

**CENTRAL ELECTRICITY REGULATORY COMMISSION**

**NEW DELHI**

**Petition No. 256/TT/2019**

**Coram:**

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

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

**Shri Arun Goyal, Member**

**Shri Pravas Kumar Singh, Member**

**Shri Prakash S. Mhaske, Member (Ex-officio)**

**Date of order: 28.04.2021**

**In the matter of:**

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations 1999, revision of transmission tariff of the 2001-04, 2004-09 and 2009-14 tariff periods and truing up of transmission tariff of the 2014-19 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of the 2019-24 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for 400 kV Jamshedpur-Rourkela S/C (Ckt-II) Transmission Line in the Eastern Region.

**And in the matter of:**

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

**.....Petitioner**

**Versus**

1. Bihar State Power (Holding) Company Ltd.  
(Formerly Bihar State Electricity Board - BSEB)  
Vidyut Bhavan, Bailey Road, Patna - 800 001
2. West Bengal State Electricity Distribution Company Ltd.  
Bidyut Bhawan, Bidhan Nagar  
Block DJ, Sector-II, Salt Lake City  
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

5. Damodar Valley Corporation  
DVC Tower, Maniktala  
Civic Centre, VIP Road, Calcutta - 700 054
6. Power Department  
Govt. of Sikkim, Gangtok - 737 101

...Respondents

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

**For Respondents** : Shri Arijit Maitra, Advocate, GRIDCO

### **ORDER**

The present petition has been filed by the Petitioner, Power Grid Corporation of India Limited, a deemed transmission licensee, for revision of tariff for the 2001-04, 2004-09 and 2009-14 tariff periods and truing up of transmission tariff for the 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) and for determination of tariff for the 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 the following asset (hereinafter referred to as “the transmission asset”) in the Eastern Region:

400 kV Jamshedpur-Rourkela S/C (Ckt-II) transmission line

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

*“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 beneficiaries in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.*
- 6) *Allow the petitioner to bill and adjust impact on 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 beneficiaries.*
- 7) *Allow the petitioner to file a separate petition before Hon'ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned at para 10.5 above.*
- 8) *Allow the petitioner to claim the capital spares at the end of tariff block as per actual.*
- 9) *Allow the Petitioner to bill and recover GST on Transmission Charges separately from the beneficiaries, if GST on transmission is levied at any rate in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.*

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

### **Background**

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

- a) The Investment Approval (IA) for the transmission asset was accorded by the Board of Directors of Petitioner company vide Memorandum dated 11.10.2000 at an estimated cost of ₹7540 lakh, including an IDC of ₹861 lakh based on 1<sup>st</sup> quarter 1999 price level.



b) The transmission tariff from COD to 31.3.2004 was determined vide order dated 4.4.2005 in Petition No. 113/2002 based on the capital cost of ₹4365.35 lakh as on Date of Commercial Operation (COD). Subsequently, vide order dated 4.5.2006 in Petition No. 67/2005, ACE of ₹573.27 lakh incurred during 2002-03 and ₹176.40 lakh during 2003-04 (total ₹749.67 lakh) on account of left over/ balance payments for the transmission line/ Sub-stations was approved by the Commission.

c) The tariff for the transmission asset from 1.4.2004 to 31.3.2009 was determined vide order dated 4.5.2006 in Petition No. 67/2005 and was further revised vide order dated 22.7.2009 in Petition No. 61/2009 due to revision in ACE during 2004-08 period and vide order dated 26.4.2010 in Petition No. 319/2009 due to revision in ACE during 2008-09.

d) The tariff for the transmission asset for the 2009-14 period was allowed vide order dated 14.1.2011 in Petition No. 235/2010 in accordance with the CERC (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as the “2009 Tariff Regulations”). The tariff for the 2009-14 period was trued up and tariff for the period from 1.4.2014 to 31.3.2019 was determined vide order dated 7.12.2015 in Petition No. 175/TT/2014.

e) The date of commercial operation (COD) of the transmission asset along with time over-run are as under:

Asset	COD
400 kV Jamshedpur-Rourkela S/C (Ckt-II) transmission line	1.1.2003

f) The transmission tariff allowed for the 2014-19 tariff period in the order dated 7.12.2005 in Petition No. 175/TT/2014 and the transmission tariff based on truing up claimed by the Petitioner in the instant petition is as under:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Fixed Charges approved vide order dated 7.12.2015 in Petition No. 175/TT/2014	880.03	646.58	641.08	639.70	641.96
AFC claimed by the Petitioner based on truing	880.20	647.69	642.09	640.71	643.53



up in the instant Petition					
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g) The Petitioner has sought revision of transmission tariff approved for the 2001-04 (w.e.f. 1.1.2003) 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 judgment of the Appellate Tribunal for Electricity (APTEL) dated 22.1.2007 and 13.6.2007 in Appeal No. 81/2005 and 139/2006 respectively. The Petitioner has sought consequential revision of tariff allowed for the 2009-14 tariff period and truing up of tariff for the 2014-19 tariff period and determination of tariff for the 2019-24 tariff period for the transmission asset.

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

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

i) The Commission and certain interested parties preferred Civil Appeals against the APTEL's judgments before the Hon'ble Supreme Court of India in 2007. The Appeals were admitted and initially a stay was granted by the Hon'ble Supreme Court. Subsequently, on an assurance by NTPC that the issues under Appeal would not be pressed for implementation during the pendency of the Appeals, the stay was vacated by the Hon'ble Supreme Court.

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



k) The Hon'ble Supreme Court vide its judgment and final order dated 10.4.2018, dismissed the Civil Appeals filed by the Commission and others against the APTEL's judgments dated 22.1.2007 and 13.6.2007 in Appeal No. 81/2005 and 139/2006 respectively.

l) Consequent to the Hon'ble Supreme Court's judgment dated 10.4.2018, Petition No. 121/2007 was listed for hearing before the Commission on 8.1.2019. The Commission, vide order dated 18.1.2019 in Petition No. 121/2007, directed the Petitioner to submit its claim separately for the assets at the time of filing of truing up petition for the period 2014-19 in respect of the concerned transmission assets. Accordingly, the Petitioner has filed its claim for revision of tariff for 2001-04, 2004-09 and 2009-14 periods in the instant Petition.

m) The transmission asset was put under commercial operation during the 2001-04 period on 1.1.2003. The tariff for Asset during the 2001-04, 2004-09 and 2009-14 periods was worked out based on the admitted capital cost of the asset as on COD and Additional Capital Expenditure (ACE) admitted during the 2004-09 period. Accordingly, considering the admitted capital cost as on COD and ACE admitted during the 2001-04 and 2004-09 periods, tariff is being revised for the 2001-04, 2004-09 and 2009-14 tariff periods in terms of APTEL's judgement dated 22.1.2007 and 13.6.2007. The details of admitted Capital Cost as on COD and ACE admitted during the 2001-04 and 2004-09 periods for Asset is as under:

(₹ in lakh)

Asset	Admitted Capital Cost as on COD	ACE						
		2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
400 kV Jamshedpur-Rourkela S/C (Ckt-II) transmission line	4365.35	573.27	176.40	19.30	4.20	0.00	250.84	106.02

4. The Respondents are distribution licensees, transmission utilities and power departments, who are procuring transmission services from the Petitioner, mainly beneficiaries of the 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 suggestions have been received from the general public in response to the aforesaid notices published in the newspapers. GRIDCO i.e. Respondent No. 3 made appearance on the last date of hearing i.e. 10.3.2021 and sought time to file reply. In spite of the fact that notice was served upon GRIDCO and a general notice also posted on the Commission's website on 14.1.2020, the Commission allowed two weeks' time to GRIDCO to file its reply. However, no reply has been filed by GRIDCO.

6. The hearing in this matter was held on 10.3.2021 through video conference and the order was reserved.

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

8. This order is issued considering the submissions made in the Petitioner's affidavits dated 5.8.2019 and 31.7.2020.

**REVISION OF TRANSMISSION CHARGES FOR THE 2001-04, 2004-09 AND 2009-14 TARIFF PERIODS**

9. The Petitioner has sought revision of the computation of IoL, Maintenance spares for working capital and depreciation allowed for the 2001-04 and 2004-09 tariff periods based on the judgements of the Appellate Tribunal for Electricity (APTEL) dated 22.1.2007 in Appeal No. 81/2005 and dated 13.6.2007 in Appeal No.139/2006. APTEL while dealing with the issue of computation of IoL, vide its judgement dated 22.1.2007, observed that the period 1.4.1998 to 31.3.2001 shall be computed only on



normative loan repayment as per its judgement dated 14.11.2006 in Appeal Nos. 94 and 96 of 2005. APTEL vide its judgement dated 14.11.2006 had set aside the Commission's methodology of computation of loan on the basis of actual repayment or normative repayment whichever is higher and held that the Commission is required to adopt normative debt repayment methodology for working out the IoL liability for the period 1.4.1998 to 31.3.2001. In view of the above, the interest allowed for the 2001-04, 2004-09 period is being revised on the basis of the normative debt repayment methodology. Relevant portion of the judgement dated 14.11.2006 is as follows:

- “12. We have heard the arguments of the Senior Counsel(s) of appellant and respondents. We notice that the appellant has not challenged the formula for computing the annual repayment amount as provided in Appeal No. 96 of 2005 & IA No.117 of 2006 in Appeal No. 94 of 2005 para-22 of the impugned order and has only challenged the provisions at para 23 specifying that the amount of annual repayment for calculation of interest on loan is chosen higher of the normative debt and actual debt.*
- 13. As mentioned earlier the servicing of the capital (equity or debt) is financed by the recovery of interest on debt capital and through earning of return on equity capital. The actual loan repayment has been normalized to 50% of the total capital by the formula in para 22 of the impugned order given in para 11 above. Once it has been decided and agreed that the financing plan would be based on normative debt–equity ratio of 50:50 and not the actual debt-equity ratio, the same normative basis should be adopted for recovery of cost of servicing the capital.*
- 14. In the instant case since the normative debt-equity ratio of 50:50 has been adopted in the financing plan, the loan repayment should be computed based on normative debt. This is to ensure that whatever normative debt has been considered, tariff should ensure the recovery of the same normative debt and interest thereon.*
- 18. In its Tariff Regulation of 2004 the Central Commission perhaps recognizing the aforesaid anomaly has dispensed with the practice of adopting higher of actual or normative repayment and has corrected the method of determination of quantum of debt repayment only on the basis of the normative debt with effect from 01.04.2004*
- 19. In view of the above, the Central Commission is required to adopt normative debt repayment methodology for working out the interest on loan liability for the period 01.04.1998 to 31.03.2001.”*

10. The APTEL vide its judgement dated 13.6.2007 in Appeal No.139 of 2006 and Ors. 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. With regard to 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 of APTEL, the outstanding loan allowed for the transmission asset for the 2001-04 and 2004-09 periods is revised in this order.

14. The revision of tariff allowed for the 2001-04 and 2004-09 tariff period necessitates the revision of tariff allowed for the 2009-14 period, which is also being done vide the instant order. The implementation of the directions of the APTEL in case of the Petitioner was kept pending subject to the outcome of Civil Appeals filed before the Hon’ble Supreme Court. Hence, taking into consideration the facts of the case and



keeping in view the interest of the consumers, we are of the view that the beneficiaries should not be burdened with the carrying cost for the difference in the tariff allowed earlier and allowed in the instant order for the 2001-04, 2004-09 and 2009-14 tariff periods. Therefore, the Petitioner will neither claim nor pay any carrying cost from the beneficiaries for the difference, if any, in the tariff allowed earlier and that allowed vide the instant order. Further, the said difference in tariff shall be recovered/ paid over a period of six months from the date of issue of this order.

**2001-04 Period**

15. The transmission tariff for the transmission asset from COD to 31.3.2004 was determined vide order dated 4.4.2005 in Petition No. 113/2002 based on the capital cost of ₹4365.35 lakh as on the date of commercial operation (COD). Subsequently, vide order dated 4.5.2006 in Petition No. 67/2005 an ACE of ₹573.27 lakh incurred during 2002-03 and ₹176.40 lakh incurred during 2003-04 (total ₹749.67 lakh) on account of left over/ balance payments for the transmission line/Sub-station was approved by the Commission. The transmission charges were approved from COD to 31.3.2004 for the transmission asset are as under:

Particulars	(₹ in lakh)	
	2002-03	2003-04
Depreciation	30.68	122.71
Return on Equity	6.73	26.94
O&M Expenses	37.57	159.29
Advance against Depreciation	0.00	0.00
Interest on Loan	100.95	407.27
Interest on Working Capital	4.27	17.43
<b>Total</b>	<b>180.20</b>	<b>733.65</b>

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



(₹ in lakh)		
Particulars	2002-03	2003-04
Depreciation	30.68	122.71
Return on Equity	6.73	118.66
O&M Expenses	37.57	159.29
Advance against Depreciation	0.00	0.00
Interest on Loan	100.95	407.27
Interest on Working Capital	4.35	13.20
<b>Total</b>	<b>180.28</b>	<b>821.12</b>

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

- a) Admitted capital cost of ₹4365.35lakh as on COD of the Asset;
- b) Weighted Average Rate of Interest on actual loan, Weighted Average Rate of Depreciation, Rate of Interest for Working Capital and O&M Expenses as per order dated 4.4.2005 in Petition No.113/2002.

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

(₹ in lakh)		
Particulars	2002-03 (Pro-rata for 3 months)	2003-04
Depreciation	30.68	122.71#
Return on Equity	6.73	26.94*
O&M Expenses	37.57	159.29
Advance against Depreciation	0.00	0.00
Interest on Loan	100.95	407.27
Interest on Working Capital	4.35	18.20
<b>Total</b>	<b>180.28</b>	<b>734.40</b>

# As allowed vide order dated 4.4.2005 in Petition No.113/2002.

\*In addition to above, Return on Equity of ₹91.72 lakh has been allowed in 2003-04 as per order dated 4.5.2006 in Petition No.67/2005 on account of additional equity of ₹749.67 lakh ( ACE of ₹573.27 lakh during 2002-03 and ₹176.40 lakh during 2003-04).



## **2004-09 Period**

19. The Commission vide order dated 22.7.2009 and 26.4.2010 in Petition Nos. 61/2009 and 319/2009 had approved the following transmission charges for the transmission asset for the 2004-09 period:

<b>Particulars</b>	<b>(₹ in lakh)</b>				
	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Depreciation	143.93	144.24	144.30	147.94	153.02
Return on Equity	128.93	129.42	129.51	134.78	142.27
O&M Expenses	113.87	118.43	123.24	128.04	133.28
Advance against Depreciation	0.00	60.92	211.67	208.03	223.80
Interest on Loan	395.45	372.28	340.95	314.67	290.94
Interest on Working Capital	19.48	20.56	23.08	23.17	23.74
<b>Total</b>	<b>801.66</b>	<b>845.86</b>	<b>972.75</b>	<b>956.63</b>	<b>967.05</b>

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

<b>Particulars</b>	<b>(₹ in lakh)</b>				
	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Depreciation	143.93	144.24	144.30	147.94	153.02
Return on Equity	128.93	129.42	129.51	134.78	142.27
O&M Expenses	113.87	118.43	123.24	128.04	133.28
Advance against Depreciation	0.00	60.92	211.67	208.03	223.79
Interest on Loan	395.62	372.27	340.93	314.73	290.84
Interest on Working Capital	20.58	21.74	24.32	24.62	25.47
<b>Total</b>	<b>802.93</b>	<b>847.01</b>	<b>973.97</b>	<b>958.14</b>	<b>968.67</b>

21. We have considered the submissions of the Petitioner. The tariff is allowed for the transmission asset based on the following:

- a) Admitted capital as on COD cost for the transmission asset as stated above;
- b) Weighted Average Rate of Interest on actual loan adopted from orders dated 22.7.2009 and 26.4.2010 in Petition Nos. 61/2009 and 319/2009;
- c) Weighted Average Rate of Depreciation, Rate of Interest for Working Capital and O&M Expenses as per orders dated 22.7.2009 and 26.4.2010 in Petition Nos. 61/2009 and 319/2009; and



d) Maintenance spares component for calculating IWC is adjusted w.r.t. ACE as approved for Asset-1 during 2004-09 period in orders dated 22.7.2009 and 26.4.2010 in Petition Nos. 61/2009 and 319/2009 respectively and as summarised in Para 3(n) above.

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

Particulars	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	143.93	144.24	144.30	147.94	153.02
Return on Equity	128.93	129.42	129.51	134.78	142.27
O&M Expenses	113.87	118.43	123.24	128.04	133.28
Advance against Depreciation	0.00	60.92	211.67	208.03	223.79
Interest on Loan	395.45	372.28	340.95	314.97	290.94
Interest on Working Capital	20.36	21.51	24.08	24.37	25.19
<b>Total</b>	<b>802.53</b>	<b>846.80</b>	<b>973.74</b>	<b>958.12</b>	<b>968.49</b>

### 2009-14 Period

23. The Commission vide order dated 14.1.2011 in Petition No. 235/2010 had approved the tariff for Asset for the 2009-14 period and in order dated 7.12.2015 in Petition No.175/TT/2014 had trued-up the transmission tariff allowed for the 2009-14 period that was earlier allowed vide order dated 14.1.2011 and the same is as follows:

Particulars	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	290.95	290.95	290.95	290.95	290.95
Interest on Loan	265.27	239.72	219.27	188.36	156.97
Return on Equity	192.74	199.80	200.00	200.00	202.40
Interest on Working Capital	25.80	26.00	26.19	26.20	26.28
O&M Expenses	203.74	215.34	227.71	240.75	254.49
<b>Total</b>	<b>978.50</b>	<b>971.81</b>	<b>964.12</b>	<b>946.26</b>	<b>931.09</b>

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



(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	290.95	290.95	290.95	290.95	290.95
Interest on Loan	265.27	239.72	219.27	188.37	156.97
Return on Equity	192.74	199.80	200.00	200.00	202.40
Interest on Working Capital	25.80	26.00	26.19	26.20	26.28
O&M Expenses	203.74	215.34	227.71	240.75	254.49
<b>Total</b>	<b>978.50</b>	<b>971.81</b>	<b>964.13</b>	<b>946.27</b>	<b>931.09</b>

25. We have considered the Petitioner's claim. The tariff is allowed for Asset based on the following:

- Admitted capital cost of ₹5495.38 lakh as on 1.4.2009 for the transmission asset and no ACE during 2009-14 period;
- Weighted Average Rate of Interest on actual loan derived/adopted from order dated 7.12.2015 in Petition No.175/TT/2014; and
- Weighted Average Rate of Depreciation as per order dated 7.12.2015 in Petition No.175/TT/2014.

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

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	290.95	290.95	290.95	290.95	290.95
Interest on Loan	265.27	239.72	219.27	188.36	156.97
Return on Equity	192.74	199.80	200.00	200.00	202.40
Interest on Working Capital	25.80	26.00	26.19	26.20	26.28
O&M Expenses	203.74	215.34	227.71	240.75	254.49
<b>Total</b>	<b>978.50</b>	<b>971.81</b>	<b>964.12</b>	<b>946.26</b>	<b>931.10</b>

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

27. The Commission vide order dated 7.12.2015 in Petition No.175/TT/2014 had approved the tariff for the transmission asset for the 2014-19 period as under:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	290.95	76.61	76.61	76.61	76.61
Interest on Loan	126.10	104.17	90.52	80.67	74.06
Return on Equity	202.40	202.40	202.40	202.40	202.40



Interest on Working Capital	27.15	22.15	22.28	22.50	22.82
O&M Expenses	233.42	241.24	249.27	257.51	266.06
<b>Total</b>	<b>880.02</b>	<b>646.57</b>	<b>641.08</b>	<b>639.69</b>	<b>641.95</b>

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

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

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	290.96	76.62	76.62	76.62	76.62
Interest on Loan	126.10	104.18	90.52	80.67	74.06
Return on Equity	202.56	203.48	203.38	203.38	203.93
Interest on Working Capital	27.16	22.17	22.30	22.53	22.86
O&M Expenses	233.42	241.24	249.27	257.51	266.06
<b>Total</b>	<b>880.20</b>	<b>647.69</b>	<b>642.09</b>	<b>640.71</b>	<b>643.53</b>

30. The details of the trued-up Interest on Working Capital (IWC) claimed by the Petitioner are as under:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O & M Expenses	19.45	20.10	20.77	21.46	22.17
Maintenance Spares	35.01	36.19	37.39	38.63	39.91
Receivables	146.70	107.95	107.02	106.79	107.26
<b>Total</b>	<b>201.16</b>	<b>164.24</b>	<b>165.18</b>	<b>166.88</b>	<b>169.34</b>
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>27.16</b>	<b>22.17</b>	<b>22.30</b>	<b>22.53</b>	<b>22.86</b>

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

31. The capital cost of the transmission asset has been calculated in accordance with Regulations 9(3) and 9(6) of the 2014 Tariff Regulations. The Commission vide order dated 7.12.2015 in Petition No.175/TT/2014 had approved the transmission tariff for the transmission asset for the 2014-19 period based on admitted capital cost of





₹5495.38 lakh as on 1.4.2014. The Petitioner has not claimed any Additional Capital Expenditure during the 2014-19 tariff period. Accordingly, the capital cost of ₹5495.38 lakh has been considered for the purpose of truing up of the tariff for the 2014-19 tariff period.

### **Debt-Equity Ratio**

32. The debt-equity ratio has been allowed in accordance with Regulation 19(3) of the 2014 Tariff Regulations. As per Regulation 19(3) of the 2014 Tariff Regulations, the debt-equity ratio allowed by the Commission for determination of tariff for the period ending on 31.3.2014 shall be considered. Accordingly, the debt-equity ratio of 81.22:18.78 for the period ending on 31.3.2014, has been considered for the purpose of truing up of the tariff of the transmission asset for the 2014-19 period. The details of the debt-equity ratio as on 1.4.2014 and 31.3.2019 of the transmission asset are as follows:

<b>Particulars</b>	<b>Capital cost as on 1.4.2014 (₹ in lakh)</b>	<b>(%)</b>	<b>Total cost as on 31.3.2019 (₹ in lakh)</b>	<b>(%)</b>
Debt	4463.25	81.22	4463.25	81.22
Equity	1032.13	18.78	1032.13	18.78
<b>Total</b>	<b>5495.38</b>	<b>100.00</b>	<b>5495.38</b>	<b>100.00</b>

### **Depreciation**

33. The depreciation has been allowed as per the methodology provided in Regulation 27 of the 2014 Tariff Regulations. Depreciation has been allowed considering capital expenditure as on 1.4.2014 and approved ACE during the 2014-19 tariff period. The Gross Block during the 2014-19 tariff period with regard to the Combined Asset has been depreciated at Weighted Average Rate of Depreciation (WAROD) and working of WAROD is attached as Annexure-1. WAROD has been worked out after taking into account the depreciation rates of assets as prescribed in



the 2014 Tariff Regulations and depreciation allowed during the 2014-19 period for the transmission asset is as under:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	5495.38	5495.38	5495.38	5495.38	5495.38
ACE	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	5495.38	5495.38	5495.38	5495.38	5495.38
Average Gross Block	5495.38	5495.38	5495.38	5495.38	5495.38
Weighted average rate of Depreciation (WAROD) (%)	5.29	Spread	Spread	Spread	Spread
Balance useful life of the asset at the beginning of the year	22.00	21.00	20.00	19.00	18.00
Aggregated Depreciable Value	4945.84	4945.84	4945.84	4945.84	4945.84
<b>Depreciation during the year</b>	<b>290.95</b>	<b>76.61</b>	<b>76.61</b>	<b>76.61</b>	<b>76.61</b>
Cumulative depreciation at the end of the year	3336.94	3413.56	3490.17	3566.78	3643.40
Remaining Depreciable value at the end of the year	1608.90	1532.29	1455.67	1379.06	1302.44

34. Accordingly, the depreciation approved earlier vide order dated 7.12.2015 in Petition No.175/TT/2014, claimed in the instant petition for the 2014-19 period and allowed after true up of the 2014-19 period with respect to the transmission asset is as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Approved earlier vide order dated 7.12.2015 in Petition No. 175/TT/2014	290.95	76.61	76.61	76.61	76.61
As claimed by the Petitioner in the instant Petition	290.96	76.62	76.62	76.62	76.62
Allowed after truing-up	290.95	76.61	76.61	76.61	76.61

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

35. IoL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. The Petitioner has claimed IoL based on actual interest rates for each year during the 2014-19 period. The Petitioner has considered the weighted average



rate of IoL on the basis of prevailing rates as on 1.4.2014 for respective loans and has prayed to consider the floating rate of interest applicable during the 2014-19 period, if any, during the truing-up of tariff.

36. We have considered the submissions of the Petitioner and accordingly IoL has been considered based on the actual interest rate, in accordance with Regulation 26 of the 2014 Tariff Regulations.

37. The details of the trued-up IoL allowed for the transmission asset are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	4463.25	4463.25	4463.25	4463.25	4463.25
Cumulative Repayments up to Previous Year	3045.99	3336.94	3413.56	3490.17	3566.78
Net Loan-Opening	1417.26	1126.31	1049.69	973.08	896.47
Additions due to ACE	0.00	0.00	0.00	0.00	0.00
Repayment during the year	290.95	76.61	76.61	76.61	76.61
Net Loan-Closing	1126.31	1049.69	973.08	896.47	819.85
Average Loan	1271.78	1088.00	1011.39	934.77	858.16
Weighted Average Rate of Interest on Loan (%)	9.92	9.57	8.95	8.63	8.63
<b>Interest on Loan</b>	<b>126.10</b>	<b>104.17</b>	<b>90.52</b>	<b>80.67</b>	<b>74.06</b>

38. Accordingly, IoL approved vide order dated 7.12.2015 in Petition No.175/TT/2014, claimed in the instant petition for the 2014-19 period and allowed after true up for the 2014-19 period with respect to the transmission asset is as under:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 7.12.2015 in Petition No. 175/TT/2014	126.10	104.17	90.52	80.67	74.06
As claimed by the Petitioner	126.10	104.18	90.52	80.67	74.06
Allowed after truing up	126.10	104.17	90.52	80.67	74.06



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

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

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

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

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

*27. Accordingly, following effective tax rates based on notified MAT rates are considered for the purpose of grossing up of rate of return on equity:*



Year	Notified MAT rates (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

41. The same MAT rates as considered in the order dated 27.4.2020 in Petition No. 274/TT/2019 are considered for the purpose of grossing up of the rate of RoE for true up of the tariff of the 2014-19 tariff period in terms of the provisions of the 2014 Tariff Regulations as under:

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

42. Accordingly, RoE allowed for the transmission asset is as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	1032.13	1032.13	1032.13	1032.13	1032.13
Addition due to ACE	0.00	0.00	0.00	0.00	0.00
Closing Equity	1032.13	1032.13	1032.13	1032.13	1032.13
Average Equity	1032.13	1032.13	1032.13	1032.13	1032.13
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
Tax Rate applicable (%)	20.961	21.342	21.342	21.342	21.549
Rate of Return on Equity (Pre-tax)	19.610	19.705	19.705	19.705	19.758
<b>Return on Equity (Pre-tax)</b>	<b>202.40</b>	<b>203.38</b>	<b>203.38</b>	<b>203.38</b>	<b>203.93</b>

43. Accordingly, RoE approved vide order dated 7.12.2015 in Petition No. 175/TT/2014, claimed in the instant petition for the 2014-19 period and allowed after true up of the 2014-19 period with respect to the transmission asset is as follows:



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 7.12.2015 in Petition No. 175/TT/2014	202.40	202.40	202.40	202.40	202.40
As claimed by the Petitioner in the instant Petition	202.56	203.48	203.38	203.38	203.93
Allowed after truing-up	202.40	203.38	203.38	203.38	203.93

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

44. The O&M Expenses claimed by the Petitioner and allowed as per Regulation 29(4)(a) of the 2014 Tariff Regulations for the purpose of computation of tariff are the same and are as under:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>O&amp;M Expenses claimed for:</b>					
<b><u>Transmission Line</u></b>					
• 400 kV Jamshedpur-Rourkela S/C (Ckt-II) transmission line-130 Kms.					
<b><u>400 kV AIS Sub-station Bays</u></b>					
• Jamshedpur Bay - 1 Bay					
• 50 MVAR Switchable Reactor - 1 Bay					
• Rourkela Bay - 1 Bay					
<b>Norm (₹ lakh/bay)</b>					
400 kV Bay (AIS)	60.30	62.30	64.37	66.51	68.71
<b>Number of bays</b>					
400 kV Bay (AIS)	3.00	3.00	3.00	3.00	3.00
<b>O&amp;M for HV and DC Lines (₹ lakh/km)</b>					
Single Circuit (Double Conductor) Transmission Line	0.404	0.418	0.432	0.446	0.461
<b>Line Length in km.</b>					
400 kV Jamshedpur-Rourkela S/C (Ckt-II) transmission line-130 Kms.	130.00	130.00	130.00	130.00	130.00
<b>Total O&amp;M Expense (Claimed)</b>	<b>233.42</b>	<b>241.24</b>	<b>249.27</b>	<b>257.51</b>	<b>266.06</b>
<b>Total O&amp;M Expense (Approved)</b>	<b>233.42</b>	<b>241.24</b>	<b>249.27</b>	<b>257.51</b>	<b>266.06</b>

45. Accordingly, the O&M Expenses approved vide order dated 7.12.2015 in Petition No. 175/TT/2014, claimed in the instant petition for the 2014-19 period and allowed



after true up of the 2014-19 period with respect to the transmission asset are as under:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 7.12.2015 in Petition No. 175/TT/2014	233.42	241.24	249.27	257.51	266.06
As claimed by the Petitioner in the instant Petition	233.42	241.24	249.27	257.51	266.06
Allowed after truing-up	233.42	241.24	249.27	257.51	266.06

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

46. The Petitioner is entitled to claim IWC as per Regulation 28(1)(c) of the 2014 Tariff Regulations as under. The components of the working capital and the Petitioner's entitlement to interest thereon are discussed hereunder:

#### **(i) Maintenance Spares:**

Maintenance spares have been worked out based on 15% of Operation and Maintenance Expenses specified in Regulation 28 of the 2014 Tariff Regulations.

#### **(ii) O & M Expenses:**

O&M Expenses have been considered for one month of the allowed O&M Expenses.

#### **(iii) Receivables:**

The receivables have been worked out on the basis of 2 months of annual transmission charges as worked out above.

#### **(iv) Rate of interest on working capital**

Rate of interest on working capital is considered on normative basis in accordance with Clause (3) of Regulation 28 of the 2014 Tariff Regulations.



47. The trued-up IWC has been worked out for the transmission asset as per the methodology provided in Regulation 28 of the 2014 Tariff Regulations and allowed as under:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses (O&M Expenses for 1 Month)	19.45	20.10	20.77	21.46	22.17
Maintenance Spares (15% of O&M)	35.01	36.19	37.39	38.63	39.91
Receivables (Equivalent to 2 months of annual transmission charges)	146.67	107.93	107.01	106.78	107.25
<b>Total Working Capital</b>	<b>201.14</b>	<b>164.22</b>	<b>165.18</b>	<b>166.87</b>	<b>169.33</b>
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest of working capital</b>	<b>27.15</b>	<b>22.17</b>	<b>22.30</b>	<b>22.53</b>	<b>22.86</b>

48. Accordingly, IWC approved vide order dated 7.12.2015 in Petition No. 175/TT/2014, claimed in the instant petition for the 2014-19 period and allowed after true up of the 2014-19 period with respect to the transmission asset is as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 7.12.2015 in Petition No. 175/TT/2014	27.15	22.15	22.28	22.50	22.82
As claimed by the Petitioner in the instant Petition	27.16	22.17	22.30	22.53	22.86
Allowed after truing-up	27.15	22.17	22.30	22.53	22.86

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

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

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	290.95	76.61	76.61	76.61	76.61
Interest on Loan	126.10	104.17	90.52	80.67	74.06
Return on Equity	202.40	203.38	203.38	203.38	203.93
Int. on Working Capital	27.15	22.17	22.30	22.53	22.86
Op. and Maintenance	233.42	241.24	249.27	257.51	266.06
<b>Total</b>	<b>880.03</b>	<b>647.58</b>	<b>642.08</b>	<b>640.70</b>	<b>643.52</b>





50. The Annual Transmission Charges allowed vide order dated 7.12.2015 in Petition No.175/TT/2014, claimed in the instant petition for the 2014-19 period and allowed after true up of the 2014-19 period with respect to the transmission asset are as under:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 7.12.2015 in Petition No. 175/TT/2014	880.02	646.57	641.08	639.69	641.95
As claimed by the Petitioner in the instant Petition	880.20	647.69	642.09	640.71	643.53
Allowed after truing-up	880.03	647.58	642.08	640.70	643.52

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

51. The transmission tariff claimed by the Petitioner for the transmission asset for the 2019-24 tariff period is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	76.62	76.62	76.62	76.62	76.62
Interest on Loan	67.45	60.83	54.22	47.61	41.00
Return on Equity	203.93	203.93	203.93	203.93	203.93
Int. on Working Capital	12.35	12.52	12.68	12.85	13.00
Op. and Maintenance	163.36	169.09	174.94	181.04	187.39
<b>Total</b>	<b>523.71</b>	<b>522.99</b>	<b>522.39</b>	<b>522.05</b>	<b>521.94</b>

52. The details of the Interest on Working Capital claimed by the Petitioner are as under:

Particular	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
O & M Expenses	13.61	14.09	14.58	15.09	15.62
Maintenance Spares	24.50	25.36	26.24	27.16	28.11
Receivables	64.39	64.48	64.40	64.36	64.17
<b>Total</b>	<b>102.50</b>	<b>103.93</b>	<b>105.22</b>	<b>106.61</b>	<b>107.90</b>
Rate of Interest (%)	12.05	12.05	12.05	12.05	12.05
<b>Interest on Working Capital</b>	<b>12.35</b>	<b>12.52</b>	<b>12.68</b>	<b>12.85</b>	<b>13.00</b>



## **Capital Cost**

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

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

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

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

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

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

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

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

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

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

*(h) Adjustment of revenue earned by the transmission licensee by using the 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.”

54. The capital cost of ₹5495.38 lakh has been considered by the Commission for the transmission asset as on 31.3.2019. The Petitioner has not claimed any Additional



Capital Expenditure during the 2019-24 period. Therefore, the capital cost of ₹5495.38 lakh as on 31.3.2019 has been considered for the purpose of determination of transmission tariff for the 2019-24 period in accordance with Regulation 19 of the 2019 Tariff Regulations.

### **Debt-Equity Ratio**

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

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

*Provided that:*

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

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

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

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

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

*(4) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, but where debt: equity ratio has not been determined by the Commission for*



determination of tariff for the period ending 31.3.2019, the Commission shall approve the debt: equity ratio in accordance with clause (1) of this Regulation.

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

56. 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 the 2019-24 tariff period are as follows:

Particulars	Capital cost as on 1.4.2019 (₹ in lakh)	(%)	Capital cost as on 31.3.2024 (₹ in lakh)	(%)
Debt	4463.25	81.22	4463.25	81.22
Equity	1032.13	18.78	1032.13	18.78
<b>Total</b>	<b>5495.38</b>	<b>100.00</b>	<b>5495.38</b>	<b>100.00</b>

### **Depreciation**

57. 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 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 31<sup>st</sup> 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.*

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

58. The depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. As the transmission asset has completed 12 years of useful life already in 2014-19 tariff period, the depreciation for the 2019-24 tariff period has been allowed by spreading



the remaining depreciable value over its balance useful life. The depreciation allowed for the transmission asset is as follows:

Particular	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	5495.38	5495.38	5495.38	5495.38	5495.38
Addition during the year 2019-24 due to projected Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	5495.38	5495.38	5495.38	5495.38	5495.38
Average Gross Block	5495.38	5495.38	5495.38	5495.38	5495.38
Weighted average rate of Depreciation (WAROD)(%)	Spread	Spread	Spread	Spread	Spread
Balance useful life at the beginning of the year(Year)	17.00	16.00	15.00	14.00	13.00
Aggregated Depreciable Value	4945.84	4945.84	4945.84	4945.84	4945.84
<b>Depreciation during the year</b>	<b>76.61</b>	<b>76.61</b>	<b>76.61</b>	<b>76.61</b>	<b>76.61</b>
Cumulative Depreciation at the end of the year	3720.01	3796.63	3873.24	3949.86	4026.47
Remaining Aggregate Depreciable Value at the end of the year	1225.83	1149.21	1072.60	995.99	919.37

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

59. The weighted average rate of IoL has been considered on the basis of rate of interest as finalized during 2017-18 since actual loan repayment has completed during 2017-18. In view of the above, the IoL has been worked out in accordance with Regulation 32 of the 2019 Tariff Regulations. The IoL allowed is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	4463.25	4463.25	4463.25	4463.25	4463.25
Cumulative Repayments up to Previous Year	3643.40	3720.01	3796.63	3873.24	3949.86
Net Loan-Opening	819.85	743.24	666.62	590.01	513.39
Addition due to Additional Capitalization	0.00	0.00	0.00	0.00	0.00
Repayment during the year	76.61	76.61	76.61	76.61	76.61
Net Loan-Closing	743.24	666.62	590.01	513.39	436.78
Average Loan	781.54	704.93	628.32	551.70	475.09
Weighted Average Rate of Interest on Loan (%)	8.630	8.630	8.630	8.630	8.630
<b>Interest on Loan</b>	<b>67.45</b>	<b>60.84</b>	<b>54.22</b>	<b>47.61</b>	<b>41.00</b>

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

60. Regulations 30 and 31 of the 2019 Tariff Regulations provide as under:



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

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

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

*Provided further that:*

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

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

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

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

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

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

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

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





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

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

*Illustration-*

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

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

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

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

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

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

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

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

61. The Petitioner has submitted that MAT rate is applicable to the Petitioner's company. Accordingly, the MAT rate applicable in 2019-20 has been considered for the purpose of RoE, which shall be trued up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. RoE allowed for the transmission asset under Regulation 30 of the 2019 Tariff Regulations is as under:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	1032.13	1032.13	1032.13	1032.13	1032.13



Addition due to Additional Capitalization	0.00	0.00	0.00	0.00	0.00
Closing Equity	1032.13	1032.13	1032.13	1032.13	1032.13
Average Equity	1032.13	1032.13	1032.13	1032.13	1032.13
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
Tax Rate applicable (%)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (Pre-tax)	18.782	18.782	18.782	18.782	18.782
<b>Return on Equity (Pre-tax)</b>	<b>193.85</b>	<b>193.85</b>	<b>193.85</b>	<b>193.85</b>	<b>193.85</b>

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

62. Regulations 35(3)(a) and 35(4) of the 2019 Tariff Regulations provide as under:

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

<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
<i>Norms for sub-station Bays (₹ Lakh per bay)</i>					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
132 kV and below	16.08	16.64	17.23	17.83	18.46
<i>Norms for Transformers (₹ Lakh per MVA)</i>					
765 kV	0.491	0.508	0.526	0.545	0.564
400 kV	0.358	0.371	0.384	0.398	0.411
220 kV	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.245	0.254	0.263	0.272	0.282
<i>Norms for AC and HVDC lines (₹ Lakh per km)</i>					
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-conductors)	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple Conductor)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single Conductor)	0.252	0.260	0.270	0.279	0.289
Double Circuit (Bundled conductor with four or more sub-conductors)	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
<i>Norms for HVDC stations</i>					
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)	834	864	894	925	958



Gazuwaka HVDC Back-to-Back station (₹ Lakh per 500 MW)	1,666	1,725	1,785	1,848	1,913
500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)	2,468	2,555	2,645	2,738	2,834
±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)	2,563	2,653	2,746	2,842	2,942

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

*Provided further that:*

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

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

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



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

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

63. The Petitioner has claimed O&M Expenses for the following transmission elements during the 2019-24 period:

**I. Transmission Line**

- (1) 400 kV Jamshedpur-Rourkela S/C (Ckt-II) transmission line - 130 Kms.

**II. 132 kV AIS Sub-stations:**

- (1) Jamshedpur Bay - 1 Bay  
 (2) 50 MVAR Switchable Reactor - 1 Bay  
 (3) Rourkela Bay - 1 Bay

**III. Communication System:**

- (1) PLCC

64. The O&M Expenses claimed by the Petitioner for the transmission assets are as follows:

**HV and DC Lines**

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>O&amp;M for HV and DC Lines (as per norms)</b>					
i. 400 kV Jamshedpur-Rourkela S/C (Ckt-II) transmission line - 130 Kms.	65.39	67.73	70.07	72.54	75.14
<b>Total O&amp;M Expenses</b>	<b>65.39</b>	<b>67.73</b>	<b>70.07</b>	<b>72.54</b>	<b>75.14</b>

**Sub-Station Bays**

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>O&amp;M for Sub-station bays (as per norms)</b>					
400 kV AIS	96.45	99.84	103.35	106.98	110.73



<b>Total O&amp;M Expenses</b>	<b>96.45</b>	<b>99.84</b>	<b>103.35</b>	<b>106.98</b>	<b>110.73</b>
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**PLCC**

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>O&amp;M for PLCC (as per norms)</b>					
PLCC	1.52	1.52	1.52	1.52	1.52
<b>Total O&amp;M Expenses</b>	<b>1.52</b>	<b>1.52</b>	<b>1.52</b>	<b>1.52</b>	<b>1.52</b>

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Total O&amp;M Expenses Claimed</b>	<b>163.36</b>	<b>169.09</b>	<b>174.94</b>	<b>181.04</b>	<b>187.39</b>

65. The Petitioner has claimed O&M Expenses separately for PLCC under Regulation 35(4) of the 2019 Tariff Regulations @2% of its original project cost in the instant petition. The Petitioner has made similar claim in other petitions as well. Though PLCC is a communication system, it has been considered as part of the Sub-station in the 2014 Tariff Regulations and the 2019 Tariff Regulations and the norms for Sub-station have been specified accordingly. Accordingly, the Commission vide order dated 24.1.2021 in Petition No.126/TT/2020 has already concluded that no separate O&M Expenses can be allowed for PLCC under Regulation 35(4) of the 2019 Tariff Regulations even though PLCC is a communication system. Therefore, the Petitioner's claim for separate O&M Expenses for PLCC @2% is not allowed. The relevant portions of the order dated 24.1.2021 in Petition No.126/TT/2020 are extracted hereunder.

*“103. Thus, although PLCC equipment is a communication system, it has been considered as a part of sub-station, as it is used both for protection and communication. Therefore, we are of the considered view that rightly, it was not considered for separate O&M Expenses while framing norms of O&M for 2019-24 tariff period. While specifying norms for bays and transformers, O&M Expenses for PLCC have been included within norms for O&M Expenses for sub-station. Norms of O&M Expenses @2% of the capital cost in terms of Regulation 35(4) of the 2019 Tariff Regulations have been specified for communication system such as PMU, RMU, OPGW etc. and not for PLCC equipment.”*



“105. In our view, granting of O&M Expenses for PLCC equipment @2% of its capital cost under Regulation 35(4) of the 2014 Tariff Regulations under the communication system head would tantamount to granting O&M Expenses twice for PLCC equipment as PLCC equipment has already been considered as part of the sub-station. Therefore, the Petitioner’s prayer for grant of O&M Expenses for the PLCC equipment @2% of its capital cost under Regulation 35(4) of the 2014 Tariff Regulations is rejected.

106. The principle adopted in this petition that PLCC is part of sub-station and accordingly no separate O&M Expenses is admissible for PLCC equipment in the 2019-24 tariff period under Regulation 35(4) of the 2019 Tariff Regulations shall be applicable in case of all petitions where similar claim is made by the Petitioner. As already mentioned, the Commission, however, on the basis of the claim made by the Petitioner has inadvertently allowed O&M Expenses for PLCC equipment @2% of its original project cost, which is applicable for other “communication system”, for 2019-24 period in 31 petitions given in Annexure-3 of this order. Therefore, the decision in this order shall also be applicable to all the petitions given in Annexure-3. Therefore, PGCIL is directed to bring this decision to the notice of all the stakeholders in the 31 petitions given in Annexure-3 and also make revised claim of O&M Expenses for PLCC as part of the sub-station at the time of truing up of the tariff allowed for 2019-24 period in respective petitions.”

66. The O&M Expenses approved for the transmission asset are as under:

**AC and HVDC Lines** (₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Norm (₹ lakh/km)</b>					
S/C Double Conductor	0.503	0.521	0.539	0.558	0.578
<b>Line Length in km.</b>					
400 kV Jamshedpur-Rourkela S/C (Ckt-II) transmission line - 130 Kms.	130.00	130.00	130.00	130.00	130.00
<b>Total O&amp;M Expenses</b>	<b>65.39</b>	<b>67.73</b>	<b>70.07</b>	<b>72.54</b>	<b>75.14</b>

**Sub-station Bays** (₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Norm (₹ lakh/bay)</b>					
400 kV AIS	32.15	33.28	34.45	35.66	36.91
<b>Number of bays</b>					
400 kV AIS	3	3	3	3	3
O&M Expense for 400 kV AIS	96.45	99.84	103.35	106.98	110.73
<b>Total O&amp;M Expenses</b>	<b>96.45</b>	<b>99.84</b>	<b>103.35</b>	<b>106.98</b>	<b>110.73</b>

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Total O&amp;M Expenses</b>	<b>161.84</b>	<b>167.57</b>	<b>173.42</b>	<b>179.52</b>	<b>185.87</b>



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

67. 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)...*

*(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;”*

68. 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 interest on working capital as 12.05%.

69. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The Rate of Interest on working capital considered is 12.05% (SBI 1 year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20,



whereas, Rate of Interest for 2020-21 onwards has been considered as 11.25% (SBI 1 year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points). The components of the working capital and the interest allowed thereon are as under:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses (O&M Expenses for 1 Month)	13.49	13.96	14.45	14.96	15.49
Maintenance Spares (15% of O&M)	24.28	25.14	26.01	26.93	27.88
Receivables (Equivalent to 45 days of annual transmission charges)	62.94	62.92	62.84	62.80	62.61
<b>Total Working Capital</b>	<b>100.70</b>	<b>102.02</b>	<b>103.31</b>	<b>104.69</b>	<b>105.98</b>
Rate of Interest (%)	12.05	11.25	11.25	11.25	11.25
<b>Interest on Working Capital</b>	<b>12.13</b>	<b>11.48</b>	<b>11.62</b>	<b>11.78</b>	<b>11.92</b>

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

70. The annual fixed charges for the transmission asset for the 2019-24 tariff period are summarized below:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	76.61	76.61	76.61	76.61	76.61
Interest on Loan	67.45	60.84	54.22	47.61	41.00
Return on Equity	193.85	193.85	193.85	193.85	193.85
Interest on Working Capital	12.13	11.48	11.62	11.78	11.92
O & M Expenses	161.84	167.57	173.42	179.52	185.87
<b>Total</b>	<b>511.89</b>	<b>510.35</b>	<b>509.73</b>	<b>509.38</b>	<b>509.26</b>

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

71. 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**

72. The Petitioner has requested to allow it to bill and recover license fee and RLDC fees and charges, separately from the Respondents. The Petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Regulation 70(3) and (4) of the 2019 Tariff Regulations.

### **Goods and Services Tax**

73. The Petitioner has sought to recover GST on transmission charges separately from the Respondents, if GST on transmission is withdrawn from negative list in future.

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

### **Security Expenses**

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



expenses as per the audited accounts may be allowed to be recovered from the beneficiaries on a yearly basis.

76. We have considered the submissions of the Petitioner. We are of the view that the Petitioner should claim security expenses for all the transmission assets in one petition. It is observed that the Petitioner has already filed the Petition No. 260/MP/2020 claiming consolidated security expenses on projected basis for the 2019-24 tariff period based on actual security expenses incurred in 2018-19. Therefore, security expenses will be dealt with in Petition No. 260/MP/2020 in accordance with the applicable provisions of the 2019 Tariff Regulations

### **Capital Spares**

77. 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**

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

79. To summarise, the revised Annual Fixed Charges allowed for the transmission asset for the 2001-04 tariff period are as under:



(₹ in lakh)

Particulars	2002-03 (Pro-rata for 3 months)	2003-04
Annual Fixed Charges	180.28	734.40*

\*In addition to above, Return on equity of ₹91.72 lakh has been allowed in 2003-04 as per order dated 4.5.2006 in Petition No.67/2005 on account of additional equity of ₹749.67 lakh for the year 2002-03 and 2003-04.

80. To summarise:

The revised Annual Fixed Charges allowed for the transmission asset for the 2004-09 tariff period are:

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Annual Fixed Charges	802.53	846.80	973.74	958.12	968.49

The revised Annual Fixed Charges allowed for the transmission asset for the 2009-14 tariff period are:

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Annual Fixed Charges	978.50	971.81	964.12	946.26	931.10

The trued-up Annual Fixed Charges allowed for the transmission asset for the 2014-19 tariff period are:

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Fixed Charges	880.03	647.58	642.08	640.70	643.52

The Annual Fixed Charges allowed for the transmission asset for the 2019-24 tariff period in this order are:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Annual Fixed Charges	511.89	510.35	509.73	509.38	509.26

81. Annexure as given hereinafter form part of the order.



82. This order disposes of Petition No. 256/TT/2019.

**sd/-**  
**(P. S. Mhaske)**  
**Member (Ex-officio)**

**sd/-**  
**(Pravas Kumar Singh)**  
**Member (Law)**

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

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

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



Petition No.:	256-TT-2019
Period	2014-19 True-up

Annexure - 1

2014-19	Admitted Capital Cost as on 1.4.2014 (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations				
				2014-15 (₹ in lakh)	2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Transmission Line	4387.45	4387.45	5.28%	231.66				
Sub Station	1032.17	1032.17	5.28%	54.50				
PLCC	75.76	75.76	6.33%	4.80				
<b>TOTAL</b>	<b>5495.38</b>	<b>5495.38</b>		<b>290.95</b>	<b>76.61</b>	<b>76.61</b>	<b>76.61</b>	<b>76.61</b>
			<b>Average Gross Block (₹ in lakh)</b>	<b>5495.38</b>	<b>5495.38</b>	<b>5495.38</b>	<b>5495.38</b>	<b>5495.38</b>
			<b>Weighted Average Rate of Depreciation (₹ in lakh)</b>	<b>5.29%</b>	<b>Spread</b>	<b>Spread</b>	<b>Spread</b>	<b>Spread</b>

