

CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. 7/TT/2020

Coram:

Shri P.K. Pujari, Chairperson

Shri I.S. Jha, Member

Shri Arun Goyal, Member

Date of order: 01.02.2021

In the matter of:

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations 1999, revision of transmission tariff of the 2001-04, 2004-09 and 2009-14 tariff periods and truing up of transmission tariff of the 2014-19 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of the 2019-24 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 of Stage-1 of 400 kV Thyristor controlled series compensation project (Fact Device) on Kanpur-Ballabgarh 400 kV S/C line at Ballabgarh in Northern Region.

And in the matter of:

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

.....Petitioner

Versus

1. Rajasthan Raja Vidyut Prasaran Nigam Ltd.,
Vidyut Bhawan, Vidyut Marg,
Jaipur - 302005.
2. Ajmer Vidyut Vitran Nigam Ltd.,
132 kV, GSS RVPNL Sub-Station Building,
Caligiri Road, Malviya Nagar,
Jaipur-302017.
3. Jaipur Vidyut Vitran Nigam Ltd.,
132 kV, GSS RVPNL Sub-Station Building,
Caligiri Road, Malviya Nagar,
Jaipur -302017.



Order in Petition No.7/TT/2020.

4. Jodhpur Vidyut Vitran Nigam Ltd.,
132 kV, GSS RVPNL Sub-Station Building,
Caligiri Road, Malviya Nagar, Jaipur-302017.
5. Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House Complex Building II,
Shimla-171004.
6. Punjab State Electricity Board,
The Mall, Patiala - 147001.
7. Haryana Power Purchase Centre,
Shakti Bhawan, Sector-6,
Panchkula-134109.
8. Power Development Department,
Government of Jammu & Kashmir,
Mini Secretariat, Jammu.
9. Uttar Pradesh Power Corporation Ltd.,
(Formerly Uttar Pradesh State Electricity Board),
Shakti Bhawan, 14, Ashok Marg,
Lucknow - 226001.
10. Delhi Transco Ltd.,
Shakti Sadan, Kotla Road,
New Delhi-110002.
11. BSES Yamuna Power Ltd
BSES Bhawan, Nehru Place,
New Delhi.
12. BSES Rajdhani Power Ltd,
BSES Bhawan, Nehru Place,
New Delhi.
13. TATA Power Delhi Distribution Ltd.,
33 kV Sub-Station, Building Hudson Lane,
Kingsway Camp, North Delhi – 110009.
14. Chandigarh Administration,
Sector -9, Chandigarh.
15. Uttarakhand Power Corporation Ltd.,
Urja Bhawan, Kanwali Road,
Dehradun.



16. North Central Railway,
Allahabad.

17. New Delhi Municipal Council,
Palika Kendra, Sansad Marg,
New Delhi-110002.

...Respondent(s)

For Petitioner : Shri S. S. Raju, PGCIL
Shri Ved Prakash Rastogi, PGCIL

For Respondents : None

ORDER

The instant petition has been filed by Power Grid Corporation of India Limited (hereinafter referred to as “the Petitioner”), a deemed transmission licensee, for revision of tariff of the 2001-04, 2004-09 and 2009-14 tariff periods under relevant tariff regulations; for truing up of transmission tariff of the 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”); and for determination of tariff for the 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 Stage-1 of 400 kV Thyristor controlled series compensation project (Fact Device) on Kanpur-Ballabgarh 400 kV S/C line at Ballabgarh (hereinafter referred to as the “transmission asset”) in Northern Region:

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

“1) Approve the revised Transmission Tariff for 2001-04 block and 2004-09 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) 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 regulations 2014 and tariff regulation'19 as per para 9.0 & 10 above for respective block.

Further it is submitted that deferred tax liability before 01.04.2009 shall be recoverable from the beneficiaries or long term customers / DIC as the case may be, as and when the same is materialized as per regulation 49 of 2014 and regulation 67 of 2019 tariff regulation. The petitioner may be allow to recover the deferred tax liability materialised directly without making any application before the commission as provided in the regulation.

- 4) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, and other expenditure (if any) in relation to the filing of petition.
- 5) Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.
- 6) Allow the petitioner to 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.
- 10) Allow the petitioner to recover unrecovered depreciation amounting to Rs 52.17 Lakh on account of de-capitalization separately.

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 under:

a) The Investment Approval (IA) for the transmission asset was accorded by the Board of Directors of the Petitioner vide Memorandum dated 12.5.2000 at an estimated cost of ₹1476 lakh at 4th quarter 1999 price level, including IDC of ₹83 lakh.

b) The transmission tariff for the period from 1.4.2002 to 31.3.2004 for the transmission asset was determined vide order dated 23.3.2005 in Petition No. 116/2002; for the period from 1.4.2004 to 31.3.2009 vide order dated 9.5.2006 in Petition No. 60/2005; and for the period from 1.4.2009 to 31.3.2014 vide order dated 14.9.2009 in Petition No.131/2009. The tariff for the 2009-14 period was trued up and tariff for the period from 1.4.2014 to 31.3.2019 was determined vide order dated 15.2.2016 in Petition No.168/TT/2014.

c) The transmission asset was scheduled to be put into commercial operation in December 2000 against which it was put into commercial operation on 1.7.2002.

d) The transmission tariff allowed for the 2014-19 tariff period in order dated 15.2.2016 in Petition No. 168/TT/2014 and the trued-up transmission tariff claimed by the Petitioner in the instant petition is as under:

	(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed in order dated 15.2.2016 in Petition No. 168/TT/2014	241.34	186.34	185.27	184.27	183.33
Claimed by the Petitioner in the instant petition	241.40	186.74	185.63	184.63	183.89

e) The Petitioner has sought revision of transmission tariff approved for the 2001-04 and 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 judgments of APTEL dated 22.1.2007 and 13.6.2007 in Appeal No(s) 81/2005 and 139/2006 respectively. The Petitioner has sought consequential revision of tariff allowed for transmission asset for the



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

f) APTEL, vide judgements dated 22.1.2007 in Appeal No.81/2005 and other related appeals, and judgement dated 13.6.2007 in Appeal No. 139/2006 pertaining to generating stations of NTPC decided on, mainly the following issues:-

- (a) Computation of interest on loan
- (b) Consequences of refinancing of loan
- (c) Depreciation as deemed repayment
- (d) Admissibility of depreciation up to 90% of the value of the asset
- (e) Consideration of maintenance of spares for working capital
- (f) Depreciation of asset.

g) The Commission and certain interested parties preferred civil appeals against APTEL's judgments before the Hon'ble Supreme Court in 2007. The Appeals were admitted and initially a 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.

h) Based on the APTEL's judgments dated 22.1.2007 and 13.6.2007, the Petitioner had sought re-determination of tariff of its transmission assets for the 2001-04 and 2004-09 tariff periods 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.

i) The Hon'ble Supreme Court vide its judgment and final order dated 10.4.2018, dismissed the said Civil Appeals.

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



k) In view of the APTEL's judgments dated 22.1.2007 and 13.6.2007 and the judgement of Hon'ble Supreme Court dated 10.4.2018, the tariff is being revised. Although, period-wise tariff is being re-worked based on the Tariff Regulations applicable for the respective tariff periods, suitable assumptions at certain places, if any, are being applied which are being indicated.

l) The transmission asset was put under commercial operation on 1.7.2002 and the tariff was determined by the Commission based on capital cost of ₹1486.75 lakh as on COD and additional capital expenditure (ACE) of ₹12.43 lakh during 2002-03. Accordingly, considering the admitted capital cost of ₹1499.18, the tariff is being revised for the 2004-09 and 2009-14 tariff periods in terms of the APTEL's judgement dated 22.1.2007 and 13.6.2007.

m) Further, as provided under Regulation 8(1) of the 2014 Tariff Regulations, the tariff allowed for the period from 1.4.2014 to 31.3.2019 has been trued-up. The tariff for the 2019-24 period is determined under Regulation 8 of the 2019 Tariff Regulations.

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

5. The Petitioner has served the petition on the Respondents and notice regarding filing of this petition has been published in newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or suggestions have been received from the general public in response to the aforesaid notices published in the newspapers. General Notice dated 14.1.2020 directing the beneficiaries/ Respondents to file reply in the matter was also posted on the Commission's website. Uttar Pradesh Power Corporation Ltd. (UPPCL) i.e. the Respondent No. 9 has filed its reply vide affidavit dated 5.2.2020 and has raised issues of debt-equity ratio, calculation of rate of



interest on loan, cumulative depreciation, IoL, RoE and O&M. The Petitioner has filed rejoinder to the reply of UPPCL vide affidavit dated 20.8.2020.

6. This order is issued considering the submissions made by the Petitioner in the Petition dated 17.10.2019, Petitioner's affidavits dated 23.7.2020 and 9.10.2020, UPPCL's reply affidavit 5.2.2020, and rejoinder affidavit dated 20.8.2020 of the Petitioner to the reply of UPPCL.

7. The hearing in this matter was held on 24.8.2020 through video conferencing and the order was reserved.

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

Revision of Transmission Charges for the 2004-09 and 2009-14 Tariff Periods

9. The Petitioner has sought revision of the computation of IoL, IOWC to the extent of revision in IoL and maintenance spares for the 2001-04 and 2004-09 tariff periods based on the judgements of APTEL dated 22.1.2007 in Appeal No.81/2005 and 13.6.2007 in Appeal No.139/2006. APTEL while dealing with the issue of computation of IoL, vide its judgement dated 22.1.2007, observed that IoL for the period from 1.4.1998 to 31.3.2001 shall be computed only on normative loan repayment as per its judgement dated 14.11.2006 in Appeal Nos. 94 and 96 of 2005. APTEL vide its judgement dated 14.11.2006 had set aside the Commission's methodology of computation of loan on the basis of actual repayment or normative repayment whichever is higher and held that the Commission is required to adopt normative debt repayment methodology for working out the IoL liability for the period from 1.4.1998 to 31.3.2001. In view of the above, the interest allowed for the 2004-09 period is being



revised on the basis of the normative debt repayment methodology. Relevant portion of the APTEL dated 14.11.2006 is as follows:

“12. We have heard the arguments of the Senior Counsel(s) of appellant and respondents. We notice that the appellant has not challenged the formula for computing the annual repayment amount as provided in Appeal No. 96 of 2005 & IA No.117 of 2006 in Appeal No. 94 of 2005 para-22 of the impugned order and has only challenged the provisions at para 23 specifying that the amount of annual repayment for calculation of interest on loan is chosen higher of the normative debt and actual debt.

13. As mentioned earlier the servicing of the capital (equity or debt) is financed by the recovery of interest on debt capital and through earning of return on equity capital. The actual loan repayment has been normalized to 50% of the total capital by the formula in para 22 of the impugned order given in para 11 above. Once it has been decided and agreed that the financing plan would be based on normative debt–equity ratio of 50:50 and not the actual debt-equity ratio, the same normative basis should be adopted for recovery of cost of servicing the capital.

14. In the instant case since the normative debt-equity ratio of 50:50 has been adopted in the financing plan, the loan repayment should be computed based on normative debt. This is to ensure that whatever normative debt has been considered, tariff should ensure the recovery of the same normative debt and interest thereon.

18. In its Tariff Regulation of 2004 the Central Commission perhaps recognizing the aforesaid anomaly has dispensed with the practice of adopting higher of actual or normative repayment and has corrected the method of determination of quantum of debt repayment only on the basis of the normative debt with effect from 01.04.2004

19. In view of the above, the Central Commission is required to adopt normative debt repayment methodology for working out the interest on loan liability for the period 01.04.1998 to 31.03.2001.”

10. In view of the above, the interest allowed for 2004-09 period is revised on basis of the normative debt repayment methodology.

11. APTEL vide its judgement dated 13.6.2007 in Appeal No.139 of 2006 and others held that ACE after the date of commercial operation should also be considered for computation of maintenance spares as under:

“Analysis and Decision

We are not inclined to agree with the contention of the respondents that escalation of 6% will take care of the additional capitalization. Escalation is meant to factor inflation and is allowed as per CERC Regulations whether or not additional capitalization takes place. Question before us is that: can the historical cost be frozen with the Commissioning of the station. It is quite normal and prudent to ensure earliest operation of the plant without necessarily 100% completion of plants and works, of course not at the cost of safety of the plant. Adding some of the plants and works after the commercial



operation will reduce interest during construction. If technically it is possible to delay some of the plants or works, it is only prudent to do so. For example it is common to build redundancies in the plant at a little later stage. CERC's own regulations rightly recognized additional capitalization. It is pertinent to set out excerpts pertaining to additional capitalization from CERC (Terms & Conditions of Tariff) Regulation, 2004 Clause 18 as below:-

“Additional capitalization (1) The following capital expenditure within the original scope of work actually incurred after the date of commercial operation and up to the cut off date may be admitted by the Commission, subject to prudence check:

(i) Deferred liabilities

(ii) Works deferred for execution

(iii) Procurement of initial capital spares in the original scope of work, subject to ceiling specified in regulation 17.

(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and

(v) On account of change in law.

Provided that original scope of work along with estimates of expenditure shall be submitted along with the application for provisional tariff.

Provided further that a list of the deferred liabilities and works deferred for execution shall be submitted along with the application for final tariff after the date of commercial operation of the generating station.”

It is clear from the abovementioned Clause 18 of the CERC Regulations that additional capitalization after the date of commercial operation is recognized as part of the capital expenditure. Historical cost does not literally mean that the cost on the date of the commercial operation. The term historical cost is used so as to distinguish it from 'book value' or 'the replacement cost'. The cost of maintenance spares limited to 1% of the historical cost corresponds to the plant and equipment and installations which are required to be maintained. If the cost of additional equipment is not included in the historical cost, how spares for the additional equipment be procured for maintenance of the additional equipment. In this view of the matter, the CERC needs to examine afresh in the light of the aforesaid observations.”

12. In view of the above, the maintenance spares to be considered for computation of working capital for 2001-04 and 2004-09 periods is also required to be revised taking into consideration ACE after the date of commercial operation.

13. APTEL vide its judgement dated 13.6.2007 in Appeal No.139 of 2006 observed that depreciation is an expense and it cannot be deployed for deemed repayment of loan and accordingly directed the Commission to compute the outstanding loan afresh. The relevant portion of the judgement is as under:

“Analysis and Decision



In the orders of this Tribunal dated November 14, 2006 and January 24, 2007 it has been laid down that the computation of outstanding loan will be on normative basis only (instead of normative or actual whichever is higher). In view of this there is no question of any adjustment of the depreciation amount as deemed repayment of loan.

It is to be understood that the depreciation is an expense and not an item allowed for repayment of loan. If a corporation does not borrow, it would not mean that the corporation will not be allowed any depreciation. Depreciation is an expense it represents a decline in the value of asset because of use, wear or obsolescence. The Accounting Principles Board of USA defines depreciation as under:-

“The cost of a productive facility is one of the costs of the service it renders during its useful economic life. Generally accepted accounting principles require that this cost be spread over the expected useful life of the facility in such a way as to allocate it as equitably as possible to the periods during which services are obtained from the use of the facility. This procedure is known as depreciation accounting, a system of accounting which aims to distribute the cost or other basic value of tangible capital asset, less salvage (if any), over the estimated useful life of the unit (which may be a group of asset) in a systematic and rational manner. It is a process of allocation, not of valuation”

It is well established that the depreciation is an expense and therefore, it cannot be deployed for deemed repayment of loan. In this view of the matter the CERC shall need to make a fresh computation of outstanding loan in the light of the aforesaid observations.”

14. Accordingly, in view of the above directions of APTEL, the outstanding loan allowed for the transmission asset for the 2001-04 and 2004-09 tariff period is revised in the instant order.

15. The revision of tariff allowed for the 2001-04 and 2004-09 tariff periods necessitates the revision of tariff allowed for the 2009-14 period, which is also being done vide the instant order. The implementation of the directions of APTEL in case of the Petitioner was kept pending the outcome of civil appeals filed before the Hon'ble Supreme Court. Hence, 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 period 2001-04, 2004-09 and 2009-14 tariff periods. Therefore, the Petitioner will neither claim nor pay any carrying cost from the beneficiaries for the difference, if any, in the tariff allowed earlier and that allowed vide



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.

2001-04 Tariff Period

16. The Commission vide order dated 23.3.2005 in Petition No. 116/2002 had approved the following transmission charges for the transmission asset for the 2001-04 period:

(₹ in lakh)		
Particular	2002-03	2003-04
Depreciation	40.14	53.52
Interest on Loan	92.51	123.60
Return on Equity	44.73	59.64
Advance against Depreciation	0.00	0.00
Interest on Working Capital	3.96	5.30
O&M Expenses	10.35	14.63
Total	191.69	256.70

17. UPPCL has requested the Commission to direct the Petitioner to submit the details of calculation of rate of interest on loan for the instant period. In response, the Petitioner has submitted that the calculation of weighted average rate of interest on loan along with details of actual loans for 2001-04 and 2009-14 tariff periods are available in the orders issued by the Commission for the respective periods. The copies of the orders have also been enclosed along with the instant petition.

18. The Petitioner has claimed the revised transmission charges for the transmission asset and the same has been summarised hereunder:

(₹ in lakh)		
Particular	2002-03	2003-04
Depreciation	40.14	53.52
Interest on Loan	92.51	123.60
Return on Equity	44.73	59.64
Advance against Depreciation	0.00	0.00



Interest on Working Capital	3.96	5.32
O&M Expenses	10.35	14.63
Total	191.69	256.71

19. We have considered the submission of the Petitioner and Respondent UPPCL. The transmission charges for the transmission asset for the 2001-04 tariff period is revised based on the following:

- a) Admitted capital cost of ₹1486.75 lakh as on 1.7.2002 in respect of the transmission asset;
- b) Weighted Average Rate of Interest on actual loan adopted from order dated 23.3.2005 in Petition No.116/2002; and
- c) Weighted Average Rate of Depreciation, Rate of Interest for Working Capital and O&M Expenses as per order dated 23.3.2005 in Petition No. 116/2002.

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

(₹ in lakh)

Particular	2002-03	2003-04
Depreciation	40.31	53.97
Interest on Loan	69.83	123.59
Return on Equity	44.73	59.64
Advance against Depreciation	0.00	0.00
Interest on Working Capital	3.54	5.35
O&M Expenses	10.35	14.63
Total	168.77	257.18

2004-09 Tariff Period

21. The Commission vide order dated 9.5.2006 in Petition No.60/2005 had approved the following transmission charges for the transmission asset for the 2004-09 period:

(₹ in lakh)

Particular	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	53.97	53.97	53.97	53.97	53.97
Interest on Loan	117.62	106.96	96.30	85.64	74.98
Return on Equity	52.19	52.19	52.19	52.19	52.19
Advance against Depreciation	0.00	4.20	42.16	42.16	42.16



Interest on Working Capital	6.34	6.36	6.97	6.94	6.91
O&M Expenses	28.12	29.25	30.42	31.63	32.90
Total	258.24	252.93	282.01	272.53	263.11

22. The Petitioner has claimed the revised transmission charges for the transmission asset and the same has been summarised as under:

Particular	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	53.97	53.97	53.97	53.97	53.97
Interest on Loan	117.62	106.96	96.30	85.64	74.98
Return on Equity	52.19	52.19	52.19	52.19	52.19
Advance against Depreciation	0.00	4.20	42.16	42.16	42.16
Interest on Working Capital	6.38	6.40	7.02	6.98	6.96
O&M Expenses	28.12	29.25	30.42	31.63	32.90
Total	258.28	252.97	282.05	272.57	263.15

23. We have considered the Petitioner's claim. The tariff is allowed for the transmission asset for the 2004-09 period based on the following:

- Admitted capital cost of ₹1499.18 lakh as on 1.4.2004 in respect of the transmission asset;
- Weighted Average Rate of Interest on actual loan adopted from order dated 9.5.2006 in Petition No.60/2005; and
- Weighted Average Rate of Depreciation, Rate of Interest for Working Capital and O & M Expenses as per order dated 9.5.2006 in Petition No.60/2005.

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

Particular	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	53.97	53.97	53.97	53.97	53.97
Interest on Loan	117.62	106.96	96.30	85.63	74.98
Return on Equity	52.19	52.19	52.19	52.19	52.19
Advance against Depreciation	0.00	3.58	42.16	42.16	42.16
Interest on Working Capital	6.35	6.36	6.99	6.95	6.93
O&M Expenses	28.12	29.25	30.42	31.63	32.90
Total	258.25	252.31	282.03	272.53	263.11



2009-14 Period

25. The Commission vide order dated 14.9.2009 in Petition No.131/2009 had approved the tariff for the transmission asset for the 2009-14 period and subsequently, vide order dated 15.2.2016 in Petition No. 168/TT/2014 had trued up the tariff allowed for the 2009-14 period and the same is as follows:

Particular	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	79.16	79.16	79.16	79.16	79.16
Interest on Loan	65.25	56.45	47.65	38.83	30.09
Return on Equity	69.61	72.16	72.23	72.23	73.10
Interest on Working Capital	7.08	7.10	7.08	7.06	7.07
O&M Expenses	52.40	55.40	58.57	61.92	65.46
Total	273.50	270.27	264.68	259.19	254.88

26. UPPCL has requested that the Petitioner should be directed to submit the details of calculation of rate of interest on loan for the transmission period. In response, the Petitioner has submitted that for the 2001-04 and 2004-09 tariff periods, calculation of rate of interest on loan is available in the orders of the Commission covering the respective periods.

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

Particular	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	79.16	79.16	79.16	79.16	79.16
Interest on Loan	69.61	72.16	72.23	72.23	73.10
Return on Equity	52.40	55.40	58.57	61.92	65.46
Interest on Working Capital	65.25	56.43	47.65	38.82	30.09
O&M Expenses	7.08	7.10	7.08	7.06	7.07
Total	273.50	270.26	264.69	259.19	254.88

28. We have considered the submissions of the Petitioner and Respondent UPPCL. The tariff is allowed for the transmission asset for the 2009-14 tariff period based on the following:



- a) Admitted capital cost of ₹1499.18 lakh as on 1.4.2009 for the transmission asset;
- b) Weighted Average Rate of Interest on actual loan derived/adopted from order dated 14.9.2009 in Petition No. 131/2009;
- c) Weighted Average Rate of Depreciation as per order dated 14.9.2009 in Petition No. 131/2009; and
- d) There is 'NIL' ACE during 2009-14 tariff period.

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

Particular	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	79.16	79.16	79.16	79.16	79.16
Interest on Loan	65.25	56.45	47.65	38.83	30.09
Return on Equity	69.61	72.16	72.23	72.23	73.10
Interest on Working Capital	7.08	7.10	7.08	7.06	7.07
O&M Expenses	52.40	55.40	58.57	61.92	65.46
Total	273.50	270.27	264.68	259.19	254.88

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

30. The Commission vide order dated 15.2.2016 in Petition No. 168/TT/2014 had approved the tariff for the 2014-19 period as below:

Particular	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	79.16	29.24	29.24	29.24	29.24
Interest on Loan	21.46	15.55	12.36	9.18	5.99
Return on Equity	73.10	73.10	73.10	73.10	73.10
Interest on Working Capital	7.33	6.16	6.20	6.24	6.29
O&M Expenses	60.30	62.30	64.37	66.51	68.71
Total	241.34	186.34	185.27	184.27	183.33

31. The Petitioner has submitted the information as required under the 2014 Tariff Regulations for truing up of annual fixed charges for the 2014-19 period. The tariff for the 2014-19 period has been trued up as discussed in the subsequent paragraphs.



32. The details of the trued-up transmission charges claimed by the Petitioner are as under:

Particular	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	79.16	29.24	29.24	29.24	29.24
Interest on Loan	21.46	15.55	12.37	9.18	5.99
Return on Equity	73.15	73.49	73.45	73.45	73.65
Interest on Working Capital	7.33	6.16	6.20	6.25	6.30
O&M Expenses	60.30	62.30	64.37	66.51	68.71
Total	241.40	186.74	185.63	184.63	183.89

33. The details of the trued-up Interest on Working Capital claimed by the Petitioner are as under:

Particular	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
O & M Expenses	5.03	5.19	5.36	5.54	5.73
Maintenance Spares	9.05	9.35	9.66	9.98	10.31
Receivables	40.23	31.12	30.94	30.77	30.65
Total	54.31	45.66	45.96	46.29	46.69
Rate of Interest (%)	13.5	13.5	13.5	13.5	13.5
Interest on Working Capital	7.33	6.16	6.20	6.25	6.30

Capital Cost as on 1.4.2014

34. The capital cost of the transmission asset has been calculated in accordance with Regulations 9(3) and 9(6) of 2014 Tariff Regulations. The Commission vide order dated 15.2.2016 in Petition No. 168/TT/2014 had approved the transmission tariff for the transmission asset for the 2014-19 period based on the admitted capital cost of ₹1499.18 lakh as on 1.4.2014 for the transmission asset. The Petitioner has not claimed any ACE during the 2014-19 tariff period. Accordingly, the capital cost of ₹1499.18 lakh has been considered for the purpose of truing up of the tariff of the 2014-19 tariff period.



Debt-Equity Ratio

35. The debt-equity ratio has been allowed in accordance with Regulation 19(3) of the 2014 Tariff Regulations. As per Regulation 19(3) of the 2014 Tariff Regulations, the debt-equity ratio allowed by the Commission for determination of tariff for the period ending on 31.3.2014 shall be considered. Accordingly, the debt-equity ratio of 75.14:24.86 for the period ending on 31.3.2014 has been considered for the purpose of truing up of the tariff of the transmission asset for the 2014-19 tariff period. The details of the debt-equity ratio as on 1.4.2014 and 31.3.2019 of the asset is as follows:

Particulars	Capital cost as on 1.4.2014 (₹ in lakh)	(%)	Total cost as on 31.3.2019 (₹ in lakh)	(%)
Debt	1126.43	75.14	1126.43	75.14
Equity	372.75	24.86	372.75	24.86
Total	1499.18	100.00	1499.18	100.00

Interest on Loan (IoL)

36. UPPCL has requested that the Petitioner should be directed to re-work IoL on the basis of proper figures of cumulative repayments of normative loans up to the previous year. In response, the Petitioner has submitted that the details of calculation have already been given in the respective annexure to the petition.

37. IoL for the 2014-19 tariff period as per Regulation 26(5) of the 2014 Tariff Regulations is as under:

Particular	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	1126.43	1126.43	1126.43	1126.43	1126.43
Cumulative Repayments up to Previous Year	889.97	969.13	998.37	1027.61	1056.85
Net Loan-Opening	236.46	157.30	128.06	98.82	69.58
Addition due to Additional Capitalization	0.00	0.00	0.00	0.00	0.00
Repayment during the year	79.16	29.24	29.24	29.24	29.24
Adjustment of cumulative	0.00	0.00	0.00	0.00	0.00



repayment pertaining to decapitalized asset					
Net Loan-Closing	157.30	128.06	98.82	69.58	40.34
Average Loan	196.88	142.68	113.44	84.20	54.96
Weighted Average Rate of Interest on Loan (%)	10.9	10.9	10.9	10.9	10.9
Interest on Loan	21.46	15.55	12.37	9.18	5.99

38. IoL allowed in order dated 15.2.2016 in Petition No. 168/TT/2014, claimed by the Petitioner in the instant petition and the trued-up IoL allowed in respect of the transmission asset is shown in the table below:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed in order dated 15.2.2016 in Petition No. 168/TT/2014	21.46	15.55	12.36	9.18	5.99
Claimed by the Petitioner in the instant petition	21.46	15.55	12.37	9.18	5.99
Allowed after true-up in this order	21.46	15.55	12.37	9.18	5.99

Return on Equity (RoE)

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

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

40. UPPCL has contended that the grossed up rate of Return on Equity for the period 2016-17 to 2018-19 has been worked out on the basis on presumptive MAT rates and has requested that the Petitioner may be directed to resubmit the calculation of RoE based on the MAT rates as approved by the Income Tax Authorities.



41. In response, the Petitioner has submitted that the effective rates of various periods are based either on the assessment orders issues by the IT authorities or as per the filings with the IT Authorities. Further, the Petitioner has submitted that the MAT rates considered for the present petition are as approved by the Commission.

42. We have considered the submissions of the Petitioner. The Commission vide order dated 27.4.2020 in Petition No.274/TT/2019 has arrived at the effective tax rate based on the notified MAT rates for the Petitioner. The relevant portion of the order dated 27.4.2020 is as under:

“26. We are conscious that the entities covered under MAT regime are paying Income Tax as per MAT rate notified for respective financial year under IT Act, 1961, which is levied on the book profit of the entity computed as per the Section 115JB of the IT Act, 1961. The Section 115JB(2) defines book profit as net profit in the statement of Profit & Loss prepared in accordance with Schedule-III of the Companies Act, 2013, subject to some additions and deductions as mentioned in the IT Act, 1961. Since the Petitioner has been paying income tax on income computed under Section 115JB of the IT Act, 1961 as per the MAT rates of the respective financial year, the notified MAT rate for respective financial year shall be considered as effective tax rate for the purpose of grossing up of RoE for truing up of the tariff of the 2014-19 tariff period in terms of the provisions of the 2014 Tariff Regulations. Interest imposed on any additional income tax demand as per the Assessment Order of the Income Tax authorities shall be considered on actual payment. However, penalty (for default on the part of the Assessee) if any imposed shall not be taken into account for the purpose of grossing up of rate of return on equity. 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 transmission customers/ DICs as the case may be on year to year basis.

Year	Notified MAT rates (inclusive of surcharge & cess) (in %)	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

”

43. The same MAT rates as in 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 the 2014-19 tariff period in terms of the provisions of the 2014 Tariff Regulations.

The same are as under:

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

44. Accordingly, trued-up RoE allowed for the transmission asset for the 2014-19 tariff period is as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	372.75	372.75	372.75	372.75	372.75
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	372.75	372.75	372.75	372.75	372.75
Average Equity	372.75	372.75	372.75	372.75	372.75
Return on Equity (Base Rate) (%)	15.5	15.5	15.5	15.5	15.5
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	73.10	73.45	73.45	73.45	73.65

45. RoE allowed in order dated 15.2.2016 in Petition No. 168/TT/2014, claimed by the Petitioner in the instant petition, and trued up in instant order is shown in the table below:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed in order dated 15.2.2016 in Petition No. 168/TT/2014	73.10	73.10	73.10	73.10	73.10
Claimed by the Petitioner in the instant petition	73.15	73.49	73.45	73.45	73.65
Allowed after true-up in this order	73.10	73.45	73.45	73.45	73.65



Depreciation

46. UPPCL has contended that the cumulative depreciation up to previous year as adopted by the Petitioner is ₹889.97 lakh as on 01.04.2014 which should be ₹ 779.31 lakh and has requested for rectification of the figures of cumulative depreciation.

47. In response, the Petitioner has submitted the calculation of cumulative depreciation as an annexure to the petition.

48. We have considered the submissions of Petitioner and Respondent UPPCL. The Gross Block during the tariff period 2014-19 has been depreciated at weighted average rate of depreciation (WAROD) and working of WAROD is given in Annexure-1. WAROD has been worked out after taking into account the depreciation rate as prescribed in the 2014 Tariff Regulations and the trued-up depreciation allowed is as under:

	(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	1499.18	1499.18	1499.18	1499.18	1499.18
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	1499.18	1499.18	1499.18	1499.18	1499.18
Average Gross Block	1499.18	1499.18	1499.18	1499.18	1499.18
Weighted Average Rate of Depreciation (%)	5.28	Spread	Spread	Spread	Spread
Balance useful life of the asset	14	13	12	11	10
Elapsed life at the beginning of the year	11	12	13	14	15
Aggregated Depreciable Value	1349.26	1349.26	1349.26	1349.26	1349.26
Depreciation during the year	79.16	29.24	29.24	29.24	29.24
Aggregate Cumulative Depreciation	969.13	998.37	1027.61	1056.85	1086.09
Remaining Aggregate Depreciable Value at the end of the year	380.13	350.89	321.65	292.41	263.17

49. Depreciation allowed in order dated 15.2.2016 in Petition No. 168/TT/2014, claimed by the Petitioner in the instant petition, and allowed after true up in the instant order is shown in the table below:



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed in order dated 15.2.2016 in Petition No. 168/TT/2014	79.16	29.24	29.24	29.24	29.24
Claimed by the Petitioner in the instant petition	79.16	29.24	29.24	29.24	29.24
Allowed after true-up in this order	79.16	29.24	29.24	29.24	29.24

Operation & Maintenance Expenses (O&M Expenses)

50. UPPCL has contended that Thyristor controlled series compensation project (Fact Device) is a part of the existing bay for which O&M expenses are being already provided as per norms. Claiming O&M expenses for the Fact device separately will be tantamount to double charging of the O&M expenses. Hence, the O&M for the Fact device must be taken as NIL. UPPCL has further requested to direct the Petitioner to revise the figures of O&M Expenses accordingly. In response, the Petitioner has submitted that O&M Expenses of a bay for the transmission asset have already been allowed by the Commission vide previous orders.

51. We have considered the submissions of Petitioner and Respondent UPPCL. The O&M Expenses are allowed for the transmission assets under Regulation 29(4)(a) of the 2014 Tariff Regulations. The details of the O&M Expenses claimed by the Petitioner for the transmission asset and allowed under Regulation 29(4)(a) of the 2014 Tariff Regulations for the purpose of tariff are as under:

(₹ in lakh)

Particulars	Combined Asset				
	2014-15	2015-16	2016-17	2017-18	2018-19
Sub-station bays					
Bay at Ballabgarh	1	1	1	1	1
Norm (₹ lakh/bay)					
400 kV	60.30	62.30	64.37	66.51	68.71
Total O&M Expenses	60.30	62.30	64.37	66.51	68.71



52. O&M Expenses allowed in order dated 15.2.2016 in Petition No. 168/TT/2014, claimed by the Petitioner in the instant petition and O&M Expenses allowed after true up in respect of the transmission asset is shown in the table below:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed in order dated 15.2.2016 in Petition No. 168/TT/2014	60.30	62.30	64.37	66.51	68.71
Claimed by the Petitioner in the instant petition	60.30	62.30	64.37	66.51	68.71
Allowed after true-up in this order	60.30	62.30	64.37	66.51	68.71

Interest on Working Capital (IWC)

53. The Petitioner has claimed IWC as per Regulation 28 of the 2014 Tariff Regulations. The components of the working capital and the Petitioner's entitlement to interest thereon are discussed hereunder:

(i) Receivables

Receivables as a component of working capital will be equivalent to two months' fixed cost. The Petitioner has claimed the receivables on the basis of 2 months' annual transmission charges. In the tariff being allowed, receivables have been worked out on the basis of 2 months' transmission charges.

(ii) Maintenance spares

Regulation 28 of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M Expenses. The value of maintenance spares has accordingly been worked out.

(iii) O & M expenses

O&M Expenses have been considered for one month as a component of working capital. The Petitioner has claimed O&M Expenses for 1 month of the respective year as claimed in the petition. This has been considered in the working capital.

(iv) Rate of interest on working capital



As per Proviso 3 of Regulation 28 of the 2014 Tariff Regulation, SBI Base rate 10.00% as on 1.4.2014 plus 350 Bps i.e. 13.50% has been considered for the asset, as the rate of interest on working capital.

54. The trued-up IWC allowed as per the methodology provided in Regulation 28 of the 2014 Tariff Regulations for the transmission asset is as under:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses	5.03	5.19	5.36	5.54	5.73
Maintenance Spares	9.05	9.35	9.66	9.98	10.31
Receivables	40.22	31.12	30.94	30.77	30.65
Total Working Capital	54.29	45.65	45.96	46.29	46.68
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest of working capital	7.33	6.16	6.20	6.25	6.30

55. IWC approved vide order dated 15.2.2016 in Petition No. 168/TT/2014, IWC claimed by the Petitioner in the instant petition, and allowed after true up in respect of the transmission asset is shown in the table below:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed in order dated 15.2.2016 in Petition No. 168/TT/2014	7.33	6.16	6.20	6.24	6.29
Claimed by the Petitioner in the instant petition	7.33	6.16	6.20	6.25	6.30
Allowed after true-up in this order	7.33	6.16	6.20	6.25	6.30

Approved Annual Fixed Charges for the 2014-19 Tariff Period

56. The trued up annual fixed charges for the transmission asset for the tariff period 2014-19 are summarised below:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	79.16	29.24	29.24	29.24	29.24
Interest on Loan	21.46	15.55	12.37	9.18	5.99
Return on Equity	73.10	73.45	73.45	73.45	73.65
Interest on Working Capital	7.33	6.16	6.20	6.25	6.30
O & M Expenses	60.30	62.30	64.37	66.51	68.71



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Total	241.34	186.71	185.63	184.63	183.89

57. The annual fixed charges approved vide order dated 15.2.2016 in Petition No. 168/TT/2014, claimed by the Petitioner in the instant petition and trued up annual transmission charges in respect of the transmission asset are shown in the table below:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed earlier in order dated 15.2.2016 in Petition No. 168/TT/2014	241.34	186.34	185.27	184.27	183.33
Claimed by the Petitioner in the instant petition	241.40	186.74	185.63	184.63	183.89
Allowed after true-up in this order	241.34	186.71	185.63	184.63	183.89

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

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

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	29.24	85.63	120.14	126.68	126.68
Interest on Loan	2.80	26.32	48.21	38.08	24.27
Return on Equity	70.01	84.29	101.03	103.48	103.48
Interest on Working Capital	2.94	4.41	5.57	5.60	5.44
O&M Expenses	32.15	33.28	34.45	35.66	36.91
Total	137.14	233.93	309.40	309.50	296.78

59. The Petitioner has claimed the following 'Interest on Working Capital' for the 2019-24 tariff period for the transmission asset:

(₹ in lakh)

Particular	2019-20	2020-21	2021-22	2022-23	2023-24
O & M Expenses	2.68	2.77	2.87	2.97	3.08
Maintenance Spares	4.82	4.99	5.17	5.35	5.54
Receivables	16.86	28.84	38.15	38.16	36.49
Total	24.36	36.60	46.19	46.48	45.11
Rate of Interest (%)	12.05	12.05	12.05	12.05	12.05



Interest on Working Capital	2.94	4.41	5.57	5.60	5.44
------------------------------------	-------------	-------------	-------------	-------------	-------------

Weighted Average Life (WAL)

60. The life as defined in Regulation 33 of the 2014 Tariff Regulations has been considered for determination of Weighted Average Life.

61. The asset may have multiple elements such as land, building, transmission line, Sub-station and PLCC and each element may have different span of life. Therefore, the concept of Weighted Average Life (WAL) has been used as the useful life of the project as a whole.

62. WAL has been determined based on the admitted capital cost of individual elements as on 31.3.2019 and their respective life as stipulated in the 2019 Tariff Regulations. The element-wise life as it was defined in the 2014 Tariff Regulations prevailing at the time of actual COD of the individual asset has been ignored for this purpose. The life as defined in the 2019 Tariff Regulations has been considered for determination of WAL. Accordingly, WAL of the transmission asset has been worked out as 25 years as shown below:

Admitted Capital Cost as on 31.3.2019				
Particulars	Combined Cost (₹ in lakh) (a)	Life as per 2014 Regulation (Years) (b)	Weighted Cost (₹ in lakh) (a) x (b)	Weighted average life of asset (in years)
Building	0.00	25	0.00	25 years
Transmission Line	0.00	25	0.00	
Sub-station	1499.18	35	37479.50	
PLCC	0.00	25	0.00	
Leasehold Land	0.00	15	0.00	
Total	1499.18		37479.50	



63. WAL as on 1.4.2014 determined above is applicable prospectively (i.e. for 2014-19 tariff period onwards) and no retrospective adjustment of depreciation in previous tariff period is required to be done. Accordingly, WAL has been used to determine the remaining useful life as on 31.3.2019 to be 25 years.

Capital Cost

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

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

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

(a) *The expenditure incurred or projected to be incurred up to the date of commercial operation of the project;*

(b) *Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;*

(c) *Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period;*

(d) *Interest during construction and incidental expenditure during construction as computed in accordance with these regulations;*

(e) *Capitalised initial spares subject to the ceiling rates in accordance with these regulations;*

(f) *Expenditure on account of additional capitalization and de-capitalisation determined in accordance with these regulations;*

(g) *Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the date of commercial operation as specified under Regulation 7 of these regulations;*

(h) *Adjustment of revenue earned by the transmission licensee by using the asset before the date of commercial operation;*

(i) *Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*

(j) *Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;*

(k) *Capital expenditure on account of biomass handling equipment and facilities, for co-firing;*

(l) *Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;*

(m) *Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;*

(n) *Expenditure on account of change in law and force majeure events; and*

(o) *Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT)*



scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.

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

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

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

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



65. The capital cost of ₹1499.18 lakh as on 31.3.2019 has been considered by the Commission. The Petitioner has claimed ACE of ₹871.20 lakh (₹784.08 lakh during 2020-21 and ₹87.12 lakh during 2021-22) and decapitalisation of ₹334.38 lakh during 2020-21 on account of upgradation of FSCs in view of obsolescence of old technology used in these FSCs. Therefore, the capital cost of ₹1499.18 lakh as on 31.3.2019 has been considered for the purpose of determination of transmission tariff for the 2019-24 tariff period in accordance with Regulation 19 of the 2019 Tariff Regulations.

Additional Capital expenditure (ACE) and De-capitalization

66. The Petitioner has proposed ACE of ₹871.20 lakh (₹784.08 lakh during 2020-21 and ₹87.12 lakh during 2021-22) and claimed decapitalization of ₹334.38 lakh during 2020-21 on account of upgradation of FSCs in view of obsolescence of old technology used in FSCs. The Petitioner has submitted that the FSC installed at Ballabgarh Sub-station is not performing satisfactorily due to lack of spare parts and OEM has suggested for replacement of old control and protection system at Ballabgarh Sub-station with latest technology and, therefore, for reliability and availability of FSC system, the control and protection are required to be replaced with new control and protection system. The Petitioner has also submitted details of outage due to maloperation of control and protection system. The Petitioner has reduced the gross block of the transmission asset by the original value of the decapitalized asset i.e. ₹334.38 lakh in the year of de-capitalization i.e. 2020-21 and has submitted Auditor's certificate dated 3.10.2019 in support of the same.

67. The Petitioner has claimed adjustment in cumulative depreciation by taking into account the depreciation recovered in tariff by the de-capitalized asset during its useful life. The Petitioner has submitted Form 10B with details of original value of



asset decapitalized, debt-equity ratio at the time of capitalization, cumulative depreciation and cumulative repayment w.r.t to the de-capitalized asset. The Petitioner has prayed to allow recovery of the unrecovered depreciation of the de-capitalized asset in the petition.

68. The Petitioner was directed to submit specific reasons for replacement of protection and control panel during 2019-24 period when there was no outage since COD, RPC/OCC approval for replacement and details of communication with OEM in this regard.

69. As regards the reasons for replacement of protection and control panel during 2019-24 period when there was no outage since COD, the Petitioner has submitted that Thyristor Controlled Series Compensation at Ballabgarh was one of its kind in India which was commissioned by BHEL in 2002. Apart from initial teething issues, the Series Compensation has operated successfully till 2015. The Petitioner has submitted that after the initial teething problems, the problem again started in 2016 and the OEM is not able to provide the spare parts due to obsolescence of technology of electronic components. The Petitioner has further submitted that the life of the new equipment can be extended for another 10 years with replacement of control and protection panel, signal column, bypass circuit breaker and measurement devices. This will also ensure high power transfer capability of 400 kV on Kanpur-Ballabgarh line, equal loadability of parallel transmission circuits and enhanced stability of transmission system.

70. As regards RPC/OCC approval for the replacement of equipment, the Petitioner has submitted that the proposed replacement is as per the Regulation



25(2)(c) of the 2019 Tariff Regulations wherein consent of beneficiaries/ RPC is not envisaged. The Petitioner has also submitted details of petitions wherein the Commission has granted approval of ACE towards replacement of problematic equipment without prior consent of RPC/OCC.

71. As regards the details of communication with OEM, the Petitioner has submitted that Fixed Series Compensator (FSCs) installed at Ballabgarh, Jeypore and Rengali Sub-stations are of same design. On requirement of spare card for Jeypore Sub-station, an offer was called from BHEL in 2014 for which BHEL regretted. The Petitioner has submitted that it has received similar response from BHEL for supply of spares for Ballabgarh sub-stations. The Petitioner has further submitted that BHEL has shown their inability to support FSCs installed at Ballabgarh, Jeypore and Rengali Sub-stations and in 2016, BHEL has communicated to upgrade the system of FSC at Ballabgarh. The Petitioner has submitted copies of emails and letters exchanged with BHEL.

72. In addition to the above, the Petitioner has submitted that the series compensation on EHV lines are envisaged to increase the loadability of lines close to its designed limit and for diversion of power to load the lines in proportion of their capacity. The Petitioner has submitted that the 400 kV Kanpur-Ballabgarh Line-1 is one of the longest lines in Northern Region and, therefore, use of FSC is justified. Further, the other parallel lines, such as Kanpur-Ballabgarh Line-2&3 are having FSC at Ballbgarh end and hence, the FSC in Kanpur-Ballabgarh Line-1 line will ensure equal loadability and utilisation of all three lines.

73. We have considered the submissions of the Petitioner and perused the documents placed on record. The Petitioner has submitted letter dated 13.2.2014



received from BHEL regarding supply of certain items in connection to Jeypore Sub-station. In the annexure to aforesaid letter, BHEL has expressed regret in supply of some items. However, the items for which BHEL has expressed its inability are not legible. Hence, it cannot be determined whether those items were related to control and protection panel of FSCs installed at Jeypore sub-station. Further, vide email dated 14.11.2019, AGM (CE-SACDA, HVDC & RPM), BHEL suggested for an R&M of the FSCs system installed at Jeypore Sub-station on account of non-availability of electronic components control and protection panel as the said system was installed way back in 2005. It is also noted that the Petitioner has not placed on record any communication to demonstrate that it has approached the OEM seeking solution for outage due to maloperation of control and protection system at Ballabgarh Sub-station. Rather the Petitioner has submitted copy of proposal received from OEM for upgradation of the control and protection system for FSC installed in 400 kV S/C Kanpur-Ballabgarh Line at Ballabgarh Sub-station. On perusal of the said proposal, it is observed that the Petitioner itself intended to upgrade the existing control and protection system for smooth operation and maintenance of the system. In view of the above, we are not convinced that the proposed ACE during 2019-24 is on account of suggestion from OEM for replacement of old control and protection system for FSC installation in 400 kV S/C Kanpur-Ballabgarh Line at Ballabgarh Sub-station. Therefore, we are of the considered view that the Petitioner has proposed ACE during 2019-24 for replacement of old control and protection system for FSC installation at Ballabgarh Sub-station without express recommendation of the OEM and hence, the proposed expenditure is disallowed. The Petitioner is directed to consult OEM and seek comprehensive report on the status of control and protection system for FSC installation in 400 kV S/C Kanpur-Ballabgarh Line at Ballabgarh Sub-station with



the purpose of grid reliability and security and place the same on record for consideration of the Commission at the time of true up of the 2019-24 tariff period.

74. The total capital cost allowed as on 1.4.2019 is ₹1499.18 lakh and the Petitioner has proposed ACE of ₹536.82 lakh (de-capitalisation of ₹334.38 lakh reduced). The proposed ACE is about 35.80% of the total capital cost approved as on 31.3.2019. Therefore, we are of the view that the proposed ACE is in the nature of up-gradation and, therefore, the Petitioner is directed to obtain consent of beneficiaries or the long term customers and RPC. The Petitioner is also directed to submit the details of power transfer capability of the Kanpur-Ballabgarh 400 kV S/C line at Ballabgarh, dynamic stability details, voltage regulation and reactive power balance and load sharing between parallel lines at the time of truing up.

75. The Petitioner has also submitted that in the past, the Commission has granted approval for ACE towards replacement of problematic equipment without prior approval of RPC/OCC. The Petitioner has submitted that the Commission has allowed ACE for replacement of equipment vide order dated 7.10.2020 in Petition No. 143/2010, order dated 28.1.2016 in Petition No. 133/TT/2015, order dated 20.9.2016 in Petition No. 543/TT/2014 and vide order dated 9.2.2016 in Petition No. 35/TT/2015.

76. We have perused the aforesaid orders. In Petition No. 133/TT/2015, the Commission has allowed ACE for tower strengthening and replacement of insulators based on recommendation of CEA. Similarly, in Petition No. 35/TT/2015, the Commission took a considered view based on the report of CPRI and discussion in 12th meeting of SRPC. Further, in Petition No. 543/TT/2014, the Commission allowed ACE as a special case under Regulation 54 of the 2014 Tariff Regulations and also



observed that it should not to be quoted as a precedent in future petitions. It is clear that the Commission had allowed ACE in the above cases referred by the Petitioner only after prudence check and it was a conscious decision. The Petitioner is also directed to discuss this issue in the RPC/OCC and seek consent of beneficiaries for upgradation of FSC installation in 400 kV S/C Kanpur-Ballabgarh Line at Ballabgarh Sub-station, if required, and place the same along with OEM report on record for consideration of the Commission at the time of true up of the 2019-24 tariff period.

Capital Cost for the 2019-24 Tariff Period

77. The capital cost considered for determination of tariff for the 2019-24 tariff period is as under:

Asset	(₹ in lakh)		
	Capital Cost as on 1.4.2019	ACE during 2019-24	Capital Cost as on 31.3.2024
Transmission asset	1499.18	0.00	1499.18

Debt-Equity Ratio

78. Regulation 18 of the 2019 Tariff Regulations provides as under:-

“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.*

(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.”

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

Particulars	Capital cost as on 1.4.2019 (₹ in lakh)	%	Capital cost as on 31.3.2024 (₹ in lakh)	%
Debt	1126.43	75.14	1126.43	75.14
Equity	372.75	24.86	372.75	24.86
Total	1499.18	100.00	1499.18	100.00

Return on Equity (RoE)

80. UPPCL has contended that the grossed-up rate of Return on Equity for some years has been worked out on the basis on presumptive MAT rates and has requested to direct the Petitioner to resubmit the calculation of RoE based on the MAT



rates as approved by the Income Tax Authorities. In response, the Petitioner has submitted that in the absence of IT assessment order pertaining to 2019-24 tariff period, the ROE has been calculated @18.782% after grossing up the ROE with MAT rate of 17.472% (Base Rate 15% + Surcharge 12% + Cess 4%) based on the rate prescribed by the Commission as per illustration under Regulation 31(2)(ii) of the 2019 Tariff Regulation during 2019-24 period.

81. Regulations 30 and 31 of the 2019 Tariff Regulations specify as under:-

*“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;

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. 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. We have considered the submissions of the Petitioner and Respondent. The Petitioner has submitted that MAT rate is applicable to the Petitioner's company. 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 has been allowed as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	372.75	372.75	372.75	372.75	372.75
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	372.75	372.75	372.75	372.75	372.75
Average Equity	372.75	372.75	372.75	372.75	372.75
Return on Equity (Base Rate) (%)	15.5	15.5	15.5	15.5	15.5
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	70.01	70.01	70.01	70.01	70.01

Interest on Loan (IoL)

83. UPPCL has submitted that the figure of cumulative depreciation is ₹970.43 lakh instead of which the Petitioner has taken a wrong value of ₹1086.09 lakh. In response, the Petitioner has submitted that the calculation for IoL has been given in the Petition and the same has been claimed as per the provisions of the 2019 Tariff Regulations.

84. We have considered the submissions of the Petitioner and UPPCL. The Petitioner has repaid the entire loan availed for the purpose of the transmission asset before 1.4.2019. However, normative loan outstanding as on 1.4.2019 is ₹40.34 lakh. Accordingly, as per Regulation 32(5) of the 2019 Tariff Regulations, IoL allowed for the 2019-24 tariff period is as under:

Particular	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	1126.43	1126.43	1126.43	1126.43	1126.43



Cumulative Repayments up to Previous Year	1086.09	1115.33	1126.43	1126.43	1126.43
Net Loan-Opening	40.34	11.10	0.00	0.00	0.00
Addition due to Additional Capitalization	0.00	0.00	0.00	0.00	0.00
Repayment during the year	29.24	11.10	0.00	0.00	0.00
Net Loan-Closing	11.10	0.00	0.00	0.00	0.00
Average Loan	25.72	5.55	0.00	0.00	0.00
Weighted Average Rate of Interest on Loan (%)	10.90	10.90	10.90	10.90	10.90
Interest on Loan	2.80	0.60	0.00	0.00	0.00

Depreciation

85. 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 decapitalized asset during its useful services.”

86. UPPCL has contended that the Petitioner is claiming excess depreciation of ₹162.93 lakh. In response, the Petitioner has submitted that the calculation of depreciation is given in the instant petition and the depreciation has been claimed as per the provisions of the 2019 Tariff Regulations.

87. We have considered the submissions of the Petitioner and UPPCL. The depreciation has been worked out considering the admitted capital cost of ₹1499.18



lakh as on 31.3.2019 and accumulated depreciation of ₹1086.09 lakh up to 31.3.2019. The detailed calculations for depreciation allowed for the transmission asset are as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	1499.18	1499.18	1499.18	1499.18	1499.18
Additional Capital Expenditure	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	1499.18	1499.18	1499.18	1499.18	1499.18
Average Gross Block	1499.18	1499.18	1499.18	1499.18	1499.18
Weighted Average Rate of Depreciation (%)	Spread	Spread	Spread	Spread	Spread
Balance useful life of the asset	9	8	7	6	5
Elapsed life at the beginning of the year	16	17	18	19	20
Aggregate Depreciable Value	1349.26	1349.26	1349.26	1349.26	1349.26
Depreciation during the year	29.24	29.24	29.24	29.24	29.24
Aggregate Cumulative Depreciation	1115.33	1144.57	1173.81	1203.06	1232.30
Remaining Aggregate Depreciable Value at the end of the year	233.93	204.69	175.45	146.21	116.97

Operation & Maintenance Expenses (O&M Expenses)

88. UPPCL has contended that Thyristor controlled series compensation project (Fact Device) is a part of the existing bay for which O&M Expenses are being already charged. Therefore, charging of O&M Expenses for the Fact device (equal to the rate of O&M Expenses for a bay) will mean double charging of the O&M Expenses. Hence, the O&M Expenses for the Fact device must be taken as NIL. UPPCL, therefore, requested to direct the Petitioner to revise the figures of O&M Expenses as indicated above. In response, the Petitioner has submitted that the O&M Expenses of bay for present asset have already been allowed by the Commission in its previous orders and the same have been considered in instant petition also.



89. We have considered the submissions of the Petitioner and UPPCL. The O&M Expenses for the transmission assets were allowed for the 2014-19 tariff period and accordingly O&M Expenses are allowed for the transmission asset for the 2019-24 tariff period. Regulation 35(3)(a) of the 2019 Tariff Regulations specifies the norms for the O&M Expenses for the transmission system and the same are as follows:

“(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
<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
<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



<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.”



90. The O&M Expenses claimed and allowed for the transmission asset are as under:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Sub-station bays					
400 kV bay at Ballabgarh	1	1	1	1	1
Norm (₹ lakh/bay)					
400 kV	32.15	33.28	34.45	35.66	36.91
Total O&M Expenses	32.15	33.28	34.45	35.66	36.91

Interest on Working Capital (IWC)

91. Regulations 34(1)(c), 34(3), 34(4) and 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;”

92. The Petitioner has submitted that it has computed the IWC for the 2019-24 tariff period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The



Petitioner has considered the rate of IWC as 12.05%. The IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The rate of IWC considered is 12.05% (SBI 1year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20 and 11.25% (SBI 1-year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) for 2020-24. The components of the working capital and interest allowed thereon is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	2.68	2.77	2.87	2.97	3.08
Maintenance Spares	4.82	4.99	5.17	5.35	5.54
Receivables	16.86	16.75	16.83	16.98	17.10
Total Working Capital	24.36	24.52	24.87	25.30	25.71
Rate of Interest (%)	12.05	11.25	11.25	11.25	11.25
Interest on Working Capital	2.94	2.76	2.80	2.85	2.89

Annual Fixed Charges for the 2019-24 Tariff Period

93. The transmission charges allowed for the transmission asset for the 2019-24 tariff period are as summarised below:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	29.24	29.24	29.24	29.24	29.24
Interest on Loan	2.80	0.60	0.00	0.00	0.00
Return on Equity	70.01	70.01	70.01	70.01	70.01
Interest on Working Capital	2.94	2.76	2.80	2.85	2.89
O & M Expenses	32.15	33.28	34.45	35.66	36.91
Total	137.14	135.89	136.50	137.76	139.05

Filing Fee and Publication Expenses

94. 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

95. UPPCL has submitted that the licence fee is the onus of the Petitioner and hence should be borne by the Petitioner. In response, the Petitioner has submitted that the license fee may be allowed to be recovered separately from the Respondents in terms of Regulation 70 of the 2019 Tariff Regulations. The fees and charges to be paid the petitioner as ISTS licensee (deemed ISTS licensee) under Central Electricity Regulatory Commission (Fees and Charges of RLDC and other matters) Regulations, 2019 as amended from time to time shall also be recoverable from the DICs as provided under Regulations 70(3) of the 2019 Tariff Regulations.

96. We have considered the submissions of the Petitioner and UPPCL. 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 Regulations 70(3) of the 2019 Tariff Regulations for the 2019-24 tariff period.

Security Expenses

97. The Petitioner has submitted that security expenses for the transmission asset are not claimed in the instant petition and it would file a separate petition for claiming the overall security expenses and the consequential Interest on Working Capital. 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 based on 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.

98. We have considered the submissions of the Petitioner. We are of the view that the Petitioner should claim security expenses for all the transmission asset in one petition. The Commission observes that the Petitioner has already filed Petition No. 260/MP/2020 claiming consolidated security expenses on projected basis for the 2019-24 tariff period based on 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

Goods and Services Tax

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

100. We have considered the submissions of the Petitioner. GST is not levied on transmission service at present and we are of the view that Petitioner's prayer is premature and the Petitioner is at liberty to approach the Commission if GST is levied subsequently.

Capital Spares

101. 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

102. Tariff for Transmission of Electricity (Annual Fixed Cost) shall be recovered on monthly basis in accordance with Regulation 43 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and Regulation 57 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 and shall be shared by the beneficiaries and long term transmission customers in terms of the 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.

103. To summarise, revised Annual Fixed Charges (AFC) allowed for the transmission asset for 2002-03, 2003-04, 2004-09 tariff period and 2009-14 tariff period are as under:

		(₹ in lakh)	
Particulars	2002-03	2003-04	
AFC	168.77	257.18	

		(₹ in lakh)			
Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
AFC	258.25	252.31	282.03	272.53	263.11

		(₹ in lakh)			
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
AFC	273.50	270.27	264.68	259.19	254.88

104. To summarise, the trued-up Annual Fixed Charges allowed for the transmission asset for the 2014-19 and 2019-24 tariff period are as under:



(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
AFC	241.34	186.71	185.63	184.63	183.89
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
AFC	137.14	135.89	136.50	137.76	139.05

105. This order disposes of Petition No. 7/TT/2020.

**Sd/
(Arun Goyal)
Member**

**Sd/
(I. S. Jha)
Member**

**Sd/
(P. K. Pujari)
Chairman**



2014-19 Capital Expenditure as on 1.4.2014	Admitted capital cost as on 1.4.2014 (₹ in lakh)	Admitted capital cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations				
				2014-15 (₹ in lakh)	2015-16 (₹ in lakh)	2016- 17 (₹ in lakh)	2017- 18 (₹ in lakh)	2018- 19 (₹ in lakh)
Sub-station	1499.18	1499.18	5.28	79.16	30.72	30.72	30.72	30.72
TOTAL	1499.18	1499.18		79.16	30.72	30.72	30.72	30.72
		Average Gross Block (₹ in lakh)		1499.18	1499.18	1499.18	1499.18	1499.18
		Weighted Average Rate of Depreciation (%)		5.28	Spread	Spread	Spread	Spread

