

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 499/TT/2019**

**Coram:**

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

**Date of Order: 29.04.2020**

**In the matter of:**

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and truing-up of transmission tariff of 2014-19 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of 2019-24 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 of Asset-I: 1x100 MVA, 220/132 kV, 3-Phase Spare ICT at Dimapur Sub-Station, Asset-II: 1 x 5 MVA, 132/33 kV, 1-Phase at Ziro Sub-station, Asset-III: 1X16 MVA, 132/33 kV ICT at Nirjuli Sub-station, Asset-IV: 1X63 MVAR, 420 kV Bus Reactor at Balipara Sub-station under "Provision of Spare Transformers and Reactors" in North Eastern Region.

**And in the matter of:**

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

**....Petitioner**

**Vs**

1. Assam Electricity Grid Corporation Limited  
(Formerly Assam Power Distribution Company Ltd (APDCL))  
Bijulee Bhawan, Paltan Bazar,  
Guwahati – 781001  
Assam
2. Meghalaya Energy Corporation Limited  
(Formerly Meghalaya State Electricity Board)  
Short Round Road, "Lumjingshai"  
Shillong – 793001  
Meghalaya
3. Government of Arunachal Pradesh  
Itanagar  
Arunachal Pradesh



4. Power and Electricity Department  
Government of Mizoram  
Aizawl, Mizoram
5. Manipur State Electricity Distribution Company Limited  
(Formerly Electricity Department, Government of Manipur)  
Keishampat, Imphal  
Manipur
6. Department of Power  
Government of Nagaland  
Kohima,  
Nagaland
7. Tripura State Electricity Corporation Limited  
Vidyut Bhawan, North Banamalipur,  
Agartala, Tripura (W) – 700001  
Tripura

**For Petitioner** : Shri S.S. Raju, PGCIL  
Shri Zafrul Hasan, PGCIL  
Shri B. Dash, PGCIL  
Shri V.K. Singh, PGCIL  
Shri Amit K. Jain, PGCIL  
Ms. Anshul Garg, PGCIL

**For Respondents** : None

### **ORDER**

The present petition has been filed by Power Grid Corporation of India Ltd. (“the Petitioner”) for truing up of the transmission tariff of Asset-I: 1x100 MVA, 220/132 kV, 3-Phase Spare ICT at Dimapur Sub-Station, Asset-II: 1 x 5 MVA, 132/33 kV, 1-Phase at Ziro Sub-station, Asset-III: 1X16 MVA, 132/33 kV ICT at Nirjuli Sub-station, Asset-IV: 1X63 MVAR, 420 kV Bus Reactor at Balipara Sub-station (hereinafter referred to as “transmission assets”) under “Provision of Spare Transformers and Reactors” in North Eastern Region (hereinafter referred to as “transmission project”) for 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter



referred to as “the 2014 Tariff Regulations”) and tariff determination of 2019-24 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”).

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

*“1) 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 11.2 and 12.1 above.*

*2) Allow the additional capitalization incurred during 2014-19 and projected to be incurred during 2019-24.*

*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 11.1 and 12.1 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 Initial Spare for the project as a whole.*

*7) Allow the Petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2019-24 period, if any, from the respondents.*

*8) Allow the Petitioner to file a separate petition before the Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned at para 12.1 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.”*

3. The Respondents are the distribution licensees, who are procuring transmission services from the Petitioner, mainly beneficiaries of Northern Eastern Region.

### **Background**

4. The Investment Approval (IA) and expenditure sanction for the transmission project was accorded by the Board of Directors of the Petitioner vide Memorandum No. C/CP/NER–ID1250 dated 22.3.2012 with an estimated cost of ₹1394 lakh including IDC of ₹63 lakh based on 4<sup>th</sup> Quarter, 2011 price level. The scope of the project “Provision of Spare Transformers and Reactors in Northern Eastern Region” is as under:-

- (i) Asset 1: 1 x 100 MVA, 220/132 kV, 3-phase spare ICT at Dimapur Sub-station;
- (ii) Asset-II: 1 x 5 MVA, 132/33/ kV, 1-Phase at Ziro Sub-station;
- (iii) Asset-III: 1x 16 MVA, 220/132 kV ICT at Nirjuli Sub-station, and
- (iv) Asset IV: 1 x 63 MVAR, 420 kV Bus Reactor at Balipara Sub-station.

5. The project was scheduled to be put into commercial operation within 21 months from the date of IA i.e. by 21.12.2013.

6. The details of commercial operation of the assets covered in the instant petition are as follows:



<b>Asset</b>	<b>COD</b>
Asset-I	1.4.2013
Asset-II	1.4.2013
Asset-III	30.5.2014
Asset-IV	1.4.2014
Combined Assets	4.11.2013

7. The transmission tariff of Assets-I and II from their respective COD to 31.3.2014 was determined in Petition No. 497/TT/2014 vide order dated 2.11.2015 as per the 2009 Tariff Regulations wherein the tariff in respect of Asset-I was allowed to from 1.6.2013. The transmission charges of Assets-I and II were trued up for 2009-14 period and determined for 2014-19 period in Petition No. 21/TT/2016 vide order dated 16.6.2016. The transmission tariff in respect of Assets-III and IV from the date of their respective commercial operation to 31.3.2019 was allowed for 2014-19 period in Petition No. 532/TT/2014 vide order dated 18.3.2016. There was no time over-run in case of COD of Assets-I and II while Assets-III and IV were put into commercial operation with time over-run of 161 days and 102 days respectively. The time over-run in the case of Assets-III and IV was not condoned by the Commission in order dated 18.3.2016 in Petition No. 532/TT/2014. However, the Commission vide order dated 18.3.2016 had observed that the Petitioner did not claim any IDC and IEDC for Assets-III and IV and as such time over-run did not have any impact.

8. The Petitioner has served the petition on the Respondents and notice has also been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003 (hereinafter referred to as "the Act"). No comments or suggestions have been received from the general public in response to the aforesaid notices published in the newspapers by the Petitioner. None of the



Respondents have filed their reply. The hearing in this matter was held on 26.2.2020. Having heard the representatives of the Petitioner and perused the material on record, we proceed to dispose of the petition.

9. Regulation 8(1) of the 2014 Tariff Regulations requires the Commission to undertake trueing up exercise together with the tariff petition filed for the next tariff period with respect to the capital expenditure including ACE incurred up to 31.3.2019, as admitted by the Commission after prudence check at the time of trueing up.

10. The Petitioner has filed the instant petition vide affidavit dated 4.10.2019, for true-up of tariff for the tariff period 2014-19 in accordance with Regulation 8 of the 2014 Tariff Regulations.

**Truing-up of Annual Fixed Charges for 2014-19 tariff period**

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

(₹ in lakh)

<b>Asset-I</b>					
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	13.81	18.09	21.34	21.43	21.43
Interest on Loan	16.52	20.00	21.56	18.24	15.99
Return on Equity	15.40	20.26	23.89	24.00	24.06
Interest on working capital	1.05	1.34	1.54	1.47	1.41
O & M Expenses	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>46.78</b>	<b>59.69</b>	<b>68.33</b>	<b>65.14</b>	<b>62.89</b>

(₹ in lakh)

<b>Asset-II</b>					
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	2.93	3.59	4.25	4.25	4.25
Interest on Loan	3.38	3.82	4.21	3.82	3.42
Return on Equity	3.27	4.02	4.76	4.76	4.78
Interest on working capital	0.22	0.26	0.30	0.30	0.29
O & M Expenses	0.00	0.00	0.00	0.00	0.00



<b>Total</b>	<b>9.80</b>	<b>11.69</b>	<b>13.52</b>	<b>13.13</b>	<b>12.74</b>
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(₹ in lakh)

<b>Asset-III</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	4.40	9.71	10.05	10.05	10.05
Interest on Loan	5.45	11.50	10.94	9.95	8.98
Return on Equity	4.91	10.88	11.25	11.25	11.28
Interest on working capital	0.34	0.74	0.74	0.72	0.70
O & M Expenses	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>15.10</b>	<b>32.83</b>	<b>32.98</b>	<b>31.97</b>	<b>31.01</b>

(₹ in lakh)

<b>Asset-IV</b>					
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	19.77	21.72	23.66	23.66	23.66
Interest on Loan	24.34	24.87	24.99	22.32	19.95
Return on Equity	22.05	24.33	26.48	26.48	26.55
Interest on working capital	1.52	1.63	1.73	1.67	1.61
O & M Expenses	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>67.68</b>	<b>72.55</b>	<b>76.86</b>	<b>74.13</b>	<b>71.77</b>

12. The details of the interest on working capital claimed by the Petitioner are as under:-

(₹ in lakh)

<b>Asset-I</b>					
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
O&M expenses	0.00	0.00	0.00	0.00	0.00
Receivables	7.79	9.95	11.39	10.86	10.48
<b>Total</b>	<b>7.79</b>	<b>9.95</b>	<b>11.39</b>	<b>10.86</b>	<b>10.48</b>
Rate of Interest	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>1.05</b>	<b>1.34</b>	<b>1.54</b>	<b>1.47</b>	<b>1.42</b>

(₹ in lakh)

<b>Asset-II</b>					
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
O&M expenses	0.00	0.00	0.00	0.00	0.00
Receivables	1.63	1.95	2.25	2.19	2.12
<b>Total</b>	<b>1.63</b>	<b>1.95</b>	<b>2.25</b>	<b>2.19</b>	<b>2.12</b>
Rate of Interest	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>0.22</b>	<b>0.26</b>	<b>0.30</b>	<b>0.30</b>	<b>0.29</b>



(₹ in lakh)

<b>Asset-III</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
O&M expenses	0.00	0.00	0.00	0.00	0.00
Receivables	3.00	5.47	5.50	5.33	5.17
<b>Total</b>	<b>3.00</b>	<b>5.47</b>	<b>5.50</b>	<b>5.33</b>	<b>5.17</b>
Rate of Interest	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>0.34</b>	<b>0.74</b>	<b>0.74</b>	<b>0.72</b>	<b>0.70</b>

(₹ in lakh)

<b>Asset-IV</b>					
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
O&M expenses	0.00	0.00	0.00	0.00	0.00
Receivables	11.28	12.09	12.81	12.36	11.96
<b>Total</b>	<b>11.28</b>	<b>12.09</b>	<b>12.81</b>	<b>12.36</b>	<b>11.96</b>
Rate of Interest	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>1.52</b>	<b>1.63</b>	<b>1.73</b>	<b>1.67</b>	<b>1.62</b>

### **Capital Cost**

13. The Commission vide orders dated 16.6.2016 in Petition No. 21/TT/2016 allowed the capital cost of ₹411.86 lakh and ₹82.70 lakh for Asset-I and Asset-II respectively and vide order dated 18.3.2016 in Petition No. 532/TT/2014 allowed the capital cost of ₹210.12 lakh and ₹447.25 lakh for Asset-III and Asset-IV respectively as opening capital cost as on 1.4.2014 for determination of tariff for 2014-19 period.

14. The Petitioner vide Auditor's Certificates dated 6.7.2019 and 31.7.2019 has submitted the capital cost incurred upto 31.3.2014, Additional Capital Expenditure (ACE) upto 31.3.2019 and estimated ACE during the period 1.4.2019 to 31.3.2020. The details of approved apportioned capital cost, capital cost as on COD, ACE



incurred upto 31.3.2019 and projected ACE incurred upto 31.3.2019 as claimed by the Petitioner for the instant transmission assets are as under:-

(₹ in lakh)

Assets	FR approved apportioned capital cost	Capital cost as on COD/ 31.3.2014	Additional capitalisation (claimed)			Total completion cost as on 31.3.2019 (claimed)
			2014-15	2015-16	2016-17	
Asset-I	513.15	240.36	42.24	119.86	3.47	405.93
Asset-II	127.71	55.50	0.00	25.07	0.00	80.57
Asset-III	239.18	21.03	156.61	12.70	0.00	190.34
Asset-IV	514.37	374.34	0.32	73.53	0.00	448.19
<b>Total</b>	<b>1394.41</b>	<b>691.23</b>	<b>199.17</b>	<b>231.16</b>	<b>3.47</b>	<b>1125.03</b>

### Cost Over-run

15. The completion cost including additional capitalisation is within the approved cost as per FR approved apportioned capital cost as mentioned in Table under para 14 above, in respect of assets covered under the instant petition. Therefore, there is no cost over-run in respect of the instant assets.

16. The Petitioner has not claimed IDC and IEDC for the transmission assets covered in the instant Petition.

### Initial spares

17. The Petitioner has claimed the following Initial Spares for the transmission assets and prayed to revise the Initial Spares allowed earlier in light of the judgement of the Appellate Tribunal for Electricity (APTEL) dated 14.9.2019 in Appeal No.74 of 2017:-

Assets	Plant & Machinery Cost upto cut-off date (excluding IDC and IEDC) (A) (₹ in lakh)	Initial Spares Claimed (B) (₹ in lakh)	Ceiling Limit (C) (in %)
Asset-I	405.93	3.60	2.50
Asset-II	93.94	3.60	2.50
<b>Total 2009-14</b>	<b>499.87</b>	<b>7.20</b>	<b>2.50</b>



Asset-III	211.34	2.70	6.00
Asset-IV	448.19	5.50	6.00
<b>Total 2014-19</b>	<b>659.53</b>	<b>8.20</b>	<b>6.00</b>

18. We have considered the submissions of the Petitioner. The Petitioner vide affidavit dated 25.2.2020 has submitted revised Plant & Machinery cost for the purpose of computing allowable ceiling of initial spares. As per the APTEL's judgement dated 14.9.2019 in Appeal No. 74 of 2017, the Initial Spares are to be allowed as a percentage of the project capital cost as a whole as on the cut-off date. The Asset-I and Asset-II were put into commercial operation in the 2009-14 period and Assets-III and IV were put into commercial operation in the 2014-19 period. Therefore, the 2009 Tariff Regulations are applicable for Assets-I and II and the 2014 Tariff Regulations are applicable for Assets-III and IV. The cut-off date for Assets-I and II is 31.3.2016 and that for Assets-III and IV is 31.3.2017 and the capital cost upto the said cut-off dates is considered for computation of Initial Spares. The Petitioner's claim of Initial Spares for the instant assets is within norms specified in the applicable Tariff Regulations and it is accordingly allowed as under:-

Assets	Capital Cost considered as on cut-off date (₹ in lakh)	Initial Spares claimed (₹ in lakh)	Norms as per 2009/2014 Tariff Regulations (in %)	Initial Spares allowable as per norms and APTEL judgement dated 14.9.2019 (₹ in lakh)	Initial Spares allowed (₹ in lakh)
Asset-I	402.46	3.60	2.50	12.16	3.60
Asset-II	80.57	3.60	2.50		3.60
<b>Total</b>	<b>483.03</b>	<b>7.20</b>		<b>12.16</b>	<b>7.20</b>
Asset-III	190.34	2.70	<b>6.00</b>	40.23	2.70
Asset-IV	448.19	5.50	<b>6.00</b>		5.50
<b>Total</b>	<b>638.53</b>	<b>8.20</b>		<b>40.23</b>	<b>8.20</b>



### **Additional Capital Expenditure (ACE)**

19. The Petitioner has claimed the following ACE for the assets covered in the instant petition:-

(₹ in lakh)

<b>Assets</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
Asset-I	42.24	119.86	3.47
Asset-II	0.00	25.07	0.00
Asset-III	156.61	12.70	0.00
Asset-IV	0.32	73.53	0.00

20. The Petitioner vide affidavit dated 25.2.2020 has submitted that the Additional Capitalization incurred for the instant assets is on account of undischarged liability towards final payment/ withheld payment due to contractual exigencies for works executed within the cut-off date. The Additional Capitalization for the years 2014-15, 2015-16 for all the assets has been claimed under Regulation 14(1)(i) (undischarged liabilities) and Regulation 14(1)(ii) (unexecuted works) of the 2014 Tariff Regulations and Additional Capitalization for the year 2016-17 for Asset-I has been claimed under Regulation 14(3)(v) (liabilities after cut-off date) of the 2014 Tariff Regulations.

21. The Petitioner vide affidavit dated 25.2.2020 has also submitted that ACE upto 31.3.2019 has been considered in the Auditor's certificate as per actuals whereas the ACE claimed for the period from 1.4.2019 to 31.3.2020 is on estimated basis and may vary due to final claim/ reconciliation at the time of contract closing. The contract-wise details along with LOA for balance and retention payments are as detailed below:-



(₹ in lakh)

Assets	Parties	Package	LOA No.	Balance/ retention payments claimed as per Auditor's Certificate		
				2014-15	2015-16	2016-17
I	Siemens Ltd.	Ex-works supply contract for Transformer Package TRO1 for Procurement of Spare Transformer and Reactor from SIS Reserve Fund and Provision of Spare Transformer and Reactors in NER	CC-CS/262-CC/ TR-1543/G7/NOA /4303 Dt.15-05-12	42.24	119.86	3.47
II	Siemens Ltd.	Ex-works supply contract for Transformer Package TRO1 for Procurement of Spare Transformer and Reactor from SIS Reserve Fund and Provision of Spare Transformer and Reactors in NER	CC-CS/262-CC/ TR-1543/G7/NOA /4303 Dt.15-05-12	0.00	25.07	0.00
III	Siemens Ltd.	Ex-works supply contract for Transformer Package TRO1 for Procurement of Spare Transformer and Reactor from SIS Reserve Fund and Provision of Spare Transformer and Reactors in NER	CC-CS/262-CC/ TR-1543/3/G7/ 4303 & 4304, Dtd. 15.05.2012	156.61	12.70	0.00
IV	ALSTOM T&D India Ltd	Reactor Package-'B' for - (a) 1 X 80 MVAR, 420 kV, 3-Phase Reactor each at Bhiwadi & Gajuwaka Substation, 1 X 125 MVAR, 420 kV, 3-Phase Reactor each at Khandwa & Purnea Substation associated with procurement of	CC-CS/204-ER1/ TR-1881/3/G8 /CA-I/4623, Dtd. 26.03.2013	0.32	73.53	0.00



		Spare Auto transformers and Shunt Reactor under SIS Reserve fund and (b) 1 X 63 MVAR, 420 kV, 3-Phase Reactor at Balipara Substation associated with Provision of Spare Transformers and Reactor in NER				
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22. The cut-off date for Assets-I and II is 31.3.2016 and that for Assets-III and IV is 31.3.2017. It is observed that total estimated completion cost including Additional Capitalization from 2014-15 to 2018-19 period for Assets-I, II, III and IV is within the approved apportioned capital cost.

23. The ACE claimed by the Petitioner for 2014-15 and 2015-16 for instant assets are within the cut-off date and the same has been considered for computation of total capital cost as on 31.3.2019. The ACE claimed for 2014-19 tariff period is allowed under Regulation 14(1)(i) and Regulation 14(1)(ii) of the 2014 Tariff Regulations. The ACE claimed by the Petitioner for 2016-17 for Asset-I is beyond cut-off date and is allowed under Regulation 14(3)(v) of the 2014 Tariff Regulations. The same has been summarized as under:-

(₹ in lakh)

Asset-I	Capital cost as on COD/ 31.3.2014	Additional Capitalization			Total capital cost including Additional Capitalization as on 31.3.2019
		2014-15	2015-16	2016-17	
Allowed earlier in order dated 16.6.2016 in Petition No. 21/TT/2016	240.36	42.24	129.26	0.00	411.86
As claimed	240.36	42.24	119.86	3.47	405.93
Approved in this order	240.36	42.24	119.86	3.47	405.93



(₹ in lakh)

Asset-II	Capital cost as on COD/ 31.3.2014	Additional Capitalization			Total capital cost including Additional Capitalization as on 31.3.2019
		2014-15	2015-16	2016-17	
Allowed earlier in order dated 16.6.2016 in Petition No. 21/TT/2016	53.97	0.00	28.73	0.00	82.70
As claimed	55.50	0.00	25.07	0.00	80.57
Approved in this order	55.50	0.00	25.07	0.00	80.57

(₹ in lakh)

Asset-III	Capital cost as on COD/ 31.3.2014	Additional Capitalization			Total capital cost including Additional Capitalization as on 31.3.2019
		2014-15	2015-16	2016-17	
Allowed earlier in order dated 18.3.2016 in Petition No. 532/TT/2014	21.03	189.09	0.00	0.00	210.12
As claimed	21.03	156.61	12.70	0.00	190.34
Approved in this order	21.03	156.61	12.70	0.00	190.34

(₹ in lakh)

Asset-IV	Capital cost as on COD/ 31.3.2014	Additional Capitalization			Total capital cost including Additional Capitalization as on 31.3.2019
		2014-15	2015-16	2016-17	
Allowed earlier in order dated 18.3.2016 in Petition No. 532/TT/2014	374.34	72.91	0.00	0.00	447.25
As claimed	374.34	0.32	73.53	0.00	448.19



Approved in this order	374.34	0.32	73.53	0.00	448.19
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24. The difference between the earlier allowed total capital cost including additional capitalization as on 31.3.2019 and approved in this order is on account of decrease in actual audited ACE in respect of Asset-I, II and III and on account of increase in actual audited ACE in respect of Asset-IV.

### **Debt-Equity Ratio**

25. The Petitioner has considered debt-equity ratio of 70:30 as on 31.3.2014 and for Additional Capitalization post 31.3.2014. The debt-equity ratio of 70:30 has been considered for capital cost as on 31.3.2014 and ACE during 2014-19 tariff period as provided under Regulation 19 of 2014 Tariff Regulations. The same has been summarised as under:-

Asset-I	As on 31.3.2014		As on 31.3.2019	
	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)
Debt	168.25	70.00	284.15	70.00
Equity	72.11	30.00	121.78	30.00
<b>Total</b>	<b>240.36</b>	<b>100.00</b>	<b>405.93</b>	<b>100.00</b>

Asset-II	As on 31.3.2014		As on 31.3.2019	
	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)
Debt	38.85	70.00	56.40	70.00
Equity	16.65	30.00	24.17	30.00
<b>Total</b>	<b>55.50</b>	<b>100.00</b>	<b>80.57</b>	<b>100.00</b>

Asset-III	As on 31.3.2014		As on 31.3.2019	
	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)
Debt	14.72	70.00	133.24	70.00
Equity	6.31	30.00	57.10	30.00
<b>Total</b>	<b>21.03</b>	<b>100.00</b>	<b>190.34</b>	<b>100.00</b>

Asset-IV	As on 31.3.2014		As on 31.3.2019	
	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)



Debt	262.04	70.00	313.79	70.00
Equity	112.30	30.00	134.40	30.00
<b>Total</b>	<b>21.03</b>	<b>100.00</b>	<b>448.19</b>	<b>100.00</b>

### **Interest on Loan (“IOL”)**

26. The Petitioner has prayed for change in interest rates prevailing as on 1.4.2019 for respective loans. The change in interest rate is due to floating rate of interest applicable for the project to be claimed/ adjusted over the period of 5 years directly from the beneficiaries. We have considered the submissions of the Petitioner and accordingly calculated the IOL based on actual interest rate, in accordance with Regulation 26 of the 2014 Tariff Regulations. The interest on loan has been worked out as detailed below: -

(i) Gross amount of loan, repayment of instalments and weighted average rate of interest on actual average loan have been considered as per the petition.

(ii) The repayment for the tariff period 2014-19 has been considered to be equal to the depreciation allowed for that period.

27. The details of IOL calculated are as follows: -

(₹ in lakh)

Particular	Asset-I				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	168.25	197.82	281.72	284.15	284.15
Cumulative Repayments upto Previous Year	10.58	24.39	42.47	63.81	85.25
Net Loan-Opening	157.67	173.43	239.25	220.34	198.90
Addition due to Additional Capitalization	29.57	83.90	2.43	0.00	0.00
Repayment during the year	13.81	18.09	21.34	21.43	21.43
Net Loan-Closing	173.44	239.25	220.34	198.90	177.47
Average Loan	165.55	206.34	229.80	209.62	188.19
Weighted Average Rate of Interest on Loan (%)	9.976	9.653	9.377	8.700	8.497
<b>Interest on Loan</b>	<b>16.52</b>	<b>19.92</b>	<b>21.55</b>	<b>18.24</b>	<b>15.99</b>





(₹ in lakh)

<b>Asset-II</b>					
<b>Particular</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Normative Loan	38.85	38.85	56.40	56.40	56.40
Cumulative Repayments upto Previous Year	1.66	4.59	8.18	12.44	16.69
Net Loan-Opening	37.19	34.26	48.22	43.96	39.71
Addition due to Additional Capitalization	0.00	17.55	0.00	0.00	0.00
Repayment during the year	2.93	3.59	4.25	4.25	4.25
Net Loan-Closing	34.26	48.22	43.96	39.71	35.46
Average Loan	35.72	41.24	46.09	41.84	37.58
Weighted Average Rate of Interest on Loan (%)	9.459	9.264	9.129	9.121	9.102
<b>Interest on Loan</b>	<b>3.38</b>	<b>3.82</b>	<b>4.21</b>	<b>3.82</b>	<b>3.42</b>

(₹ in lakh)

<b>Asset-III</b>					
<b>Particular</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Normative Loan	14.72	124.35	133.24	133.24	133.24
Cumulative Repayments upto Previous Year	0.00	4.40	14.11	24.16	34.21
Net Loan-Opening	14.72	119.95	119.13	109.08	99.03
Addition due to Additional Capitalization	109.63	8.89	0.00	0.00	0.00
Repayment during the year	4.40	9.71	10.05	10.05	10.05
Net Loan-Closing	119.95	119.13	109.08	99.03	88.98
Average Loan	67.34	119.54	114.10	104.05	94.00
Weighted Average Rate of Interest on Loan (%)	9.650	9.622	9.587	9.562	9.547
<b>Interest on Loan</b>	<b>5.45</b>	<b>11.50</b>	<b>10.94</b>	<b>9.95</b>	<b>8.97</b>

(₹ in lakh)

<b>Asset-IV</b>					
<b>Particular</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Normative Loan	262.04	262.26	313.79	313.79	313.79
Cumulative Repayments upto Previous Year	0.00	19.77	41.50	65.16	88.83
Net Loan-Opening	262.04	242.49	272.29	248.63	224.96
Addition due to Additional Capitalization	0.22	51.53	0.00	0.00	0.00
Repayment during the year	19.77	21.72	23.66	23.66	23.66
Net Loan-Closing	242.49	272.30	248.63	224.97	201.30



Average Loan	252.27	257.39	260.46	236.80	213.14
Weighted Average Rate of Interest on Loan (%)	9.650	9.656	9.594	9.425	9.358
<b>Interest on Loan</b>	<b>24.34</b>	<b>24.85</b>	<b>24.99</b>	<b>22.32</b>	<b>19.95</b>

### Return on Equity (“ROE”)

28. The Petitioner is entitled for Return on Equity for the instant assets in terms of Regulations 24 and 25 of the 2014 Tariff Regulations. The Petitioner has submitted that they are 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 (in %)	Grossed up ROE (Base Rate/1-t) (in %)
2014-15	21.018	19.624
2015-16	21.382	19.715
2016-17	21.338	19.704
2017-18	21.337	19.704
2018-19	21.549	19.757

29. The Commission in order dated 27.04.2020 in Petition no. 274/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	MAT Rate (%)	Grossed up ROE [Base Rate/(1-t)] (%)
2014-15	20.9605	19.610
2015-16	21.3416	19.705
2016-17	21.3416	19.705
2017-18	21.3416	19.705
2018-19	21.5488	19.758

30. Accordingly, the RoE allowed for the instant assets is as follows:-

(₹ in lakh)



<b>Asset-I</b>					
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Equity	72.11	84.78	120.74	121.78	121.78
Addition due to Additional Capitalization	12.67	35.96	1.04	0.00	0.00
Closing Equity	84.78	120.74	121.78	121.78	121.78
Average Equity	78.44	102.76	121.26	121.78	121.78
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>15.38</b>	<b>20.25</b>	<b>23.89</b>	<b>24.00</b>	<b>24.06</b>

(₹ in lakh)

<b>Asset-II</b>					
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Equity	16.65	16.65	24.17	24.17	24.17
Addition due to Additional Capitalization	0.00	7.52	0.00	0.00	0.00
Closing Equity	16.65	24.17	24.17	24.17	24.17
Average Equity	16.65	20.41	24.17	24.17	24.17
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>3.27</b>	<b>4.02</b>	<b>4.76</b>	<b>4.76</b>	<b>4.78</b>

(₹ in lakh)

<b>Asset-III</b>					
<b>Particulars</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Equity	6.31	53.29	57.10	57.10	57.10
Addition due to Additional Capitalization	46.98	3.81	0.00	0.00	0.00
Closing Equity	53.29	57.10	57.10	57.10	57.10
Average Equity	29.80	55.19	57.10	57.10	57.10
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>4.90</b>	<b>10.88</b>	<b>11.25</b>	<b>11.25</b>	<b>11.28</b>

(₹ in lakh)

<b>Asset-IV</b>					
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Equity	112.30	112.40	134.40	134.40	134.40
Addition due to Additional Capitalization	0.10	22.00	0.00	0.00	0.00
Closing Equity	112.40	134.40	134.40	134.40	134.40
Average Equity	112.35	123.40	134.40	134.40	134.40
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>22.03</b>	<b>24.32</b>	<b>26.48</b>	<b>26.48</b>	<b>26.55</b>

### Depreciation

31. The Petitioner has claimed depreciation considering capital expenditure of ₹240.36 lakh, ₹55.50 lakh, ₹21.03 lakh and ₹374.34 lakh as on 31.3.2014 for Assets-I, II, III and IV respectively and Additional Capitalization of ₹165.57 lakh, ₹25.07 lakh, ₹169.31 lakh and ₹73.85 lakh for Assets-I, II, III and IV respectively.

32. We have considered the submission of the Petitioner and have computed depreciation considering capital expenditure as on 31.3.2014 and Additional Capitalization approved for 2014-19 period. Details of depreciation allowed for the instant assets under Regulation 27 of the 2014 Tariff Regulation is as under:-

(₹ in lakh)

<b>Asset-I</b>					
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Gross Block	240.36	282.60	402.46	405.93	405.93
Additional Capital expenditure	42.24	119.86	3.47	0.00	0.00
Closing Gross Block	282.60	402.46	405.93	405.93	405.93
Average Gross Block	261.48	342.53	404.20	405.93	405.93
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Depreciable Value	235.33	308.28	363.78	365.34	365.34
Remaining Depreciable Value	224.75	283.89	321.30	301.52	280.09
<b>Depreciation</b>	<b>13.81</b>	<b>18.09</b>	<b>21.34</b>	<b>21.43</b>	<b>21.43</b>

(₹ in lakh)

<b>Asset-II</b>					
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Gross Block	55.50	55.50	80.57	80.57	80.57
Additional Capital expenditure	0.00	25.07	0.00	0.00	0.00
Closing Gross Block	55.50	80.57	80.57	80.57	80.57
Average Gross Block	55.50	68.04	80.57	80.57	80.57
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Depreciable Value	49.95	61.23	72.51	72.51	72.51
Remaining Depreciable Value	48.29	56.64	64.33	60.08	55.82
<b>Depreciation</b>	<b>2.93</b>	<b>3.59</b>	<b>4.25</b>	<b>4.25</b>	<b>4.25</b>

(₹ in lakh)

<b>Asset-III</b>
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Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	21.03	177.64	190.34	190.34	190.34
Additional Capital expenditure	156.61	12.70	0.00	0.00	0.00
Closing Gross Block	177.64	190.34	190.34	190.34	190.34
Average Gross Block	99.34	183.99	190.34	190.34	190.34
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Depreciable Value	89.40	165.59	171.31	171.31	171.31
Remaining Depreciable Value	89.40	161.19	157.19	147.14	137.09
<b>Depreciation</b>	<b>4.40</b>	<b>9.71</b>	<b>10.05</b>	<b>10.05</b>	<b>10.05</b>

(₹ in lakh)

Asset-IV					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	374.34	374.66	448.19	448.19	448.19
Additional Capital expenditure	0.32	73.53	0.00	0.00	0.00
Closing Gross Block	374.66	448.19	448.19	448.19	448.19
Average Gross Block	374.50	411.43	448.19	448.19	448.19
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Depreciable Value	337.05	370.28	403.37	403.37	403.37
Remaining Depreciable Value	337.05	350.51	361.87	338.21	314.55
<b>Depreciation</b>	<b>19.77</b>	<b>21.72</b>	<b>23.66</b>	<b>23.66</b>	<b>23.66</b>

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

33. The Petitioner has not claimed O&M Expenses in respect of any of the assets covered in the instant Petition.

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

34. The Petitioner is entitled to claim interest on working capital as per Regulation 28(1)(c) of the 2014 Tariff Regulations as under:-

**i. Maintenance spares:**

Maintenance spares have been worked out based on 15% of Operation and Maintenance Expenses.

**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.

35. The Interest on Working Capital allowed for the assets is as under:-

(A) Asset-I

(₹ in lakh)

Asset-I					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O & M Expenses	0.00	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
Receivables	7.79	9.95	11.39	10.86	10.48
<b>Total</b>	<b>7.79</b>	<b>9.95</b>	<b>11.39</b>	<b>10.86</b>	<b>10.48</b>
Rate of Interest on working capital(%)	13.50	13.50	13.50	13.50	13.50
<b>Interest of working Capital</b>	<b>1.05</b>	<b>1.34</b>	<b>1.54</b>	<b>1.47</b>	<b>1.42</b>

Accordingly, the IWC claimed by the Petitioner, allowed and trued up in respect of Asset-I is shown in the table below:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed earlier vide order dated 16.6.2016 in Petition No. 21/TT/2016	0.88	1.16	1.35	1.33	1.30
As claimed by the Petitioner	1.05	1.34	1.54	1.47	1.41
Allowed after Truing Up	1.05	1.34	1.54	1.47	1.42

The IWC has increased in comparison to that allowed in the earlier order on account of increase in receivables due to increase in interest on loan.

(B) Asset-II

(₹ in lakh)

Asset-II					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O & M Expenses	0.00	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
Receivables	1.63	1.95	2.25	2.19	2.12



<b>Total</b>	<b>1.63</b>	<b>1.95</b>	<b>2.25</b>	<b>2.19</b>	<b>2.12</b>
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest of Working Capital</b>	<b>0.22</b>	<b>0.26</b>	<b>0.30</b>	<b>0.30</b>	<b>0.29</b>

Accordingly, the IWC claimed by the Petitioner, allowed and trued up is shown in the table below:-

(₹ lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed earlier in order dated 16.6.2016 in Petition No. 21/TT/2016	0.18	0.23	0.27	0.27	0.26
As claimed by the Petitioner	0.22	0.26	0.30	0.30	0.29
Allowed after Truing Up	0.22	0.26	0.30	0.30	0.29

The IWC has increased in comparison to that allowed in the earlier order on account of increase in receivables due to increase in depreciation and interest on loan.

(C) Asset-III

(₹ in lakh)					
Asset-III					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
O & M Expenses	0.00	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
Receivables	3.00	5.47	5.50	5.33	5.17
<b>Total</b>	<b>3.00</b>	<b>5.47</b>	<b>5.50</b>	<b>5.33</b>	<b>5.17</b>
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest of working capital</b>	<b>0.34</b>	<b>0.74</b>	<b>0.74</b>	<b>0.72</b>	<b>0.70</b>

Accordingly, the IWC claimed by the Petitioner, allowed and trued up is shown in the table below:-

(₹ lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19



Allowed earlier in order dated 18.3.2016 in Petition No. 532/TT/2014	0.39	0.83	0.81	0.78	0.76
As claimed by the Petitioner	0.34	0.74	0.74	0.72	0.70
Allowed after Truing Up	0.34	0.74	0.74	0.72	0.70

The IWC has decreased in comparison to that allowed in the earlier order on account of decrease in receivables due to decrease in depreciation, interest on loan and return on equity.

(D) Asset-IV

(₹ in lakh)

<b>Asset-IV</b>					
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
O & M Expenses	0.00	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
Receivables	11.28	12.09	12.81	12.36	11.96
<b>Total</b>	<b>11.28</b>	<b>12.09</b>	<b>12.81</b>	<b>12.36</b>	<b>11.96</b>
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest of Working Capital</b>	<b>1.52</b>	<b>1.63</b>	<b>1.73</b>	<b>1.67</b>	<b>1.62</b>

Accordingly, the IWC claimed by the Petitioner, allowed and trued up is shown in the table below:-

(₹ in lakh)

<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Allowed earlier in order dated 18.3.2016 in Petition No. 532/TT/2014	1.65	1.75	1.70	1.65	1.60
As claimed by the Petitioner	1.52	1.63	1.73	1.67	1.61
Allowed after Truing Up	1.52	1.63	1.73	1.67	1.62

The IWC has decreased in comparison to that allowed in the earlier order on account of decrease in receivables due to decrease in depreciation, interest on loan, and return on equity.





## Annual Transmission Charges 2014-19

36. Accordingly, the annual transmission charges after truing up for the 2014-19 tariff period are as under:-

(₹ in lakh)

<b>Asset-I</b>					
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	13.81	18.09	21.34	21.43	21.43
Interest on Loan	16.52	19.92	21.55	18.24	15.99
Return on Equity	15.38	20.25	23.89	24.00	24.06
Int. on Working Capital	1.05	1.34	1.54	1.47	1.42
Op. and Maintenance	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>46.76</b>	<b>59.68</b>	<b>68.33</b>	<b>65.14</b>	<b>62.90</b>

(₹ in lakh)

<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Allowed earlier in order dated 16.6.2016 in Petition No. 21/TT/2016	39.09	51.33	60.12	58.91	57.70
As claimed by the Petitioner	46.78	59.69	68.33	65.14	62.89
Allowed after Truing Up	46.76	59.59	68.32	65.13	62.90

(₹ in lakh)

<b>Asset-II</b>					
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	2.93	3.59	4.25	4.25	4.25
Interest on Loan	3.38	3.82	4.21	3.82	3.42
Return on Equity	3.27	4.02	4.76	4.76	4.78
Int. on Working Capital	0.22	0.26	0.30	0.30	0.29
Op. and Maintenance	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>9.80</b>	<b>11.70</b>	<b>13.53</b>	<b>13.13</b>	<b>12.74</b>

(₹ in lakh)

<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Allowed earlier in order dated 16.6.2016 in Petition No. 21/TT/2016	8.10	10.12	12.10	11.86	11.61
As claimed by the Petitioner	9.80	11.69	13.52	13.13	12.74
Allowed after Truing Up	9.80	11.70	13.53	13.13	12.74

(₹ in lakh)

<b>Asset-III</b>					
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Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	4.40	9.71	10.05	10.05	10.05
Interest on Loan	5.45	11.50	10.94	9.95	8.97
Return on Equity	4.90	10.88	11.25	11.25	11.28
Int. on Working Capital	0.34	0.74	0.74	0.72	0.70
Op. and Maintenance	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>15.08</b>	<b>32.83</b>	<b>32.98</b>	<b>31.97</b>	<b>31.00</b>

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed earlier in order dated 18.3.2016 in Petition No. 532/TT/2014	17.31	36.98	35.92	34.86	33.81
As claimed by the Petitioner	15.10	32.83	32.98	31.97	31.01
Allowed after Truing Up	15.08	32.83	32.98	31.97	31.00

(₹ in lakh)

Asset-IV					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	19.77	21.72	23.66	23.66	23.66
Interest on Loan	24.34	24.85	24.99	22.32	19.95
Return on Equity	22.03	24.32	26.48	26.48	26.55
Int. on Working Capital	1.52	1.63	1.73	1.67	1.62
Op. and Maintenance	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>67.67</b>	<b>72.53</b>	<b>76.87</b>	<b>74.13</b>	<b>71.78</b>

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed earlier in order dated 18.3.2016 in Petition No. 532/TT/2014	73.24	77.67	75.43	73.18	70.93
As claimed by the Petitioner	67.68	72.55	76.86	74.13	71.77
Allowed after Truing Up	67.67	72.53	76.87	74.13	71.78

The difference in the Annual Transmission Charges claimed by the Petitioner and allowed after truing up is due to the difference in the rate of tax claimed by the Petitioner and allowed by the Commission.

### **Determination of Annual Fixed Charges for 2019-24 tariff period**

37. The Petitioner has submitted the tariff forms combining the Assets-I to Asset-IV, wherein the COD has been achieved prior to 1.4.2019, as a single asset.



Accordingly, as per proviso (i) of Regulation 8(1) of the 2019 Tariff Regulations, single tariff for the combined asset has been worked out for the 2019-24 tariff period.

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

(₹ in lakh)

Particulars	2019-20	2020-21	201-22	2022-23	2023-24
Depreciation	59.91	60.42	60.42	60.42	60.42
Interest on Loan	43.64	38.78	33.29	27.80	22.31
Return on Equity	63.93	64.47	64.47	64.47	64.47
Interest on Working Capital	3.81	3.81	3.77	3.74	3.70
Operation and Maintenance	29.65	30.73	31.83	32.91	34.12
<b>Total</b>	<b>200.94</b>	<b>198.21</b>	<b>193.78</b>	<b>189.34</b>	<b>185.02</b>

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

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M expenses	2.47	2.56	2.65	2.74	2.84
Maintenance Spares	4.45	4.61	4.77	4.94	5.12
Receivables	24.71	24.44	23.89	23.34	22.75
<b>Total</b>	<b>31.63</b>	<b>31.61</b>	<b>31.32</b>	<b>31.02</b>	<b>30.71</b>
Rate of Interest	12.05	12.05	12.05	12.05	12.05
<b>Interest on Working Capital</b>	<b>3.81</b>	<b>3.81</b>	<b>3.77</b>	<b>3.74</b>	<b>3.70</b>

### Effective Date of Commercial Operation (E-COD)



40. The Petitioner has claimed E-COD of the combined asset as 4.11.2013. Accordingly, based on the trued up admitted capital cost and actual COD of all the assets, the E-COD has been worked out as follows:-

(₹ in lakh)

Computation of Effective COD						
Asset	Actual COD	Admitted Capital Cost as on 31.3.2019	Weight of the cost	No. of Days from last COD	Weighted Days	Effective COD (Latest COD – Total weighted Days)
Asset- I	1.4.2013	405.93	0.36	424	152.99	4.11.2013
Asset – II	1.4.2013	80.57	0.07	424	30.37	
Asset – III	30.4.2014	190.34	0.17	-	-	
Asset- IV	1.4.2014	448.19	0.40	59	23.50	
<b>Total</b>		<b>1125.03</b>	<b>1.00</b>		<b>206.86</b>	

41. The E-COD is used to determine the lapsed life of the project as a whole, which works out as 5 (five) years as on 1.4.2019 (i.e. the number of completed years as on 1.4.2019 from E-COD).

#### **Weighted Average Life (WAL)**

42. The life as defined in Regulation 33 of the 2019 Tariff Regulations has been considered for determination of Weighted Average Life.

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

44. The WAL has been determined based on the admitted capital cost of individual elements as on 31.3.2019 and their respective life as stipulated in the 2019 Tariff Regulations. The element-wise life as defined in the 2009 Tariff Regulations or the 2014 Tariff Regulations prevailing at the time of actual COD of



individual assets has been ignored for this purpose. The life as defined in 2019 Tariff Regulations has been considered for determination of WAL. Accordingly, the WAL of the combined asset has been worked out as 25 years as shown below:-

(₹ in lakh)

<b>Admitted Capital Cost as on 31.03.2019</b>			
<b>Particulars</b>	<b>Combined Cost (₹ in lakh) (a)</b>	<b>Life as per 2019 Regulation (Years) (b)</b>	<b>Weight (a) x (b)</b>
Freehold Land	0.00	-	-
Leasehold Land	0.00	25	0.00
Building & Other Civil Works	0.00	25	0.00
Transmission Line	0.00	35	0.00
Sub-Station Equipment	1125.03	25	28125.75
PLCC	0.00	15	0.00
<b>Total</b>	<b>1125.03</b>	<b>25</b>	<b>28125.75</b>
<b>WAL = Total Weight/ Capital cost of the project</b>		<b>25 Years</b>	

45. The WAL as on 1.4.2019 as determined above is applicable prospectively (i.e. for 2019-24 tariff period onwards) and no retrospective adjustment of depreciation in previous tariff period is required to be done. As discussed at paragraph 41, the Effective COD of the assets is 4.11.2013 and the lapsed life of the project as a whole, works out as 5 (five) years as on 1.4.2019 (i.e. the number of completed years as on 1.4.2019 from Effective COD). Accordingly, WAL has been used to determine the remaining useful life as on 31.3.2019 to be 20 years.

### **Capital Cost**

46. Regulation 19(3) and (5) of the 2019 Tariff Regulation provides as follows:-

*“19 Additional Capitalization*

*(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 renovation and modernisation as*



admitted by this Commission in accordance with these regulations;  
(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 upto 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.”

“(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 de-capitalised 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.”

47. The Petitioner has claimed the capital cost of the individual assets which has been added to arrive at the capital cost claimed during 2019-24 period for consolidated assets as per following details:-

**(₹ in lakh)**



<b>Assets</b>	<b>Apportioned Capital Cost (FR)</b>	<b>Capital Cost claimed as on 31.3.2019</b>	<b>Additional Capitalisation Claimed 2019-20</b>	<b>Estimated Completion Cost</b>
Asset-I	513.15	405.93	0.00	405.93
Asset-II	127.71	80.57	13.37	93.94
Asset-III	239.18	190.34	6.00	196.34
Asset-IV	514.37	448.19	0.00	448.19

48. Against the overall apportioned approved capital cost (as per FR) of ₹1394.41 lakh, the estimated completion cost including ACE is ₹1144.40 lakh. The individual cost of each asset is also within the respective FR apportioned cost. Therefore, there is no cost over-run as per FR cost.

49. The capital cost has been dealt in line with clause (3) of Regulation 19 of the 2019 Tariff Regulations. The element-wise capital cost (i.e. land, building, transmission line, sub-station and PLCC) as admitted by the Commission as on 31.3.2019 for instant assets are clubbed together and the combined capital cost has been considered as capital cost for combined asset as on 1.4.2019, as per following details:-

(₹ in lakh)

<b>Element</b>	<b>Asset-I</b>	<b>Asset-II</b>	<b>Asset-III</b>	<b>Asset-IV</b>
Free hold Land	0.00	0.00	0.00	0.00
Leasehold Land	0.00	0.00	0.00	0.00
Building & Other Civil Works	0.00	0.00	0.00	0.00
Transmission Line	0.00	0.00	0.00	0.00
Sub-Station Equipment	405.93	80.57	190.34	448.19
PLCC	0.00	0.00	0.00	0.00
<b>Total</b>	<b>405.93</b>	<b>80.57</b>	<b>190.34</b>	<b>448.19</b>

(₹ in lakh)

<b>Particulars</b>	<b>Capital Cost for combined asset as on 1.4.2019</b>
Freehold Land	0.00
Leasehold Land	0.00
Building & Other Civil Works	0.00
Transmission Line	0.00
Sub-Station Equipment	1125.03



PLCC	0.00
<b>TOTAL</b>	<b>1125.03</b>

50. The trued up capital cost of ₹1125.03. lakh for combined asset is considered as admitted capital cost as on 1.4.2019 for working out tariff for 2019-24 tariff period.

**Additional Capital Expenditure (ACE)**

51. Regulation 24 of the 2019 Tariff Regulations provides as under:-

*“24. Additional Capitalization within the original scope and upto the cut-off date*

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

- (a) Undischarged liabilities recognized to be payable at a future date;*
- (b) Works deferred for execution;*
- (c) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 23 of these regulations;*
- (d) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority or order or decree of any court of law;*
- (e) Change in law or compliance of any existing law; and*
- (f) Force Majeure events:*

*Provided that in case of any replacement of the assets, the additional capitalization shall be worked out after adjusting the gross fixed assets and cumulative depreciation of the assets replaced on account of de-capitalization.*

*(2) The generating company or the transmission licensee, as the case may be shall submit the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution.”*

52. The Petitioner has claimed projected ACE for 2019-24 period and submitted Auditor’s certificates in support of the same. The details of projected ACE as per Auditor’s Certificates are shown as under:-

(₹ in lakh)

Assets	Projected ACE 2019-24
	2019-20
Asset-I	0.00





Asset-II	13.37
Asset-III	6.00
Asset-IV	0.00
<b>Total</b>	<b>19.37</b>

53. The Petitioner vide affidavit dated 25.2.2020 has submitted that ACE claimed for the period 1.4.2019 to 31.3.2020 is on estimated basis and may vary due to final claim/ reconciliation at the time of contract closing. The contract wise details along with LOA No. for balance and retention payments are as under:-

(₹ in lakh)

Assets	Parties	Package	LOA No.	Balance/ retention payments claimed as per Auditor Certificate
				2019-20
II	Siemens Ltd.	Ex-works supply contract for Transformer Package TRO1 for Procurement of Spare Transformer and Reactor from SIS Reserve Fund and Provision of Spare Transformer and Reactors in NER	CC-CS/262-CC/TR-1543/G7/NOA/4303 Dt.15-05-12	13.37
III	Siemens Ltd.	Ex-works supply contract for Transformer Package TRO1 for Procurement of Spare Transformer and Reactor from SIS Reserve Fund and Provision of Spare Transformer and Reactors in NER	CC-CS/262-CC/TR-1543/3/G7/4303 & 4304, Dtd. 15.05.2012	6.00

54. It is observed that the projected Additional Capitalization falls after the cut-off date in the instant petition. The Petitioner is directed to submit details of contracts, scope, original liability and undischarged liability as on 31.3.2019 and the Regulation under which such Additional Capitalization is claimed at the time of true up of 2019-24 period. The allowed ACE are summarized below which is subject to true up:-



(₹ in lakh)

Particulars	Regulation	Combined Asset
		2019-20
ACE to the extent of Balance & Retention Payments & work deferred for execution before cut-off date	Regulation 25 (1) (d) of 2019 Tariff Regulations	19.37

**Capital cost for the tariff period 2019-24**

55. Accordingly, the capital cost of the combined asset, considered for the tariff period 2019-24, subject to truing up, is as follows:-

(₹ in lakh)

Capital Cost allowed as on 1.4.2019	ACE allowed for the year 2019-20	Total Estimated Completion Cost up to 31.3.2024
1125.03	19.37	1144.40

**Debt-Equity Ratio**

56. Regulation 18 of the 2019 Tariff Regulations provide as under:-

*“18. Debt-Equity Ratio: (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.”

57. The details of the debt equity considered for the purpose of tariff for 2019-24 tariff period is as follows:-

Combined Asset	Capital Cost as on 1.4.2019 (₹ lakh)	(%)	Total Capital Cost as on 31.3.2024 (₹ lakh)	(%)
Debt	787.59	70.00	801.15	70.00
Equity	337.44	30.00	343.25	30.00
<b>Total</b>	<b>1125.03</b>	<b>100.00</b>	<b>1144.40</b>	<b>100.00</b>

### **Return on Equity**

58. Regulation 30 and Regulation 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 RLDC;*

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



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

- a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;
- b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute, subject to ceiling of additional rate of return on equity of 1.00%:

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

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

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

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

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

*(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.”*

59. The Petitioner has submitted that MAT rate is applicable to the Petitioner's Company. Accordingly, the MAT rate applicable during the year 2019-20 has been considered for the purpose of ROE, which shall be trued up with actual tax rate in



accordance with Clause (3) of Regulation 31 of the 2019 Tariff Regulations. The ROE allowed for the instant transmission assets under Regulation 30 of the 2019 Tariff Regulations is as under:-

(₹ in lakh)

Particulars	Combined Asset				
	2019-20	2020-21	201-22	2022-23	2023-24
Opening Equity	337.44	343.25	343.25	343.25	343.25
Addition due to Additional Capitalization	5.81	0.00	0.00	0.00	0.00
Closing Equity	343.25	343.25	343.25	343.25	343.25
Average Equity	340.35	343.25	343.25	343.25	343.25
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
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>63.92</b>	<b>64.47</b>	<b>64.47</b>	<b>64.47</b>	<b>64.47</b>

### Interest on Loan (“IOL”)

60. Regulation 32 of the 2019 Tariff Regulations provides as under:-

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

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

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

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

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

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

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

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

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

61. The weighted average rate of IOL has been considered on the basis of rate prevailing as on 1.4.2019. The Petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during 2019-24 tariff period will be adjusted. Accordingly, the floating rate of interest, if any, shall be considered at the time of true up. In view of above, the IOL has been worked out in accordance with Regulation 32 of the 2019 Tariff Regulations. The IOL allowed is as follows:-

(₹ in lakh)

Combined Asset					
Particular	2019-20	2020-21	201-22	2022-23	2023-24
Gross Normative Loan	787.59	801.15	801.15	801.15	801.15
Cumulative Repayments upto Previous Year	284.38	344.29	404.71	465.14	525.56
Net Loan-Opening	503.21	456.86	396.43	336.01	275.59
Addition due to Additional Capitalization	13.56	0.00	0.00	0.00	0.00
Repayment during the year	59.91	60.42	60.42	60.42	60.42
Net Loan-Closing	456.86	396.43	336.01	275.59	215.16
Average Loan	480.04	426.65	366.22	305.80	245.37
Weighted Average Rate of Interest on Loan (%)	9.09	9.09	9.09	9.09	9.09
<b>Interest on Loan</b>	<b>43.63</b>	<b>38.77</b>	<b>33.28</b>	<b>27.79</b>	<b>22.31</b>

### Depreciation

62. Regulation 33(1), (2) and (5) 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 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.”*

*“(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.”*

63. Depreciation for the assets has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. Detailed calculations for depreciation for the transmission assets are worked out and allowed as follows:-

(₹ in lakh)

<b>Combined Asset</b>					
<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>201-22</b>	<b>2022-23</b>	<b>2023-24</b>
Opening Gross Block	1125.03	1144.40	1144.40	1144.40	1144.40
Additional Capital expenditure	19.37	-	-	-	-
Closing Gross Block	1144.40	1144.40	1144.40	1144.40	1144.40
Average Gross Block	1134.72	1144.40	1144.40	1144.40	1144.40
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Depreciable Value	1,021.24	1,029.96	1,029.96	1,029.96	1,029.96
Remaining Depreciable Value	736.87	685.67	625.25	564.82	504.40
<b>Depreciation</b>	<b>59.91</b>	<b>60.42</b>	<b>60.42</b>	<b>60.42</b>	<b>60.42</b>



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

64. Regulation 35(3) and (4) of the 2019 Tariff Regulations provides as under:

“35 (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	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple	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	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple	1.544	1.598	1.654	1.713	1.773
<i>Norms for HVDC stations</i>					
HVDC Back-to-Back stations (Rs Lakh per	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (₹ Lakh	1,666	1,725	1,785	1,848	1,913
500 kV Rihand-Dadri HVDC bipole scheme	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bipole scheme	2,468	2,555	2,645	2,738	2,834
±500 kV Bhiwadi-Balia HVDC bipole scheme	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath-Agra HVDC bipole	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.”*



65. The O&M Expenses claimed by the Petitioner for the instant assets are as follows:-

(₹ in lakh)					
Particulars	2019-20	2020-21	201-22	2022-23	2023-24
<b>O&amp;M for transformers (as per norms)</b>					
220 kV	24.50	25.40	26.30	27.20	28.20
132 kV & below	5.15	5.33	5.52	5.71	5.92
<b>Total O&amp;M Expenses</b>	<b>29.65</b>	<b>30.73</b>	<b>31.82</b>	<b>32.91</b>	<b>34.12</b>

66. The O&M Expenses claimed by the Petitioner are in accordance with Regulation 35(3) of the 2019 Tariff Regulations. Hence, they are allowed as claimed.

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

67. Regulation 34(1)(c), (3) and (4) and Clause (7) of Regulation 3 of the 2019 Tariff Regulations specifies as follows:-

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

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

*(i) Receivables equivalent to 45 days of annual 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. **Definition** - In these regulations, unless the context otherwise requires:-

(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 interest on working capital for the 2019-24 period considering the bank rate as on 1.4.2019.

69. The interest on working capital is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The rate of interest on working capital is considered as 12.05%. The components of the working capital and interest thereon have been worked as follows:-

(₹ in lakh)

Particulars	2019-20	2020-21	201-22	2022-23	2023-24
O & M Expenses	2.47	2.56	2.65	2.74	2.84
Maintenance Spares	4.45	4.61	4.77	4.94	5.12
Receivables	24.70	24.44	23.89	23.34	22.75
<b>Total</b>	<b>31.62</b>	<b>31.61</b>	<b>31.32</b>	<b>31.02</b>	<b>30.71</b>
Rate of Interest (%)	12.05	12.05	12.05	12.05	12.05
<b>Interest of working capital</b>	<b>3.81</b>	<b>3.81</b>	<b>3.77</b>	<b>3.74</b>	<b>3.70</b>

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

70. Various components of the annual fixed charges for the combined transmission asset for the tariff period 2019-24 is summarized below:-

(₹ in lakh)

Particulars	2019-20	2020-21	201-22	2022-23	2023-24
Depreciation	59.91	60.42	60.42	60.42	60.42
Interest on Loan	43.63	38.77	33.28	27.79	22.31
Return on Equity	63.92	64.47	64.47	64.47	64.47
Interest on Working Capital	3.81	3.81	3.77	3.74	3.70
Operation and Maintenance	29.65	30.73	31.82	32.91	34.12
<b>Total</b>	<b>200.93</b>	<b>198.21</b>	<b>193.77</b>	<b>189.34</b>	<b>185.02</b>

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

71. The Petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Clause (1) of Regulation 70 of the 2019 Tariff Regulations. 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 Clause (1) of Regulation 70 of the 2019 Tariff Regulations.

### **Licence Fee and RLDC Fees and Charges**

72. The Petitioner has requested to allow the Petitioner 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 Clauses (4) and (3) of Regulation 70 respectively 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 at any time GST on transmission is withdrawn from negative list in future. 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 and the Petitioner is at liberty to approach the Commission if GST is levied subsequently.

### **Security Expenses**

74. The Petitioner has submitted that security expenses for the instant 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 yearly basis on the basis of the actual expenses of previous year subject to true up at the end of the year on actual expenses. The Petitioner has submitted that the difference, if any, between the estimated security expenses and actual security expenses as per the audited accounts may be allowed to be recovered from the beneficiaries on yearly basis. 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.

### **Capital Spares**

75. 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**

76. The billing, collection and disbursement of the transmission charges approved in this order 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.



77. This order disposes of Petition No. 499/TT/2019.

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

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

