

# CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. 300/TT/2019

Coram:

Shri P.K. Pujari, Chairperson  
Shri I.S. Jha, Member

Date of order : 12.07.2020

**In the Matter of:**

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and for (i) Revision of transmission tariff for 2001-04 tariff period, 2004-09 tariff period, 2009-14 tariff period, (ii) trueing up of transmission tariff for 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and (iii) determination of transmission tariff for 2019-24 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for 400 kV Bihar Sharif-Sasaram-Sarnath Transmission Line along with associated bays under Eastern-Northern Inter-regional HVDC Transmission System in Eastern Region.

**And in the Matter of:**

Power Grid Corporation of India Ltd.  
SAUDAMINI, Plot No-2,  
Sector-29, Gurgaon-122 001 (Haryana).

.....Petitioner

**Vs**

1. Bihar State Power (Holding) Company Ltd  
Vidyut Bhavan, Bailey Road, Patna - 800 001
2. West Bengal State Electricity Distribution Company Limited  
Bidyut Bhawan, Bidhan Nagar  
Block DJ, Sector-II, Salt Lakecity  
Calcutta - 700 091
3. Grid Corporation of Orissa Ltd.  
Shahid Nagar, Bhubaneswar - 751 007
4. Jharkhand State Electricity Board  
In Front of Main Secretariat  
Doranda, Ranchi - 834002



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5. Damodar Valley Corporation  
DVC Tower, Maniktala  
Civic Centre, VIP Road, Calcutta - 700 054

6. Power Department  
Government of Sikkim,  
Gangtok- 737 101

...Respondent(s)

**Parties present:**

**For Petitioner:** Shri M.G. Ramachandran, Senior Advocate, PGCIL  
Ms. Swapna Seshadri, Advocate, PGCIL  
Ms. Ritu Apurva, Advocate, PGCIL  
Shri A.K. Jain, PGCIL  
Shri A. K. Verma, PGCIL  
Shri Mukesh , PGCIL  
Shri Anshul Garg, PGCIL

**For Respondent:** Shri R. B. Sharma, Advocate, BRPL and BSP(H)CL  
Shri Mohit Mudgal, Advocate, BRPL and BSP(H)CL

**ORDER**

The present petition has been filed by Power Grid Corporation of India Limited (hereinafter referred to as “the Petitioner”) for revision of transmission tariff of 2001-04, 2004-09 and 2009-14 tariff periods and truing up of the tariff of the 2014-19 tariff period under Regulation 8 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) and for determination of tariff of the 2019-24 tariff period under Regulation 8 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) of 400 kV Biharsharif-Sasaram-Sarnath Transmission Line along with associated bays under Eastern-Northern Inter-regional HVDC Transmission System in Eastern Region (hereinafter referred to as the “transmission asset”).



2. The Petitioner has made the following prayers:-

- “1). Approve the revised Transmission Tariff for 2001-04 block, 2004-09 block and transmission tariff for 2009-14 block for the assets covered under this petition, as per para 8 above.
- 2) Approve the trued up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the assets covered under this petition, as per para 9 and 10 above.
- 3) 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.
- 4) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, and other expenditure ( if any) in relation to the filing of petition.
- 5) Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.
- 6) Allow the petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2019-24 period, if any, from the respondents.
- 7) Allow the petitioner to recover FERV on the foreign loans deployed as provided under clause 68 of the Tariff Regulations,2019
- 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 claim the capital spares at the end of tariff block as per actual.
- 10) 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”*



## **Background**

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

a. The administrative approval and expenditure sanction for the transmission project was initially accorded by the Ministry of Power, Government of India vide its letter dated 4.9.1998 at an estimated cost of ₹67156.00 lakh, including IDC of ₹9219.00 lakh, based on 3<sup>rd</sup> quarter 1997 price level. As per the investment approval, the project was scheduled to be put into commercial operation within 39 months from date of approval, i.e. by December 2001. Subsequently, there was a change in the scope of work based on system studies. Accordingly, the revised cost estimate for ₹59310.00 lakh including IDC of ₹4607.00 lakh and financing charges of ₹464.00 lakh was approved by CEA.

b. The initial transmission tariff for the period from 1.7.2001 to 31.3.2004 was determined by the Commission vide order dated 3.3.2005 in Petition No. 55/2002; tariff for the period from 1.4.2004 to 31.3.2009 was determined vide order dated 12.1.2011 in Petition No. 216/2010; and tariff 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 determined vide order dated 4.12.2015 in Petition No. 183/TT/2014.

c. The Petitioner has sought revision of transmission tariff approved by the Commission for the 2001-04 and 2004-09 tariff periods on account of change in Interest on Loan (IOL) and Interest on Working Capital (IWC) to the extent of revision in IOL and in Maintenance Spares in terms of the judgement of Appellate Tribunal for Electricity (APTEL) dated 22.1.2007 and 13.6.2007 in Appeal Nos. 81/2005 and 139/2006 respectively. The Petitioner has further sought consequential revision of tariff allowed for the 2009-14 tariff period, truing up of tariff of 2014-19 tariff period and determination of tariff for 2019-24 tariff period for 400 kV Biharsharif-Sasaram-Sarnath Transmission Line along with associated bays under Eastern-Northern Inter-regional HVDC Transmission System in Eastern Region.



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

- (i) Computation of interest on loan
- (ii) Consequences of refinancing of loan
- (iii) Depreciation as deemed repayment
- (iv) Admissibility of depreciation upto 90% of the value of the assets
- (v) Consideration of maintenance of spares for working capital
- (vi) Depreciation of assets.

e. The Commission and certain beneficiaries filed appeals against the APTEL's judgments before the Hon'ble Supreme Court in 2007. The Appeals were admitted and initially stay was granted by the Hon'ble Supreme Court. Subsequently, on an assurance by NTPC that the issues under appeal would not be pressed for implementation during the pendency of the appeals, the stay was vacated by the Hon'ble Supreme Court.

f. PGCIL, based on the APTEL's judgments dated 22.1.2007 and 13.6.2007, sought re-determination of tariff of its transmission assets for the tariff periods 2001-04 and 2004-09 in Petition No. 121/2007. The Commission after taking into consideration the pending appeals before the Hon'ble Supreme Court adjourned the matter sine die and directed to revive the same after the disposal of the Civil Appeals by the Hon'ble Supreme Court.

g. The Hon'ble Supreme Court, vide its judgement dated 10.4.2018, dismissed the said Civil Appeals filed by the Commission and others against the APTEL's said judgments.

h. Consequent to the Hon'ble Supreme Court's judgment dated 10.4.2018 in NTPC matters, the 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



truing up petitions for the period 2014-19 in respect of concerned transmission assets. Accordingly, the Petitioner has filed the instant petition.

i. The instant petition was heard on 13.2.2020 and in view of APTEL's judgments dated 22.1.2007 and 13.6.2007 and the judgement of Hon'ble Supreme Court, tariff is being revised. Period-wise 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.

j. The instant transmission asset was put under commercial operation from 1.7.2001. The tariff from 1.7.2001 was worked out based on the admitted capital cost of ₹17950.00. Accordingly, considering the admitted capital cost of ₹17950.00 lakh, tariff is being revised for the 2001-04, 2004-09, 2009-14 tariff periods in terms of APTEL's judgement dated 22.1.2007 and 13.6.2007.

4. Further, as provided under Regulation 8(1) of the 2014 Tariff Regulations, the tariff allowed for the period 1.4.2014 to 31.3.2019 is trued-up and the tariff for the 2019-24 period is determined under Regulation 8 of the 2019 Tariff Regulations in the subsequent paragraphs.

5. The respondents are distribution licensees and power departments, who are procuring transmission service from the Petitioner, mainly beneficiaries of Eastern Region.

6. The Petitioner has served the petition on the respondents and notice of this application has been published in the newspaper in accordance with Section 64 of the Electricity Act 2003. No comments/objections have been received from the public in response to the notice in newspaper. Further, none of the respondents have filed any reply in the matter.



7. The matter was heard on 13.2.2020 alongwith Petition Nos. 288/TT/2019, 301/TT/2019 and 305/TT/2019. The learned counsel for BSP(H)CL, who was also appearing for BRPL in Petition No.288/TT/2019 submitted that BRPL has filed reply in the said petition and that the same is adopted by BSP(H)CL in this petition. He objected to the reopening of the tariff of 2001-04, 2004-09 and 2009-14 periods based on the APTEL's judgements stating that the Commission has become "functus officio". The learned counsel for the Petitioner submitted that the Commission, by a combined order dated 6.11.2019, has already rejected the contentions of BRPL and BSP(H)CL regarding revision of the tariff for the periods 2001-04, 2004-09 and 2009-14 on the ground that the Commission has become "functus officio".

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

9. The Petitioner has sought revision of the computation of the interest on loan, maintenance spares for working capital and depreciation allowed for the 2001-04 and 2004-09 period on the basis of the judgements of the APTEL dated 22.1.2007 in Appeal No.81 of 2005 and 13.6.2007 in Appeal No.139/2006. The APTEL while dealing with the issue of computation of interest on loan in judgement dated 22.1.2007 observed that IOL for the period from 1.4.1998 to 31.3.2001 shall be computed only on normative loan repayment as per its judgement dated 14.11.2006 in Appeal Nos.94 and 96 of 2005. APTEL in its judgement dated 14.11.2006 set aside the Commission's methodology of computation of loan on the actual repayment basis or normative repayment whichever is higher. The relevant portions of the judgement of APTEL dated 14.11.2006 is as follows:-

*"12 We have heard the arguments of the Senior Counsel(s) of appellant and respondents. We notice that the appellant has not challenged the formula for*





computing the annual repayment amount as provided in Appeal No. 96 of 2005 & IA No.117 of 2006 in Appeal No. 94 of 2005 para-22 of the impugned order and has only challenged the provisions at para 23 specifying that the amount of annual repayment for calculation of interest on loan is chosen higher of the normative debt and actual debt.

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

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

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

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

In view of the above, the interest allowed for the 2001-04 and 2004-09 periods is revised on the basis of the normative debt repayment methodology.

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

#### **“Analysis and Decision**

We are not inclined to agree with the contention of the respondents that escalation of 6% will take care of the additional capitalization. Escalation is meant to factor inflation and is allowed as per CERC Regulations whether or not additional capitalization takes place. Question before us is that: can the historical cost be frozen with the Commissioning of the station. It is quite normal and prudent to ensure earliest operation of the plant without necessarily 100% completion of plants and works, of course not at the cost of safety of the plant. Adding some of the plants and works after the commercial operation will reduce interest during construction. If technically it is possible to delay some of the plants or works, it is only prudent to do so. For example it is common to build redundancies in the plant at a little later stage. CERC’s own regulations rightly recognized additional capitalization. It is pertinent to set out excerpts pertaining to





*additional capitalization from CERC (Terms & Conditions of Tariff) Regulation, 2004 Clause 18 as below:-*

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

*(i) Deferred liabilities*

*(ii) Works deferred for execution*

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

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

*(v) On account of change in law.*

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

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

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

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

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



### **“Analysis and Decision**

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

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

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

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

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

14. The revision of tariff allowed for 2001-04 and 2004-09 tariff periods necessitates the revision of tariff allowed for the 2009-14 period, which is also allowed in the instant order. The implementation of the directions of the APTEL in case of the Petitioner was kept pending in view 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 vide earlier orders and that allowed in the instant order for the period 2001-04, 2004-09 and 2009-14 tariff periods. Therefore, the Petitioner will neither claim nor pay any carrying cost



from/to the beneficiaries for the difference in the tariff allowed vide earlier orders and that allowed in the instant order. Further, the said difference in tariff shall be recovered over a period of six months from the date of issue of this order.

**REVISION OF TRANSMISSION CHARGES ALLOWED FOR THE 2001-04, 2004-09 and 2009-14 TARIFF PERIOD**

**2001-04 Period**

15. The Commission in order dated 3.3.2005 in Petition No.55/2002 had approved the following transmission charges for the instant transmission asset for the 2001-04 period:

(₹ in lakh)			
<b>Particulars</b>	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>
Depreciation	359.90	479.86	479.86
RoE	398.27	530.06	530.06
O&M Expenses	342.36	483.84	512.85
AAD	0.00	0.00	0.00
IOL	525.12	897.98	840.63
IWC	49.62	71.69	73.30
<b>Total</b>	<b>1675.27</b>	<b>2463.43</b>	<b>2436.70</b>

16. The petitioner has claimed the following revised transmission charges for the instant transmission asset for the 2001-04 period in this petition:

(₹ in lakh)			
<b>Particulars</b>	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>
Depreciation	359.90	479.86	479.86
RoE	398.27	530.06	530.06
O&M	342.36	483.84	512.85
AAD	0.00	0.00	0.00
IOL	525.12	897.98	840.92
IWC	49.62	71.69	72.89
<b>Total</b>	<b>1675.27</b>	<b>2463.40</b>	<b>2436.58</b>

17. We have considered the Petitioner’s claim. The tariff is allowed for the instant transmission asset on the basis of the following:-



- a) Admitted capital cost as on 1.7.2001: ₹17950.00 lakh.
- b) The loan repayment in tariff has now been modified as per the judgment of APTEL that has directed that normative repayment is to be considered and not “higher of normative or actual repayment” as was considered by the Commission earlier. Therefore, now there is variation in the closing balance of loan vis-à-vis that in the order dated 3.3.2005. This closing balance of loan shall have impact on opening and closing loan balances of future tariff periods too.
- c) Weighted Average Rate of Interest on actual loan derived/adopted from order dated 3.3.2005 in Petition No. 55/2002.
- d) Weighted average rate of depreciation, Rate of IWC and O & M Expenses data as per order dated 3.3.2005 in Petition No. 55/2002.
- e) There was de-capitalisation of ₹568.95 lakh during financial year 2002-03. The maintenance spares component for calculating IWC is adjusted w.r.t. this de-capitalisation.
- f) As per the then prevailing methodology, the impact of additional capitalisation/de-capitalisation during 2001-04 has been considered during the next tariff period. However, the impact of additional capitalisation/de-capitalisation on maintenance spares has been considered in the same year in which additional capitalisation/de-capitalisation has occurred.

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

(₹ in lakh)			
Particulars	2001-02	2002-03	2003-04
Depreciation	359.45	479.27	479.27
Interest on Loan	525.12	897.98	874.57
Return on Equity	398.27	531.02	531.02
Advance against Depreciation	0.00	0.00	0.00
Interest on Working Capital	54.44	71.35	72.58
O&M Expenses	342.36	483.84	512.85
<b>Total</b>	<b>1679.64</b>	<b>2463.46</b>	<b>2470.29</b>



### 2004-09 Period

19. The Commission vide order dated 12.1.2011 in Petition No. 216/2010 had approved the following transmission charges for the instant transmission asset for the 2004-09 period.

(₹ in lakh)					
Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	436.11	436.42	436.42	436.42	436.68
Interest on Loan	659.51	561.32	501.33	449.94	396.59
Return on Equity	464.14	464.48	464.48	464.48	464.68
Advance against Depreciation	0.00	0.00	0.00	94.08	635.26
Interest on Working Capital	55.14	55.00	55.61	58.09	68.42
O&M Expenses	235.51	244.91	255.01	264.73	275.77
<b>Total</b>	<b>1850.41</b>	<b>1762.13</b>	<b>1712.84</b>	<b>1767.74</b>	<b>2277.40</b>

20. The petitioner has claimed the following revised transmission charges for the instant transmission asset for the 2004-09 period in this petition:

(₹ in lakh)					
Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	436.11	436.42	436.42	436.42	436.68
Interest on Loan	658.75	560.68	500.76	449.43	396.14
Return on Equity	464.14	464.48	464.48	464.48	464.68
Advance against Depreciation	0.00	0.00	0.00	62.18	634.03
Interest on Working Capital	54.88	54.74	55.34	57.71	68.10
O&M Expenses	235.51	244.91	255.01	264.73	275.77
<b>Total</b>	<b>1849.39</b>	<b>1761.23</b>	<b>1712.01</b>	<b>1734.48</b>	<b>2275.40</b>

21. We have considered the Petitioner's claim. The tariff is allowed for the instant transmission asset on the basis of the following:-



- a) Admitted Capital cost as on 1.4.2004: ₹16518.54 lakh after adjusting FERV difference of ₹862.51 lakh.
- b) Weighted Average Rate of Interest on actual loan derived/adopted from Order(s) dated 25.1.2006 and 28.4.2008 in Petition No. 51/2005.
- c) Weighted average rate of depreciation, Rate of IWC and O & M Expenses data as per order dated 25.1.2006 in Petition No. 51/2005.
- d) The maintenance spares component for calculating IWC is adjusted w.r.t. additional capital expenditure of ₹24.20 lakh and of ₹14.39 lakh during 2004-05 and 2008-09 respectively.

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

(₹ in lakh)

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	436.11	436.42	436.42	436.42	436.68
Interest on Loan	658.76	560.68	500.76	449.43	396.14
Return on Equity	464.14	464.48	464.48	464.48	464.68
Advance against Depreciation	0.00	0.00	0.00	63.85	634.04
Interest on Working Capital	54.56	53.50	54.98	56.89	67.71
O&M Expenses	235.51	244.91	255.01	264.73	275.77
<b>Total</b>	<b>1849.07</b>	<b>1760.89</b>	<b>1711.64</b>	<b>1735.80</b>	<b>2275.01</b>

### **2009-14 Period**

23. The Commission vide order dated 30.5.2011 in Petition No 10/2011 had approved the tariff for the instant transmission asset for the 2009-14 period as follows:

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	874.75	874.75	874.75	874.75	874.75
Interest on Loan	413.43	361.27	309.59	258.36	210.77
Return on Equity	580.47	580.47	580.47	580.47	580.47
Interest on Working Capital	52.69	52.39	52.14	51.95	51.89
O&M Expenses	274.72	290.47	307.11	324.65	343.11
<b>Total</b>	<b>2196.05</b>	<b>2159.35</b>	<b>2124.06</b>	<b>2090.18</b>	<b>2060.98</b>



24. The Commission vide order dated 4.12.2015 in Petition No 183/TT/2014 had trued up the tariff for the instant transmission asset for the 2009-14 period as follows:

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	874.75	874.75	874.75	874.75	874.75
Interest on Loan	345.96	262.92	216.83	182.30	129.85
Return on Equity	620.08	642.80	643.43	643.43	651.16
Interest on Working Capital	52.11	51.64	51.52	51.68	51.67
O&M Expenses	274.72	290.47	307.11	324.65	343.11
<b>Total</b>	<b>2167.62</b>	<b>2122.57</b>	<b>2093.64</b>	<b>2076.80</b>	<b>2050.55</b>

25. The petitioner has claimed the following revised transmission charges for the instant transmission assets for the 2009-14 period in this petition:

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	874.75	874.75	874.75	874.75	874.75
Interest on Loan	345.55	262.57	216.51	181.98	129.59
Return on Equity	620.08	642.8	643.43	643.43	651.16
Interest on Working Capital	52.10	51.63	51.52	51.67	51.67
O&M Expenses	274.72	290.47	307.11	324.65	343.11
<b>Total</b>	<b>2167.20</b>	<b>2122.22</b>	<b>2093.32</b>	<b>2076.49</b>	<b>2050.28</b>

26. We have considered the Petitioner's claim. The tariff is allowed for the instant transmission assets on the basis of the following:-

- Admitted Capital cost as on 1.4.2009: ₹16557.13lakh
- Weighted Average Rate of Interest on actual loan derived/adopted from order dated 4.12.2015 in Petition No. 183/TT/2014
- Weighted average rate of depreciation as per order dated 4.12.2015 in Petition No. 183/TT/2014.

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





(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	874.75	874.75	874.75	874.75	874.75
Interest on Loan	345.55	262.57	216.51	181.98	129.59
Return on Equity	620.08	642.80	643.43	643.43	651.16
Interest on Working Capital	52.10	51.63	51.52	51.67	51.67
O&M Expenses	274.72	290.47	307.11	324.65	343.11
<b>Total</b>	<b>2167.19</b>	<b>2122.22</b>	<b>2093.31</b>	<b>2076.48</b>	<b>2050.28</b>

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

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

28. The details of the transmission charges claimed by the Petitioner are as under:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	287.72	287.72	287.72	287.72	287.72
Interest on Loan	100.14	91.43	107.83	118.96	142.92
Return on Equity	651.66	654.65	654.32	654.32	656.08
Interest on working capital	41.18	41.62	42.58	43.45	44.67
O & M Expenses	312.20	322.70	333.35	344.40	355.85
<b>Total</b>	<b>1392.90</b>	<b>1398.12</b>	<b>1425.80</b>	<b>1448.85</b>	<b>1487.24</b>

29. The details of the IWC claimed by the Petitioner are as under:

(₹ in lakh)

Particular	2014-15	2015-16	2016-17	2017-18	2018-19
O & M Expenses	26.02	26.89	27.78	28.70	29.65
Maintenance Spares	46.83	48.41	50.00	51.66	53.38
Receivables	232.15	233.02	237.63	241.48	247.87
<b>Total</b>	<b>305.00</b>	<b>308.32</b>	<b>315.41</b>	<b>321.84</b>	<b>330.90</b>
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	41.18	41.62	42.58	43.45	44.67



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

30. The capital cost of the instant transmission asset has been calculated in accordance with the Regulation 9(3) and Regulation 9(6) of 2014 Tariff Regulations. The Commission vide order dated 4.12.2015 in Petition No.183/TT/2014 had approved the transmission tariff for the instant transmission asset for the 2014-19 period based on admitted capital cost of ₹16557.13 lakh as on 31.3.2014. The Petitioner has not claimed any additional capital expenditure during the 2014-19 tariff period. Accordingly, the capital cost of ₹16557.13 lakh has been considered for the purpose of truing up of the tariff of the 2014-19 tariff period.

### **Debt-Equity ratio**

31. The debt-equity ratio has been allowed in accordance with Regulation 19(3) of 2014 Tariff Regulations. As per Regulation 19(3) of the 2014 Tariff Regulations, the debt-equity ratio allowed by the Commission for determination of tariff for the period ending on 31.3.2014 shall be considered. Accordingly, the debt-equity ratio of 79.94:20.06 for the period ending on 31.3.2014, considered for the purpose of determination of tariff of the 2014-19 tariff period has been considered for the purpose of truing up of the tariff of the instant transmission asset for the 2014-19 tariff period. The details of the debt-equity ratio as on 1.4.2014 and 31.3.2019 of the instant transmission asset is as follows:-

<b>Funding</b>	<b>Capital cost as on 1.4.2014 (₹ in lakh)</b>	<b>(%)</b>	<b>Total capital cost as on 31.3.2019 (₹ in lakh)</b>	<b>(%)</b>
Debt	13236.56	79.94	13236.56	79.94
Equity	3320.57	20.06	3320.57	20.06
<b>Total</b>	<b>16557.13</b>	<b>100.00</b>	<b>16557.13</b>	<b>100.00</b>



### Interest on Loan (IoL)

32. The details of interest on loan allowed are as under:-

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	13236.56	13236.56	13236.56	13236.56	13236.56
Cumulative Repayment up to previous Year	8571.63	8859.35	9147.06	9434.78	9722.50
Net Loan-Opening	4664.93	4377.21	4089.50	3801.78	3514.06
Addition due to Additional Capitalization	0.00	0.00	0.00	0.00	0.00
Repayment during the year	287.72	287.72	287.72	287.72	287.72
Net Loan-Closing	4377.21	4089.50	3801.78	3514.06	3226.34
Average Loan	4521.07	4233.36	3945.64	3657.92	3370.20
Weighted Average Rate of Interest on Loan	2.2546%	2.1761%	2.7305%	3.2484%	4.2392%
<b>Interest on Loan</b>	<b>101.93</b>	<b>92.12</b>	<b>107.74</b>	<b>118.83</b>	<b>142.87</b>

### Return on Equity (ROE)

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

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

34. We have considered the submissions of the Petitioner. The Commission in order dated 17.06.2020 in Petition No. 301/TT/2019 has arrived at the effective tax rate based on the notified MAT rates for the Petitioner and the same is given in the table below. The same MAT rates are considered for the purpose of grossing up of



rate of RoE for truing up of the tariff of the 2014-19 tariff period in terms of the provisions of the 2014 Tariff Regulations.

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

35. The Petitioner has claimed ROE for the 2014-19 period after grossing up the ROE of 15.50% with Effective Tax rates (based on MAT rates) each year as per the above said Regulation. The ROE is trued up on the basis of the MAT rate applicable in the respective years and is allowed as follows:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	3320.57	3320.57	3320.57	3320.57	3320.57
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	3320.57	3320.57	3320.57	3320.57	3320.57
Average Equity	3320.57	3320.57	3320.57	3320.57	3320.57
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT Rate for respective year (%)	20.961	21.342	21.342	21.342	21.549
Rate of Return on Equity (%)	19.610	19.705	19.705	19.705	19.758
<b>Return on Equity</b>	<b>651.16</b>	<b>654.32</b>	<b>654.32</b>	<b>654.32</b>	<b>656.08</b>

### Depreciation

36. The depreciation has been worked out as per the methodology provided in Regulation 27 of the 2014 Tariff Regulations. The depreciation allowed is as follows:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	16557.13	16557.13	16557.13	16557.13	16557.13
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	16557.13	16557.13	16557.13	16557.13	16557.13
Average Gross Block	16557.13	16557.13	16557.13	16557.13	16557.13



<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Rate of Depreciation (%)	1.7377%	1.7377%	1.7377%	1.7377%	1.7377%
Depreciable Value	14901.42	14901.42	14901.42	14901.42	14901.42
Elapsed life	12	13	14	15	16
Weighted Balance useful life	22	21	20	19	18
Remaining Depreciable Value	6329.79	6042.07	5754.35	5466.64	5178.92
<b>Depreciation</b>	<b>287.72</b>	<b>287.72</b>	<b>287.72</b>	<b>287.72</b>	<b>287.72</b>

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

37. As stated above, the instant transmission system consists of the 400 kV Biharsharif-Sasaram-Sarnath Transmission Line along with associated bays under Eastern Northern Inter-regional HVDC Transmission System in Eastern Region. Regulation 29(3) of the 2014 Tariff Regulations specifies the norms for O&M Expenses for the transmission system.

38. The Petitioner has claimed the O&M Expenses for the instant transmission system for the 2014-19 period as per the norms specified in the 2014 Tariff Regulations. The Petitioner's claim is as per the norms specified in the 2014 Tariff Regulations. Hence, it is allowed and the details are as follows:-

<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Claimed by the Petitioner	312.20	322.70	333.35	344.40	355.85
Allowed after true-up in this order	312.20	322.70	333.35	344.40	355.85

(₹ in lakh)

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

39. The Petitioner is entitled for IWC as per Regulation 28 of the 2014 Tariff Regulations. The components of the working capital and the petitioner's entitlement to interest thereon are discussed hereunder:-

#### **(i) Receivables**



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

**(ii) Maintenance spares**

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

**(iii) O & M expenses**

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

**(iv) Rate of IWC**

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

40. The IWC allowed as per the methodology provided in Regulation 28 of the 2014 Tariff Regulations is as under:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	46.83	48.41	50.00	51.66	53.38
O&M Expenses	26.02	26.89	27.78	28.70	29.65
Receivables	232.37	233.08	237.62	241.45	247.85
Total Working Capital	305.22	308.38	315.40	321.81	330.88
<b>Interest of working capital</b>	<b>41.20</b>	<b>41.63</b>	<b>42.58</b>	<b>43.44</b>	<b>44.67</b>

**APPROVED ANNUAL FIXED CHARGES FOR 2014-19 TARIFF PERIOD**

41. The trued up annual fixed charges for the instant transmission assets for the tariff period 2014-19 are as under:-



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	287.72	287.72	287.72	287.72	287.72
Interest on Loan	101.93	92.12	107.74	118.83	142.87
Return on Equity	651.16	654.32	654.32	654.32	656.08
Interest on Working Capital	41.20	41.63	42.58	43.44	44.67
O & M Expenses	312.20	322.70	333.35	344.40	355.85
<b>Total</b>	<b>1394.22</b>	<b>1398.49</b>	<b>1425.70</b>	<b>1448.71</b>	<b>1487.08</b>

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

42. The Petitioner has claimed the following tariff charges for the instant assets for the 2019-24 tariff period:-

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	287.72	287.72	287.72	287.72	287.72
Interest on Loan	143.66	129.56	114.39	97.10	84.51
Return on Equity	656.08	656.08	656.08	656.08	656.08
Interest on Working Capital	29.60	29.92	30.17	30.40	30.66
O&M Expenses	304.06	314.72	325.73	337.10	348.81
<b>Total</b>	<b>1421.12</b>	<b>1418.00</b>	<b>1414.09</b>	<b>1408.40</b>	<b>1407.78</b>

43. The details of the IWC claimed by the Petitioner are as under:

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O & M Expenses	25.34	26.23	27.14	28.09	29.07
Maintenance Spares	45.61	47.21	48.86	50.57	52.32
Receivables	174.73	174.83	174.34	173.64	173.09
Total	245.68	248.27	250.34	252.30	254.48
Rate of Interest (%)	12.05%	12.05%	12.05%	12.05%	12.05%
Interest on Working Capital	29.60	29.92	30.16	30.40	30.66

44. The tariff for 2019-24 period is allowed as discussed in the subsequent paragraphs.

### **Capital Cost**

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

*“19. Capital Cost (1) The Capital cost of the generating station or the transmission system, as the case may be, as determined by the Commission after prudence check*





*in accordance with these regulations shall form the basis for determination of tariff for existing and new projects.*

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

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

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

- (a) Capital cost admitted by the Commission prior to 1.4.2019 duly 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 assets forming part of the project, but not in use, as declared in the tariff petition;*
- (b) De-capitalised Assets after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:*

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

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

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

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

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

46. The capital cost of ₹16557.13 lakh has been considered by the Commission for the instant transmission asset as on 31.3.2019. The Petitioner has not claimed any additional capital expenditure during 2019-24 period. Therefore, the capital cost of ₹16557.13 lakh as on 31.3.2019 has been considered for the purpose of determination of transmission tariff for 2019-24 period in accordance with Regulation 19 of the 2019 Tariff Regulations.



## **Debt-Equity ratio**

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

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

*Provided that:*

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

*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.”*



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

Particulars	Capital cost as on 1.4.2019 (₹ in lakh)	%	Capital cost as on 31.3.2024 (₹ in lakh)	%
Debt	13236.56	79.94	13236.56	79.94
Equity	3320.57	20.06	3320.57	20.06
Total	16557.13	100.00	16557.13	100.00

### **Return on Equity (ROE)**

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

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

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

*Provided that return on equity in respect of additional capitalization after cut-off date beyond the original scope excluding additional capitalization due to Change in Law, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system;*

*Provided further that:*

*i. In case of a new project, the rate of return on equity shall be reduced by 1.00% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO) or Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system based on the report submitted by the respective 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 NationalLoad Dispatch Centre by 30.6.2019.”*

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

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

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

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

*(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.”*

50. The Petitioner has submitted that MAT rate is applicable to the Petitioner's company. Accordingly, the MAT rate applicable in 2019-20 has been considered for the purpose of ROE, which shall be trued up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. The ROE has been allowed as follows:-





(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	3320.57	3320.57	3320.57	3320.57	3320.57
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	3320.57	3320.57	3320.57	3320.57	3320.57
Average Equity	3320.57	3320.57	3320.57	3320.57	3320.57
Return on Equity (Base Rate) (%)	15.50%	15.50%	15.50%	15.50%	15.50%
MAT Rate for respective year (%)	17.472%	17.472%	17.472%	17.472%	17.472%
Rate of Return on Equity (%)	18.780%	18.780%	18.780%	18.780%	18.780%
<b>Return on Equity</b>	<b>623.60</b>	<b>623.60</b>	<b>623.60</b>	<b>623.60</b>	<b>623.60</b>

**Interest on Loan (IoL)**

51. The details of IOL allowed are as under:-

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	13236.56	13236.56	13236.56	13236.56	13236.56
Cumulative Repayment up to previous Year	10010.22	10297.93	10585.65	10873.37	11161.09
Net Loan-Opening	3226.34	2938.63	2650.91	2363.19	2075.47
Addition due to Additional Capitalization	0.00	0.00	0.00	0.00	0.00
Repayment during the year	287.72	287.72	287.72	287.72	287.72
Net Loan-Closing	2938.63	2650.91	2363.19	2075.47	1787.76
Average Loan	3082.48	2794.77	2507.05	2219.33	1931.61
Weighted Average Rate of Interest on Loan	5.4930%	5.1558%	4.5528%	4.3757%	4.3757%
<b>Interest on Loan</b>	<b>169.32</b>	<b>144.09</b>	<b>114.14</b>	<b>97.11</b>	<b>84.52</b>

**Depreciation**

52. Regulation 33 of the 2019 Tariff Regulations provides as under:-

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

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



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

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

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

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

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

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

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

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

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

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

(7) *The generating company or the transmission licensee, as the case may be, shall submit the details of proposed capital expenditure five years before the completion of useful life of the project along with justification and proposed life*





extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure.

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

53. The depreciation has been worked out considering the admitted capital cost of ₹16557.13 lakh as on 31.3.2019 and accumulated depreciation up to 31.3.2019. The detailed calculations for depreciation for the transmission asset are worked out and allowed as follows:-

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	16557.13	16557.13	16557.13	16557.13	16557.13
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	16557.13	16557.13	16557.13	16557.13	16557.13
Average Gross Block	16557.13	16557.13	16557.13	16557.13	16557.13
Rate of Depreciation (%)	1.7377%	1.7377%	1.7377%	1.7377%	1.7377%
Depreciable Value	14901.42	14901.42	14901.42	14901.42	14901.42
Elapsed life	17	18	19	20	21
Weighted Balance useful life	17	16	15	14	13
Remaining Depreciable Value	4891.20	4603.48	4315.77	4028.05	3740.33
Depreciation	287.72	287.72	287.72	287.72	287.72

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

54. Regulation 35(3)(a) of the 2019 Tariff Regulations specifies the norms for the O&M Expenses for the transmission system as follows:-

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

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Norms for sub-station Bays (₹ Lakh per bay)</b>					
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
<b>Norms for Transformers (₹ Lakh per MVA)</b>					



<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
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
<b>Norms for AC and HVDC lines (₹ Lakh per km)</b>					
Single Circuit (Bundled Conductor with six or	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four	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	0.252	0.260	0.270	0.279	0.289
Double Circuit (Bundled conductor with four or more sub-	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
<b>Norms for HVDC</b>					
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (Rs Lakh) (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 years.

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

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

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

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

55. The O&M Expenses claimed by the Petitioner are as per the norms specified in the 2019 Tariff Regulations and hence, they are allowed as claimed as under:



(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Claimed by the Petitioner	304.06	314.72	325.73	337.10	348.81
Allowed after true-up in this order	304.06	314.72	325.73	337.10	348.81

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

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

*“34. Interest on Working Capital*

*(1)...*

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

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

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

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

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

*“3.Definitions...*

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

57. The Petitioner has submitted that it has computed IWC for 2019-24 period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of IWC as 12.05%. The IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The rate of IWC considered is



12.05% (SBI 1 year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points).

The components of the working capital and interest allowed thereon are as follows:-

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	25.34	26.23	27.14	28.09	29.07
Maintenance Spares	45.61	47.21	48.86	50.57	52.32
Receivables	176.82	175.01	172.64	171.97	171.90
Total Working Capital	244.77	248.44	248.65	250.62	253.29
<b>Interest on Working Capital</b>	<b>29.86</b>	<b>29.94</b>	<b>29.96</b>	<b>30.20</b>	<b>30.52</b>
Rate of Interest (%)	12.05%	12.05%	12.05%	12.05%	12.05%

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

58. The transmission charges allowed for the instant transmission assets for the 2019-24 period are summarised below:-

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	287.72	287.72	287.72	287.72	287.72
Interest on Loan	169.32	144.09	114.14	97.11	84.52
Return on Equity	623.60	623.60	623.60	623.60	623.60
Interest on Working Capital	<b>29.86</b>	<b>29.94</b>	<b>29.96</b>	<b>30.20</b>	<b>30.52</b>
O & M Expenses	304.06	314.72	325.73	337.10	348.81
<b>Total</b>	<b>1414.56</b>	<b>1400.07</b>	<b>1381.15</b>	<b>1375.73</b>	<b>1375.17</b>

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

59. 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**

60. The Petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 70(4) of the 2019 Tariff Regulations for 2019-24 period. The Petitioner



shall also be entitled for recovery of RLDC fee and charges in accordance with Regulations 70(3) of the 2019 Tariff Regulations for 2019-24 period.

### **Security Expenses**

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

62. We have considered the submissions of the Petitioner. Any application filed by the petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2019 Tariff Regulations.

### **Goods and Services Tax**

63. The Petitioner has submitted that, if GST is levied at any rate and at any point of time in future on Charges of Transmission of Electricity, the same shall be borne and additionally paid by the Respondents to the Petitioner and the same shall be charged and billed separately by the Petitioner. Further additional taxes, if any, are to



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

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

**Capital Spares**

65. 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**

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

67. This order disposes of Petition No. 300/TT/2019.

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

sd/-  
**(P. K. Pujari)**  
**Chairperson**

