

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 676/TT/2020**

**Coram:**

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

**Date of Order: 25.06.2022**

**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 the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of 2019-24 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 of **Asset-1:** Combined asset of 500 MVA, 400/220/33 kV ICT-I along with associated bays at Moga Sub-station; 500 MVA, 400/220/33 kV ICT-II along with associated bays at Moga Sub-station; 500 MVA 400/220 kV Spare Transformer for Northern Region at Neemrana; **Asset-2:** ICT 500 MVA 400/220 kV Bassi Extension Sub-station; **Asset-3:** ICT 315 MVA 400/220 kV Allahabad Extension Sub-station; **Asset-4:** ICT 500 MVA 400/220 kV Meerut Extension Sub-station ; **Asset 5:** 400/220 kV, 105 MVA ICT along with associated bays at Wagoora Sub-station; **Asset-6:** 500 MVA ICT along with associated bays at Ludhiana Sub-station; **Asset-7:** 2 no. of 220 kV bays at Ludhiana Sub-station; **Asset 8:** 02 No. 220 kV Line Bays at Moga under "Augmentation of Transformers in Northern region Part-A" in Northern Region.

**And in the matter of:**

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

**....Petitioner**

**Vs**

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



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



Urja Bhawan, Kanwali Road,  
Dehradun.

16. North Central Railway  
Allahabad.

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

Delhi-110002.

...Respondent(s)

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

**For Respondents** : Shri Manoj Dubey, Advocate, MPPMCL  
Shri Amit Yadav, MPPMCL  
Shri Anindya Khare, MPPMCL

### **ORDER**

The instant petition has been filed by Power Grid Corporation of India Limited, a deemed transmission licensee, for truing up of tariff for the period from 1.4.2014 to 31.3.2019 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 assets under “Augmentation of Transformers in Northern Region Part-A” (hereinafter referred to as “the transmission system”) associated with the Northern Region:

**Asset-1:** Combined asset of 500 MVA, 400/220/33 kV ICT-I along with associated bays at Moga Sub-station; 500 MVA, 400/220/33 kV ICT-II



along with associated bays at Moga Sub-station; 500 MVA 400/220 kV

Spare Transformer for Northern Region at Neemrana;

**Asset-2:** ICT 500 MVA 400/220 kV Bassi Extension Sub-station;

**Asset-3:** ICT 315 MVA 400/220 kV Allahabad Extension Sub-station;

**Asset-4:** ICT 500 MVA 400/220 kV Meerut Extension Sub-station;

**Asset 5:** 400/220 kV, 105 MVA ICT along with associated bays at Wagoora Sub-station;

**Asset-6:** 500 MVA ICT along with associated bays at Ludhiana Sub-station;

**Asset-7:** 2 numbers of 220 kV bays at Ludhiana Sub-station;

**Asset 8:** 02 numbers 220 kV Line Bays at Moga.

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

*"1) Approve the tried up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the assets covered under this petition, as per para 6 and 7 above.*

*2) Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff regulations 2014 and tariff regulations 2019 as per para 6 and 7 above for respective block.*

*3) 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.*

*4) 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.*

*5) 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.*



6) 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 7.10 above.

7) Allow the petitioner to claim the capital spares at the end of tariff block as per actual.

8) Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if GST on transmission is withdrawn from negative list at any time in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.

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

### **Background**

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

(a) The Investment Approval (hereinafter referred to as “IA”) for implementation of Transmission System was accorded by Board of Directors of the Petitioner Company for ₹15604.00 lakh, including IDC of ₹767 lakh based on October, 2012 price level and communicated vide Memorandum No. C/CPAug. Of transformers in NR-Part-A dated 19.12.2012.

(b) The scope of the work covered under the transmission system is as follows:-

- i. Extension of 400/220 kV Allahabad Sub-station- 315 MVA, 400/220 kV Transformer.
- ii. Extension of 400/220 kV Bassi (Jaipur) Sub-station- 500 MVA, 400/220 kV Transformer.
- iii. Extension of 400/220 kV Meerut Sub-station- 500 MVA, 400/220 kV Transformer.
- iv. Extension of 400/220 kV Ludhiana Sub-station- 500 MVA, 400/220 kV Transformer.
- v. Extension of 400/220 kV Moga Sub-station- 2\*500 MVA, 400/220 kV Transformer (as replacement for 2\*250 MVA ICTs which will be refurbished and used as spare) along with 2 numbers of 220 kV bays.



- vi. Extension of 400/220 kV Wagoora Sub-station- 105 MVA, 400/220 kV Transformer single phase unit (to be kept as spare unit).
- vii. 500 MVA, 400/220 kV spare transformer for Northern Region located at Neemrana.

(c) Entire scope of work under the transmissionsystem is covered in the instant petition. The transmission system includes eight assets and they were combined in the 2019-24 tariff period. The details of the transmission assets under the transmission system are as follows:

Asset nomenclature in previous order	Name of Asset	Asset Nomenclature in current Petition	Previous order details	COD
Asset-I	500 MVA, 400/220/33 kV ICT-I along with associated bays at Moga Sub-station	Asset-1	Order dated 29.3.2020 in Petition No. 147/TT/2019	1.7.2013
Asset-II	500 MVA, 400/220/33 kV ICT-II along with associated bays at Moga Sub-station			1.3.2014
Asset-III	500 MVA 400/220 kV Spare Transformer for Northern Region at Neemrana			1.11.2013
Asset-A	ICT 500 MVA 400/220 kV Bassi Extension Sub-station	Asset-2	Order dated 2.6.2016 in Petition No. 410/TT/2014	16.10.2014
Asset-B	ICT 315 MVA 400/220 kV Allahabad Extension Sub-station	Asset-3		2.11.2014
Asset-C	ICT 500 MVA 400/220 kV Meerut Extension Sub-station	Asset-4		12.10.2014
Asset-D	400/220 kV, 105 MVA ICT along with associated bays at Wagoora Sub-station	Asset-5		14.1.2015
Asset-E	500 MVA ICT along with associated bays at Ludhiana Sub-station	Asset-6		1.4.2014
Asset-F	2 no. of 220 kV bays at Ludhiana Sub-station	Asset-7		4.12.2014
Asset-1	02 No. 220 kV Line Bays at Moga	Asset-8	Order dated 29.4.2016 in Petition No. 247/TT/2015	28.6.2015**

\*\* COD of the Asset-8 has been approved as 28.6.2015 under Regulation 4(3) of the 2014 Tariff Regulations due to non-readiness of downstream system viz. 220 kV downstream transmission line under the control of PSTCL.

(d) As per IA, the transmission assets were scheduled to be put into commercial operation within 22 months from the date of IA i.e. by 5.10.2014.



The details of scheduled commercial operation date (SCOD), date of commercial operation (COD) and time over-run are as follows:

Asset	SCOD	Nomenclature of the Asset in the previous order	COD	Time over-run
Asset-1	5.10.2014	Asset-I	1.7.2013	-
		Asset-II	1.3.2014	-
		Asset-III	1.11.2013	-
Asset-2		Asset-A	16.10.2014	11 days
Asset-3		Asset-B	2.11.2014	28 days
Asset-4		Asset-C	12.10.2014	7 days
Asset-5		Asset-D	14.1.2015	101 days
Asset-6		Asset-E	1.4.2014	-
Asset-7		Asset-F	4.12.2014	60 days
Asset-8		Asset-1	28.6.2015	9 months

(e) The tured up transmission tariff for 2009-14 tariff period and tariff of 2014-19 tariff period in respect of the Asset-1 was approved by the Commission vide order dated 29.3.2020 in Petition No. 147/TT/2019. Transmission tariff for 2014-19 tariff period in respect of Asset-2 to Asset-7 was approved by the Commission vide order dated 2.6.2016 in Petition No. 410/TT/2014 and transmission tariff for 2014-19 tariff period in respect of Asset-8 was allowed by the Commission vide order dated 29.4.2016 in Petition No. 247/TT/2015 respectively.

(f) The Petitioner filed Review Petition No. 31/RP/2016, seeking review of the order dated 29.4.2016 in Petition No. 247/TT/2015 on the limited extent of sharing of the transmission charges. The Commission vide order dated 26.8.2016 rejected the said Review Petition as they did not find error in holding the concerned Discom liable for the transmission charges for the period of mismatch, till completion of the downstream assets by it.

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

5. The Petitioner has served the petition on the Respondents and notice regarding filing of this petition has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003 (hereinafter referred to as “the 2003 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 any reply in the matter.

6. This order is issued considering the submissions made by the Petitioner in the petition dated 30.6.2020, the Petitioner’s affidavits dated 12.2.2021 and 3.12.2021.

7. The hearing in this matter was held on 2.11.2021 through video conference and the order was reserved. However, the order could not be issued before Shri P.K. Pujari, former Chairperson, demitted the office. Therefore, the matter was heard again on 23.6.2022 and order was reserved.

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

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

9. The details of the trued up transmission charges claimed by the Petitioner in respect of the transmission assets are as follows:

(₹ in lakh)					
<b>Asset-1</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	154.75	169.09	172.98	176.58	179.50
Interest on Loan	190.03	185.42	168.47	146.90	131.77
Return on Equity	172.43	189.33	193.68	197.71	201.51
Interest on working capital	17.57	18.37	18.36	18.24	18.26
O&M Expenses	102.51	105.91	109.43	113.06	116.81
<b>Total</b>	<b>637.29</b>	<b>668.12</b>	<b>662.92</b>	<b>652.49</b>	<b>647.85</b>





(₹ in lakh)

Asset-2					
Particulars	2014-15 (Pro-rata for 167 days)	2015-16	2016-17	2017-18	2018-19
Depreciation	35.55	83.47	92.00	98.85	98.92
Interest on Loan	46.17	98.19	95.45	87.69	77.93
Return on Equity	39.62	93.46	103.01	110.67	111.05
Interest on working capital	5.39	12.19	12.73	13.09	13.08
O&M Expenses	46.90	105.91	109.43	113.06	116.81
<b>Total</b>	<b>173.63</b>	<b>393.22</b>	<b>412.62</b>	<b>423.36</b>	<b>417.79</b>

(₹ in lakh)

Asset-3					
Particulars	2014-15 (Pro-rata for 150 days)	2015-16	2016-17	2017-18	2018-19
Depreciation	26.34	71.70	74.67	76.93	76.93
Interest on Loan	32.64	81.38	76.01	68.62	61.18
Return on Equity	29.35	80.28	83.60	86.14	86.36
Interest on working capital	4.36	11.22	11.44	11.58	11.62
O&M Expenses	42.13	105.91	109.43	113.06	116.81
<b>Total</b>	<b>134.82</b>	<b>350.49</b>	<b>355.15</b>	<b>356.33</b>	<b>352.90</b>

(₹ in lakh)

Asset-4					
Particulars	2014-15 (Pro-rata for 171 days)	2015-16	2016-17	2017-18	2018-19
Depreciation	36.02	82.78	90.46	96.70	96.78
Interest on Loan	46.36	97.11	94.54	87.36	77.80
Return on Equity	40.13	92.69	101.28	108.27	108.64
Interest on working capital	5.47	12.13	12.63	12.97	12.97
O&M Expenses	48.03	105.91	109.43	113.06	116.81
<b>Total</b>	<b>176.01</b>	<b>390.62</b>	<b>408.34</b>	<b>418.36</b>	<b>413.00</b>

(₹ in lakh)

Asset-5					
Particulars	2014-15 (Pro-rata for 77 days)	2015-16	2016-17	2017-18	2018-19
Depreciation	7.87	40.43	41.87	42.10	48.59
Interest on Loan	9.81	47.49	45.06	40.99	43.90
Return on Equity	8.77	45.26	46.87	47.13	54.54
Interest on working capital	0.61	3.07	3.08	3.00	3.38
O&M Expenses	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>27.06</b>	<b>136.25</b>	<b>136.88</b>	<b>133.22</b>	<b>150.41</b>



(₹ in lakh)

Asset-6					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	85.35	105.65	111.11	115.81	117.47
Interest on Loan	103.28	109.09	101.30	89.75	79.79
Return on Equity	91.43	110.96	117.07	122.33	124.51
Interest on working capital	14.44	15.76	16.12	16.36	16.52
O&M Expenses	144.72	149.52	154.49	159.61	164.91
<b>Total</b>	<b>439.22</b>	<b>490.98</b>	<b>500.09</b>	<b>503.86</b>	<b>503.20</b>

(₹ in lakh)

Asset-7					
Particulars	2014-15 (Pro-rata for 118 days)	2015-16	2016-17	2017-18	2018-19
Depreciation	7.15	24.75	25.92	26.67	26.67
Interest on Loan	8.40	25.71	24.24	22.02	19.50
Return on Equity	7.48	24.92	26.22	27.06	27.13
Interest on working capital	2.04	6.55	6.74	6.89	7.00
O&M Expenses	27.30	87.22	90.12	93.10	96.20
<b>Total</b>	<b>52.37</b>	<b>169.15</b>	<b>173.24</b>	<b>175.74</b>	<b>176.50</b>

(₹ in lakh)

Asset-8				
Particulars	2015-16 (Pro-rata for 278 days)	2016-17	2017-18	2018-19
Depreciation	20.22	28.68	32.21	35.29
Interest on Loan	21.62	28.69	28.15	30.47
Return on Equity	22.54	31.97	35.93	39.47
Interest on working capital	5.14	7.03	7.36	7.74
O&M Expenses	66.24	90.12	93.10	96.20
<b>Total</b>	<b>135.76</b>	<b>186.49</b>	<b>196.75</b>	<b>209.17</b>

10. The details of the trued up Interest on Working Capital (IWC) claimed by the Petitioner in respect of transmission assets are as follows:

(₹ in lakh)

Asset-1					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses	8.54	8.83	9.12	9.42	9.73
Maintenance Spares	15.38	15.89	16.41	16.96	17.52
Receivables	106.22	111.35	110.49	108.75	107.98
<b>Total</b>	<b>130.14</b>	<b>136.07</b>	<b>136.02</b>	<b>135.13</b>	<b>135.23</b>
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>17.57</b>	<b>18.37</b>	<b>18.36</b>	<b>18.24</b>	<b>18.26</b>



(₹ in lakh)

Asset-2					
Particulars	2014-15 (Pro-rata for 167 days)	2015-16	2016-17	2017-18	2018-19
O&M Expenses	8.54	8.83	9.12	9.42	9.73
Maintenance Spares	15.38	15.89	16.41	16.96	17.52
Receivables	63.25	65.54	68.77	70.56	69.63
<b>Total</b>	<b>87.17</b>	<b>90.26</b>	<b>94.30</b>	<b>96.94</b>	<b>96.88</b>
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>5.39</b>	<b>12.19</b>	<b>12.73</b>	<b>13.09</b>	<b>13.08</b>

(₹ in lakh)

Asset-3					
Particulars	2014-15 (Pro-rata for 150 days)	2015-16	2016-17	2017-18	2018-19
O&M Expenses	8.54	8.83	9.12	9.42	9.73
Maintenance Spares	15.38	15.89	16.41	16.96	17.52
Receivables	54.68	58.42	59.19	59.39	58.82
<b>Total</b>	<b>78.60</b>	<b>83.14</b>	<b>84.72</b>	<b>85.77</b>	<b>86.07</b>
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>4.36</b>	<b>11.22</b>	<b>11.44</b>	<b>11.58</b>	<b>11.62</b>

(₹ in lakh)

Asset-4					
Particulars	2014-15 (Pro-rata for 171 days)	2015-16	2016-17	2017-18	2018-19
O&M Expenses	8.54	8.83	9.12	9.42	9.73
Maintenance Spares	15.38	15.89	16.41	16.96	17.52
Receivables	62.62	65.10	68.06	69.73	68.83
<b>Total</b>	<b>86.54</b>	<b>89.82</b>	<b>93.59</b>	<b>96.11</b>	<b>96.08</b>
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>5.47</b>	<b>12.13</b>	<b>12.63</b>	<b>12.97</b>	<b>12.97</b>

(₹ in lakh)

Asset-5					
Particulars	2014-15 (Pro-rata for 77 days)	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	21.38	22.71	22.81	22.20	25.07
<b>Total</b>	<b>21.38</b>	<b>22.71</b>	<b>22.81</b>	<b>22.20</b>	<b>25.07</b>
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>0.61</b>	<b>3.07</b>	<b>3.08</b>	<b>3.00</b>	<b>3.38</b>



(₹ in lakh)

Asset-6					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses	12.06	12.46	12.87	13.30	13.74
Maintenance Spares	21.71	22.43	23.17	23.94	24.74
Receivables	73.20	81.83	83.35	83.98	83.87
<b>Total</b>	<b>106.97</b>	<b>116.72</b>	<b>119.39</b>	<b>121.22</b>	<b>122.35</b>
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>14.44</b>	<b>15.76</b>	<b>16.12</b>	<b>16.36</b>	<b>16.52</b>

(₹ in lakh)

Asset-7					
Particulars	2014-15 (Pro-rata for 118 days)	2015-16	2016-17	2017-18	2018-19
O&M Expenses	7.04	7.27	7.51	7.76	8.02
Maintenance Spares	12.66	13.08	13.52	13.97	14.43
Receivables	26.99	28.19	28.87	29.29	29.42
<b>Total</b>	<b>46.69</b>	<b>48.54</b>	<b>49.90</b>	<b>51.02</b>	<b>51.87</b>
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>2.04</b>	<b>6.55</b>	<b>6.74</b>	<b>6.89</b>	<b>7.00</b>

(₹ in lakh)

Asset-8				
Particulars	2015-16 (Pro-rata for 278 days)	2016-17	2017-18	2018-19
O&M Expenses	7.27	7.51	7.76	8.02
Maintenance Spares	13.08	13.52	13.97	14.43
Receivables	29.79	31.08	32.79	34.86
<b>Total</b>	<b>50.14</b>	<b>52.11</b>	<b>54.52</b>	<b>57.31</b>
Rate of Interest (in %)	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>5.14</b>	<b>7.03</b>	<b>7.36</b>	<b>7.74</b>

### Capital Cost

11. The Commission vide order dated 29.3.2020 in Petition No. 147/TT/2019 in respect of Asset-1, vide order dated 2.6.2016 in Petition No. 410/TT/2014 in respect of Asset-2 to Asset-7 and vide order dated 29.4.2016 in Petition No. 247/TT/2015 in respect of Asset-8 has approved the following capital cost and ACE for the transmission assets which are as follows:



(₹ in lakh)

Assets	Approved Apportioned Cost	Admitted Cost as on COD 1.4.2014	Additional Capitalisation 2014-19					Total cost as on 31.3.2019
			2014-15	2015-16	2016-17	2017-18	2018-19	
Asset-1	4761.47	2591.51	421.89	121.43	25.83	120.5	125.15	3406.31
Asset-2	2055.02	1395.95	102.4	383.17	0.00	0.00	0.00	1881.52
Asset-3	1793.91	1083.56	90.87	368.74	0.00	0.00	0.00	1543.17
Asset-4	2046.87	1372.75	151.34	239.4	0.00	0.00	0.00	1763.49
Asset-5	1232.97	674.83	50.25	100.62	150.93	0.00	0.00	976.63
Asset-6	2452.24	1277.12	554.07	298.34	0.00	0.00	0.00	2129.53
Asset-7	573.79	372.84	40.84	41.49	0.00	0.00	0.00	455.17
Asset-8	687.73	471.71	0.00	104.29	82.46	0.00	0.00	658.45

12. The Petitioner in the instant true up petition has claimed the following capital cost and actual ACE incurred for Asset-1 to Asset-8 and has submitted the Auditors Certificates in support of the same:

(₹ in lakh)

Assets	Approved Apportioned Cost	Admitted Capital Cost as on COD/ 31.3.2014	Actual Add Cap					Total cost as on 31.3.2019
			2014-15	2015-16	2016-17	2017-18	2018-19	
Asset-1	4761.47	2622.67	417.32	121.43	25.83	110.60	0.00	3297.85
Asset-2	2055.02	1400.98	148.13	65.18	256.42	2.78	0.00	1873.49
Asset-3	1793.91	1083.56	260.86	26.89	85.71	0.00	0.00	1457.02
Asset-4	2046.87	1382.26	164.58	49.44	233.77	2.86	0.00	1832.91
Asset-5	1232.97	696.90	50.25	45.78	0.00	8.71	237.28	1038.92
Asset-6	2452.24	1277.12	553.91	91.68	115.14	62.73	0.00	2100.58
Asset-7	573.79	376.08	40.84	12.54	28.30	0.00	0.00	457.76
Asset-8	687.73	483.72	0.00	53.25	12.47	116.54	0.00	665.97

13. Asset-1 is a combined asset comprising of 500 MVA, 400/220/33 kV ICT-I along with associated bays at Moga Sub-station; 500 MVA, 400/220/33 kV ICT-II along with associated bays at Moga Sub-station; 500 MVA 400/220 kV Spare Transformer for Northern Region at Neemrana and put into commercial operation in 2009-14 period. The capital cost in respect of Asset-1 is calculated in accordance with Regulation 9(3) and Regulation 9(6) of the 2014 Tariff Regulations. The Commission vide order dated 29.3.2020 in Petition No. 147/TT/2019 has approved capital cost of ₹2591.51 lakh as on 31.3.2014 for Asset-1. Against this, the Petitioner in the instant petition has claimed the enhanced capital cost as on 1.4.2014 of ₹2622.67 lakh. Based on the information available in the instant petition, it has been noticed that the Petitioner has added



the IDC of ₹16.68 lakh and undischarged initial spares of ₹9.90 lakh to the admitted capital cost of ₹2591.51 lakh as on 31.3.2014.

14. As regards IDC of ₹16.68 lakh, the same was disallowed in order dated 29.3.2020 in Petition No.147/TT/2019 due to computational difference. Therefore, IDC of ₹16.68 lakh is not added back to the capital cost. Taking into consideration the submissions of the Petitioner in the instant Petition, un-discharged initial spares of ₹9.90 lakh earlier deducted from capital cost as on COD of Asset-1, is now required to be allowed as on 1.4.2014 as the same was not included in the claim of the capital cost as on COD by the Petitioner. Accordingly, the opening capital cost as on 1.4.2014 in respect of Asset-1 is considered as follows:

(₹ in lakh)			
Asset	Admitted capital cost as on 31.3.2014	Undischarged Initial spares earlier deducted from COD cost	Capital cost considered as on 1.4.2014
<b>Asset-1</b>	2591.51	9.90	2601.41

15. Asset-2 to Asset-8 were put into commercial operation during 2014-19 tariff period. The capital cost as on COD is dealt in the subsequent paragraphs.

### **Cost Over-run**

16. The Petitioner has claimed total capital cost of ₹9323.29 lakh as on 1.4.2014/ COD and the total completion cost including ACE of ₹3401.22 lakh in respect of transmission assets is ₹12724.50 lakh. The Petitioner has submitted that the total completion cost of the instant transmission assets are within the FR approved cost and has prayed to allow the capital cost as claimed.

17. We have considered the submission of the Petitioner and observe that the completion cost including actual ACE in respect of the transmission assets is within the FR approved cost.



### Time Over-run

18. There is time over-run in case of all the transmission assets except for Asset-1. The time over-run in respect of Asset-2 to Asset-7 was considered by the Commission in order dated 2.6.2016 in Petition No. 410/TT/2014 and Asset-8 in order dated 29.4.2016 in Petition No. 247/TT/2015 and time over-run in case of all the assets was condoned. The said details are summarised in the following table:

Asset	SCOD	Asset Nomenclature in earlier petition	COD	Time over-run	Previous order	Time over-run condoned in previous order
Asset-1	5.10.2014	Asset-I	1.7.2013	-	Order dated 29.3.2020 in Petition No.147/TT/2019	-
		Asset-II	1.3.2014	-		-
		Asset-III	1.11.2013	-		-
Asset-2		Asset-A	16.10.2014	11 days	Order dated 2.6.2016 in Petition No.410/TT/2014	11days
Asset-3		Asset-B	2.11.2014	28 days		28 days
Asset-4		Asset-C	12.10.2014	7 days		7 days
Asset-5		Asset-D	14.1.2015	101 days		101 days
Asset-6		Asset-E	1.4.2014	-		-
Asset-7		Asset-F	4.12.2014	60 days		60 days
Asset-8		Asset-1	28.6.2015	9 months	Order dated 29.4.2016 in Petition No.247/TT/2015	9 months

### Interest During Construction (“IDC”) and Incidental Expenditure During Construction (“IEDC”)

19. The Petitioner has claimed Interest During Construction (IDC) for the transmission assets and has submitted Auditor’s Certificates in support of the same. The Petitioner has submitted computation of IDC along with the year-wise details of the IDC discharged.

20. The allowable IDC has been worked out considering the information submitted by the Petitioner for individual assets separately on cash basis. The loan details submitted in Form-9C for 2014-19 tariff period and the IDC computation



sheet have been considered for the purpose of IDC calculation on cash and accrued basis. The undischarged IDC as on COD has been considered as ACE during the year in which it has been discharged.

21. Accordingly, based on the information filed by the Petitioner, the IDC considered is summarised as follows:

(₹ in lakh)

Assets	IDC as per Auditor's Certificate	IDC difference due to computational difference	IDC Admissible	IDC Discharge as on COD	IDC Undischarged as on COD	IDC discharged during		
	A	B	C	D	E=C-D	2014-15	2015-16	2016-17
Asset-2	51.78	0.00	51.78	46.9	4.88	3.25	1.64	-
Asset-3	41.29	0.00	41.29	41.29	0.00	-	-	-
Asset-4	50.80	0.00	50.80	41.29	9.51	2.06	7.45	-
Asset-5	30.18	0.08	30.10	8.13	21.98	13.25	8.73	-
Asset-6	42.71	0.00	42.71	42.71	0.00	-	-	-
Asset-7	18.35	0.00	18.35	15.12	3.23	0.08	3.15	-
Asset-8	47.69	2.84	44.85	35.69	9.17	-	7.19	1.98

22. The Petitioner has claimed IEDC for the transmission assets and submitted Auditors' Certificate in support of the same. The Petitioner has also submitted that entire IEDC has been discharged as on COD in respect of the transmission assets. Accordingly, the IEDC is allowed as claimed subject to adjustment as per condonation of time over-run. The details of claimed and allowed IEDC are as follows:

(₹ in lakh)

Assets	IEDC claimed as per Auditor's Certificate	IEDC allowed as on COD
	1	2
Asset-2	18.60	18.60
Asset-3	14.83	14.83
Asset-4	18.24	18.24
Asset-5	33.42	33.42
Asset-6	35.73	35.73
Asset-7	29.13	29.13
Asset-8	29.43	29.43



## Initial Spares

23. Initial Spares are provided in Regulation 13(d) of the 2014 Tariff Regulations subject to the following ceiling norms:

- “(d) *Transmission system*  
 (i) *Transmission line* – 1.00%  
 (ii) *Transmission Sub-station (Green Field)* – 4.00%  
 (iii) *Transmission Sub-station (Brown Field)* – 6.00%  
 (iv) *Series Compensation devices and HVDC Station* – 4.00%  
 (v) *Gas Insulated Sub-station (GIS)* – 5.00%  
 (vi) *Communication system* – 3.5%  
 .....

24. The Petitioner has claimed the Initial Spares in respect of the transmission assets as follows:

Assets	Particulars	P&M cost (excluding IDC and IEDC, land cost and cost of civil works) (A)	Initial Spares Claimed (B)	Ceiling Limit (in %) (C)	Initial Spares Worked Out	Excess Initial Spares
					$D = [(A-B) * C / (100-C)]$	
Asset-1	Sub-station	3297.85	31.35	2.50	83.76	-
Asset-2	Sub-station	1803.11	71.98	6.00	110.50	-
Asset-3	Sub-station	1400.9	68.59	6.00	85.04	-
Asset-4	Sub-station	1763.87	68.59	6.00	108.21	-
Asset-5	Sub-station	975.33	34.33	6.00	60.06	-
Asset-6	Sub-station	2022.14	58.64	6.00	125.33	-
Asset-7	Sub-station	410.28	0.00	6.00	-	-
Asset-8	Sub-station	588.84	23.44	6.00	36.09	-

25. We have considered the submission of the Petitioner. The Initial spares for sub-station are allowable subject to the ceiling specified in Regulation 8(2) of the 2009 Regulations for Asset-1. The Initial Spares are allowable subject to the ceiling specified in Regulation 13(d) of the 2014 Tariff Regulations for Asset-2 to Asset-8. The Petitioner’s claim of Initial Spares is within the ceiling limit specified in Regulation 8(2) of the 2009 Regulations and Regulation 13(d) of the 2014 Tariff Regulations. Accordingly, the details of the Initial Spares allowed in respect of the transmission assets for 2014-19 tariff period are as follows:



**Sub-station****(₹ in lakh)**

Assets	P&M cost considered as on cut-off date	Initial Spares claimed	Norms as per the 2009 / 2014 Tariff Regulations (in %)	Initial Spares allowable as per the 2014 Tariff Regulations	Initial Spares allowed	Discharge of Initial Spares
						As on COD
Asset-2	1803.11	71.98	6.00	110.50	71.98	71.98
Asset-3	1400.9	68.59	6.00	85.04	68.59	68.59
Asset-4	1763.87	68.59	6.00	108.21	68.59	68.59
Asset-5	975.33	34.33	6.00	60.06	34.33	34.33
Asset-6	2022.14	58.64	6.00	125.33	58.64	58.64
Asset-7	410.28	0.00	-	-	0.00	0.00
Asset-8	588.84	23.44	6.00	36.09	23.44	23.44

**Decapitalisation**

26. The Commission vide order dated 29.3.2020 in Petition No. 147/TT/2019 had considered the de-capitalisation of 2 numbers of 250 MVA ICT at Moga Sub-station which were replaced after upgradation with 500 MVA ICTs. The relevant extracts of the order dated 29.3.2020 is as follows:

***“Treatment of decapitalisation of old ICTs***

27. The Commission vide order dated 20.7.2015 in petition no 163/TT/2013, in respect of ICT-I at Moga substation has held as under:-

*“20. Accordingly, de-capitalized asset's value has been arrived at on the basis of certain assumptions. In the absence of the original gross block and accumulated depreciation of the replaced asset, for the purpose of de-capitalisation, the remaining depreciable value (considering 19 years of elapsed life) of the new asset being claimed (i.e. the claimed capital cost up to 31-03-2014) has been considered as net value of replaced asset (i.e. 250 MVA ICT). Accordingly, net value of de-capitalised asset has been reduced from the capital cost allowed for 500 MVA ICT.*

28. Further, the Commission vide order dated 27.11.2015 in petition no 26/TT/2014, in respect of ICT-II at Moga substation has held as under:-

*“19. As the Petitioner has not submitted the date of de-capitalisation, the date of commissioning of new asset (i.e. 1.3.2014) has been considered as date of decapitalisation of old asset. The net value of de-capitalised asset has been worked out as ₹273.76 lakh (gross block of ₹737.56 less cumulative depreciation up to the date of de-capitalisation of ₹463.80 lakh) and the same has been reduced from capital cost claimed by the Petitioner for the instant asset (i.e. new 500 MVA, 400/220kV ICT-II at Moga Sub-station). The cumulative depreciation of de-capitalized asset up to the date of de-cap (i.e. ₹463.80) has been computed based on the details submitted by the petitioner (i.e. depreciation up to 31.3.2009 ₹393.97 plus pro-rata depreciation from 1.4.2009 to 28.2.2014 ₹69.83).”*



“32. We have considered the submissions of Petitioner and the Respondents. The Petitioner has submitted the following decapitalisation details in respect of Asset-I and Asset-II, and the same has been considered for the purpose of decapitalisation:-

(₹ in lakh)

<b>Asset</b>	<b>Date of de-capitalisation</b>	<b>Details of asset decapitalized</b>	<b>Date/ Year originally capitalised</b>	<b>Original admitted Gross block of de-capitalized asset</b>	<b>Cumulative depreciation up to the date of de-capitalisation</b>	<b>Capital cost De-capitalized as on COD of new asset</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6=4-5</b>
Asset-I	1.7.2013	1x250 MVA ICT at Moga under Kishenpur-Moga TS	31.3.2000	600.47	327.79	272.68
Asset-II	1.3.2014	1x250 MVA ICT at Moga under Chamera-Moga TS	19.5.1994	737.56	635.73	101.83

27. Initially, the Petitioner in the instant petition has claimed the capital cost of Asset-1 as on 1.4.2014 after carrying out the aforesaid de-capitalisation of 2 numbers of 250 MVA ICT at Moga Sub-station as considered by the Commission in the order dated 29.3.2020 in Petition No. 147/TT/2019.

28. The instant petition was listed for hearing on 2.11.2021 along with Petition No. 223/TT/2020 and Petition No. 488/TT/2019 for consideration of issue of decapitalisation, re-capitalisation and fixation of tariff with reference to 250 MVA 400/220 kV ICT at Bhadrawati (shifted from Moga Sub-station originally covered under Chamera Stage-I Transmission System associated with the Northern Region). During the course of hearing, the Commission decided to de-capitalise 250 MVA, 400/220 kV ICT (shifted from Moga Sub-station to Bhadrawati HVDC Sub-station) in the Petition No. 488/TT/2019 with effect from 1.4.2014 and there will be no de-capitalisation of the asset in the instant petition. Re-capitalisation will be done in Petition No. 223/TT/2020 with effect from 8.9.2017 as claimed by the Petitioner. Accordingly, the Petitioner was directed to submit revised tariff forms in



the instant petition, Petition No. 223/TT/2020 and Petition No. 488/TT/2019.

29. In response, the Petitioner vide affidavit dated 3.12.2021 has submitted the revised tariff forms and has claimed the following capital cost as on 1.4.2014 without de-capitalisation of the ICT-I at Moga Sub-station:

(₹ in lakh)

Particulars	Capital cost as on 1.4.2014 claimed in Petition No. 676/TT/2020 (A)	Addition of De-cap amount w.r.t. replaced /shifted ICT-I at Moga Sub-station (B)	Revised Capital Cost after de-cap (A-B)
Opening Gross Block as on 1.4.2014	2618.09	101.83	2719.92

30. The Commission vide order dated 26.5.2022 in Petition No. 488/TT/2019 has already decapitalised the original gross block of 250 MVA, 400/220/33 kV ICT from Moga Sub-station under Chamera Stage-I Transmission System associated with the Northern Region. The relevant paragraph 12 and paragraph 13 of the order dated 26.5.2022 in Petition No. 488/TT/2019 are extracted hereunder for reference:

*“13. As regards decapitalisation of 250 MVA, 400/220/33 kV ICT (shifted from Moga sub-station to Bhadrawati HVDC sub-station) in the instant petition the Petitioner has claimed the following details:*

(₹ in lakh)

Particulars	As per order dated 19.2.2021 in Petition No. 488/TT/2019 (A)	Less/De-cap amount w.r.t. replaced/ shifted ICT-I from Moga Sub-station to Bhadrawati Sub-station (B)	Revised Capital Cost after de-cap (A-B)
Opening Gross Block as on 1.4.2014	24629.96	737.56	23892.40
Cumulative depreciation up to previous year	15400.5	461.18*	14939.32

*\*Calculated as per Pro-rata Opening Depreciation considered in tariff Order in Petition No. 488/TT/2019.*

*14. Accordingly, we have considered the date of de-capitalisation of 250 MVA, 400/220/33 kV ICT as 1.4.2014 and date of re-capitalisation to be considered in Petition No. 223/TT/2020 is 8.9.2017. The capital cost of ₹23892.40(₹24629.96-₹737.56) lakh as on 1.4.2014 and 31.3.2019 has been considered for the purpose of truing up of the tariff for the 2014-19 tariff period.”*

31. Accordingly, de-capitalisation in respect of 250 MVA ICT in the instant petition is not required to be carried out further and the net gross block value of ₹101.83 lakh earlier reduced from the Gross block of Asset-1 is added back to the Gross Block of Asset-1 in this order.

32. As stated above, the Commission had considered de-capitalisation of 2 numbers of 250 MVA ICT at Moga Sub-station in Petition No. 147/TT/2019. Accordingly, with regard to another 250 MVA ICT at Moga Sub-station (originally covered under transmission system associated with Kishenpur Moga Transmission System in Northern Region), it has been observed that taking into consideration the submission of the Petitioner, the Commission in order dated 29.3.2020 in Petition No. 147/TT/2019 had carried out the decapitalisation of the 250 MVA ICT after reducing the value of net block (Gross Block less cumulative depreciation) instead of reducing value of Gross Block. The Petitioner in the instant petition while claiming the capital cost as on 1.4.2014 in respect of Asset-1 has also considered the value of net block instead of Gross Block.

33. Further, the Commission vide order dated 30.4.2021 in Petition No. 482/TT/2019 has trued up the tariff of the 2014-19 tariff period and approved the tariff of 2019-24 tariff period for Kishenpur Moga Transmission System in the Northern Region including the 250 MVA, 400/220/33 kV ICT decapitalised in Petition No. 147/TT/2019.

34. The Commission in several petitions has already held that the de-capitalisation of transmission element should be carried out in the original Project where the transmission asset was originally covered. Accordingly, in line with this decision of the Commission, 250 MVA ICT at Moga Sub-station is required to be de-capitalised from the original project i.e. from transmission system associated with Kishenpur Moga Transmission System in Northern Region. However, the Commission in order dated 30.4.2021 in Petition No. 482/TT/2019 has already trued up the tariff of the 2014-19 tariff period and approved the tariff of the 2019-24 tariff period in respect of this project. Therefore, decapitalisation of 250 ICT MVA from original project at this stage is not appropriate as the same will lead to reopening of the order dated 30.4.2021 thereby causing further delay in disposal of both these petitions. Accordingly, as a special case, we are of the view that gross block of 250 MVA ICT at Moga Sub-station (Originally covered under transmission system associated with Kishenpur Moga Transmission System in Northern Region) is required to be de-capitalised in the instant petition. However, the Petitioner is directed to de-capitalise this 250 MVA ICT with effect from 1.4.2019 from transmission system associated with Kishenpur Moga Transmission System in Northern Region at the time of truing up and decapitalisation done in the instant transmission project will be restored at the time of truing up.

#### **Capital cost as on COD**

35. Accordingly, the capital cost allowed as on 1.4.2014 in respect of Asset-1 is as follows:



(₹ in lakh)

Capital cost as on 1.4.2014 considered above (A)	Add: Value of net block of 250 MVA ICT-I shifted from Moga Sub-station to Bhadravati Sub-station already de-capitalised in 488/TT/2019 (B)	Less: Gross block of 250 MVA ICT on account of de-capitalisation (C)	Admitted Capital Cost as on 1.4.2014 (A+B-C)
2601.41	101.83	327.79**	2375.45

\*\* Net value of ₹272.68 lakh was already de-capitalised in Order dated 29.3.2020 in 147/TT/2019, accordingly, ₹327.79 lakh has been reduced further so as to ensure gross block of ₹ 600.47 lakh is reduced.

36. Further, the capital cost allowed as on COD for Asset-2 to Asset-8 is summarized as follows:

(₹ in lakh)

Assets	Capital cost as on COD as per Auditors' Certificate	Less: IDC as on COD due to		Capital cost considered as on COD
		Computation difference	Un-discharged	
	1	2	3	6=1-2-3-4-5
Asset-2	1400.98	0.00	4.88	1396.1
Asset-3	1083.56	0.00	0.00	1083.56
Asset-4	1382.26	0.00	9.51	1372.75
Asset-5	696.9	0.08	21.98	674.85
Asset-6	1277.12	0.00	0.00	1277.12
Asset-7	376.08	0.00	3.23	372.85
Asset-8	483.71	2.84	9.17	471.70

### Additional Capital Expenditure ("ACE")

37. The Commission vide order dated 29.3.2020 in Petition No. 147/TT/2019 in respect of Asset-1, order dated 2.6.2016 in Petition No. 410/TT/2014 in respect of Asset-2 to Asset-7, and order dated 29.4.2016 in Petition No.247/TT/2015 in respect of Asset-8 has approved the following ACE for the transmission assets:

(₹ in lakh)

Particulars	Additional Capital Expenditure				
	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-1	421.89	121.43	25.83	120.50	125.15
Asset-2	102.40	383.17	0.00	0.00	0.00
Asset-3	90.87	368.74	0.00	0.00	0.00
Asset-4	151.34	239.4	0.00	0.00	0.00
Asset-5	50.25	100.62	150.93	0.00	0.00
Asset-6	554.07	298.34	0.00	0.00	0.00
Asset-7	40.84	41.49	0.00	0.00	0.00
Asset-8	0.00	104.29	82.46	0.00	0.00



38. The Petitioner has claimed the following ACE for the transmission assets and has submitted that ACE has been claimed under Regulation 14(1)(i) and Regulation 14(1)(ii) of the 2014 Tariff Regulations and the same is within the cut-off date:

(₹ in lakh)

Particulars	Additional Capital Expenditure				
	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Asset-1</b>	417.32	121.43	25.83	110.60	0.00
<b>Asset-2</b>	148.13	65.18	256.42	2.78	0.00
<b>Asset-3</b>	260.86	26.89	85.71	0.00	0.00
<b>Asset-4</b>	164.58	49.44	233.77	2.86	0.00
<b>Asset-5</b>	50.25	45.78	0.00	8.71	237.28
<b>Asset-6</b>	553.91	91.68	115.14	62.73	0.00
<b>Asset-7</b>	40.84	12.54	28.30	0.00	0.00
<b>Asset-8</b>	0.00	53.25	12.47	116.54	0.00

39. We have considered the submissions of the Petitioner. The ACE claimed by the Petitioner has been allowed under Regulation 14(1)(i) and Regulation 14(1)(ii) of the 2014 Tariff Regulations as it is towards Balance and Retention payments and works deferred for execution. Further, IDC discharged is considered as ACE in its year of discharge. Accordingly, ACE allowed for the transmission assets for the 2014-19 tariff period are as follows:

(₹ in lakh)

Asset-1	ACE				
	2014-15	2015-16	2016-17	2017-18	2018-19
ACE to the extent of Balance & Retention Payments	217.83	121.43	25.83	110.60	0.00
Work deferred for execution/ ACE to the extent of unexecuted work	199.49	0.00	0.00	0.00	0.00
IDC Discharged	4.57	0.00	0.00	0.00	0.00
<b>Total ACE allowed</b>	<b>421.89</b>	<b>121.43</b>	<b>25.83</b>	<b>110.60</b>	<b>0.00</b>

(₹ in lakh)

Asset-2	ACE				
	2014-15	2015-16	2016-17	2017-18	2018-19
ACE to the extent of Balance & Retention Payments	102.20	17.45	154.18	2.78	0.00





Work deferred for execution/ ACE to the extent of unexecuted work	45.93	47.73	102.24	0.00	0.00
IDC Discharged	3.25	1.64	0.00	0.00	0.00
<b>Total ACE allowed</b>	<b>151.38</b>	<b>66.82</b>	<b>256.42</b>	<b>2.78</b>	<b>0.00</b>

(₹ in lakh)

<b>Asset-3</b>	<b>ACE</b>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
ACE to the extent of Balance & Retention Payments	244.96	0.00	72.79	0.00	0.00
Work deferred for execution/ ACE to the extent of unexecuted work	15.90	26.89	12.92	0.00	0.00
<b>Total ACE allowed</b>	<b>260.86</b>	<b>26.89</b>	<b>85.71</b>	<b>0.00</b>	<b>0.00</b>

(₹ in lakh)

<b>Asset-4</b>	<b>ACE</b>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
ACE to the extent of Balance & Retention Payments	147.51	30.82	113.26	2.86	0.00
Work deferred for execution/ ACE to the extent of unexecuted work	17.07	18.62	120.51	0.00	0.00
IDC Discharged	2.06	7.45	0.00	0.00	0.00
<b>Total ACE allowed</b>	<b>166.64</b>	<b>56.89</b>	<b>233.77</b>	<b>2.86</b>	<b>0.00</b>

(₹ in lakh)

<b>Asset-5</b>	<b>ACE</b>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
ACE to the extent of Balance & Retention Payments	9.89	6.37	0.00	8.45	237.28
Work deferred for execution/ ACE to the extent of unexecuted work	40.36	39.41	0.00	0.26	0.00
IDC Discharged	13.25	8.73	0.00	0.00	0.00
<b>Total ACE allowed</b>	<b>63.50</b>	<b>54.51</b>	<b>0.00</b>	<b>8.71</b>	<b>237.28</b>

(₹ in lakh)

<b>Asset-6</b>	<b>ACE</b>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
ACE to the extent of Balance & Retention Payments	103.62	91.63	93.26	62.73	0.00
Work deferred for execution/ ACE to the extent of unexecuted work	450.29	0.05	21.88	0.00	0.00
<b>Total ACE allowed</b>	<b>553.91</b>	<b>91.68</b>	<b>115.14</b>	<b>62.73</b>	<b>0.00</b>



(₹ in lakh)

Asset-7	ACE				
	2014-15	2015-16	2016-17	2017-18	2018-19
ACE to the extent of Balance & Retention Payments	40.84	12.54	28.30	0.00	0.00
Work deferred for execution/ ACE to the extent of unexecuted work	0.00	0.00	0.00	0.00	0.00
IDC Discharged	0.08	3.15	0.00	0.00	0.00
Total ACE allowed	<b>40.92</b>	<b>15.69</b>	<b>28.30</b>	<b>0.00</b>	<b>0.00</b>

(₹ in lakh)

Asset-8	ACE			
	2015-16	2016-17	2017-18	2018-19
ACE to the extent of Balance & Retention Payments	42.01	10.30	33.01	0.00
Work deferred for execution/ ACE to the extent of unexecuted work	11.24	2.17	83.53	0.00
IDC Discharged	7.19	1.98	0.00	0.00
Total ACE allowed	<b>60.44</b>	<b>14.45</b>	<b>116.54</b>	<b>0.00</b>

### **Capital Cost for the 2014-19 tariff period**

40. Accordingly, the capital cost of the transmission assets considered for 2014-19 tariff period are as follows:

(₹ in lakh)

Particulars	Capital Cost as on 31.3.2014 or COD on cash basis	Additional Capital Expenditure (ACE)					Total Capital Cost as on 31.3.2019
		2014-15	2015-16	2016-17	2017-18	2018-19	
Asset-1	2375.45	421.89	121.43	25.83	110.6	0.00	<b>3055.20</b>
Asset-2	1396.10	151.38	66.82	256.42	2.78	0.00	<b>1873.5</b>
Asset-3	1083.56	260.86	26.89	85.71	0.00	0.00	<b>1457.02</b>
Asset-4	1372.75	166.64	56.89	233.77	2.86	0.00	<b>1832.91</b>
Asset-5	674.85	63.5	54.51	0.00	8.71	237.28	<b>1038.85</b>
Asset-6	1277.12	553.91	91.68	115.14	62.73	0.00	<b>2100.58</b>
Asset-7	372.85	40.92	15.69	28.3	0.00	0.00	<b>457.76</b>
Asset-8	471.70	0.00	60.44	14.45	116.54	0.00	<b>663.13</b>

### **Debt-Equity Ratio**

41. The Petitioner has considered a debt-equity ratio of 70:30 as on COD and for Additional Capital Expenditure post COD. The debt-equity ratio of 70:30 has been



considered for capital cost as on COD and ACE during the 2014-19 period as provided under Regulation 19 of the 2014 Tariff Regulations. The details of debt-equity ratio in respect of the transmission assets as on the date of commercial operation and as on 31.3.2019 is as follows:

Asset-1	As on 1.4.2014		As on 31.3.2019	
	Amount	(in %)	Amount	(in %)
	(₹ in lakh)		(₹ in lakh)	
Debt	1662.82	70.00	2138.65	70.00
Equity	712.64	30.00	916.55	30.00
<b>Total</b>	<b>2375.45</b>	<b>100.00</b>	<b>3055.20</b>	<b>100.00</b>
Asset-2	As on COD		As on 31.3.2019	
	Amount	(in %)	Amount	(in %)
	(₹ in lakh)		(₹ in lakh)	
Debt	977.28	70.00	1311.47	70.00
Equity	418.82	30.00	562.03	30.00
<b>Total</b>	<b>1396.10</b>	<b>100.00</b>	<b>1873.50</b>	<b>100.00</b>
Asset-3	As on COD		As on 31.3.2019	
	Amount	(in %)	Amount	(in %)
	(₹ in lakh)		(₹ in lakh)	
Debt	758.49	70.00	1019.92	70.00
Equity	325.07	30.00	437.10	30.00
<b>Total</b>	<b>1083.56</b>	<b>100.00</b>	<b>1457.02</b>	<b>100.00</b>
Asset-4	As on COD		As on 31.3.2019	
	Amount	(in %)	Amount	(in %)
	(₹ in lakh)		(₹ in lakh)	
Debt	960.93	70.00	1283.05	70.00
Equity	411.82	30.00	549.86	30.00
<b>Total</b>	<b>1372.75</b>	<b>100.00</b>	<b>1832.91</b>	<b>100.00</b>
Asset-5	As on COD		As on 31.3.2019	
	Amount	(in %)	Amount	(in %)
	(₹ in lakh)		(₹ in lakh)	
Debt	472.39	70.00	727.22	70.00
Equity	202.45	30.00	311.63	30.00
<b>Total</b>	<b>674.85</b>	<b>100.00</b>	<b>1038.85</b>	<b>100.00</b>
Asset-6	As on COD		As on 31.3.2019	
	Amount	(in %)	Amount	(in %)
	(₹ in lakh)		(₹ in lakh)	
Debt	893.98	70.00	1470.41	70.00
Equity	383.14	30.00	630.17	30.00
<b>Total</b>	<b>1277.12</b>	<b>100.00</b>	<b>2100.58</b>	<b>100.00</b>
Asset-7	As on COD		As on 31.3.2019	
	Amount	(in %)	Amount	(in %)



	(₹ in lakh)		(₹ in lakh)	
Debt	261.00	70.00	320.45	70.00
Equity	111.85	30.00	137.31	30.00
Total	<b>372.85</b>	<b>100.00</b>	<b>457.76</b>	<b>100.00</b>
Asset-8	As on COD		As on 31.3.2019	
	Amount	(in %)	Amount	(in %)
	(₹ in lakh)		(₹ in lakh)	
Debt	330.19	70.00	464.19	70.00
Equity	141.51	30.00	198.93	30.00
Total	<b>471.70</b>	<b>100.00</b>	<b>663.13</b>	<b>100.00</b>

### Depreciation

42. The Petitioner's claim towards depreciation in this petition was found to be higher than the depreciation allowed in order dated 2.6.2016 in Petition No. 410/TT/2014 in respect of Asset-6 and Asset-7. It is observed that in order dated 2.6.2016 in Petition No. 410/TT/2014, the depreciation for IT equipment was allowed @5.28%. The Petitioner now at the time of truing-up of the tariff of the 2014-19 period has segregated the IT equipment cost from the Sub-station cost and has considered depreciation rate for IT Equipment @15% and the salvage value for IT Equipment is NIL as per the 2014 Tariff Regulations. A similar claim has been made by the Petitioner in some other petitions. In this regard, the Commission in order dated 9.5.2020 in Petition No. 19/TT/2020 held as follows:

*"31. We have considered the submissions of the Petitioner. The instant assets were put into commercial operation during the 2009-14 period and the tariff from the respective CODs to 31.3.2014 was allowed vide orders dated 30.8.2012 and 9.5.2013 in Petition No.343/2010 and Petition No. 147/TT/2011 respectively. Further, the tariff of the 2009-14 period was trued up and tariff for the 2014-19 period was allowed vide order dated 25.2.2016 in Petition No.10/TT/2015. The Petitioner did not claim any capital expenditure towards "IT Equipment" in the above said three petitions where tariff for the instant assets for the 2009-14 period was allowed, tariff of the 2009-14 period was trued up and tariff for 2014- 19 period was allowed even though there was a clear provision in the 2009 Tariff Regulations and 2014 Tariff Regulations providing depreciation @15% for IT Equipment. Having failed to make a claim as per the 2009 Tariff Regulations (the period during which COD of assets was achieved), the Petitioner has now, at the time of truing up of the tariff allowed for the 2014-19 period has apportioned apart of the capital expenditure to "IT Equipment". The Petitioner has adopted similar methodology not only in this but in some of the other petitions listed along with the instant petition on 26.2.2020. It is observed that the Petitioner has for the first time apportioned a part*



*of the capital expenditure towards IT Equipment and has claimed depreciation under the head “IT Equipment” @15% at the time of truing up of the tariff of 2014-19 period. Regulation 8(1) of the 2014 Tariff Regulations provides for truing up of the capital expenditure including the additional capital expenditure, incurred upto 31.3.2019, admitted by the Commission after prudence check. We are of the view that scope of truing up exercise is restricted to truing up of the capital expenditure already admitted and apportionment or reapportionment of the capital expenditure cannot be allowed at the time of truing up. Therefore, we are not inclined to consider the Petitioner’s prayer for apportionment of capital expenditure towards IT Equipment and allowing depreciation @ 15% from 1.4.2014 onwards. Accordingly, the depreciation @ 5.28% has been considered for IT Equipment as part of the substation upto 31.3.2019 while truing up the capital expenditure for the 2014-19 period. During the 2019-24 tariff period, the IT Equipment has been considered separately and depreciation has been allowed @ 15% for the balance depreciable value of IT Equipment in accordance with Regulation 33 read with Sr. No. (p) of the Appendix-I (Depreciation Schedule) of the 2019 Tariff Regulations.”*

43. In line with the above decision in order dated 9.5.2020 in Petition No. 19/TT/2020, depreciation has been considered for IT Equipment @5.28% as part of the sub-station upto 31.3.2019 while truing up the capital expenditure for the 2014-19 period for Asset-6 and Asset-7. However, for 2019-24 tariff period, the IT Equipment has been considered separately and depreciation has been allowed @15% for the balance depreciable value of IT Equipment in accordance with Regulation 33 of the 2019 Tariff Regulations.

44. 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 has been depreciated at weighted average rate of depreciation (WAROD) and working of WAROD is placed at Annexure-I to Annexure-VIII. The depreciation for 2014-19 period is trued-up for the transmission assets as per the methodology provided in Regulation 27 of the 2014 Tariff Regulations and the same are as follows:

(₹ in lakh)

Asset-1						
	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
A	Opening Gross Block	2375.45	2797.34	2918.77	2944.60	3055.20

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B	ACE	421.89	121.43	25.83	110.60	0.00
C	Closing Gross Block (A+B)	2797.34	2918.77	2944.60	3055.20	3055.20
D	Average Gross Block (A+C)/2	2586.40	2858.06	2931.69	2999.90	3055.20
E	Average Gross Block (90% depreciable assets)	2586.40	2858.06	2931.69	2999.90	3055.20
F	Average Gross Block (100% depreciable assets)	0.00	0.00	0.00	0.00	0.00
G	Depreciable value (excluding IT equipment and software) (E*90%)	2327.76	2572.25	2638.52	2699.91	2749.68
H	Depreciable value of IT equipment and software	0.00	0.00	0.00	0.00	0.00
I	Total Depreciable Value (G+H)	2327.76	2572.25	2638.52	2699.91	2749.68
J	Weighted Average Rate of Depreciation (WAROD) (in %)	5.28	5.28	5.28	5.28	5.28
K	Elapsed useful life at the beginning of the year (Year)	0.00	1.00	2	3	4
L	Balance useful life at the beginning of the year (Year)	25.00	24.00	23	22	21
M	<b>Depreciation during the year (D*J)</b>	<b>136.56</b>	<b>150.91</b>	<b>154.79</b>	<b>158.39</b>	<b>161.31</b>
N	Aggregate Cumulative Depreciation at the end of the year	182.14	333.05	487.84	646.23	807.55
O	Remaining Aggregate Depreciable Value at the end of the year(I-N)	2145.61	2239.20	2150.68	2053.68	1942.13

(₹ in lakh)

Asset-2						
	Particulars	2014-15 (Pro-rata for 167 days)	2015-16	2016-17	2017-18	2018-19
A	Opening Gross Block	1396.10	1547.48	1614.30	1870.72	1873.50
B	ACE	151.38	66.82	256.42	2.78	0.00
C	Closing Gross Block (A+B)	1547.48	1614.30	1870.72	1873.50	1873.50
D	Average Gross Block (A+C)/2	1471.79	1580.89	1742.51	1872.11	1873.50
E	Average Gross Block (90% depreciable assets)	1471.79	1580.89	1742.51	1872.11	1873.50
F	Average Gross Block (100% depreciable assets)	0.00	0.00	0.00	0.00	0.00
G	Depreciable value (excluding IT equipment and software) (E*90%)	1324.61	1422.80	1568.26	1684.90	1686.15
H	Depreciable value of IT equipment and software	0.00	0.00	0.00	0.00	0.00
I	Total Depreciable Value (G+H)	1324.61	1422.80	1568.26	1684.90	1686.15
J	Weighted Average Rate of Depreciation (WAROD) (in %)	5.28	5.28	5.28	5.28	5.28
K	Elapsed useful life at the beginning of the year (Year)	0.00	0.00	1.00	2.00	3.00



L	Balance useful life at the beginning of the year (Year)	25.00	25.00	24.00	23.00	22.00
M	<b>Depreciation during the year (D*J)</b>	<b>35.56</b>	<b>83.47</b>	<b>92.00</b>	<b>98.85</b>	<b>98.92</b>
N	Aggregate Cumulative Depreciation at the end of the year	35.56	119.03	211.03	309.88	408.80
O	Remaining Aggregate Depreciable Value at the end of the year(I-N)	1289.06	1303.77	1357.23	1375.02	1277.35

(₹ in lakh)

Asset-3						
	Particulars	2014-15 (Pro-rata for 150 days)	2015-16	2016-17	2017-18	2018-19
A	Opening Gross Block	1083.56	1344.42	1371.31	1457.02	1457.02
B	ACE	260.86	26.89	85.71	0.00	0.00
C	Closing Gross Block (A+B)	1344.42	1371.31	1457.02	1457.02	1457.02
D	Average Gross Block (A+C)/2	1213.99	1357.87	1414.17	1457.02	1457.02
E	Average Gross Block (90% depreciable assets)	1213.99	1357.87	1414.17	1457.02	1457.02
F	Average Gross Block (100% depreciable assets)	0.00	0.00	0.00	0.00	0.00
G	Depreciable value (excluding IT equipment and software) (E*90%)	1092.59	1222.08	1272.75	1311.32	1311.32
H	Depreciable value of IT equipment and software	0.00	0.00	0.00	0.00	0.00
I	Total Depreciable Value (G+H)	1092.59	1222.08	1272.75	1311.32	1311.32
J	Weighted Average Rate of Depreciation (WAROD) (in %)	5.28	5.28	5.28	5.28	5.28
K	Elapsed useful life at the beginning of the year (Year)	0.00	0.00	1.00	2.00	3.00
L	Balance useful life at the beginning of the year (Year)	25.00	25.00	24.00	23.00	22.00
M	<b>Depreciation during the year (D*J)</b>	<b>26.34</b>	<b>71.70</b>	<b>74.67</b>	<b>76.93</b>	<b>76.93</b>
N	Aggregate Cumulative Depreciation at the end of the year	26.34	98.04	172.71	249.64	326.57
O	Remaining Aggregate Depreciable Value at the end of the year(I-N)	1066.25	1124.04	1100.04	1061.68	984.75

(₹ in lakh)

Asset-4						
	Particulars	2014-15 (Pro-rata for 171 days)	2015-16	2016-17	2017-18	2018-19
A	Opening Gross Block	1372.75	1539.39	1596.28	1830.05	1832.91
B	ACE	166.64	56.89	233.77	2.86	0.00



C	Closing Gross Block (A+B)	1539.39	1596.28	1830.05	1832.91	1832.91
D	Average Gross Block (A+C)/2	1456.07	1567.84	1713.17	1831.48	1832.91
E	Average Gross Block (90% depreciable assets)	1456.07	1567.84	1713.17	1831.48	1832.91
F	Average Gross Block (100% depreciable assets)	0.00	0.00	0.00	0.00	0.00
G	Depreciable value (excluding IT equipment and software) (E*90%)	1310.46	1411.05	1541.85	1648.33	1649.62
H	Depreciable value of IT equipment and software	0.00	0.00	0.00	0.00	0.00
I	Total Depreciable Value (G+H)	1310.46	1411.05	1541.85	1648.33	1649.62
J	Weighted Average Rate of Depreciation (WAROD) (in %)	5.28	5.28	5.28	5.28	5.28
K	Elapsed useful life at the beginning of the year (Year)	0.00	0.00	1.00	2.00	3.00
L	Balance useful life at the beginning of the year (Year)	25.00	25.00	24.00	23.00	22.00
M	<b>Depreciation during the year (D*J)</b>	<b>36.02</b>	<b>82.78</b>	<b>90.46</b>	<b>96.70</b>	<b>96.78</b>
N	Aggregate Cumulative Depreciation at the end of the year	36.02	118.80	209.25	305.96	402.73
O	Remaining Aggregate Depreciable Value at the end of the year(I-N)	1274.45	1292.25	1332.59	1342.38	1246.88

(₹ in lakh)

Asset-5						
	Particulars	2014-15 (Pro-rata for 77 days)	2015-16	2016-17	2017-18	2018-19
A	Opening Gross Block	674.85	738.35	792.86	792.86	801.57
B	ACE	63.50	54.51	0.00	8.71	237.28
C	Closing Gross Block (A+B)	738.35	792.86	792.86	801.57	1038.85
D	Average Gross Block (A+C)/2	706.60	765.60	792.86	797.21	920.21
E	Average Gross Block (90% depreciable assets)	706.60	765.60	792.86	797.21	920.21
F	Average Gross Block (100% depreciable assets)	0.00	0.00	0.00	0.00	0.00
G	Depreciable value (excluding IT equipment and software) (E*90%)	635.94	689.04	713.57	717.49	828.18
H	Depreciable value of IT equipment and software	0.00	0.00	0.00	0.00	0.00
I	Total Depreciable Value (G+H)	635.94	689.04	713.57	717.49	828.18
J	Weighted Average Rate of Depreciation (WAROD) (in %)	5.28	5.28	5.28	5.28	5.28
K	Elapsed useful life at the	0.00	0.00	1.00	2.00	3.00





	beginning of the year (Year)					
L	Balance useful life at the beginning of the year (Year)	25.00	25.00	24.00	23.00	22.00
M	<b>Depreciation during the year (D*J)</b>	<b>7.87</b>	<b>40.42</b>	<b>41.86</b>	<b>42.09</b>	<b>48.59</b>
N	Aggregate Cumulative Depreciation at the end of the year	7.87	48.29	90.16	132.25	180.84
O	Remaining Aggregate Depreciable Value at the end of the year(I-N)	628.07	640.75	623.41	585.24	647.35

(₹ in lakh)

<b>Asset-6</b>						
	<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
A	Opening Gross Block	1277.12	1831.03	1922.71	2037.85	2100.58
B	ACE	553.91	91.68	115.14	62.73	0.00
C	Closing Gross Block (A+B)	1831.03	1922.71	2037.85	2100.58	2100.58
D	Average Gross Block (A+C)/2	1554.08	1876.87	1980.28	2069.22	2100.58
E	Average Gross Block (90% depreciable assets)	1520.69	1810.09	1913.50	2002.44	2033.80
F	Average Gross Block (100% depreciable assets)	33.39	66.78	66.78	66.78	66.78
G	Depreciable value (excluding IT equipment and software) (E*90%)	1368.62	1629.08	1722.15	1802.19	1830.42
H	Depreciable value of IT equipment and software	30.05	60.10	60.10	60.10	60.10
I	Total Depreciable Value (G+H)	1398.67	1689.18	1782.252	1862.29	1890.52
J	Weighted Average Rate of Depreciation (WAROD) (in %)	5.28	5.28	5.28	5.28	5.28
K	Elapsed useful life at the beginning of the year (Year)	0.00	1.00	2.00	3.00	4.00
L	Balance useful life at the beginning of the year (Year)	25.00	24.00	23.00	22.00	21.00
M	<b>Depreciation during the year (D*J)</b>	<b>82.10</b>	<b>99.16</b>	<b>104.62</b>	<b>109.32</b>	<b>110.98</b>
N	Aggregate Cumulative Depreciation at the end of the year	82.10	181.26	285.88	395.20	506.17
O	Remaining Aggregate Depreciable Value at the end of the year(I-N)	1316.57	1507.92	1496.37	1467.10	1384.35

(₹ in lakh)

<b>Asset-7</b>						
	<b>Particulars</b>	<b>2014-15 (Pro-rata for 118 days)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
A	Opening Gross Block	372.85	413.77	429.46	457.76	457.76
B	ACE	40.92	15.69	28.30	0.00	0.00
C	Closing Gross Block (A+B)	413.77	429.46	457.76	457.76	457.76
D	Average Gross Block (A+C)/2	393.31	421.62	443.61	457.76	457.76
E	Average Gross Block (90% depreciable assets)	381.87	398.74	420.73	434.88	434.88
F	Average Gross Block (100% depreciable assets)	11.44	22.88	22.88	22.88	22.88



G	Depreciable value (excluding IT equipment and software) (E*90%)	343.68	358.86	378.66	391.39	391.39
H	Depreciable value of IT equipment and software	10.30	20.59	20.59	20.59	20.59
I	Total Depreciable Value (G+H)	353.98	379.45	399.25	411.99	411.99
J	Weighted Average Rate of Depreciation (WAROD) (in %)	5.34	5.34	5.34	5.34	5.34
K	Elapsed useful life at the beginning of the year (Year)	0.00	0.00	1.00	2.00	3.00
L	Balance useful life at the beginning of the year (Year)	25.00	25.00	24.00	23.00	22.00
M	<b>Depreciation during the year (D*J)</b>	<b>6.80</b>	<b>22.53</b>	<b>23.70</b>	<b>24.44</b>	<b>24.44</b>
N	Aggregate Cumulative Depreciation at the end of the year	6.80	29.33	53.02	77.47	101.91
O	Remaining Aggregate Depreciable Value at the end of the year(I-N)	347.18	350.13	346.23	334.52	310.07

(₹ in lakh)

Asset-8					
	Particulars	2015-16 (Pro-rata for 278 days)	2016-17	2017-18	2018-19
A	Opening Gross Block	471.70	532.14	546.59	663.13
B	ACE	60.44	14.45	116.54	0.00
C	Closing Gross Block (A+B)	532.14	546.59	663.13	663.13
D	Average Gross Block (A+C)/2	501.92	539.36	604.86	663.13
E	Average Gross Block (90% depreciable assets)	501.92	539.36	604.86	663.13
F	Average Gross Block (100% depreciable assets)	0.00	0.00	0.00	0.00
G	Depreciable value (excluding IT equipment and software) (E*90%)	451.72	485.42	544.37	596.81
H	Depreciable value of IT equipment and software	0.00	0.00	0.00	0.00
I	Total Depreciable Value (G+H)	451.72	485.42	544.37	596.81
J	Weighted Average Rate of Depreciation (WAROD) (in %)	5.30	5.30	5.30	5.30
K	Elapsed useful life at the beginning of the year (Year)	0.00	0.00	1.00	2.00
L	Balance useful life at the beginning of the year (Year)	25.00	25.00	24.00	23.00
M	<b>Depreciation during the year (D*J)</b>	<b>20.22</b>	<b>28.60</b>	<b>32.06</b>	<b>35.14</b>
N	Aggregate Cumulative Depreciation at the end of the year	20.22	48.82	80.89	116.03
O	Remaining Aggregate Depreciable Value at the end of the year(I-N)	431.51	436.60	463.48	480.79



45. The details of the depreciation allowed for the transmission assets vide order dated 29.3.2020 in Petition No.147/TT/2019 in respect of Asset-1, vide order dated 2.6.2016 in Petition No. 410/TT/2014 in respect of Asset-2 to Asset-7 and vide order dated 29.4.2016 in Petition No.247/TT/2015 in respect of Asset-8, claimed by the Petitioner in the instant petition and trued up in the instant order are as follows:

(₹ in lakh)						
Asset	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-1	Allowed vide order dated 29.3.2020 in Petition No.147/TT/2019	147.97	162.31	166.2	170.06	176.55
	As claimed by the Petitioner	154.75	169.09	172.98	176.58	179.50
	Approved after truing up	136.56	150.91	154.79	158.39	161.31
Asset-2	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	34.96	89.23	99.34	99.34	99.34
	As claimed by the Petitioner	35.55	83.47	92.00	98.85	98.92
	Approved after truing up	35.56	83.47	92.00	98.85	98.92
Asset-3	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	24.50	71.74	81.48	81.48	81.48
	As claimed by the Petitioner	26.34	71.70	74.67	76.93	76.93
	Approved after truing up	26.34	71.70	74.67	76.93	76.93
Asset-4	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	35.83	86.79	93.11	93.11	93.11
	As claimed by the Petitioner	36.02	82.78	90.46	96.70	96.78
	Approved after truing up	36.02	82.78	90.46	96.70	96.78
Asset-5	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	7.80	40.94	47.58	51.57	51.57
	As claimed by the Petitioner	7.87	40.43	41.87	42.10	48.59
	Approved after truing up	7.87	40.42	41.86	42.09	48.59
Asset-6	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	82.06	104.56	112.44	112.44	112.44
	As claimed by the Petitioner	85.35	105.65	111.11	115.81	117.47
	Approved after truing up	82.10	99.16	104.62	109.32	110.98
	Allowed vide order dated 2.6.2016 in Petition	6.71	22.94	24.03	24.03	24.03



Asset-7	No.410/TT/2014					
	As claimed by the Petitioner	7.15	24.75	25.92	26.67	26.67
	Approved after truing up	6.80	22.53	23.70	24.44	24.44
Asset-8	Allowed vide order dated 29.4.2016 in Petition No.247/TT/2015	-	21.10	32.73	34.92	34.92
	As claimed by the Petitioner	-	20.22	28.68	32.21	35.29
	Approved after truing up	-	20.22	28.60	32.06	35.14

### **Interest on Loan (“IoL”)**

46. 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 a period of 5 years directly from the beneficiaries. We have considered the submissions of the Petitioner and accordingly calculated IoL based on actual interest rate, in accordance with Regulation 26 of the 2014 Tariff Regulations. The IoL has been worked out as follows: -

- 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.

47. The details of IoL allowed in respect of transmission assets for 2014-19 tariff period are as follows:

(₹ in lakh)						
<b>Asset-1</b>						
	<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
A	Gross Normative Loan	1662.82	1958.14	2043.14	2061.23	2138.65
B	Cumulative Repayments upto Previous Year	45.58	182.14	333.05	487.84	646.23
C	Net Loan-Opening (A-B)	1617.24	1776.00	1710.09	1573.39	1492.41
D	Addition due to	295.32	85.00	18.09	77.42	0.00



	Additional Capitalisation					
E	Repayment during the year	136.56	150.91	154.79	158.39	161.31
F	Net Loan-Closing (C+D-E)	1776.00	1710.09	1573.39	1492.41	1331.10
G	Average Loan (A+F)/2	1696.62	1743.04	1641.74	1532.90	1411.76
H	Weighted Average Rate of Interest on Loan (in %)	9.853	9.475	9.169	8.589	8.387
I	<b>Interest on Loan (GxH)</b>	<b>167.17</b>	<b>165.16</b>	<b>150.53</b>	<b>131.66</b>	<b>118.41</b>

(₹ in lakh)

Asset-2						
	Particulars	2014-15 (Pro-rata for 167 days)	2015-16	2016-17	2017-18	2018-19
A	Gross Normative Loan	977.28	1083.25	1130.03	1309.52	1311.47
B	Cumulative Repayments upto Previous Year	0.00	35.56	119.03	211.03	309.88
C	Net Loan-Opening (A-B)	977.28	1047.69	1011.00	1098.49	1001.59
D	Addition due to Additional Capitalisation	105.97	46.78	179.49	1.95	0.00
E	Repayment during the year	35.56	83.47	92.00	98.85	98.92
F	Net Loan-Closing (C+D-E)	1047.69	1011.00	1098.49	1001.59	902.67
G	Average Loan (A+F)/2	1012.48	1029.35	1054.75	1050.04	952.13
H	Weighted Average Rate of Interest on Loan (in%)	9.967	9.539	9.049	8.351	8.185
I	<b>Interest on Loan (GxH)</b>	<b>46.17</b>	<b>98.19</b>	<b>95.45</b>	<b>87.69</b>	<b>77.94</b>

(₹ in lakh)

Asset-3						
	Particulars	2014-15 (Pro-rata for 150 days)	2015-16	2016-17	2017-18	2018-19
A	Gross Normative Loan	758.49	941.09	959.92	1019.92	1019.92
B	Cumulative Repayments upto Previous Year	0.00	26.34	98.04	172.71	249.64
C	Net Loan-Opening (A-B)	758.49	914.75	861.88	847.21	770.28
D	Addition due to	182.60	18.82	60.00	0.00	0.00



<b>Asset-3</b>						
	<b>Particulars</b>	<b>2014-15 (Pro-rata for 150 days)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
	Additional Capitalisation					
E	Repayment during the year	26.34	71.70	74.67	76.93	76.93
F	Net Loan-Closing (C+D-E)	914.75	861.88	847.21	770.28	693.35
G	Average Loan (A+F)/2	836.62	888.32	854.55	808.75	731.82
H	Weighted Average Rate of Interest on Loan (in %)	9.494	9.161	8.894	8.485	8.360
I	<b>Interest on Loan (GxH)</b>	<b>32.64</b>	<b>81.38</b>	<b>76.01</b>	<b>68.62</b>	<b>61.18</b>

(₹ in lakh)

<b>Asset-4</b>						
	<b>Particulars</b>	<b>2014-15 (Pro-rata for 171 days)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
A	Gross Normative Loan	960.93	1077.58	1117.41	1281.05	1283.05
B	Cumulative Repayments upto Previous Year	0.00	36.02	118.80	209.25	305.96
C	Net Loan-Opening (A-B)	960.93	1041.56	998.61	1071.80	977.10
D	Addition due to Additional Capitalisation	116.65	39.83	163.64	2.00	0.00
E	Repayment during the year	36.02	82.78	90.46	96.70	96.78
F	Net Loan-Closing (C+D-E)	1041.56	998.61	1071.80	977.10	880.32
G	Average Loan (A+F)/2	1001.25	1020.09	1035.20	1024.45	928.71
H	Weighted Average Rate of Interest on Loan (in%)	9.883	9.519	9.132	8.528	8.377
I	<b>Interest on Loan (GxH)</b>	<b>46.36</b>	<b>97.10</b>	<b>94.54</b>	<b>87.36</b>	<b>77.80</b>

(₹ in lakh)

<b>Asset-5</b>						
	<b>Particulars</b>	<b>2014-15 (Pro-rata for 77 days)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
A	Gross Normative Loan	472.39	516.85	555.02	555.02	561.12



B	Cumulative Repayments upto Previous Year	0.00	7.87	48.29	90.16	132.25
C	Net Loan-Opening (A-B)	472.39	508.98	506.72	464.86	428.87
D	Addition due to Additional Capitalisation	44.46	38.16	0.00	6.10	166.10
E	Repayment during the year	7.87	40.42	41.86	42.09	48.59
F	Net Loan-Closing (C+D-E)	508.98	506.72	464.86	428.87	546.38
G	Average Loan (A+F)/2	490.69	507.85	485.79	446.86	487.62
H	Weighted Average Rate of Interest on Loan (in %)	9.481	9.351	9.275	9.172	9.003
I	<b>Interest on Loan (GxH)</b>	<b>9.81</b>	<b>47.49</b>	<b>45.06</b>	<b>40.99</b>	<b>43.90</b>

(₹ in lakh)

Asset-6						
	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
A	Gross Normative Loan	893.98	1281.72	1345.90	1426.50	1470.41
B	Cumulative Repayments upto Previous Year	0.00	82.10	181.26	285.88	395.20
C	Net Loan-Opening (A-B)	893.98	1199.62	1164.64	1140.62	1075.21
D	Addition due to Additional Capitalisation	387.74	64.18	80.60	43.91	0.00
E	Repayment during the year	82.10	99.16	104.62	109.32	110.98
F	Net Loan-Closing (C+D-E)	1199.62	1164.64	1140.62	1075.21	964.24
G	Average Loan (A+F)/2	1046.80	1182.13	1152.63	1107.92	1019.73
H	Weighted Average Rate of Interest on Loan (in %)	9.882	9.279	8.889	8.246	8.029
I	<b>Interest on Loan (GxH)</b>	<b>103.44</b>	<b>109.69</b>	<b>102.45</b>	<b>91.36</b>	<b>81.88</b>

(₹ in lakh)

Asset-7						
	Particulars	2014-15 (Pro-rata for 118 days)	2015-16	2016-17	2017-18	2018-19
A	Gross Normative Loan	261.00	289.65	300.64	320.45	320.45
B	Cumulative	0.00	6.80	29.33	53.02	77.47



	Repayments upto Previous Year					
C	Net Loan-Opening (A-B)	261.00	282.86	271.31	267.43	242.98
D	Addition due to Additional Capitalisation	28.65	10.99	19.81	0.00	0.00
E	Repayment during the year	6.80	22.53	23.70	24.44	24.44
F	Net Loan-Closing (C+D-E)	282.86	271.31	267.43	242.98	218.54
G	Average Loan (A+F)/2	271.93	277.08	269.37	255.21	230.76
H	Weighted Average Rate of Interest on Loan (in %)	9.561	9.328	9.123	8.832	8.761
I	<b>Interest on Loan (GxH)</b>	<b>8.41</b>	<b>25.85</b>	<b>24.58</b>	<b>22.54</b>	<b>20.22</b>

(₹ in lakh)

Asset-8					
	Particulars	2015-16 (Pro-rata for 278 days)	2016-17	2017-18	2018-19
A	Gross Normative Loan	330.19	372.50	382.61	464.19
B	Cumulative Repayments upto Previous Year	0.00	20.22	48.82	80.89
C	Net Loan-Opening (A-B)	330.19	352.28	333.79	383.30
D	Addition due to Additional Capitalisation	42.31	10.12	81.58	0.00
E	Repayment during the year	20.22	28.60	32.06	35.14
F	Net Loan-Closing (C+D-E)	352.28	333.79	383.30	348.16
G	Average Loan (A+F)/2	341.23	343.03	358.55	365.73
H	Weighted Average Rate of Interest on Loan (in %)	8.342	8.341	7.812	8.292
I	<b>Interest on Loan (GxH)</b>	<b>21.62</b>	<b>28.61</b>	<b>28.01</b>	<b>30.33</b>

48. The details of the IoL allowed for the transmission assets vide order dated 29.3.2020 in Petition No.147/TT/2019 in respect of Asset-1, vide order dated 2.6.2016 in Petition No. 410/TT/2014 in respect of Asset-2 to Asset-7 and vide order dated 29.4.2016 in Petition No.247/TT/2015 in respect of Asset-8 claimed by the Petitioner in the instant petition and trued up in the instant order are as follows:

(₹ in lakh)						
Asset	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
	Allowed vide order dated 29.3.2020 in	181.25	182.91	171.19	158.63	149.05





Asset-1	Petition No.147/TT/2019					
	As claimed by the Petitioner	190.03	185.42	168.47	146.90	131.77
	Approved after truing up	167.17	165.16	150.53	131.66	118.41
Asset-2	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	45.77	110.86	114.83	104.81	94.80
	As claimed by the Petitioner	46.17	98.19	95.45	87.69	77.93
	Approved after truing up	46.17	98.19	95.45	87.69	77.94
Asset-3	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	30.85	85.93	90.85	82.72	74.72
	As claimed by the Petitioner	32.64	81.38	76.01	68.62	61.18
	Approved after truing up	32.64	81.38	76.01	68.62	61.18
Asset-4	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	46.46	106.66	106.00	96.69	87.38
	As claimed by the Petitioner	46.36	97.11	94.54	87.36	77.80
	Approved after truing up	46.36	97.10	94.54	87.36	77.80
Asset-5	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	9.72	48.53	52.64	52.88	47.95
	As claimed by the Petitioner	9.81	47.49	45.06	40.99	43.90
	Approved after truing up	9.81	47.49	45.06	40.99	43.90
Asset-6	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	107.31	128.32	127.90	116.38	104.85
	As claimed by the Petitioner	103.28	109.09	101.30	89.75	79.79
	Approved after truing up	103.44	109.69	102.45	91.36	81.88
Asset-7	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	8.41	27.14	26.25	23.91	21.59
	As claimed by the Petitioner	8.40	25.71	24.24	22.02	19.50
	Approved after truing up	8.41	25.85	24.58	22.54	20.22



	up					
Asset-8	Allowed vide order dated 29.4.2016 in Petition No.247/TT/2015	-	22.56	32.91	32.54	29.71
	As claimed by the Petitioner	-	21.62	28.69	28.15	30.47
	Approved after truing up	-	21.62	28.61	28.01	30.33

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

49. The Petitioner has claimed RoE for the instant assets in terms of Regulation 24 and Regulation 25 of the 2014 Tariff Regulations. The Petitioner has submitted that they are liable to pay income tax at MAT rates and has claimed the following effective tax rates for 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

50. 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 and the same is given below. The same MAT rates as considered in 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 truing up of the tariff of the 2014-19 period in terms of the provisions of the 2014 Tariff Regulations.

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

2018-19	21.549	15.50	19.758
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51. Accordingly, the RoE allowed for 2014-19 tariff period for the transmission assets are as follows:

(₹ in lakh)

Asset-1						
	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
A	Opening Equity	712.64	839.20	875.63	883.37	916.55
B	Additions	126.57	36.43	7.74	33.18	0.00
C	Closing Equity (A-B)	839.20	875.63	883.37	916.55	916.55
D	Average Equity (A+B)/2	775.92	857.42	879.50	899.96	916.55
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
F	MAT Rate for respective year (in %)	20.961	21.342	21.342	21.342	21.549
G	Rate of Return on Equity	19.610	19.705	19.705	19.705	19.758
H	<b>Return on Equity (DxG)</b>	<b>152.16</b>	<b>168.95</b>	<b>173.31</b>	<b>177.34</b>	<b>181.09</b>

(₹ in lakh)

Asset-2						
	Particulars	2014-15 (Pro-rata for 167 days)	2015-16	2016-17	2017-18	2018-19
A	Opening Equity	418.82	464.23	484.27	561.20	562.03
B	Additions	45.41	20.04	76.93	0.83	0.00
C	Closing Equity (A-B)	464.23	484.27	561.20	562.03	562.03
D	Average Equity (A+B)/2	441.53	474.25	522.74	561.61	562.03
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
F	MAT Rate for respective year (in %)	20.961	21.342	21.342	21.342	21.549
G	Rate of Return on Equity	19.610	19.705	19.705	19.705	19.758
H	<b>Return on Equity (DxG)</b>	<b>39.61</b>	<b>93.45</b>	<b>103.01</b>	<b>110.67</b>	<b>111.05</b>

(₹ in lakh)

Asset-3						
	Particulars	2014-15 (Pro-rata for 150 days)	2015-16	2016-17	2017-18	2018-19
A	Opening Equity	325.07	403.33	411.39	437.10	437.10
B	Additions	78.26	8.07	25.71	0.00	0.00
C	Closing Equity (A-B)	403.33	411.39	437.10	437.10	437.10
D	Average Equity (A+B)/2	364.20	407.36	424.25	437.10	437.10
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
F	MAT Rate for respective year (in %)	20.961	21.342	21.342	21.342	21.549
G	Rate of Return on Equity	19.610	19.705	19.705	19.705	19.758
H	<b>Return on Equity (DxG)</b>	<b>29.35</b>	<b>80.27</b>	<b>83.60</b>	<b>86.13</b>	<b>86.36</b>



(₹ in lakh)

Asset-4						
	Particulars	2014-15 (Pro-rata for 171 days)	2015-16	2016-17	2017-18	2018-19
A	Opening Equity	411.82	461.81	478.87	549.00	549.86
B	Additions	49.99	17.06	70.13	0.86	0.00
C	Closing Equity (A-B)	461.81	478.87	549.00	549.86	549.86
D	Average Equity (A+B)/2	436.82	470.34	513.94	549.43	549.86
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
F	MAT Rate for respective year (in %)	20.961	21.342	21.342	21.342	21.549
G	Rate of Return on Equity	19.610	19.705	19.705	19.705	19.758
H	<b>Return on Equity (DxG)</b>	<b>40.13</b>	<b>92.68</b>	<b>101.27</b>	<b>108.26</b>	<b>108.64</b>

(₹ in lakh)

Asset-5						
	Particulars	2014-15 (Pro-rata for 77 days)	2015-16	2016-17	2017-18	2018-19
A	Opening Equity	202.45	221.49	237.84	237.84	240.45
B	Additions	19.04	16.35	0.00	2.61	71.18
C	Closing Equity (A-B)	221.49	237.84	237.84	240.45	311.63
D	Average Equity (A+B)/2	211.97	229.66	237.84	239.14	276.04
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
F	MAT Rate for respective year (in %)	20.961	21.342	21.342	21.342	21.549
G	Rate of Return on Equity	19.610	19.705	19.705	19.705	19.758
H	<b>Return on Equity (DxG)</b>	<b>8.77</b>	<b>45.26</b>	<b>46.87</b>	<b>47.12</b>	<b>54.54</b>

(₹ in lakh)

Asset-6						
	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
A	Opening Equity	383.14	549.31	576.81	611.35	630.17
B	Additions	166.17	27.50	34.54	18.82	0.00
C	Closing Equity (A-B)	549.31	576.81	611.35	630.17	630.17
D	Average Equity (A+B)/2	466.22	563.06	594.08	620.76	630.17
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
F	MAT Rate for respective year (in %)	20.961	21.342	21.342	21.342	21.549
G	Rate of Return on Equity	19.610	19.705	19.705	19.705	19.758
H	<b>Return on Equity (DxG)</b>	<b>91.43</b>	<b>110.95</b>	<b>117.06</b>	<b>122.32</b>	<b>124.51</b>



(₹ in lakh)

Asset-7						
	Particulars	2014-15 (Pro-rata for 118 days)	2015-16	2016-17	2017-18	2018-19
A	Opening Equity	111.85	124.12	128.82	137.31	137.31
B	Additions	12.27	4.70	8.49	0.00	0.00
C	Closing Equity (A-B)	124.12	128.82	137.31	137.31	137.31
D	Average Equity (A+B)/2	117.99	126.47	133.07	137.31	137.31
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
F	MAT Rate for respective year (in %)	20.961	21.342	21.342	21.342	21.549
G	Rate of Return on Equity	19.610	19.705	19.705	19.705	19.758
H	<b>Return on Equity (DxG)</b>	<b>7.48</b>	<b>24.92</b>	<b>26.22</b>	<b>27.06</b>	<b>27.13</b>

(₹ in lakh)

Asset-8					
	Particulars	2015-16 (Pro-rata for 278 days)	2016-17	2017-18	2018-19
A	Opening Equity	141.51	159.64	163.97	198.93
B	Additions	18.13	4.34	34.96	0.00
C	Closing Equity (A-B)	159.64	163.97	198.93	198.93
D	Average Equity (A+B)/2	150.57	161.81	181.45	198.93
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500
F	MAT Rate for respective year (in %)	21.342	21.342	21.342	21.549
G	Rate of Return on Equity	19.705	19.705	19.705	19.758
H	<b>Return on Equity (DxG)</b>	<b>22.54</b>	<b>31.88</b>	<b>35.76</b>	<b>39.31</b>

52. The details of the RoE allowed vide order dated 29.3.2020 in Petition No. 147/TT/2019 in respect of Asset-1, order dated 2.6.2016 in Petition No. 410/TT/2014 in respect of Asset-2 to Asset-7 and order dated 29.4.2016 in Petition No. 247/TT/2015 in respect of Asset-8, as claimed by the Petitioner in the instant petition and as trued up in the instant order are as follows:

(₹ in lakh)

Asset	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-1	Allowed vide order dated 29.3.2020 in Petition No.147/TT/2019	164.87	180.86	185.19	189.49	196.72
	As claimed by the Petitioner	172.43	189.33	193.68	197.71	201.51



	Approved after truing up	152.16	168.95	173.31	177.34	181.09
Asset-2	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	38.95	99.42	110.69	110.69	110.69
	As claimed by the Petitioner	39.62	93.46	103.01	110.67	111.05
	Approved after truing up	39.61	93.45	103.01	110.67	111.05
Asset-3	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	27.30	79.94	90.78	90.78	90.78
	As claimed by the Petitioner	29.35	80.28	83.60	86.14	86.36
	Approved after truing up	29.35	80.27	83.60	86.13	86.36
Asset-4	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	39.92	96.70	103.75	103.75	103.75
	As claimed by the Petitioner	40.13	92.69	101.28	108.27	108.64
	Approved after truing up	40.13	92.68	101.27	108.26	108.64
Asset-5	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	8.69	45.62	53.02	57.46	57.46
	As claimed by the Petitioner	8.77	45.26	46.87	47.13	54.54
	Approved after truing up	8.77	45.26	46.87	47.12	54.54
Asset-6	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	91.43	116.50	125.28	125.28	125.28
	As claimed by the Petitioner	91.43	110.96	117.07	122.33	124.51
	Approved after truing up	91.43	110.95	117.06	122.32	124.51
Asset-7	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	7.48	25.56	26.78	26.78	26.78
	As claimed by the Petitioner	7.48	24.92	26.22	27.06	27.13
	Approved after truing up	7.48	24.92	26.22	27.06	27.13
Asset-8	Allowed vide order dated 29.4.2016 in Petition No.247/TT/2015	-	23.41	36.31	38.74	38.74



	As claimed by the Petitioner	-	22.54	31.97	35.93	39.47
	Approved after truing up	-	22.54	31.88	35.76	39.31

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

53. The details of the O&M Expenses claimed by the Petitioner for the transmission assets are within norms specified under the 2014 Tariff Regulations. The Petitioner has not claimed O&M Expenses for Asset-5 for 2014-19 Tariff period.

54. Accordingly, the O&M Expenses allowed are as follows:

<b>Asset-1</b>					
<b>Sub-station</b>					
<b>Srl. No.</b>	<b>400 kV Sub-station</b>				
1	Moga:400 kV of ICT-I at Moga Sub-station				
<b>200 kV Sub-station</b>					
1	Moga:220 kV Bay of ICT-I at Moga Sub-station				
<b>O&amp;M Expenses</b>					
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Sub-station</b>					
400 kV					
Number of bays	1	1	1	1	1
200 kV					
Number of bays	1	1	1	1	1
<b>Total O&amp;M Expenses (₹ in lakh)</b>	102.51	105.91	109.43	113.06	116.81

<b>Asset-2</b>					
<b>Sub-station</b>					
<b>Srl. No.</b>	<b>400 kV Sub-station</b>				
1	Bassi:500 MVA ICT AT 400/220 kV Bassi Extension Sub-station				
<b>200 kV Sub-station</b>					
1	Bassi:500 MVA ICT AT 400/220 kV Bassi Extension Sub-station				
<b>O&amp;M Expenses</b>					
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Sub-station</b>					
400 kV					
Number of bays	1	1	1	1	1
200 kV					
Number of	1	1	1	1	1



bays					
<b>Total O&amp;M Expenses (₹ in lakh)</b>	46.90	105.91	109.43	113.06	116.81

<b>Asset-3</b>					
<b>Sub-station</b>					
<b>Srl. No.</b>	<b>400kV Sub-station</b>				
1	Allahabad:ICT 315 MVA 400/220 kV Allahabad Extension Sub-station				
	<b>200kV Sub-station</b>				
1	Allahabad:ICT 315 MVA AT 400/220 kV Allahabad Extension Sub-station				
<b>O&amp;M Expenses</b>					
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Sub-station</b>					
400 kV					
Number of bays	1	1	1	1	1
200 kV					
Number of bays	1	1	1	1	1
<b>Total O&amp;M Expenses (₹ in lakh)</b>	<b>42.13</b>	<b>105.91</b>	<b>109.43</b>	<b>113.06</b>	<b>116.81</b>

<b>Asset-4</b>					
<b>Sub-station</b>					
<b>Srl. No.</b>	<b>400 kV Sub-station</b>				
1	Meerut:ICT 500 MVA AT 400/220 kV Meerut Extension Sub-station				
	<b>200 kV Sub-station</b>				
1	Meerut:ICT 500 MVA AT 400/220 kV Meerut Extension Sub-station				
<b>O&amp;M Expenses</b>					
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Sub-station</b>					
400 kV					
Number of bays	1	1	1	1	1
200 kV					
Number of bays	1	1	1	1	1
<b>Total O&amp;M Expenses (₹ in lakh)</b>	<b>48.03</b>	<b>105.91</b>	<b>109.43</b>	<b>113.06</b>	<b>116.81</b>

<b>Asset-6</b>					
<b>Sub-station</b>					
<b>Srl. No.</b>	<b>400 kV Sub-station</b>				
1	Ludhiana:ICT AT Ludhiana				
	<b>200 kV Sub-station</b>				
1	Ludhiana:ICT Ludhiana				
2	Ludhiana:Line Bay 1				





O&M Expenses					
	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Sub-station</b>					
400 kV					
Number of bays	1	1	1	1	1
200 kV					
Number of bays	2	2	2	2	2
<b>Total O&amp;M Expenses (₹ in lakh)</b>	<b>144.72</b>	<b>149.52</b>	<b>154.49</b>	<b>159.61</b>	<b>164.91</b>

Asset-7					
Sub-station					
Srl. No.	200 kV Sub-station				
1	Ludhiana: Line Bay 1				
2	Ludhiana: Line Bay 2				
O&M Expenses					
	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Sub-station</b>					
200 kV					
Number of bays	2	2	2	2	2
<b>Total O&amp;M Expenses (₹ in lakh)</b>	<b>27.29</b>	<b>87.22</b>	<b>90.12</b>	<b>93.10</b>	<b>96.20</b>

Asset-8					
Sub-station					
Srl. No.	400kV Sub-station				
1	Moga:Ajitwal Bay Moga Moga (765 kV)				
2	Moga:Himmatpura Bay Moga Moga (765 kV)				
O&M Expenses					
	2015-16	2016-17	2017-18	2018-19	
<b>Sub-station</b>					
200 kV					
Number of bays	2	2	2	2	
<b>Total O&amp;M Expenses (₹ in lakh)</b>	<b>66.25</b>	<b>90.12</b>	<b>93.10</b>	<b>96.20</b>	

55. Regulation 29(4)(a) of the 2014 Tariff Regulations specifies the norms for O&M Expenses for the transmission system. The norms specified in respect of the elements covered in the transmission asset are as follows:

<b>Asset-1</b>						
<b>Element</b>	<b>UoM</b>	<b>Norms for 2014-15</b>	<b>Norms for 2015-16</b>	<b>Norms for 2016-17</b>	<b>Norms for 2017-18</b>	<b>Norms for 2018-19</b>
400 kV Sub-station	₹ lakh/bay	60.30	62.30	64.37	66.51	68.71
200 kV Sub-station	₹ lakh/km	42.21	43.61	45.06	46.55	48.10

<b>Asset-2</b>						
<b>Element</b>	<b>UoM</b>	<b>Norms for 2014-15</b>	<b>Norms for 2015-16</b>	<b>Norms for 2016-17</b>	<b>Norms for 2017-18</b>	<b>Norms for 2018-19</b>
400 kV Sub-station	₹ lakh/bay	60.30	62.30	64.37	66.51	68.71
200 kV Sub-station	₹ lakh/km	42.21	43.61	45.06	46.55	48.10

<b>Asset-3</b>						
<b>Element</b>	<b>UoM</b>	<b>Norms for 2014-15</b>	<b>Norms for 2015-16</b>	<b>Norms for 2016-17</b>	<b>Norms for 2017-18</b>	<b>Norms for 2018-19</b>
400 kV Sub-station	₹ lakh/bay	60.30	62.30	64.37	66.51	68.71
200 kV Sub-station	₹ lakh/km	42.21	43.61	45.06	46.55	48.10

<b>Asset-4</b>						
<b>Element</b>	<b>UoM</b>	<b>Norms for 2014-15</b>	<b>Norms for 2015-16</b>	<b>Norms for 2016-17</b>	<b>Norms for 2017-18</b>	<b>Norms for 2018-19</b>
400 kV Sub-station	₹ lakh/bay	60.30	62.30	64.37	66.51	68.71
200 kV Sub-station	₹ lakh/km	42.21	43.61	45.06	46.55	48.10

<b>Asset-6</b>						
<b>Element</b>	<b>UoM</b>	<b>Norms for 2014-15</b>	<b>Norms for 2015-16</b>	<b>Norms for 2016-17</b>	<b>Norms for 2017-18</b>	<b>Norms for 2018-19</b>
400 kV Sub-station	₹ lakh/bay	60.30	62.30	64.37	66.51	68.71
200 kV Sub-station	₹ lakh/km	42.21	43.61	45.06	46.55	48.10

<b>Asset-7</b>						
<b>Element</b>	<b>UoM</b>	<b>Norms for 2014-15</b>	<b>Norms for 2015-16</b>	<b>Norms for 2016-17</b>	<b>Norms for 2017-18</b>	<b>Norms for 2018-19</b>
200 kV Sub-station	₹ lakh/bay	42.21	43.61	45.06	46.55	48.10

<b>Asset-8</b>					
<b>Element</b>	<b>UoM</b>	<b>Norms for 2015-16</b>	<b>Norms for 2016-17</b>	<b>Norms for 2017-18</b>	<b>Norms for 2018-19</b>
200 kV Sub-station	₹ lakh/bay	43.61	45.06	46.55	48.10



56. We have considered the submissions of the Petitioner. The O&M Expenses approved for the transmission assets under Regulation 29(3) of the 2014 Tariff Regulations are as follows:

(₹ in lakh)

<b>Asset-1</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
1 Number of 400 kV Sub-station bays	60.30	62.30	64.37	66.51	68.71
1 Number of 220 kV Sub-station bays	42.21	43.61	45.06	46.55	48.10
<b>Total</b>	<b>102.51</b>	<b>105.91</b>	<b>109.43</b>	<b>113.06</b>	<b>116.81</b>

(₹ in lakh)

<b>Asset- 2</b>	<b>2014-15 (Pro-rata for 167 days)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
1 Number of 400 kV Sub-station bays	60.30	62.30	64.37	66.51	68.71
1 Number of 220 kV Sub-station bays	42.21	43.61	45.06	46.55	48.10
<b>Total</b>	<b>46.90</b>	<b>105.91</b>	<b>109.43</b>	<b>113.06</b>	<b>116.81</b>

(₹ in lakh)

<b>Asset- 3</b>	<b>2014-15 (Pro-rata for 150 days)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
1 Number of 400 kV Sub-station bays	60.30	62.30	64.37	66.51	68.71
1 Number of 220 kV Sub-station bays	42.21	43.61	45.06	46.55	48.10
<b>Total</b>	<b>42.13</b>	<b>105.91</b>	<b>109.43</b>	<b>113.06</b>	<b>116.81</b>

(₹ in lakh)

<b>Asset- 4</b>	<b>2014-15 (Pro-rata for 171 days)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
1 Number of 400 kV Sub-station bays	60.30	62.30	64.37	66.51	68.71
1 Number of 220 kV Sub-station bays	42.21	43.61	45.06	46.55	48.10
<b>Total</b>	<b>48.03</b>	<b>105.91</b>	<b>109.43</b>	<b>113.06</b>	<b>116.81</b>

(₹ in lakh)

<b>Asset -6</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
1 Number of 400 kV Sub-station bays	60.30	62.30	64.37	66.51	68.71
2 Numbers of 220 kV Sub-station bays	84.42	87.22	90.12	93.10	96.20



Asset -6	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Total</b>	<b>144.72</b>	<b>149.52</b>	<b>154.49</b>	<b>159.61</b>	<b>164.91</b>

(₹ in lakh)

Asset-7	2014-15 (Pro-rata for 118 days)	2015-16	2016-17	2017-18	2018-19
2 Numbers of 200 kV Sub-station bays	84.42	87.22	90.12	93.10	96.20
<b>Total</b>	<b>27.29</b>	<b>87.22</b>	<b>90.12</b>	<b>93.10</b>	<b>96.20</b>

(₹ in lakh)

Asset – 8	(Pro-rata for 278 days)	2016-17	2017-18	2018-19
2 Numbers of 200 kV Sub-station bays	87.22	90.12	93.10	96.20
<b>Total</b>	<b>66.25</b>	<b>90.12</b>	<b>93.10</b>	<b>96.20</b>

57. The details of the O&M Expenses approved vide order dated 29.3.2020 in Petition No.147/TT/2019 in respect of Asset-1, 2.6.2016 in Petition No.410/TT/2014 in respect of Asset-2 to Asset-7 and order dated 29.4.2016 in Petition No.247/TT/2015 in respect of Asset-8, O&M Expenses claimed by the Petitioner in the instant petition and trued up O&M Expenses allowed in the instant order are as follows:

(₹ in lakh)

Asset	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-1	Allowed vide order dated 29.3.2020 in Petition No.147/TT/2019	0.00	0.00	0.00	0.00	0.00
	As claimed by the Petitioner	102.51	105.91	109.43	113.06	116.81
	Approved after truing up	102.51	105.91	109.43	113.06	116.81
Asset-2	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	46.90	105.91	109.43	113.06	116.81
	As claimed by the Petitioner	46.90	105.91	109.43	113.06	116.81
	Approved after truing up	46.90	105.91	109.43	113.06	116.81
Asset-3	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	42.13	105.91	109.43	113.06	116.81



	As claimed by the Petitioner	42.13	105.91	109.43	113.06	116.81
	Approved after truing up	42.13	105.91	109.43	113.06	116.81
Asset-4	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	48.03	105.91	109.43	113.06	116.81
	As claimed by the Petitioner	48.03	105.91	109.43	113.06	116.81
	Approved after truing up	48.03	105.91	109.43	113.06	116.81
Asset-5	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	0.00	0.00	0.00	0.00	0.00
	As claimed by the Petitioner	0.00	0.00	0.00	0.00	0.00
	Approved after truing up	0.00	0.00	0.00	0.00	0.00
Asset-6	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	144.72	149.52	154.49	159.61	164.91
	As claimed by the Petitioner	144.72	149.52	154.49	159.61	164.91
	Approved after truing up	144.72	149.52	154.49	159.61	164.91
Asset-7	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	27.29	87.22	90.12	93.10	96.20
	As claimed by the Petitioner	27.30	87.22	90.12	93.10	96.20
	Approved after truing up	27.29	87.22	90.12	93.10	96.20
Asset-8	Allowed vide order dated 29.4.2016 in Petition No.247/TT/2015	-	66.25	90.12	93.10	96.20
	As claimed by the Petitioner	-	66.24	90.12	93.10	96.20
	Approved after truing up	-	66.25	90.12	93.10	96.20

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

58. The Petitioner has claimed IWC as per Regulation 28(1)(c) of the 2014 Tariff Regulations as follows:

#### **i. Working Capital for Maintenance spares:**



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

**ii. Working Capital for O&M Expenses:**

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

**iii. Working Capital for 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.

59. The trued up IWC allowed for the transmission assets for the 2014-19 tariff period is as follows:

(₹ in lakh)

Asset-1						
	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
A	Working Capital for O&M Expenses (one month of O&M Expenses)	8.54	8.83	9.12	9.42	9.73
B	Working Capital for Maintenance Spares (Maintenance Spares @15% of O&M expenses)	15.38	15.89	16.41	16.96	17.52
C	Working Capital for Receivables (Receivable equivalent to two months of fixed cost)	95.76	101.32	100.85	99.58	99.11
D	<b>Total Working Capital (A+B+C)</b>	<b>119.68</b>	<b>126.04</b>	<b>126.39</b>	<b>125.96</b>	<b>126.37</b>
E	Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
F	<b>Interest on Working Capital (DxE)</b>	<b>16.16</b>	<b>17.01</b>	<b>17.06</b>	<b>17.00</b>	<b>17.06</b>

(₹ in lakh)

Asset-2						
	Particulars	2014-15 (Pro-rata for 167 days)	2015-16	2016-17	2017-18	2018-19
A	Working Capital for O&M	8.54	8.83	9.12	9.42	9.73



	Expenses (one month of O&M Expenses)					
B	Working Capital for Maintenance Spares (Maintenance Spares @15% of O&M expenses)	15.38	15.89	16.41	16.96	17.52
C	Working Capital for Receivables (Receivable equivalent to two months of fixed cost)	63.25	65.53	68.77	70.56	69.63
D	<b>Total Working Capital (A+B+C)</b>	<b>87.17</b>	<b>90.25</b>	<b>94.30</b>	<b>96.94</b>	<b>96.89</b>
E	Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
F	<b>Interest on Working Capital (DxE)</b>	<b>5.38</b>	<b>12.18</b>	<b>12.73</b>	<b>13.09</b>	<b>13.08</b>

(₹ in lakh)

Asset-3						
	Particulars	2014-15 (Pro-rata for 150 days)	2015-16	2016-17	2017-18	2018-19
A	Working Capital for O&M Expenses (one month of O&M Expenses)	8.54	8.83	9.12	9.42	9.73
B	Working Capital for Maintenance Spares (Maintenance Spares @15% of O&M expenses)	15.38	15.89	16.41	16.96	17.52
C	Working Capital for Receivables (Receivable equivalent to two months of fixed cost)	54.68	58.41	59.19	59.39	58.82
D	<b>Total Working Capital (A+B+C)</b>	<b>78.60</b>	<b>83.12</b>	<b>84.72</b>	<b>85.77</b>	<b>86.07</b>
E	Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
F	<b>Interest on Working Capital (DxE)</b>	<b>4.36</b>	<b>11.22</b>	<b>11.44</b>	<b>11.58</b>	<b>11.62</b>

(₹ in lakh)

Asset-4						
	Particulars	2014-15 (Pro-rata for 171 days)	2015-16	2016-17	2017-18	2018-19
A	Working Capital for O&M Expenses (one month of O&M Expenses)	8.54	8.83	9.12	9.42	9.73
B	Working Capital for Maintenance Spares (Maintenance Spares @15% of O&M expenses)	15.38	15.89	16.41	16.96	17.52
C	Working Capital for Receivables (Receivable equivalent to two months of fixed cost)	62.61	65.10	68.05	69.73	68.83

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D	<b>Total Working Capital (A+B+C)</b>	<b>86.53</b>	<b>89.81</b>	<b>93.59</b>	<b>96.11</b>	<b>96.09</b>
E	Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
F	<b>Interest on Working Capital (DxE)</b>	<b>5.47</b>	<b>12.12</b>	<b>12.63</b>	<b>12.97</b>	<b>12.97</b>

(₹ in lakh)

<b>Asset-5</b>						
	<b>Particulars</b>	<b>2014-15 (Pro-rata for 77 days)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
A	Working Capital for O&M Expenses (one month of O&M Expenses)	0.00	0.00	0.00	0.00	0.00
B	Working Capital for Maintenance Spares (Maintenance Spares @15% of O&M expenses)	0.00	0.00	0.00	0.00	0.00
C	Working Capital for Receivables (Receivable equivalent to two months of fixed cost)	21.38	22.71	22.81	22.20	25.07
D	<b>Total Working Capital (A+B+C)</b>	<b>21.38</b>	<b>22.71</b>	<b>22.81</b>	<b>22.20</b>	<b>25.07</b>
E	Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
F	<b>Interest on Working Capital (DxE)</b>	<b>0.61</b>	<b>3.07</b>	<b>3.08</b>	<b>3.00</b>	<b>3.38</b>

(₹ in lakh)

<b>Asset-6</b>						
	<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
A	Working Capital for O&M Expenses (one month of O&M Expenses)	12.06	12.46	12.87	13.30	13.74
B	Working Capital for Maintenance Spares (Maintenance Spares @15% of O&M expenses)	21.71	22.43	23.17	23.94	24.74
C	Working Capital for Receivables (Receivable equivalent to two months of fixed cost)	72.68	80.82	82.44	83.14	83.11
D	<b>Total Working Capital (A+B+C)</b>	<b>106.45</b>	<b>115.71</b>	<b>118.48</b>	<b>120.39</b>	<b>121.59</b>
E	Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
F	<b>Interest on Working Capital (DxE)</b>	<b>14.37</b>	<b>15.62</b>	<b>16.00</b>	<b>16.25</b>	<b>16.42</b>

(₹ in lakh)

<b>Asset-7</b>						
	<b>Particulars</b>	<b>2014-15 (Pro-rata for 118 days)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
A	Working Capital for O&M Expenses	7.04	7.27	7.51	7.76	8.02

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	(one month of O&M Expenses)					
B	Working Capital for Maintenance Spares (Maintenance Spares @15% of O&M expenses)	12.66	13.08	13.52	13.97	14.43
C	Working Capital for Receivables (Receivable equivalent to two months of fixed cost)	26.81	27.84	28.55	29.00	29.16
D	<b>Total Working Capital (A+B+C)</b>	<b>46.51</b>	<b>48.19</b>	<b>49.58</b>	<b>50.72</b>	<b>51.61</b>
E	Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
F	<b>Interest on Working Capital (DxE)</b>	<b>2.03</b>	<b>6.51</b>	<b>6.69</b>	<b>6.85</b>	<b>6.97</b>

(₹ in lakh)

Asset-8					
	Particulars	2015-16 (Pro-rata for 278 days)	2016-17	2017-18	2018-19
A	Working Capital for O&M Expenses (one month of O&M Expenses)	7.27	7.51	7.76	8.02
B	Working Capital for Maintenance Spares (Maintenance Spares @15% of O&M expenses)	13.08	13.52	13.97	14.43
C	Working Capital for Receivables (Receivable equivalent to two months of fixed cost)	29.79	31.04	32.71	34.78
D	<b>Total Working Capital (A+B+C)</b>	<b>50.14</b>	<b>52.07</b>	<b>54.44</b>	<b>57.23</b>
E	Rate of Interest (in %)	13.50	13.50	13.50	13.50
F	<b>Interest on Working Capital (DxE)</b>	<b>5.14</b>	<b>7.03</b>	<b>7.35</b>	<b>7.73</b>

60. The details of the IWC approved vide order dated 29.3.2020 in Petition No. 147/TT/2019 in respect of Asset-1, vide order dated 2.6.2016 in Petition No. 410/TT/2014 in respect of Asset-2 to Asset-7 and vide order dated 29.4.2016 in Petition No. 247/TT/2015 in respect of Asset-8, tried up IWC claimed by the Petitioner and tried up IWC allowed in the instant order are as follows:

(₹ in lakh)

Asset	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
	Allowed vide order dated 29.3.2020 in Petition	11.37	12.11	12.03	11.93	12.02



Asset-1	No.147/TT/2019					
	As claimed by the Petitioner	17.57	18.37	18.36	18.24	18.26
	Approved after truing up	16.16	17.01	17.06	17.00	17.06
Asset-2	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	5.35	12.74	13.52	13.49	13.47
	As claimed by the Petitioner	5.39	12.19	12.73	13.09	13.08
	Approved after truing up	5.38	12.18	12.73	13.09	13.08
Asset-3	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	4.23	11.32	12.10	12.11	12.14
	As claimed by the Petitioner	4.36	11.22	11.44	11.58	11.62
	Approved after truing up	4.36	11.22	11.44	11.58	11.62
Asset-4	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	5.47	12.53	13.02	13.00	13.00
	As claimed by the Petitioner	5.47	12.13	12.63	12.97	12.97
	Approved after truing up	5.47	12.12	12.63	12.97	12.97
Asset-5	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	0.60	3.11	3.53	3.73	3.61
	As claimed by the Petitioner	0.61	3.07	3.08	3.00	3.38
	Approved after truing up	0.61	3.07	3.08	3.00	3.38
Asset-6	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	14.46	16.30	16.95	16.97	17.00
	As claimed by the Petitioner	14.44	15.76	16.12	16.36	16.52
	Approved after truing up	14.37	15.62	16.00	16.25	16.42
Asset-7	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	2.03	6.56	6.75	6.86	6.98
	As claimed by the Petitioner	2.04	6.55	6.74	6.89	7.00
	Approved after truing up	2.03	6.51	6.69	6.85	6.97



	up					
Asset-8	Allowed vide order dated 29.4.2016 in Petition No.247/TT/2015	-	5.20	7.32	7.59	7.69
	As claimed by the Petitioner	-	5.14	7.03	7.36	7.74
	Approved after truing up	-	5.14	7.03	7.35	7.73

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

61. Accordingly, the annual fixed charges approved in respect of the transmission assets after truing-up for 2014-19 tariff period are as follows:

(₹ in lakh)

<b>Asset-1</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	136.56	150.91	154.79	158.39	161.31
Interest on Loan	167.17	165.16	150.53	131.66	118.41
Return on Equity	152.16	168.95	173.31	177.34	181.09
O&M Expenses	102.51	105.91	109.43	113.06	116.81
Interest on Working Capital	16.16	17.01	17.06	17.00	17.06
<b>Total</b>	<b>574.55</b>	<b>607.94</b>	<b>605.13</b>	<b>597.46</b>	<b>594.69</b>

(₹ in lakh)

<b>Asset-2</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata for 167 days)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	35.56	83.47	92.00	98.85	98.92
Interest on Loan	46.17	98.19	95.45	87.69	77.94
Return on Equity	39.61	93.45	103.01	110.67	111.05
O&M Expenses	46.90	105.91	109.43	113.06	116.81
Interest on Working Capital	5.38	12.18	12.73	13.09	13.08
<b>Total</b>	<b>173.63</b>	<b>393.21</b>	<b>412.62</b>	<b>423.35</b>	<b>417.79</b>

(₹ in lakh)

<b>Asset-3</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata for 150 days)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	26.34	71.70	74.67	76.93	76.93
Interest on Loan	32.64	81.38	76.01	68.62	61.18
Return on Equity	29.35	80.27	83.60	86.13	86.36
O&M Expenses	42.13	105.91	109.43	113.06	116.81
Interest on Working Capital	4.36	11.22	11.44	11.58	11.62
<b>Total</b>	<b>134.82</b>	<b>350.48</b>	<b>355.14</b>	<b>356.32</b>	<b>352.90</b>



(₹ in lakh)

Asset-4					
Particulars	2014-15 (Pro-rata for 171 days)	2015-16	2016-17	2017-18	2018-19
Depreciation	36.02	82.78	90.46	96.70	96.78
Interest on Loan	46.36	97.10	94.54	87.36	77.80
Return on Equity	40.13	92.68	101.27	108.26	108.64
O&M Expenses	48.03	105.91	109.43	113.06	116.81
Interest on Working Capital	5.47	12.12	12.63	12.97	12.97
<b>Total</b>	<b>176.01</b>	<b>390.60</b>	<b>408.33</b>	<b>418.37</b>	<b>413.00</b>

(₹ in lakh)

Asset-5					
Particulars	2014-15 (Pro-rata for 77 days)	2015-16	2016-17	2017-18	2018-19
Depreciation	7.87	40.42	41.86	42.09	48.59
Interest on Loan	9.81	47.49	45.06	40.99	43.90
Return on Equity	8.77	45.26	46.87	47.12	54.54
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	0.61	3.07	3.08	3.00	3.38
<b>Total</b>	<b>27.06</b>	<b>136.24</b>	<b>136.86</b>	<b>133.20</b>	<b>150.41</b>

(₹ in lakh)

Asset-6					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	82.10	99.16	104.62	109.32	110.98
Interest on Loan	103.44	109.69	102.45	91.36	81.88
Return on Equity	91.43	110.95	117.06	122.32	124.51
O&M Expenses	144.72	149.52	154.49	159.61	164.91
Interest on Working Capital	14.37	15.62	16.00	16.25	16.42
<b>Total</b>	<b>436.06</b>	<b>484.94</b>	<b>494.62</b>	<b>498.86</b>	<b>498.68</b>

(₹ in lakh)

Asset-7					
Particulars	2014-15 (Pro-rata for 118 days)	2015-16	2016-17	2017-18	2018-19
Depreciation	6.80	22.53	23.70	24.44	24.44
Interest on Loan	8.41	25.85	24.58	22.54	20.22
Return on Equity	7.48	24.92	26.22	27.06	27.13
O&M Expenses	27.29	87.22	90.12	93.10	96.20
Interest on Working Capital	2.03	6.51	6.69	6.85	6.97
<b>Total</b>	<b>52.00</b>	<b>167.03</b>	<b>171.31</b>	<b>173.99</b>	<b>174.96</b>



(₹ in lakh)

<b>Asset-8</b>				
<b>Particulars</b>	<b>2015-16 (Pro-rata for 278 days)</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	20.22	28.60	32.06	35.14
Interest on Loan	21.62	28.61	28.01	30.33
Return on Equity	22.54	31.88	35.76	39.31
O&M Expenses	66.25	90.12	93.10	96.20
Interest on Working Capital	5.14	7.03	7.35	7.73
<b>Total</b>	<b>135.77</b>	<b>186.25</b>	<b>196.28</b>	<b>208.70</b>

62. Accordingly, the Annual Transmission Charges approved vide order dated 29.3.2020 in Petition No. 147/TT/2019 in respect of Asset-1, vide order dated 2.6.2016 in Petition No. 410/TT/2014 in respect of Asset-2 to Asset-7 and vide order dated 29.4.2016 in Petition No. 247/TT/2015 in respect of Asset-8, trued up AFC claimed by the Petitioner in the instant petition and trued up AFC allowed in the instant order are as follows:

<b>(₹ in lakh)</b>						
<b>Asset</b>	<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Asset-1	Allowed vide order dated 29.3.2020 in Petition No.147/TT/2019	505.47	538.19	534.61	530.11	534.34
	As claimed by the Petitioner	637.29	668.12	662.92	652.49	647.85
	Approved after truing up	574.55	607.94	605.13	597.46	594.69
Asset-2	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	171.93	418.16	447.82	441.40	435.11
	As claimed by the Petitioner	173.63	393.22	412.62	423.36	417.79
	Approved after truing up	173.63	393.21	412.62	423.35	417.79
Asset-3	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	128.99	354.84	384.64	380.15	375.93
	As claimed by the Petitioner	134.82	350.49	355.15	356.33	352.90
	Approved after truing up	134.82	350.48	355.14	356.32	352.90
Asset-4	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	175.70	408.60	425.31	419.61	414.04
	As claimed by the Petitioner	176.01	390.62	408.34	418.36	413.00
	Approved after truing up	176.01	390.60	408.33	418.37	413.00



Asset-5	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	26.81	138.20	156.76	165.63	160.58
	As claimed by the Petitioner	27.06	136.25	136.88	133.22	150.41
	Approved after truing up	27.06	136.24	136.86	133.20	150.41
Asset-6	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	439.97	515.21	537.06	530.68	524.48
	As claimed by the Petitioner	439.22	490.98	500.09	503.86	503.20
	Approved after truing up	436.06	484.94	494.62	498.86	498.68
Asset-7	Allowed vide order dated 2.6.2016 in Petition No.410/TT/2014	51.92	169.41	173.93	174.69	175.58
	As claimed by the Petitioner	52.37	169.15	173.24	175.74	176.50
	Approved after truing up	52.00	167.03	171.31	173.99	174.96
Asset-8	Allowed vide order dated 29.4.2016 in Petition No.247/TT/2015	-	138.52	199.40	206.88	207.26
	As claimed by the Petitioner	-	135.76	186.49	196.75	209.17
	Approved after truing up	-	135.77	186.25	196.28	208.70

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

63. The Petitioner has combined all transmission assets covered in the instant petition into one single “Combined Asset” and has submitted the tariff forms for the Combined Asset. Accordingly, as per proviso (i) of Regulation 8(1) of 2019 Tariff Regulations, single tariff for the Combined Asset has been worked out for the 2019-24 tariff period.

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

Particulars	(₹ in lakh)				
	2019-20	2020-21	201-22	2022-23	2023-24
Depreciation	687.78	690.21	691.27	691.27	691.27
Interest on Loan	477.54	421.16	366.05	309.66	251.32
Return on Equity	718.43	721.02	722.15	722.15	722.15
Interest on Working Capital	98.50	100.40	102.16	104.03	105.59
O&M Expenses	1610.21	1668.23	1726.73	1789.06	1848.58
<b>Total</b>	<b>3592.46</b>	<b>3601.02</b>	<b>3608.36</b>	<b>3616.17</b>	<b>3618.91</b>

65. The Petitioner has claimed the following IWC for the Combined Asset for 2019-24 tariff period:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	134.18	139.02	143.89	149.09	154.05
Maintenance Spares	241.53	250.23	259.01	268.36	277.29
Receivables	441.69	443.96	444.87	445.83	444.95
<b>Total</b>	<b>817.40</b>	<b>833.21</b>	<b>847.77</b>	<b>863.28</b>	<b>876.29</b>
Rate of Interest on working capital (in %)	12.05	12.05	12.05	12.05	12.05
<b>Interest on Working Capital</b>	<b>98.50</b>	<b>100.40</b>	<b>102.16</b>	<b>104.03</b>	<b>105.59</b>

### **Effective Date of Commercial Operation (“E-COD”)**

66. The Petitioner has claimed E-COD of 19.6.2014 of the Combined Asset based on the trued-up admitted capital cost and actual COD of all the transmission assets, the E-COD has been worked out as follows:

Computation of Effective COD						
Asset	Actual COD	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Weight of the cost (in%)	Number of days from last COD	Weighted days	Effective COD (Latest COD – Total weighted Days)
Asset-1	20.7.2013 (E-COD)	3055.20	24.48	708.00	173.34	<b>18.6.2014</b>
Asset-2	16.10.2014	1873.50	15.01	255.00	38.28	
Asset-3	2.11.2014	1457.02	11.68	238.00	27.79	
Asset-4	12.10.2014	1832.91	14.69	259.00	38.04	
Asset-5	14.1.2015	1038.85	8.32	165.00	13.74	
Asset-6	1.4.2014	2100.58	16.83	453.00	76.25	
Asset-7	4.12.2014	457.76	3.67	206.00	7.56	
Asset-8	28.6.2015	663.13	5.31	0.00	0.00	
<b>Total</b>		<b>12478.94</b>	<b>100.00</b>		<b>375.00</b>	

67. E-COD is used to determine the lapsed life of the project as a whole, which works out as 4 (four) 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”) of the Assets

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

69. WAL has been determined based on the admitted capital cost of individual elements as on 31.3.2019 and their respective life as specified in the 2019 Tariff Regulations. The life as defined in the 2019 Tariff Regulations has been considered for determination of WAL. Accordingly, WAL of the Combined Asset has been worked out as 25 years as follows:

Admitted Capital Cost as on 31.03.2019				
Particulars	Combined Asset Cost (₹ in lakh) (1)	Life as per 2019 Regulation (Years) (2)	Weighted Cost (3) = (1)x(2)	Weighted Average Life of Asset (in years) (4) =(3)/(1)
Building	0.00	25	0.00	
Transmission Line	0.00	35	0.00	
Sub-station	12344.90	25	308622.55	
PLCC	44.38	15	665.70	
Leasehold Land	0.00	25	0.00	
IT Equipment and Software	89.66	7	597.73	
<b>Total</b>	<b>12478.94</b>		<b>309885.98</b>	<b>(24.83 years rounded off to 25 years)</b>

70. WAL as on 1.4.2019 as determined above is applicable prospectively (i.e. for the 2019-24 tariff period onwards) and no retrospective adjustment of depreciation in previous tariff period is required to be done. As discussed in the preceding paragraphs, Effective COD of the Combined assets is 18.6.2014 and the lapsed





life of the project as a whole, works out as four (4) 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 21 years.

### **Capital Cost**

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

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

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

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



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

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

- (a) Capital cost admitted by the Commission prior to 1.4.2019 duly tried 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 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-capitalisation 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.”

72. The admitted capital cost of ₹12478.94 lakh as on 31.3.2019 as trued up in above paragraphs is considered as the opening capital cost as on 1.4.2019 for the purpose of determination of tariff for 2019-24 tariff period.

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

73. Regulation 24 and Regulation 25 of the 2019 Tariff Regulations provides as follows:-

#### **“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-capitalisation.*

(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.”*

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

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



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

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

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

74. The Petitioner has claimed following ACE in respect of the transmission assets during 2019-24 in accordance with Regulation 25(1)(d) of the 2019 Tariff Regulations:

Asset	Projected Actual Add Cap for	
	2019-20	2020-21
Asset-1	52.03	40.00

75. We have considered the submissions of the Petitioner. The ACE claimed for 2019-20 towards balance & retention payments and unexecuted work is allowed under Regulation 24(1) (a) and (b) and Regulation 25(1)(d) of the 2019 Tariff Regulations which is subject to true-up. The ACE allowed in respect of the Combined Asset is as follows:

(₹ in lakh)		
Asset	Particulars	ACE (2019-24)
Comined Asset	ACE to extent of Balance & Retention Payments and work deferred for execution before cut-off date/ after cut-off date	92.03

**Capital Cost for 2019-24 tariff period**

76. Accordingly, the capital cost of the Combined Asset considered for 2019-24 tariff period, subject to truing-up, is as follows:

(₹ in lakh)		
Capital Cost (as on 1.4.2019)	ACE (2019-20)	Total Estimated Completion Cost (up to 31.3.2024)
12478.94	92.03	12570.97

**Debt-Equity Ratio**

77. Regulation 18 of the 2019 Tariff Regulations provide as follows:

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

*Provided that:*

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

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

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



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

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

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

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

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

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

78. The details of the debt-equity considered for the purpose of computation of tariff for 2019-24 tariff period for the Combined Asset is as follows:

Particulars	Capital Cost as on 1.4.2019 (₹ in lakh)	(in %)	Total Capital Cost as on 31.3.2024 (₹ in lakh)	(in %)
Debt	8735.36	70.00	8799.78	70.00
Equity	3743.58	30.00	3771.19	30.00
<b>Total</b>	<b>12478.94</b>	<b>100.00</b>	<b>12570.97</b>	<b>100.00</b>

### **Depreciation**

79. Regulations 33 of the 2019 Tariff Regulations provide 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 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.*

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



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

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

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

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

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

80. We have considered the submissions of the Petitioner. The IT equipment has been considered as a part of the Gross Block and depreciated using weighted average rate of depreciation (WAROD). WAROD has been worked out (Annexure-IX) after taking into account the depreciation rates of IT and non-IT assets as prescribed in the 2019 Tariff Regulations. The salvage value of IT equipment has been considered nil, i.e. IT asset has been considered as 100% depreciable. The depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. The depreciation allowed for the Combined Asset is as follows:



(₹ in lakh)

Combined Asset						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
A	Opening Gross Block	12478.94	12530.97	12570.97	12570.97	12570.97
B	ACE	52.03	40.00	0.00	0.00	0.00
C	Closing Gross Block (A+B)	12530.97	12570.97	12570.97	12570.97	12570.97
D	Average Gross Block (A+C)/2	12504.96	12550.97	12570.97	12570.97	12570.97
E	Average Gross Block (90% depreciable assets)	12415.30	12461.31	12481.31	12481.31	12481.31
F	Average Gross Block (100% depreciable assets)	89.66	89.66	89.66	89.66	89.66
G	Depreciable value (excluding IT equipment and software) (E*90%)	11173.8	11215.2	11233.2	11233.2	11233.2
H	Depreciable value of IT equipment and software	89.66	89.66	89.66	89.66	89.66
I	Total Depreciable Value (G+H)	11263.43	11304.84	11322.84	11322.84	11322.84
J	Weighted Average Rate of Depreciation (WAROD) (in %)	5.35	5.35	5.35	5.35	5.35
K	Elapsed useful life at the beginning of the year (Year)	4.00	5.00	6.00	7.00	8.00
L	Balance useful life at the beginning of the year (Year)	21	20	19	18	17
M	<b>Depreciation during the year (D*J)</b>	<b>669.44</b>	<b>671.87</b>	<b>672.93</b>	<b>672.93</b>	<b>672.93</b>
N	Aggregate Cumulative Depreciation at the end of the year	3520.04	4191.91	4864.84	5537.77	6210.70
O	Remaining Aggregate Depreciable Value at the end of the year(I-N)	7743.39	7112.93	6458.00	5785.07	5112.14

### **Interest on Loan (“IoL”)**

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

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

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

(3) The repayment for each of the year of the tariff period 2019-24 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalisation 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.*

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

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

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

82. We have considered the submissions of the Petitioner. The weighted average rate of IoL has been considered on the basis of the 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, will be considered at the time of true-up. In view of the above, IoL has been worked out in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed in respect of the Combined Asset is as follows:

(₹ in lakh)						
<b>Combined Asset</b>						
	<b>Particular</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
A	Gross Normative Loan	8735.36	8771.78	8799.78	8799.78	8799.78



B	Cumulative Repayments upto Previous Year	2850.60	3520.04	4191.91	4864.84	5537.77
C	Net Loan-Opening (A-B)	5884.76	5251.74	4607.87	3934.94	3262.01
D	Additions	36.42	28.00	0.00	0.00	0.00
E	Repayment during the year	669.44	671.87	672.93	672.93	672.93
F	Net Loan-Closing (C+D-E)	5251.74	4607.87	3934.94	3262.01	2589.08
G	Average Loan (A+F)/2	5568.25	4929.81	4271.41	3598.48	2925.55
H	Weighted Average Rate of Interest on Loan (in %)	8.419	8.397	8.437	8.489	8.501
I	<b>Interest on Loan (GxH)</b>	<b>468.77</b>	<b>413.96</b>	<b>360.36</b>	<b>305.49</b>	<b>248.70</b>

### **Return on Equity (“RoE”)**

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

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

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

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

*Provided further that:*

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

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

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

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



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

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

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

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

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

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

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

#### **Illustration-**

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

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

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

- (a) Estimated Gross Income from generation or transmission business for FY 2019-20 is Rs 1,000 crore;  
(b) Estimated Advance Tax for the year on above is Rs 240 crore;  
(c) Effective Tax Rate for the year 2019-20 = Rs 240 Crore/Rs 1000 Crore = 24%;



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

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

84. The RoE allowed for the Combined Asset for 2019-24 tariff period under Regulation 30 of the 2019 Tariff Regulations is as follows:

(₹ in lakh)

Combined Asset						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
A	Opening Equity	3743.58	3759.19	3771.19	3771.19	3771.19
B	Addition due to ACE	15.61	12.00	0.00	0.00	0.00
C	Closing Equity (A+B)	3759.19	3771.19	3771.19	3771.19	3771.19
D	Average Equity (A+C)/2	3751.38	3765.19	3771.19	3771.19	3771.19
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
F	Tax Rate applicable (in %)	17.472	17.472	17.472	17.472	17.472
G	Applicable RoE Rate (in %)	18.782	18.782	18.782	18.782	18.782
H	<b>Return on Equity for the year (D*G)</b>	<b>704.59</b>	<b>707.18</b>	<b>708.31</b>	<b>708.31</b>	<b>708.31</b>

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

85. The O&M Expenses claimed for 2019-24 tariff period by the Petitioner for the Combined Asset asset are as follows:

Combined Asset	
Sub station	
Srl. No.	400 kV Sub-station Bays
1	Bassi:500 MVA ICT bay aT 400/220kV Bassi Extension Sub-station
2	Allahabad: 315 MVA ICT bay 400/220 kV Allahabad Extension Sub-station
3	Meerut: 500 MVA ICT bay at 400/220 kV Merut Extension Sub-station
4	Ludhiana:500 MVA 400/220 kV ICT bay at Ludhiana
5	Moga:400 kV of ICT-I bay at Moga Sub-station
200 kV Sub-station	
1	Ludhiana:ICT Bay at Ludhiana
2	Ludhiana:Line Bay 1
3	Ludhiana:Line Bay 1



4	Ludhiana:Line Bay 2				
5	Moga:Ajitwal Bay -Moga-Moga(765 kV)				
6	Moga:Himmatpura Bay--Moga-Moga(765 kV)				
7	Moga:220 kV Bay of ICT-I at Moga Sub-station				
8	Bassi:500 MVA ICT AT 400/220kV Bassi Extension Sub-Station				
9	Allahabad: 315 MVA ICT bay at 400/220 kV AllahabadExtension Sub-station				
10	Meerut: 500 MVA ICT bay at 400/220 kV Meerut Extension Sub-station				
<b>400 kV Sub-station ICT</b>					
1	Moga: 500 MVA ICT III at Moga				
2	Moga: 500 MVA ICT I at Moga				
3	Neemrana:500 MVA ICT at Neemrana				
4	Bassi:500 MVA ICT-III at Bassi				
5	Allahabad:315 MVA ICT at Allahabad				
6	Meerut:500 MVA ICT at Meerut				
7	Wagoora:105 MVA ICT at Wagoora				
8	Ludhiana:500 MVA ICT at Ludhiana				
O&M Expenses					
	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
<b>Sub-station</b>					
400 kV					
Number of bays	5	5	5	5	5
200 kV					
Number of bays	10	10	10	10	10
400 kV ICT					
MVA capacity	3420	3420	3420	3420	3420
<b>Total O&amp;M Expenses (₹ in lakh)</b>	<b>1610.21</b>	<b>1668.23</b>	<b>1726.73</b>	<b>1789.06</b>	<b>1848.58</b>

86. The norms specified under Regulation 35(3)(a) and Regulation 35(4) of 2019 Tariff Regulations provides as follows:

**“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>
<b>Norms for sub-station Bays (₹ Lakh per bay)</b>					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
132 kV and below	16.08	16.64	17.23	17.83	18.46
<b>Norms for Transformers (₹ Lakh per MVA)</b>					
765 kV	0.491	0.508	0.526	0.545	0.564
400 kV	0.358	0.371	0.384	0.398	0.411
220 kV	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.245	0.254	0.263	0.272	0.282
<b>Norms for AC and HVDC lines (₹ Lakh per km)</b>					



Single Circuit (Bundled Conductor with six or 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
<b>Norms for HVDC stations</b>					
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  $\pm 800$  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.”

87. We have considered the submissions of the Petitioner. The O&M Expenses allowed for 2019-24 tariff period in respect of the Combined Asset are as follows:

(₹ in lakh)					
<b>Combined Asset</b>					
<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
5 Numbers of 400 kV sub-station bays	160.75	166.40	172.25	178.30	184.55
10 Numbers of 400 kV sub-station bays	225.10	233.00	241.20	249.60	258.40
8 No of ICT at Moga-I, III , Neemrana, Bassi, Meerut, Ludhiana, Allahabad, Wagoora Substations	1224.36	1268.82	1313.28	1361.16	1405.62
<b>Total O&amp;M Expenses</b>	<b>1610.21</b>	<b>1668.22</b>	<b>1726.73</b>	<b>1789.06</b>	<b>1848.57</b>

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

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





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

.....

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

(i) *Receivables equivalent to 45 days of 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;”*

89. The Petitioner has submitted that it has computed the IWC for 2019-24 period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of IWC as 12.05%. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The rate of IWC considered is 12.05% (SBI 1 year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20 and 11.25% (SBI 1 year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) for 2020-21, 10.50% (SBI 1 year MCLR applicable as on 1.4.2021 of 7.00% plus 350 basis points) for 2021-22 and 10.60% (SBI 1 year MCLR applicable as on 1.4.2022 of 7.10% plus 350 basis points) for



2022-24. The components of the working capital and interest allowed thereon in respect of Combined Asset is as follows:

(₹ in lakh)

Combined Asset					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (Equivalent to O&M Expenses for 1 Month)	134.18	139.02	143.89	149.09	154.05
Working Capital for Maintenance Spares (Equivalent to 15% of O&M Expenses)	241.53	250.23	259.01	268.36	277.29
Working Capital for Receivables (Equivalent to 45 days of annual transmission charges)	436.59	438.20	438.49	439.72	439.03
<b>Total Working Capital</b>	<b>812.30</b>	<b>827.45</b>	<b>841.40</b>	<b>857.17</b>	<b>870.36</b>
Rate of Interest (in %)	12.05	11.25	10.50	10.60	10.60
<b>Interest of working capital</b>	<b>97.88</b>	<b>93.09</b>	<b>88.35</b>	<b>90.86</b>	<b>92.26</b>

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

90. The transmission charges allowed for the Combined asset for 2019-24 tariff period are summarised as follows:

(₹ in lakh)

Combined Asset					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	669.44	671.87	672.93	672.93	672.93
Interest on Loan	468.77	413.96	360.36	305.49	248.70
Return on Equity	704.59	707.18	708.31	708.31	708.31
Operation and Maintenance	1610.21	1668.22	1726.73	1789.06	1848.57
Interest of working capital	97.88	93.09	88.35	90.86	92.26
<b>Total</b>	<b>3550.89</b>	<b>3554.31</b>	<b>3556.67</b>	<b>3566.64</b>	<b>3570.77</b>

#### Filing Fee and Publication Expenses

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

92. 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 and RLDC Fees and Charges**

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

### **Goods and Services Tax**

94. We have considered the submission of the Petitioner and are of the opinion that GST is not levied on transmission service at present. Therefore, we are of the view that Petitioner's prayer is premature and the Petitioner is at liberty to approach this Commission if GST is levied upon transmission service in future.

### **Security Expenses**

95. The Petitioner has submitted that security expenses for the transmission assets/Combined Asset are not claimed in the instant petition and it would file a separate petition for claiming the overall security expenses and the consequential IWC.

96. We have considered the above submissions of Petitioner. The Petitioner has claimed consolidated security expenses for all the transmission assets owned by it on projected basis for 2019-24 tariff period on the basis of actual security expenses incurred in 2018-19 in Petition No. 260/MP/2020. The Commission vide order



dated 3.8.2021 in Petition No.260/MP/202 approved security expenses from 1.4.2019 to 31.3.2024. Therefore, the Petitioner's prayer in the instant petition for allowing it to file a separate petition for claiming the overall security expenses and consequential IWC has become infructuous.

### **Capital Spares**

97. 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**

98. The Petitioner has prayed that transmission charges for 2014-19 period may be allowed to be recovered on monthly basis in accordance with Regulation 42 and may be shared by the Respondents in accordance with Regulation 43 of the 2014 Tariff Regulations as per 2010 Sharing Regulations. The Petitioner has prayed that tariff for the 2019-24 period may be allowed to be recovered on monthly basis in accordance with Regulation 57 of the 2019 Tariff Regulations and may be shared by the beneficiaries and long term transmission customers as per the 2020 Sharing Regulations.

99. We have considered the submissions of the Peitioner. The Commission vide order dated 29.4.2016 in Petition No. 247/TT/2015 has approved the COD of the Asset-8 as 28.6.2015 under Regulation 4(3) of the 2014 Tariff Regulations due to non-readiness of downstream system viz. 220 kV downstream transmission line under the control of PSTCL. The Commission further held that the transmission charges of Asset-8 would be borne by the beneficiary Discoms (i.e. PSTCL) till the commercial operation of the downstream system under its scope. The Petitioner



preferred Review Petition No. 31/RP/2016 against the Commission's order dated 29.4.2016 in Petition No. 247/TT/2015 on the issue of sharing of the transmission charges. The Commission vide order dated 26.8.2016 rejected the said Review Petition.

100. The Asset-8 was executed on 28.6.2015 and the Petitioner has billed this asset on the concerned Discom till 27.3.2019 and thereafter transmission tariff of Asset-8 has been billed through POC mechanism and there is no bilateral billing on the concerned Discom in the 2019-24 Period.

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

102. To summarise,

(a) The trued-up Annual Fixed Charges allowed for the instant assets for 2014-19 tariff period are as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-1	574.55	607.94	605.13	597.46	594.69



(₹ in lakh)

Particulars	2014-15 (Pro-rata for 167 days)	2015-16	2016-17	2017-18	2018-19
Asset-2	173.63	393.21	412.62	423.35	417.79

(₹ in lakh)

Particulars	2014-15 (Pro-rata for 150 days)	2015-16	2016-17	2017-18	2018-19
Asset-3	134.82	350.48	355.14	356.32	352.90

(₹ in lakh)

Particulars	2014-15 (Pro-rata for 171 days)	2015-16	2016-17	2017-18	2018-19
Asset-4	176.01	390.60	408.33	418.37	413.00

(₹ in lakh)

Particulars	2014-15 (Pro-rata for 77 days)	2015-16	2016-17	2017-18	2018-19
Asset-5	27.06	136.24	136.86	133.20	150.41

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-6	436.06	484.94	494.62	498.86	498.68

(₹ in lakh)

Particulars	2014-15 (Pro-rata for 118 days)	2015-16	2016-17	2017-18	2018-19
Asset-7	52.00	167.03	171.31	173.99	174.96

(₹ in lakh)

Particulars	2015-16 (Pro-rata for 278 days)	2016-17	2017-18	2018-19
Asset-8	135.77	186.25	196.28	208.70

(b) The Annual Fixed Charges allowed for the Combined Asset for 2019-24 tariff period in this order are as follows:

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Combined Asset	3550.89	3554.31	3556.67	3566.64	3570.77



103. The Annexure-I to Annexure-IX given hereinafter form part of the order.

104. This order disposes of Petition No. 676/TT/2020 in terms of the above discussion and findings.

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

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

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



**Annexure-I**

**Asset-1**

Particulars	Admitted Capital Cost as on 1.4.2014 (₹ in lakh)	ACE 2014-19	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations (₹ in lakh)				
					2014-15	2015-16	2016-17	2017-18	2018-19
<b>Sub station</b>	2375.45	679.75	3055.20	5.28	136.56	150.91	154.79	158.39	161.31
<b>Total</b>	<b>2375.45</b>	<b>679.75</b>	<b>3055.20</b>		<b>136.56</b>	<b>150.91</b>	<b>154.79</b>	<b>158.39</b>	<b>161.31</b>
Weighted Average Rate of Depreciation (in %)					5.28	5.28	5.28	5.28	5.28
Average Gross Block (₹ in lakh)					2586.40	2858.06	2931.69	2999.90	3055.20





**Annexure-II**

**Asset-2**

Particulars	Admitted Capital Cost as on 1.4.2014 (₹ in lakh)	ACE 2014-19	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations (₹ in lakh)				
					2014-15	2015-16	2016-17	2017-18	2018-19
<b>Sub station</b>	1396.10	477.4	1873.50	5.28	77.71	83.47	92.00	98.85	98.92
<b>Total</b>	<b>1396.10</b>	<b>477.4</b>	<b>1873.50</b>		<b>77.71</b>	<b>83.47</b>	<b>92.00</b>	<b>98.85</b>	<b>98.92</b>
Weighted Average Rate of Depreciation (in %)					5.28	5.28	5.28	5.28	5.28
Average Gross Block (₹ in lakh)					1471.79	1580.89	1742.51	1872.11	1873.50



**Annexure-III**

**Asset-3**

Particulars	Admitted Capital Cost as on 1.4.2014 (₹ in lakh)	ACE 2014-19	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations (₹ in lakh)				
					2014-15	2015-16	2016-17	2017-18	2018-19
<b>Sub station</b>	1083.56	373.46	1457.02	5.28	64.1	71.70	74.67	76.93	76.93
<b>Total</b>	<b>1083.56</b>	<b>373.46</b>	<b>1457.02</b>		<b>64.1</b>	<b>71.70</b>	<b>74.67</b>	<b>76.93</b>	<b>76.93</b>
Weighted Average Rate of Depreciation (in %)					5.28	5.28	5.28	5.28	5.28
Average Gross Block (₹ in lakh)					1213.99	1357.87	1414.17	1457.02	1457.02



**Annexure-IV**

**Asset-4**

Particulars	Admitted Capital Cost as on 1.4.2014 (₹ in lakh)	ACE 2014-19	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations (₹ in lakh)				
					2014-15	2015-16	2016-17	2017-18	2018-19
<b>Sub station</b>	1372.75	460.16	1832.91	5.28	76.88	82.78	90.46	96.70	96.78
<b>Total</b>	<b>1372.75</b>	<b>460.16</b>	<b>1832.91</b>		<b>76.88</b>	<b>82.78</b>	<b>90.46</b>	<b>96.70</b>	<b>96.78</b>
Weighted Average Rate of Depreciation (in %)					5.28	5.28	5.28	5.28	5.28
Average Gross Block (₹ in lakh)					1456.07	1567.84	1713.17	1831.48	1832.91



**Annexure-V**

**Asset-5**

Particulars	Admitted Capital Cost as on 1.4.2014 (₹ in lakh)	ACE 2014-19	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations (₹ in lakh)				
					2014-15	2015-16	2016-17	2017-18	2018-19
<b>Sub station</b>	674.85	364.00	1038.85	5.28	37.31	40.42	41.86	42.09	48.59
<b>Total</b>	<b>674.85</b>	<b>364.00</b>	<b>1038.85</b>		<b>37.31</b>	<b>40.42</b>	<b>41.86</b>	<b>42.09</b>	<b>48.59</b>
Weighted Average Rate of Depreciation (in %)					5.28	5.28	5.28	5.28	5.28
Average Gross Block (₹ in lakh)					706.60	765.60	792.86	797.21	920.21



**Annexure-VI**

**Asset-6**

Particulars	Admitted Capital Cost as on 1.4.2014 (₹ in lakh)	ACE 2014-19	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations (₹ in lakh)				
					2014-15	2015-16	2016-17	2017-18	2018-19
<b>Sub station</b>	1273.43	754.21	2027.64	5.28	80.06	95.29	100.72	105.40	107.06
<b>PLCC</b>	3.69	2.47	6.16	6.33	0.28	0.34	0.37	0.39	0.39
<b>IT Equipment and software</b>	0.00	66.78	66.78	5.28	1.76	3.53	3.53	3.53	3.53
<b>Total</b>	<b>1277.12</b>	<b>823.46</b>	<b>2100.58</b>		<b>82.10</b>	<b>99.16</b>	<b>104.62</b>	<b>109.32</b>	<b>110.98</b>
Weighted Average Rate of Depreciation (in %)					5.28	5.28	5.28	5.28	5.28
Average Gross Block (₹ in lakh)					1554.08	1876.87	1980.28	2069.22	2100.58



## Annexure-VII

## Asset-7

Particulars	Admitted Capital Cost as on 1.4.2014 (₹ in lakh)	ACE 2014-19	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations(₹ in lakh)				
					2014-15	2015-16	2016-17	2017-18	2018-19
<b>Sub station</b>	349.87	58.96	408.83	5.28	18.88	19.69	20.84	21.59	21.59
<b>PLCC</b>	22.98	3.07	26.05	6.33	1.53	1.63	1.65	1.65	1.65
<b>IT Equipment and software</b>	0.00	22.88	22.88	5.28	0.60	1.21	1.21	1.21	1.21
<b>Total</b>	<b>372.85</b>	<b>84.91</b>	<b>457.76</b>		<b>21.02</b>	<b>22.53</b>	<b>23.70</b>	<b>24.44</b>	<b>24.44</b>
Weighted Average Rate of Depreciation (in %)					5.34	5.34	5.34	5.34	5.34
Average Gross Block (₹ in lakh)					393.31	421.62	443.61	457.76	457.76



**Annexure-VIII**

**Asset-8**

Particulars	Admitted Capital Cost as on 1.4.2014 (₹ in lakh)	ACE 2014-19	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations (₹ in lakh)			
					2015-16	2016-17	2017-18	2018-19
<b>Sub station</b>	461.2	189.75	650.96	5.28	25.91	27.84	31.29	34.37
<b>PLCC</b>	10.49	1.68	12.17	6.33	0.71	0.76	0.77	0.77
<b>Total</b>	<b>471.70</b>	<b>191.43</b>	<b>663.13</b>		<b>26.62</b>	<b>28.60</b>	<b>32.06</b>	<b>35.14</b>
Weighted Average Rate of Depreciation (in %)					5.30	5.30	5.30	5.30
Average Gross Block (₹ in lakh)					501.92	539.36	604.86	663.13



**Annexure-IX**

**Combined Asset**

Particulars	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	ACE 2019-24	Admitted Capital Cost as on 1.4.2024 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations (₹ in lakh)				
					2019-20	2020-21	2021-22	2022-23	2023-24
<b>Sub station</b>	12344.90	92.03	12436.93	0.00	653.18	655.61	656.67	656.67	656.67
<b>PLCC</b>	44.38	0.00	44.38	3.34	2.81	2.81	2.81	2.81	2.81
<b>IT Equipment and software</b>	89.66	0.00	89.66	5.28	13.45	13.45	13.45	13.45	13.45
<b>Total</b>	<b>12478.94</b>	<b>92.03</b>	<b>12570.97</b>		<b>669.44</b>	<b>671.87</b>	<b>672.93</b>	<b>672.93</b>	<b>672.93</b>
Weighted Average Rate of Depreciation (in %)					5.35	5.35	5.35	5.35	5.35
Average Gross Block (₹ in lakh)					12504.96	12550.97	12570.97	12570.97	12570.97

