

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 413/TT/2019

Coram:

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

Date of Order: 30.05.2021

In the matter of:

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and revision of transmission tariff of the 2004-09 and 2009-14 tariff periods and truing up of transmission tariff of the 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of the 2019-24 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for Combined Assets of Tarapur Transmission System associated with Tarapur Atomic Station Stages-3 and 4 in Western Region.

And in the matter of:

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

.....Petitioner

Vs

1. Madhya Pradesh Power Management Company Ltd.,
Shakti Bhawan, Rampur,
Jabalpur-482008.
2. Madhya Pradesh Power Transmission Company Ltd.,
Shakti Bhawan, Rampur,
Jabalpur-482008.
3. Madhya Pradesh Audyogik Kendra Vikas Nigam (Indore) Ltd.,
3/54, Press Complex, Agra-Bombay Road,
Indore-452008.
4. Maharashtra State Electricity Distribution Co. Ltd.,
Hongkong Bank Building, 3rd Floor,

Page 1 of 47



M.G. Road, Fort, Mumbai-400001.

5. Maharashtra State Electricity Transmission Co. Ltd.,
Prakashganga, 6th Floor, Plot No. C-19, E-Block,
Bandra Kurla Complex, Bandra (East) Mumbai-400051.
6. Gujarat Urja Vikas Nigam Ltd.,
Sardar Patel Vidyut Bhawan,
Race Course Road, Vadodara-390007.
7. Gujarat Energy Transmission Corporation Ltd.,
Sardar Patel Vidyut Bhawan,
Race Course Road, Vadodara-390007.
8. Electricity Department,
Government of Goa, Vidyut Bhawan, Panaji,
Near Mandvi Hotel, Goa-403001.
9. Electricity Department,
Administration of Daman & Diu,
Daman-396210.
10. Electricity Department,
Administration of Dadra Nagar Haveli,
U.T., Silvassa-396230.
11. Chhattisgarh State Electricity Board,
P.O. Sunder Nagar, Dangania, Raipur,
Chhattisgarh-492013.
12. Chhattisgarh State Power Transmission Co. Ltd.,
Office of The Executive Director (C&P),
State Load Despatch Building,
Dangania, Raipur-492013.
13. Chhattisgarh State Power Distribution Co. Ltd.,
P.O. Sunder Nagar, Dangania, Raipur,
Chhattisgarh-492013.

.....Respondent(s)

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

For Respondent: Shri Anindya Kumar Khare, MPPMCL



ORDER

The instant petition has been filed by Power Grid Corporation of India Ltd., a deemed transmission licensee, for revision of transmission tariff of the 2004-09 and 2009-14 tariff periods and truing up of the capital expenditure for the period from 1.4.2014 to 31.3.2019 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) and determination of tariff of the period from 1.4.2019 to 31.3.2024 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) of the following assets under Tarapur Transmission System associated with Tarapur Atomic Station Stages-3 and 4 in Western Region (hereinafter referred to as “the transmission system”):

- a. **Asset-1:** 400 kV D/C Tarapur-Padghe Transmission Line circuit-I with associated bays at Padhge;
 - b. **Asset-2:** 400 kV D/C Tarapur-Padghe Transmission Line circuit-II with associated bay at Padghe, 400 kV D/C Tarapur-Boisar Transmission Line with associated bays at 400 kV Sub-station at Boisar and LILO of 400 kV D/C Gandhar-Padghe Transmission Line at Boisar Sub-station; and
 - c. **Asset-3:** 220 kV D/C Tarapur-Boisar Transmission Line with associated bays at 220 kV Boisar Sub-station including the auto transformer and LILO of 400 kV D/C Gandhar-Padghe Transmission Line at Vapi Sub-station
2. The Petitioner has made the following prayers in this Petition:
- “1) *Approve the revised Transmission Tariff for 2004-09 block and transmission tariff for 2009-14 block for the assets covered under this petition, as per para 8 above.*



- 2) *Approve the trued up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the assets covered under this petition, as per para 9 and 10 above.*
- 3)(a) *Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2014 and Tariff regulations 2019 as per para 9 and 10 above for respective block.*
 - (b) *Further it is submitted that deferred tax liability before 01.04.2009 shall be recoverable from the beneficiaries or long term transmission customers /Dlc as the case may be, as and when materialized as per regulation 49 of 2014 and regulation 67 of 2019 tariff regulation. The petitioner may be allowed to recover the deferred tax liability materialised directly without making any application before the commission as provided in the regulation*
- 4) *Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70(1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, and other expenditure (if any) in relation to the filing of petition.*
- 5) *Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the beneficiaries 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 IoL due to change in Interest rate on account of floating rate of interest applicable during 2019-24 period, if any, from the beneficiaries.*
- 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 beneficiaries, if GST on transmission is levied at any rate in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.*

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

Background

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



a) The Investment Approval (I.A.) and expenditure sanction for the transmission system was accorded by the Board of Directors (BoD) of the Petitioner Company vide letter dated 22.10.2002 at an estimated cost of ₹23702 lakh, including an IDC of ₹2176 lakh. The Revised Cost Estimate (RCE) was accorded by the BoD of the Petitioner Company vide letter dated 17.1.2006 at an estimated cost of ₹28587 lakh, including an IDC of ₹962 lakh. The scope of work covered under the transmission system is as follows:

Transmission Lines:

- (i) 400 kV D/C Tarapur Padghe Transmission Line;
- (ii) 400 kV D/C Tarapur Boisar Transmission Line;
- (iii) LILO of 400 kV S/C Gandhar-Padghe Transmission Line at Vapi;
- (iv) LILO of 400 kV S/C Gandhar-Padghe Transmission Line at Boisar;
and
- (v) 220 kV S/C Tarapur Boisar Transmission Line.

Sub-stations:

- (i) 400/220 kV Vapi Sub-station (New);
- (ii) 400/220 kV Boisar Sub-station (New); and
- (iii) 400/220 kV Padghe (MSEB) Sub-station extension.

b) As per I.A., the scheduled of commercial operation of the transmission assets under the transmission system was 1.7.2005. The date of commercial operation of Asset-1, Asset-2 and Asset-3 was 1.3.2005, 1.8.2005 and 1.9.2005 respectively. The time over-run in case of the transmission assets was condoned by the Commission vide order dated 6.2.2007 in Petition No. 135/2006.

c) The transmission tariff for the transmission assets for the period from COD up to 31.3.2009 after accounting for Additional Capital Expenditure (ACE) during 2005-06 period was determined by the Commission vide order dated 6.2.2007 in Petition No. 135/2006. The transmission tariff for the transmission assets was revised on account of ACE during 2006-07 and 2007-08 period vide order dated 19.6.2009 in Petition No. 46/2009. The transmission tariff for the transmission assets was further revised on account of ACE during 1.4.2008 to 31.3.2009 vide order dated 1.6.2010 in Petition No. 9/2010. The assets were



combined on 1.4.2009 with COD of Combined Asset as 1.9.2005. The transmission tariff for the Combined Asset for the period from 1.4.2009 to 31.3.2014 was approved vide order dated 11.3.2011 in Petition No. 194/2010. The transmission tariff for the Combined Asset for the 2009-14 period was trued-up and tariff for the 2014-19 period was determined vide order dated 7.10.2015 in Petition No. 159/TT/2014.

d) The entire scope of the work as per I.A. is covered in the instant petition.

e) The Petitioner has sought revision of transmission tariff approved for the 2004-09 tariff period 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 Appellate Tribunal for Electricity (APTEL) judgment 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 respectively. The Petitioner has sought consequential revision of tariff allowed for the 2009-14 tariff period and truing up of tariff of the 2014-19 tariff period and determination of transmission tariff of the 2019-24 tariff period for the transmission assets in Western Region.

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

Sr. No.	Issue	APTEL's decision/direction
1	Whether APTEL can enquire into the validity of Regulations framed by the Commission.	Challenge to the validity of Regulations framed by the Commission falls outside the purview of APTEL.
2	Computation of interest on loan.	In view of the order of the APTEL dated 14.11.2016 in Appeal No. 94 of 2005 and Appeal No. 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

g) 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 issues. The issues considered and the decision of APTEL are given in the following table:

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

h) 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.

i) Based on APTEL's judgments dated 22.1.2007 in Appeal No. 81 of 2005 and 13.6.2007 in Appeal No. 139 of 2007 and the Commission's order dated 18.1.2019 in Petition No. 121/2007, the Petitioner had sought re-determination of transmission tariff of its transmission assets of the 2001-04 and 2004-09 tariff periods in Petition No. 121/2007. The Commission, after taking into consideration the pendency of Appeals before the Hon'ble Supreme Court, adjourned the said petition *sine die* and directed that the same be revived after the disposal of the Civil Appeals by the Hon'ble Supreme Court.

j) The Hon'ble Supreme Court vide order dated 10.4.2018, dismissed the said Civil Appeals. Thus, the said order of the APTEL has attained finality.

k) Consequent to the Hon'ble Supreme Court's order dated 10.4.2018, the 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 for the assets at the time of filing of truing up of the petitions for the 2014-19 tariff period in respect of concerned transmission assets.

l) Accordingly, the Petitioner has sought revision of transmission tariff approved for the 2004-09 tariff period on account of change in IoL and IWC to the extent of revision in IoL and in Maintenance Spares in terms of the APTEL's judgements dated 22.1.2007 and 13.6.2007.

m) The instant petition was heard on 20.4.2021 and in view of APTEL's judgments dated 22.1.2007 in Appeal No. 81 of 2005 and batch matters along with order dated 13.6.2007 in Appeal No. 139 of 2006 and batch matters and the order of Hon'ble Supreme Court dated 10.4.2018, transmission tariff is being revised. Although, period-wise transmission tariff is being re-worked based on



the Tariff Regulations applicable for the respective tariff periods, suitable assumptions at certain places, if required, are being applied which are indicated.

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

5. The Petitioner has served the petition on the Respondents and Public Notice regarding filing of this petition was published in the newspaper in accordance with Section 64 of the Electricity Act, 2003. No comments/objections have been received from the general public in response to the aforesaid notice published in the newspaper by the Petitioner. MP Power Management Company Ltd. (MPPMCL), Respondent No. 1, has filed its reply vide affidavit dated 6.2.2020. MPPMCL has raised the issue of effective tax rates considered for grossing up of rate of Return on Equity (RoE). The Petitioner, vide affidavit dated 28.7.2020 has filed its rejoinder to the reply of MPPMCL. The issues raised by MPPMCL and the clarifications given by the Petitioner are considered in the relevant portion of this order.

6. This order is issued considering the submissions of the Petitioner vide affidavits dated 19.9.2019, 28.7.2020 and 3.8.2020 and MPPMCL's affidavit dated 6.2.2020.

7. The hearing in this matter was held on 20.4.2021 through video conference and the order was reserved. Having heard the representatives of the Petitioner, Respondent and after perusal of the materials the materials on record, we proceed to dispose of the petition.



Re: Interest on Loan (IOL)

8. APTEL while dealing with the issue of computation of IoL, in judgement dated 22.1.2007 in Appeal No.81 of 2005 and batch matters observed that IoL for the period from 1.4.1998 to 31.3.2001 shall be computed only on normative loan repayment as per its judgement dated 14.11.2006 in Appeal No. 94 of 2005 and Appeal No. 96 of 2005. APTEL *vide* its judgement dated 14.11.2006 in Appeal No. 94 of 2005 and Appeal No. 96 of 2005 set aside the Commission's methodology of computation of loan on the actual repayment basis or normative repayment whichever is higher and held that the Commission is required to adopt normative debt repayment methodology for working out the IoL liability for the period from 1.4.1998 to 31.3.2001. In view of the judgement of APTEL, interest allowed for 2004-09 period is to be revised on the basis of the normative debt repayment methodology.

Re: Additional Capital Expenditure (ACE)

9. APTEL in its judgement dated 13.6.2007 in Appeal No. 139 of 2006 and batch matters held that ACE after COD should also be considered for computation of maintenance spares. In view of the judgement of APTEL, maintenance spares to be considered for computation of working capital for 2004-09 period are also required to be revised taking into consideration ACE after COD.

Re: Depreciation

10. As regards depreciation, 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. Accordingly, the outstanding loan allowed for the transmission asset for 2004-09 period is revised in the instant order.



11. In view of the above directions of APTEL, the outstanding loan allowed for the transmission assets for the 2004-09 period is revised in the instant order.

12. The revision of transmission tariff allowed for the 2004-09 tariff period necessitates the revision of transmission tariff allowed for the 2009-14 tariff period, which is also being done in the present order. The implementation of the directions of APTEL in 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 the 2001-04, 2004-09 and 2009-14 tariff periods. Therefore, we direct that the Petitioner will neither claim nor pay any carrying cost from or to the beneficiaries for the difference, if any, in the tariff allowed earlier and the tariff being allowed in the instant order. Further, the said difference in tariff shall be recovered/ paid over a period of six months from the date of issue of this order.

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

2004-09 Tariff Period

13. The Commission vide order dated 1.6.2010 in Petition No. 9/2010 had approved the following transmission charges for the transmission assets for the period from COD to 31.3.2009:

(₹ in lakh)

Asset-1	2004-05 (pro-rata for 1 month)	2005-06	2006-07	2007-08	2008-09
Depreciation	13.38	167.38	175.20	176.18	176.27
IoL	27.81	340.30	342.81	331.95	310.09
Return on Equity	15.99	202.49	214.65	216.23	216.38



Advance against Depreciation	0.00	0.00	0.00	0.00	265.05
IWC	1.63	20.02	20.84	21.16	25.87
O&M Expenses	4.07	50.75	52.84	54.87	57.14
Total	62.88	780.93	806.35	800.38	1050.80

Asset-2	2005-06 (pro-rata for 8 months)	2006-07	2007-08	2008-09
Depreciation	169.56	269.62	278.65	279.56
IoL	343.29	529.27	525.07	497.46
Return on Equity	193.87	309.65	320.07	321.43
Advance against Depreciation	0.00	0.00	0.00	258.24
IWC	22.01	34.44	35.50	40.41
O&M Expenses	127.85	199.55	207.34	215.81
Total	856.58	1342.54	1366.64	1612.90

Asset-3	2005-06 (pro-rata for 7 months)	2006-07	2007-08	2008-09
Depreciation	154.26	287.12	303.15	304.91
IoL	276.30	502.25	511.86	485.82
Return on Equity	160.87	308.18	331.11	333.77
Advance against Depreciation	0.00	0.00	0.00	207.35
IWC	23.47	42.56	44.52	48.93
O&M Expenses	310.48	553.56	575.56	598.69
Total	925.38	1693.66	1766.20	1979.48

14. The Petitioner has claimed the following revised transmission charges for the transmission assets for the period from COD to 31.3.2009:

(₹ in lakh)

Asset-1	2004-05 (pro-rata for 1 month)	2005-06	2006-07	2007-08	2008-09
Depreciation	13.38	167.38	175.20	176.18	176.27
IoL	27.85	347.19	361.00	358.37	338.09
Return on Equity	15.99	202.49	214.65	216.23	216.38
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
IWC	1.63	20.75	22.12	22.68	22.89
O&M Expenses	4.07	50.75	52.84	54.87	57.14
Total	62.92	788.56	825.81	828.33	810.77



(₹ in lakh)

Asset-2	2005-06 (pro-rata for 8 months)	2006-07	2007-08	2008-09
Depreciation	169.56	269.62	278.65	279.56
IoL	347.16	550.31	560.67	537.01
Return on Equity	193.87	309.65	320.07	321.43
Advance against Depreciation	0.00	0.00	0.00	0.00
IWC	22.21	35.70	37.34	37.93
O&M Expenses	127.85	199.55	207.34	215.81
Total	860.65	1364.83	1404.07	1391.75

(₹ in lakh)

Asset-3	2005-06 (pro-rata for 7 months)	2006-07	2007-08	2008-09
Depreciation	154.26	287.12	303.15	304.91
IoL	279.31	522.85	548.55	528.26
Return on Equity	160.87	308.18	331.11	333.77
Advance against Depreciation	0.00	0.00	0.00	0.00
IWC	23.70	44.27	47.19	48.28
O&M Expenses	310.48	553.56	575.56	598.69
Total	928.62	1715.98	1805.56	1813.91

15. We have considered the Petitioner's claim. The tariff is revised for the transmission assets for the period from COD 31.3.2009 on the basis of the following:

- a) The admitted capital cost and ACE approved for the period from COD to 31.3.2009 which are as follows:

(₹ in lakh)

Particulars	Admitted Capital Cost as on COD/1.4.2004	ACE in 2004-09	Admitted Capital Cost as on 31.3.2009
Asset-1	6059.72	586.54	6646.26
Asset-2	9191.03	961.82	10152.85
Asset-3	8385.86	1669.09	10054.95

- b) Weighted Average Rate of Interest (WAROI) on actual loan, Weighted Average Rate of Depreciation (WAROD), Rate of IWC and O&M Expenses have been adopted from order dated 6.2.2007, 19.6.2009 and 1.6.2010 in Petition No. 135/2006, Petition No. 46/2009 and Petition No. 9/2010 respectively;

- c) With respect to calculation of IoL, the Petitioner availed moratorium period for Asset-1 during 2004-05 and no actual repayment of loan was made. Earlier, the Commission vide order dated 6.2.2007 in Petition No. 135/2006 had



considered depreciation during 2004-05 as loan repayment. Therefore, depreciation during 2004-05 as loan repayment has been considered as loan repayment in respect of Asset-1 in accordance with Regulation 56(i)(f) of the 2004 Tariff Regulations which is as follows:

“56 (i) Interest on Loan Capital

(f) In case any moratorium period is availed of by the transmission licensee, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly;”

d) Maintenance Spares component of IWC adjusted with respect to ACE incurred during the 2004-09 tariff period.

16. In view of the above, the revised transmission charges allowed for the transmission assets for the period from COD to 31.3.2009 is as follows:

(₹ in lakh)					
Asset-1	2004-05 (pro-rata for 1 month)	2005-06	2006-07	2007-08	2008-09
Depreciation	13.38	167.38	175.20	176.18	176.27
IoL	27.81	346.24	360.05	357.43	337.11
Return on Equity	15.99	202.49	214.65	216.23	216.38
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
IWC	1.63	20.38	21.74	22.27	22.45
O&M Expenses	4.07	50.75	52.84	54.87	57.14
Total	62.88	787.24	824.48	826.99	809.35

(₹ in lakh)				
Asset-2	2005-06 (pro-rata for 8 months)	2006-07	2007-08	2008-09
Depreciation	169.56	269.62	278.65	279.56
IoL	347.29	550.04	560.57	537.38
Return on Equity	193.87	309.65	320.07	321.43
Advance against Depreciation	0.00	0.00	0.00	0.00
IWC	22.21	35.50	37.14	37.72
O&M Expenses	127.85	199.55	207.34	215.81
Total	860.78	1364.36	1403.77	1391.91



(₹ in lakh)

Asset-3	2005-06 (pro-rata for 7 months)	2006-07	2007-08	2008-09
Depreciation	154.26	287.12	303.15	304.91
IoL	279.50	522.68	548.91	528.35
Return on Equity	160.87	308.18	331.11	333.77
Advance against Depreciation	0.00	0.00	0.00	0.00
IWC	23.70	44.05	46.96	48.04
O&M Expenses	310.48	553.56	575.56	598.69
Total	928.81	1715.59	1805.69	1813.75

17. The Annual Fixed Charges (AFC) allowed for the transmission assets for the period from COD to 31.3.2019 vide order dated 1.6.2010 in Petition No. 9/2010, the revised AFC claimed in the instant petition and revised AFC approved in the instant order is as follows:

(₹ in lakh)

Asset-1	2004-05 (pro-rata for 1 month)	2005-06	2006-07	2007-08	2008-09
AFC allowed vide order dated 1.6.2010 in Petition No. 9/2010	62.88	780.93	806.35	800.38	1050.80
AFC claimed by the Petitioner in the instant petition	62.92	788.56	825.81	828.33	810.77
Allowed after true-up in this order	62.88	787.24	824.48	826.99	809.35

(₹ in lakh)

Asset-2	2005-06 (pro-rata for 8 months)	2006-07	2007-08	2008-09
AFC allowed vide order dated 1.6.2010 in Petition No. 9/2010	856.58	1342.54	1366.64	1612.90
AFC claimed by the Petitioner in the instant petition	860.65	1364.83	1404.07	1391.75
Allowed after true-up in this order	860.78	1364.36	1403.77	1391.91

(₹ in lakh)

Asset-3	2005-06 (pro-rata for 7 months)	2006-07	2007-08	2008-09
AFC allowed vide order dated 1.6.2010 in Petition No. 9/2010	925.38	1693.66	1766.20	1979.48

Page 15 of 47



AFC claimed by the Petitioner in the instant petition	928.62	1715.98	1805.56	1813.91
Allowed after true-up in this order	928.81	1715.59	1805.69	1813.75

2009-14 Tariff Period

18. The Commission vide order dated 11.3.2011 in Petition No. 194/2010 had approved the transmission tariff for the Combined Asset for the 2009-14 tariff period and in order dated 7.10.2015 in Petition No. 159/TT/2014 had trued-up the transmission tariff that was allowed in order dated 11.3.2011 in Petition No. 194/2010. The trued up tariff approved for the 2009-14 tariff period for the transmission assets vide order dated 7.10.2015 is as follows:

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	1344.57	1344.57	1344.57	1344.57	1344.57
IoL	1194.41	1097.82	1000.72	903.67	806.73
Return on Equity	1164.97	1207.64	1208.83	1208.83	1223.37
IWC	135.37	137.58	139.10	140.80	143.01
O&M Expenses	1163.00	1229.59	1299.98	1374.27	1452.81
Total	5002.32	5017.21	4993.20	4972.14	4970.48

19. The Petitioner has claimed the following revised transmission charges for the Combined Asset of the 2009-14 period in the instant petition:

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	1344.57	1344.57	1344.57	1344.57	1344.57
IoL	1300.30	1203.81	1106.76	1009.80	912.96
Return on Equity	1164.97	1207.64	1208.83	1208.83	1223.37
IWC	137.58	139.79	141.31	143.01	145.22
O&M Expenses	1163.00	1229.59	1299.98	1374.27	1452.81
Total	5110.42	5125.40	5101.45	5080.47	5078.93

20. We have considered the Petitioner's claim. The transmission tariff of the 2009-14 tariff period is revised for the Combined Asset on the basis of the following:

- a) The admitted capital cost of ₹26854.06 lakh as on 1.4.2009;
- b) WAROI on actual loan derived/ adopted from order dated 7.10.2015 in Petition No. 159/TT/2014; and



c) WAROD as per order dated 7.10.2015 in Petition No. 159/TT/2014.

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

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	1344.57	1344.57	1344.57	1344.57	1344.57
IoL	1299.44	1202.94	1105.90	1008.93	912.11
Return on Equity	1164.97	1207.64	1208.83	1208.83	1223.37
IWC	137.56	139.77	141.29	142.99	145.20
O&M Expenses	1163.00	1229.59	1299.98	1374.27	1452.81
Total	5109.54	5124.51	5100.57	5079.59	5078.06

22. AFC allowed for the 2009-14 tariff period vide order dated 7.10.2015 in Petition No. 159/TT/2014, the revised AFC claimed in the instant petition and the revised 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 7.10.2015 in Petition No. 159/TT/2014	5002.32	5017.20	4993.20	4972.14	4970.48
AFC claimed by the Petitioner in the instant petition	5110.42	5125.40	5101.45	5080.47	5078.93
Allowed after true-up in this order	5109.54	5124.51	5100.57	5079.59	5078.06

Truing Up of Annual Fixed Charges of the 2014-19 Tariff Period

23. The details of the trued-up transmission charges claimed by the Petitioner in respect of the Combined Asset is as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1344.57	1344.57	1344.57	1344.57	451.26
IoL	816.37	720.24	625.31	535.54	500.14
Return on Equity	1224.30	1229.92	1229.29	1229.29	1232.60
IWC	151.73	152.10	152.44	152.98	134.38
O&M Expenses	1336.15	1380.56	1426.41	1473.71	1522.61
Total	4873.12	4827.39	4778.02	4736.09	3840.99

24. The details of the trued-up IWC claimed by the Petitioner for the Combined Asset is as follows:



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses	111.35	115.05	118.87	122.81	126.88
Maintenance Spares	200.42	207.08	213.96	221.06	228.39
Receivables	812.19	804.57	796.34	789.35	640.17
Total Working Capital	1123.96	1126.70	1129.17	1133.22	995.44
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
IWC	151.73	152.10	152.44	152.98	134.38

Capital Cost

25. The capital cost of the Combined Asset has been calculated in accordance with Regulation 9(3) of the 2014 Tariff Regulations. The Commission vide order dated 7.10.2015 in Petition No.159/TT/2014 had allowed capital cost of ₹26854.06 lakh as on 31.3.2014. The Petitioner has not claimed any ACE during the 2014-19 period.

26. Accordingly, the capital cost considered for truing up of tariff of the 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
26854.06	0.00	26854.06

Debt-Equity Ratio

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

Particulars	Capital Cost as on 1.4.2014 (₹ in lakh)	(%)	Capital Cost as on 31.3.2019 (₹ in lakh)	(%)
Debt	20615.58	76.77	20615.58	76.77
Equity	6238.48	23.23	6238.48	23.23
Total	26854.06	100.00	26854.06	100.00



Depreciation

28. Depreciation has been worked out as per the methodology provided in Regulation 27 of the 2014 Tariff Regulations. The Gross Block during 2014-19 tariff period has been depreciated at WAROD. WAROD at Annexure-I has been worked out after taking into account the depreciation rates of assets as specified in the 2014 Tariff Regulations. The Combined Asset has completed 12 years of useful life as on 31.3.2018 and the remaining depreciable value has been spread across the balance useful life of 22 years in accordance with Regulation 27(5) of the 2014 Tariff Regulations. The trued-up depreciation for the 2014-19 tariff period for the Combined Asset is as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	26854.06	26854.06	26854.06	26854.06	26854.06
ACE	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	26854.06	26854.06	26854.06	26854.06	26854.06
Average Gross Block	26854.06	26854.06	26854.06	26854.06	26854.06
Freehold Land	820.46	820.46	820.46	820.46	820.46
Rate of Depreciation (%)	5.01	5.01	5.01	5.01	1.733
Depreciable Value	23430.24	23430.24	23430.24	23430.24	23430.24
Balance useful life of the asset beginning of the year (Year)	23	22	21	20	19
Lapsed life at the beginning of the year (Year)	8	9	10	11	12
Depreciation during the year	1344.57	1344.57	1344.57	1344.57	451.26
Cumulative depreciation at the end of the year	10822.65	12167.22	13511.79	14856.36	15307.61
Remaining Depreciable Value at the end of the year	12607.59	11263.02	9918.45	8573.88	8122.63

29. The details of depreciation approved vide order dated 7.10.2015 in Petition No. 159/TT/2014, claimed by the Petitioner in the instant petition and trued-up depreciation in the instant order is as follows:



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 7.10.2015 in Petition No. 159/TT/2014	1344.57	1344.57	1344.57	1344.57	412.80
Claimed by the Petitioner in the instant petition	1344.57	1344.57	1344.57	1344.57	451.26
Allowed after true-up in this order	1344.57	1344.57	1344.57	1344.57	451.26

Interest on Loan (IoL)

30. The Petitioner has claimed the weighted average rate of IoL based on its actual loan portfolio and rate of interest. We have considered the submissions of the Petitioner and accordingly calculated IoL based on actual interest rate, in accordance with Regulation 26 of the 2014 Tariff Regulations. Trued-up IoL allowed for the Combined Asset for the 2014-19 tariff period is as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	20615.58	20615.58	20615.58	20615.58	20615.58
Cumulative Repayments up to Previous Year	8761.57	10106.14	11450.71	12795.28	14139.85
Net Loan-Opening	11854.01	10509.44	9164.87	7820.30	6475.73
Additions due to ACE	0.00	0.00	0.00	0.00	0.00
Repayment during the year	1344.57	1344.57	1344.57	1344.57	451.26
Net Loan-Closing	10509.44	9164.87	7820.30	6475.73	6024.47
Average Loan	11181.72	9837.15	8492.59	7148.02	6250.10
Weighted Average Rate of IoL (%)	7.2932	7.3128	7.3527	7.4798	7.9870
IoL	815.51	719.38	624.44	534.66	499.19

31. The details of IoL approved vide order dated 7.10.2015 in Petition No. 159/TT/2014, claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 7.10.2015 in Petition No. 159/TT/2014	709.96	613.55	518.03	426.41	385.15
Claimed by the Petitioner in the	816.37	720.24	625.31	535.54	500.14



instant petition					
Allowed after true-up in this order	815.51	719.38	624.44	534.66	499.19

Return on Equity (RoE)

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

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

33. MPPMCL in its reply has submitted that the Petitioner has claimed grossed-up RoE on the basis of actual taxes paid during the years 2016-17 and 2017-18 and for the year 2018-19, RoE has been grossed-up on the basis of applicable MAT rate, surcharge and cess and not on the basis of actual taxes paid for the year 2018-19. MPPMCL has submitted that the Petitioner has not placed on record the assessment order for the years 2014-15, 2015-16, 2016-17 and 2017-18 and that the Petitioner has also not enclosed the audited accounts in respect of actual taxes paid for 2016-17 and 2017-18.

34. In response, the Petitioner has submitted that the assessment orders for years 2014-15, 2015-16 and 2016-17 have been issued by the Income Tax Department and Income Tax returns for years 2017-18 and 2018-19 have been filed. The Petitioner has further submitted that the assessment order for the years 2014-15 and 2015-16 was submitted in reply to Technical Validation letter in Petition No. 20/TT/2020 and a



copy of the assessment order for the year 2016-17 has been filed in the instant petition along with the rejoinder.

35. 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 issue raised by MPPMCL. The relevant paragraph of the order is extracted as follows:

“39. We have considered the submissions of the Petitioner and MPPMCL. As regards MPPMCL’s contention, it is observed that the Petitioner has submitted the assessment orders issued by the Income Tax Department for the years 2014-15, 2015-16 and 2016-17 and the Income Tax returns filed by the Petitioner for years 2017-18 and 2018-19. The Petitioner has submitted the documents pointed out by MPPMCL.”

36. The Commission in order dated 27.4.2020 in Petition No. 274/TT/2019 has arrived at the effective tax rate for the Petitioner based on the notified MAT rates and the same is given in the table below:

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

37. The MAT rates considered for the purpose of grossing up of rate of RoE for truing up of the tariff of the 2014-19 period, in terms of the provisions of the 2014 Tariff Regulations, is considered as follows:

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



38. Trued-up RoE is allowed on the basis of the MAT rate applicable in the respective years for the Combined Asset for the 2014-19 tariff period and it is as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	6238.48	6238.48	6238.48	6238.48	6238.48
Additions due to ACE	0.00	0.00	0.00	0.00	0.00
Closing Equity	6238.48	6238.48	6238.48	6238.48	6238.48
Average Equity	6238.48	6238.48	6238.48	6238.48	6238.48
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	20.961	21.342	21.342	21.342	21.549
Rate of Return on Equity (%)	19.610	19.705	19.705	19.705	19.758
Return on Equity	1223.37	1229.29	1229.29	1229.29	1232.60

39. The details of RoE approved vide order dated 7.10.2015 in Petition No. 159/TT/2014, claimed in the instant petition and trued-up in the instant order is as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 7.10.2015 in Petition No. 159/TT/2014	1223.37	1223.37	1223.37	1223.37	1223.37
Claimed by the Petitioner in the instant petition	1224.30	1229.92	1229.29	1229.29	1232.60
Allowed after true-up in this order	1223.37	1229.29	1229.29	1229.29	1232.60

Operation & Maintenance Expenses (O&M Expenses)

40. The trued-up O&M Expenses claimed by the Petitioner for the Combined Asset are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses claimed by the Petitioner	1336.15	1380.56	1426.41	1473.71	1522.61

41. The O&M Expenses claimed by the Petitioner are within the norms specified under the 2014 Tariff Regulations. The allowed O&M Expenses are as follows:



O&M Expenses	2014-15	2015-16	2016-17	2017-18	2018-19
Sub-station					
400 kV					
Number of bays at Padghe: Tarapur-I at Padghe, Padghe:Tarapur-II at Padghe, Boisar:Tarapur-I at Boisar, Boisar:Tarapur-II at Boisar, Boisar:Vapi Bay at Boisar, Boisar:Padghe at Boisar, Boisar:ICT I at Boisar 400 kV, Boisar:ICT II at Boisar, Vapi:Gandhar Bay at Vapi, Vapi:Boisar Bay at Vapi, Vapi:ICT I at Vapi, Vapi:ICT II at Vapi	12	12	12	12	12
220 kV Transmission Line (km)	60.30	62.30	64.37	66.51	68.71
Number of bays at Boisar:ICT I Bay at Boisar 220 kV, Boisar:ICT II at Boisar 220 kV, Boisar:Tarapur Bay at Boisar 220 kV, Boisar:Bay for MSTC I II And III, Vapi:ICT I at Vapi, Vapi:ICT II at Vapi, Vapi:Vapi I(GETCO) at Vapi, Vapi:Bhellad I at Vapi, Vapi:Bhellad II at Vapi, Vapi:Bhellad III at Vapi	12	12	12	12	12
Norms (₹ lakh/Bay)	42.21	43.61	45.06	46.55	48.10
Transmission line					
D/C Twin/Triple Conductor (km) Tarapur-Padghe (MSETCL) I and II, Tarapur-Boisar I and II, LILO of Gandhar Padghe at Boisar (Boisar- Vapi line), LILO of Gandhar- Padghe at Vapi (Gandhar-Vapi line)	142.58	142.58	142.58	142.58	142.58
Norms (₹ lakh/km)	0.707	0.731	0.755	0.78	0.806
Line					
S/C (Twin/Triple Conductor) (km) LILO of Gandhar-Padghe at Vapi (Gandhar-Vapi line), LILO of Gandhar-Padghe at Vapi (Boisar-Padghe line)	2.694	2.694	2.694	2.694	2.694
Norms (₹ lakh/km)	0.404	0.418	0.432	0.446	0.461
S/C (Single Conductor) (km) Tarapur Boisar I and II	20.56	20.56	20.56	20.56	20.56
Norms (₹ lakh/km)	0.202	0.209	0.216	0.223	0.23
Total O&M Expenses (₹ in lakh)	1336.16	1380.57	1426.41	1473.72	1522.61



42. The details of the O&M Expenses approved vide order dated 7.10.2015 in Petition No. 159/TT/2014, claimed in the instant petition and trued-up in the instant order is as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 7.10.2015 in Petition No. 159/TT/2014	1336.16	1380.57	1426.41	1473.72	1522.61
Claimed by the Petitioner in the instant petition	1336.15	1380.56	1426.41	1473.71	1522.61
Allowed after true-up in this order	1336.16	1380.57	1426.41	1473.72	1522.61

Interest on Working Capital (IWC)

43. IWC has been worked out as per the methodology provided in Regulation 28 of the 2014 Tariff Regulations and trued-up IWC has been allowed for the Combined Asset as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses (O&M Expenses for 1 month)	111.35	115.05	118.87	122.81	126.88
Maintenance Spares (15% of O&M Expenses)	200.42	207.09	213.96	221.06	228.39
Receivables (Equivalent to 2 months of annual fixed cost)	811.88	804.31	796.19	789.20	640.00
Total Working Capital	1123.66	1126.44	1129.02	1133.07	995.28
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
IWC	151.69	152.07	152.42	152.96	134.36

44. The details of IWC approved vide order dated 7.10.2015 in Petition No. 159/TT/2014, claimed in the instant petition and trued-up IWC in the instant order is as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 7.10.2015 in Petition No. 159/TT/2014	149.26	149.50	149.83	150.34	130.64
As claimed by the Petitioner in the instant petition	151.73	152.10	152.44	152.98	134.38



allowed after true-up in this order	151.69	152.07	152.42	152.96	134.36
-------------------------------------	--------	--------	--------	--------	--------

Approved Annual Fixed Charges for the 2014-19 Tariff Period

45. The trued-up AFC approved for the Combined Asset for the 2014-19 tariff period are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1344.57	1344.57	1344.57	1344.57	451.26
IoL	815.51	719.38	624.44	534.66	499.19
Return on Equity	1223.37	1229.29	1229.29	1229.29	1232.60
IWC	151.69	152.07	152.42	152.96	134.36
O&M Expenses	1336.16	1380.57	1426.41	1473.72	1522.61
Total	4871.30	4825.87	4777.13	4735.20	3840.02

46. Accordingly, the Annual Transmission Charges allowed vide order dated 7.10.2015 in Petition No. 159/TT/2014, claimed by the Petitioner and approved after truing up in the instant order is as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed earlier vide order dated 7.10.2015 in Petition No. 159/TT/2014	4763.32	4711.55	4662.21	4618.40	3674.57
Claimed by the Petitioner in the instant petition	4873.12	4827.39	4778.02	4736.09	3840.99
Allowed after true-up in this order	4871.30	4825.87	4777.13	4735.20	3840.02

Determination of Annual Fixed Charges for the 2019-24 Period

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

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	451.26	451.26	451.26	451.26	451.26
IoL	505.01	467.77	431.03	391.40	351.77
Return on Equity	1232.60	1232.60	1232.60	1232.60	1232.60
IWC	87.31	88.81	90.22	91.68	92.99
O&M Expenses	1248.09	1292.14	1337.22	1384.40	1431.44
Total	3524.27	3532.58	3542.33	3551.34	3560.06



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

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	104.01	107.68	111.44	115.37	119.29
Maintenance Spares	187.21	193.82	200.58	207.66	214.72
Receivables	433.31	435.52	436.73	437.84	437.71
Total Working Capital	724.53	737.02	748.75	760.87	771.72
Rate of Interest (%)	12.05	12.05	12.05	12.05	12.05
IWC	87.31	88.81	90.22	91.68	92.99

Capital Cost

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

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

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

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



- (l) Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;*
- (m) Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;*
- (n) Expenditure on account of change in law and force majeure events; and*
- (o) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.*

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

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

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

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

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

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

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



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

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

50. The Petitioner has claimed capital cost of ₹26854.06 lakh as on 31.3.2019 for the Combined Asset. The same has been worked out by the Commission as on 31.3.2019 and considered as the opening capital cost as on 1.4.2019 for determination of tariff in accordance with Regulation 19 of the 2019 Tariff Regulations. The Petitioner has not claimed ACE for the 2019-24 tariff period for the Combined Asset.

Debt-Equity Ratio

51. 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 ACE 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.”

52. The debt and equity considered for the purpose of computation of tariff for the 2019-24 tariff period are as follows:

Particulars	Capital Cost as on 1.4.2019 (₹ in lakh)	(%)	Capital Cost as on 31.3.2024 (₹ in lakh)	(%)
Debt	20615.58	76.77	20615.58	76.77
Equity	6238.48	23.23	6238.48	23.23
Total	26854.06	100.00	26854.06	100.00

Depreciation

53. 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 project or element thereof including communication project. In case of the tariff of all the units of a generating station or all elements of a transmission project including communication

Page 30 of 47



project 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 project 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 project, 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 project, weighted average life for the generating station of the transmission project shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

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

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

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

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

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

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

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

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

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

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

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



54. The weighted average rate of depreciation (WAROD) has been worked out at Annexure-II to this order and the same is based on as per the rates of depreciation specified in the 2019 Tariff Regulations. The depreciation is approved considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. The depreciation allowed for the Combined Asset for the 2019-24 tariff period is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	26854.06	26854.06	26854.06	26854.06	26854.06
Addition during the year 2019-24 due to projected ACE	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	26854.06	26854.06	26854.06	26854.06	26854.06
Average Gross Block	26854.06	26854.06	26854.06	26854.06	26854.06
Weighted average rate of Depreciation (WAROD) (%)	1.73	1.73	1.73	1.73	1.73
Balance useful life at the beginning of the year (Year)	18	17	16	15	14
Lapsed life of the asset at the beginning of the year (Year)	13	14	15	16	17
Depreciable Value	23430.24	23430.24	23430.24	23430.24	23430.24
Depreciation during the year	451.26	451.26	451.26	451.26	451.26
Cumulative Depreciation	15758.87	16210.13	16661.38	17112.64	17563.90
Remaining Depreciable Value	7671.37	7220.11	6768.86	6317.60	5866.34

Interest on Loan (IoL)

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

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

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

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



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

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

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

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

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

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

56. As there is no actual loan remaining during the 2019-24 tariff period, the weighted average rate of IoL for 2017-18 i.e., the last available weighted average rate of IoL has been considered. IoL has been allowed in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed for the Combined Asset for the 2019-24 tariff period is as follows:

	(₹ in lakh)				
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	20615.58	20615.58	20615.58	20615.58	20615.58
Cumulative Repayments upto Previous Year	14591.11	15042.36	15493.62	15944.88	16396.13
Net Loan-Opening	6024.47	5573.22	5121.96	4670.70	4219.45
Additions due to ACE	0.00	0.00	0.00	0.00	0.00
Repayment during the year	451.26	451.26	451.26	451.26	451.26
Net Loan-Closing	5573.22	5121.96	4670.70	4219.45	3768.19
Average Loan	5798.85	5347.59	4896.33	4445.08	3993.82
Weighted Average Rate of IoL (%)	8.6912%	8.7280%	8.7807%	8.7807%	8.7807%
IoL	503.99	466.74	429.93	390.31	350.69



Return on Equity (RoE)

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

Provided further that:

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

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

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

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

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

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

“31. Tax on Return on Equity: (1) The base rate of return on equity as allowed by the Commission under Regulation 30 of these regulations shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be.



The actual tax paid on income from other businesses including deferred tax liability (i.e. income from business other than business of generation or transmission, as the case may be) shall be excluded for the calculation of effective tax rate.

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

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

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

Illustration-

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

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

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

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

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

58. The Petitioner has submitted that MAT rate is applicable to the Petitioner's company. We have considered the submissions of the Petitioner. Accordingly, the MAT rate applicable in 2019-20 has been considered for the purpose of RoE, which shall be trued-up with actual tax rate in accordance with Regulation 31(3) of the 2019



Tariff Regulations. RoE allowed for the Combined Asset for the 2019-24 tariff period is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	6238.48	6238.48	6238.48	6238.48	6238.48
Additions due to ACE	0.00	0.00	0.00	0.00	0.00
Closing Equity	6238.48	6238.48	6238.48	6238.48	6238.48
Average Equity	6238.48	6238.48	6238.48	6238.48	6238.48
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT Rate for respective year (%)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (%)	18.782	18.782	18.782	18.782	18.782
Return on Equity	1171.71	1171.71	1171.71	1171.71	1171.71

Operation & Maintenance Expenses (O&M Expenses)

59. The O&M Expenses claimed by the Petitioner for the Combined Asset for the 2019-24 tariff period are as follows:

O&M Expenses					
400 kV					
Number of bays at Padghe:Tarapur-I at Padghe, Padghe:Tarapur-II at Padghe, Boisar:Tarapur-I at Boisar, Boisar:Tarapur-II at Boisar, Boisar:Vapi Bay at Boisar, Boisar:Padge at Boisar, Boisar:ICT I at Boisar 400 kV, Boisar:ICT II at Boisar, Vapi:Gandhar Bay at Vapi, Vapi:Boisar Bay at Vapi, Vapi:ICT I at Vapi, Vapi:ICT II at Vapi	12	12	12	12	12
Norms (₹ lakh/Bay)	32.15	33.28	34.45	35.66	36.91
220 kV					
Number of bays at Boisar:ICT I Bay at Boisar 220 kV, Boisar:ICT II at Boisar 220 kV, Boisar:Tarapur Bay at Boisar 220 kV, Boisar:Bay for MSTC I II And III, Vapi:ICT I at Vapi, Vapi:ICT II at Vapi, Vapi:Vapi I (GETCO) at Vapi, Vapi:Bhellad I at Vapi, Vapi:Bhellad II at Vapi, Vapi:Bhellad III at Vapi	12	12	12	12	12
Norms (₹ lakh/Bay)	22.51	23.3	24.12	24.96	25.84
Transmission line					
D/C Twin/Triple Conductor (km) Tarapur-Padghe (MSETCL) I and	142.578	142.58	142.58	142.58	142.58



II, Tarapur-Boisar I and II, LILO of Gandhar Padge at Boisar (Boisar-Vapi line), LILO of Gandhar-Padghe at Vapi (Gandhar-Vapi line)					
Norms (₹ lakh/km)	0.881	0.912	0.944	0.977	1.011
Line					
S/C (Twin/Triple Conductor) (km) LILO of Gandhar-Padghe at Vapi (Gandhar-Vapi line), LILO of Gandhar-Padghe At Vapi (Boisar-Padge line)	2.694	2.694	2.694	2.694	2.694
Norms (₹ lakh/km)	0.503	0.521	0.539	0.558	0.578
S/C (Single Conductor) (km) Tarapur Boisar I and II	20.56	20.56	20.56	20.56	20.56
Norms (₹ lakh/km)	0.252	0.26	0.27	0.279	0.289
Transformers 400 kV 4*315 MVA Boisar:ICT-I&II at Boisar , Vapi:ICT-I&II at Vapi					
MVA	1260	1260	1260	1260	1260
Norms (₹ lakh/MVA)	0.358	0.371	0.384	0.398	0.411
PLCC for Tarapur Stage 3&4					
2% of Capital Cost (2% of ₹446.82 lakh)	8.94	8.94	8.94	8.94	8.94
Total O&M Expenses (₹ in lakh)	1248.09	1292.14	1337.22	1384.40	1431.44

60. Regulation 35(3)(a) and Regulation 35(4) of the 2019 Tariff Regulations provide for the O&M Expenses for the transmission system as follows:

“35. Operation and Maintenance Expenses

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

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Norms for sub-station Bays (₹ Lakh per bay)					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
132 kV and below	16.08	16.64	17.23	17.83	18.46
Norms for Transformers (₹ Lakh per MVA)					
765 kV	0.491	0.508	0.526	0.545	0.564
400 kV	0.358	0.371	0.384	0.398	0.411
220 kV	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.245	0.254	0.263	0.272	0.282
Norms for AC and HVDC lines (₹ Lakh per km)					
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.881	0.912	0.944	0.977	1.011



Single Circuit (Bundled conductor with four sub-conductors)	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple Conductor)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single Conductor)	0.252	0.260	0.270	0.279	0.289
Double Circuit (Bundled conductor with four or more sub-	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
<i>Norms for HVDC stations</i>					
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (₹ Lakh per 500 MW)	1,666	1,725	1,785	1,848	1,913
500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)	2,468	2,555	2,645	2,738	2,834
±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)	2,563	2,653	2,746	2,842	2,942

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

Provided further that:

- i. the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed pro-rata on the basis of normative rate of operation and maintenance expenses of similar HVDC bi-pole scheme for the corresponding year of the tariff period;*
- ii. the O&M expenses norms for HVDC bi-pole line shall be considered as Double Circuit quad AC line;*
- iii. the O&M expenses of ±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.”*

61. 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. The Petitioner has made similar claim in other petitions as well. Though PLCC is a communication system, it has been considered as part of the sub-station in the 2014 Tariff Regulations and the 2019 Tariff Regulations and the norms for sub-station have been specified accordingly. Accordingly, the Commission vide order dated 24.1.2021 in Petition No. 126/TT/2020 has already concluded that no separate O&M Expenses can be allowed for PLCC under Regulation 35(4) of the 2019



Tariff Regulations even though PLCC is a communication system. Therefore, the Petitioner's claim for separate O&M Expenses for PLCC @2% is not allowed.

62. We have considered the submissions of the Petitioner. The O&M Expenses have been worked out as per the norms specified in the 2019 Tariff Regulations and the same are as follows:

O&M Expenses	2019-20	2020-21	2021-22	2022-23	2023-24
Sub-station					
400 kV					
Number of bays	12	12	12	12	12
Norms (₹ lakh/Bay)	32.15	33.28	34.45	35.66	36.91
220 kV					
Number of bays	12	12	12	12	12
Norms (₹ lakh/Bay)	22.51	23.3	24.12	24.96	25.84
Transmission line					
D/C Twin/Triple Conductor (km)	142.578	142.58	142.58	142.58	142.58
Norms (₹ lakh/km)	0.881	0.912	0.944	0.977	1.011
Transmission Line					
S/C (Twin/Triple Conductor) (km)	2.694	2.694	2.694	2.694	2.694
Norms (₹ lakh/km)	0.503	0.521	0.539	0.558	0.578
S/C (Single Conductor) (km)	20.56	20.56	20.56	20.56	20.56
Norms (₹ lakh/km)	0.252	0.26	0.27	0.279	0.289
Transformers					
MVA	1260	1260	1260	1260	1260
Norms (₹ lakh/MVA)	0.358	0.371	0.384	0.398	0.411
Total O&M Expenses (₹ in lakh)	1239.15	1283.20	1328.28	1375.46	1422.51

Interest on Working Capital (IWC)

63. 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 IWC 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 IWC shall be considered at bank rate as on 1st April of each of the financial year during the tariff period 2019-24.”

“(4) IWC 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;”

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

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses (O&M Expenses for 1 month)	103.26	106.93	110.69	114.62	118.54
Maintenance Spares (15% of O&M Expenses)	185.87	192.48	199.24	206.32	213.38
Receivables (Equivalent to 45 days of annual transmission charges)	424.44	425.90	427.08	428.18	428.07
Total Working Capital	713.57	725.31	737.01	749.12	759.99
Rate of Interest (%)	12.05	11.25	11.25	11.25	11.25
IWC	85.99	81.60	82.91	84.28	85.50



Annual Fixed Charges for the 2019-24 Tariff Period

65. The transmission charges allowed for the Combined Asset for the 2019-24 tariff period are summarised as follows:

	(₹ in lakh)				
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	451.26	451.26	451.26	451.26	451.26
IoL	503.99	466.74	429.93	390.31	350.69
Return on Equity	1171.71	1171.71	1171.71	1171.71	1171.71
IWC	85.99	81.60	82.91	84.28	85.50
O&M Expenses	1239.15	1283.20	1328.28	1375.46	1422.51
Total	3452.09	3454.51	3464.09	3473.01	3481.66

Filing Fee and Publication Expenses

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

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

Goods and Services Tax (GST)

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



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

69. 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

70. The Petitioner has submitted that security expenses for the transmission assets are not claimed in the instant petition and it would file a separate petition for claiming the overall security expenses and the consequential IWC. The Petitioner has requested to consider the actual security expenses incurred during 2018-19 for claiming estimated security expenses for 2019-20 which shall be subject to true-up at the end of the year based on the actuals. The Petitioner has submitted that similar petition for security expenses for 2020-21, 2021-22, 2022-23 and 2023-24 shall be filed on a yearly basis on the basis of the actual expenses of previous year subject to true-up at the end of the year on actual expenses. The Petitioner has submitted that the difference, if any, between the estimated security expenses and actual security expenses as per the audited accounts may be allowed to be recovered from the beneficiaries on a yearly basis.

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



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

Capital Spares

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

Sharing of Transmission Charges

73. The transmission charges for the period from COD TO 31.3.2009 shall be recovered as per order dated 6.2.2007, 19.6.2009 and 1.6.2010 in Petition No. 135/2006, Petition No. 46/2009 and Petition No. 9/2010 respectively and for the 2009-14 tariff period, it shall be recovered as per order dated 7.10.2015 in Petition No. 159/TT/2014.

74. The billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010 or the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020, as applicable, as provided in Regulation 43 of the 2014 Tariff Regulations for the 2014-19 tariff period and Regulation 57 of the 2019 Tariff Regulations for the 2019-24 tariff period.

75. To summarise:

- a) The revised AFC allowed for the transmission assets for the period from COD to 31.3.2009 as per the APTEL's judgments are:



(₹ in lakh)

Asset-1	2004-05 (pro-rata for 1 month)	2005-06	2006-07	2007-08	2008-09
AFC	62.88	787.24	824.48	826.99	809.35

(₹ in lakh)

Asset-2	2005-06 (pro-rata for 8 months)	2006-07	2007-08	2008-09
AFC	860.78	1364.36	1403.77	1391.91

(₹ in lakh)

Asset-3	2005-06 (pro-rata for 7 months)	2006-07	2007-08	2008-09
AFC	928.81	1715.59	1805.69	1813.75

- b) The consequential revision of AFC allowed for the Combined Asset for the 2009-14 tariff period are:

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
AFC	5109.54	5124.51	5100.57	5079.59	5078.06

- c) The trued-up AFC allowed for the Combined Asset for the 2014-19 tariff period are:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
AFC	4871.30	4825.87	4777.13	4735.20	3840.02

- d) AFC approved for the Combined Asset for the 2019-24 tariff period are:

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
AFC	3452.09	3454.51	3464.09	3473.01	3481.66

76. Annexure-I and Annexure-II given hereinafter shall form part of the order.

77. This order disposes of Petition No. 413/TT/2019 in terms of the above discussion and findings.

sd/-
(Pravas Kumar Singh)
Member

sd/-
(Arun Goyal)
Member

sd/-
(I. S. Jha)
Member

sd/-
(P. K. Pujari)
Chairperson



Annexure-I

2014-19 Capital Expenditure	Capital Cost as on 1.4.2014 / COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation as per Regulations(%)	Annual Depreciation as per Regulations (₹ in lakh)				
		2014-19			2014-15	2015-16	2016-17	2017-18	2018-19
Land - Freehold	820.46	0.00	820.46	0.00	0.00	0.00	0.00	0.00	0.00
Land - Leasehold	0.00	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
Building Civil Works & Colony	1788.48	0.00	1788.48	3.34	59.74	59.74	59.74	59.74	59.74
Transmission Line	14926.45	0.00	14926.45	5.28	788.12	788.12	788.12	788.12	788.12
Sub Station	8871.85	0.00	8871.85	5.28	468.43	468.43	468.43	468.43	468.43
PLCC	446.82	0.00	446.82	6.33	28.28	28.28	28.28	28.28	28.28
IT Equipment (Incl. Software)	0.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00
Total	26854.06	0.00	26854.06	Total	1344.57	1344.57	1344.57	1344.57	451.26
Average Gross Block (₹ in lakh)					26854.06	26854.06	26854.06	26854.06	26854.06
Weighted Average Rate of Depreciation					5.01%	5.01%	5.01%	5.01%	1.68%

The transmission asset has completed 12 years of useful life as on 31.3.2018, the remaining depreciable value has been spread across the balance useful life in accordance with Regulation 27(5) of the 2014 Tariff Regulations.



Annexure-II

2019-24 Capital Expenditure	Combined Admitted Capital Cost as on 1.4.2019 / COD (₹ in lakh)	Projected ACE 2019-24	Admitted Capital Cost as on 31.3.2024 (₹ in lakh)	Rate of Depreciation as per Regulations (%)	Annual Depreciation as per Regulations (₹ in lakh)				
					2019-20	2020-21	2021-22	2022-23	2023-24
Land - Freehold	820.46	0.00	820.46	0.00					
Land - Leasehold	0.00	0.00	0.00	3.34					
Building Civil Works & Colony	1788.48	0.00	1788.48	3.34					
Transmission Line	14926.45	0.00	14926.45	5.28					
Sub Station	8871.85	0.00	8871.85	5.28					
PLCC	446.82	0.00	446.82	6.33					
IT Equipment (Incl. Software)	0.00	0.00	0.00	15.00					
Total	26854.06	0.00	26854.06	Total	451.26	451.26	451.26	451.26	451.26
Average Gross Block (₹ in lakh)					26854.06	26854.06	26854.06	26854.06	26854.06
Weighted Average Rate of Depreciation					1.68%	1.68%	1.68%	1.68%	1.68%

The transmission asset has completed 12 years of useful life as on 31.3.2018, the remaining depreciable value has been spread across the balance useful life in accordance with Regulation 27(5) of the 2014 Tariff Regulations.

