.82	268.56	280.44
<b>Total</b>	<b>10150.02</b>	<b>8411.04</b>	<b>8694.89</b>

15. The Petitioner has claimed the following revised transmission charges in respect of the transmission asset for 2001-04 period in the instant petition:

Particulars	(₹ in lakh)		
	2001-02	2002-03	2003-04
Depreciation	2073.55	2073.55	2073.55
Return on Equity	852.40	852.40	852.40
O&M Expenses	800.05	848.05	898.93
Advance against Depreciation	2818.40	1137.30	1621.45
Interest on Loan	3505.97	3193.55	2973.95
Interest on Working Capital	299.65	267.83	280.56
<b>Total</b>	<b>10350.01</b>	<b>8372.68</b>	<b>8700.84</b>



16. We have considered the submissions of the Petitioner. The tariff is revised in respect of the transmission asset on the basis of following:

- (a) Admitted capital cost of ₹76505.20 lakh as on 1.4.2001 of the transmission asset;
- (b) Weighted Average Rate of Interest on actual loan, Weighted Average Rate of Depreciation, Rate of Interest for Working Capital and O&M Expenses as per order dated 17.1.2008 in Petition No. 66/2002.

17. In view of above, the revised transmission charges allowed in respect of the transmission asset for 2001-04 tariff period are as follows:

Particulars	(₹ in lakh)		
	2001-02	2002-03	2003-04
Depreciation	2073.55	2073.55	2073.55
Return on Equity	852.40	852.40	852.40
O&M Expenses	800.05	848.05	898.93
Advance against Depreciation	2818.39	1137.29	1621.45
Interest on Loan	3505.96	3193.55	2973.95
Interest on Working Capital	299.65	267.83	280.56
<b>Total</b>	<b>10350.00</b>	<b>8372.67</b>	<b>8700.84</b>

18. The Annual Fixed Charges (“AFC”) allowed for 2001-04 tariff period vide order dated 17.1.2008 in Petition No. 66/2002, revised AFC claimed in the instant petition and AFC allowed in the instant order are as follows:

Particulars	(₹ in lakh)		
	2001-02	2002-03	2003-04
AFC approved vide order dated 17.1.2008 in Petition No. 66/2002.	10150.02	8411.04	8694.89
AFC claimed by the Petitioner in the instant petition.	10350.01	8372.68	8700.84
AFC allowed in the instant order.	10350.00	8372.67	8700.84

### **2004-09 Tariff Period**

19. The Commission vide order dated 2.5.2006 in Petition No. 72/2004 had approved transmission charges in respect of the transmission asset for 2004-09 period based on admitted capital cost of ₹80815.03 lakh as on 31.3.2004 including ACE of ₹4310.52 lakh on account of FERV for 2001-04 period. Tariff of the



transmission asset was revised on account of FERV for 2001-04 period in order dated 29.4.2008 in Petition No. 69/2004.

20. The transmission charges approved for 2004-09 period vide order dated 29.4.2008 in Petition No. 69/2004 are as follows:

Particulars	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	2190.37	2190.37	2190.37	2190.37	2190.37
Return on Equity	745.85	745.85	745.85	745.85	745.85
O&M Expenses	858.58	892.83	929.69	965.06	1005.37
Advance against Depreciation	1708.58	1975.04	2260.95	2568.06	2898.90
Interest on Loan	2852.62	2602.17	2335.70	2052.03	1749.86
Interest on Working Capital	252.86	260.04	267.71	275.80	284.50
<b>Total</b>	<b>8608.85</b>	<b>8666.30</b>	<b>8730.27</b>	<b>8797.16</b>	<b>8874.85</b>

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

Particulars	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	2190.37	2190.37	2190.37	2190.37	2190.37
Return on Equity	745.85	745.85	745.85	745.85	745.85
O&M Expenses	858.58	892.83	929.69	965.06	1005.37
Advance against Depreciation	1831.58	2103.16	2394.51	2708.15	3045.62
Interest on Loan	2869.75	2611.72	2337.43	2045.65	1735.06
Interest on Working Capital	256.22	263.42	271.10	279.22	287.96
<b>Total</b>	<b>8752.36</b>	<b>8807.35</b>	<b>8868.95</b>	<b>8934.31</b>	<b>9010.24</b>

22. We have considered the submissions of the Petitioner. The tariff is allowed in respect of the transmission asset on the basis of following:

- a) Admitted capital cost of ₹80815.03 lakh in respect of the transmission asset as on 1.4.2004 including ACE of ₹4310.52 lakh on account of FERV for the 2001-04 period;
- b) Weighted Actual Rate of Interest on actual loan, Weighted Average Rate of Depreciation, Rate of Interest for Working Capital and O&M Expenses as per order dated 29.4.2008 in Petition No. 69/2004.



23. In view of the above, the revised transmission charges allowed in respect of the transmission asset for 2004-09 tariff period are as follows:

(₹ in lakh)					
Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	2190.37	2190.37	2190.37	2190.37	2190.37
Return on Equity	745.85	745.85	745.85	745.85	745.85
O&M Expenses	858.58	892.83	929.69	965.06	1005.37
Advance against Depreciation	1831.58	2103.16	2394.51	2708.15	3045.62
Interest on Loan	2869.75	2611.72	2337.43	2045.65	1735.06
Interest on Working Capital	256.22	263.42	271.10	279.22	287.96
<b>Total</b>	<b>8752.36</b>	<b>8807.35</b>	<b>8868.95</b>	<b>8934.31</b>	<b>9010.24</b>

24. AFC allowed for 2004-09 tariff period vide order dated 29.4.2008 in Petition No. 69/2004, the revised AFC claimed in the instant petition and AFC allowed in the instant order are as follows:

(₹ in lakh)					
Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
AFC approved vide order dated 29.04.2008 in Petition No. 69/2004.	8608.86	8666.30	8730.27	8797.17	8874.85
AFC claimed by the Petitioner in the instant petition.	8752.36	8807.35	8868.95	8934.31	9010.24
AFC allowed in the instant order.	8752.36	8807.35	8868.95	8934.31	9010.24

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

25. The Commission vide order dated 28.10.2011 in Petition No. 144/2009 approved the tariff in respect of the transmission asset for 2009-14 period and vide order dated 11.1.2016 in Petition No. 397/TT/2014 trued up the tariff allowed for 2009-14 period as follows:

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	4263.57	1017.23	1019.78	1021.32	1024.43
Return on Equity	994.83	1034.76	1039.21	1041.21	1057.61
O&M Expenses	1375.65	1454.51	1537.80	1625.66	1718.23
Interest on Loan	2113.28	1967.13	1922.58	1833.99	1691.14
Interest on Working Capital	222.45	156.52	159.91	162.53	164.59
<b>Total</b>	<b>8969.78</b>	<b>5630.16</b>	<b>5679.28</b>	<b>5684.72</b>	<b>5655.99</b>

26. The Petitioner has claimed the following revised transmission charges in respect of the transmission asset for 2009-14 period in the instant petition:



Particulars	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	4263.57	1017.23	1019.78	1021.32	1024.43
Interest on Loan	2085.89	1938.68	1893.50	1804.90	1662.98
Return on equity	994.83	1034.76	1039.21	1041.21	1057.61
Interest on Working Capital	221.88	155.93	159.30	161.92	164.00
O&M Expenses	1375.65	1454.51	1537.80	1625.66	1718.23
<b>Total</b>	<b>8941.83</b>	<b>5601.11</b>	<b>5649.59</b>	<b>5655.01</b>	<b>5627.25</b>

27. We have considered the Petitioner's claim. The tariff is allowed in respect of the transmission asset on the basis of following:

- a) Admitted capital cost of ₹80815.03 lakh in respect of the transmission asset as on 1.4.2009;
- b) ACE of ₹118.78 lakh during 2010-11; ACE of ₹68.64 lakh during 2012-13 and ACE of ₹62.31 lakh during 2013-14 period has been approved vide order dated 11.1.2016 in Petition No. 397/TT/2014;
- c) Weighted Average Rate of Interest on actual loan derived/adopted from order dated 11.1.2016 in Petition No. 397/TT/2014; and
- d) Weighted Average Rate of Depreciation as per order 11.1.2016 in Petition No. 397/TT/2014.

28. In view of above, the revised transmission charges allowed in respect of the transmission asset for 2009-14 tariff period are as follows:

Particulars	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	4263.57	1017.23	1019.78	1021.32	1024.43
Interest on Loan	2085.89	1938.68	1893.50	1804.90	1662.98
Return on equity	994.83	1034.76	1039.21	1041.21	1057.61
Interest on Working Capital	221.88	155.93	159.30	161.92	164.00
O&M Expenses	1375.65	1454.51	1537.80	1625.66	1718.23
<b>Total</b>	<b>8941.82</b>	<b>5601.11</b>	<b>5649.59</b>	<b>5655.01</b>	<b>5627.25</b>

29. AFC allowed for 2009-14 tariff period vide order dated 11.1.2016 in Petition No. 397/TT/2014, revised AFC claimed in the instant petition and AFC allowed in the instant order are as follows:



(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
AFC approved vide order dated 11.1.2016 in Petition No. 397/TT/2014.	8969.78	5630.15	5679.28	5684.71	5656.00
AFC claimed by the Petitioner in the instant petition.	8941.83	5601.11	5649.59	5655.01	5627.25
AFC allowed in the instant order.	8941.82	5601.11	5649.59	5655.01	5627.25

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

30. The details of the trued-up transmission charges claimed by the Petitioner in respect of the transmission asset are as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	979.09	982.10	998.18	1018.04	1022.65
Interest on Loan	1641.99	1560.59	1344.00	1232.59	1150.21
Return on equity	1062.27	1070.49	1086.85	1106.42	1113.64
Interest on Working Capital	171.41	172.70	171.42	172.84	174.38
O&M Expenses	1568.17	1620.74	1674.31	1729.86	1787.28
<b>Total</b>	<b>5422.93</b>	<b>5406.62</b>	<b>5274.76</b>	<b>5259.75</b>	<b>5248.16</b>

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

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M expenses	130.68	135.06	139.53	144.16	148.94
Maintenance Spares	235.23	243.11	251.15	259.48	268.09
Receivables	903.82	901.10	879.13	876.62	874.69
<b>Total</b>	<b>1269.73</b>	<b>1279.27</b>	<b>1269.81</b>	<b>1280.26</b>	<b>1291.72</b>
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>171.41</b>	<b>172.70</b>	<b>171.42</b>	<b>172.84</b>	<b>174.38</b>

### **Capital Cost as on 1.4.2014**

32. The capital cost of the transmission asset has been calculated in accordance with Regulation 9(3) and Regulation 9(6) of the 2014 Tariff Regulations. The Commission vide order dated 11.1.2016 in Petition No. 397/TT/2014 admitted the capital cost of ₹81064.76 lakh as on 31.3.2014. Therefore, the admitted capital cost of





₹81064.76 lakh as on 31.3.2014 has been considered as on 1.4.2014 for working out the trued-up tariff for 2014-19 tariff period.

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

33. The Commission vide order dated 11.1.2016 in Petition No. 397/TT/2014 had approved ACE of ₹786.97 lakh for 2014-19 period on account of tower strengthening works.

34. The Petitioner has claimed the following ACE and submitted Auditor’s Certificate in support of the same:

(₹ in lakh)				
Actual ACE				
2014-15	2015-16	2016-17	2017-18	2018-19
69.44	44.07	527.78	134.16	8.98

35. MPPMCL has submitted that the Petitioner has failed to show that transparency was adopted while disposing off worn out equipment and has failed to produce documents with regard to valuation. The Petitioner has also failed to show as to how the equipment were finalised for replacement.

36. In response, the Petitioner has submitted that the Commission vide order dated 11.1.2016 in Petition No. 397/TT/2014 had approved ACE of ₹786.97 lakh for 2014-19 period on account of tower strengthening works and the actual expenditure claimed by the Petitioner in the instant petition is ₹784.43 lakh, which is within the amount allowed by the Commission. The Petitioner has further submitted that from the Auditor’s Certificate, it is evident that no decapitalization has been carried out during 2014-19 tariff period.

37. We have considered the submissions of the Petitioner and MPPMCL. As against ACE of ₹786.97 lakh allowed by the Commission for 2014-19 period on



account of tower strengthening works during 2014-19 period for efficient and secure operation of the transmission system, the actual ACE incurred for the same is ₹784.43 lakh during 2014-19 period which is within the provisions of Regulations 14(3)(vii) and Regulation 14(3)(ix) of the 2014 Tariff Regulations.

**Capital Cost considered for truing-up of tariff for 2014-19 period**

38. The capital cost considered for truing-up of tariff for 2014-19 tariff period is as follows:

(₹ in lakh)		
Capital Cost as on 1.4.2014	ACE during 2014-19 Period	Capital Cost as on 31.3.2019
81064.76	784.43	81849.19

**Debt-Equity Ratio**

39. As per Regulation 19(3) of the 2014 Tariff Regulations, debt-equity ratio of 93.34:6.66 for the period ending on 31.3.2014 has been considered as opening debt-equity ratio as on 1.4.2014 and debt-equity ratio of 70:30 has been considered for ACE during 2014-19 for the purpose of truing-up of tariff of 2014-19 period in respect of the transmission asset. The details of debt-equity ratio in respect of the transmission asset as on 1.4.2014 and 31.3.2019 are as follows:

Particulars	Capital cost as on 1.4.2014 (₹ in lakh)	(in %)	Total cost as on 31.3.2019 (₹ in lakh)	(in %)
Debt	75662.34	93.34	76211.45	93.11
Equity	5402.42	6.66	5637.74	6.89
<b>Total</b>	<b>81064.76</b>	<b>100.00</b>	<b>81849.19</b>	<b>100.00</b>

**Depreciation**

40. Depreciation has been allowed as per the methodology provided in Regulation 27 of the 2014 Tariff Regulations. Depreciation has been allowed considering capital expenditure as on 1.4.2014 and approved ACE during 2014-19 tariff period. The



transmission asset has already completed 12 years of life as on 31.3.2010. The remaining depreciable value has been spread across the balance useful life of the transmission asset. Depreciation allowed during 2014-19 period in respect of the transmission asset is as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	81064.76	81134.20	81178.27	81706.05	81840.21
ACE	69.44	44.07	527.78	134.16	8.98
Closing Gross Block	81134.20	81178.27	81706.05	81840.21	81849.19
Average Gross Block	81099.48	81156.24	81442.16	81773.13	81844.70
Weighted average Rate of Depreciation (in %)	1.21	1.21	1.23	1.24	1.25
Lapsed life (at the beginning of the year) (Year)	16.00	17.00	18.00	19.00	20.00
Balance useful life (at the beginning of the year) (Year)	18.00	17.00	16.00	15.00	14.00
Aggregate Depreciable Value	72989.53	73040.61	73297.94	73595.82	73660.23
<b>Depreciation during the year</b>	<b>979.10</b>	<b>982.10</b>	<b>998.19</b>	<b>1018.04</b>	<b>1022.64</b>
Cumulative depreciation at the end of the year	56344.88	57326.98	58325.16	59343.21	60365.85
Remaining Depreciable Value at the end of the year	16644.65	15713.63	14972.78	14252.61	13294.38

41. The details of depreciation approved vide order dated 11.1.2016 in Petition No. 397/TT/2014, as claimed in the instant petition and true-up depreciation allowed in the instant order in respect of the transmission asset are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 11.1.2016 in Petition No. 397/TT/2014	1037.38	1058.21	1067.52	1067.52	1067.52
Claimed by the Petitioner in the instant petition	979.09	982.10	998.18	1018.04	1022.65
Allowed after true-up in this order	<b>979.10</b>	<b>982.10</b>	<b>998.19</b>	<b>1018.04</b>	<b>1022.64</b>

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

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



in accordance with Regulation 26 of the 2014 Tariff Regulations. The details of IoL allowed in respect of the transmission asset are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	75662.34	75710.95	75741.80	76111.25	76205.16
Cumulative Repayments up to Previous Year	57012.55	57991.65	58973.75	59971.93	60989.98
Net Loan-Opening	18649.79	17719.30	16768.05	16139.32	15215.18
Additions due to ACE	48.61	30.85	369.45	93.91	6.29
Repayment during the year	979.10	982.10	998.19	1018.04	1022.64
Net Loan-Closing	17719.30	16768.05	16139.32	15215.18	14198.83
Average Loan	18184.55	17243.68	16453.68	15677.25	14707.01
Weighted Average Rate of Interest on Loan (in %)	9.03	9.05	8.17	7.86	7.82
<b>Interest on Loan</b>	<b>1641.99</b>	<b>1560.59</b>	<b>1344.01</b>	<b>1232.59</b>	<b>1150.21</b>

43. The details of IoL approved vide order dated 11.1.2016 in Petition No. 397/TT/2014, as claimed by the Petitioner in the instant petition and IoL allowed after trueing up in the instant order in respect of the transmission asset are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 11.1.2016 in Petition No. 397/TT/2014	1645.56	1577.28	1493.56	1399.19	1304.83
Claimed by the Petitioner in the instant petition	1641.99	1560.59	1344.00	1232.59	1150.21
Allowed after true-up in this order	1641.99	1560.59	1344.01	1232.59	1150.21

### **Return on Equity (“RoE”)**

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

Year	Claimed effective tax rate (in %)	Grossed up RoE (in %) [(Base Rate)/(1-t)]
2014-15	21.018	19.624
2015-16	21.382	19.716
2016-17	21.338	19.705
2017-18	21.337	19.704
2018-19	21.549	19.758



45. MPPMCL has submitted that the Petitioner has grossed up RoE on the basis of actual taxes paid during 2016-17 and 2017-18. MPPMCL has further submitted that for 2018-19, the Petitioner has grossed up RoE on the basis of applicable rate of MAT, surcharge and cess. MPPMCL has submitted that the Petitioner has not placed on record the assessment orders for 2016-17 and 2017- 18. For 2018-19, the Petitioner has not claimed grossed up RoE on the basis of actual taxes paid. MPPMCL has further submitted that the Petitioner has neither submitted copy of assessment orders for 2014-15 and 2015-16 nor the audited accounts in respect of actual taxes paid during 2016-17 and 2017-18. In the absence of these essential documents, it is not possible to scrutinize the claim of the Petitioner properly.

46. In response, the Petitioner has submitted that income tax assessment orders have been issued by the Income Tax Department for 2014-15, 2015-16 and 2016-17 and that the Income Tax returns have been filed with the Income Tax Department for the years 2017-18 and 2018-19. The basis of year-wise effective tax rate has been mentioned in the petition and grossed up RoE has been trued up accordingly for 2014-19 tariff period. The Petitioner has further submitted that assessment orders of 2014-15, 2015-16 and 2016-17 have already been submitted in Petition No. 20/TT/2020 and a copy of the assessment order for year 2016-17 has also been submitted vide affidavit dated 8.6.2021.

47. The Petitioner has further submitted that during 2014-19 period, the Commission has allowed tariff in several petitions wherein effective tax rate for 2014-19 tariff period based on notified MAT rates has been considered for grossing-up of rate of RoE.



48. The Petitioner has prayed to allow its claim for differential tariff on account of the trued-up RoE based on effective tax rate calculated on completion of income-tax assessment/ re-assessment for 2014-15, 2015-16, 2016-17, 2017- 18 and 2018-19 on receipt of the respective assessment orders.

49. We have considered the submissions of the Petitioner and MPPMCL. The Commission vide order dated 2.2.2021 in Petition No. 312/TT/2020 has already dealt with the issues raised by MPPMCL. In terms of our findings in order dated 2.2.2021 in Petition No. 312/TT/2020, we do not find any merits in the submissions of MPPMCL. Accordingly, the submissions of MPPMCL are rejected.

50. Further, the Commission in order dated 27.4.2020 in Petition No. 274/TT/2019 has arrived at the effective tax rates based on the notified MAT rates for the Petitioner which are as follows:

<b>Year</b>	<b>Notified MAT rates (in %) (inclusive of surcharge &amp; cess)</b>	<b>Effective tax (in %)</b>
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

51. MAT rates as allowed vide order dated 27.4.2020 in Petition No. 274/TT/2019 are considered for the purpose of grossing up of rate of RoE for truing-up of the tariff of 2014-19 tariff period in terms of the provisions of the 2014 Tariff Regulations and the same is as follows:

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



52. Accordingly, RoE allowed in respect of the transmission asset is as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	5402.42	5423.25	5436.47	5594.80	5635.05
Addition due to ACE	20.83	13.22	158.33	40.25	2.69
Closing Equity	5423.25	5436.47	5594.80	5635.05	5637.74
Average Equity	5412.84	5429.86	5515.64	5614.92	5636.39
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
Tax Rate applicable (in %)	20.961	21.342	21.342	21.342	21.549
Applicable ROE Rate (in %)	19.610	19.705	19.705	19.705	19.758
<b>Return on Equity for the year</b>	<b>1061.46</b>	<b>1069.95</b>	<b>1086.86</b>	<b>1106.42</b>	<b>1113.64</b>

53. The details of RoE approved vide order dated 11.1.2016 in Petition No. 397/TT/2014, as claimed in the instant petition and trued-up RoE allowed in the instant order in respect of the transmission asset are as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 11.1.2016 in Petition No. 397/TT/2014	1072.85	1096.00	1105.74	1105.74	1105.74
Claimed by the Petitioner in the instant petition	1062.27	1070.49	1086.85	1106.42	1113.64
Allowed after true-up in this order	1061.46	1069.95	1086.86	1106.42	1113.64

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

54. O&M Expenses claimed by the Petitioner are within the norms specified under the 2014 Tariff Regulations. O&M Expenses approved in respect of the transmission asset for 2014-19 tariff period are as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Sub-station Bays (Numbers)</b>					
400 kV: Dhule:Itarsi I (khandwa I)	1	1	1	1	1
400 kV: Dhule:Itarsi II(khandwa II)	1	1	1	1	1
400 kV: Dhule:Bus Reactor	1	1	1	1	1
400 kV: Itarsi:Dhule I(Khandwa I)	1	1	1	1	1
400 kV: Itarsi:Dhule II(Khandwa II)	1	1	1	1	1
400 kV: Itarsi:Jabalpur III	1	1	1	1	1
400 kV: Itarsi:Jabalpur IV	1	1	1	1	1
400 kV: Itarsi:Bus Reactor II	1	1	1	1	1
400 kV: Itarsi:Bus Reactor III	1	1	1	1	1
400 kV: Jabalpur:Vindiyachal III	1	1	1	1	1
400 kV: Jabalpur:Vindiyachal IV	1	1	1	1	1



400 kV: Jabalpur:Itarsi III	1	1	1	1	1
400 kV: Jabalpur:Itarsi IV	1	1	1	1	1
400 kV: Jabalpur:Bus Reactor	1	1	1	1	1
<b>Norm (₹ lakh/bay)</b>					
400 kV Bay (AIS)	60.300	62.300	64.370	66.510	68.710
<b>Total Sub-station O&amp;M Expenses (₹ in lakh) (A)</b>	<b>844.20</b>	<b>872.20</b>	<b>901.18</b>	<b>931.14</b>	<b>961.94</b>
<b>Transmission Lines (kms)</b>					
400 kV Itarsi-Khandwa-Dhule Ckt I and II (km)	401.00	401.00	401.00	401.00	401.00
400 kV Jabalpur-Itarsi Ckt III and IV (km)	234.00	234.00	234.00	234.00	234.00
400 kV Vindiyachal-Jabalpur Ckt III and IV (km)	389.00	389.00	389.00	389.00	389.00
<b>Norm (₹ lakh/km)</b>					
D/C Twin conductor	0.707	0.731	0.755	0.780	0.806
<b>Total Transmission Line O&amp;M Expenses (₹ in lakh) (B)</b>	<b>723.97</b>	<b>748.54</b>	<b>773.12</b>	<b>798.72</b>	<b>825.34</b>
<b>Total O&amp;M Expenses (₹ in lakh) (C)=(A+B)</b>	<b>1568.17</b>	<b>1620.74</b>	<b>1674.30</b>	<b>1729.86</b>	<b>1787.28</b>

55. The details of O&M Expenses approved vide order dated 11.1.2016 in Petition No. 397/TT/2014, as claimed in the instant petition and trued-up O&M Expenses allowed in the instant order in respect of the transmission asset are as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 11.1.2016 in Petition No. 397/TT/2014	1568.17	1620.74	1674.30	1729.86	1787.28
Claimed by the Petitioner in the instant petition	1568.17	1620.74	1674.31	1729.86	1787.28
Allowed after true-up in this order	1568.17	1620.74	1674.30	1729.86	1787.28

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

56. The Petitioner is entitled to IWC as per Regulation 28 of the 2014 Tariff Regulations.

57. The trued-up IWC allowed in respect of the transmission asset for 2014-19 tariff period is as follows:





(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Working Capital for O&M Expenses (O&M Expenses for one month)	130.68	135.06	139.53	144.16	148.94
Working Capital for Maintenance Spares (15% of O&M Expenses)	235.23	243.11	251.15	259.48	268.09
Working Capital for Receivables (Equivalent to two months of annual transmission charges)	903.69	901.01	879.13	876.63	874.69
<b>Total Working Capital</b>	<b>1269.59</b>	<b>1279.19</b>	<b>1269.80</b>	<b>1280.26</b>	<b>1291.73</b>
Rate of Interest on working capital (in %)	13.50	13.50	13.50	13.50	13.50
<b>Interest of working capital</b>	<b>171.39</b>	<b>172.69</b>	<b>171.42</b>	<b>172.83</b>	<b>174.38</b>

58. The details of IWC approved vide order dated 11.1.2016 in Petition No. 397/TT/2014, as claimed in the instant petition and trued-up IWC allowed in the instant order in respect of the transmission asset is as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 11.1.2016 in Petition No. 397/TT/2014	173.08	175.43	176.90	177.79	178.79
Claimed by the Petitioner in the instant petition	171.41	172.70	171.42	172.84	174.38
Allowed after true-up in this order	171.39	172.69	171.42	172.83	174.38

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

59. AFC allowed after truing-up in respect of the transmission asset for 2014-19 tariff period are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	979.10	982.10	998.19	1018.04	1022.64
Interest on Loan	1641.99	1560.59	1344.01	1232.59	1150.21
Return on Equity	1061.46	1069.95	1086.86	1106.42	1113.64
O&M Expenses	1568.17	1620.74	1674.30	1729.86	1787.28
Interest on Working Capital	171.39	172.69	171.42	172.83	174.38
<b>Total</b>	<b>5422.11</b>	<b>5406.08</b>	<b>5274.77</b>	<b>5259.75</b>	<b>5248.16</b>

60. The details of Annual transmission charges approved vide order dated 11.1.2016 in Petition No. 397/TT/2014, as claimed in the instant petition and trued-up



annual transmission charges allowed in the instant order in respect of the transmission asset are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed earlier in order dated 11.1.2016 in Petition No. 397/TT/2014	5497.04	5527.67	5518.02	5480.11	5444.16
Claimed by the Petitioner in the instant petition	5422.93	5406.62	5274.76	5259.75	5248.16
Allowed after true-up in this order	5422.11	5406.08	5274.77	5259.75	5248.16

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

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

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	1022.94	1022.97	1220.10	1167.76	1302.70
Interest on Loan	1072.39	988.53	934.07	885.99	813.68
Return on equity	1058.88	1058.88	1090.57	1134.26	1157.87
Interest on Working Capital	106.73	107.73	110.73	113.58	115.97
O&M Expenses	1360.62	1408.19	1457.34	1508.07	1560.38
<b>Total</b>	<b>4621.56</b>	<b>4586.30</b>	<b>4812.81</b>	<b>4809.66</b>	<b>4950.60</b>

62. The details of IWC claimed by the Petitioner are as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	113.39	117.35	121.45	125.67	130.03
Maintenance Spares	204.09	211.23	218.60	226.21	234.06
Receivables	568.22	565.43	578.86	590.73	598.35
<b>Total</b>	<b>885.70</b>	<b>894.01</b>	<b>918.91</b>	<b>942.61</b>	<b>962.44</b>
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
<b>Interest</b>	<b>106.73</b>	<b>107.73</b>	<b>110.73</b>	<b>113.58</b>	<b>115.97</b>

### **Capital Cost**

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

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

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



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

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

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



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

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

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

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

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

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

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

64. The admitted capital cost of ₹81849.19 lakh as on 31.3.2019 in respect of the transmission asset has been considered as opening capital cost as on 1.4.2019 for determination of tariff in accordance with Regulation 19 of the 2019 Tariff Regulations.

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

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

#### ***"24. Additional Capitalization within the original scope and up to the cut-off date:***

- (1) *The Additional Capital Expenditure in respect of a new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of*



work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

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

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

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

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

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

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

(2) *In case of replacement of assets deployed under the original scope of the existing project after cut-off date, the additional capitalization may be admitted by the Commission, after making necessary adjustments in the gross fixed asset 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.*



66. The Petitioner vide Auditor's Certificate dated 26.5.2020 has projected net ACE of ₹748.49 lakh in respect of the transmission asset after adjusting de-capitalisation during 2019-24 tariff period.

67. The Petitioner has claimed projected ACE for 2019-24 tariff period in respect of the transmission asset. The Petitioner vide affidavit dated 7.4.2021 has submitted the revised Auditor's Certificate dated 26.5.2020 for 2019-24 tariff period. The Petitioner has proposed ACE for replacement of some of the components/ equipment in the system which have deteriorated due to ageing and damaged PCC and gravel work which may affect the stability and reliability of the grid in case of sudden failure. The Petitioner has given a detailed account of ACE in para 10.1 to 10.4 of the instant petition and in para 6 of its affidavit dated 7.4.2021. The Petitioner has claimed ACE under Regulation 25(2)(c) of the 2019 Tariff Regulations. The Petitioner in its Auditor's Certificate has submitted the cost details in respect of ACE/de-capitalization proposed during 2019-24 period which is as follows:

Particulars	(₹ in lakh)	
	Amount	Sub-station
Proposed ACE in 2021-22	1349.34	
Proposed ACE in 2022-23	460.77	
Proposed ACE in 2023-24	584.33	
Proposed De-capitalisation in 2021-22	(855.71)	
Proposed De-capitalisation in 2022-23	(132.51)	
Proposed De-capitalisation in 2023-24	(657.73)	
<b>NET ACE</b>	<b>748.49</b>	

68. MPPMCL has submitted that in support of proposed cost towards ACE and de-capitalization, the Petitioner has not submitted any study based on which conclusion can be drawn that which particular equipment needs replacement along with reasoning.



69. In response, the Petitioner has reiterated its submissions made in the petition. The Petitioner vide affidavit dated 7.4.2021 has also submitted equipment-wise details of the proposed ACE as follows:

**Current Transformer (33 Numbers)**

- These current transformers are of BHEL/ WSI make dead tank type with porcelain housing and have already completed 25 years of service life. Oil leakages from different points such as dead tank joint gasket portion, secondary terminals, primary terminals, domes, oil sight glass etc. have been noticed in many of these CTs.

- As there is leakage in the current transformer, in long run it may lead to low oil level, moisture ingress and subsequent failure. The current transformers are hermetically sealed equipment and therefore major repair at site is not recommended. Further, as there is ingress of moisture, complete replacement of active insulation part is required at manufacturer works which will not be techno-economically viable. OEM Alstom, which took over WSI, has confirmed that these CTs are irreparable. The Petitioner has further proposed to replace 9 number of CTs at Jabalpur and 24 number of CTs at Itarsi Sub-station.

**Capacitive voltage Transformer (12 numbers)**

- These capacitive voltage transformers are of BHEL/ WSI make and were commissioned in 1998. They have already completed 25 years of service life. CVTs are used for protection and metering purpose. Due to ageing, leakage/ seepage from multiple points such as EMU tank, oil level glass, secondary terminal boxes are observed. Due to ageing, capacitance of the CVTs have changed due to internal failure of capacitor elements resulting into drift in secondary voltage. CVT secondary output is used for metering and protection system, therefore, becomes vital for metering and protection. The variation in secondary voltage may result into inaccurate metering and wrong operation of protection relays of transmission elements. The CVTs are hermetically sealed equipment and repairing of these equipment at site level is not recommended.



- After 25 years of operation, repairing of the CVTs at manufacturer works is also not techno-economically viable due to change in design by the manufacturer and repair requires change of majority parts of CVT even in case of problem in only a part of the equipment. Moreover, manufacturer has also stopped manufacturing and repairing works of these types of CVTs. Copies of communications from both OEM i.e. BHEL and Areva regarding obsolescence of equipment is enclosed for reference. In view of the same, it is proposed to replace 12 number of CVTs at Jabalpur and 12 number at Itarsi.

### **Isolators (37 sets)**

a) These Isolators are S&S make of horizontal central break type and going to complete 25 years of service in 2019-24 tariff period. Now these models are obsolete.

b) These isolators are mainly of horizontal centre break (HCB) type and frequent problem of mis-alignment is being faced. Current transfer assembly on isolator top and other major spares are now no more available in most of the cases due to old/obsolete design of isolators, thus creating problems in maintaining these old isolators. Rusting has also been observed in gear assembly and mechanism box. Due to these constraints in maintaining isolators, frequent breakdown is being experienced despite all efforts. Due to improper health of isolator specially interlock mechanism, drive mechanism etc. the isolators are unable to maintain the stable condition during storms and high wind conditions and getting opened in “On Load” condition which is dangerous to system as well as to the operating personnel.

- Due to rusting, many MOM boxes have been damaged leading to problems in components of MOM boxes and motorised operation of isolator not possible. This leads to problems in proper indication, control, interlock and remote operation of isolators which is not safe. Due to ageing, the TBs inside the MOM boxes have become brittle and many times terminals come in contact with boxes and create DC earth fault, which is detrimental to the control and protection system.





- Many times even local operation also becomes difficult. Further, these isolators have become obsolete, therefore, neither timely support from OEM nor spares are available. Existing spares have already been exhausted. Failure of any component may lead to improper and un-reliable operation of isolator/ earth switches and risk to the system and safety of O&M staff. S&S vide e-mail dated 12.12.2019 stated that isolators of these lots cannot be repaired and advised for replacement. Copy of e-mail from agency is enclosed for reference.

- In view of above, it is proposed to replace 20 sets of 420 kV Isolators at Itarsi and 17 sets at Jabalpur.

### **Switchyard BBCC/ PCC and gravel filling in switchyard**

- Gravel in switchyard of the considered bays at Itarsi and Jabalpur is damaged. They have become fade, mixed with soil and silt and converted into small pieces at various locations. BBCC/ PCC were not provided in these old stations. Bays which were commissioned in these Sub-stations afterwards are having PCC. Due to this wild vegetation, grasses etc. are growing continuously which become the breeding ground for reptiles and other animals, apart from this there is also a risk of increase in Step and Touch Potential due to bad quality of gravels. This is dangerous for safety point of view for both equipment and humans. During recent periodic inspection of Itarsi Sub-station by CEA on 1.8.2019, CEA has advised for carrying out PCC and replacement of degraded gravels in the switchyard. Hence, it is proposed to carry out PCC and gravel spreading at Itarsi, Jabalpur.

### **Power & Control cables**

- These Power and Control cables are in service for more than 25 years. Due to ageing most of the control/power cables laid in the Sub-station have aged, deteriorated and showing sign of surface damages/cracks, causing earth faults and DC earth leakages and many times resulting into mal-operation of control and protection system. It will be unsafe and also difficult to re-use inter-pole cables after replacement of equipment. Hence, it is required to replace inter-pole cables in the switchyard, especially the cables laid between poles of isolators, CT, CVT and between C&R panels and equipment for smooth operation of Sub-



station. Hence, it is proposed to replace inter-pole cables of Isolator, CT and CVT and cables between isolators and C&R panels at Itarsi and Jabalpur.

### **63 MVAR Bus Reactor at Jabalpur**

- The year of manufacturing of the Bus Reactor being 1996, it is 24 years old.
- Condition based monitoring/ maintenance of transformers/ reactors like DGA, Tan delta measurement of bushings and windings, oil parameters, furan analysis, FDS, IR of core insulation etc. are being carried out by the Petitioner to know the healthiness. From the test results of the said equipment, it was observed that moisture content in winding is high and winding tan delta value is also on higher side. CPRI, third party, was approached by the Petitioner to analyze the test results of said equipment and to know the condition of the equipment and residual life. The test results were analyzed by CPRI and based on that, CPRI has recommended for replacement of the said unit.
- The bus reactor plays a major role in controlling the system voltage of the station. Said reactor is about to complete 25 years of useful service life and due to ageing chances of its failure are always high. In service failure of reactor will cause long outage of reactor. Non-availability of the reactor may lead to lack of reactive power support and high bus voltage during light load condition which may cause threat to the grid. Hence, it is proposed to replace the 63 MVAR bus-reactor at Jabalpur.

### **50 MVAR Itarsi-4 Line Reactor at Jabalpur**

- The year of manufacturing of the Line Reactor being 1996, it is 24 years old.
- Condition based monitoring/ maintenance of transformers/ reactors like DGA, Tan delta measurement of bushings and windings, oil parameters, furan analysis, FDS, IR of core insulation etc. are being carried out by the Petitioner to know the healthiness. From the test results of the said equipment, it was observed that moisture content in winding is high and core insulation is also on lower side. CPRI, third party, was approached by the Petitioner to analyze the test results of said equipment and to know the condition of the equipment and



residual life. The test results were analyzed by CPRI and based on the test results, CPRI has recommended to replace the said unit. The report of CPRI is enclosed.

- The availability of line reactor is very much required for keeping the line in service/at the time of taking line into service. The said reactor is about to complete 25 years of useful service life and due to ageing, chances of its failure are always high. In service failure of reactor will cause long outage of reactor, which may result in forced outage of line due to rise in voltage. Hence, it is proposed to replace the 50 MVAR Itarsi-4 line reactor at Jabalpur.

### **63 MVAR VSTPP-4 (Rewa-2) Line Reactor at Jabalpur**

- The year of manufacturing of the Line Reactor being 1996, it is 24 years old.
- Condition based monitoring maintenance of transformers/ reactors like DGA, Tan delta measurement of bushings and windings, oil parameters, furan analysis, FDS, IR of core insulation etc. are being carried out by the Petitioner to know the healthiness. From the test results of the said equipment, it was observed that moisture content in winding is high and core insulation is also on lower side. CPRI was approached by the Petitioner to analyze the test results of said equipment and to know the condition of the equipment and residual life. The test results were analyzed by CPRI, third party, and based on the test results, CPRI has recommended to replace the said unit.
- The availability of line reactor is very much required for keeping the line in service/at the time of taking line into service. The said reactor is about to complete 25 years of useful service life and due to ageing chances of its failure are always high. In service of reactor will cause long outage of reactor, which may result in forced outage of line due to rise in voltage. Hence, it is proposed to replace the 63 MVAR VSTPP-4 (Rewa-2) line reactor at Jabalpur.

70. We have considered the submissions of the Petitioner and MPPMCL. The proposed ACE is towards replacement of Current Transformer, Capacitive Voltage Transformer, Isolators, Switchyard BBCC/ PCC and gravel filing in Switchyard, Power



and Control cables. These items are of critical nature and their failure may affect the stability and reliability of the grid. As such, the replacement of these obsolete equipment and consequent ACE is approved, subject to true-up on actual basis. We direct the Petitioner to submit details of abstract cost estimates and the actual cost of the replaced equipment Sub-station wise at the time of truing up.

71. However, it is observed that the Petitioner has not submitted the OEM certificate in respect of the Sub-station equipment which are sought to be replaced in 2019-24 tariff period. The Sub-station associated with the transmission asset has already completed its useful life. Therefore, to assess and understand the anticipated life extension of the Sub-station for the purpose of depreciation, the Petitioner is directed to submit the OEM Certificate with regard to proposed life of the Sub-station equipment which is sought to be replaced along with justification at the time of truing-up.

72. The Petitioner has also proposed to replace 63 MVAR bus reactor at Jabalpur, 50 MVAR Itarsi-4 L/R at Jabalpur and 63 MVAR VSTPP-4 (Rewa-2) L/R at Jabalpur with net ACE of ₹493.63 lakh in 2021-22. We observe that these are major elements of the transmission system which are critical and high value elements. Therefore, we are of the view that if such items are to be replaced, it is prudent to discuss them with RPC and concerned beneficiaries. Accordingly, the projected ACE towards bus reactor and line reactors is not allowed at this stage and the Petitioner is directed to seek prior approval of RPC for the said proposed replacements and file a separate petition for ACE towards "ICTs and Reactors" for consideration of the Commission.



73. In view of above, the details of ACE and de-capitalisation allowed for 2019-24 tariff period in respect of the transmission asset is as follows:

(₹ in lakh)			
Sl. No.	Particulars	2022-23	2023-24
(1)	ACE	460.77	584.33
(2)	Decapitalization	132.51	657.73
(3)	<b>Net ACE (1)-(2)</b>	<b>328.26</b>	<b>(73.40)</b>

74. Accordingly, capital cost of the transmission asset as on 31.3.2024 is approved as follows:

(₹ in lakh)			
Capital cost allowed as on 1.4.2019	ACE		Capital cost as on 31.3.2024
	2022-23	2023-24	
81849.19	328.26	(73.40)	82104.05

### **Debt-Equity Ratio**

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

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

*Provided that:*

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

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

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



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

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

Provided further that in case of projects owned by Damodar Valley Corporation, the debt: equity ratio shall be governed as per sub-clause (ii) of clause (2) of Regulation 72 of these regulations.

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

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

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

76. Debt-equity ratio for 2019-24 period is allowed as per Regulation 18(3) of the 2019 Tariff Regulations. The details of debt-equity ratio considered for the purpose of tariff for 2019-24 tariff period is as follows:

Particulars	Capital cost as on 1.4.2019 (₹ in lakh)	(in %)	Total cost as on 31.3.2024 (₹ in lakh)	(in %)
Debt	76211.45	93.11	76214.97	92.83
Equity	5637.74	6.89	5889.08	7.17
<b>Total</b>	<b>81849.19</b>	<b>100.00</b>	<b>82104.05</b>	<b>100.00</b>

### **Depreciation**

77. Regulation 33 of the 2019 Tariff Regulations provides as follows:



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

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

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

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

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

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

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

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

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

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

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



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

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

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

*(9) Where the emission control system is implemented within the original scope of the generating station and the date of commercial operation of the generating station or unit thereof and the date of operation of the emission control system are the same, depreciation of the generating station or unit thereof including the emission control system shall be computed in accordance with Clauses (1) to (8) of this Regulation.*

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

*a) twenty five years, in case the generating station or unit thereof is in operation for fifteen years or less as on the date of operation of the emission control system; or*

*b) balance useful life of the generating station or unit thereof plus fifteen years, in case the generating station or unit thereof is in operation for more than fifteen years as on the date of operation of the emission control system; or*

*c) ten years or a period mutually agreed by the generating company and the beneficiaries, whichever is higher, in case the generating station or unit thereof has completed its useful life.”*

78. We have considered the submissions of the Petitioner. The transmission asset was put under commercial operation on 1.2.1998 and hence the same has already completed 12 years of life as on 31.3.2010. Consequently, depreciation has been calculated based on the remaining depreciable value (up to 90% of existing gross block of assets) to be recovered over the balance useful life. As discussed above, the Petitioner has proposed ACE towards replacement of Sub-station equipment. Hence, depreciation corresponding to ACE (new additions) claimed for 2020-21 onwards is





allowed at normative rate of depreciation as specified in the 2019 Tariff Regulations. Depreciation allowed in respect of the transmission asset for 2019-24 tariff period is as follows:

(₹ in lakh)					
<b>Existing Assets</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Opening Gross Block	81849.19	81849.19	81849.19	81849.19	81716.68
De-capitalisation	0.00	0.00	0.00	132.51	657.73
Closing Gross Block	81849.19	81849.19	81849.19	81716.68	81058.95
Average Gross Block	81849.19	81849.19	81849.19	81782.94	81387.82
Depreciable Value	73664.27	73664.27	73664.27	73545.01	73072.31
Weighted Average Rate of Depreciation (WAROD) (in %)	1.25	1.25	1.25	1.24	1.19
Cumulative depreciation at the beginning of the year	60365.85	61388.81	62411.76	63434.72	64344.67
Remaining depreciable value at the beginning of the year	13298.42	12275.46	11252.51	10110.29	8727.65
Balance useful life at the beginning of the year (Year)	13.00	12.00	11.00	10.00	9.00
Lapsed life at the beginning of the year (Year)	21.00	22.00	23.00	24.00	25.00
<b>Depreciation during the year</b>	<b>1022.96</b>	<b>1022.96</b>	<b>1022.96</b>	<b>1011.03</b>	<b>969.74</b>
Depreciation adjustment on account of de-capitalisation	0.00	0.00	0.00	101.08	507.98
Cumulative depreciation at the end of the year	61388.81	62411.76	63434.72	64344.67	64806.43
Remaining depreciable value at the end of the year	12275.46	11252.51	10229.55	9200.34	8265.89

(₹ in lakh)					
<b>New Additions</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Opening Gross Block				0.00	460.77
ACE during the year				460.77	584.33
Closing Gross Block				460.77	1045.10
Average Gross Block				230.39	752.94
Weighted average rate of Depreciation (WAROD) (in %)				5.28	5.28
Depreciable Value				207.35	677.64
Cumulative depreciation at the beginning of the year				0.00	12.16
<b>Depreciation during the year</b>				<b>12.16</b>	<b>39.75</b>
Cumulative depreciation at the end of the year				12.16	51.92
Remaining depreciation at the end of the year				195.18	625.72

### **Interest on Loan (“IoL”)**

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



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

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

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

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

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

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

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

(5a) *The rate of interest on loan for installation of emission control system shall be the weighted average rate of interest of actual loan portfolio of the emission control system or in the absence of actual loan portfolio, the weighted average rate of interest of the generating company as a whole shall be considered.*

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

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

80. The weighted average rate of IoL has been considered on the basis of rate prevailing as on 1.4.2019. The Petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during 2019-24 tariff period will be adjusted. The floating rate of interest, if any, shall be considered at the time of true up.



Accordingly, IoL has been worked out in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed in respect of the transmission asset is as follows:

(₹ in lakh)					
Existing Assets	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	76211.45	76211.45	76211.45	76211.45	76089.37
Cumulative Repayments up to Previous Year	62012.62	63035.58	64058.53	65081.49	65989.61
Net Loan-Opening	14198.83	13175.87	12152.92	11129.96	10099.76
Addition due to ACE	0.00	0.00	0.00	0.00	0.00
Adjustment of gross loan pertaining to de-capitalised asset	0.00	0.00	0.00	122.08	605.97
Repayment during the year	1022.96	1022.96	1022.96	1011.03	969.74
Adjustment of cumulative repayment pertaining to de-capitalised asset	0.00	0.00	0.00	102.91	517.68
Net Loan-Closing	13175.87	12152.92	11129.96	10118.93	9130.02
Average Loan	13687.35	12664.40	11641.44	10624.45	9614.89
Weighted Average Rate of Interest on Loan (in %)	7.83	7.81	7.78	7.74	7.70
<b>Interest on Loan</b>	<b>1072.39</b>	<b>988.53</b>	<b>905.32</b>	<b>822.39</b>	<b>739.87</b>

(₹ in lakh)					
New Additions	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan				0.00	322.54
Cumulative Repayments up to Previous Year				0.00	12.16
Net Loan-Opening				0.00	310.37
Addition due to ACE				322.54	409.03
Repayment during the year				12.16	39.75
Net Loan-Closing				310.37	679.65
Average Loan				155.19	495.01
Weighted Average Rate of Interest on Loan (in %)				7.74	7.70
<b>Interest on Loan</b>				<b>12.01</b>	<b>38.09</b>

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

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

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

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating station, transmission system including communication system and run-of river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run-of river generating station with pondage:



*Provided that return on equity in respect of additional capitalization after cut-off date beyond the original scope excluding additional capitalization on account of emission control system, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system or in the absence of actual loan portfolio of the generating station or the transmission system, the weighted average rate of interest of the generating company or the transmission licensee, as the case may be, as a whole shall be considered, subject to ceiling of 14%.*

*Provided further that:*

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

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

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

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

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

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

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

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

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



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

Where “t” is the effective tax rate in accordance with clause (1) of this Regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), “t” shall be considered as MAT rate including surcharge and cess.

**Illustration-**

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

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

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

(a) Estimated Gross Income from generation or transmission business for FY 2019-20 is Rs 1,000 crore;

(b) Estimated Advance Tax for the year on above is Rs 240 crore;

(c) Effective Tax Rate for the year 2019-20 = Rs 240 Crore/Rs 1000 Crore = 24%;

$$(d) \text{Rate of return on equity} = 15.50 / (1-0.24) = 20.395\%$$

(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.”

82. The Petitioner has submitted that MAT rate is applicable to it. We have considered the submissions of the Petitioner. 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 in respect of the transmission asset under Regulation 30 of the 2019 Tariff Regulations is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	5637.74	5637.74	5637.74	5637.74	5765.54
Additions due to ACE	0.00	0.00	0.00	138.23	175.30
Decrease due to	0.00	0.00	0.00	10.43	51.76



De-capitalisation					
Closing Equity	5637.74	5637.74	5637.74	5765.54	5889.08
Average Equity	5637.74	5637.74	5637.74	5701.64	5827.31
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (in %)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782	18.782
<b>Return on Equity</b>	<b>1058.88</b>	<b>1058.88</b>	<b>1058.88</b>	<b>1070.88</b>	<b>1094.49</b>

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

83. Regulation 35(3)(a) and Regulation 35(4) of the 2019 Tariff Regulations specify the norms for O&M Expenses for the transmission system and the same is as follows:

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

<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
<i>Norms for sub-station Bays (₹ Lakh per bay)</i>					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
132 kV and below	16.08	16.64	17.23	17.83	18.46
<i>Norms for Transformers (₹ Lakh per MVA)</i>					
765 kV	0.491	0.508	0.526	0.545	0.564
400 kV	0.358	0.371	0.384	0.398	0.411
220 kV	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.245	0.254	0.263	0.272	0.282
<i>Norms for AC and HVDC lines (₹ lakh per km)</i>					
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-conductors)	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple Conductor)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single Conductor)	0.252	0.260	0.270	0.279	0.289
Double Circuit (Bundled conductor with four or more sub-conductors)	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
Norms for HVDC stations					



<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
<i>HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)</i>	834	864	894	925	958
<i>Gazuwaka HVDC Back-to-Back station (₹ Lakh per 500 MW)</i>	1,666	1,725	1,785	1,848	1,913
<i>500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)</i>	2,252	2,331	2,413	2,498	2,586
<i>±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)</i>	2,468	2,555	2,645	2,738	2,834
<i>±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)</i>	1,696	1,756	1,817	1,881	1,947
<i>±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)</i>	2,563	2,653	2,746	2,842	2,942

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

*Provided further that:*

- i. the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed pro-rata on the basis of normative rate of operation and maintenance expenses of similar HVDC bi-pole scheme for the corresponding year of the tariff period;*
  - ii. the O&M expenses norms for HVDC bi-pole line shall be considered as Double Circuit quad AC line;*
  - iii. the O&M expenses of ±500 kV Mundra-Mohindergarh HVDC bipole scheme (2000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ±500 kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);*
  - iv. the O&M expenses of ±800 kV Champa-Kurukshetra HVDC bi-pole scheme (3000 MW) shall be on the basis of the normative O&M expenses for ±800 kV, Bishwanath-Agra HVDC bi-pole scheme;*
  - v. the O&M expenses of ±800 kV, Alipurduar-Agra HVDC bi-pole scheme (3000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ±800 kV, Bishwanath-Agra HVDC bi-pole scheme; and*
  - vi. the O&M expenses of Static Synchronous Compensator and Static Var Compensator shall be worked at 1.5% of original project cost as on commercial operation which shall be escalated at the rate of 3.51% to work out the O&M expenses during the tariff period. The O&M expenses of Static Synchronous Compensator and Static Var Compensator, if required, may be reviewed after three years.*
- (b) The total allowable operation and maintenance expenses for the transmission system shall be calculated by multiplying the number of sub-station bays, transformer capacity of the transformer (in MVA) and km of line length with the applicable norms for*



the operation and maintenance expenses per bay, per MVA and per km respectively.

(c) The Security Expenses and Capital Spares for transmission system shall be allowed separately after prudence check:

Provided that the transmission licensee shall submit the assessment of the security requirement and estimated security expenses, the details of year-wise actual capital spares consumed at the time of truing up with appropriate justification.

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

84. O&M Expenses claimed by the Petitioner in respect of the transmission asset are as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Sub-station Bays (Numbers)</b>					
400 kV: Dhule:Itarsi I (khandwa I)	1	1	1	1	1
400 kV: Dhule:Itarsi II(khandwa II)	1	1	1	1	1
400 kV: Dhule:Bus Reactor	1	1	1	1	1
400 kV: Itarsi:Dhule I(Khandwa I)	1	1	1	1	1
400 kV: Itarsi:Dhule II(Khandwa II)	1	1	1	1	1
400 kV: Itarsi:Jabalpur III	1	1	1	1	1
400 kV: Itarsi:Jabalpur IV	1	1	1	1	1
400 kV: Itarsi:Bus Reactor II	1	1	1	1	1
400 kV: Itarsi:Bus Reactor III	1	1	1	1	1
400 kV: Jabalpur:Vindiyachal III	1	1	1	1	1
400 kV: Jabalpur:Vindiyachal IV	1	1	1	1	1
400 kV: Jabalpur:Itarsi III	1	1	1	1	1
400 kV: Jabalpur:Itarsi IV	1	1	1	1	1
400 kV: Jabalpur:Bus Reactor	1	1	1	1	1
<b>Norm (₹ lakh/bay)</b>					
400 kV Bay (AIS)	32.15	33.28	34.45	35.66	36.91
<b>Total Sub-station O&amp;M Expenses (₹ in lakh) (A)</b>	<b>450.10</b>	<b>465.92</b>	<b>482.30</b>	<b>499.24</b>	<b>516.74</b>
<b>Transmission Lines (kms)</b>					
400 kV Itarsi-Khandwa-Dhule Ckt I and II	401.00	401.00	401.00	401.00	401.00
400 kV Jabalpur-Itarsi Ckt III and IV	234.00	234.00	234.00	234.00	234.00
400 kV Vindiyachal-Jabalpur Ckt III and IV	389.00	389.00	389.00	389.00	389.00
<b>Norm (₹ lakh/km)</b>					
D/C Twin conductor	0.881	0.912	0.944	0.977	1.011
<b>Total Transmission Line O&amp;M Expenses (₹ in lakh) (B)</b>	<b>902.14</b>	<b>933.89</b>	<b>966.66</b>	<b>1000.45</b>	<b>1035.26</b>





<b>Communication system</b>					
PLCC(₹ in lakh)	419.09	419.09	419.09	419.09	419.09
<b>Norms (%)</b>	2.00	2.00	2.00	2.00	2.00
<b>O&amp;M communication system (₹ in lakh) (C)</b>	<b>8.38</b>	<b>8.38</b>	<b>8.38</b>	<b>8.38</b>	<b>8.38</b>
<b>Total O&amp;M Expenses (₹ in lakh) (D)=(A+B+C)</b>	<b>1360.63</b>	<b>1408.19</b>	<b>1457.34</b>	<b>1508.07</b>	<b>1560.39</b>

85. The Petitioner has claimed O&M Expenses separately for the PLCC under Regulation 35(4) of the 2019 Tariff Regulations @ 2% of its original project cost in the instant petition and 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 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.

86. O&M Expenses approved in respect of the transmission asset for 2019-24 tariff period are as follows:

	(₹ in lakh)				
<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
<b>Sub-station Bays (Numbers)</b>					
400 kV: Dhule:Itarsi I (khandwa I)	1	1	1	1	1
400 kV: Dhule:Itarsi II(khandwa II)	1	1	1	1	1
400 kV: Dhule:Bus Reactor	1	1	1	1	1
400 kV: Itarsi:Dhule I(Khandwa I)	1	1	1	1	1
400 kV: Itarsi:Dhule II(Khandwa II)	1	1	1	1	1
400 kV: Itarsi:Jabalpur III	1	1	1	1	1
400 kV: Itarsi:Jabalpur IV	1	1	1	1	1
400 kV: Itarsi:Bus Reactor II	1	1	1	1	1
400 kV: Itarsi:Bus Reactor III	1	1	1	1	1
400 kV: Jabalpur:Vindyachal III	1	1	1	1	1
400 kV: Jabalpur:Vindyachal IV	1	1	1	1	1
400 kV: Jabalpur:Itarsi III	1	1	1	1	1
400 kV: Jabalpur:Itarsi IV	1	1	1	1	1



400 kV: Jabalpur:Bus Reactor	1	1	1	1	1
<b>Norm (₹ lakh/bay)</b>					
400 kV Bay (AIS)	32.15	33.28	34.45	35.66	36.91
<b>Total Sub-station O&amp;M Expenses (₹ in lakh) (A)</b>	<b>450.10</b>	<b>465.92</b>	<b>482.30</b>	<b>499.24</b>	<b>516.74</b>
<b>Transmission Lines (kms)</b>					
400 kV Itarsi-Khandwa-Dhule Ckt I and II	401.00	401.00	401.00	401.00	401.00
400 kV Jabalpur-Itarsi Ckt III and IV	234.00	234.00	234.00	234.00	234.00
400 kV Vindiyachal-Jabalpur Ckt III and IV	389.00	389.00	389.00	389.00	389.00
<b>Norm (₹ lakh/km)</b>					
D/C Twin conductor	0.881	0.912	0.944	0.977	1.011
<b>Total Transmission Line O&amp;M Expenses (₹ in lakh) (B)</b>	<b>902.14</b>	<b>933.89</b>	<b>966.66</b>	<b>1000.45</b>	<b>1035.26</b>
<b>Total O&amp;M Expenses (₹ in lakh) (C)=(A+B)</b>	<b>1352.24</b>	<b>1399.81</b>	<b>1448.96</b>	<b>1499.69</b>	<b>1552.00</b>

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

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

**“34. Interest on Working Capital**

(1)...

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

- i. Receivables equivalent to 45 days of fixed cost;
- ii. Maintenance spares @ 15% of operation and maintenance expenses including security expenses; and
- iii. Operation and maintenance expenses, including security expenses for one month”

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

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

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

“3.Definitions ...



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

88. The Petitioner has submitted that it has computed IWC for 2019-24 period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of interest on working capital as 12.05%. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The Rate of Interest (RoI) on working capital considered is 12.05% (SBI 1 year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20, 11.25% (SBI 1 year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) for 2020-21 and 10.50% (SBI 1 year MCLR applicable as on 1.4.2021 of 7.00% plus 350 basis points) for 2021-24. The components of the working capital and interest allowed thereon in respect of the transmission asset is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one Month)	112.69	116.65	120.75	124.97	129.33
Working Capital for Maintenance Spares (15% of O&M)	202.84	209.97	217.34	224.95	232.80
Working Capital for Receivables (Equivalent to 45 days of annual transmission charges)	567.15	563.46	558.52	557.69	557.02
<b>Total Working Capital</b>	<b>882.67</b>	<b>890.08</b>	<b>896.61</b>	<b>907.61</b>	<b>919.16</b>
Rate of Interest of working capital (in %)	12.05	11.25	10.50	10.50	10.50
<b>Interest of working capital</b>	<b>106.36</b>	<b>100.13</b>	<b>94.14</b>	<b>95.30</b>	<b>96.51</b>

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

89. The transmission charges allowed in respect of the transmission asset for 2019-24 period are as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	1022.96	1022.96	1022.96	1023.19	1009.49
Interest on Loan	1072.39	988.53	905.32	834.40	777.96



Return on Equity	1058.88	1058.88	1058.88	1070.88	1094.49
O&M Expenses	1352.24	1399.81	1448.96	1499.69	1552.00
Interest on Working Capital	106.36	100.13	94.14	95.30	96.51
<b>Total</b>	<b>4612.83</b>	<b>4570.30</b>	<b>4530.25</b>	<b>4523.46</b>	<b>4530.46</b>

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

90. 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**

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

### **Goods and Services Tax**

92. 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, paid by the Petitioner on account of demand from Government/ Statutory authorities, may be allowed to be recovered from the beneficiaries.

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



### **Security Expenses**

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

95. 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**

96. During the tariff periods 2001-04, 2004-09 and 2009-14 tariff periods (up to 30.6.2011), the transmission charges for inter-State transmission systems were being shared in accordance with the Tariff Regulations for the respective tariff periods. With effect from 1.7.2011, sharing of transmission charges for inter-State transmission systems was governed by the provisions of the 2010 Sharing Regulations. However, with effect from 1.11.2020, the 2010 Sharing Regulations has been repealed and



sharing is governed by the provisions of the 2020 Sharing Regulations. Accordingly, the liabilities of DICs for arrears of transmission charges determined through this order shall be computed DIC-wise in accordance with the provisions of respective Tariff Regulations and shall be recovered from the concerned DICs through Bills under Regulation 15(2)(b) of the 2020 Sharing Regulations. Billing, collection and disbursement of transmission charges for subsequent period shall be recovered in terms of provisions of the 2020 Sharing Regulations as provided in Regulation 57 of the 2019 Tariff Regulations.

97. To summarise:

a) The revised transmission charges allowed in respect of the transmission asset for 2001-04 tariff period are as follows:

(₹ in lakh)			
Particulars	2001-02	2002-03	2003-04
AFC	10350.00	8372.67	8700.84

b) The revised AFC allowed in respect of the transmission asset for 2004-09 tariff period are as follows:

(₹ in lakh)					
Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
AFC	8752.36	8807.35	8868.95	8934.31	9010.24

c) The consequential revision of AFC allowed in respect of the transmission asset for 2009-14 tariff period are as follows:

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
AFC	8941.82	5601.11	5649.59	5655.01	5627.25

d) The trued-up AFC allowed in respect of the transmission asset for 2014-19 tariff period are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
AFC	5422.11	5406.08	5274.77	5259.75	5248.16



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

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
AFC	4612.83	4570.30	4530.25	4523.46	4530.46

98. This order disposes of Petition No. 311/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**

