

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 252/TT/2020**

**Coram:**

**Shri I. S. Jha, Member  
Shri Arun Goyal, Member  
Shri P. K. Singh, Member**

**Date of Order: 04.01.2022**

**In the matter of:**

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and revision of transmission tariff of the 2004-09 and 2009-14 tariff periods and truing up of transmission tariff of the 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of the 2019-24 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for Transmission System associated with 132 kV S/C NER Augmentation in North-Eastern Region.

**And in the matter of:**

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

**.....Petitioner**

**Versus**

1. Assam Electricity Grid Corporation Limited,  
(Formerly Assam State Electricity Board),  
Bijulee Bhawan, Paltan Bazar, Guwahati-781001 (Assam).
2. Meghalaya Energy Corporation Limited,  
(Formerly Meghalaya State Electricity Board),  
Short Round Road, "Lumjingshai", Shillong-793001 (Meghalaya).
3. Government of Arunachal Pradesh,  
Itanagar, Arunachal Pradesh.
4. Power and Electricity Department,  
Government of Mizoram, Aizawl, Mizoram.
5. Manipur State Electricity Distribution Company Limited,  
(Formerly Electricity Department, Government of Manipur),  
Keishampat, Imphal.



6. Department of Power,  
Government of Nagaland,  
Kohima, Nagaland.

7. Tripura State Electricity Corporation Limited,  
Vidyut Bhawan, North Banamalipur,  
Agartala, Tripura (W)-799001 (Tripura).

.....Respondent(s)

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

**For Respondents** : None

### **ORDER**

The Petitioner, Power Grid Corporation of India Limited, has filed the instant petition for revision of transmission tariff of the 2004-09 and 2009-14 tariff periods; truing up of transmission tariff of the 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”); and determination of transmission tariff for the period from 1.4.2019 to 31.3.2024 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) in respect of Transmission System associated with 132 kV S/C NER Augmentation in North-Eastern Region (NER) [hereinafter referred to as “the transmission system”].

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

- “1) *Approve the revised Transmission Tariff for 2004-09 block and transmission tariff for 2009-14 block for the assets covered under this petition, as per para 8 above.*
- 2) *Approve the Add-cap incurred during 2014-19 and projected to be incurred during 2019-24.*



- 3) *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.*
- 4) *a) Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2014 and Tariff regulations 2019 as per para 9 and 10 above for respective block.*  
*b) Further it is submitted that deferred tax liability before 01.04.2009 shall be recoverable from the beneficiaries or long-term customers / DIC as the case may be, as and when the same is materialized as per Regulation 49 of 2014 and Regulation 67 of 2019 tariff regulation. The petitioner may be allowed to recover the deferred tax liability materialized directly without making any application before the commission as provided in the regulation.*
- 5) *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.*
- 6) *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.*
- 7) *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.*
- 8) *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.*
- 9) *Allow the petitioner to adjust the cumulative depreciation by taking into account the depreciation recovered in tariff by the decapitalized asset during its useful life.*
- 10) *Allow the petitioner to claim the capital spares at the end of tariff block as per actual.*
- 11) *Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if GST on transmission is levied at any rate in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.*

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



3. **Backdrop of the case:**

a) The Investment Approval (I.A.) of the transmission system for “Augmentation of Transmission System in South Assam, Mizoram and Tripura” (as nomenclatured in the said letter) was accorded by Ministry of Power (MoP) vide letter no. 3/16/92-POWERGRID dated 31.3.1995 at an estimated cost of ₹8357.00 lakh, including IDC of ₹1117.00 lakh, which envisaged construction of transmission lines and sub-stations as follows:

i. **Transmission Lines:**

- 132 kV S/C Transmission Line from Khandong to Khliehriat (POWERGRID) – 54 kms;
- Loop in and loop out of existing 132 kV S/C Khandong-Khliehriat Line at Khliehriat Switching Station of POWERGRID – 6 kms;
- 132 kV S/C tie line connecting Badarpur Sub-station of Assam State Electricity Board (ASEB) and POWERGRID’s Switching Station at Badarpur – 5 kms;
- 132 kV S/C Transmission Line from Khliehriat (POWERGRID) to Badarpur Switching Station of POWERGRID – 110 kms;
- 132 kV S/C Transmission Line from Badarpur Switching Station to Jiribam – 60 kms;
- 132 kV D/C string S/C from Badarpur to Kolasib – 100 kms;
- 132 kV S/C Transmission Line from Badarpur (POWERGRID) to Kumarghat – 160 kms; and
- 132 kV S/C Transmission Line from Kolasib to Aizwal Sub-station of POWERGRID – 80 kms.

ii. **Switching Stations:**

- 132 kV Khliehriat Switching Station:  
The Switching Station will have four bays including one bus coupler bay.
- 132 kV Badarpur Switching Station:  
The Switching Station will have six bays including one bus coupler bay.

iii. **Sub-station Extensions:**

- Extension of Switchyard at Khandong by one bay;
- Extension of Badarpur Switching Station of ASEB by one bay;
- Extension of Jiribam Sub-station by one bay;
- Extension of Kumarghat Sub-station by two bays; and
- Extension of Aizwal Sub-station by two bays.

b) Revised Cost Estimate (RCE) of the transmission system was accorded approval by MoP vide letter No. 12/15/99-PG dated 5.2.2001 at an



estimated cost of ₹12213.00 lakh, including IDC of ₹1248.00 lakh with the scope of work as follows:

**i. Transmission Lines:**

- 132 kV S/C Khandong-Khliehriat line – 41 kms;
- LILO of 132 kV S/C Khandong-Khliehriat at Khliehriat – 13 kms;
- 132 kV S/C Badarpur-Badarpur line – 1 km;
- 132 kV S/C Badarpur-Jiribam line – 67 kms;
- 132 kV S/C Badarpur-Kolasib/ Bairabi line – 85 kms;
- 132 kV S/C Badarpur-Kumarghat line – 118 kms;
- 132 kV S/C Khliehriat -Badarpur line – 77 kms; and
- 132 kV S/C Kolasib/ Bairabi-Aizwal line – 86 kms.

**ii. Sub-station portion:**

- 132 kV Switching Stations at Khliehriat and Badarpur; and
- Bay Extension of Switchyard at Khandong, Badarpur, Jiribam, Kumarghat, Aizwal and Kolasib/ Bairabi Sub-station.

c) RCE-II (revised cost estimate-II) of the transmission system was accorded approval by the Board of Directors of the Petitioner's company (in its 178<sup>th</sup> meeting held on 27.3.2006) vide Memorandum Ref. No. C/CP/NER-Aug dated 24.4.2006 at an estimated cost of ₹13391.00 lakh, including IDC of ₹1208.00 lakh (based on 2<sup>nd</sup> Quarter, 2005 Price Level) with the scope of work as follows:

**i. Transmission Lines:**

- 132 kV S/C Transmission Line from Khandong to Khliehriat;
- Loop in Loop out of existing 132 kV S/C line from Khandong Project to Khliehriat Sub-station of MeSEB, at Khliehriat Sub-station of POWERGRID;
- Interconnection of Badarpur (ASEB) with Badarpur (POWERGRID) by 132 kV S/C Line;
- 132 kV S/C line from Badarpur to Jiribam;
- 132 kV S/C line from Badarpur Sub-station of POWERGRID to Kolasib/ Bairabi;
- 132 kV S/C line from Badarpur to Kumarghat; and
- 132 kV S/C line from Khliehriat to Badarpur Sub-station of POWERGRID; and
- 132 kV S/C line from Kolasib/ Bairabi to Aizwal line.

**ii. Sub-stations:**

- 132 kV Switching Station at Khliehriat;
- 132 kV Switching Station at Badarpur;
- Extension of one 132 kV bay at badarpur (ASEB);
- Extension of one 132 kV bay at Jiribam (POWERGRID);



- Extension of two 132 kV bays at Aizwal (POWERGRID) including the Reactor bay (20 MVAR);
- Extension of two 132 kV Bays at Kumarghar (POWERGRID) including one Reactor bay (20 MVAR);
- Extension of one 132 kV bay at Khandong switchyard (NEEPCO); and
- Extension of two 132 kV bays at Kolasib/ Bairabi.

d) In NER (North-Eastern Region), Uniform Common Pooled Transmission Tariff (UCPTT) was followed since 1991-92 and its rate was derived by adding Annual Transmission Charges (ATC) for all Central Sector lines and sub-stations and for identified State-owned lines and dividing the sum by expected annual generation at all central generating stations.

e) After going through few revisions, with effect from 1.4.1998, UCPTT was fixed @35 paise per kWh and remained unchanged thereafter and the amount collected at this rate was being distributed between the owners of transmission assets forming the common pool pro-rata to the capital cost of the assets of each entity.

f) Further, due to the freeze on UCPTT rate and delay in commissioning of new generating capacity, the transmission charges paid to the Petitioner over the years had fallen considerably short of the revenue requirement to service its large investment in the region. The Respondents had been insisting on the shortfall being made up through a 'relief package' from the Central Government, which too has not materialized.

g) UCPTT rate adopted and continued in NER through mutual consent of the regional constituents did not conform to the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2001 (in short, "the 2001 Tariff Regulations"). However, in view of the special circumstances, the Commission had provisionally approved its continuation up to 31.3.2004. The Commission vide order dated 1.1.2002 in Petition No. 40/2000 had observed as follows:

*"13. In the light of the foregoing, we direct that the respondents shall be liable to pay the transmission charges @ 35 paise/kWh of the power transmitted in the region. The tariff shall be applicable from 1.2.2000 to a period upto 31.3.2004 or*



*till such time the power generation matching the transmission capacity is available, whichever is earlier.....”*

h) The continuation of UCPTT was no longer felt to be beneficial to NER States as it had already continued much beyond the date contemplated by the Commission for its termination vide order dated 1.1.2002. UCPTT was discontinued with effect from 1.4.2007. Also, the nomenclature of the transmission system was revised from “Augmentation of Transmission System in South Assam, Mizoram and Tripura” to “Augmentation Scheme of NER” by the Commission.

i) In view of the above, even though the transmission system was commissioned on 1.2.2000, owing to the nature of this case, the provisional transmission tariff for the period from 1.4.2007 to 31.3.2009 was allowed by the Commission vide order dated 27.4.2007 in Petition No. 88/2006.

j) The transmission tariff, after accounting for Additional Capital Expenditure (ACE) during 1999-2000 to 2005-06 and Foreign Exchange Rate Variation (FERV) for the period ending on 31.3.2004, for the transmission system for the period from 1.4.2004 to 31.3.2009 was allowed vide order dated 13.2.2008 in Petition No. 88/2006. Aggrieved with the order dated 13.2.2008, the Petitioner filed an appeal being Appeal No. 80/2008 before the Appellate Tribunal for Electricity (APTEL). In terms of the APTEL judgment dated 4.11.2008 in Appeal No. 80/2008, the transmission tariff in respect of the transmission system was re-determined vide order dated 21.8.2009 in Petition No. 88/2006.

k) The afore-mentioned re-determined tariff of the transmission system was revised on account of ACE for the period from 1.4.2006 to 31.3.2009 vide order dated 18.6.2010 in Petition No. 34/2010.

l) The transmission tariff (after accounting for ACE during 2009-10) of the transmission system for the period from 1.4.2009 to 31.3.2014 was allowed vide order dated 14.2.2011 in Petition No. 236/2010.





m) The transmission tariff of the transmission system for the period from 1.4.2009 to 31.3.2014 was trued-up and tariff for the period from 1.4.2014 to 31.3.2019 was allowed vide order dated 18.3.2016 in Petition No. 178/TT/2014.

n) The Petitioner has prayed for revision of transmission tariff allowed for the 2004-09 tariff period on account of change in Interest on Loan (IoL) and Interest on Working Capital (IWC) to the extent of revision in IoL and in Maintenance Spares in terms of the judgments of the APTEL dated 22.1.2007 in Appeal No. 81/2005 and batch matters and 13.6.2007 in Appeal No. 139/2006 and batch matters respectively; consequential revision of transmission tariff allowed for the 2009-14 tariff period; truing up of tariff of the 2014-19 tariff period; and determination of transmission tariff of the 2019-24 tariff period with respect to the transmission system.

o) The APTEL vide judgment dated 22.1.2007 in Appeal No. 81 of 2005 and batch matters pertaining to generating stations of NTPC Limited had considered 04 (four) issues. The issues considered by the APTEL and its decisions/ directions are as follows:

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





p) The APTEL vide judgment dated 13.6.2007 in Appeal No. 139 of 2006 and batch matters pertaining to generating stations of NTPC Limited had considered 09 (nine) issues. The issues considered and the decisions/ directions of the APTEL are as follows:

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

q) The Commission and certain interested parties preferred Civil Appeals against the APTEL's judgments before the Hon'ble Supreme Court in 2007. The Appeals were admitted and initially stay was granted by the Hon'ble Supreme Court. Subsequently, on an assurance by NTPC Limited 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.

r) Based on the APTEL's judgments dated 22.1.2007 and 13.6.2007, the Petitioner had sought re-determination of transmission tariff of its transmission



assets for the 2001-04 and 2004-09 tariff periods in Petition No. 121/2007. The Commission after taking into consideration the pendency of Appeals before the Hon'ble Supreme Court adjourned the said petition *sine die* and directed that the same be revived after the disposal of Civil Appeals by the Hon'ble Supreme Court.

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

t) Consequent to the Hon'ble Supreme Court's judgment dated 10.4.2018 in NTPC Limited matter, Petition No. 121/2007 was listed for hearing on 8.1.2019. The Commission vide order dated 18.1.2019 in Petition No. 121/2007 directed the Petitioner to submit its claim separately for the assets at the time of filing of truing up of the petitions for the 2014-19 tariff period.

u) In view of the APTEL's judgments dated 22.1.2007 and 13.6.2007 and the judgment of the Hon'ble Supreme Court dated 10.4.2018, tariff is being revised. Period-wise transmission tariff is being re-worked based on the Tariff Regulations applicable for the respective tariff periods and suitable assumptions have been made at certain places and applied, which are indicated.

4. The Respondents are transmission utilities, distribution licensees and power departments which are procuring transmission services from the Petitioner, mainly beneficiaries of the North-Eastern Region.

5. The Petitioner has served the petition on the Respondents and notice regarding filing of this petition has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or objections have been



received from the general public in response to the aforesaid notices published in the newspapers. None of the respondents have filed any reply in this matter.

**Re: Interest on Loan**

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

**Re: Additional Capital Expenditure**

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

**Re: Depreciation**

8. As regards depreciation, the APTEL vide judgment dated 13.6.2007 in Appeal No. 139 of 2006 observed that depreciation is an expense and it cannot be deployed for deemed repayment of loan and accordingly directed the Commission to



compute the outstanding loan afresh. In view of the above, the outstanding loan allowed for the 2004-09 period is revised in the instant order.

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

10. This order is issued considering the submissions made by the Petitioner in the petition vide affidavit dated 20.12.2019 and the Petitioner's affidavit dated 28.6.2021 filed in response to technical validation letter.

11. The Petitioner in this petition has submitted that though this petition has been filed for revision of transmission charges from 1.4.2001 to 31.3.2009 based on the 2001 Tariff Regulations and the 2004 Tariff Regulations, different treatment has



been made because of very special nature of the case and further revised transmission charges for the 2001-04 tariff period has not been claimed in this petition.

12. The hearing in this matter was held on 6.7.2021 through video conference and the order was reserved. Having heard the representatives of the Petitioner and after perusal of the materials on record, we proceed to dispose of the petition.

**REVISION OF TRANSMISSION CHARGES ALLOWED FOR THE 2004-09 AND 2009-14 TARIFF PERIODS**

**2004-09 Period:**

13. The transmission tariff, after accounting for ACE during 1999-2000 to 2005-06 and FERV for the period ending on 31.3.2004, for the transmission system for the period from 1.4.2004 to 31.3.2009 was allowed vide order dated 13.2.2008 in Petition No. 88/2006 which was revised vide order dated 21.8.2009 in view of the directions of the APTEL vide judgment dated 4.11.2008 in Appeal No. 80/2008.

14. The tariff of the transmission system was further revised on account of ACE for the period from 1.4.2006 to 31.3.2009 vide order dated 18.6.2010 in Petition No. 34/2010 and the same is as follows:

Particulars	(₹ in lakh)		
	2006-07	2007-08	2008-09
Depreciation	377.20	377.57	377.67
Return on Equity	339.87	340.73	340.94
O&M Expenses	666.98	693.13	721.33
Advance against Depreciation	308.20	366.73	371.27
Interest on Loan	589.44	532.62	474.36
Interest on Working Capital	63.70	65.53	66.50
<b>Total</b>	<b>2345.39</b>	<b>2376.31</b>	<b>2352.06</b>

15. The Petitioner in this petition has submitted that though the revised transmission charges for 2004-09 tariff period have been calculated, the same are



effective from 1.4.2007 only i.e. difference in transmission tariff has been claimed for 2007-08 and 2008-09 only.

16. The Petitioner has claimed the revised transmission charges for the transmission system for the 2004-09 tariff period in this petition as follows:

Particulars	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	370.12	374.14	376.84	376.84	376.84
Return on Equity	322.83	333.25	339.04	339.04	339.04
O&M Expenses	616.36	641.07	666.98	693.13	721.33
Advance against Depreciation	0.00	28.81	313.99	370.58	375.09
Interest on Loan	669.30	633.42	587.33	528.97	470.28
Interest on Working Capital	57.28	59.37	65.63	67.49	68.57
<b>Total</b>	<b>2035.89</b>	<b>2070.07</b>	<b>2349.81</b>	<b>2376.05</b>	<b>2351.15</b>

17. We have considered the submissions and claims of the Petitioner and note that the Petitioner has not taken into account the ACE for 2006-07 to 2008-09 period as allowed vide order dated 18.6.2010 in Petition No. 34/2010. Accordingly, the transmission tariff is allowed for the transmission system on the basis of the following:

- a) Admitted capital cost as on COD of ₹12696.02 lakh;
- b) ACE of ₹220.03 lakh and ₹276.16 lakh during 2004-05 and 2005-06 respectively allowed as per order dated 21.8.2009 in Petition No. 88/2006;
- c) ACE of ₹39.17 lakh, ₹1.7 lakh and ₹8.61 lakh during 2006-07, 2007-08 and 2008-09 respectively allowed as per order dated 18.6.2010 in Petition No. 34/2010;
- d) Weighted Average Rate of Interest (WAROI) on actual loan as per order dated 21.8.2009 in Petition No. 88/2006;
- e) Weighted Average Rate of Depreciation (WAROD), Rate of IWC and O&M Expenses for 2004-05 and 2005-06 as per order dated 21.8.2009 in Petition No. 88/2006; and
- f) WAROD, Rate of IWC and O&M Expenses for 2006-07 to 2008-09 as per order dated 18.6.2010 in Petition No. 34/2010.



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

(₹ in lakh)					
Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	370.12	374.14	377.20	377.57	377.67
Return on Equity	322.83	333.25	339.87	340.73	340.94
O&M Expenses	616.36	641.07	666.98	693.13	721.33
Advance against Depreciation	0.00	28.80	313.63	372.64	377.20
Interest on Loan	669.30	633.42	588.37	530.99	472.34
Interest on Working Capital	57.28	59.37	65.67	67.61	68.69
<b>Total</b>	<b>2035.89</b>	<b>2070.05</b>	<b>2351.72</b>	<b>2382.66</b>	<b>2358.17</b>

19. The revised Annual Fixed Charges (AFC) with respect to the transmission system allowed vide order dated 18.6.2010 in Petition No. 34/2010, claimed by the Petitioner in the instant petition and approved in the instant order is as follows:

(₹ in lakh)					
Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Allowed vide order dated 18.6.2010 in Petition No. 34/2010	2034.64	2059.67	2345.39	2376.31	2352.06
Claimed by the Petitioner in the instant petition	2035.89	2070.07	2349.81	2376.05	2351.15
Approved in the instant order	2035.89	2070.05	2351.72	2382.66	2358.17

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

20. The transmission tariff (after accounting for ACE during 2009-10) of the transmission system for the period from 1.4.2009 to 31.3.2014 was allowed vide order dated 14.2.2011 in Petition No. 236/2010 that was trued-up vide order dated 18.3.2016 in Petition No. 178/TT/2014 as follows:

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	675.29	675.34	675.34	259.73	259.73
Return on Equity	455.10	471.87	472.34	472.34	478.02
O&M Expenses	558.50	590.35	624.13	660.20	697.88
Interest on Loan	350.84	266.25	228.45	214.78	216.50
Interest on Working Capital	58.81	58.99	59.90	52.76	54.80
<b>Total</b>	<b>2098.54</b>	<b>2062.80</b>	<b>2060.16</b>	<b>1659.81</b>	<b>1706.93</b>





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

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	675.29	675.34	675.34	259.73	259.73
Return on Equity	455.10	471.87	472.34	472.34	478.02
O&M Expenses	558.50	590.35	624.13	660.20	697.88
Interest on Loan	347.34	263.23	225.44	211.60	213.06
Interest on Working Capital	58.74	58.93	59.84	52.69	54.73
<b>Total</b>	<b>2094.97</b>	<b>2059.72</b>	<b>2057.09</b>	<b>1656.56</b>	<b>1703.41</b>

22. We have considered the Petitioner's claim. The revised transmission tariff is allowed for the transmission system on the basis of the following:

- a) Admitted capital cost as on 1.4.2009 of ₹13241.69 lakh;
- b) ACE of ₹3.41 lakh for 2009-10; and
- c) WAROI on actual loan and WAROD as per order dated 18.3.2016 in Petition No. 178/TT/2014.

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

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	675.29	675.34	675.34	258.33	258.33
Interest on Loan	349.16	264.67	226.88	213.15	214.83
Return on equity	455.10	471.87	472.34	472.34	478.02
Interest on Working Capital	58.77	58.96	59.87	52.70	54.73
O&M Expenses	558.50	590.35	624.13	660.20	697.88
<b>Total</b>	<b>2096.83</b>	<b>2061.19</b>	<b>2058.55</b>	<b>1656.71</b>	<b>1703.79</b>

24. AFC with respect to the transmission system allowed for the 2009-14 tariff period vide order dated 18.3.2016 in Petition No. 178/TT/2014, the revised AFC claimed by the Petitioner in the instant petition and AFC approved in the instant order are as follows:



Particulars	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Allowed vide order dated 18.3.2016 in Petition No. 178/TT/2014	2098.54	2062.80	2060.16	1659.81	1706.93
Claimed by the Petitioner in the instant petition	2094.97	2059.72	2057.09	1656.56	1703.41
Approved in the instant order	2096.83	2061.19	2058.55	1656.71	1703.79

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

25. The details of the trued-up transmission charges as claimed by the Petitioner for the transmission system for the 2014-19 tariff period are as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	258.51	258.51	258.51	258.51	259.13
Interest on Loan	215.42	198.10	180.78	163.46	159.67
Return on equity	478.38	480.58	480.33	480.33	482.16
O&M Expenses	57.32	58.15	58.96	59.81	61.07
Interest on Working Capital	640.77	662.15	684.11	706.76	730.13
<b>Total</b>	<b>1650.40</b>	<b>1657.49</b>	<b>1662.69</b>	<b>1668.87</b>	<b>1692.16</b>

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

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Working Capital for O&M Expenses (O&M Expenses for 1 Month)	53.40	55.18	57.01	58.90	60.84
Working Capital for Maintenance Spares (15% of O&M)	96.12	99.32	102.62	106.01	109.52
Working Capital for Receivables (Equivalent to 2 months of annual transmission charges)	275.07	276.25	277.12	278.15	282.03
<b>Total Working Capital</b>	<b>424.59</b>	<b>430.75</b>	<b>436.75</b>	<b>443.06</b>	<b>452.39</b>
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>57.32</b>	<b>58.15</b>	<b>58.96</b>	<b>59.81</b>	<b>61.07</b>

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

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



28. The Petitioner has submitted that the Commission vide order dated 18.3.2016 in Petition No. 178/TT/2014 had allowed capital cost as on 31.3.2014 of ₹13245.10 lakh in respect of the transmission system wherein no ACE was projected during the 2014-19 period.

29. We have considered the submissions of the Petitioner and, accordingly, the capital cost as on 31.3.2014 of ₹13245.10 lakh has been considered for the purpose of truing up of tariff for the 2014-19 tariff period.

### **Additional Capital Expenditure**

30. Based on the Auditor's Certificate dated 31.7.2019, ACE of ₹18.08 lakh during 2018-19 has been claimed by the Petitioner in this petition under Regulation 14(3)(ix) of the 2014 Tariff Regulations.

31. The Petitioner has submitted that in 15<sup>th</sup> TCC and 15<sup>th</sup> NER Power Committee Meeting held on 21.8.2015, provision of 2<sup>nd</sup> source of Auxiliary supply at various sub-stations in NER was recommended and approved and, accordingly, procurement of DG Set for Badarpur and Khliehriat Sub-stations has been made for 2018-19 for the efficient and reliable operation of the transmission system.

32. The Petitioner has submitted the workings of the revised transmission tariff for the 2014-19 tariff period based on actual expenditure during the 2014-19 period.

33. The Petitioner vide affidavit dated 28.6.2020 has submitted that no recovery has been made from insurance proceeds, as the new DG Set has been procured and installed at Badarpur and Khliehriat Sub-stations after approval of NERPC.



34. We have considered the submissions and claims of the Petitioner. The procurement of DG Sets at Badarpur and Kheliehriat Sub-station for providing 2<sup>nd</sup> Auxiliary source of supply at Sub-station was approved in 15<sup>th</sup> NERPC dated 21.8.2015 for efficient operation of the transmission system. Therefore, the actual ACE of ₹18.08 lakh towards the said procurement is allowed under Regulation 14(3)(ix) of the 2014 Tariff Regulations.

35. Accordingly, the capital cost allowed for the 2014-19 tariff period is as follows:

(₹ in lakh)		
Capital Cost allowed (as on 1.4.2014)	ACE allowed (2014-19)	Capital Cost allowed (as on 31.3.2019)
13245.10	18.08	13263.18

### **Debt-Equity Ratio**

36. As per Regulation 19(3) of the 2014 Tariff Regulations, the debt-equity ratio allowed by the Commission for determination of transmission tariff for the period ending on 31.3.2014 shall be considered. Accordingly, the admitted debt-equity ratio of 81.60:18.40 for the period ending on 31.3.2014 has been considered as opening debt-equity ratio as on 1.4.2014 for the purpose of truing up of tariff of the 2014-19 tariff period for the transmission asset. The debt-equity ratio of 70:30 has been considered for ACE for 2014-19 tariff period. The details of the debt-equity ratio for the transmission system as on 1.4.2014 and 31.3.2019 are as follows:

Funding	Capital Cost (as on 1.4.2014) (₹ in lakh)	(in %)	Capital Cost (as on 31.3.2019) (₹ in lakh)	(in %)
Debt	10807.48	81.60	10820.14	81.58
Equity	2437.62	18.40	2443.04	18.42
<b>Total</b>	<b>13245.10</b>	<b>100.00</b>	<b>13263.18</b>	<b>100.00</b>



## Depreciation

37. Depreciation has been allowed as per the methodology provided in Regulation 27 of the 2014 Tariff Regulations after considering capital expenditure as on 1.4.2014 and approved ACE during the 2014-19 tariff period. The Gross Block during the 2014-19 tariff period with regard to the transmission system has been depreciated at WAROD. WAROD at Annexure-I has been worked out after taking into account the depreciation rates of assets as specified in the 2014 Tariff Regulations and the trued-up depreciation allowed for the transmission system during the 2014-19 period is as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	13245.10	13245.10	13245.10	13245.10	13245.10
Additional Capitalisation	0.00	0.00	0.00	0.00	18.08
Closing Gross Block	13245.10	13245.10	13245.10	13245.10	13263.18
Average Gross Block	13245.10	13245.10	13245.10	13245.10	13254.14
Weighted average Rate of Depreciation (in %)	1.95	1.95	1.95	1.95	1.95
Balance useful life (at the beginning of the year) (Year)	17.00	16.00	15.00	14.00	13.00
Aggregate Depreciable Value	11857.56	11857.56	11857.56	11857.56	11865.70
Remaining Depreciable Value at the beginning of the year	4391.59	4133.26	3874.93	3616.60	3366.41
<b>Depreciation during the year</b>	<b>258.33</b>	<b>258.33</b>	<b>258.33</b>	<b>258.33</b>	<b>258.95</b>
Cumulative Aggregate Depreciation	7724.31	7982.63	8240.96	8499.29	8758.25
Remaining Aggregate Depreciable Value at the end of the year	4133.26	3874.93	3616.60	3358.27	3107.45

38. Depreciation with respect to the transmission system as allowed vide order dated 18.3.2016 in Petition No. 178/TT/2014, claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 18.3.2016 in Petition No. 178/TT/2014	259.73	259.73	259.73	259.73	259.73
Claimed by the Petitioner in the instant petition	258.51	258.51	258.51	258.51	259.13
Approved in the instant order	258.33	258.33	258.33	258.33	258.95



## **Interest on Loan**

39. The Petitioner in this petition has submitted that in terms of the Commission's order dated 18.3.2016 in Petition No. 178/TT/2014, WAROI on loan has been considered on the basis of rate prevailing as on 1.4.2014 and, accordingly, floating rate of interest on actual, applicable from time to time, if any, during the 2014-19 tariff period may be considered at the time of true up or next revision of tariff.

40. The Petitioner in this petition has further submitted that in view of the above, in this petition, the trueing up on account of impact due to change in treatment of repayment of loan during the 2004-09 tariff period and change in maintenance spares in terms of the Commission's order dated 18.1.2019 in Petition No. 121/2007, as well as floating rate of interest during the 2014-19 period has been carried out.

41. The Petitioner in this petition has prayed for allowing the floating rate of interest on loan adjustments.

42. We have considered the submissions and prayer of the Petitioner. IoL has been calculated based on actual interest rate in accordance with Regulation 26 of the 2014 Tariff Regulations. The details of the trued-up IoL allowed for the transmission system for the 2014-19 tariff period are as follows:

	(₹ in lakh)				
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Normative Loan	10807.48	10807.48	10807.48	10807.48	10807.48
Cumulative Repayments up to Previous Year	7465.98	7724.31	7982.63	8240.96	8499.29
Net Loan-Opening	3341.50	3083.17	2824.85	2566.52	2308.19
Addition due to ACE	0.00	0.00	0.00	0.00	12.66
Repayment during the year	258.33	258.33	258.33	258.33	258.95
Net Loan-Closing	3083.17	2824.85	2566.52	2308.19	2061.89
Average Loan	3212.34	2954.01	2695.68	2437.35	2185.04
Weighted Average Rate	6.7	6.7	6.7	6.7	7.3



of Interest on Loan (in %)					
<b>Interest on Loan</b>	<b>215.23</b>	<b>197.92</b>	<b>180.62</b>	<b>163.31</b>	<b>159.51</b>

43. IoL in respect of the transmission system as allowed vide order dated 18.3.2016 in Petition No. 178/TT/2014, claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 18.3.2016 in Petition No. 178/TT/2014	209.33	192.53	175.72	158.92	142.12
Claimed by the Petitioner in the instant petition	215.42	198.10	180.78	163.46	159.67
Approved in the instant order	215.23	197.92	180.62	163.31	159.51

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

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

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

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

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





46. MAT rates considered in order dated 27.4.2020 in Petition No. 274/TT/2019 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, are considered in the instant case which are as follows:

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

47. The Petitioner has claimed RoE for the 2014-19 period after grossing up RoE of 15.50% with Effective Tax rates (based on MAT rates) each year. RoE is trued-up on the basis of MAT rates applicable in the respective years and is approved as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	2437.62	2437.62	2437.62	2437.62	2437.62
Addition due to ACE	0.00	0.00	0.00	0.00	5.42
Closing Equity	2437.62	2437.62	2437.62	2437.62	2443.04
Average Equity	2437.62	2437.62	2437.62	2437.62	2440.33
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
Tax Rate applicable (in %)	20.961	21.342	21.342	21.342	21.549
Applicable RoE Rate (in %)	19.610	19.705	19.705	19.705	19.758
<b>Return on Equity for the year</b>	<b>478.02</b>	<b>480.33</b>	<b>480.33</b>	<b>480.33</b>	<b>482.16</b>

48. RoE in respect of the transmission system as allowed vide order dated 18.3.2016 in Petition No. 178/TT/2014, claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 18.3.2016 in Petition No. 178/TT/2014	478.02	478.02	478.02	478.02	478.02
Claimed by the Petitioner in the instant petition	478.38	480.58	480.33	480.33	482.16
Approved in the instant order	478.02	480.33	480.33	480.33	482.16



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

49. O&M expenses in respect of the various elements covered under the transmission system as claimed by the Petitioner in this petition are within the norms specified under the 2014 Tariff Regulations and the allowable O&M expenses are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Sub-station Bays (Number)</b>					
132 kV	18 Numbers				
<b>Norm (₹ lakh/bay)</b>					
132 kV	30.15	31.15	32.18	33.25	34.36
<b>Total Sub-station O&amp;M Expenses (₹ in lakh)</b>	<b>542.7</b>	<b>560.7</b>	<b>579.24</b>	<b>598.5</b>	<b>618.48</b>
<b>AC transmission lines</b>					
S/C (Single Conductor)	485.45 km				
<b>Norm (₹ lakh/km)</b>	0.202	0.209	0.216	0.223	0.230
<b>Total Transmission line O&amp;M Expenses (₹ in lakh)</b>	<b>98.06</b>	<b>101.46</b>	<b>104.86</b>	<b>108.26</b>	<b>111.65</b>
<b>Total O&amp;M Expenses (₹ in lakh)</b>	<b>640.76</b>	<b>662.16</b>	<b>684.10</b>	<b>706.76</b>	<b>730.13</b>

50. O&M Expenses in respect of the transmission system as allowed vide order dated 18.3.2016 in Petition No. 178/TT/2014, claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 18.3.2016 in Petition No. 178/TT/2014	640.76	662.16	684.10	706.76	730.13
Claimed by the Petitioner in the instant petition	640.77	662.15	684.11	706.76	730.13
Approved in the instant order	640.76	662.16	684.10	706.76	730.13

### **Interest on Working Capital**

51. IWC has been worked out as per the methodology provided in Regulation 28 of the 2014 Tariff Regulations and the details of the trued-up IWC approved in respect of the transmission system for the 2014-19 tariff period are as follows:



(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Working Capital for O&M Expenses (O&M Expenses for 1 Month)	53.40	55.18	57.01	58.90	60.84
Working Capital for Maintenance Spares (15% of O&M)	96.11	99.32	102.61	106.01	109.52
Working Capital for Receivables (Equivalent to 2 months of annual transmission charges)	274.94	276.15	277.05	278.09	281.97
<b>Total Working Capital</b>	<b>424.45</b>	<b>430.65</b>	<b>436.68</b>	<b>443.00</b>	<b>452.33</b>
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>57.30</b>	<b>58.14</b>	<b>58.95</b>	<b>59.80</b>	<b>61.07</b>

52. IWC in respect of the transmission system as allowed vide order dated 18.3.2016 in Petition No. 178/TT/2014, claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 18.3.2016 in Petition No. 178/TT/2014	57.20	57.99	58.82	59.68	60.59
Claimed by the Petitioner in the instant petition	57.32	58.15	58.96	59.81	61.07
Approved in the instant order	57.30	58.14	58.95	59.80	61.07

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

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

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	258.33	258.33	258.33	258.33	258.95
Interest on Loan	215.23	197.92	180.62	163.31	159.51
Return on Equity	478.02	480.33	480.33	480.33	482.16
O&M Expenses	640.76	662.16	684.10	706.76	730.13
Interest on Working Capital	57.30	58.14	58.95	59.80	61.07
<b>Total</b>	<b>1649.64</b>	<b>1656.88</b>	<b>1662.33</b>	<b>1668.53</b>	<b>1691.82</b>

54. Accordingly, ATC as allowed vide order dated 18.3.2016 in Petition No. 178/TT/2014, claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:



(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 18.3.2016 in Petition No. 178/TT/2014	1645.04	1650.43	1656.39	1663.11	1670.58
Claimed by the Petitioner in the instant petition	1650.40	1657.49	1662.69	1668.87	1692.16
Approved in the instant order	1649.64	1656.88	1662.33	1668.53	1691.82

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

55. The details of the transmission charges for the transmission system for the 2019-24 tariff period as claimed by the Petitioner in this petition are as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	260.25	260.72	260.72	260.72	260.72
Interest on Loan	141.47	122.75	103.72	84.68	65.65
Return on equity	459.18	459.51	459.51	459.51	459.51
O&M Expenses	411.79	425.74	441.22	456.39	472.57
Interest on Working Capital	30.89	31.28	31.67	32.05	32.41
<b>Total</b>	<b>1303.58</b>	<b>1300.00</b>	<b>1296.84</b>	<b>1293.35</b>	<b>1290.86</b>

56. The details of IWC for the transmission system for the 2019-24 tariff period as claimed by the Petitioner in this petition are as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for 1 Month)	34.32	35.48	36.77	38.03	39.38
Working Capital for Maintenance Spares (15% of O&M)	61.77	63.86	66.18	68.46	70.89
Working Capital for Receivables (Equivalent to 2 months of annual transmission charges)	160.28	160.27	159.89	159.45	158.71
<b>Total Working Capital</b>	<b>256.37</b>	<b>259.61</b>	<b>262.84</b>	<b>265.94</b>	<b>268.98</b>
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
<b>Interest on Working Capital</b>	<b>30.89</b>	<b>31.28</b>	<b>31.67</b>	<b>32.05</b>	<b>32.41</b>



## **Capital Cost**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(a) *Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;*



(b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;

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

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

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

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

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

(a) cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and

(b) cost of the developer’s 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) project in the affected area.

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

(a) The asset forming part of the project, but not in use, as declared in the tariff petition;

(b) De-capitalised Asset after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:

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

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

(c) In case of hydro generating stations, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State Government by following a transparent process;

(d) Proportionate cost of land of the existing project which is being used for generating power from generating station based on renewable energy; and

(e) Any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment.”



58. The Petitioner has submitted that the admitted capital cost as on 31.3.2019 of ₹13263.18 lakh has been taken into account for computation of tariff for the 2019-24 tariff period.

59. Same capital cost has been worked out by the Commission in earlier part of this order. Accordingly, the capital cost as on 31.3.2019 of ₹13263.18 lakh has been considered as the opening capital cost as on 1.4.2019 for determination of tariff for the 2019-24 period in accordance with Regulation 19 of the 2019 Tariff Regulations.

### **Additional Capital Expenditure**

60. Regulation 25 of the 2019 Tariff Regulations provides as follows:

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

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

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

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

- (a) The useful life of the assets is not commensurate with the useful life of the project and such assets have been fully depreciated in accordance with the provisions of these regulations;*
- (b) The replacement of the asset or equipment is necessary on account of change in law or Force Majeure conditions;*
- (c) The replacement of such asset or equipment is necessary on account of obsolescence of technology; and*
- (d) The replacement of such asset or equipment has otherwise been allowed by the Commission.”*





61. The details of the total cost as on 31.3.2019 and as on 31.3.2024 (including projected ACE/ de-capitalisation during the 2019-24 period) as submitted by the Petitioner in this petition are as follows:

(₹ in lakh)

	<b>Cost</b>	<b>Description</b>
Total Cost as on 31.3.2019	<b>13263.18</b>	
Projected ACE during 2019-20	11.64	Procurement of DG Set at Badarpur and Khliehriat as approved in 15 <sup>th</sup> NERPC dated 21.8.2015 and balance payment
Projected ACE during 2023-24	490.32	Replacement of old CT, CVT, Isolators and other Substation equipments at Badarpur and Khelriat substations
Projected de-capitalisation during 2023-24	-506.64	
Total Cost as on 31.3.2024	<b>13258.50</b>	

62. The Petitioner in this petition has submitted that ACE during 2019-20 is on account of expenditure for the procurement of DG Sets for Badarpur and Khliehriat as approved in 15<sup>th</sup> NERPC dated 21.8.2015 for efficient operation of the transmission system. Further, ACE and de-capitalisation to be incurred during 2023-24 is towards replacement of old and obsolete CT, CVT Isolator, Line Protection Panel and other sub-station equipment at Badarpur and Khliehriat Sub-stations. Also, the said ACE during 2019-20 and 2023-24 has been claimed under Regulation 25(2)(c) of the 2019 Tariff Regulations.

63. The Petitioner vide affidavit dated 28.6.2021 has submitted that ACE of ₹11.64 lakh during 2019-20 is on account of afore-mentioned procurement. Further, the package was awarded through Competitive Bidding process to M/s. Sterling Generators Private Limited (formerly M/s Sterling and Wilson Powergen Private Limited) for supply, erection testing and commissioning of DG Sets for various sub-stations under NER, as approved in 15<sup>th</sup> NERPC dated 21.8.2015.



64. The Petitioner vide affidavit dated 28.6.2021 has further submitted that revised Auditor's Certificate dated 31.7.2019 (along with revised tariff forms) has been submitted in view of no ACE and de-capitalisation claimed during 2023-24 and prayed to allow the transmission tariff for the 2019-24 tariff period based on the revised Auditor's Certificate.

65. We have considered the submissions of the Petitioner. The projected ACE of ₹11.64 lakh during 2019-20 is on account of expenditure for the procurement of DG Sets for Badarpur and Khliehriat and, therefore, is allowed under Regulation 25(2)(c) of the 2019 Tariff Regulations.

66. However, based on the submissions made by the Petitioner, the Commission is not able to comprehend the reasons for submitting revised Auditor's Certificate dated 31.7.2019 (along with revised tariff forms) and not claiming any ACE or any de-capitalisation during 2023-24. It seems that either the said claim of ACE during 2023-24 was frivolous or withdrawn just because of higher value of decapitalisation. The Commission views the submission of revised claims by the Petitioner as highly unprofessional and it appears that the tariff petitions are being submitted without due diligence at the senior level. Similarly, revision of the Auditor's Certificate dated 31.7.2019 by the Auditor shows unprofessional conduct and casual approach on the part of the Auditor. The Commission directs the Petitioner to conduct an enquiry by an officer not below the level of Executive Director into the conduct of the Officers and Auditor involved in the issue and fix the responsibility for the lapses. The Petitioner is further directed to submit the inquiry report and action taken on the findings of the inquiry report along with the true up petition.



67. Accordingly, the capital cost allowed for the 2019-24 tariff period is as follows:

(₹ in lakh)

Capital Cost allowed (as on 1.4.2019)	Projected ACE allowed during 2019-20	Estimated Capital Cost allowed (as on 31.3.2024)
13263.18	11.64	13274.82

### **Debt-Equity Ratio**

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

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

*Provided that:*

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

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

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

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

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

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



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

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

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

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

Funding	Capital Cost (as on 1.4.2019) (₹ in lakh)	(in %)	Capital Cost (as on 31.3.2024) (₹ in lakh)	(in %)
Debt	10820.14	81.58	<b>10828.29</b>	81.57
Equity	2443.04	18.42	2446.53	18.43
<b>Total</b>	<b>13263.18</b>	<b>100.00</b>	<b>13274.82</b>	<b>100.00</b>

### Depreciation

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

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

(10) *Depreciation of the emission control system of an existing or a new generating*



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

- a) twenty five years, in case the generating station or unit thereof is in operation for fifteen years or less as on the date of operation of the emission control system; or
- b) balance useful life of the generating station or unit thereof plus fifteen years, in case the generating station or unit thereof is in operation for more than fifteen years as on the date of operation of the emission control system; or
- c) ten years or a period mutually agreed by the generating company and the beneficiaries, whichever is higher, in case the generating station or unit thereof has completed its useful life.”

71. Depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. The transmission system has already completed 12 years of life as on 31.3.2012. Therefore, the remaining depreciable value of ₹4908.24 lakh as on 31.3.2012 has been spread across the balance useful life of 19 years in accordance with Regulation 33(5) of the 2019 Tariff Regulations. WAROD at Annexure-II has been worked out after considering the depreciation rates as specified in the 2019 Tariff Regulations. The depreciation allowed for the transmission system for the 2019-24 tariff period is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	13263.18	13274.82	13274.82	13274.82	13274.82
Addition during 2019-24 due to projected ACE	11.64	0.00	0.00	0.00	0.00
Closing Gross Block	13274.82	13274.82	13274.82	13274.82	13274.82
Average Gross Block	13269.00	13274.82	13274.82	13274.82	13274.82
Balance useful life at the beginning of the year (Year)	12.00	11.00	10.00	9.00	8.00
Depreciable Value	11879.07	11884.31	11884.31	11884.31	11884.31
Rate of Depreciation (in %)	1.51	1.51	1.51	1.51	1.51
Remaining Depreciable Value at the beginning of the year	3120.83	2866.00	2605.45	2344.91	2084.36
<b>Depreciation during the year</b>	<b>260.07</b>	<b>260.55</b>	<b>260.55</b>	<b>260.55</b>	<b>260.55</b>
Cumulative Aggregate Depreciation at the end of the year	9018.31	9278.86	9539.41	9799.95	10060.50





Remaining Aggregate Depreciable Value at the end of the year	2860.76	2605.45	2344.91	2084.36	1823.82
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### **Interest on Loan**

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

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

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

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

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

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

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

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

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

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

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

73. WAROI on loan has been considered on the basis of the rates prevailing as on 1.4.2019. The Petitioner has prayed that the change in interest rate due to





floating rates of interest applicable, if any, during the 2019-24 tariff period may be adjusted. Accordingly, the floating rate of interest, if any, will be considered at the time of true up. Therefore, IoL for the transmission system for the 2019-24 tariff period has been allowed in accordance with Regulation 32 of the 2019 Tariff Regulations as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	10820.14	10828.29	10828.29	10828.29	10828.29
Cumulative Repayments up to Previous Year	8758.25	9018.31	9278.86	9539.41	9799.95
Net Loan-Opening	2061.89	1809.97	1549.43	1288.88	1028.34
Addition due to ACE	8.15	0.00	0.00	0.00	0.00
Repayment during the year	260.07	260.55	260.55	260.55	260.55
Net Loan-Closing	1809.97	1549.43	1288.88	1028.34	767.79
Average Loan	1935.93	1679.70	1419.16	1158.61	898.07
Weighted Average Rate of Interest on Loan (in %)	7.300	7.300	7.300	7.300	7.300
<b>Interest on Loan</b>	<b>141.32</b>	<b>122.62</b>	<b>103.60</b>	<b>84.58</b>	<b>65.56</b>

### **Return on Equity**

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

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

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

Provided that return on equity in respect of additional capitalization after cutoff date beyond the original scope, excluding additional capitalization on 7 account of emission control system, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system or in the absence of actual loan portfolio of the generating station or the transmission system, the weighted average rate of interest of the generating company or the transmission licensee, as the case may be, as a whole shall be considered, subject to ceiling of 14%.

Provided further that:

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



load dispatch centre or protection system based on the report submitted by the respective RLDC;

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

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

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

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

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

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

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

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

Rate of pre-tax return on equity = Base rate / (1-t)

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

#### **Illustration-**

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



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

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

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

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

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

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

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

75. The Petitioner has submitted that it is liable to pay Income Tax at MAT rate specified under the Taxation laws (Amendment) Ordinance 2019. Further, 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 formula given in Regulation 31(2) of the 2019 Tariff Regulations for the 2019-24 tariff period. As per Regulation 31(3) of the 2019 Tariff Regulations, the grossed-up rate of RoE at the end of every financial year shall be trued-up 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 IT authorities pertaining to the 2019-24 tariff period on actual gross income. However, in if any penalty arising on account of delay in deposit or short deposit of tax amount shall not be claimed by it. Any under-recovery or over-recovery of grossed-up rate on RoE after truing up shall be recovered or refunded to the long term customers on yearly basis. The Petitioner has further submitted that any adjustment due to additional tax demand including



interest duly adjusted for any refund of tax including interest received from IT authorities shall be recoverable/ adjustable during the 2019-24 tariff period on yearly basis on receipt of Income Tax assessment order.

76. We have considered the submissions of the Petitioner. Accordingly, MAT rate applicable in 2019-20 has been considered for the purpose of RoE, which will be trued-up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. RoE allowed for the transmission system for the 2019-24 tariff period is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	2443.04	2446.53	2446.53	2446.53	2446.53
Additions	3.49	0.00	0.00	0.00	0.00
Closing Equity	2446.53	2446.53	2446.53	2446.53	2446.53
Average Equity	2444.79	2446.53	2446.53	2446.53	2446.53
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (in %)	17.470	17.470	17.470	17.470	17.470
Rate of Return on Equity (in %)	18.780	18.780	18.780	18.780	18.780
<b>Return on Equity</b>	<b>459.18</b>	<b>459.51</b>	<b>459.51</b>	<b>459.51</b>	<b>459.51</b>

### **Operation & Maintenance Expenses**

77. Regulation 35(3)(a) of the 2019 Tariff Regulations provides as follows:

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

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<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
±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)	2,563	2,653	2,746	2,842	2,942

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

*Provided further that:*

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



Double Circuit quad AC line;

- iii. the O&M expenses of  $\pm 500$  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  $\pm 500$  kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);
- iv. the O&M expenses of  $\pm 800$  kV Champa-Kurukshetra HVDC bi-pole scheme (3000 MW) shall be on the basis of the normative O&M expenses for  $\pm 800$  kV, Bishwanath-Agra HVDC bi-pole scheme;
- v. the O&M expenses of  $\pm 800$  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  $\pm 800$  kV, Bishwanath-Agra HVDC bi-pole scheme; and
- vi. the O&M expenses of Static Synchronous Compensator and Static Var Compensator shall be worked at 1.5% of original project cost as on commercial operation which shall be escalated at the rate of 3.51% to work out the O&M expenses during the tariff period. The O&M expenses of Static Synchronous Compensator and Static Var Compensator, if required, may be reviewed after three year

(b) The total allowable operation and maintenance expenses for the transmission system shall be calculated by multiplying the number of sub-station bays, transformer capacity of the transformer (in MVA) and km of line length with the applicable norms for the operation and maintenance expenses per bay, per MVA and per km respectively.

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

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

78. O&M Expenses in respect of the various elements covered under the transmission system as claimed by the Petitioner for the 2019-24 tariff period are as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Sub-station Bays (Number)</b>					
132 kV	18 Numbers				
<b>Norm (₹ lakh/bay)</b>					
132 kV	16.08	16.64	17.23	17.83	18.46
<b>Total Sub-station O&amp;M Expenses (₹ in lakh)</b>	<b>289.44</b>	<b>299.52</b>	<b>310.14</b>	<b>320.94</b>	<b>332.28</b>
<b>AC Lines</b>					
S/C (Single Conductor)	485.45 km				
<b>Norm (₹ lakh/km)</b>					
	0.252	0.260	0.270	0.279	0.289
<b>Total Transmission line O&amp;M Expenses (₹ in lakh)</b>	<b>122.33</b>	<b>126.22</b>	<b>131.07</b>	<b>135.44</b>	<b>140.30</b>





<b>Total O&amp;M Expenses (₹ in lakh)</b>	<b>411.79</b>	<b>425.74</b>	<b>441.22</b>	<b>456.39</b>	<b>472.57</b>
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79. The O&M Expenses allowed for the transmission system for the 2019-24 tariff period are as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Sub-station Bays (Number)</b>					
132 kV	18 Numbers				
<b>Norm (₹ lakh/bay)</b>					
132 kV	16.08	16.64	17.23	17.83	18.46
<b>Total Sub-station O&amp;M Expenses (₹ in lakh)</b>	<b>289.44</b>	<b>299.52</b>	<b>310.14</b>	<b>320.94</b>	<b>332.28</b>
<b>AC Lines</b>					
S/C (Single Conductor)	485.45 km				
<b>Norm (₹ lakh/km)</b>	0.252	0.260	0.270	0.279	0.289
<b>Total Transmission line O&amp;M Expenses (₹ in lakh)</b>	<b>122.33</b>	<b>126.22</b>	<b>131.07</b>	<b>135.44</b>	<b>140.30</b>
<b>Total O&amp;M Expenses (₹ in lakh)</b>	<b>411.77</b>	<b>425.74</b>	<b>441.21</b>	<b>456.38</b>	<b>472.58</b>

### **Interest on Working Capital**

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

**“34. Interest on Working Capital: (1) The working capital shall cover:**

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

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

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

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

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



“3.Definitions ...

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

81. The Petitioner has submitted that it has computed IWC for the 2019-24 period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of IWC as 12.05%. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The Rate of Interest considered is 12.05% (SBI 1 year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20, 11.25% (SBI 1 year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) for 2020-21 and from 2021-22 onwards has been considered as 10.50% (SBI 1 year MCLR applicable as on 1.4.2021 of 7.00% plus 350 basis points). Therefore, IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations and the components of the working capital and interest allowed thereon is as follows:

	(₹ in lakh)				
<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Working Capital for O&M Expenses (O&M Expenses for 1 Month)	34.31	35.48	36.77	38.03	39.38
Working Capital for Maintenance Spares (15% of O&M)	61.77	63.86	66.18	68.46	70.89
Working Capital for Receivables (Equivalent to 2 months of annual transmission charges)	160.23	159.98	159.34	158.90	158.16
<b>Total Working Capital</b>	<b>222.00</b>	<b>223.84</b>	<b>225.52</b>	<b>227.36</b>	<b>229.05</b>
Rate of Interest (in %)	12.05	11.25	10.50	10.50	10.50
<b>Interest of Working Capital</b>	<b>30.89</b>	<b>29.17</b>	<b>27.54</b>	<b>27.87</b>	<b>28.18</b>

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

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

	(₹ in lakh)				
<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Depreciation	260.07	260.55	260.55	260.55	260.55
Interest on Loan	141.32	122.62	103.60	84.58	65.56





Return on Equity	459.18	459.51	459.51	459.51	459.51
O&M Expenses	411.77	425.74	441.21	456.38	472.58
Interest on Working Capital	30.89	29.17	27.54	27.87	28.18
<b>Total</b>	<b>1303.23</b>	<b>1297.58</b>	<b>1292.40</b>	<b>1288.88</b>	<b>1286.37</b>

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

83. 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**

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

### **Goods and Services Tax**

85. The Petitioner has submitted that, if GST is levied at any rate and at any point of time in future on charges of transmission of electricity, the same will be borne and additionally paid by the Respondent(s) to the Petitioner and the same will be charged and billed separately by the Petitioner. Further additional taxes, if any, are to be paid by the Petitioner on account of demand from Government/ Statutory authorities, the same may be allowed to be recovered from the beneficiaries. The Petitioner has sought to recover GST on transmission charges separately from the Respondents, if at any time GST on transmission is withdrawn from negative list in future.



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

### **Security Expenses**

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

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

### **Capital Spares**

89. 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**

90. During the tariff periods 2004-09 and 2009-14 (upto 30.6.2011), the transmission charges for inter-State transmission systems were being shared in



accordance with the Tariff Regulations for the respective tariff periods. With effect from 1.7.2011, sharing of transmission charges for inter-State transmission systems was governed by the 2010 Sharing Regulations and with effect from 1.11.2020 (after repeal of the 2010 Sharing Regulations), sharing of transmission charges is governed by the 2020 Sharing Regulations. Accordingly, the liabilities of DICs for arrears of transmission charges determined through this order shall be computed DIC-wise in accordance with the provisions of respective Tariff Regulations and Sharing Regulations and shall be recovered from the concerned DICs through Bills under Regulation 15(2)(b) of the 2020 Sharing Regulations. Billing, collection and disbursement of the transmission charges for subsequent period shall be recovered in terms of the provisions of the 2020 Sharing Regulations as provided in Regulation 57 of the 2019 Tariff Regulations.

91. To summarise:

- a) The revised AFC approved for the transmission system for the 2004-09 tariff period in terms of the APTEL's judgments are as follows:

(₹ in lakh)	
2007-08	2008-09
2382.66	2358.17

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

(₹ in lakh)				
2009-10	2010-11	2011-12	2012-13	2013-14
2096.83	2061.19	2058.55	1656.71	1703.79

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

(₹ in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
1649.64	1656.88	1662.33	1668.53	1691.82



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

(₹ in lakh)				
2019-20	2020-21	2021-22	2022-23	2023-24
1303.23	1297.58	1292.40	1288.88	1286.37

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

93. This order disposes of Petition No. 252/TT/2020 in terms of the above discussions and findings.

**sd/-**  
**(P. K. Singh)**  
**Member**

**sd/-**  
**(Arun Goyal)**  
**Member**

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



**Annexure-I**

<b>Petition No.:</b>	<b>252/TT/2020</b>
<b>Period</b>	<b>2014-19 Tariff</b>

2014-19 Capital Expenditure	Admitted Capital Cost as on 1.4.2014 (₹ in lakh)	ACE (₹ in lakh)		Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation as per the 2014 Tariff Regulations (in %)	Annual Depreciation as per Regulations (₹ in lakh)				
		2018-19	Total			2014-15	2015-16	2016-17	2017-18	2018-19
Land	70.03			70.03	0.00	Spread				
Building	1227.24			1227.24	3.34					
Transmission Line	8002.77			8002.77	5.28					
Sub Station	3610.85	18.08	18.08	3628.93	5.28					
PLCC	334.21			334.21	6.33					
<b>TOTAL</b>	<b>13245.10</b>			<b>13263.18</b>		258.33	258.33	258.33	258.33	258.95
				<b>Average Gross Block (₹ in lakh)</b>		13245.10	13245.10	13245.10	13245.10	13254.14
				<b>Weighted Average Rate of Depreciation (in %)</b>		1.95	1.95	1.95	1.95	1.95



## Annexure-II

<b>Petition No.:</b>	<b>252/TT/2020</b>
<b>Period</b>	<b>2019-24 Tariff</b>

2019-24 Capital Expenditure	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	ACE (₹ in lakh)		Admitted Capital Cost as on 31.3.2024 (₹ in lakh)	Rate of Depreciation as per the 2019 Tariff Regulations (in %)	Annual Depreciation as per Regulations (₹ in lakh)				
		2019-20	Total			2014-15	2015-16	2016-17	2017-18	2018-19
Land	70.03			70.03	0.00	Spread				
Building	1227.24			1227.24	3.34					
Transmission Line	8002.77			8002.77	5.28					
Sub Station	3628.93	11.64	11.64	3640.57	5.28					
PLCC	334.21			334.21	6.33					
<b>TOTAL</b>	<b>13263.18</b>			<b>13274.82</b>		260.07	260.55	260.55	260.55	260.55
				<b>Average Gross Block (₹ in lakh)</b>		13269.00	13274.82	13274.82	13274.82	13274.82
				<b>Weighted Average Rate of Depreciation (in %)</b>		1.51	1.51	1.51	1.51	1.51

