

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 250/TT/2020**

**Coram:**

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

**Date of Order: 05.03.2021**

**In the matter of:**

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and truing up of transmission tariff of the 2014-19 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of the 2019-24 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 of **Asset-I:** Addition of 1X160 MVA, 220/132 kV ICT along with associated bays at Ara 220/132 kV Sub-station, **Asset II:** Addition of 1X500 MVA, 400/220 kV ICT along with associated bays at Muzaffarpur 400/220 kV Sub-station, **Asset III:** 1 No. of 1x125 MVAR Bus Reactor and associated bay at 400 KV Maithon Sub-station, **Asset IV:** Replacement of 1 No. of 1x315 MVA, 400/220 kV ICT with 1x500 MVA, 400/220 kV ICT (1st) at 400 KV Maithon Sub-station, **Asset V:** 01 No. of 01x125 MVAR Bus Reactor (1st) and associated bay equipment at 400 KV Durgapur Sub-station, **Asset VI:** 01 No. of 1x125 MVAR Bus Reactor (2nd) and associated bay equipment at 400 KV Durgapur Sub-station, **Asset VII:** 02 Nos of 125 MVAR Bus Reactor I & II at Rengali Sub-station, **Asset VIII:** Installation of 01x125 MVAR Bus Reactor by replacing existing 1x50 MVAR Bus Reactor at 400 KV Rourkela Sub-station, **Asset IX:** Installation of 01x125 MVAR Bus Reactor in Parallel with existing 50(3X16.67) MVAR Bus Reactor at Biharsharif Sub-station, **Asset X:** Installation of 1x125 MVAR Bus Reactor-II after replacing existing 1X50 MVAR Bus Reactor at Jamshedpur Sub-station, **Asset XI:** Installation of 1x125 MVAR Bus Reactor-I in Parallel with existing 1X50 MVAR Bus Reactor at Jamshedpur Sub-station, **Asset XII:** Installation of 1X125 MVAR Bus Reactor at 400 kV Gazuwaka Sub-station, **Asset XIII:** Replacement of 1 No. of 1x315 MVA, 400/220 kV ICT with 1x500 MVA, 400/220 kV ICT (2nd) at 400 KV Maithon Sub-station under "Eastern Region Strengthening scheme-IX" in Eastern Region.

**And in the Matter of:**

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

**....Petitioner**



**Vs**

1. Bihar State Power (Holding) Company Ltd  
(Formerly Bihar State Electricity Board -BSEB)  
Vidyut Bhavan, Bailey Road, Patna – 800001.
2. West Bengal State Electricity Distribution Company Ltd  
Bidyut Bhawan, Bidhan Nagar,  
Block DJ, Sector-II, Salt Lake City,  
Calcutta - 700091.
3. Grid Corporation of Orissa Ltd.  
Shahid Nagar, Bhubaneswar - 751007
4. Jharkhand State Electricity Board,  
In Front of Main Secretariat.  
Doranda, Ranchi – 834002.
5. Damodar Valley Corporation,  
DVC Tower, Maniktala.  
Civic Centre, VIP Road, Calcutta - 700054.
6. Power Department  
Government of Sikkim, Gangtok - 737101.

...**Respondents**

**For Petitioner** : Shri S. S. Raju, PGCIL  
Shri B. Dash, PGCIL

**For Respondents** : None

### **ORDER**

The instant petition has been filed by the Petitioner, Power Grid Corporation of India Limited, a deemed transmission licensee, for truing up of tariff of the period from COD 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 transmission assets under “Eastern Region Strengthening Scheme-IX” in Eastern Region (hereinafter referred to as “the transmission scheme”):

**Asset-I:** Addition of 1X160 MVA, 220/132 kV ICT along with associated bays at Ara 220/132 kV Sub-station

**Asset II:** Addition of 1X500 MVA, 400/220 kV ICT along with associated bays at Muzaffarpur 400/220 kV Sub-station

**Asset III:** 1 No. of 1x125 MVAR Bus Reactor and associated bay at 400 KV Maithon Sub-station

**Asset IV:** Replacement of 1 No. of 1x315 MVA, 400/220 kV ICT with 1x500 MVA, 400/220 kV ICT (1st) at 400 KV Maithon Sub-station

**Asset V:** 01 No. of 01x125 MVAR Bus Reactor (1st) and associated bay equipment at 400 KV Durgapur Sub-station

**Asset VI:** 01 No. of 1x125 MVAR Bus Reactor (2nd) and associated bay equipment at 400 KV Durgapur Sub-station

**Asset VII:** 02 Nos of 125 MVAR Bus Reactor I & II at Rengali Sub-station

**Asset VIII:** Installation of 01x125 MVAR Bus Reactor by replacing existing 1x50 MVAR Bus Reactor at 400 KV Rourkela Sub-station

**Asset IX:** Installation of 01x125 MVAR Bus Reactor in Parallel with existing 50(3X16.67) MVAR Bus Reactor at Biharsharif Sub-station

**Asset X:** Installation of 1x125 MVAR Bus Reactor-II after replacing the existing 1X50 MVAR Bus Reactor at Jamshedpur Sub-station

**Asset XI:** Installation of 1x125 MVAR Bus Reactor-I in Parallel with existing 1X50 MVAR Bus Reactor at Jamshedpur Sub-station

**Asset XII:** Installation of 1X125 MVAR Bus Reactor at 400 kV Gazuwaka Sub-station

**Asset XIII:** Replacement of 1 No. of 1x315 MVA, 400/220 kV ICT with 1x500 MVA, 400/220 kV ICT (2<sup>nd</sup>) at 400 KV Maithon Sub-station

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

*“1) Approve the trued up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the assets covered under this petition, as per para 10.2 and 11.0 above.*

*2) Approve the Completion cost and additional capitalization incurred during 2014-19 &*



2019-24.

- 3) *Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2014 and Tariff regulations 2019 as per para 10.2 and 11.0 above for respective block.*
- 4) *Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, and other expenditure ( if any) in relation to the filing of petition.*
- 5) *Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.*
- 6) *Allow the petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2019-24 period, if any, from the respondents.*
- 7) *Allow the petitioner to claimed initial spares project as whole.*
- 8) *Allow the petitioner to file a separate petition before Hon'ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned at para 11.6 above.*
- 9) *Allow the petitioner to claim the capital spares at the end of tariff block as per actual.*
- 10) *Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if GST on transmission is levied at any rate in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.*

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

### **Background**

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

- a) The Investment Approval (IA) for the transmission scheme was accorded by the Board of Directors of the Petitioner on 26.2.2014 vide



Memorandum No: C/CP/ERSS-IX TPS dated 3.3.2014 at an estimated cost of ₹19658 lakh including IDC of ₹1065 lakh based on December 2013 price level. Subsequently, Revised Cost Estimate (RCE) of the project was accorded by Board of Directors of Petitioner vide letter Ref.No:C/CP/PA1617-03-0AB-RCE016 dated 30.3.2017 with an estimated cost of ₹22528 lakh including IDC of ₹925 lakh.

b) The tariff in respect of Assets-I and II was allowed from COD to 31.3.2019 vide order dated 23.3.2016 in Petition No. 238/TT/2015; the tariff for Assets-III and IV was allowed from COD to 31.3.2019 vide order dated 29.6.2016 in Petition No. 29/TT/2016; the tariff for Assets-V, VI, VII, IX, XI and XII was allowed from COD to 31.3.2019 vide order dated 22.5.2019 in Petition No. 38/TT/2017; and tariff in respect of Asset-XIII was allowed from COD to 31.3.2019 vide order dated 30.9.2019 in Petition No. 171/TT/2018 as per the 2014 Tariff Regulations.

c) In respect of Asset-XIII, cost of the replaced asset was reduced from the capital cost vide order dated 30.9.2019 in Petition No. 171/TT/2018. The Petitioner has filed Review Petition No.23/RP/2019 against the order dated 30.9.2019 and it is pending before the Commission.

d) The tariff for Assets-VIII and X was claimed in Petition No.38/TT/2017. However, the Commission vide order dated 22.5.2019 in Petition No.38/TT/2017 observed that as the said assets would replace the existing assets, the Petitioner should file a separate petition for determination of the tariff for the said assets with reference to the tariff of the assets sought to be replaced. The Petitioner has claimed tariff for Assets-VIII and X in the instant petition. The claim of the Petitioner regarding Assets-VIII and X has been dealt with in the subsequent paragraphs of this petition.

e) The entire scope of the transmission scheme is covered in the instant petition. The details are as under:

**(i) Addition/Replacement of Bus Reactors at 400 kV Sub-stations**

- Installation of 1X125 MVAR Bus Reactor at Guzawaka 400 kV (East) bus
- Installation of 2X125 MVAR Bus Reactor at Rengali
- Installation of 1X125 MVAR Bus Reactor at Maithon
- Installation of 1X125 MVAR Bus Reactor in parallel with existing 50 MVAR (3X16.67) Bus Reactor at Biharsharif, using existing Reactor Bay
- Installation of 1X125 MVAR Bus Reactor in parallel with existing 1X50 MVAR (3X16.67 MVAR 1ph unit) Bus Reactor at Jamshedpur and replacement of existing 1X50 MVAR Bus Reactor with 1X125 MVAR Bus Reactor
- Replacement of existing 1X50 MVAR Bus Reactor with 1X125 MVAR Bus Reactor at Rourkela
- Installation of 2X125 MVAR Bus Reactor at Durgapur (Parulia). Out 2X125 MVAR Bus Reactor, 1X125 MVAR Bus Reactor would be in parallel with existing 1X50 MVAR Bus Reactor, using existing Reactor Bay.

**(ii) Augmentation of transformation capacity at Maithon, Muzzaffarpur and Ara Sub-stations of Powergrid**

- Addition of 1X500 MVA, 400/220 kV ICT along with associated bays at Muzaffarpur 400/220 kV Sub-station
- Addition of 1X160 MVA, 220/132 kV ICT along with associated bays at Ara 220/132 kV Sub-station
- Replacement of 2X315 MVA, 400/220 kV ICTs with 2X500 MVA, 400/220 kV ICTs at Maithon
- 2X315 MVA, 400/220 kV ICTs, thus released from Maithon, would be utilized as regional spare.

**(iii) Spare 500 MVA Single Phase unit of 765/400 kV ICT for Eastern Region**

- Procurement of one 500 MVA, Single phase unit of 765/400 kV ICT for Eastern region to be stationed at Gaya Sub-station

**(iv) Converting 2X80 MVAR Line Reactors at Gorakhpur**

- Converting 2X80 MVAR Line Reactors at Gorakhpur end of Barh-II-Gorakhpur 400 kV Quad D/C line to 2X80 MVAR (switchable) Line Reactors.

f) As per investment approval, the transmission assets were to be put into commercial operation within 24 months from the date of investment approval. The investment approval was accorded on 26.2.2014 and, hence, the scheduled date of commercial operation (COD) was 26.2.2016.

g) The details of commercial operation of transmission assets along with time over-run are as under:

<b>Assets nomenclature as per order dated 23.3.2016 in Petition No. 238/TT/2015</b>	<b>Assets nomenclature in the instant petition</b>	<b>SCOD</b>	<b>COD</b>	<b>Time over-run</b>
<b>I</b>	<b>I</b>	26.2.2016	2.1.2016	No
<b>II</b>	<b>II</b>	26.2.2016	6.1.2016	No
<b>Assets nomenclature as per order dated 29.6.2016 in Petition No. 29/TT/2016</b>	<b>Assets nomenclature in the instant petition</b>	<b>SCOD</b>	<b>COD</b>	<b>Time over-run</b>
<b>I</b>	<b>III</b>	26.2.2016	1.10.2016	218 days
<b>II</b>	<b>IV</b>	26.2.2016	18.9.2016	205 days



<b>Assets nomenclature as per order dated 22.5.2019 in Petition No. 38/TT/2017</b>	<b>Assets nomenclature in the instant petition</b>	<b>SCOD</b>	<b>COD</b>	<b>Time over-run</b>
<b>I</b>	<b>V</b>	26.2.2016	23.10.2016	241 days
<b>II</b>	<b>VI</b>	26.2.2016	30.12.2016	309 days
<b>III and IV</b>	<b>VII</b>	26.2.2016	3.8.2017	525 days
<b>V</b>	<b>VIII</b>	26.2.2016	7.1.2018 (Claimed in the instant petition)	681 days
<b>VI</b>	<b>IX</b>	26.2.2016	13.10.2017	596 days
<b>VII(A)</b>	<b>X</b>	26.2.2016	17.11.2017 (Claimed in the instant petition)	630 days
<b>VII(B)</b>	<b>XI</b>	26.2.2016	3.12.2017	647 days
<b>IX</b>	<b>XII</b>	26.2.2016	27.9.2017	580 days
<b>Assets nomenclature as per order dated 30.9.2019 in Petition No. 171/TT/2018</b>	<b>Assets nomenclature in the instant petition</b>	<b>SCOD</b>	<b>COD</b>	<b>Time over-run</b>
<b>Asset</b>	<b>XIII</b>	26.2.2016	25.10.2017	608 days

h) The trued-up tariff claimed by the Petitioner in the instant petition along with details of the tariff approved earlier by the Commission in respect of the transmission assets vide orders dated 23.3.2016, 29.6.2016, 22.05.2019 and 30.9.2019 in Petition No. 238/TT/2015, Petition No. 29/TT/2016, Petition No. 38/TT/2017 and Petition No. 171/TT/2018 respectively are as under:

(₹ in lakh)					
<b>Asset</b>	<b>Particulars</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Asset-I	Annual Fixed Charges approved vide order dated 23.3.2016 in Petition No. 238/TT/2015	46.64	237.10	280.98	280.93





	AFC claimed by the Petitioner based on truing up in the instant petition	46.60	196.94	227.76	262.70
Asset-II	Annual Fixed Charges approved vide order dated 23.3.2016 in Petition No. 238/TT/2015	76.78	405.01	456.87	464.46
	AFC claimed by the Petitioner based on truing up in the instant petition	76.37	359.34	371.41	399.19
Asset-III	Annual Fixed Charges approved vide order dated 29.6.2016 in Petition No. 29/TT/2016	--	111.59	234.00	249.09
	AFC claimed by the Petitioner based on truing up in the instant petition	--	72.82	189.60	225.61
Asset-IV	Annual Fixed Charges approved vide order dated 29.6.2016 in Petition No. 29/TT/2016	--	119.08	271.94	281.90
	AFC claimed by the Petitioner based on truing up in the instant petition	--	109.88	229.87	233.73
Asset-V	Annual Fixed Charges approved vide order dated 22.5.2019 in Petition No. 38/TT/2017	--	53.63	140.10	149.30
	AFC claimed by the Petitioner based on truing up in the instant petition	--	54.80	139.21	144.18
Asset-VI	Annual Fixed Charges approved vide order dated 22.5.2019 in Petition No. 38/TT/2017	--	47.35	252.47	267.31
	AFC claimed by the Petitioner based on truing up in the instant petition	--	39.65	180.08	184.98
Asset-VII	Annual Fixed Charges approved vide order dated 22.5.2019 in Petition No. 38/TT/2017	--	--	332.56	579.18
	AFC claimed by the Petitioner based on truing up in the instant petition	--	--	315.15	515.80



Asset-VIII	Annual Fixed Charges approved vide order dated 22.5.2019 in Petition No. 38/TT/2017	Tariff was not granted as the Commission was of the view that the petitioner should claim tariff for the replaced bus reactor separately with reference to the tariff of assets sought to be replaced.			
	AFC claimed by the Petitioner based on truing up in the instant petition	--	--	20.61	93.85
Asset-IX	Annual Fixed Charges approved vide order dated 22.5.2019 in Petition No. 38/TT/2017	--	--	66.85	157.99
	AFC claimed by the Petitioner based on truing up in the instant petition	--	--	69.07	150.09
Asset-X	Annual Fixed Charges approved vide order dated 22.5.2019 in Petition No. 38/TT/2017	Tariff was not granted as details of de-capitalization of old asset had not been provided by the petitioner.			
	AFC claimed by the Petitioner based on truing up in the instant petition	--	--	35.44	101.61
Asset-XI	Annual Fixed Charges approved vide order dated 22.5.2019 in Petition No. 38/TT/2017	--	--	28.29	103.46
	AFC claimed by the Petitioner based on truing up in the instant petition	--	--	30.72	99.71
Asset-XII	Annual Fixed Charges approved vide order dated 22.5.2019 in Petition No. 38/TT/2017	--	--	217.24	482.29
	AFC claimed by the Petitioner based on truing up in the instant petition	--	--	207.57	455.73
Asset-XIII	Annual Fixed Charges approved vide order dated 30.9.2019 in Petition No. 171/TT/2018	--	--	45.11	151.41
	AFC claimed by the Petitioner based on truing up in the instant petition	--	--	70.79	179.58



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

5. The Petitioner has served the petition on the Respondents and public notice regarding the filing of this petition has also been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or suggestions have been received from the general public in response to the notices published in the newspapers by the Petitioner. None of the Respondents have filed a reply in response to the notice.

6. This order is issued after considering the submissions made by the Petitioner in the Petition and Petitioner's affidavits dated 13.1.2020, 8.6.2020 and 4.9.2020.

7. The hearing in this matter was held on 10.8.2020 through video conference and order was reserved in the matter.

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

**Date of Commercial Operation (COD) of Asset-III and Asset-IV:**

9. The Commission vide order dated 29.6.2016 in Petition No. 26/TT/2016 approved COD of Asset-III and Asset-IV on anticipated basis. The Petitioner in the instant petition has claimed actual COD of Asset-III and Asset-IV as 1.10.2016 and 18.9.2016 respectively. In support of actual COD of Assets-III and IV, the Petitioner has submitted CEA energisation certificate and RLDC charging certificate. Taking into consideration of CEA energisation certificate and RLDC charging certificate, COD of Asset-III and Asset-IV is approved as 1.10.2016 and 18.9.2016 respectively.



**Date of Commercial Operation (COD) of Asset-VIII and Asset-X.**

10. The Commission vide order dated 22.5.2019 in Petition No. 38/TT/2017 did not approve COD of Asset-VIII (Asset-V in Petition No. 38/TT/2017) and Asset-X (Asset-VII(a) in Petition No. 38/TT/2017). The relevant portion of the order dated 22.5.2019 in Petition No. 38/TT/2017 is reproduced as under:

*“20. We have considered the submissions of the Petitioner and proceed to decide the COD of assets covered in the instant petition as under:*

*.....*

*b) The Commission vide order dated 5.7.2017 had held as under:*

*“6. ----- Further, Asset V is to replace the existing 1x50 MVAR Bus Reactor at 400 kV Rourkela Sub-station with 1x125 MVAR Bus Reactor. We are of the view that the Petitioner should claim tariff for the replaced Bus Reactor separately with reference to the tariff of the assets sought to be replaced. Accordingly, tariff is not allowed for Asset V in this petition.”*

*In line with above decision, COD of the Asset-V is not approved in the instant petition.”*

*“d) With regard to Asset-VII(a), which is being replaced by the Petitioner with existing 1X50 MVAR bus reactor at 400 kV Jamshedpur Sub-station, It has been noted that the Petitioner has not submitted the details of de-capitalisation of 50 MVAR reactor at Jamshedpur. Thus, allowing tariff for 125 MVAR Bus reactor at Jamshedpur without de-capitalisation of the existing 50 MVAR Bus reactor at Jamshedpur would tantamount to servicing two assets for the same purpose. Therefore, tariff for Asset-VII (a) shall be allowed only after decapitalisation of old asset i.e. 50 MVAR Bus reactor at Jamshedpur and associated cost of bays and adjustment of cumulative depreciation etc. The Petitioner is directed to file a separate Petition claiming tariff for 125 MVAR Bus Reactor at Jamshedpur along with the details of de-capitalization within three months of issue of this order.”*

11. The Petitioner has further submitted that as per the report of the Committee constituted by the Commission to assess the requirements of regional spares, the reactor/ transformer taken out after its replacement by augmentation should be considered as regional spares after approval of the concerned RPC. The Petitioner has submitted that the replaced 2 nos. of 50 MVAr reactors at Rourkela and Jamshedpur Sub-stations have been approved to be used in regional spare pool by 24<sup>th</sup> ERPC meeting held on 26<sup>th</sup> & 27<sup>th</sup> April 2013. The Petitioner has further



submitted that in light of the recommendations of the Spare Committee and approval by ERPC, de-capitalisation is not applicable in the instant case.

12. We have considered the submissions of the Petitioner and perused the minutes of the ERPC meeting. As per the 24<sup>th</sup> TCC and ERPC meetings dated 26<sup>th</sup> & 27<sup>th</sup> April 2013 respectively, it was concluded that the replaced 2 No. of 50 MVAR reactors at Rourkela and Jamshedpur Sub-station would be utilized as regional spares. Further, the Petitioner has also submitted CEA Energisation Certificates dated 3.1.2018 and 30.11.2017, ERLDC Charging Certificates dated 16.1.2018 and 4.1.2018 and CMD certificates as required under Grid Code in support of COD of Asset-VIII and Asset-X. Accordingly, COD of Asset-VIII and Asset-X are approved as 7.1.2018 and 17.11.2017 respectively.

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

13. The details of the trued-up transmission charges claimed by the Petitioner in respect of the transmission assets are as under:

(₹ in lakh)

<b>Asset-I</b>				
<b>Particulars</b>	<b>2015-16 (Pro-rata for 90 days)</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	8.24	35.52	45.50	56.85
Interest on Loan	9.12	37.55	43.87	51.06
Return on Equity	9.23	39.77	50.95	63.82
Interest on Working Capital	1.63	6.86	7.64	8.51
O & M Expenses	18.38	77.24	79.80	82.46
<b>Total</b>	<b>46.60</b>	<b>196.94</b>	<b>227.76</b>	<b>262.70</b>

(₹ in lakh)

<b>Asset-II</b>				
<b>Particulars</b>	<b>2015-16 (Pro-rata for 86 days)</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	15.09	74.40	79.82	89.52
Interest on Loan	16.99	80.68	77.24	79.71
Return on Equity	16.90	83.30	89.37	100.49



Interest on Working Capital	2.50	11.53	11.92	12.66
O & M Expenses	24.89	109.43	113.06	116.81
<b>Total</b>	<b>76.37</b>	<b>359.34</b>	<b>371.41</b>	<b>399.19</b>

(₹ in lakh)

Particulars	Asset-III			Asset-IV		
	2016-17 (Pro-rata for 182 days)	2017-18	2018-19	2016-17 (Pro-rata for 195 days)	2017-18	2018-19
Depreciation	12.09	37.85	49.48	33.66	72.02	75.20
Interest on Loan	12.59	36.84	45.00	36.18	72.32	69.12
Return on Equity	13.53	42.37	55.55	37.69	80.63	84.42
Interest on Working Capital	2.51	6.03	6.87	2.35	4.90	4.99
O & M Expenses	32.10	66.51	68.71	0.00	0.00	0.00
<b>Total</b>	<b>72.82</b>	<b>189.60</b>	<b>225.61</b>	<b>109.88</b>	<b>229.87</b>	<b>233.73</b>

(₹ in lakh)

Particulars	Asset-V			Asset-VI		
	2016-17 (Pro-rata for 160 days)	2017-18	2018-19	2016-17 (Pro-rata for 92 days)	2017-18	2018-19
Depreciation	16.88	43.81	46.56	6.92	34.39	36.15
Interest on Loan	17.85	43.38	42.27	7.43	34.84	33.54
Return on Equity	18.90	49.05	52.27	7.75	38.51	40.58
Interest on Working Capital	1.17	2.97	3.08	1.33	5.83	6.00
O & M Expenses	0.00	0.00	0.00	16.22	66.51	68.71
<b>Total</b>	<b>54.80</b>	<b>139.21</b>	<b>144.18</b>	<b>39.65</b>	<b>180.08</b>	<b>184.98</b>

(₹ in lakh)

Particulars	Asset-VII		Asset-VIII		Asset-IX	
	2017-18 (Pro-rata for 241 days)	2018-19	2017-18 (Pro-rata for 84 days)	2018-19	2017-18 (Pro-rata for 170 days)	2018-19
Depreciation	69.14	117.28	6.55	30.17	21.98	48.50
Interest on Loan	71.57	114.57	6.29	27.84	21.03	43.99
Return on Equity	77.42	131.66	7.34	33.87	24.61	54.45
Interest on Working Capital	9.20	14.87	0.43	1.97	1.45	3.15
O & M Expenses	87.82	137.42	0.00	0.00	0.00	0.00
<b>Total</b>	<b>315.15</b>	<b>515.80</b>	<b>20.61</b>	<b>93.85</b>	<b>69.07</b>	<b>150.09</b>



(₹ in lakh)

Particulars	Asset-X		Asset-XI	
	2017-18 (Pro-rata for 135 days)	2018-19	2017-18 (Pro-rata for 119 days)	2018-19
Depreciation	11.14	32.37	9.79	32.15
Interest on Loan	11.09	30.77	9.32	29.37
Return on Equity	12.47	36.34	10.96	36.10
Interest on Working Capital	0.74	2.13	0.65	2.09
O & M Expenses	0.00	0.00	0.00	0.00
<b>Total</b>	<b>35.44</b>	<b>101.61</b>	<b>30.72</b>	<b>99.71</b>

(₹ in lakh)

Particulars	Asset-XII		Asset-XIII	
	2017-18 (Pro-rata for 186 days)	2018-19	2017-18 (Pro-rata for 158 days)	2018-19
Depreciation	50.79	115.16	22.16	56.99
Interest on Loan	54.46	117.93	22.33	54.84
Return on Equity	63.07	142.34	24.82	63.98
Interest on Working Capital	5.36	11.59	1.48	3.77
O & M Expenses	33.89	68.71	0.00	0.00
<b>Total</b>	<b>207.57</b>	<b>455.73</b>	<b>70.79</b>	<b>179.58</b>

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

(₹ in lakh)

Asset-I				
Particulars	2015-16 (Pro-rata for 90 days)	2016-17	2017-18	2018-19
O & M Expenses	6.23	6.44	6.65	6.87
Maintenance Spares	11.21	11.59	11.97	12.37
Receivables	31.59	32.82	37.96	43.78
Total	49.03	50.85	56.58	63.02
Rate of Interest (%)	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>1.63</b>	<b>6.86</b>	<b>7.64</b>	<b>8.51</b>

(₹ in lakh)

Asset-II				
Particulars	2015-16 (Pro-rata for 86 days)	2016-17	2017-18	2018-19
O & M Expenses	8.83	9.12	9.42	9.73
Maintenance Spares	15.89	16.41	16.96	17.52



Receivables	54.17	59.89	61.90	66.53
Total	78.89	85.42	88.28	93.78
Rate of Interest (%)	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>2.50</b>	<b>11.53</b>	<b>11.92</b>	<b>12.66</b>

(₹ in lakh)

Particulars	Asset-III			Asset-IV		
	2016-17 (Pro-rata for 182 days)	2017-18	2018-19	2016-17 (Pro-rata for 195 days)	2017-18	2018-19
O & M Expenses	5.36	5.54	5.73	0.00	0.00	0.00
Maintenance Spares	9.66	9.98	10.31	0.00	0.00	0.00
Receivables	24.34	31.60	37.60	34.28	38.31	38.96
Total	39.36	47.12	53.64	34.28	38.31	38.96
Rate of Interest (%)	12.80	12.80	12.80	12.80	12.80	12.80
<b>Interest on Working Capital</b>	<b>2.51</b>	<b>6.03</b>	<b>6.87</b>	<b>2.35</b>	<b>4.90</b>	<b>4.99</b>

(₹ in lakh)

Particulars	Asset-V			Asset-VI		
	2016-17 (Pro-rata for 160 days)	2017-18	2018-19	2016-17 (Pro-rata for 92 days)	2017-18	2018-19
O & M Expenses	0.00	0.00	0.00	5.36	5.54	5.73
Maintenance Spares	0.00	0.00	0.00	9.66	9.98	10.31
Receivables	20.84	23.20	24.03	26.22	30.01	30.83
Total	20.84	23.20	24.03	41.24	45.53	46.87
Rate of Interest (%)	12.80	12.80	12.80	12.80	12.80	12.80
<b>Interest on Working Capital</b>	<b>1.17</b>	<b>2.97</b>	<b>3.08</b>	<b>1.33</b>	<b>5.83</b>	<b>6.00</b>

(₹ in lakh)

Particulars	Asset-VII		Asset-VIII		Asset-IX	
	2017-18 (Pro-rata for 241 days)	2018-19	2017-18 (Pro-rata for 84 days)	2018-19	2017-18 (Pro-rata for 170 days)	2018-19
O & M Expenses	11.09	11.45	0.00	0.00	0.00	0.00
Maintenance Spares	19.95	20.61	0.00	0.00	0.00	0.00
Receivables	79.55	85.97	14.93	15.64	24.72	25.02
Total	110.59	118.03	14.93	15.64	24.72	25.02
Rate of Interest (%)	12.60	12.60	12.60	12.60	12.60	12.60
<b>Interest on Working Capital</b>	<b>9.20</b>	<b>14.87</b>	<b>0.43</b>	<b>1.97</b>	<b>1.45</b>	<b>3.15</b>





(₹ in lakh)

Particulars	Asset-X		Asset-XI	
	2017-18 (Pro-rata for 135 days)	2018-19	2017-18 (Pro-rata for 119 days)	2018-19
O & M Expenses	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00
Receivables	15.97	16.94	15.70	16.62
Total	15.97	16.94	15.70	16.62
Rate of Interest (%)	12.60	12.60	12.60	12.60
<b>Interest on Working Capital</b>	<b>0.74</b>	<b>2.13</b>	<b>0.65</b>	<b>2.09</b>

(₹ in lakh)

Particulars	Asset-XII		Asset-XIII	
	2017-18 (Pro-rata for 186 days)	2018-19	2017-18 (Pro-rata for 158 days)	2018-19
O & M Expenses	5.54	5.73	0.00	0.00
Maintenance Spares	9.98	10.31	0.00	0.00
Receivables	67.89	75.96	27.26	29.93
Total	83.41	92.00	27.26	29.93
Rate of Interest (%)	12.60	12.60	12.60	12.60
<b>Interest on Working Capital</b>	<b>5.36</b>	<b>11.59</b>	<b>1.48</b>	<b>3.77</b>

### Capital Cost

15. The Commission vide orders dated 23.3.2016, 29.6.2016, 22.5.2019 and 30.9.2019 in Petition No. 238/TT/2015, Petition No. 29/TT/2016, Petition No. 38/TT/2017 and Petition No. 171/TT/2018 respectively allowed capital cost as on COD and Additional Capital Expenditure (ACE) in respect of the transmission assets as under:

(₹ in lakh)

Asset	Approved Apportioned Capital Cost as per FR/RCE	Expenditure up to COD	Additional Capital Expenditure				Total capital cost as on 31.3.2019
			2015-16	2016-17	2017-18	2018-19	
I	1185.85	615.72	43.58	497.95	28.60	0.00	1185.85
II	2696.69	1033.14	407.56	498.92	148.41	0.00	2088.03
III	1182.83	278.64	0.00	593.10	200.00	0.00	1071.74
IV	1983.74	335.04	0.00	1177.53	200.00	0.00	1712.57
V	1030.65	674.17	0.00	84.62	151.41	0.00	910.20



VI	1331.38	412.74	0.00	563.67	202.81	0.00	1179.22
VII	3034.39	1767.26	0.00	0.00	671.82	246.94	2686.02
IX	1218.73	841.50	0.00	49.63	156.27	0.00	1047.40
XI	1792.13	512.48	0.00	0.00	47.37	150.42	710.27
XII	3003.14	1960.92	0.00	0.00	454.43	274.1	2689.45
XIII	1603.87	431.02	0.00	0.00	388.27	200.00	1019.29

16. The tariff for Asset-VIII and Asset-X was claimed in Petition No.38/TT/2017. However, the Commission vide order dated 22.5.2019 observed that as the said assets would replace the existing assets, the Petitioner should file a separate petition for determination of the tariff for the said assets with reference to the tariff of the assets sought to be replaced and hence the Petitioner has claimed tariff for Asset-VIII and Asset-X in the instant petition.

17. The details of approved capital cost, capital cost as on COD and ACE incurred up to 31.3.2019 as claimed by the Petitioner for the transmission assets are as under:

Asset	Apportioned approved cost as per FR/RCE	Cost as on COD	Additional Capital Expenditure				Total cost as on 31.3.2019
			2015-16	2016-17	2017-18	2018-19	
I	1185.85/ 1304.62	615.72	37.33	39.29	338.92	90.82	1122.08
II	2696.69/ 2189.37	1033.14	365.54	20.99	184.28	182.93	1786.88
III	1182.83/ 1258.25	377.65	0.00	163.08	352.27	88.30	981.30
IV	1983.74/ 1978.78	1083.05	0.00	220.73	120.40	0.00	1424.18
V	936.85/ 1030.65	677.00	0.00	104.39	96.61	7.54	885.54
VI	964.30/ 1331.38	418.37	0.00	203.55	58.95	7.54	688.41
VII	2383.58/ 3034.39	1814.2	0.00	0.00	338.41	137.33	2289.94
VIII	860.46/ 918.84	524.41	0.00	0.00	30.06	33.78	588.25
IX	979.23/ 1218.73	891.59	0.00	0.00	4.27	45.5	941.36
X	849.15/ 896.07	553.03	0.00	0.00	34.82	50.51	638.36

(₹ in lakh)



XI	849.15/	553.03	0.00	0.00	31.00	49.82	633.85
	896.07						
XII	1336.64/	1976.24	0.00	0.00	235.07	380.17	2591.48
	3003.14						
XIII	1603.87/	860.14	0.00	0.00	219.23	0.00	1079.37
	1555.05						

18. The completion cost including ACE is within the approved apportioned capital cost.

### **Time Over-run**

19. The scheduled date of commercial operation (SCOD) of the transmission assets and the actual COD of the transmission assets are as under:

Asset	SCOD	COD	Time over-run	Remark
I	26.2.2016	2.1.2016	No	NA
II	26.2.2016	6.1.2016	No	NA
III	26.2.2016	1.10.2016	218 days	Dealt in subsequent paragraphs
IV	26.2.2016	18.9.2016	205 days	Dealt in subsequent paragraphs
V	26.2.2016	23.10.2016	241 days	Not condoned vide order dated 22.5.2019 in Petition No. 38/TT/2017
VI	26.2.2016	30.12.2016	309 days	
VII	26.2.2016	3.8.2017	525 days	
VIII	26.2.2016	7.1.2018	681 days	Dealt in subsequent paragraphs
IX	26.2.2016	13.10.2017	596 days	Not condoned vide order dated 22.5.2019 in Petition No. 38/TT/2017
X	26.2.2016	17.11.2017	630 days	Dealt in subsequent paragraphs
XI	26.2.2016	3.12.2017	647 days	Not condoned vide order dated 22.5.2019 in Petition No. 38/TT/2017
XII	26.2.2016	27.9.2017	580 days	Condoned vide order dated 22.5.2019 in



				Petition No. 38/TT/2017
XIII	26.2.2016	25.10.2017	608 days	Not condoned vide order dated 30.9.2019 in Petition No. 171/TT/2018

Time over-run in case of Assets-III and IV

20. The tariff in respect of these assets was granted on basis of anticipated COD vide order dated 29.6.2016 in Petition No. 29/TT/2016. The time over-run in respect of Assets-III and IV was not decided then as the assets had not been put into commercial use and transmission charges had been claimed based on anticipated COD. The relevant extract from order dated 29.6.2016 in Petition No.29/TT/2016 is as under:

*“16. The petitioner, vide affidavit dated 17.6.2016, has submitted the reason for time over-run and has stated that time over-run is mainly due to ROW issues on account of agitation caused by local people in demand of compensation and the detailed reason for time over-run will be submitted at the time of true-up. The transmission charges for Asset-I, Asset-II and Asset-III has been claimed based on anticipated COD. We are not going into the details of time over-run for the assets as the assets have not been commissioned yet. The merits of time-overrun and the details of reasons shall be considered when the actual COD of the asset is achieved. Thus, the time over-run for all the assets is disallowed and corresponding IDC, IEDC disallowed at this stage on account of time over-run of 155, 125 and 217 days in Asset-I, Asset-II and Asset-III respectively”*

21. The Petitioner in the instant petition has submitted that assets were delayed due to frequent interruption in transportation due to local RoW issues since September 2015. The Petitioner has submitted that there was an agitation of local people demanding huge compensation and they obstructed the vehicular movement meant to transport ICTs and reactors to the premises of the Petitioner. The Petitioner has submitted letters dated 11.2.2016, 13.2.2016 and 24.2.2016 in support of its claim. The Petitioner has submitted that the Petitioner was facing problems since September 2015 and SCOD of these assets was 26.2.2016, but the letters submitted



by the Petitioner are from 11.2.2016 upto 24.2.2016 i.e., just a few days before SCOD. These letters do not make it clear the nature of issues faced by the Petitioner from September 2015 or what happened after 24.2.2016 after the last letter. From a perusal of the letters submitted by the Petitioner, it is not clear as to when the RoW issues started and when were they were resolved. The Petitioner has also not provided copy of any police complaint/ FIR substantiating the RoW issues, which is normally done in case of severe RoW issues as claimed by the Petitioner. In our view, the Petitioner has not provided any substantial and valid documentary evidence justifying the said delay other than a few letters. In absence of any corroborating documentary evidence and proper justification to substantiate that the problems encountered during the execution of the transmission assets were beyond the control of the Petitioner, the time over-run of 218 days and 205 days in case of Asset-III and IV respectively is not condoned.

Time over-run in case of Asset-VIII and Asset-X:

22. The Petitioner has submitted that there is a time over-run of 681 days and 630 days in respect of Asset-VIII and Asset-X respectively. The Petitioner has submitted the following reasons for time over-run:

(i) Delay in mobilization at site: BHEL did not mobilize the site as per the LoA and did so only after rigorous follow up, but work progress was extremely slow. BHEL did not even prepare the storage locations for storing the material and there was frequent stoppage of work by BHEL.

(ii) Delay due to supply of Reactor: BHEL informed that as per quality requirements, the reactors are to be assembled in controlled environment. The facility was not available with BHEL. BHEL constructed the infrastructure for assembling of reactors at Bhopal unit and it took almost one year. Thereafter, the reactors were delivered at various sites in November/December 2017.



23. We have considered the submissions of the Petitioner. Regulation 12(1)(c) of the 2014 Tariff Regulations provides as follows:

***“12. Controllable and Uncontrollable factors:***

*The following shall be considered as controllable and uncontrollable factors leading to cost escalation impacting Contract Prices, IDC and IEDC of the project:*

*(1) The “controllable factors” shall include but shall not be limited to the following:*

*(a) Variations in capital expenditure on account of time and/or cost over-runs on account of land acquisition issues;*

*(b) Efficiency in the implementation of the project not involving approved change in scope of such project, change in statutory levies or force majeure events; and*

*(c) Delay in execution of the project on account of contractor, supplier or agency of the generating company or transmission licensee”*

24. The time over-run was due to absence of the required infrastructure with the Petitioner’s contractor, BHEL. As per Regulation 12(1)(c) of the 2014 Tariff Regulations, the delay in execution of the project due to the contractor is considered as a “controllable factor”. Therefore, we are not inclined to condone the time over-run in case of Assets-VIII and X. Accordingly, the time over-run of 681 days and 630 days in respect of Assets-VIII and X is not condoned.

**Interest During Construction (IDC) and Incidental Expenditure During Construction (IEDC)**

25. The Petitioner has claimed IDC for the transmission assets and has submitted Auditor’s Certificates dated 1.8.2019, 31.7.2019, 25.7.2019, 1.8.2019 and 31.12.2019 in support of the same. The Petitioner has submitted computation of IDC along with the year-wise details of the IDC discharged. The allowable IDC has been worked out considering the information submitted by the Petitioner for the transmission assets on cash basis. The loan details submitted in Form-9C for the 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 not been allowed on account of time over-run not condoned and computational difference.

26. IDC claimed and allowed based on the submissions of the Petitioner and the previous orders is as follows:

(₹ in lakh)

Asset	IDC claimed by Petitioner	IDC disallowed due to excess claim and time over-run not condoned	IDC admissible	IDC allowed as on COD on cash basis
I	7.89	0.00	7.89	0.00
II	13.88	0.00	13.88	0.00
III	8.47	5.83	2.64	2.64
IV	31.73	29.52	2.21	2.21
V	14.68	12.77	1.91	1.91
VI	16.75	14.18	2.57	2.57
VII	56.55	55.89	0.66	0.66
VIII	23.37	23.37	0.00	0.00
IX	22.53	22.53	0.00	0.00
X	4.51	4.51	0.00	0.00
XI	10.62	10.62	0.00	0.00
XII	65.72	0.00	65.72	41.91
XIII	47.98	47.98	0.00	0.00

27. The Petitioner has also claimed IEDC for the transmission assets and submitted Auditor's Certificates in support of the same. The Petitioner has also submitted that the entire IEDC has been discharged as on COD in respect of the transmission assets. IEDC claimed is within the percentage of the Hard Cost and hence has been allowed after adjusting for the time over-run not condoned. The details of IEDC claimed and allowed are as under:

(₹ in lakh)

Asset	IEDC claimed	Pro-rata IEDC disallowed due to time over-run not condoned	IEDC allowed
I	32.27	0.00	32.27



II	54.14	0.00	54.14
III	5.36	1.23	4.13
IV	10.50	2.3	8.2
V	7.65	1.9	5.75
VI	5.56	1.66	3.9
VII	38.69	16.2	22.49
VIII	16.52	7.97	8.55
IX	103.35	46.49	56.86
X	44.48	20.6	23.88
XI	44.48	20.91	23.57
XII	138.90	0.00	138.90
XIII	17.02	7.74	9.28

### **Initial Spares**

28. The Petitioner vide affidavit dated 8.6.2020 has submitted Form-13 which contains the break-up of Initial Spares for the transmission assets and has also submitted Auditor's Certificate with regard to the claim of Initial Spares. The Petitioner has also submitted that the Initial Spares for Assets-I, II, III, IV, V, VIII, XI and XIII have been discharged as on COD. For Assets-VI, VII, IX, X and XII, the Initial Spares discharged after COD have been included in the additional capital expenditure of respective years. The details of Initial Spares claimed by the Petitioner are as follows:

Asset	Particulars	Plant & machinery cost up to cut-off date (excluding IDC and IEDC as per Auditor's Certificate) (A) (₹ in lakh)	Initial Spares Claimed (B) (₹ in lakh)	Ceiling Limit (%) (C)	Initial Spares worked out by the Petitioner
					$D = [(A-B)*C / (100-C)]$ (₹ in lakh)
I	Sub-station	1186.92	62.13	6	71.80
II	Sub-station	1788.86	97.17	6	107.98
III	Sub-station	1067.47	41.22	6	65.51
IV	Sub-station	1481.94	35.57	6	92.32
V	Sub-station	975.96	28.35	6	60.49
VI	Sub-station	880.26	56.36	6	52.59
VII	Sub-station	2578.30	85.60	6	159.11
VIII	Sub-station	699.99	43.29	6	41.92
IX	Sub-station	955.01	60.81	6	57.08
X	Sub-station	655.87	38.91	6	39.38
XI	Sub-station	655.87	45.91	6	38.93
XII	Sub-station	1826.24	76.57	6	111.68





XIII	Sub-station	1370.09	21.75	6	86.06
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29. We have considered the submissions of the Petitioner. The details of the Initial Spares allowed are as under:

(₹ in lakh)

Asset	Plant & Machinery Cost upto cut-off date (excluding IDC and IEDC) (₹ in lakh)	Initial Spares claimed (₹ in lakh)	Ceiling Limit (%)	Initial Spares as per limit (₹ in lakh)	Initial Spares disallowed due to excess claim (₹ in lakh)	Initial Spares allowed (₹ in lakh)
I	1081.92	62.13	6	65.09	0.00	62.13
II	1718.86	97.17	6	103.51	0.00	97.17
III	967.47	41.22	6	59.12	0.00	41.22
IV	1381.94	35.57	6	85.94	0.00	35.57
V	875.96	28.35	6	54.10	0.00	28.35
VI	680.26	56.36	6	39.82	16.54	39.82
VII	2478.30	85.60	6	152.73	0.00	85.60
VIII	699.99	43.29	6	41.92	1.37	41.92
IX	955.01	60.81	6	57.08	3.73	57.08
X	655.87	38.91	6	39.38	0.00	38.91
XI	655.87	45.91	6	38.93	6.98	38.93
XII	1826.24	76.57	6	111.68	0.00	76.57
XIII	1370.09	21.75	6	86.06	0.00	21.75

### Capital Cost as on COD

30. Accordingly, the capital cost allowed in respect of the transmission assets as on COD is summarized as under:

(₹ in lakh)

Asset	Capital cost claimed as on COD as per Auditor's certificate (A)	Less: IDC disallowed due to computational difference and time over-run (B)	Less: Undischarged IDC (C)	Less: IEDC disallowed due to time over-run (D)	Less: Excess spares disallowed (E)	Capital cost considered as on COD F= A-B-C-D-E
I	623.61	0.00	7.89	0.00	0.00	615.72
II	1047.02	0.00	13.88	0.00	0.00	1033.14
III	382.86	5.83	0.00	1.23	0.00	375.79
IV	1109.73	29.52	0.00	2.3	0.00	1077.91
V	689.75	12.77	0.00	1.9	0.00	675.08
VI	432.53	14.18	0.00	1.66	16.54	400.16
VII	1870.09	55.89	0.00	16.2	0.00	1798.00
VIII	525.78	23.37	0.00	7.97	1.37	493.06



IX	914.12	22.53	0.00	46.49	3.73	841.37
X	557.54	4.51	0.00	20.6	0.00	532.43
XI	563.65	10.62	0.00	20.91	6.98	525.14
XII	2000.00	0.00	23.81	0.00	0.00	1976.19
XIII	915.86	47.98	0.00	7.74	0.00	860.14

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

31. The Commission had allowed ACE vide orders dated 23.3.2016, 29.6.2016, 22.05.2019 and 30.9.2019 in Petition No. 238/TT/2015, Petition No. 29/TT/2016, Petition No. 38/TT/2017 and Petition No. 171/TT/2018 respectively as under:

Asset	Additional Capital Expenditure			
	2015-16	2016-17	2017-18	2018-19
I	43.58	497.95	28.60	0.00
II	407.56	498.92	148.41	0.00
III	0.00	593.10	200.00	0.00
IV	0.00	1177.53	200.00	0.00
V	0.00	84.62	151.41	0.00
VI	0.00	563.67	202.81	0.00
VII	0.00	0.00	671.82	246.94
IX	0.00	49.63	156.27	0.00
XI	0.00	0.00	47.37	150.42
XII	0.00	0.00	454.43	274.1
XIII	0.00	0.00	388.27	200.00

32. The Petitioner has claimed the following ACE in respect of the transmission assets and submitted Auditor's Certificate in support of its claim:

(₹ in lakh)

Asset	Additional Capital Expenditure			
	2015-16	2016-17	2017-18	2018-19
I	37.33	31.40	338.92	90.82
II	365.54	7.11	184.28	182.93
III	0.00	161.83	348.31	88.30
IV	0.00	219.80	94.64	0.00
V	0.00	104.39	96.61	7.54
VI	0.00	203.55	58.95	7.54
VII	0.00	0.00	338.41	137.33
VIII	0.00	0.00	30.06	32.41
IX	0.00	0.00	4.27	45.50
X	0.00	0.00	31	49.82



XI	0.00	0.00	31.00	49.82
XII	0.00	0.00	233.10	358.38
XIII	0.00	0.00	219.23	0.00

33. The cut-off date for the transmission assets works out as under:

Asset	Cut-off Date
I	31.3.2019
II	31.3.2019
III	31.3.2019
IV	31.3.2019
V	31.3.2019
VI	31.3.2019
VII	31.3.2020
VIII	31.3.2021
IX	31.3.2020
X	31.3.2020
XI	31.3.2020
XII	31.3.2020
XIII	31.3.2020

34. Thus, ACE claimed during the years 2015-16 to 2018-19 is within the cut-off date for all the transmission assets. The Petitioner has claimed ACE including the accrued IDC discharged during the 2014-19 period. It is observed that the total estimated completion cost including ACE for the 2014-19 period is within the FR approved cost.

35. ACE claimed by the Petitioner is allowed under Regulations 14(1)(i) and 14(1)(ii) and 14(1)(iii) of the 2014 Tariff Regulations as it is towards balance and retention payments, works deferred for execution and undischarged spares. The undischarged IDC and undischarged spares as on COD has been allowed as ACE. Accordingly, ACE allowed for the transmission assets is as follows:

(₹ in lakh)

Asset	Additional Capital Expenditure			
	2015-16	2016-17	2017-18	2018-19
I	37.33	39.29	338.92	90.82
II	365.54	20.99	184.28	182.93
III	0.00	161.83	348.31	88.30



IV	0.00	219.80	94.64	0.00
V	0.00	104.39	96.61	7.54
VI	0.00	203.55	58.95	7.54
VII	0.00	0.00	338.41	137.33
VIII	0.00	0.00	30.06	32.41
IX	0.00	0.00	4.27	45.50
X	0.00	0.00	31.00	49.82
XI	0.00	0.00	31.00	49.82
XII	0.00	0.00	235.11	380.17
XIII	0.00	0.00	219.23	0.00

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

36. Accordingly, the capital cost of the transmission assets considered for computation of tariff for the 2014-19 tariff period is as follows:

(₹ in lakh)

Assets	Capital cost as on COD on cash basis	Additional Capital Expenditure (ACE) incurred				Total Capital cost as on 31.3.2019
		2015-16	2016-17	2017-18	2018-19	
I	615.72	37.33	39.29	338.92	90.82	1122.08
II	1033.14	365.54	20.99	184.28	182.93	1786.88
III	375.79	0.00	161.83	348.31	88.30	974.23
IV	1077.91	0.00	219.80	94.64	0.00	1392.35
V	675.08	0.00	104.39	96.61	7.54	883.62
VI	400.16	0.00	203.55	58.95	7.54	670.20
VII	1798.00	0.00	0.00	338.41	137.33	2273.74
VIII	493.06	0.00	0.00	30.06	32.41	555.53
IX	841.37	0.00	0.00	4.27	45.50	891.14
X	532.43	0.00	0.00	31.00	49.82	613.25
XI	525.14	0.00	0.00	31.00	49.82	605.96
XII	1976.19	0.00	0.00	235.11	380.17	2591.47
XIII	860.14	0.00	0.00	219.23	0.00	1079.37

### **Debt-Equity Ratio**

37. The Petitioner has considered the debt-equity ratio of 70:30 as on COD and for ACE in respect of the transmission assets. The debt-equity ratio of 70:30 as claimed by the Petitioner in Form-6 has been considered for capital cost as on COD and ACE during 2015-16 to 2018-19 period as provided under Regulation 19 of the 2014 Tariff Regulations. The same is summarised as under:

Asset-I				
Particulars	As on COD		As on 31.3.2019	
	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)
Debt	431.00	70.00	785.46	70.00
Equity	184.72	30.00	336.62	30.00
<b>Total</b>	<b>615.72</b>	<b>100.00</b>	<b>1122.08</b>	<b>100.00</b>

Asset-II				
Particulars	As on COD		As on 31.3.2019	
	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)
Debt	723.20	70.00	1250.83	70.00
Equity	309.94	30.00	536.05	30.00
<b>Total</b>	<b>1033.14</b>	<b>100.00</b>	<b>1786.88</b>	<b>100.00</b>

Asset-III				
Particulars	As on COD		As on 31.3.2019	
	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)
Debt	263.07	70.00	681.98	70.00
Equity	112.72	30.00	292.25	30.00
<b>Total</b>	<b>375.79</b>	<b>100.00</b>	<b>974.23</b>	<b>100.00</b>

Asset-IV				
Particulars	As on COD		As on 31.3.2019	
	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)
Debt	754.54	70.00	974.65	70.00
Equity	323.37	30.00	417.70	30.00
<b>Total</b>	<b>1077.91</b>	<b>100.00</b>	<b>1392.35</b>	<b>100.00</b>

Asset-V				
Particulars	As on COD		As on 31.3.2019	
	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)
Debt	472.56	70.00	618.54	70.00
Equity	202.53	30.00	265.08	30.00
<b>Total</b>	<b>675.08</b>	<b>100.00</b>	<b>883.62</b>	<b>100.00</b>

Asset-VI				
Particulars	As on COD		As on 31.3.2019	
	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)
Debt	280.11	70.00	469.15	70.00



Equity	120.05	30.00	201.05	30.00
<b>Total</b>	<b>400.16</b>	<b>100.00</b>	<b>670.20</b>	<b>100.00</b>

Asset-VII				
Particulars	As on COD		As on 31.3.2019	
	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)
Debt	1258.61	70.00	1591.63	70.00
Equity	539.39	30.00	682.11	30.00
<b>Total</b>	<b>1798.00</b>	<b>100.00</b>	<b>2273.74</b>	<b>100.00</b>

Asset-VIII				
Particulars	As on COD		As on 31.3.2019	
	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)
Debt	345.15	70.00	388.88	70.00
Equity	147.92	30.00	166.65	30.00
<b>Total</b>	<b>493.06</b>	<b>100.00</b>	<b>555.53</b>	<b>100.00</b>

Asset-IX				
Particulars	As on COD		As on 31.3.2019	
	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)
Debt	588.96	70.00	623.80	70.00
Equity	252.40	30.00	267.33	30.00
<b>Total</b>	<b>841.37</b>	<b>100.00</b>	<b>891.14</b>	<b>100.00</b>

Asset-X				
Particulars	As on COD		As on 31.3.2019	
	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)
Debt	372.70	70.00	429.27	70.00
Equity	159.73	30.00	183.97	30.00
<b>Total</b>	<b>532.43</b>	<b>100.00</b>	<b>613.25</b>	<b>100.00</b>

Asset-XI				
Particulars	As on COD		As on 31.3.2019	
	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)
Debt	367.60	70.00	424.17	70.00
Equity	157.54	30.00	181.79	30.00
<b>Total</b>	<b>525.14</b>	<b>100.00</b>	<b>605.96</b>	<b>100.00</b>



<b>Asset-XII</b>				
<b>Particulars</b>	<b>As on COD</b>		<b>As on 31.3.2019</b>	
	<b>Amount (₹ in lakh)</b>	<b>(%)</b>	<b>Amount (₹ in lakh)</b>	<b>(%)</b>
Debt	1383.33	70.00	1814.04	70.00
Equity	592.85	30.00	777.43	30.00
<b>Total</b>	<b>1976.19</b>	<b>100.00</b>	<b>2591.47</b>	<b>100.00</b>

<b>Asset-XIII</b>				
<b>Particulars</b>	<b>As on COD</b>		<b>As on 31.3.2019</b>	
	<b>Amount (₹ in lakh)</b>	<b>(%)</b>	<b>Amount (₹ in lakh)</b>	<b>(%)</b>
Debt	602.10	70.00	755.56	70.00
Equity	258.04	30.00	323.81	30.00
<b>Total</b>	<b>860.14</b>	<b>100.00</b>	<b>1079.37</b>	<b>100.00</b>

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

38. The Petitioner has claimed IoL based on actual interest rates for each year during the 2014-19 tariff period. The Petitioner has submitted that the weighted average rate of IoL has been considered on the basis of the rates prevailing as on 1.4.2014 and has prayed to consider floating rate of interest applicable during the 2014-19 period, if any, during the truing up of tariff.

39. We have considered the submissions made by the Petitioner. It is observed that the SBI loan with respect to the transmission assets has been deployed with floating interest rates. Accordingly, factoring the impact of floating rate of interest, IoL has been worked out based on actual interest rate, in accordance with Regulation 26 of the 2014 Tariff Regulations.

40. IoL in respect of the transmission assets has been worked out as per the following considerations:

- i. Gross amount of loan, repayment of instalments, rate of interest and weighted average rate of interest on actual average loan have been considered as per the petition.
- ii. The repayment for the 2014-19 tariff period has been considered to be equal to the depreciation allowed for that period.

41. IoL has been worked out based on actual interest rate, in accordance with Regulation 26 of the 2014 Tariff Regulations. The trued-up IoL approved for the transmission assets is as under:-

(₹ in lakh)

<b>Asset-I</b>				
<b>Particulars</b>	<b>2015-16 (Pro-rata for 90 days)</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Normative Loan	431.00	457.14	484.64	721.88
Cumulative Repayments upto Previous Year	0.00	8.24	43.75	89.26
<b>Net Loan-Opening</b>	<b>431.00</b>	<b>448.90</b>	<b>440.88</b>	<b>632.62</b>
Addition due to Additional Capitalization	26.13	27.50	237.24	63.57
Repayment during the year	8.24	35.52	45.50	56.85
<b>Net Loan-Closing</b>	<b>448.90</b>	<b>440.88</b>	<b>632.62</b>	<b>639.35</b>
Average Loan	439.95	444.89	536.75	635.99
Weighted Average Rate of Interest on Loan (%)	8.434	8.441	8.173	8.029
<b>Interest on Loan</b>	<b>9.12</b>	<b>37.55</b>	<b>43.87</b>	<b>51.06</b>

(₹ in lakh)

<b>Asset-II</b>				
<b>Particulars</b>	<b>2015-16 (Pro-rata for 86 days)</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Normative Loan	723.20	979.08	993.78	1122.78
Cumulative Repayments upto Previous Year	0.00	15.09	89.49	169.31
<b>Net Loan-Opening</b>	<b>723.20</b>	<b>963.99</b>	<b>904.29</b>	<b>953.47</b>
Addition due to Additional Capitalization	255.88	14.70	129.00	128.05
Repayment during the year	15.09	74.40	79.82	89.52
<b>Net Loan-Closing</b>	<b>963.99</b>	<b>904.29</b>	<b>953.47</b>	<b>992.00</b>
Average Loan	843.60	934.14	928.88	972.73
Weighted Average Rate of	8.573	8.637	8.315	8.194





Interest on Loan (%)				
<b>Interest on Loan</b>	<b>16.99</b>	<b>80.68</b>	<b>77.24</b>	<b>79.71</b>

(₹ in lakh)

Particulars	Asset-III			Asset-IV		
	2016-17 (Pro-rata for 182 days)	2017-18	2018-19	2016-17 (Pro-rata for 195 days)	2017-18	2018-19
Gross Normative Loan	263.07	376.36	620.17	754.54	908.40	974.65
Cumulative Repayments upto Previous Year	0.00	12.02	49.61	0.00	33.51	104.52
Net Loan-Opening	263.07	364.33	570.57	754.54	874.90	870.13
Addition due to Additional Capitalization	113.28	243.82	61.81	153.86	66.25	0.00
Repayment during the year	12.02	37.58	49.11	33.51	71.02	73.52
Net Loan-Closing	364.33	570.57	583.27	874.90	870.13	796.61
Average Loan	313.70	467.45	576.92	814.72	872.51	833.37
Weighted Average Rate of Interest on Loan (%)	8.004	7.825	7.740	8.275	8.171	8.096
<b>Interest on Loan</b>	<b>12.52</b>	<b>36.58</b>	<b>44.66</b>	<b>36.02</b>	<b>71.29</b>	<b>67.47</b>

(₹ in lakh)

Particulars	Asset-V			Asset-VI		
	2016-17 (Pro-rata for 160 days)	2017-18	2018-19	2016-17 (Pro-rata for 92 days)	2017-18	2018-19
Gross Normative Loan	472.56	545.63	613.26	280.11	422.60	463.87
Cumulative Repayments upto Previous Year	0.00	16.83	60.54	0.00	6.68	40.11
Net Loan-Opening	472.56	528.80	552.72	280.11	415.92	423.76
Addition due to Additional Capitalization	73.07	67.63	5.28	142.49	41.27	5.28
Repayment during the year	16.83	43.71	46.46	6.68	33.43	35.19
Net Loan-Closing	528.80	552.72	511.55	415.92	423.76	393.85
Average Loan	500.68	540.76	532.13	348.02	419.84	408.81
Weighted Average Rate of Interest on Loan (%)	8.109	8.004	7.927	8.178%	8.066%	7.987%
<b>Interest on Loan</b>	<b>17.80</b>	<b>43.28</b>	<b>42.18</b>	<b>7.17</b>	<b>33.87</b>	<b>32.65</b>



(₹ in lakh)

Particulars	Asset-VII		Asset-VIII		Asset-IX	
	2017-18 (Pro-rata for 241 days)	2018-19	2017-18 (Pro-rata for 84 days)	2018-19	2017-18 (Pro-rata for 170 days)	2018-19
Gross Normative Loan	1258.61	1495.50	345.15	366.19	588.96	591.95
Cumulative Repayments upto Previous Year	0.00	68.58	0.00	6.17	0.00	20.74
Net Loan-Opening	1258.61	1426.92	345.15	360.02	588.96	571.21
Addition due to Additional Capitalization	236.89	96.13	21.04	22.69	2.99	31.85
Repayment during the year	68.58	116.43	6.17	28.48	20.74	45.85
Net Loan-Closing	1426.92	1406.62	360.02	354.23	571.21	557.21
Average Loan	1342.77	1416.77	352.58	357.12	580.09	564.21
Weighted Average Rate of Interest on Loan (%)	8.006	8.028	7.306	7.358	7.348	7.370
<b>Interest on Loan</b>	<b>70.98</b>	<b>113.74</b>	<b>5.93</b>	<b>26.28</b>	<b>19.85</b>	<b>41.58</b>

(₹ in lakh)

Particulars	Asset-X		Asset-XI	
	2017-18 (Pro-rata for 135 days)	2018-19	2017-18 (Pro-rata for 119 days)	2018-19
Gross Normative Loan	372.70	394.40	367.60	389.30
Cumulative Repayments upto Previous Year	0.00	10.70	0.00	9.31
Net Loan-Opening	372.70	383.70	367.60	379.99
Addition due to Additional Capitalization	21.70	34.88	21.70	34.87
Repayment during the year	10.70	31.06	9.31	30.68
Net Loan-Closing	383.70	387.51	379.99	384.19
Average Loan	378.20	385.60	373.79	382.09
Weighted Average Rate of Interest on Loan (%)	7.617	7.658	7.272	7.335
<b>Interest on Loan</b>	<b>10.65</b>	<b>29.53</b>	<b>8.86</b>	<b>28.03</b>

(₹ in lakh)

Particulars	Asset-XII		Asset-XIII	
	2017-18 (Pro-rata for 186 days)	2018-19	2017-18 (Pro-rata for 158 days)	2018-19
Gross Normative Loan	1383.33	1547.92	602.10	755.56
Cumulative Repayments upto Previous Year	0.00	50.79	0.00	22.16
Net Loan-Opening	1383.33	1497.13	602.10	733.40



Addition due to Additional Capitalization	164.59	266.12	153.46	0.00
Repayment during the year	50.79	115.16	22.16	56.99
Net Loan-Closing	1497.13	1648.09	733.40	676.41
Average Loan	1440.23	1572.61	667.75	704.90
Weighted Average Rate of Interest on Loan (%)	7.420	7.499	7.726	7.779
<b>Interest on Loan</b>	<b>54.46</b>	<b>117.93</b>	<b>22.33</b>	<b>54.84</b>

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

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

<b>Year</b>	<b>Claimed effective tax (in %)</b>	<b>Grossed up RoE (Base Rate/1-t) (in %)</b>
2014-15	21.018	19.625
2015-16	21.382	19.716
2016-17	21.338	19.705
2017-18	21.337	19.704
2018-19	21.549	19.758

43. 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 based on the notified MAT rates for the Petitioner. The relevant portion of the order dated 27.4.2020 is as under:

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

of rate of return on equity. Any under-recovery or over-recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long term transmission customers/ DICs as the case may be on year to year basis.

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

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

44. The MAT rates considered in the above order are considered for the purpose of grossing up of rate of RoE for truing up of the tariff of the 2014-19 tariff period in terms of the provisions of the 2014 Tariff Regulations, as under:

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

45. Accordingly, the trued-up RoE allowed for the transmission assets is as follows:

Particulars	Asset-I			
	2015-16 (Pro-rata for 90 days)	2016-17	2017-18	2018-19
Opening Equity	184.72	195.92	207.70	309.38
Addition due to Additional Capitalization	11.20	11.79	101.68	27.25
Closing Equity	195.92	207.70	309.38	336.62
Average Equity	190.32	201.81	258.54	323.00
Return on Equity (Base Rate) (%)	15.5	15.5	15.5	15.5
Tax Rate applicable (%)	21.342	21.342	21.342	21.549
Rate of Return on Equity (Pre-tax) (%)	19.705	19.705	19.705	19.758
<b>Return on Equity (Pre-tax)</b>	<b>9.22</b>	<b>39.77</b>	<b>50.95</b>	<b>63.82</b>

(₹ in lakh)



(₹ in lakh)

Asset-II				
Particulars	2015-16	2016-17	2017-18	2018-19
	(Pro-rata for 86 days)			
Opening Equity	309.94	419.60	425.89	481.17
Addition due to Additional Capitalization	109.66	6.29	55.28	54.88
Closing Equity	419.60	425.89	481.17	536.05
Average Equity	364.77	422.75	453.53	508.61
Return on Equity (Base Rate) (%)	15.5	15.5	15.5	15.5
Tax Rate applicable (%)	21.342	21.342	21.342	21.549
Rate of Return on Equity (Pre-tax) (%)	19.705	19.705	19.705	19.758
<b>Return on Equity (Pre-tax)</b>	<b>16.89</b>	<b>83.30</b>	<b>89.37</b>	<b>100.49</b>

(₹ in lakh)

Particulars	Asset-III			Asset-IV		
	2016-17 (Pro-rata for 182 days)	2017-18	2018-19	2016-17 (Pro-rata for 195 days)	2017-18	2018-19
Opening Equity	112.72	161.27	265.76	323.37	389.31	417.70
Addition due to Additional Capitalization	48.55	104.49	26.49	65.94	28.39	0.00
Closing Equity	161.27	265.76	292.25	389.31	417.70	417.70
Average Equity	137.00	213.51	279.01	356.34	403.50	417.70
Return on Equity (Base Rate) (%)	15.5	15.5	15.5	15.5	15.5	15.5
Tax Rate applicable (%)	21.342	21.342	21.549	21.342	21.342	21.549
Rate of Return on Equity (Pre-tax) (%)	19.705	19.705	19.758	19.705	19.705	19.758
<b>Return on Equity (Pre-tax)</b>	<b>13.46</b>	<b>42.07</b>	<b>55.13</b>	<b>37.51</b>	<b>79.51</b>	<b>82.53</b>

(₹ in lakh)

Particulars	Asset-V			Asset-VI		
	2016-17 (Pro-rata for 160 days)	2017-18	2018-19	2016-17 (Pro-rata for 92 days)	2017-18	2018-19
Opening Equity	202.53	233.84	262.82	120.05	181.11	198.79
Addition due to Additional	31.32	28.98	2.26	61.06	17.68	2.26



Capitalization						
Closing Equity	233.84	262.82	265.08	181.11	198.79	201.05
Average Equity	218.18	248.33	263.95	150.58	189.95	199.92
Return on Equity (Base Rate) (%)	15.5	15.5	15.5	15.5	15.5	15.5
Tax Rate applicable (%)	21.342	21.342	21.342	21.342	21.342	21.549
Rate of Return on Equity (Pre-tax) (%)	19.705	19.705	19.758	19.705	19.705	19.758
<b>Return on Equity (Pre-tax)</b>	<b>18.85</b>	<b>48.93</b>	<b>52.15</b>	<b>7.48</b>	<b>37.43</b>	<b>39.50</b>

(₹ in lakh)

Particulars	Asset-VII		Asset-VIII		Asset-IX	
	2017-18 (Pro-rata for 241 days)	2018-19	2017-18 (Pro-rata for 84 days)	2018-19	2017-18 (Pro-rata for 170 days)	2018-19
Opening Equity	539.39	640.91	147.92	156.93	252.40	253.68
Addition due to Additional Capitalization	0.00	0.00	0.00	0.00	0.00	0.00
Closing Equity	640.91	682.11	156.93	166.65	253.68	267.33
Average Equity	590.15	661.51	152.43	161.79	253.04	260.51
Return on Equity (Base Rate) (%)	15.5	15.5	15.5	15.5	15.5	15.5
Tax Rate applicable (%)	21.342	21.549	21.342	21.549	21.342	21.549
Rate of Return on Equity (Pre-tax) (%)	19.705	19.758	19.705	19.758	19.705	19.758
<b>Return on Equity (Pre-tax)</b>	<b>76.78</b>	<b>130.70</b>	<b>6.91</b>	<b>31.97</b>	<b>23.22</b>	<b>51.47</b>

(₹ in lakh)

Particulars	Asset-X		Asset-XI	
	2017-18 (Pro-rata for 135 days)	2018-19	2017-18 (Pro-rata for 119 days)	2018-19
Opening Equity	159.73	169.03	157.54	166.84
Addition due to Additional Capitalization	9.30	14.94	9.30	14.95
Closing Equity	169.03	183.97	166.84	181.79
Average Equity	164.38	176.50	162.19	174.31
Return on Equity (Base Rate) (%)	15.5	15.5	15.5	15.5
Tax Rate applicable (%)	21.342	21.549	21.342	21.549
Rate of Return on Equity (Pre-tax) (%)	19.705	19.758	19.705	19.758



<b>Return on Equity (Pre-tax)</b>	<b>11.98</b>	<b>34.87</b>	<b>10.42</b>	<b>34.44</b>
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(₹ in lakh)

Particulars	Asset-XII		Asset-XIII	
	2017-18 (Pro-rata for 186 days)	2018-19	2017-18 (Pro-rata for 158 days)	2018-19
Opening Equity	592.85	663.38	258.04	323.81
Addition due to Additional Capitalization	70.52	114.05	65.77	0.00
Closing Equity	663.38	777.43	323.81	323.81
Average Equity	628.12	720.40	290.92	323.81
Return on Equity (Base Rate) (%)	15.5	15.5	15.5	15.5
Tax Rate applicable (%)	21.342	21.549	21.342	21.549
Rate of Return on Equity (Pre-tax) (%)	19.705	19.758	19.705	19.758
<b>Return on Equity (Pre-tax)</b>	<b>63.07</b>	<b>142.34</b>	<b>24.82</b>	<b>63.98</b>

### Depreciation

46. The Gross Block during the tariff period 2014-19 has been depreciated at Weighted Average Rate of Depreciation (WAROD). The Weighted Average Rate of Depreciation (WAROD) has been worked out (as placed in Annexure-I) after taking into account the depreciation rates of assets as prescribed in the 2014 Tariff Regulations. Depreciation has been computed considering capital expenditure as on 31.3.2014 and ACE approved for the 2014-19 period. Details of trued up depreciation allowed for the transmission assets under Regulation 27 of the 2014 Tariff Regulations are as follows:

(₹ in lakh)

Particulars	Asset-I			
	2015-16 (Pro-rata for 90 days)	2016-17	2017-18	2018-19
Opening Gross Block	615.72	653.05	692.34	1031.26
Additional Capitalization	37.33	39.29	338.92	90.82
Closing Gross Block	653.05	692.34	1031.26	1122.08
Average Gross Block	634.39	672.70	861.80	1076.67
Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28	5.28



Balance useful life of the asset at the beginning of year	25	25	24	23
Elapsed life at the beginning of the year	0	0	1	2
Aggregated Depreciable Value	570.95	605.43	775.62	969.00
<b>Depreciation during the year</b>	<b>8.24</b>	<b>35.52</b>	<b>45.50</b>	<b>56.85</b>
Aggregate Cumulative Depreciation	8.24	43.75	89.26	146.11
Remaining Aggregate Depreciable Value at the end of the year	562.71	561.67	686.36	822.90

(₹ in lakh)

Asset-II				
Particulars	2015-16	2016-17	2017-18	2018-19
	(Pro-rata for 86 days)			
Opening Gross Block	1033.14	1398.68	1419.67	1603.95
Additional Capitalization	365.54	20.99	184.28	182.93
Closing Gross Block	1398.68	1419.67	1603.95	1786.88
Average Gross Block	1215.91	1409.18	1511.81	1695.42
Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28	5.28
Balance useful life of the asset at the beginning of year	25	25	24	23
Elapsed life at the beginning of the year	0	0	1	2
Aggregated Depreciable Value	1094.32	1268.26	1360.63	1525.87
<b>Depreciation during the year</b>	<b>15.09</b>	<b>74.40</b>	<b>79.82</b>	<b>89.52</b>
Aggregate Cumulative Depreciation	15.09	89.49	169.31	258.83
Remaining Aggregate Depreciable Value at the end of the year	1079.23	1178.77	1191.32	1267.04

(₹ in lakh)

Particulars	Asset-III			Asset-IV		
	2016-17 (Pro-rata for 182 days)	2017-18	2018-19	2016-17 (Pro-rata for 195 days)	2017-18	2018-19
Opening Gross Block	375.79	537.62	885.93	1077.91	1297.71	1392.35
Additional Capitalization	161.83	348.31	88.30	219.80	94.64	0.00
Closing Gross Block	537.62	885.93	974.23	1297.71	1392.35	1392.35
Average Gross Block	456.71	711.78	930.08	1187.81	1345.03	1392.35





Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28	5.28	5.28	5.28
Balance useful life of the asset at the beginning of year	25	25	24	25	24	23
Elapsed life at the beginning of the year	0	0	1	0	1	2
Aggregated Depreciable Value	411.04	640.60	837.08	1069.03	1210.53	1253.12
<b>Depreciation during the year</b>	<b>12.02</b>	<b>37.58</b>	<b>49.11</b>	<b>33.51</b>	<b>71.02</b>	<b>73.52</b>
Aggregate Cumulative Depreciation	12.02	49.61	98.71	33.51	104.52	178.04
Remaining Aggregate Depreciable Value at the end of the year	399.01	591.00	738.36	1035.52	1106.00	1075.08

(₹ in lakh)

Particulars	Asset-V			Asset-VI		
	2016-17 (Pro-rata for 160 days)	2017-18	2018-19	2016-17 (Pro-rata for 92 days)	2017-18	2018-19
Opening Gross Block	675.08	779.47	876.08	400.16	603.71	662.66
Additional Capitalization	104.39	96.61	7.54	203.55	58.95	7.54
Closing Gross Block	779.47	876.08	883.62	603.71	662.66	670.20
Average Gross Block	727.28	827.78	879.85	501.94	633.19	666.43
Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28	5.28	5.28	5.28
Balance useful life of the asset at the beginning of year	25	25	24	25	25	24
Elapsed life at the beginning of the year	0	0	1	0	0	1
Aggregated Depreciable Value	654.55	745.00	791.87	451.74	569.87	599.79
<b>Depreciation</b>	<b>16.83</b>	<b>43.71</b>	<b>46.46</b>	<b>6.68</b>	<b>33.43</b>	<b>35.19</b>



<b>during the year</b>						
Aggregate Cumulative Depreciation	16.83	60.54	107.00	6.68	40.11	75.30
Remaining Aggregate Depreciable Value at the end of the year	637.72	684.46	684.87	445.06	529.75	524.49

(₹ in lakh)

Particulars	Asset-VII		Asset-VIII		Asset-IX	
	2017-18 (Pro-rata for 241 days)	2018-19	2017-18 (Pro-rata for 84 days)	2018-19	2017-18 (Pro-rata for 170 days)	2018-19
Opening Gross Block	1798.00	2136.41	493.06	523.12	841.37	845.64
Additional Capitalization	338.41	137.33	30.06	32.41	4.27	45.50
Closing Gross Block	2136.41	2273.74	523.12	555.53	845.64	891.14
Average Gross Block	1967.21	2205.08	508.09	539.33	843.50	868.39
Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28	5.28	5.28	5.28
Balance useful life of the asset at the beginning of year	25	24	25	24	25	24
Elapsed life at the beginning of the year	0	1	0	1	0	1
Aggregated Depreciable Value	1770.49	1984.57	457.28	485.40	759.15	781.55
<b>Depreciation during the year</b>	<b>68.58</b>	<b>116.43</b>	<b>6.17</b>	<b>28.48</b>	<b>20.74</b>	<b>45.85</b>
Aggregate Cumulative Depreciation	68.58	185.01	6.17	34.65	20.74	66.59
Remaining Aggregate Depreciable Value at the end of the year	1701.91	1799.56	451.11	450.75	738.41	714.96



(₹ in lakh)

Particulars	Asset-X		Asset-XI	
	2017-18 (Pro-rata for 135 days)	2018-19	2017-18 (Pro-rata for 119 days)	2018-19
Opening Gross Block	532.43	563.43	525.14	556.14
Additional Capitalization	31.00	49.82	31.00	49.82
Closing Gross Block	563.43	613.25	556.14	605.96
Average Gross Block	547.93	588.34	540.64	581.05
Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28	5.28
Balance useful life of the asset at the beginning of year	25	25	25	25
Elapsed life at the beginning of the year	0	0	0	0
Aggregated Depreciable Value	493.13	529.50	486.58	522.94
<b>Depreciation during the year</b>	<b>10.70</b>	<b>31.06</b>	<b>9.31</b>	<b>30.68</b>
Aggregate Cumulative Depreciation	10.70	41.76	9.31	39.99
Remaining Aggregate Depreciable Value at the end of the year	482.43	487.74	477.27	482.96

(₹ in lakh)

Particulars	Asset-XII		Asset-XIII	
	2017-18 (Pro-rata for 186 days)	2018-19	2017-18 (Pro-rata for 158 days)	2018-19
Opening Gross Block	1976.19	2211.30	860.14	1079.37
Additional Capitalization	235.11	380.17	219.23	0.00
Closing Gross Block	2211.30	2591.47	1079.37	1079.37
Average Gross Block	2093.74	2401.38	969.76	1079.37
Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28	5.28
Balance useful life of the asset at the beginning of year	25	24	25	24
Elapsed life at the beginning of the year	0	1	0	1
Aggregated Depreciable Value	1884.37	2161.24	872.78	971.43
<b>Depreciation during the year</b>	<b>50.79</b>	<b>115.16</b>	<b>22.16</b>	<b>56.99</b>
Aggregate Cumulative Depreciation	50.79	165.95	22.16	79.16
Remaining Aggregate	1833.58	1995.29	850.61	892.28



Depreciable Value at the end of the year				
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**Operation & Maintenance Expenses (O&M Expenses)**

47. The Petitioner has not claimed O&M Expenses for Assets-IV, V, VIII, IX, X, XI and XIII. The details of the O&M Expenses claimed by the Petitioner for the transmission assets and allowed under Regulation 29(3) of the 2014 Tariff Regulations for the purpose of tariff are as under:

(₹ in lakh)

Particulars	Asset-I			
	2015-16 (Pro-rata for 90 days)	2016-17	2017-18	2018-19
<b>Sub-station Bays</b>				
160 MVA 220 kV ICT Bay at Ara	1	1	1	1
160 MVA 132 kV ICT Bay at Ara	1	1	1	1
<b>Norm (₹ lakh/bay)</b>				
220 kV Sub-station Bays	43.61	45.06	46.55	48.10
132 kV Sub-station Bays	31.15	32.18	33.25	34.36
<b>Total O&amp;M Expenses</b>	<b>18.38</b>	<b>77.24</b>	<b>79.80</b>	<b>82.46</b>

(₹ in lakh)

Particulars	Asset-II			
	2015-16 (Pro-rata for 86 days)	2016-17	2017-18	2018-19
<b>Sub-station Bays</b>				
500 MVA 400 kV ICT Bay at Muzaffarpur Sub-station	1	1	1	1
500 MVA 220 kV ICT Bay at Muzaffarpur Sub-station	1	1	1	1
<b>Norm (₹ lakh/bay)</b>				
400 kV Sub-station Bays	62.30	64.37	66.51	68.71
220 kV Sub-station Bays	43.61	45.06	46.55	48.10
<b>Total O&amp;M Expenses</b>	<b>24.89</b>	<b>109.43</b>	<b>113.06</b>	<b>116.81</b>

(₹ in lakh)

Particulars	Asset-III			Asset-VI		
	2016-17 (Pro-rata for 182 days)	2017-18	2018-19	2016-17 (Pro-rata for 92 days)	2017-18	2018-19
<b>Sub-station Bays</b>						



400 kV BR-I Bay at Maithon	1	1	1	0	0	0
400 kV BR-II Bay at Durgapur	0	0	0	1	1	1
<b>Norm (₹ lakh/bay)</b>						
400 kV Sub-station Bays	64.37	66.51	68.71	64.37	66.51	68.71
<b>Total O&amp;M Expenses</b>	<b>32.10</b>	<b>66.51</b>	<b>68.71</b>	<b>16.22</b>	<b>66.51</b>	<b>68.71</b>

(₹ in lakh)

Particulars	Asset-VII		Asset-XII	
	2017-18 (Pro-rata for 241 days)	2018-19	2017-18 (Pro-rata for 186 days)	2018-19
<b>Sub-station Bays</b>				
400 kV BR_II Bay at Rengali	1	1		
400 kV BR_I Bay at Rengali	1	1		
400 kV BR II Bay at Gajuwaka			1	1
<b>Norm (₹ lakh/bay)</b>				
400 kV Sub-station Bays	66.51	68.71	66.51	68.71
<b>Total O&amp;M Expenses</b>	<b>87.83</b>	<b>137.42</b>	<b>33.89</b>	<b>68.71</b>

### Interest on Working Capital (IWC)

48. The trued-up IWC approved for the 2014-19 period for the transmission assets as per the methodology provided in Regulation 28 of the 2014 Tariff Regulations and it is as follows:

(₹ in lakh)

Particulars	Asset-I			
	2015-16 (Pro-rata for 90 days)	2016-17	2017-18	2018-19
O & M Expenses	6.23	6.44	6.65	6.87
Maintenance Spares	11.21	11.59	11.97	12.37
Receivables	31.58	32.82	37.96	43.78
<b>Total</b>	<b>49.02</b>	<b>50.85</b>	<b>56.58</b>	<b>63.02</b>
Rate of Interest on working capital (%)	13.5	13.5	13.5	13.5
<b>Interest on Working Capital</b>	<b>1.63</b>	<b>6.86</b>	<b>7.64</b>	<b>8.51</b>

(₹ in lakh)

Asset-II				
Particulars	2015-16	2016-17	2017-18	2018-19
	(Pro-rata for 86 days)			
O & M Expenses	8.83	9.12	9.42	9.73
Maintenance Spares	15.89	16.41	16.96	17.52
Receivables	54.16	59.89	61.90	66.53
<b>Total</b>	<b>78.87</b>	<b>85.43</b>	<b>88.28</b>	<b>93.79</b>
Rate of Interest on working capital (%)	13.5	13.5	13.5	13.5
<b>Interest on Working Capital</b>	<b>2.50</b>	<b>11.53</b>	<b>11.92</b>	<b>12.66</b>

(₹ in lakh)

Particulars	Asset-III			Asset-IV		
	2016-17 (Pro-rata for 182 days)	2017-18	2018-19	2016-17 (Pro-rata for 195 days)	2017-18	2018-19
O & M Expenses	5.36	5.54	5.73	0.00	0.00	0.00
Maintenance Spares	9.66	9.98	10.31	0.00	0.00	0.00
Receivables	24.27	31.46	37.41	34.12	37.78	38.07
<b>Total</b>	<b>39.29</b>	<b>46.98</b>	<b>53.44</b>	<b>34.12</b>	<b>37.78</b>	<b>38.07</b>
Rate of Interest on working capital (%)	12.8	12.8	12.8	12.8	12.8	12.8
<b>Interest on Working Capital</b>	<b>2.51</b>	<b>6.01</b>	<b>6.84</b>	<b>2.33</b>	<b>4.84</b>	<b>4.87</b>

(₹ in lakh)

Particulars	Asset-V			Asset-VI		
	2016-17 (Pro-rata for 160 days)	2017-18	2018-19	2016-17 (Pro-rata for 92 days)	2017-18	2018-19
O & M Expenses	0.00	0.00	0.00	5.36	5.54	5.73
Maintenance Spares	0.00	0.00	0.00	9.66	9.98	10.31
Receivables	20.78	23.15	23.98	25.70	29.50	30.33
<b>Total</b>	<b>20.78</b>	<b>23.15</b>	<b>23.98</b>	<b>40.72</b>	<b>45.02</b>	<b>46.36</b>
Rate of Interest on working capital (%)	12.8	12.8	12.8	12.8	12.8	12.8
<b>Interest on Working Capital</b>	<b>1.17</b>	<b>2.96</b>	<b>3.07</b>	<b>1.31</b>	<b>5.76</b>	<b>5.93</b>



(₹ in lakh)

Particulars	Asset-VII		Asset-VIII		Asset-IX	
	2017-18 (Pro-rata for 241 days)	2018-19	2017-18 (Pro-rata for 84 days)	2018-19	2017-18 (Pro-rata for 170 days)	2018-19
O & M Expenses	11.09	11.45	0.00	0.00	0.00	0.00
Maintenance Spares	19.95	20.61	0.00	0.00	0.00	0.00
Receivables	79.09	85.52	14.07	14.76	23.33	23.65
<b>Total</b>	<b>110.13</b>	<b>117.58</b>	<b>14.07</b>	<b>14.76</b>	<b>23.33</b>	<b>23.65</b>
Rate of Interest on working capital (%)	12.6	12.6	12.6	12.6	12.6	12.6
<b>Interest on Working Capital</b>	<b>9.16</b>	<b>14.82</b>	<b>0.41</b>	<b>1.86</b>	<b>1.37</b>	<b>2.98</b>

(₹ in lakh)

Particulars	Asset-X		Asset-XI	
	2017-18 (Pro-rata for 135 days)	2018-19	2017-18 (Pro-rata for 119 days)	2018-19
O & M Expenses	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00
Receivables	15.34	16.25	14.93	15.86
<b>Total</b>	<b>15.34</b>	<b>16.25</b>	<b>14.93</b>	<b>15.86</b>
Rate of Interest on working capital (%)	12.6	12.6	12.6	12.6
<b>Interest on Working Capital</b>	<b>0.72</b>	<b>2.05</b>	<b>0.61</b>	<b>2.00</b>

(₹ in lakh)

Particulars	Asset-XII		Asset-XIII	
	2017-18 (Pro-rata for 186 days)	2018-19	2017-18 (Pro-rata for 158 days)	2018-19
O & M Expenses	5.54	5.73	0.00	0.00
Maintenance Spares	9.98	10.31	0.00	0.00
Receivables	67.89	75.96	27.26	29.93
<b>Total</b>	<b>83.41</b>	<b>91.99</b>	<b>27.26</b>	<b>29.93</b>
Rate of Interest on working capital (%)	12.6	12.6	12.6	12.6
<b>Interest on Working Capital</b>	<b>5.36</b>	<b>11.59</b>	<b>1.49</b>	<b>3.77</b>



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

49. Accordingly, the trued-up annual fixed charges allowed for the transmission assets for the 2014-19 tariff period are as under:

(₹ in lakh)

Asset-I				
Particulars	2015-16	2016-17	2017-18	2018-19
	(Pro-rata for 90 days)			
Depreciation	8.24	35.52	45.50	56.85
Interest on Loan	9.12	37.55	43.87	51.06
Return on Equity	9.22	39.77	50.95	63.82
Interest on Working Capital	1.63	6.86	7.64	8.51
O & M Expenses	18.38	77.24	79.80	82.46
<b>Total</b>	<b>46.59</b>	<b>196.94</b>	<b>227.76</b>	<b>262.70</b>

(₹ in lakh)

Asset-II				
Particulars	2015-16	2016-17	2017-18	2018-19
	(Pro-rata for 86 days)			
Depreciation	15.09	74.40	79.82	89.52
Interest on Loan	16.99	80.68	77.24	79.71
Return on Equity	16.89	83.30	89.37	100.49
Interest on Working Capital	2.50	11.53	11.92	12.66
O & M Expenses	24.89	109.43	113.06	116.81
<b>Total</b>	<b>76.36</b>	<b>359.35</b>	<b>371.41</b>	<b>399.19</b>

(₹ in lakh)

Particulars	Asset-III			Asset-IV		
	2016-17 (Pro-rata for 182 days)	2017-18	2018-19	2016-17 (Pro-rata for 195 days)	2017-18	2018-19
Depreciation	12.02	37.58	49.11	33.51	71.02	73.52
Interest on Loan	12.52	36.58	44.66	36.02	71.29	67.47
Return on Equity	13.46	42.07	55.13	37.51	79.51	82.53
Interest on Working Capital	2.51	6.01	6.84	2.33	4.84	4.87
O & M Expenses	32.10	66.51	68.71	0.00	0.00	0.00
<b>Total</b>	<b>72.61</b>	<b>188.75</b>	<b>224.44</b>	<b>109.37</b>	<b>226.66</b>	<b>228.39</b>



(₹ in lakh)

Particulars	Asset-V			Asset-VI		
	2016-17 (Pro-rata for 160 days)	2017-18	2018-19	2016-17 (Pro-rata for 92 days)	2017-18	2018-19
Depreciation	16.83	43.71	46.46	6.68	33.43	35.19
Interest on Loan	17.80	43.28	42.18	7.17	33.87	32.65
Return on Equity	18.85	48.93	52.15	7.48	37.43	39.50
Interest on Working Capital	1.17	2.96	3.07	1.31	5.76	5.93
O & M Expenses	0.00	0.00	0.00	16.22	66.51	68.71
<b>Total</b>	<b>54.64</b>	<b>138.89</b>	<b>143.86</b>	<b>38.87</b>	<b>177.00</b>	<b>181.98</b>

(₹ in lakh)

Particulars	Asset-VII		Asset-VIII		Asset-IX	
	2017-18 (Pro-rata for 241 days)	2018-19	2017-18 (Pro-rata for 84 days)	2018-19	2017-18 (Pro-rata for 170 days)	2018-19
Depreciation	68.58	116.43	6.17	28.48	20.74	45.85
Interest on Loan	70.98	113.74	5.93	26.28	19.85	41.58
Return on Equity	76.78	130.70	6.91	31.97	23.22	51.47
Interest on Working Capital	9.16	14.82	0.41	1.86	1.37	2.98
O & M Expenses	87.83	137.42	0.00	0.00	0.00	0.00
<b>Total</b>	<b>313.34</b>	<b>513.11</b>	<b>19.42</b>	<b>88.58</b>	<b>65.19</b>	<b>141.89</b>

(₹ in lakh)

Particulars	Asset-X		Asset-XI	
	2017-18 (Pro-rata for 135 days)	2018-19	2017-18 (Pro-rata for 119 days)	2018-19
Depreciation	10.70	31.06	9.31	30.68
Interest on Loan	10.65	29.53	8.86	28.03
Return on Equity	11.98	34.87	10.42	34.44
Interest on Working Capital	0.72	2.05	0.61	2.00
O & M Expenses	0.00	0.00	0.00	0.00
<b>Total</b>	<b>34.05</b>	<b>97.51</b>	<b>29.20</b>	<b>95.15</b>

(₹ in lakh)

Particulars	Asset-XII		Asset-XIII	
	2017-18 (Pro-rata for 186 days)	2018-19	2017-18 (Pro-rata for 158 days)	2018-19
Depreciation	50.79	115.16	22.16	56.99



Interest on Loan	54.46	117.93	22.33	54.84
Return on Equity	63.07	142.34	24.82	63.98
Interest on Working Capital	5.36	11.59	1.49	3.77
O & M Expenses	33.89	68.71	0.00	0.00
<b>Total</b>	<b>207.57</b>	<b>455.73</b>	<b>70.80</b>	<b>179.58</b>

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

50. The Petitioner has combined the transmission assets and has submitted the tariff forms, which have achieved COD prior to 1.4.2019, as a single asset. Accordingly, as per proviso (i) of Regulation 8(1) of the 2019 Tariff Regulations, a single tariff for the Combined Asset has been worked out for the 2019-24 tariff period.

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

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	855.07	900.07	904.55	904.55	904.55
Interest on Loan	739.18	715.68	650.25	579.91	507.12
Return on Equity	925.10	973.11	977.90	977.90	977.90
Interest on Working Capital	81.87	84.65	85.40	86.04	86.43
Operation and Maintenance	1009.20	1045.56	1082.25	1121.23	1158.72
<b>Total</b>	<b>3610.42</b>	<b>3719.07</b>	<b>3700.35</b>	<b>3669.63</b>	<b>3634.72</b>

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

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
O&M expenses	84.10	87.13	90.19	93.44	96.56
Maintenance Spares	151.38	156.83	162.34	168.18	173.81
Receivables	443.90	458.52	456.21	452.42	446.89
<b>Total</b>	<b>679.38</b>	<b>702.48</b>	<b>708.74</b>	<b>714.04</b>	<b>717.26</b>
Rate of Interest (%)	12.05	12.05	12.05	12.05	12.05
<b>Interest on Working Capital</b>	<b>81.87</b>	<b>84.65</b>	<b>85.40</b>	<b>86.04</b>	<b>86.43</b>

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

53. The Petitioner has claimed E-COD of the Combined Asset as 9.3.2017. Based on the trued up admitted capital cost and actual COD of all the assets, E-COD has been worked out as follows:

<b>Computation of Effective COD</b>						
<b>Asset</b>	<b>Actual COD</b>	<b>Admitted Capital Cost as on 31.3.2019 (₹ in lakh)</b>	<b>Weight of the cost (%)</b>	<b>No. of Days from last COD</b>	<b>Weighted Days</b>	<b>Effective COD (Latest COD – Total weighted Days)</b>
I	2.1.2016	1122.08	7.21	736.00	53.49	7.3.2017
II	6.1.2016	1786.88	11.48	732.00	84.72	
III	1.10.2016	974.23	6.31	463.00	29.21	
IV	18.9.2016	1392.35	9.02	476.00	42.93	
V	23.10.2016	883.62	5.72	441.00	25.24	
VI	30.12.2016	670.20	4.34	373.00	16.19	
VII	3.8.2017	2273.74	14.73	157.00	23.12	
VIII	7.1.2018	555.53	3.60	0.00	0.00	
IX	13.10.2017	891.14	5.77	86.00	4.96	
X	17.11.2017	613.25	3.97	51.00	2.03	
XI	3.12.2017	605.96	3.92	35.00	1.37	
XII	27.9.2017	2591.47	16.78	102.00	17.12	
XIII	25.10.2017	1079.37	6.99	74.00	5.17	
<b>Total</b>		<b>15439.82</b>	<b>100.00</b>		<b>305.55</b>	

54. E-COD is used to determine the lapsed life of the project as a whole, which works out as two (2) 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)**

55. The life as defined in Regulation 33 of the 2019 Tariff Regulations has been considered for determination of Weighted Average Life (WAL). The Combined Asset may have multiple elements (i.e. land, building, transmission line, sub-station and PLCC) and each element may have a different span of life. Therefore, the concept of WAL has been used as the useful life of the project as whole.



56. WAL has been determined based on the admitted capital cost of the individual elements as on 31.3.2019 and their respective life as stipulated in the 2019 Tariff Regulations. The element-wise life as it was defined in the 2014 Tariff Regulations prevailing at the time of actual COD of the individual asset has been ignored for this purpose. 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 shown below:

Admitted capital cost as on 31.3.2019				
Particulars	Combined capital cost as on 31.3.2019 (₹ in lakh) (a)	Life as per 2019	Weight (c)=(a) x (b) (₹ in lakh)	Weighted Avg. Life of Asset (in years) (d) = (c)/ (a)
		Regulation (Years) (b)		
Land	0.00	0	0.00	
Building	608.68	25	15216.98	
Transmission Line	0.00	35	0.00	
Sub -station	14831.15	25	370778.66	
PLCC	0.00	15	0.00	
Leasehold Land	0.00	25	0.00	
IT Equipment and software	0.00	7	0.00	
<b>Total</b>	<b>15439.83</b>		<b>385995.64</b>	<b>25 Years</b>

57. WAL as on 1.4.2019 as determined above is applicable prospectively (i.e. for 2019-24 tariff period onwards) and no retrospective adjustment of depreciation in previous tariff period is required to be done. Accordingly, the remaining useful life of the Combined Asset as on 31.3.2019 is 23 years.

#### **Capital Cost as on 1.4.2019**

58. Regulation 19 of the 2019 Tariff Regulations provides as under:

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

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



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

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

- (a) Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;
- (b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;
- (c) Capital expenditure on account of renovation and modernisation as admitted by this Commission in accordance with these regulations;
- (d) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;
- (e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and
- (f) Capital cost incurred or projected to be incurred by a thermal generating



station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.

(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-capitalization of the concerned assets.

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

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

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

59. The Petitioner vide Auditor's Certificate in respect of the transmission assets has claimed the following capital cost including projected ACE to be incurred during 2019-20 and 2020-21:

(₹ in lakh)						
Particulars	Apportioned approved cost as per FR	Apportioned approved cost as per RCE	Capital cost claimed as on 31.3.2019	ACE claimed in 2019-20	ACE claimed in 2020-21	Estimated completion capital cost
I	1185.85	1304.62	1122.08	105.00	0.00	1227.08
II	2696.69	2189.37	1786.88	70.00	0.00	1856.88
III	1182.83	1258.25	981.30	100.00	0.00	1081.30
IV	1983.74	1978.78	1424.17	100.00	0.00	1524.17
V	936.85	1030.65	898.29	100.00	0.00	998.29



VI	964.30	1331.38	702.57	200.00	0.00	902.57
VII	2383.58	3034.39	2345.83	227.71	100.00	2673.54
VIII	860.46	918.84	588.25	81.63	70.00	739.88
IX	979.23	1218.73	963.89	117.00	0.00	1080.89
X	849.15	896.07	638.36	66.50	0.00	704.86
XI	849.15	896.07	644.47	66.50	0.00	710.97
XII	1336.64	3003.14	2591.48	0.00	0.00	2591.48
XIII	1603.87	1555.05	1135.09	300.00	0.00	1435.09

60. The estimated completion capital cost is within the overall approved capital cost as per RCE. The capital cost has been dealt with in line with Regulation 19(3) of the 2019 Tariff Regulations. The element-wise capital cost (i.e. Land, Building, Transmission Line, Sub-station and PLCC) as admitted by the Commission as on 31.3.2019 for the Combined Asset is as follows:

(₹ in lakh)	
Element	Amount
Freehold Land	0.00
Leasehold Land	608.68
Building & Other Civil Works	0.00
Transmission Line	14831.15
Sub-station Equipment	0.00
PLCC	0.00
IT Equipment and Software	0.00
<b>Total</b>	<b>15439.83</b>

### **Initial Spares**

61. Initial Spares are allowed for the 2014-19 period on the basis of the cost of the individual assets. The assets covered in the transmission project are combined and the overall project cost is arrived at in the 2019-24 tariff period and, therefore, Initial Spares are allowed during the 2019-24 tariff period on the basis of the overall project cost as per APTEL's judgement dated 14.9.2019 in Appeal No.74 of 2017. Accordingly, Initial Spares allowed for the 2019-24 tariff period are as under:-



Asset	Plant & Machinery cost up to cut-off date (excluding IDC and IEDC) (₹ in lakh)	Initial Spares Claimed (₹ in lakh)	Norms as per the 2014 Tariff Regulations (%)	Initial Spares allowable as per APTEL judgement dated (₹ in lakh)	Initial Spares allowed in 2014-19 (₹ in lakh)	Additional Initial Spares allowed in 2019-24 (₹ in lakh)
<b>Sub-station</b>						
I	1081.92	62.13	6		62.13	
II	1718.86	97.17			97.17	
III	967.47	41.22			41.22	
IV	1381.94	35.57			35.57	
V	875.96	28.35			28.35	
VI	680.26	56.36			39.82	
VII	2478.30	85.60			85.60	
VIII	699.99	43.29			41.92	
IX	955.01	60.81			57.08	
X	655.87	38.91			38.91	
XI	655.87	45.91			38.93	
XII	1826.24	76.57			76.57	
XIII	1370.09	21.75			21.75	
<b>Total</b>	<b>15347.78</b>	<b>693.64</b>		<b>935.37</b>	<b>665.02</b>	<b>28.62</b>

62. Accordingly, Initial Spares of ₹28.62 lakh against sub-station are being allowed as part of the combined capital cost as on 1.4.2019 in accordance with APTEL's judgement dated 14.9.2019 in Appeal 74 of 2017.

63. Capital cost as on 1.4.2019 is worked out as under:

(₹ in lakh)		
Combined Capital Cost as on 31.3.2019	Additional Spares allowed as per APTEL judgment dated 14.9.2019	Combined Capital Cost as on 1.4.2019
15439.83	28.62	15468.44

64. The trued-up capital cost of ₹15468.44 lakh for the Combined Asset is considered as admitted capital cost as on 1.4.2019 for working out tariff for the 2019-24 tariff period.

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

65. Regulations 24 and 25 of the 2019 Tariff Regulations provide as under:





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

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

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

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

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

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

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

- a) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority, or order or decree of any court of law;*
- b) Change in law or compliance of any existing law;*
- c) Deferred works relating to ash pond or ash handling system in the original scope of work;*
- d) Liability for works executed prior to the cut-off date;*
- e) Force Majeure events;*
- f) Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments; and*
- 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 capitalization may be admitted by the Commission, after making necessary adjustments in the gross fixed assets and the cumulative depreciation, subject to prudence check on the following grounds:*

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



(d) The replacement of such asset or equipment has otherwise been allowed by the Commission.”

66. The Petitioner has claimed the projected ACE for the 2019-24 tariff period and submitted Auditor’s Certificate in support of the same. The Petitioner has submitted that ACE claimed for the period from 1.4.2019 to 31.3.2021 is on estimated basis and may vary due to final claim/ reconciliation at the time of contract closing. The Petitioner has claimed the projected ACE for the period 2019-20 as ₹ 1534.34 lakh and for the period 2020-21 as ₹ 170 lakh in respect of the Combined Asset.

67. ACE claimed for 2019-20 for Asset-I to VI is beyond cut-off date and the same is covered under Regulation 25(1)(d) of the 2019 Tariff Regulations. ACE claimed for 2019-20 and 2020-21 for Asset-VII, VIII, IX and XIII is within the cut-off date and is covered under Regulations 24(1)(a) and 24(1)(b) of the 2019 Tariff Regulations. Accordingly, ACE allowed in respect of the transmission asset is ₹1704.34 lakh subject to truing-up.

### **Capital Cost for the 2019-24 Tariff Period**

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

(₹ in lakh)			
Capital cost allowed as on 1.4.2019	ACE allowed for the year 2019-20	ACE allowed for the year 2020-21	Total Estimated Completion capital cost up to 31.3.2024
15468.44	1534.34	170.00	17172.78

### **Debt-Equity Ratio**

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

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



*Provided that:*

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

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

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

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

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

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

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

*(5) Any expenditure incurred or projected to be incurred on or after 1.4.2019 as may be admitted by the Commission as ACE 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.”*

70. The details of the debt-equity ratio considered in respect of the Combined Asset for the purpose of computation of tariff for the 2019-24 tariff period are as follows:



Particulars	Capital cost as on 1.4.2019 (₹ lakh)	(%)	Total capital cost as on 31.3.2024 (₹ lakh)	(%)
Debt	10828.05	70.00	12021.09	70.00
Equity	4640.40	30.00	5151.70	30.00
<b>Total</b>	<b>15468.44</b>	<b>100.00</b>	<b>17172.78</b>	<b>100.00</b>

### Return on Equity (RoE)

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

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

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

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

*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 project 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 project up to load dispatch centre or protection project based on the report submitted by the respective RLDC;*

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

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

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

*b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute, subject to ceiling of additional rate of return on equity of 1.00%:  
Provided that the detailed guidelines in this regard shall be issued by National Load Dispatch Centre by 30.6.2019.*



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

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

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

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

**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.”



72. The MAT rate applicable during 2019-20 has been considered for the purpose of RoE, which shall be trued up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. Accordingly, RoE allowed for the Combined Asset under Regulation 30 of the 2019 Tariff Regulations is as under:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	4640.40	5100.70	5151.70	5151.70	5151.70
Addition due to Additional Capitalization	460.30	51.00	0.00	0.00	0.00
Closing Equity	5100.70	5151.70	5151.70	5151.70	5151.70
Average Equity	4870.55	5126.20	5151.70	5151.70	5151.70
Return on Equity (Base Rate) (%)	15.5	15.5	15.5	15.5	15.5
Tax Rate applicable (%)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (Pre-tax) (%)	18.782	18.782	18.782	18.782	18.782
<b>Return on Equity (Pre-tax)</b>	<b>914.79</b>	<b>962.80</b>	<b>967.59</b>	<b>967.59</b>	<b>967.59</b>

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

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

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

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

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

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

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

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





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

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

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

74. 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 the 2019-24 tariff period will be adjusted. Accordingly, the floating rate of interest, if any, shall be considered at the time of truing up. In view of above, IoL has been allowed in accordance with Regulation 32 of the 2019 Tariff Regulations and the same is as follows:

Particular	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	10828.05	11902.09	12021.09	12021.09	12021.09
Cumulative Repayments up to Previous Year	1477.10	2322.53	3212.96	4107.87	5002.79
Net Loan-Opening	9350.95	9579.56	8808.13	7913.22	7018.30
Addition due to Additional Capitalization	1074.04	119.00	0.00	0.00	0.00
Repayment during the year	845.43	890.43	894.91	894.91	894.91
Net Loan-Closing	9579.56	8808.13	7913.22	7018.30	6123.39
Average Loan	9465.25	9193.84	8360.67	7465.76	6570.84
Weighted Average Rate of Interest on Loan (%)	7.876	7.861	7.871	7.883	7.860
<b>Interest on Loan</b>	<b>745.52</b>	<b>722.77</b>	<b>658.10</b>	<b>588.54</b>	<b>516.47</b>

### Depreciation

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

"33. **Depreciation:**(1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system or element 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 decapitalized asset during its useful services.”

76. 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 details are given in Annexure- II. The depreciation allowed for the Combined Asset is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	201-22	2022-23	2023-24
Opening Gross Block	15468.44	17002.78	17172.78	17172.78	17172.78
Addition during 2019-24 due to Projected Additional Capitalisation	1534.34	170.00	0.00	0.00	0.00
Closing Gross Block	17002.78	17172.78	17172.78	17172.78	17172.78
Average Gross Block	16235.61	17087.78	17172.78	17172.78	17172.78
Weighted Average Rate of Depreciation (WAROD) (%)	5.207	5.211	5.211	5.211	5.211
Balance useful life of the asset	23	22	21	20	19
Elapsed Life at the beginning of the year	2	3	4	5	6
Aggregate Depreciable Value	14612.05	15379.01	15455.51	15455.51	15455.51
<b>Depreciation during the year</b>	<b>845.43</b>	<b>890.43</b>	<b>894.91</b>	<b>894.91</b>	<b>894.91</b>
Cumulative Depreciation up to previous year	1477.10	2322.53	3212.96	4107.87	5002.79
Aggregate Cumulative Depreciation	2322.53	3212.96	4107.87	5002.79	5897.70
Remaining Depreciable Value at the end of the year	12289.52	12166.05	11347.63	10452.72	9557.81

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

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

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

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<i>Norms for sub-station Bays (₹ Lakh per bay)</i>					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
132 kV and below	16.08	16.64	17.23	17.83	18.46
<i>Norms for Transformers (₹ Lakh per MVA)</i>					
765 kV	0.491	0.508	0.526	0.545	0.564
400 kV	0.358	0.371	0.384	0.398	0.411



220 kV	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.245	0.254	0.263	0.272	0.282
<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.”

78. The total O&M Expenses claimed and admitted in respect of the Combined Asset are as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Sub-station Bays</b>					
160 MVA 220 kV ICT bay at Ara	1	1	1	1	1
160 MVA 132 kV ICT bay at Ara	1	1	1	1	1
500 MVA 400 kV ICT bay at Muzaffarpur Sub-station	1	1	1	1	1
500 MVA 220 kV ICT bay at Muzaffarpur Sub-station	1	1	1	1	1
400 kv BR-I bay at Maithon	1	1	1	1	1
400 kV BR-II bay at Durgapur	1	1	1	1	1
400 kV BR-II bay at Rengali	1	1	1	1	1
400 kV BR-I bay at Rengali	1	1	1	1	1
400 kV BR II bay at Gazuwaka	1	1	1	1	1
<b>Norm (₹ lakh/bay)</b>					
400 kV Bay	32.15	33.28	34.45	35.66	36.91
220 kV Bay	22.51	23.30	24.12	24.96	25.84
132 kV Bay	16.08	16.64	17.23	17.83	18.46
<b>Total Sub-station O&amp;M</b>	<b>254.00</b>	<b>262.92</b>	<b>272.17</b>	<b>281.71</b>	<b>291.60</b>



<b>Transformers</b>					
ICT I at Maithon	500	500	500	500	500
ICT at Muzaffarpur Sub-station	1500	1500	1500	1500	1500
ICT at Ara Sub-station	160	160	160	160	160
<b>Norm (₹lakh/ MVA)</b>					
765 kV – Capacity (MVA)	0.491	0.508	0.526	0.545	0.564
400 kV – Capacity (MVA)	0.358	0.371	0.384	0.398	0.411
220 kV – Capacity (MVA)	0.245	0.254	0.263	0.272	0.282
<b>Total Transformers</b>	<b>821.70</b>	<b>851.14</b>	<b>881.08</b>	<b>913.02</b>	<b>943.62</b>
<b>Total O&amp;M Expenses</b>	<b>1075.70</b>	<b>1114.06</b>	<b>1153.25</b>	<b>1194.73</b>	<b>1235.22</b>

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

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

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

**(a) For Coal-based/lignite-fired thermal generating stations:**

- (i) *Cost of coal or lignite and limestone towards stock, if applicable, for 10 days for pit-head generating stations and 20 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;*
- (ii) *Advance payment for 30 days towards cost of coal or lignite and limestone for generation corresponding to the normative annual plant availability factor;*
- (iii) *Cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil;*
- (iv) *Maintenance spares @ 20% of operation and maintenance expenses including water charges and security expenses;*
- (v) *Receivables equivalent to 45 days of capacity charge and energy charge for sale of electricity calculated on the normative annual plant availability factor; and*
- (vi) *Operation and maintenance expenses, including water charges and security expenses, for one month.*

**(b) For Open-cycle Gas Turbine/Combined Cycle thermal generating stations:**

- (i) *Fuel cost for 30 days corresponding to the normative annual plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;*
- (ii) *Liquid fuel stock for 15 days corresponding to the normative annual plant availability factor, and in case of use of more than one liquid fuel, cost of main liquid fuel duly taking into account mode of operation of the generating stations of gas fuel and liquid fuel;*
- (iii) *Maintenance spares @ 30% of operation and maintenance expenses including water charges and security expenses;*
- (iv) *Receivables equivalent to 45 days of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor, duly*



taking into account mode of operation of the generating station on gas fuel and liquid fuel; and

(v) Operation and maintenance expenses, including water charges and security expenses, for one month.

**(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.

(2) The cost of fuel in cases covered under sub-clauses (a) and (b) of clause (1) of this Regulation shall be based on the landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 39 of these regulations) by the generating station and gross calorific value of the fuel as per actual weighted average for the third quarter of preceding financial year in case of each financial year for which tariff is to be determined:

Provided that in case of new generating station, the cost of fuel for the first financial year shall be considered based on landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 39 of these regulations) and gross calorific value of the fuel as per actual weighted average for three months, as used for infirm power, preceding date of commercial operation for which tariff is to be determined.

(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 1<sup>st</sup> April of the year during the tariff period 2019-24 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later:

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

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

**“3. Definitions.** - 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;”

80. The Petitioner has submitted that it has computed IWC for the 2019-24 period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of IWC as 12.05%. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. 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 2020-24. The components of the working capital and interest approved thereon for the Combined Asset is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O & M Expenses	89.64	92.84	96.10	99.56	102.94
Maintenance Spares	161.36	167.11	172.99	179.21	185.28
Receivables	450.74	464.99	463.10	459.72	454.64
<b>Total</b>	<b>701.73</b>	<b>724.94</b>	<b>732.19</b>	<b>738.49</b>	<b>742.86</b>
Rate of Interest (%)	12.05	11.25	11.25	11.25	11.25
<b>Interest on working capital</b>	<b>84.56</b>	<b>81.56</b>	<b>82.37</b>	<b>83.08</b>	<b>83.57</b>

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

81. The various components of the annual fixed charges for the Combined Asset for the 2019-24 tariff period are summarized below:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	845.43	890.43	894.91	894.91	894.91
Interest on Loan	745.52	722.77	658.10	588.54	516.47
Return on Equity	914.79	962.80	967.59	967.59	967.59
Interest on Working Capital	84.56	81.56	82.37	83.08	83.57
Operation and Maintenance	1075.70	1114.06	1153.25	1194.73	1235.22
<b>Total</b>	<b>3665.99</b>	<b>3771.61</b>	<b>3756.23</b>	<b>3728.86</b>	<b>3697.77</b>

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

82. The Petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. The Petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with Regulation 70(1) of the 2019 Tariff Regulations.





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

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

### **Goods and Services Tax**

84. The Petitioner has sought to recover GST on transmission charges separately from the Respondents, if at any time GST on transmission is withdrawn from negative list in future. We have considered the submission of the Petitioner. GST is not levied on transmission service at present and we are of the view that Petitioner's prayer is premature.

### **Security Expenses**

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



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

### **Capital Spares**

87. The Petitioner has sought reimbursement of capital spares at the end of the 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**

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

89. To summarise, the trued-up Annual Fixed Charges allowed for the transmission assets in the 2014-19 tariff period are as under:

(₹ in lakh)				
Asset	2015-16	2016-17	2017-18	2018-19
I	<b>46.59</b> <b>(Pro-rata for 90 days)</b>	196.94	227.76	262.70





II	76.36 <b>(Pro-rata for 86 days)</b>	359.35	371.41	399.19
III	0.00	72.61 <b>(Pro-rata for 182 days)</b>	188.75	224.44
IV	0.00	109.37 <b>(Pro-rata for 195 days)</b>	226.66	228.39
V	0.00	54.64 <b>(Pro-rata for 160 days)</b>	138.89	143.86
VI	0.00	38.87 <b>(Pro-rata for 92 days)</b>	177.00	181.98
VII	0.00	0.00	313.34 <b>(Pro-rata for 241 days)</b>	513.11
VIII	0.00	0.00	19.42 <b>(Pro-rata for 84 days)</b>	88.58
IX	0.00	0.00	65.19 <b>(Pro-rata for 170 days)</b>	141.89
X	0.00	0.00	34.05 <b>(Pro-rata for 135 days)</b>	97.51
XI	0.00	0.00	29.20 <b>(Pro-rata for 119 days)</b>	95.15
XII	0.00	0.00	207.57 <b>(Pro-rata for 186 days)</b>	455.73
XIII	0.00	0.00	70.80 <b>(Pro-rata for 158 days)</b>	179.58

90. The Annual Fixed Charges allowed for the Combined Asset for the 2019-24 tariff period in this order are as under:

(₹ in lakh)				
2019-20	2020-21	2021-22	2022-23	2023-24
3665.99	3771.61	3756.23	3728.86	3697.77

91. This order disposes of Petition No. 250/TT/2020.

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

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

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



**Annexure-I(a)**

Asset	2014-19	Admitted capital cost as on 1.4.2014 (₹ in lakh)	Admitted capital cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations				
	Capital Expenditure as on 1.4.2014				2014-15 (₹ in lakh)	2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Asset-I	Land	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00
	Building	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	Transmission Line	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	Sub-station	615.72	1,122.08	5.28	0.00	33.50	35.52	45.50	56.85
	PLCC	0.00	0.00	6.33	0.00	0.00	0.00	0.00	0.00
	Leasehold Land	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	IT Equipment and software	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	<b>TOTAL</b>	<b>615.72</b>	<b>1,122.08</b>		<b>0.00</b>	<b>33.50</b>	<b>35.52</b>	<b>45.50</b>	<b>56.85</b>
			<b>Average Gross Block (₹ in lakh)</b>		0.00	634.39	672.70	861.80	1076.67
			<b>Weighted Average Rate of Depreciation (%)</b>		5.28	5.28	5.28	5.28	5.28



**Annexure-I(b)**

Asset	2014-19	Admitted capital cost as on 1.4.2014 (₹ in lakh)	Admitted capital cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations				
	Capital Expenditure as on 1.4.2014				2014-15 (₹ in lakh)	2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Asset-II	Land	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00
	Building	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	Transmission Line	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	Sub-station	1,033.14	1,786.88	5.28	0.00	64.20	74.40	79.82	89.52
	PLCC	0.00	0.00	6.33	0.00	0.00	0.00	0.00	0.00
	Leasehold Land	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	IT Equipment and software	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	<b>TOTAL</b>	<b>1,033.14</b>	<b>1,786.88</b>		<b>0.00</b>	<b>64.20</b>	<b>74.40</b>	<b>79.82</b>	<b>89.52</b>
			<b>Average Gross Block (₹ in lakh)</b>		0.00	1215.91	1409.18	1511.81	1695.42
			<b>Weighted Average Rate of Depreciation (%)</b>		5.28	5.28	5.28	5.28	5.28



Annexure-I(c)

Asset	2014-19	Admitted capital cost as on 1.4.2014 (₹ in lakh)	Admitted capital cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations				
	Capital Expenditure as on 1.4.2014				2014-15 (₹ in lakh)	2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Asset-III	Land	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00
	Building	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	Transmission Line	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	Sub-station	375.79	974.23	5.28	0.00	0.00	24.11	37.58	49.11
	PLCC	0.00	0.00	6.33	0.00	0.00	0.00	0.00	0.00
	Leasehold Land	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	IT Equipment and software	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	<b>TOTAL</b>	<b>375.79</b>	<b>974.23</b>		<b>0.00</b>	<b>0.00</b>	<b>24.11</b>	<b>37.58</b>	<b>49.11</b>
			<b>Average Gross Block (₹ in lakh)</b>		0.00	0.00	456.71	711.78	930.08
			<b>Weighted Average Rate of Depreciation (%)</b>		5.28	5.28	5.28	5.28	5.28



Annexure-I(d)

Asset	2014-19	Admitted capital cost as on 1.4.2014 (₹ in lakh)	Admitted capital cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations				
	Capital Expenditure as on 1.4.2014				2014-15 (₹ in lakh)	2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Asset-IV	Land	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00
	Building	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	Transmission Line	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	Sub-station	1077.91	1392.35	5.28	0.00	0.00	62.72	71.02	73.52
	PLCC	0.00	0.00	6.33	0.00	0.00	0.00	0.00	0.00
	Leasehold Land	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	IT Equipment and software	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	<b>TOTAL</b>	<b>1077.91</b>	<b>1392.35</b>		<b>0.00</b>	<b>0.00</b>	<b>62.72</b>	<b>71.02</b>	<b>73.52</b>
			<b>Average Gross Block (₹ in lakh)</b>		0.00	0.00	1187.81	1345.03	1392.35
			<b>Weighted Average Rate of Depreciation (%)</b>		5.28	5.28	5.28	5.28	5.28



Annexure-I(e)

Asset	2014-19	Admitted capital cost as on 1.4.2014 (₹ in lakh)	Admitted capital cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations				
	Capital Expenditure as on 1.4.2014				2014-15 (₹ in lakh)	2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Asset-V	Land	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00
	Building	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	Transmission Line	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	Sub-station	675.08	883.62	5.28	0.00	0.00	38.40	43.71	46.46
	PLCC	0.00	0.00	6.33	0.00	0.00	0.00	0.00	0.00
	Leasehold Land	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	IT Equipment and software	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	<b>TOTAL</b>		<b>675.08</b>	<b>883.62</b>		<b>0.00</b>	<b>0.00</b>	<b>38.40</b>	<b>43.71</b>
			<b>Average Gross Block (₹ in lakh)</b>		0.00	0.00	727.28	827.78	879.85
			<b>Weighted Average Rate of Depreciation (%)</b>		5.28	5.28	5.28	5.28	5.28



**Annexure-I(f)**

Asset	2014-19	Admitted capital cost as on 1.4.2014 (₹ in lakh)	Admitted capital cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations				
	Capital Expenditure as on 1.4.2014				2014-15 (₹ in lakh)	2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Asset-VI	Land	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00
	Building	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	Transmission Line	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	Sub-station	400.16	670.20	5.28	0.00	0.00	26.50	33.43	35.19
	PLCC	0.00	0.00	6.33	0.00	0.00	0.00	0.00	0.00
	Leasehold Land	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	IT Equipment and software	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	<b>TOTAL</b>	<b>400.16</b>	<b>670.20</b>		<b>0.00</b>	<b>0.00</b>	<b>26.50</b>	<b>33.43</b>	<b>35.19</b>
			<b>Average Gross Block (₹ in lakh)</b>		0.00	0.00	501.94	633.19	666.43
			<b>Weighted Average Rate of Depreciation (%)</b>		5.28	5.28	5.28	5.28	5.28





**Annexure-I(g)**

Asset	2014-19	Admitted capital cost as on 1.4.2014 (₹ in lakh)	Admitted capital cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations				
	Capital Expenditure as on 1.4.2014				2014-15 (₹ in lakh)	2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Asset-VII	Land	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00
	Building	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	Transmission Line	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	Sub-station	1798.00	2273.74	5.28	0.00	0.00	0.00	103.87	116.43
	PLCC	0.00	0.00	6.33	0.00	0.00	0.00	0.00	0.00
	Leasehold Land	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	IT Equipment and software	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	<b>TOTAL</b>	<b>1798.00</b>	<b>2273.74</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>103.87</b>	<b>116.43</b>
			<b>Average Gross Block (₹ in lakh)</b>		0.00	0.00	0.00	1967.21	2205.08
			<b>Weighted Average Rate of Depreciation (%)</b>		5.28	5.28	5.28	5.28	5.28



**Annexure-I(h)**

Asset	2014-19	Admitted capital cost as on 1.4.2014 (₹ in lakh)	Admitted capital cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations				
	Capital Expenditure as on 1.4.2014				2014-15 (₹ in lakh)	2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Asset-VIII	Land	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00
	Building	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	Transmission Line	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	Sub-station	493.06	555.53	5.28	0.00	0.00	0.00	26.83	28.48
	PLCC	0.00	0.00	6.33	0.00	0.00	0.00	0.00	0.00
	Leasehold Land	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	IT Equipment and software	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	<b>TOTAL</b>	<b>493.06</b>	<b>555.53</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>26.83</b>	<b>28.48</b>
			<b>Average Gross Block (₹ in lakh)</b>		0.00	0.00	0.00	508.09	539.33
			<b>Weighted Average Rate of Depreciation (%)</b>		5.28	5.28	5.28	5.28	5.28



**Annexure-I(i)**

Asset	2014-19	Admitted capital cost as on 1.4.2014 (₹ in lakh)	Admitted capital cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations				
	Capital Expenditure as on 1.4.2014				2014-15 (₹ in lakh)	2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Asset-IX	Land	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00
	Building	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	Transmission Line	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	Sub-station	841.37	891.14	5.28	0.00	0.00	0.00	44.54	45.85
	PLCC	0.00	0.00	6.33	0.00	0.00	0.00	0.00	0.00
	Leasehold Land	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	IT Equipment and software	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	<b>TOTAL</b>	<b>841.37</b>	<b>891.14</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>44.54</b>	<b>45.85</b>
			<b>Average Gross Block (₹ in lakh)</b>		0.00	0.00	0.00	843.50	868.39
			<b>Weighted Average Rate of Depreciation (%)</b>		5.28	5.28	5.28	5.28	5.28



Annexure-I(j)

Asset	2014-19	Admitted capital cost as on 1.4.2014 (₹ in lakh)	Admitted capital cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations				
	Capital Expenditure as on 1.4.2014				2014-15 (₹ in lakh)	2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Asset-X	Land	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00
	Building	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	Transmission Line	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	Sub-station	532.43	613.25	5.28	0.00	0.00	0.00	28.93	31.06
	PLCC	0.00	0.00	6.33	0.00	0.00	0.00	0.00	0.00
	Leasehold Land	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	IT Equipment and software	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	<b>TOTAL</b>	<b>532.43</b>	<b>613.25</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>28.93</b>	<b>31.06</b>
			<b>Average Gross Block (₹ in lakh)</b>		0.00	0.00	0.00	547.93	588.34
			<b>Weighted Average Rate of Depreciation (%)</b>		5.28	5.28	5.28	5.28	5.28



**Annexure-I(k)**

Asset	2014-19	Admitted capital cost as on 1.4.2014 (₹ in lakh)	Admitted capital cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations				
	Capital Expenditure as on 1.4.2014				2014-15 (₹ in lakh)	2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Asset-XI	Land	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00
	Building	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	Transmission Line	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	Sub-station	525.14	605.96	5.28	0.00	0.00	0.00	28.55	30.68
	PLCC	0.00	0.00	6.33	0.00	0.00	0.00	0.00	0.00
	Leasehold Land	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	IT Equipment and software	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	<b>TOTAL</b>		<b>525.14</b>	<b>605.96</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>28.55</b>
			<b>Average Gross Block (₹ in lakh)</b>		0.00	0.00	0.00	540.64	581.05
			<b>Weighted Average Rate of Depreciation (%)</b>		5.28	5.28	5.28	5.28	5.28



**Annexure-I(I)**

Asset	2014-19	Admitted capital cost as on 1.4.2014 (₹ in lakh)	Admitted capital cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations				
	Capital Expenditure as on 1.4.2014				2014-15 (₹ in lakh)	2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Asset-XII	Land	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00
	Building	531.99	608.68	3.34	0.00	0.00	0.00	18.74	20.02
	Transmission Line	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	Sub-station	1444.20	1,982.79	5.28	0.00	0.00	0.00	80.92	95.14
	PLCC	0.00	0.00	6.33	0.00	0.00	0.00	0.00	0.00
	Leasehold Land	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	IT Equipment and software	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	<b>TOTAL</b>	<b>1,976.19</b>	<b>2,591.47</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>99.66</b>	<b>115.16</b>
			<b>Average Gross Block (₹ in lakh)</b>		0.00	0.00	0.00	2093.74	2401.38
			<b>Weighted Average Rate of Depreciation (%)</b>		5.28	5.28	5.28	5.28	5.28



**Annexure-I(m)**

Asset	2014-19	Admitted capital cost as on 1.4.2014 (₹ in lakh)	Admitted capital cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations				
	Capital Expenditure as on 1.4.2014				2014-15 (₹ in lakh)	2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Asset-XIII	Land	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00
	Building	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	Transmission Line	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	Sub-station	860.14	1079.37	5.28	0.00	0.00	0.00	51.20	56.99
	PLCC	0.00	0.00	6.33	0.00	0.00	0.00	0.00	0.00
	Leasehold Land	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	IT Equipment and software	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	<b>TOTAL</b>	<b>860.14</b>	<b>1079.37</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>51.20</b>	<b>56.99</b>
			<b>Average Gross Block (₹ in lakh)</b>		0.00	0.00	0.00	969.76	1079.37
			<b>Weighted Average Rate of Depreciation (%)</b>		5.28	5.28	5.28	5.28	5.28



Annexure-II

Asset	2019-24	Admitted capital cost as on 1.4.2019 (₹ in lakh)	Admitted capital cost as on 31.3.2024 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations				
	Capital Expenditure as on 1.4.2019				2019-20 (₹ in lakh)	2020-21 (₹ in lakh)	2021-22 (₹ in lakh)	2022-23 (₹ in lakh)	2023-24 (₹ in lakh)
Combined Asset	Land	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00
	Building	608.68	608.68	3.34	20.33	20.33	20.33	20.33	20.33
	Transmission Line	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00
	Sub-station	14859.77	16564.11	5.28	825.10	870.10	874.58	874.58	874.58
	PLCC	0.00	0.00	6.33	0.00	0.00	0.00	0.00	0.00
	Leasehold Land	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
	IT Equipment and software	0.00	0.00	15	0.00	0.00	0.00	0.00	0.00
	<b>TOTAL</b>	<b>15468.44</b>	<b>17172.78</b>		<b>845.43</b>	<b>890.43</b>	<b>894.91</b>	<b>894.91</b>	<b>894.91</b>
			<b>Average Gross Block (₹ in lakh)</b>	<b>16235.61</b>	<b>17087.78</b>	<b>17172.78</b>	<b>17172.78</b>	<b>17172.78</b>	
			<b>Weighted Average Rate of Depreciation (%)</b>	<b>5.207</b>	<b>5.211</b>	<b>5.211</b>	<b>5.211</b>	<b>5.211</b>	

