

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 670/TT/2020

Coram:

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

Date of Order: 24.01.2023

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 21 Transmission assets under "Eastern Region Strengthening Scheme XII" in Eastern Region.

And in the matter of:

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

....Petitioner

Vs

1. Bihar State Power (Holding) Company Limited,
(Formerly Bihar State Electricity Board - BSEB),
Vidyut Bhavan, Bailey Road, Patna – 800 001.
2. West Bengal State Electricity Distribution Company Limited,
Bidyut Bhawan, Bidhan Nagar,
Block DJ, Sector-II, Salt Lake City,
Calcutta – 700 091.
3. Grid Corporation Of Orissa Limited,
Shahid Nagar, Bhubaneswar – 751 007.
4. Jharkhand State Electricity Board,
In Front Of Main Secretariat,
Doranda, Ranchi – 834 002.



5. Damodar Valley Corporation,
DVC Tower, Maniktala,
Civic Centre, Viproad, Calcutta – 700 054.
6. Power Department,
Government Of Sikkim, Gangtok – 737 101.

..... Respondents

For Petitioner : Shri S.S. Raju, PGCIL
Shri D.K. Biswal, PGCIL
Shri Ved Prakash Rastogi, PGCIL
Shri Amit Yadav, PGCIL

For Respondents : Ms. Shruti Singh, Advocate, JSEB
Shri Manish Kumar Choudhary, Advocate, BSPHCL

ORDER

The Petitioner, Power Grid Corporation of India Limited, has filed the instant petition for truing up of transmission tariff for 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 determination of transmission 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 XII” in Eastern Region (hereinafter referred to as the “transmission project”).

Asset-I: Replacement of existing 100 MVA, 220/132 ICT with 01 No. 1X160 MVA ICT at 220/132 kV Birpara Sub-station alongwith associated bays at Birpara Sub-station.

Asset-II: Replacement of existing 100 MVA, 220/132 ICT with 1x160 MVA, 220/132 kV ICT at 220/132 kV Siliguri Sub-station along with necessary bay eqpt/ protection system at Siliguri Sub-station.

Asset-III: Replacement of 315 MVA 400/220 kV ICT I with 500 MVA 400/220 kV ICT at Patna Sub-station.



Asset-IV: Replacement of 315 MVA 400/220 kV ICT II with 500 MVA 400/220 kV ICT at Patna Sub-station.

Asset-V: Replacement of 315 MVA 400/220 kV ICT I with 500 MVA 400/220 kV ICT at Pusauli Sub-station.

Asset-VI: Replacement of 315 MVA 400/220 kV ICT II with 500 MVA 400/220 kV ICT at Purnea.

Asset-VII: Replacement of 1x 100 MVA (3rd) ICT with 1x160 MVA 220/132 kV ICT at Purnea Sub-station.

Asset-VIII: 01 No of 1X125 MVAR Bus Reactor at Baripada Sub-station with GIS bay.

Asset-IX: 01 Nos of 1X500 MVA, 400/220/132 kV ICT at 400/220/132 kV Baripada Sub-station alongwith GIS bays.

Asset-X: Conversion of 50 MVAR Line Reactor (presently installed at Jeerat end of 400 kV Baharampur – Jeerat TL) as Bus Reactor in parallel with existing Bus Reactor at Jeerat.

Asset-XI: Installation of 01 no. 125 MVAR Bus Reactor at Maithon Sub-station with GIS bays.

Asset-XII: 02 nos. 220 kV GIS Line Bays at Kishanganj Sub-station.

Asset-XIII: 02 nos. 220 kV GIS Line Bays at Kishanganj Sub-station.

Asset-XIV: Modification of 132 kV Bus arrangement at 220/132 kV Siliguri Sub-station with GIS bays.

Asset-XV: Shifting of 1x315 MVA, 400/220 kV ICT from any suitable location (after replacement by 1x500 MVA ICT) and install it at Jamshedpur 400/220 kV Sub-station as 3rd ICT along-with associated bays.

Asset-XVI: Modification of 132 kV Bus arrangement with GIS bays at 220/132 kV Purnea Sub-station.

Asset-XVII: Spare 1 no unit of 765 kV, 110 MVAR Single Phase Reactor to be stationed at Sasaram.

Asset-XVIII: 3rd 500 MVA, 400/220 kV ICT at Patna (POWERGRID) Sub-station along-with associated bay.



Asset-XIX: 01 No 500 MVA Single phase spare unit of 765/400 kV ICT at Angul Sub-station.

Asset-XX: 01 No 500 MVA Single phase spare unit of 765/400 kV ICT at Sundergrah Sub-station.

Asset-XXI: Replacement of 315 MVA 400/220 kV ICT I with 500 MVA 400/220 kV ICT at Purnea 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.

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.

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 Hon'ble Commission deems fit and appropriate under the circumstances of the case and in the interest of justice".

Background

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

(a) The Investment Approval (IA) was accorded by the Board of Directors (BoD) of the Petitioner company vide the Memorandum No. C/CP/ERSS-XII TPS dated 19.5.2014 at an estimated cost of ₹52229 lakh, which included IDC of ₹3324 lakh.

(b) The Revised Cost Estimate (RCE-I) of the transmission project was accorded on 24.3.2017 for ₹55018 lakh including an IDC of ₹1700 lakh based on December, 2016 price level (communicated vide Memorandum No. C/CP/PA1617-03-0AE-RCE019 dated 30.3.2017).

(c) Further, the Revised Cost Estimate (RCE-II) of the transmission project was accorded on 14.3.2019 for ₹54636 lakh including an IDC of ₹2403 lakh based on October, 2018 price level (communicated vide Memorandum No. C/CP/PA1819-12-0AT-RTE018 dated 14.3.2019).

(d) The scope of work covered under the transmission project is as follows :

(i) **Reactive Compensation at 400 kV Sub-stations:**

(a) Installation of 1X125 MVAR Bus Reactor at Baripada with GIS bay.

(b) Installation of 1X125 MVAR Bus Reactor at Maithon with GIS bay.



(c) Conversion of 50 MVAR Line Reactor presently installed at Jeerat end of Baharampur – Jeerat 400 kV line as Bus Reactor in parallel with existing Bus Reactor at Jeerat.

(ii) **Augmentation of Transformation Capacity:**

- (a) Addition of 1x500 MVA, 400/220 kV ICT with GIS bays at Baripada 400/220/132 kV Sub-station of POWERGRID
- (b)) Replacement of 2X315 MVA, 400/220 kV ICTs with 2X500 MVA, 400/220 kV ICTs at Purnea
- (c) Replacement of 2X315 MVA, 400/220 kV ICTs with 2X500 MVA, 400/220 kV ICTs at Patna
- (d) Replacement of 2X315 MVA, 400/220 kV ICTs with 2X500 MVA, 400/220 kV ICTs at Pusauli
- (e) Shifting of 1X315 MVA, 400/220 kV ICT from any suitable location (after replacement by 1x500 MVA ICT) and install it at Jamshedpur 400/220 kV Sub-station as 3rd ICT alongwith associated bays.
- (f) Shifting of 1X315 MVA, 400/220 kV ICT from any suitable location (after replacement by 1x500 MVA ICT) and install it at Farakka 400/220 kV Sub-station as 2nd ICT alongwith associated bays.
- (g) Out of the 6 nos. 315 MVA ICTs released from Purnea, Patna & Pusauli Sub-station , one each would be kept as spare at Patna and Pusauli Sub-station , one each would be diverted to Jamshedpur and Farakka Sub-station and remaining 2x315 MVA, 400/220 kV ICTs would be utilized as Regional Spare.



- (h) Replacement of 1X100 MVA (3rd ICT), 220/132 kV ICTs with 1X160 MVA, 220/132 kV ICT at Purnea 220/132 kV Sub-station of the Petitioner, along with necessary bay equipment /protection system.
- (i) Replacement of existing 100 MVA, 220/132 kV ICTs with 1X160 MVA, 220/132 kV ICT at Siliguri 220/132 kV Sub-station of the Petitioner, along with necessary bay equipment /protection system
- (j) Replacement of existing 100 MVA, 220/132kV ICTs with 1X160 MVA, 220/132 kV ICT at Birpara 220/132 kV Sub-station of the Petitioner, along with necessary bay equipment /protection system.
- (k) 100 MVA ICTs thus released from Purnea, Siliguri and Birpara shall be kept in the regional pool of spare ICTs
- (iii) 2 nos. 500 MVA Single phase spare unit of 765/400 kV ICT for Eastern Region Procurement of two 500 MVA, Single phase unit of 765/400 kV ICT for Eastern Region to be stationed at Angul and Jharsuguda Sub-station
- (iv) 1 no. Spare unit of 765 kV, 110 MVAR Single Phase Reactor to be stationed at Sasaram.
- (v) Modification of 132 kV bus arrangement including switchgear to Double Main Scheme at 220/132 kV Siliguri and Purnea Sub-station with GIS bays
- (vi) Construction of 4 nos. 220 kV line bays at Kishanganj Sub-station of PGCIL



(e) As per IA dated 19.5.2014, the instant transmission assets were scheduled to be put into commercial operation within 30 months from the date of IA. Therefore, the scheduled date of commercial operation (SCOD) of the transmission assets was 19.11.2016.

(f) The details of transmission assets under the transmission project are as follows:

Asset Nomenclature in previous Petition	Description	Asset Nomenclature in current Petition	COD
Commission's order dated 22.8.2016 in Petition No.: 69/TT/2016			
Asset-I	Replacement of existing 100 MVA, 220/132 ICT with 01 No. 1X160 MVA ICT at 220/132kV Birpara Sub-station alongwith associated bays at Birpara Sub-station	Asset-I	1.1.2016
Asset-II	Replacement of existing 100 MVA, 220/132 ICT with 1x160 MVA, 220/132 kV ICT at 220/132 kV Siliguri Sub-station along with necessary bay eqpt/ protection system at Siliguri Sub-station	Asset-II	2.2.2016
Asset-III	Replacement of 315 MVA 400/220Kv ICT I with 500 MVA 400/220 kV ICT at Patna Sub-station	Asset-III	24.9.2016
Asset-IV	Replacement of 315 MVA 400/220kV ICT II with 500 MVA 400/220 kV ICT at Patna Sub-station	Asset-IV	17.2.2019
Asset-V	Replacement of 315 MVA 400/220 kV ICT I with 500 MVA 400/220 kV ICT at Pusauli Sub-station	Asset-V	3.4.2016
Asset-VII	Replacement of 315 MVA 400/220 kV ICT II with 500 MVA 400/220 kV ICT at Purnea	Asset-VI	30.9.2016
Asset-VIII	Replacement of 1x 100 MVA (3rd) ICT with 1x160 MVA 220/132 kV ICT at Purnea Sub-station	Asset-VII	29.2.2016
Asset-IX	01 No of 1X125 MVAR Bus Reactor at Baripada Sub-station with GIS bay	Asset-VIII	2.10.2016
Asset-X	01 Nos of 1X500 MVA , 400/220/132 kV ICT at 400/220/132 kV Baripada S/S alongwith GIS bays	Asset-IX	2.10.2016
Commission's order dated 19.9.2017 in Petition No.: 233/TT/2016			
Asset-I	Conversion of 50 MVAR Line Reactor (presently installed at Jeerat end of 400kV Baharampur – Jeerat TL) as Bus Reactor in parallel with existing Bus Reactor at Jeerat	Asset-X	29.8.2016
Asset-II	Installation of 01 no. 125 MVAR Bus Reactor at Maithon Sub-station with GIS bays	Asset-XI	6.10.2016
Asset-III	02 nos 220kV GIS Line Bays at Kishanganj Sub-station	Asset-XII*	20.10.2016



	02 nos 220kV GIS Line Bays at Kishanganj Sub-station	Asset-XIII	10.3.2017
Asset-IV(a)	Modification of 132kV Bus arrangement at 220/132 kV Siliguri Sub-station with GIS bays	Asset-XIV	30.11.2016
Commission's order dated 30.12.2019 in Petition No.: 277/TT/2018			
Asset-I	Shifting of 1x315 MVA, 400/220kV ICT from any suitable location (after replacement by 1x500 MVA ICT) and install it at Jamshedpur 400/220kV Sub-station as 3rd ICT along-with associated bays	Asset-XV	16.12.2017
Asset-II	Modification of 132kV Bus arrangement with GIS bays at 220/132kV Purnea Sub-station	Asset-XVI	12.3.2018
Asset-III	Spare 1 no unit of 765kV, 110 MVAR Single Phase Reactor to be stationed at Sasaram	Asset-XVII	29.3.2018
Asset-IV	3rd 500 MVA, 400/220kV ICT at Patna(POWERGRID) Sub-station along-with associated bay	Asset-XVIII	14.2.2018
Asset-V	01 Nos 500 MVA Single phase spare unit of 765/400 kV ICT at Angul Sub-station	Asset-XIX	25.9.2017
Asset-VI	01 Nos 500 MVA Single phase spare unit of 765/400 kV ICT at Sundergrah Sub-station	Asset-XX	30.9.2018
Commission's order dated 23.3.2016 in Petition No.: 232/TT/2015			
Asset	Replacement of 315 MVA 400/220 kV ICT I with 500 MVA 400/220 kV ICT at Purnea Sub-station	Asset-XXI	13.7.2015

**The Petitioner has claimed the transmission tariff from COD to 9.3.2017 shall be borne by BSPHCL and after that capital cost of Asset-XII is merged With Asset-XIII.*

(g) The Petitioner has submitted that replacement of 315 MVA 400/220 kV ICT II with 500 MVA 400/220 kV ICT at Pusauli Sub-station has been made. 500 MVA 400/220 kV ICT at Pusauli Sub-station was put into commercial operation on 18.1.2020 and the transmission tariff will be claimed as per the 2019 Tariff Regulations.

(h) The Petitioner has submitted that the petition regarding shifting of 1X315 MVA ICT and its installation at Farakka alongwith associated bays will be filed for tariff determination after its commissioning as per the 2019 Tariff Regulations.

(i) 315 MVA ICT at Purnea Sub-station (which was previously commissioned under project Transmission System associated with TALA HEP East-North Inter connector and Northern Region Transmission System, an inter-regional transmission asset between Northern Region and Eastern Region) has been



decapitalized from its original project. The same was previously covered under Petition No. 290/TT/2020. Now, the 315 MVA ICT is recapitalized under instant project after its commissioning.

(j) The Petitioner in the instant petition has submitted certificate for notification of COD, MD Certificate, CEA Certificate and Certificate for trial operation of Transmission Asset-III, Asset-IV and Asset-VIII. For Asset-VI, the Petitioner has submitted notification of COD and CEA Certificate and MD Certificate vide affidavit dated 29.12.2021.

(k) The transmission tariff in respect of Assets-I to Asset-IX from their COD to 31.3.2019 was allowed by the Commission vide order dated 22.8.2016 in Petition No. 69/TT/2016. The transmission tariff in respect of Assets-X to Asset-XIV from their COD to 31.3.2019 was allowed by the Commission vide order dated 19.9.2017 in Petition No. 233/TT/2016. The transmission tariff in respect of Assets-XV to Asset-XX was allowed by the Commission from their respective COD to 31.3.2019 vide order dated 30.12.2019 in Petition No. 277/TT/2018. The transmission tariff in respect of Asset-XXI was allowed by the Commission from its COD to 31.3.2019 vide order dated 23.3.2016 in Petition No. 232/TT/2015.

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

5. The Petitioner has served the petition on the Respondents and notice of this application has also been published in the newspapers in accordance with Section



64 of the Electricity Act 2003 (hereinafter referred to as “the Act”). No comments or suggestions have been received from the general public in response to the aforesaid notices published in the newspapers by the Petitioner. Bihar State Power (Holding) Company Limited (BSPHCL) i.e. Respondent No. 1 has filed a reply in the matter vide affidavit dated 20.7.2021 and has raised issues such as cost over-run, MAT rates, grossing up of RoE, depreciation, O&M expenses, filing fees, floating rate of interest, GST and sharing of transmission charges. In response, the Petitioner has filed a rejoinder vide affidavit dated 28.7.2021. The issues raised by BSPHCL and the clarifications given by the Petitioner are dealt in the relevant paragraphs of this order.

6. The hearing in this matter was held on 6.7.2021 through video conference and the order was reserved.

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

8. This order is issued considering the submissions made by the Petitioner in the petition vide affidavit dated 24.6.2020, affidavit dated 12.2.2021 in response to technical validation letter, additional affidavits dated 2.7.2021 and 29.12.2021, reply of BSPHCL vide affidavit dated 20.7.2021 and the Petitioner’s rejoinder thereto vide affidavit dated 28.7.2021.

9. BSPHCL has submitted that the details provided for truing up annual transmission tariff of 2014-19 period in the petition includes depreciation and O&M



Expenses. However, for calculating final revised AFC based on truing up, these two components are not given in the petition.

10. Per contra, the Petitioner has submitted that the present petition has been filed based on actual ACE during 2014-19 and change in MAT rates as well floating rate of interest during 2014-19. Similarly, depreciation and O&M rates have been fixed in 2014-19, hence there is no need for the same to be mentioned in the petition.

11. We have considered the rival contentions of the Petitioner and BSPHCL. The Commission has approved trued-up AFC after prudence check of all the components of AFC and dealt the same in the relevant paragraphs of this order.

12. It has been placed before us that BSPHCL has been raising the same issues like MAT rate and RoE in other petitions as well despite clear findings of the Commission rejecting the contentions of BSPHCL including in Petition No. 476/TT/2019 vide order dated 28.5.2021. BSPHCL has not challenged the findings, the same have attained finality. In view of these, the plea(s) raised by BSPHCL are rejected. The issues which are specific to the instant petition and not dealt by the Commission earlier are considered in the relevant paragraphs of this order.

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

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

(₹ in lakh)				
Asset- I				
Particulars	2015-16 (Pro-rata for 91 days)	2016-17	2017-18	2018-19
Depreciation	5.80	42.89	46.58	47.30



Interest on Loan	7.02	49.22	45.30	41.18
Return on Equity	6.49	48.02	52.15	53.10
Interest on Working Capital	0.45	3.23	3.32	3.26
O & M Expenses	0.00	0.00	0.00	0.00
Total	19.76	143.36	147.35	144.84

(₹ in lakh)

Asset- II				
Particulars	2015-16 (Pro-rata for 59 days)	2016-17	2017-18	2018-19
Depreciation	3.39	39.26	45.07	46.39
Interest on Loan	4.08	44.85	44.08	40.83
Return on Equity	3.79	43.96	50.47	52.08
Interest on Working Capital	0.26	2.95	3.21	3.21
O & M Expenses	0.00	0.00	0.00	0.00
Total	11.52	131.02	142.83	142.51

(₹ in lakh)

Asset- III				Asset-IV
Particulars	2016-17 (Pro-rata for 189 days)	2017-18	2018-19	2018-19 (Pro-rata for 43 days)
Depreciation	35.14	77.38	85.45	7.04
Interest on Loan	36.26	75.26	76.84	7.64
Return on Equity	39.06	86.08	95.36	7.91
Interest on Working Capital	2.41	5.20	5.62	0.47
O & M Expenses	0.00	0.00	0.00	0.00
Total	112.87	243.92	263.27	23.06

(₹ in lakh)

Asset- V			
Particulars	2016-17 (Pro-rata for 363 days)	2017-18	2018-19
Depreciation	50.81	93.59	95.66
Interest on Loan	53.82	93.03	87.17
Return on Equity	56.89	104.78	107.39
Interest on Working Capital	3.52	6.35	6.33
O & M Expenses	0.00	0.00	0.00
Total	165.04	297.75	296.55

(₹ in lakh)

Asset- VI			
Particulars	2016-17 (Pro-rata for 183 days)	2017-18	2018-19
Depreciation	42.93	94.24	100.26
Interest on Loan	45.70	93.44	91.38
Return on Equity	48.07	105.52	112.55



Interest on Working Capital	2.98	6.39	6.63
O & M Expenses	0.00	0.00	0.00
Total	139.68	299.59	310.82

(₹ in lakh)

Asset- VII				
Particulars	2015-16 (Pro-rata for 32 days)	2016-17	2017-18	2018-19
Depreciation	2.68	36.66	41.85	47.60
Interest on Loan	3.17	40.90	41.00	42.92
Return on Equity	3.00	41.05	46.85	53.44
Interest on Working Capital	0.20	2.73	2.99	3.31
O & M Expenses	0.00	0.00	0.00	0.00
Total	9.05	121.34	132.69	147.27

(₹ in lakh)

Asset- VIII			
Particulars	2016-17 (Pro-rata for 181 days)	2017-18	2018-19
Depreciation	65.01	150.74	161.78
Interest on Loan	72.08	150.64	147.65
Return on Equity	72.78	168.77	181.62
Interest on Working Capital	6.00	13.22	13.78
O & M Expenses	27.28	56.84	58.73
Total	243.15	540.21	563.56

(₹ in lakh)

Asset- IX			
Particulars	2016-17 (Pro-rata for 181 days)	2017-18	2018-19
Depreciation	106.90	256.54	283.75
Interest on Loan	118.76	256.40	259.43
Return on Equity	119.69	287.23	318.53
Interest on Working Capital	10.13	22.85	24.37
O & M Expenses	49.62	103.39	106.83
Total	405.10	926.41	992.91

(₹ in lakh)

Asset- X			
Particulars	2016-17 (Pro-rata for 215 days)	2017-18	2018-19
Depreciation	6.54	19.88	29.03
Interest on Loan	7.35	20.07	27.64
Return on Equity	7.32	22.26	32.59
Interest on Working Capital	2.44	4.84	5.54



O & M Expenses	37.92	66.51	68.71
Total	61.57	133.56	163.51

(₹ in lakh)

Particulars	Asset- XI			Asset- XII
	2016-17 (Pro-rata for 177 days)	2017-18	2018-19	2016-17 (Pro-rata for 141 days)
Depreciation	82.39	257.92	276.74	34.94
Interest on Loan	84.55	248.39	247.13	34.62
Return on Equity	92.24	288.78	310.67	36.09
Interest on Working Capital	7.05	20.31	21.26	4.13
O & M Expenses	26.68	56.84	58.73	34.81
Total	292.91	872.24	914.53	144.59

(₹ in lakh)

Asset- XIII			
Particulars	2016-17 (Pro-rata for 22 days)	2017-18	2018-19
Depreciation	11.06	192.67	207.29
Interest on Loan	10.90	180.59	178.87
Return on Equity	11.43	199.85	216.68
Interest on Working Capital	1.30	22.23	23.21
O & M Expenses	10.86	186.20	192.40
Total	45.55	781.54	818.45

(₹ in lakh)

Asset- XIV			
Particulars	2016-17 (Pro-rata for days)	2017-18	2018-19
Depreciation	48.04	160.01	175.95
Interest on Loan	49.72	155.14	157.62
Return on Equity	53.79	179.16	197.52
Interest on Working Capital	3.30	10.78	11.58
O & M Expenses	0.00	0.00	0.00
Total	154.85	505.09	542.67

(₹ in lakh)

Particulars	Asset- XV		Asset- XVI	
	2017-18 (Pro-rata for 106 days)	2018-19	2017-18 (Pro-rata for 20 days)	2018-19
Depreciation	51.92	191.48	13.09	251.00
Interest on Loan	44.80	158.86	13.64	253.73
Return on Equity	57.42	212.51	14.66	281.78



Interest on Working Capital	5.00	18.09	1.54	29.25
O & M Expenses	32.84	116.81	12.75	240.52
Total	191.98	697.75	55.68	1056.28

(₹ in lakh)

Particulars	Asset- XVII		Asset- XVIII	
	2017-18 (Pro-rata for 3 days)	2018-19	2017-18 (Pro-rata for 46 days)	2018-19
Depreciation	0.22	29.70	9.44	84.36
Interest on Loan	0.22	29.92	9.52	81.80
Return on Equity	0.24	33.35	10.50	94.12
Interest on Working Capital	0.01	1.99	0.93	8.06
O & M Expenses	0.00	0.00	5.87	48.10
Total	0.69	94.96	36.26	316.44

(₹ in lakh)

Particulars	Asset- XIX		Asset- XX
	2017-18 (Pro-rata for 188 days)	2018-19	2018-19 (Pro-rata for 183 days)
Depreciation	38.07	73.91	25.60
Interest on Loan	38.33	70.99	27.30
Return on Equity	42.62	82.97	28.74
Interest on Working Capital	2.55	4.89	1.69
O & M Expenses	0.00	0.00	0.00
Total	121.57	232.76	83.33

(₹ in lakh)

Particulars	Asset- XXI			
	2015-16 (Pro- rata for 263 days)	2016-17	2017-18	2018-19
Depreciation	50.42	77.87	86.08	91.50
Interest on Loan	58.27	83.03	80.51	77.66
Return on Equity	56.44	87.19	96.37	102.72
Interest on Working Capital	3.80	5.71	6.05	6.26
O & M Expenses	0.00	0.00	0.00	0.00
Total	168.93	253.80	269.01	278.14

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



(₹ in lakh)

Asset- I				
Particulars	2015-16 (Pro-rata for 91 days)	2016-17	2017-18	2018-19
O & M Expenses	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00
Receivables	13.24	23.89	24.56	24.14
Total of Working Capital	13.24	23.89	24.56	24.14
Rate of Interest on working capital(%)	13.50	13.50	13.50	13.50
Interest of working Capital	0.45	3.23	3.32	3.26

(₹ in lakh)

Asset- II				
Particulars	2015-16 (Pro-rata for 59 days)	2016-17	2017-18	2018-19
O & M Expenses	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00
Receivables	11.91	21.84	23.81	23.75
Total of Working Capital	11.91	21.84	23.81	23.75
Rate of Interest on working capital(%)	13.50	13.50	13.50	13.50
Interest of working Capital	0.26	2.95	3.21	3.21

(₹ in lakh)

Asset- III				Asset-IV
Particulars	2016-17 (Pro-rata for 189 days)	2017-18	2018-19	2018-19 (Pro-rata for 43 days)
O & M Expenses	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00
Receivables	36.33	40.65	43.88	32.62
Total of Working Capital	36.33	40.65	43.88	32.62
Rate of Interest on working capital(%)	12.80	12.80	12.80	12.20
Interest of working Capital	2.41	5.20	5.62	0.47

(₹ in lakh)

Asset- V			
Particulars	2016-17 (Pro-rata for 363 days)	2017-18	2018-19
O & M Expenses	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00
Receivables	27.66	49.63	49.43
Total of Working Capital	27.66	49.63	49.43
Rate of Interest on working capital(%)	12.80	12.80	12.80
Interest of working Capital	3.52	6.35	6.33



(₹ in lakh)

Asset- VI			
Particulars	2016-17 (Pro-rata for 183 days)	2017-18	2018-19
O & M Expenses	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00
Receivables	46.43	49.93	51.80
Total of Working Capital	46.43	49.93	51.80
Rate of Interest on working capital(%)	12.80	12.80	12.80
Interest of working Capital	2.98	6.39	6.63

(₹ in lakh)

Asset- VII				
Particulars	2015-16 (Pro-rata for 32 days)	2016-17	2017-18	2018-19
O & M Expenses	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00
Receivables	17.26	20.22	22.12	24.55
Total of Working Capital	17.26	20.22	22.12	24.55
Rate of Interest on working capital(%)	13.50	13.50	13.50	13.50
Interest of working Capital	0.20	2.73	2.99	3.31

(₹ in lakh)

Asset- VIII			
Particulars	2016-17 (Pro-rata for 181 days)	2017-18	2018-19
O & M Expenses	4.59	4.74	4.89
Maintenance Spares	8.25	8.53	8.81
Receivables	81.72	90.04	93.93
Total of Working Capital	94.56	103.31	107.63
Rate of Interest on working capital(%)	12.80	12.80	12.80
Interest of working Capital	6.00	13.22	13.78

(₹ in lakh)

Asset- IX			
Particulars	2016-17 (Pro-rata for 181 days)	2017-18	2018-19
O & M Expenses	8.34	8.62	8.90
Maintenance Spares	15.01	15.51	16.02
Receivables	136.15	154.40	165.49
Total of Working Capital	159.50	178.53	190.41
Rate of Interest on working capital(%)	12.80	12.80	12.80
Interest of working Capital	10.13	22.85	24.37



(₹ in lakh)

Asset- X			
Particulars	2016-17 (Pro-rata for 215 days)	2017-18	2018-19
O & M Expenses	5.36	5.54	5.73
Maintenance Spares	9.66	9.98	10.31
Receivables	17.42	22.26	27.25
Total of Working Capital	32.44	37.78	43.29
Rate of Interest on working capital(%)	12.80	12.80	12.80
Interest of working Capital	2.44	4.84	5.54

(₹ in lakh)

Particulars	Asset- XI			Asset- XII
	2016-17 (Pro-rata for 177 days)	2017-18	2018-19	2016-17 (Pro-rata for 141 days)
O & M Expenses	4.59	4.74	4.89	7.51
Maintenance Spares	8.25	8.53	8.81	13.52
Receivables	100.67	145.37	152.42	62.38
Total of Working Capital	113.51	158.64	166.12	83.41
Rate of Interest on working capital(%)	12.80	12.80	12.80	12.80
Interest of working Capital	7.05	20.31	21.26	4.13

(₹ in lakh)

Asset- XIII			
Particulars	2016-17 (Pro-rata for 22 days)	2017-18	2018-19
O & M Expenses	15.02	15.52	16.03
Maintenance Spares	27.04	27.93	28.86
Receivables	125.95	130.26	136.41
Total of Working Capital	168.01	173.71	181.30
Rate of Interest on working capital(%)	12.80	12.80	12.80
Interest of working Capital	1.30	22.23	23.21

(₹ in lakh)

Asset- XIV			
Particulars	2016-17 (Pro-rata for days)	2017-18	2018-19
O & M Expenses	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00
Receivables	77.22	84.18	90.45
Total of Working Capital	77.22	84.18	90.45
Rate of Interest on working capital(%)	12.80	12.80	12.80
Interest of working Capital	3.30	10.78	11.58



(₹ in lakh)

	Asset- XV		Asset- XVI	
Particulars	2017-18 (Pro-rata for 106 days)	2018-19	2017-18 (Pro-rata for 20 days)	2018-19
O & M Expenses	9.42	9.73	19.40	20.04
Maintenance Spares	16.96	17.52	34.91	36.08
Receivables	110.17	116.29	169.38	176.05
Total of Working Capital	136.55	143.54	223.69	232.17
Rate of Interest on working capital(%)	12.60	12.60	12.60	12.60
Interest of working Capital	5.00	18.09	1.54	29.25

(₹ in lakh)

	Asset- XVII		Asset- XVIII	
Particulars	2017-18 (Pro-rata for 3 days)	2018-19	2017-18 (Pro-rata for 46 days)	2018-19
O & M Expenses	0.00	0.00	3.88	4.01
Maintenance Spares	0.00	0.00	6.98	7.22
Receivables	14.09	15.83	47.95	52.74
Total of Working Capital	14.09	15.83	58.81	63.97
Rate of Interest on working capital(%)	12.60	12.60	12.60	12.60
Interest of working Capital	0.01	1.99	0.93	8.06

(₹ in lakh)

	Asset- XIX		Asset- XX
Particulars	2017-18 (Pro-rata for 188 days)	2018-19	2018-19 (Pro-rata for 183 days)
O & M Expenses	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00
Receivables	39.34	38.79	27.70
Total of Working Capital	39.34	38.79	27.70
Rate of Interest on working capital(%)	12.60	12.60	12.20
Interest of working Capital	2.55 lakh	4.89 lakh	1.69 lakh

(₹ in lakh)

	Asset- XXI			
Particulars	2015-16 (Pro-rata for 263 days)	2016-17	2017-18	2018-19
O & M Expenses	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00
Receivables	39.18	42.30	44.84	46.36



Total of Working Capital	39.18	42.30	44.84	46.36
Rate of Interest on working capital(%)	13.50	13.50	13.50	13.50
Interest of working Capital	3.80	5.71	6.05	6.26

Date of Commercial Operation (COD)

15. The Commission vide order dated 22.8.2016 in Petition No.69/TT/2016 had approved the COD of the Assets-III, IV, VI, VII, IX and X on anticipated basis. The details of the same are as follows:

Asset nomenclature in Order dated 22.8.2016 in Petition No. 69/TT/2016	Asset nomenclature in current Petition	<u>Anticipated COD approved in Order dated 22.8.2016 in Petition No. 69/TT/2016</u>
Asset-III	Asset-III	1.11.2016
Asset-IV	Asset-IV	1.12.2016
Asset-VI	-	1.10.2016
Asset-VII	Asset-VI	1.10.2016
Asset-IX	Asset-VIII	30.9.2016
Asset-X	Asset-IX	30.9.2016

16. The Petitioner in the instant true-up Petition has claimed actual COD of Assets-III, IV, VI, VIII and IX as 24.9.2016, 17.2.2019, 30.9.2016, 2.10.2016 and 2.10.2016 respectively.

17. Taking into consideration of CEA Energisation Certificate, RLDC Charging Certificate and CMD Certificate as required under Grid Code, the COD of the Assets-III, IV, VI, VIII and IX has been approved as 24.9.2016, 17.2.2019, 30.9.2016, 2.10.2016 and 2.10.2016 respectively.

Capital Cost as on COD

18. The Commission had allowed the capital cost as on COD and ACE for 2014-19 tariff Period: for Asset - I to Asset IX, vide order dated 22.8.2016 in Petition No. 69/TT/2016; for Asset-X to Asset-XIV, vide order dated 19.9.2017 in Petition No.



233/TT/2016 ; for Asset–XV to Asset- XX, vide order dated 30.12.2019 in Petition No. 277/TT/2018 and for Asset-XXI the capital cost and ACE was allowed vide order dated 23.3.2016 in Petition No.232/TT/2015. The details of the same are as follows:

							(₹ in lakh)
Asset	FR Apportioned Approved Cost	Capital Cost allowed as on COD	ACE 2014-2019				Estimated Completion Cost (as allowed)
			(as admitted by CERC)				
			2015-16	2016-17	2017-18	2018-19	
Commission's order dated 22.8.2016 in Petition No.: 69/TT/2016							
Asset-I	983.57	124.54	629.14	229.89	0.00	0.00	983.57
Asset-II	1157.05	135.58	521.49	470.34	0.00	0.00	1127.41
Asset-III	2028.96	1543.64	0.00	79.50	79.50	39.75	1742.39
Asset-IV	2028.96	1550.89	0.00	79.50	79.50	39.75	1749.64
Asset-V	2055.72	97.48	0.00	1392.96	160.66	160.66	1811.76
Asset-VI	2044.63	1053.76	0.00	365.73	365.73	182.86	1968.08
Asset-VII	996.94	485.43	73.96	421.53	16.02	0.00	996.94
Asset- VIII	2864.31	1926.76	0.00	937.55	0.00	0.00	2864.31
Aset-IX	4974.17	4370.13	0.00	604.04	0.00	0.00	4974.17

(₹ in lakh)								
Asset	FR Apportioned Approved Cost	RCE-I Apportioned Approved Cost	Capital Cost allowed as on COD	ACE 2014-2019				Estimated Completion Cost (as allowed)
				(as admitted by CERC)				
				2015-16	2016-17	2017-18	2018-19	
Commission's order dated 19.9.2017 in Petition No.: 233/TT/2016								
Asset-X	351.04	671.44	178.10	0.00	238.25	200.51	0.00	616.86
Asset-XI	5249.00	6197.65	1588.32	0.00	3305.09	1034.96	0.00	5928.37
Asset-XII & XIII	4637.80	4669.14	3771.21	0.00	102.63	337.94	298.85	4510.63
Asset-XIV	5912.15	3942.07	2579.61	0.00	598.30	629.37	0.00	3807.28

(₹ in lakh)								
Asset	FR Apportioned Approved Cost	RCE-II Apportioned Approved Cost	Capital Cost allowed as on COD	Add Cap 2014-2019				Estimated Completion Cost (as allowed)
				(as admitted by CERC)				
				2015-16	2016-17	2017-18	2018-19	
Commission's order dated 30.12.2019 in Petition No.: 277/TT/2018								
Asset-XV	2269.94	3261.20	2357.84	0.00	0.00	161.78	402.60	2922.40
Asset-XVI	5403.71	5296.70	4422.14	0.00	0.00	108.84	431.56	4962.54
Asset-XVII	851.12	1023.43	446.44	0.00	0.00	52.54	289.54	788.54
Asset-XVIII	0.00	1822.76	1268.36	0.00	0.00	239.32	198.23	1705.91
Asset-XIX	1588.81	1547.79	1396.47	0.00	0.00	64.83	50.00	1511.32
Asset-XX	1588.91	1578.79	750.69	0.00	0.00	0.00	553.03	1303.72



(₹ in lakh)

Asset	FR Apportioned Approved Cost as per FR	Capital Cost allowed as on COD	ACE 2014-2019				Estimated Completion Cost (as allowed)
			(as admitted by CERC)				
			2015-16	2016-17	2017-18	2018-19	
Commission's order dated 23.3.2016 in Petition No.: 232/TT/2015							
Asset-XXI	2044.63	1248.03	196.92	202.55	98.46	0.00	1745.96

19. The Petitioner vide Auditor's Certificate has submitted the capital cost as on COD along with ACE up to 31.3.2019. The details of the apportioned approved capital cost, capital cost as on COD and the ACE incurred upto 31.3.2019 as claimed by the Petitioner in the instant true-up petition for the transmission assets are as follows:

(₹ in lakh)

Assets	FR Apportioned Approved Cost	RCE-I Apportioned Approved, cost	RCE-II Apportioned Approved, cost	Expenditure up to COD	ACE 2014-2019				Capital Cost as on 31.03.2019
					(as per auditor's certificate)				
					2015-16	2016-17	2017-18	2018-19	
Asset-I	983.57	1050.21	1009.33	126.89	629.14	112.37	27.47	0.00	895.87
Asset-II	1157.05	1050.21	1009.33	137.19	521.49	169.94	50.00	0.00	878.62
Asset-III	2028.96	1837.58	1742.81	1248.45	0.00	54.86	305.57	0.00	1608.88
Asset-IV	2028.96	1868.41	1609.09	1130.80	0.00	0.00	0.00	2.64	1133.44
Asset-V	2025.75	1919.93	1811.77	202.13	0.00	1531.02	78.61	0.00	1811.76
Asset-VI	2044.63	2103.10	1921.34	1558.35	0.00	126.55	199.92	28.16	1912.98
Asset-VII	996.94	1117.09	1072.77	544.20	73.96	152.44	43.91	174.06	988.57
Asset- VIII	2864.31	3871.16	3529.88	2203.34	0.00	558.67	185.68	232.73	3180.42
Aset-IX	4974.17	6011.35	5603.02	3595.86	0.00	974.02	577.51	453.13	5600.52
Asset-X	351.04	671.44	642.11	181.7	0.00	57.49	275.02	71.29	585.50
Asset-XI	5249	6197.65	6052.73	1685.23	0.00	3064.81	269.43	443.46	5462.93
Asset-XII	4637.80	4649.14	4508.94	1556.81	0.00	46.81	173.28	101.79	1878.69
Asset- XIII				1603.62	0.00	0.00	173.28	101.79	1878.69
Asset-XIV	5912.15	3942.07	3841.85	2599.00	0.00	246.82	369.45	234.26	3449.53
Asset-XV	2269.94	3261.20	3180.42	3319.57*	0.00	0.00	132.48	348.99	3801.04
Asset-XVI	5403.71	5296.70	5296.70	4478.2	0.00	0.00	95.12	361.02	4934.34
Asset-XVII	851.12	1023.43	1023.43	475.54	0.00	0.00	41.16	91.78	608.48
Asset-XVIII	0.00	NA	1822.76	1293.8	0.00	0.00	230.07	127.86	1651.73
Asset-XIX	1588.81	1547.79	1547.79	1399.79	0.00	0.00	0.00	0.00	1399.79
Asset-XX	1588.91	1578.79	1578.79	842.14	0.00	0.00	0.00	249.86	1092.00
Asset-XXI	2044.63	1845.96	1745.96	1248.03	161.38	130.97	179.68	25.90	1745.96

*including capital cost of shifting ICT of ₹878.63 lakh which is re-capitalised under this project after de-capitalization from its original project.



Cost Over-run

20. The Commission, vide order dated 22.8.2016, in Petition No. 69/TT/2016 has held as follows:

“20. We have considered the submissions of the petitioner. It is observed that the completion cost as submitted by the petitioner for the Asset-I, VIII, IX and X is exceeding the approved apportioned cost and detailed justification for the same is not provided by the petitioner. Hence, we have restricted the cost of the assets to the approved apportioned FR cost and the same will be reviewed at the time of truing up on submission of justification for the cost over-run.”

21. The Commission, vide order dated 30.12.2019 in Petition No. 277/TT/2018 directed the Petitioner to submit the detailed explanation of cost variation of Asset-XV (Asset-I in Petition No. 277/TT/2018) at the time of truing up. The relevant extract of the order are as follow:

“31(d)..... Considering the submissions of the Petitioner, we provisionally approve the estimated capital cost of Asset-I as claimed vide Management Certificate. However, the Petitioner is directed to submit the detailed explanation with regard to variation of capital cost in respect of Asset-I at the time of truing up exercise.”

22. The Petitioner in the instant petition has submitted the following reasons in respect of cost variation:

Variation in Quantities (QV):

- a. There is increase in cost of switchgear due to increase in quantity as per actual. The detail of quantity as per FR and actual is detailed as follows:

Particular	Unit	As per FR	As per actual
400 kV equipment			
Circuit breaker without PIR	Nos.	1	2
Controlled switching Device	Nos.	0	2
BPI	Nos.	0	12
220 kV equipment			
1 PH CVT	Nos.	0	3
220 kV BPI	Nos.	0	23
221 kV High BPI	Nos.	0	4



Control and relay panel protection			
CB Relay panel without A/R	Nos.	1	2
Bus bar protection panel Augmentation	Nos.	1	2
Relay test kit	Nos.	1	2
Switchyard erection work as per actual site requirement			

- b. Further, cost variation in items having major deviations is tabulated below along with justification:

(₹ in lakh)

		Unit	Qty		Total cost		Variation	Remarks
SI No	Name of Equipment		As per FR	As per RCE-II	As per FR	Actual expenditure		
1	SUB-STATION AUXILIARIES							
A	Power & Control Cables	L.S.	1	1	42	438.41	-396.41	<p>In FR, the calculation is based on normative basis, however during execution the detailed engineering has been carried out as per actual site condition.</p> <p>Bay identified earlier by JUSNL for termination of its 220kV transmission line was at remote/far end but original location agreed was provided is nearer to POWERGRID boundary wall.</p> <p>During preparation of FR, a lumsum of 100-150 meter of control cable had been taken. In actual there is a distance between ICT-III bay with control room is approx. 400 m which is almost 3-4 times as compared to FR. This leads to many fold increment in cost of control cable.</p>
2	SWITCHYARD ERECTION							
A	Equipment Structure	L.S.	1	1	119	246.1	-110.77	



B	Other Equipment (Bus Bar materials)	L.S.	1	1	45.5	236.9	-101.4	Variation is due to change in Qty & per unit cost. In FR the calculation is based on normative basis, however during execution the detailed engineering has been carried out as per actual site conditions as explained above at Sl. No. 1(A).
C	Equipment Civil works	L.S.	1	1	145	322.66	-107.66	
D	Erection/Miscellaneous Civil Works	L.S.	1	1	17.224	75.46	-58.236	
3	Sub-Total						-774.47	

23. The Respondent, BSPHCL, has submitted that the reasons given by the Petitioner for cost variation are vague and general in nature and the Petitioner has not substantiated its submissions. The cost over-run being claimed by the Petitioner is a huge amount and, therefore, the Petitioner must explain the reasons for not making proper calculation according to the site conditions.

24. In response, the Petitioner has submitted that detailed reasons and justification for cost variation have been provided in the petition.

25. We have considered the submissions of the Petitioner and the Respondent, BSPHCL. The details of the capital cost of the transmission project approved by the BoD of the Petitioner are as follows:

Date	Project Cost
Investment Approval (IA) 19.5.2014	₹52229 lakh, which included IDC of ₹3324 lakh
Revised Cost Estimate-I (RCE-I) 24.03.2017	₹55018 lakh including IDC of ₹1700 lakh
Revised Cost Estimate-I (RCE-II) 14.03.2019	₹54636 lakh including IDC of ₹2403 lakh

26. As compared with FR cost, the completion cost of Assets-II, III, IV, V, VI is within FR cost. As compared with FR cost, the completion cost of Assets-I, VII, VIII and Asset-IX has increased by an amount of ₹12.3 lakhs, ₹75.83 lakh, ₹386.03 lakh, and ₹626.35 lakh respectively. The Petitioner has submitted RCE-I duly approved



by the Competent Authority viz. CMD of the Petitioner . The estimated completion cost of Asset-I to Asset-IX is within RCE-I.

27. As regards cost over-run in case of Asset- X to Asset-XIV, the Commission vide order dated 19.9.2017 in petition No.233/TT/2016 had already taken cognisance of RCE-I and the completion cost of Asset-X to Asset-XIV is within the RCE-I.

28. As regards cost over-run in case of Asset-XV to Asset-XX, the Commission vide order dated 30.12.2019 in Petition No. 277/TT/2018 had already taken cognisance of RCE-I and RCE-II. The estimated completion cost of Asset-XV to Asset-XX is within RCE-II.

29. The estimated completion cost of Asset-XXI is within the FR cost.

30. It is further observed that in the instant case, apportioned approved cost as per RCE-I is ₹ 55018.00 lakh whereas the estimated completion cost of the transmission project is ₹48838.04 lakh. Thus, the total project cost is reduced by ₹6179.96 lakh. This variation of cost is approved by the Competent Authority viz. CMD of the Petitioner Company. The Petitioner has further submitted the duly approved RCE-II. Accordingly, the cost variation is allowed.

Time Over-run

31. As per the Investment Approval (IA), the transmission project was scheduled to be commissioned within 30 months from the date of IA i.e. 19.5.2014. Accordingly, the Commissioning Schedule was 19.11.2016.

32. The scheduled date of commercial operation (SCOD) of the transmission assets and the actual COD of the transmission assets and time over-run details



allowed in previous orders are as follows:

Asset	SCOD	COD	Time Over-run	Time Over-run condoned / not condoned in the Previous Order	Previous Order
Asset-X	12.11.2016	29.8.2016	-	-	Order dated 19.9.2017 in Petition No. 233/TT/2016
Asset-XI		6.10.2016	-	-	
Asset-XII		20.10.2016	-	-	
Asset- XIII		10.3.2017	-	-	
Asset-XIV		30.11.2016	19 days	Fully condoned	
Asset-XV	13.11.2016	16.12.2017	398 days	Not condoned	Order dated 30.12.2019 in Petition No. 277/TT/2018
Asset-XVI		12.3.2018	484 days	Fully condoned	
Asset-XVII		29.3.2018	501 days	Not condoned	
Asset-XVIII	December 2019*	14.2.2018	-	-	
Asset-XIX	13.11.2016	25.9.2017	316 days	Not condoned	
Asset-XX		30.9.2018	686 days	Not condoned	
Asset-XXI	19.11.2016	13.7.2015	-	-	Order dated 23.3.2016 in Petition No. 232/TT/2016

**The petitioner has included the 3rd 500 MVA ICT at Patna in RCE-II dated 14.3.2019. As per the RCE-II, the entire project is scheduled to be commissioned by December, 2019. However, Asset-XVIII has been commissioned on 14.2.2018. Hence, there is no time delay in commissioning of Asset-XVIII.*

33. The Commission vide order dated 22.8.2016 in Petition No. 69/TT/2016 has approved the COD of the Assets-III, IV, VI, VIII and IX on anticipated basis and directed the Petitioner to submit the actual COD of the assets, RLDC certificates and the justification for time over-run. The relevant extract of the order is as follows:

“16. As per the investment approval dated 19.5.2014, the commissioning schedule of the project was 30 months from the date of investment approval. Accordingly, the scheduled date of commercial operation works out to 19.11.2016. Assets-I, II, V and VIII were commissioned on 1.1.2016, 2.2.2016, 3.4.2016 and 29.2.2016 respectively and Assets III, IV, VI, VII, IX and X are anticipated to be commissioned by 1.11.2016, 1.12.2016, 1.10.2016, 1.10.2016, 30.9.2016 and 30.9.2016 for respectively. There is no time over-run in case of Assets-I, II, V and VIII and all the other assets except for Asset IV are anticipated to be commissioned within 30 months from the date of Investment Approval. The time over-run, if any, in case of the other assets would be considered at the time of truing up. The petitioner is directed to submit actual COD of the assets, RLDC certificates and the justification for time over-run, if any, alongwith the documentary evidence in chronological order at the time of truing up.”

34. With regard to the time over-run in respect of Asset-III, IV, VI, VIII and IX, the



Petitioner has submitted as follows:

Asset	SCOD	COD	Time Over-run
Asset-III	19.11.2016	24.9.2016	No delay
Asset-IV		17.2.2019	27 months
Asset-VI		30.9.2016	No delay
Asset-VIII		2.10.2016	No delay
Asset-IX		2.10.2016	No delay

35. The Petitioner has submitted that the delay in commissioning of Asset-IV is due to failure in type test at GE works. Thereafter M/s GE tied-up with M/s T & R for supply of ICT as a bought out items. The Petitioner has further submitted that there was no cost over-run on account of the time over-run as the payments were released in phased manner so that there was no impact on IDC and no additional PV was paid on account of this delay.

36. The Petitioner has submitted the comparison of actual IDC and IEDC vis-a-vis as envisaged in FR cost as follows:

(₹ in lakh)				
Asset	IDC as per FR for completion period of 24 months	IDC as per Auditor Certificate	IEDC as per FR for completion period of 24 months	IEDC as per Auditor Certificate
Asset-IV	114.53	47.01	278.16	235.14

37. With the above comparative statement, the Petitioner has submitted that even after a delay of 27 months, Asset-wise IDC and IEDC incurred for the Asset-IV covered under the Petition is less than that envisaged during FR and there is no extra financial burden on the consumers.

38. The Petitioner has further mentioned that the loan deployed in the project was in the month of December 2017 after the SCOD. Hence, there is no additional burden of IDC on the consumers.



39. We have considered the submissions of the Petitioner with regard to time over-run in case of Asset-IV. The time over-run of 820 days is due to the failure in type test at GE works. Regulation 12 (1) (b) and (c) of the 2014 Tariff Regulation provides the following:

“12. Controllable and uncontrollable factors:

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

*-----
(b) Efficiency in the implementation of the project not involving approved change in scope of such project, change in statutory levied 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.”*

40. In the instant case, the delay is due to the supplier in manufacturing and supply of transformer by the contractor. Therefore, the entire time over-run in case of the said transmission asset falls under the contractual issues and, therefore, covered under the controllable factors as per Regulation 22(1)(b) of the 2019 Tariff Regulations. Accordingly, we are not inclined to condone the time over-run in case of the Asset-IV.

41. Except Asset-IV, the Commission has already settled the time over-run issues in respect of all the other assets. The time over-run in case of Assets-I to IX except Assets-III, IV VI, VIII and IX was dealt by the Commission vide order dated 22.8.2016 in Petition No. 69/TT/2016. The time over-run in case of Asset– X to Asset-XIV was dealt by the Commission vide order dated 19.9.2017 in Petition No. 233/TT/2016. The time over-run in case of Asset-XV to Asset-XX was dealt with by the Commission vide order dated 30.12.2019 in Petition No. 277/TT/2018. The time over-run in case of Asset-XXI was dealt with by the Commission vide order dated 23.3.2016 in Petition No. 232/TT/2015.



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

42. The Petitioner has claimed IDC for the transmission assets and has submitted the Auditor's Certificates in support of the same. The Petitioner has submitted the computation of IDC along with year-wise details of the IDC discharged.

43. We have considered the submissions of the Petitioner. The allowable IDC has been worked out considering the information submitted by the Petitioner for the transmission assets separately on cash basis. The loan details submitted in Form-9C for the 2014-19 tariff period and the IDC computation sheets have been considered for the purpose of IDC calculations on cash and accrued basis. The undischarged IDC as on COD of the assets has been considered as ACE during the year in which it has been discharged.

44. Accordingly, based on the information furnished by the Petitioner, the IDC considered for transmission assets is as follows:

(₹ in lakh)

Asset	IDC as per Auditor's Certificate	IDC Admissible	IDC disallowed due to computational difference/ Time Over-run	IDC Discharged as on COD	IDC Undischarged as on COD	IDC Discharge During			
						2015-16	2016-17	2017-18	2018-19
	A	B	C=A-B	D	E=B-D	F	G	H	I
Asset-I	2.27	2.24	0.03	0.00	2.24	0.00	2.24	0.00	0.00
Asset-II	3.18	3.12	0.06	0.00	3.12	0.00	3.12	0.00	0.00
Asset-III	15.41	15.27	0.14	2.09	13.18	0.00	0.09	13.09	0.00
Asset-IV	47.01	0.00	47.01	0.00	0.00	0.00	0.00	0.00	0.00
Asset-V	4.37	4.35	0.02	1.30	3.05	0.00	3.05	0.00	0.00
Asset-VI	35.01	34.84	0.17	18.88	15.96	0.00	1.24	14.72	0.00
Asset-VII	12.34	12.31	0.03	0.00	12.31	1.23	11.08	0.00	0.00
Asset-VIII	67.76	67.66	0.10	56.32	11.34	0.00	0.22	11.13	0.00
Asset-IX	111.90	111.76	0.14	95.31	16.45	0.00	0.36	16.09	0.00
Asset-X	6.57	6.57	0.00	5.11	1.46	0.00	0.68	0.78	0.00
Asset-XI	42.40	42.33	0.07	7.21	35.12	0.00	0.16	34.95	0.00
Asset-XII	63.96	63.93	0.03	43.89	20.04	0.00	0.55	19.49	0.00
Asset-XIII	63.95	63.95	0.00	43.84	20.11	0.00	0.54	19.57	0.00



Asset	IDC as per Auditor's Certificate	IDC Admissible	IDC disallowed due to computational difference/ Time Over-run	IDC Discharged as on COD	IDC Undischarged as on COD	IDC Discharge During			
						2015-16	2016-17	2017-18	2018-19
	A	B	C=A-B	D	E=B-D	F	G	H	I
Asset-XIV	60.88	60.72	0.16	25.59	35.14	0.00	2.22	32.92	0.00
Asset-XV	227.82	85.06	142.76	85.06	0.00	0.00	0.00	0.00	0.00
Asset-XVI	348.94	346.35	2.59	278.85	67.50	0.00	0.00	0.00	67.50
Asset-XVII	24.15	6.37	17.78	6.37	0.00	0.00	0.00	0.00	0.00
Asset-XVIII	14.32	14.18	0.14	0.00	14.18	0.00	0.00	0.00	14.18
Asset-XIX	38.89	9.48	29.41	9.48	0.00	0.00	0.00	0.00	0.00
Asset-XX	47.41	7.80	39.61	7.80	0.00	0.00	0.00	0.00	0.00
Asset-XXI	5.63	5.63	0.00	0.00	5.63	0.00	5.63	0.00	0.00

45. The Petitioner has claimed IEDC and has submitted Form-12A and Auditor's Certificate in support of its claim.

46. We have examined the Form-12A along with the Auditor's Certificate submitted by the Petitioner in support of its claim. The IEDC allowed for transmission assets is as follows:

(₹ in lakh)

Asset	IEDC claimed	IEDC disallowed due to time over-run	IEDC allowed
Asset-I	9.66	0.00	9.66
Asset-II	4.58	0.00	4.58
Asset-III	73.01	0.00	73.01
Asset-IV	235.14	111.13	124.01
Asset-V	13.61	0.00	13.61
Asset-VI	93.44	0.00	93.44
Asset-VII	7.27	0.00	7.27
Asset-VIII	11.82	0.00	11.82
Asset-IX	19.68	0.00	19.68
Asset-X	1.10	0.00	1.10
Asset-XI	15.74	0.00	15.74
Asset-XII	125.48	0.00	125.48
Asset-XIII	125.48	0.00	125.48
Asset-XIV	12.96	0.00	12.96
Asset-XV	244.23	74.03	170.20
Asset-XVI	441.25	0.00	441.25
Asset-XVII	39.08	13.83	25.25
Asset-XVIII	166.92	0.00	166.92
Asset-XIX	27.39	7.03	20.36



Asset-XX	32.64	13.99	18.65
Asset-XXI	64.44	0.00	64.44

Initial Spares

47. The Petitioner has claimed the following initial spares for the transmission assets and prayed for revision of the initial spares allowed earlier in light of the judgement of the Appellate Tribunal for Electricity (APTEL) dated 14.9.2019 in Appeal No.74 of 2017. Initial spares claimed by the Petitioner are as follows:

Sub-station

Asset	Estimated Completion Cost (A) (₹ in lakh)	Initial Spares Claimed (B) (₹ in lakh)	Ceiling Limit (%) (C)	Initial Spares Worked out (₹ in lakh)
				$D = [(A-B)*C / (100-C)]$
Asset-I	983.94	29.36	6	60.93
Asset-II	970.86	16.13	6	60.94
Asset-III	1654.38	97.15	6	99.40
Asset-IV	1122.09	44.88	6	68.76
Asset-V	1793.78	104.65	6	107.82
Asset-VI	1792.89	105.46	6	107.71
Asset-VII	1053.16	60.01	6	63.39
Asset-VIII	3170.76	176.00	5	157.62
Asset-IX	5468.94	285.64	5	272.81
Asset-X	627.83	40.15	6	37.51
Asset-XI	5504.79	449.07	5	266.09
Asset-XII	1640.43	82.02	5	82.02
Asset-XIII	1640.43	82.02	5	82.02
Asset-XIV	3475.70	205.96	5	172.09
Asset-XV	2338.45	140.31	6	140.31
Asset-XVI	4340.76	173.63	5	219.32
Asset-XVII	794.20	47.65	6	47.65
Asset-XVIII	1641.52	65.00	6	100.63
Asset-XIX	1369.95	0.00	6	87.44
Asset-XX	1443.55	79.00	6	87.10
Asset-XXI	1642.12	64.90	6	100.67
Total	44470.53	2348.99		2422.23

48. The Petitioner has further submitted that the expenditure on initial spares is included in the Auditor's Certificate as per actual cash expenditure incurred (i.e., the initial spares discharged upto COD are included in the COD cost of Auditor



Certificate and those discharged after COD have been included in the respective year's additional capital expenditure in the Auditor Certificate) since the expenditure on initial spares is included in the Auditor Certificate as per cash outflow. Discharge of initial spares as included in the Auditor certificate is as follows:

(₹ in lakh)

Asset	Total Spares Claimed	Expenditure on Initial Spares Upto COD and included in Auditor Certificate upto COD	Actual Expenditure on Initial Spares in 2015-16 (Add cap)	Actual Expenditure on Initial Spares in 2016-17 (Add cap)	Actual Expenditure on Initial Spares in 2017-18 (Add cap)	Actual Expenditure on Initial Spares in 2018-19 (Add cap)	Estimated Expenditure on Initial Spares in 2019-20 (Add cap)
Asset-I	29.36	27.01	0.00	2.35	0.00	0.00	0.00
Asset-II	16.13	14.52	0.00	1.61	0.00	0.00	0.00
Asset-III	97.15	89.97	0.00	0.00	0.00	0.00	7.18
Asset-IV	44.88	36.45	0.00	0.00	0.00	0.00	8.43
Asset-V	104.65	0.00	0.00	104.65	0.00	0.00	0.00
Asset-VI	105.46	105.46	0.00	0.00	0.00	0.00	0.00
Asset-VII	60.01	60.01	0.00	0.00	0.00	0.00	0.00
Asset-VIII	176.00	125.44	0.00	50.56	0.00	0.00	0.00
Asset-IX	285.64	212.27	0.00	18.26	56.11	0.00	0.00
Asset-X	40.15	36.14	0.00	2.00	2.01	0.00	0.00
Asset-XI	449.07	404.16	0.00	22.46	22.45	0.00	0.00
Asset XII	82.02	82.02	0.00	0.00	0.00	0.00	0.00
Asset-XIII	82.02	82.02	0.00	0.00	0.00	0.00	0.00
Asset-XIV	205.96	185.37	0.00	10.30	10.29	0.00	0.00
Asset-XV	140.31	111.01	0.00	0.00	29.30	0.00	0.00
Asset-XVI	173.63	118.61	0.00	0.00	13.72	41.30	0.00
Asset-XVII	47.65	31.625	0.00	0.00	11.375	4.65	0.00
Asset-XVIII	65.00	42.25	0.00	0.00	9.25	13.50	0.00
Asset-XIX	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asset-XX	79.00	0.00	0.00	0.00	0.00	0.00	79.00
Asset-XXI	64.90	64.90	0.00	0.00	0.00	0.00	0.00

49. We have considered the submissions of the Petitioner. The Petitioner has claimed initial spares on the basis of estimated completion cost of the transmission assets. The plant and machinery cost as on cut-off date is considered for the purpose of calculation of initial spares.

50. In terms of the APTEL's judgment dated 14.9.2019 in Appeal No. 74 of 2017, the initial spares are to be allowed as per the ceiling limits on overall project cost. The APTEL in judgement dated 14.9.2019 in Appeal No. 74 of 2017 held as follows:



“8.13.....We do not agree with this methodology of restricting initial spares asset/element wise as adopted by the Central Commission. The Central Commission to have a prudence check on the initial spares, being restricted based on the individual asset wise cost initially, but subsequently ought to have allowed as per the ceiling limits on the overall project cost basis during the true-up.”

51. Accordingly, initial spares are allowed as percentage of the project cost as a whole. The transmission assets covered under the transmission project have been put into commercial operation in 2014-19 tariff period. The transmission project as per I.A. was completed during 2014-19 tariff period and the overall project cost of the transmission assets is arrived only when all the transmission assets are combined while claiming the tariff for the 2019-24 tariff period. Therefore, the initial spares are allowed on the basis of the cost of the individual transmission assets in the 2014-19 tariff period and the initial spares are allowed on the basis of the overall project cost in the 2019-24 period (as discussed in the relevant portion of the instant order). The initial spares allowed by the Commission for transmission assets are as follows:

Sub-stations:

Asset	Plant & Machinery cost considered as on cut-off date (₹ in lakh)	Initial Spares claimed (₹ in lakh)	Norms as per the 2014 Tariff Regulations (in %)	Initial Spares allowable as per the 2014 Tariff Regulations (₹ in lakh)	Initial Spares allowed (₹ in lakh)
Asset-I	883.94	29.36	6.00	54.55	29.36
Asset-II	870.86	16.13	6.00	54.56	16.13
Asset-III	1520.45	97.15	6.00	90.85	90.85
Asset-IV	1122.09	44.88	6.00	68.76	44.88
Asset-V	1793.78	104.65	6.00	107.82	104.65
Asset-VI	1784.53	105.46	6.00	107.17	105.46
Asset-VII	968.96	60.01	6.00	58.02	58.02
Asset-VIII	3100.84	176.00	5.00	153.94	153.94
Asset-IX	5468.94	285.64	5.00	272.81	272.81
Asset-X	577.83	40.15	6.00	34.32	34.32
Asset-XI	5404.79	449.07	5.00	260.83	260.83
Asset XII	1590.26	82.02	5.00	79.38	79.38
Asset-XIII	1640.43	82.02	5.00	82.02	82.02



Asset-XIV	3375.70	205.96	5.00	166.83	166.83
Asset-XV	2338.45	140.31	6.00	140.31	140.31
Asset-XVI	4340.76	173.63	5.00	219.32	173.63
Asset-XVII	794.20	47.65	6.00	47.65	47.65
Asset-XVIII	1641.52	65.00	6.00	100.63	65.00
Asset-XIX	1369.95	0.00	6.00	87.44	0.00
Asset-XX	1443.55	79.00	6.00	87.10	79.00
Asset-XXI	1649.99	64.90	6.00	101.18	64.90

52. The discharge of allowed initial spares in 2014-19 tariff period are as follows:

(₹ in lakh)

Asset	Total Initial Spares allowed	Allowed initial Spares Upto COD	Allowed Initial Spares in 2015-16 (ACE)	Allowed on Initial Spares in 2016-17 (ACE)	Allowed Initial Spares in 2017-18 (ACE)	Allowed Initial Spares in 2018-19 (ACE)	Allowed Initial Spares in 2019-20 (ACE)
Asset-I	29.36	27.01	0.00	2.35	0.00	0.00	0.00
Asset-II	16.13	14.52	0.00	1.61	0.00	0.00	0.00
Asset-III	90.85	89.97	0.00	0.00	0.00	0.00	0.88
Asset-IV	44.88	36.45	0.00	0.00	0.00	0.00	8.43
Asset-V	104.65	0.00	0.00	104.65	0.00	0.00	0.00
Asset-VI	105.46	105.46	0.00	0.00	0.00	0.00	0.00
Asset-VII	58.02	58.02	0.00	0.00	0.00	0.00	0.00
Asset-VIII	153.94	125.44	0.00	28.50	0.00	0.00	0.00
Asset-IX	272.81	212.27	0.00	18.26	42.28	0.00	0.00
Asset-X	34.32	34.32	0.00	0.00	0.00	0.00	0.00
Asset-XI	260.83	260.83	0.00	0.00	0.00	0.00	0.00
Asset XII	79.38	79.38	0.00	0.00	0.00	0.00	0.00
Asset-XIII	82.02	82.02	0.00	0.00	0.00	0.00	0.00
Asset-XIV	166.83	166.83	0.00	0.00	0.00	0.00	0.00
Asset-XV	140.31	111.01	0.00	0.00	29.30	0.00	0.00
Asset-XVI	173.63	118.61	0.00	0.00	13.72	41.30	0.00
Asset-XVII	47.65	31.625	0.00	0.00	11.375	4.65	0.00
Asset-XVIII	65.00	42.25	0.00	0.00	9.25	13.50	0.00
Asset-XIX	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asset-XX	79.00	0.00	0.00	0.00	0.00	0.00	79.00
Asset-XXI	64.90	64.90	0.00	0.00	0.00	0.00	0.00

Capital Cost allowed as on COD

53. The capital cost has been allowed as on COD for transmission assets are as follows:

(₹ in lakh)

Asset	Capital Cost as on COD as per Auditor's Certificate	Less: IDC Claimed	Add: IDC Allowed as on COD	Less: IEDC disallowed due to time over-run not condoned	Less: Excess Initial Spares as on COD	Capital Cost as on COD (on cash basis)
Asset-I	129.16	2.27	0.00	0.00	0.00	126.89
Asset-II	140.37	3.18	0.00	0.00	0.00	137.19
Asset-III	1261.77	15.41	2.09	0.00	0.00	1248.45



Asset-IV	1134.37	47.01	0.00	111.13	0.00	976.23
Asset-V	205.17	4.37	1.30	0.00	0.00	202.10
Asset-VI	1574.48	35.01	18.88	0.00	0.00	1558.35
Asset-VII	556.54	12.34	0.00	0.00	1.99	542.21
Asset-VIII	2214.82	67.76	56.32	0.00	0.00	2203.38
Asset-IX	3612.50	111.90	95.31	0.00	0.00	3595.91
Asset-X	182.98	6.57	5.11	0.00	1.82	179.70
Asset-XI	1720.42	42.40	7.21	0.00	143.33	1541.90
Asset XII	1576.99	63.96	43.89	0.00	2.64	1554.29
Asset-XIII	1623.25	63.95	43.84	0.00	0.00	1603.14
Asset-XIV	2634.32	60.88	25.59	0.00	18.54	2580.48
Asset-XV	2657.73	227.82	85.06	74.03	0.00	2440.94
Asset-XVI	4546.27	348.94	278.85	0.00	0.00	4476.18
Asset-XVII	507.15	24.15	6.37	13.83	0.00	475.54
Asset-XVIII	1308.12	14.32	0.00	0.00	0.00	1293.80
Asset-XIX	1436.23	38.89	9.48	7.03	0.00	1399.79
Asset-XX	895.74	47.41	7.80	13.99	0.00	842.14
Asset-XXI	1253.66	5.63	0.00	0.00	0.00	1248.03

Decapitalisation and Re-capitalisation

54. As regards Assets -I, II, III, IV, V, VI, VII and XXI, the following has been observed:

Sl. No.	Asset	COD	Original Petition/ Project under Old ICT claimed	Old ICT COD	Remarks
1	Asset-I: Replacement of existing 100 MVA, 220/132 ICT with 01 No. 1X160 MVA ICT at 220/132kV Birpara Sub-station alongwith associated bays at Birpara Sub-station	1.1.2016	269/TT/2020 (Chukka TS)	1.4.1992	Used as spare
2	Asset-II: Replacement of existing 100 MVA, 220/132 ICT with 1x160 MVA, 220/132 kV ICT at 220/132 kV Siliguri Sub-station along with necessary bay eqpt/ protection system at Siliguri Sub-station	2.2.2016	269/TT/2020 (Chukka TS)	1.4.1992	Used as spare
3	Asset III: Replacement of 315	24.9.2016		1.11.2007	Used as spare



	MVA 400/220 Kv ICT I with 500 MVA 400/220 kV ICT at Patna Sub-station				
4	Asset IV: Replacement of 315 MVA 400/220 kV ICT II with 500 MVA 400/220 kV ICT at Patna Sub-station	17.2.2019	86/TT/2020 (Kahalgaon Stage II Phase-I)	1.1.2008	Used as spare
5	Asset V: Replacement of 315 MVA 400/220 kV ICT I with 500 MVA 400/220 kV ICT at Pusauli Sub-station	3.4.2016	390/TT/2019 (Bihar grid Strengthening scheme)	1.11.2004	Diverted and used at Durgapur Sub-station under ERSS XVII Part B project (Petition to be filed)
6	Asset VI: Replacement of 315 MVA 400/220kV ICT II with 500 MVA 400/220 kV ICT at Purnea	30.9.2016	290/TT/2020 (TALA HEP)	1.6.2007	Diverted and used at Jamsedpur Sub-station under ERSS XII project (670/TT/2020)
7	Asset VII: Replacement of 1x 100 MVA (3 rd) ICT with 1x160 MVA220/132 kV ICT at Purnea Sub-station	29.2.2016	246/TT/2019 (LILO of Purnea - Dalkola at Purnea)	1.11.2003	Used as spare
8	Asset-XXI: Replacement of 315 MVA 400/220kV ICT I with 500 MVA 400/220 kV ICT at Purnea Sub-station	13.7.2015	213/TT/2020 (LILO of Bongaigaon Malda TL at Purnea Sub-station)	1.11.2003	Used as spare

55. We have considered the submissions by the Petitioner. The Petitioner has submitted that 100 MVA ICT at Baripada, 100 MVA ICT at Siliguri, 315 MVA ICT-I&II at Patna, 100 MVA ICT-III at Patna, 315 MVA ICT-1 at Purnea Sub-station have been kept as spare. The relevant extracts of the NRPC wherein the replaced ICT kept as spares is extracted as under:



Asset-I & II:

(i) Relevant extracts of the Minutes of Meeting of the 1st 2014 Standing Committees Meeting on Power System planning in Eastern Region held at NRPC, New Delhi on 2.5.2014 is as follows:

“12. Augmentation of transformation capacity of 220/132 kV Birpara (PG) and Silliguri S/s (PG)

Director (SP& PA), CEA informed that as per Standing Committee Meeting (20.09.10) on Power System Planning for ER, augmentation of 220/132kV Silliguri and Birpara S/S has been carried out by addition of 1 no. 160 MVA ICT in parallel to existing 100MVA ICT under ERSS-IV. During 59th OCC, it was discussed that the transformation capacity of 100 MVA ICT at Silliguri (PG) is inadequate to cater to peak load of North Bengal and Sikkim because of degradation over its expected life span of 25 years. The condition of 100 MVA ICT at Birpara is also similar. Even after reconditioning at respective site, the condition of transformer has not improved. As per the decision taken in the 25th TCC / ERPC meeting held on 20-21 September, 2013, and after deliberation, members agreed to the following:

- Replacement of existing 100 MVA, 220/132 kV ICTs with 1X160 MVA, 220/132 kV ICT at Silliguri 220/132 kV sub-station of POWERGRID, along with necessary bay eqpt/protection system.*
- Replacement of existing 100 MVA, 220/132kV ICTs with 1X160 MVA, 220/132 kV ICT at Birpara 220/132 kV sub-station of POWERGRID, along with necessary bay eqpt/protection system.*
- The 100 MVA ICTs (2 nos.) may be kept as emergency spare for the time being.”*

For Asset-VII

The extract of the same is as follows:

“11. Replacement of 1X100 MVA 220/132kV, 3rd ICT with 1X160 MVA, 220/132 kV ICT at Purnea 220/132 kV sub-station of POWERGRID, along with necessary bay eqpt/protection system

Director (SP& PA), CEA informed that 220/132 kV Purnea sub-station of POWERGRID is having 3 nos. ICTs, 2 of 160 MVA each and the 3rd one of 100 MVA. In view of increased power demand in the area and on request of BSPHCL, ERPC in its 25th meeting held on 20-21 September, 2013, approved replacement of 3rd 100 MVA ICT with 160 MVA ICT. 100 MVA ICT thus released shall be kept in the pool of spare ICTs. Members agreed.”

(ii) The Relevant extracts of the of the 2nd Standing Committee Meeting (SCM) on Power System Planning in Eastern Region held on 27.8.2013 at NRPC, New



Delhi is as follows:

For Assets – III, IV, and XXI

***“11. Augmentation of Transformation capacity at the existing 400/220kV Jamshedpur (PG) and Sasaram (PG) sub-stations
&
BSPTCL’s proposals for Augmentation of 400/220kV Transformation capacity at the Muzaffarpur, Sasaram, Purnea and Patna sub-stations of POWERGRID, and establishment of 220kV MTPS (Extn.)- Muzaffarpur (PG) D/C line (3rd & 4th Circuits)***

POWERGRID stated with instances during May’13 that loading on each of the 400/220kV 2x315MVA ICTs at Sasaram had exceeded 250MW on several occasions with maximum loading of upto 305MW during May’13 and similarly, loading on each of the 400/220kV 2x315MVA ICTs at Jamshedpur (PG) had reached upto 210 MW.

In order to meet any eventuality due to failure of anyone of the ICTs at the above sub-stations, POWERGRID proposed for augmentation of transformation capacity at Jamshedpur and Sasaram.

In this context, Director, CEA mentioned that BSPTCL has proposed very recently some additional requirements for augmentation of transformation capacity at 400kV grid sub-stations of POWERGRID in Bihar viz. Muzaffarpur, Purnea, Pausali(Sasaram) and Patna. MD, BSPTCL explained that the peak demand in Bihar has already touched 2200 MW and it would be expected to cross 5000 MW by 2015-16 due to rapid load growth in Bihar. Bihar has already taken up implementation of major transmission and distribution expansion Plan in the entire State grid. He added that in order to meet load growth being envisaged at various parts of the State including demand of Patna area, augmentation of 400/220kV transformation capacity from 2x315 MVA each at Muzaffarpur, Purnea, Pausali (Sasaram) and Patna sub-stations of POWERGRID to 2x500 MVA ICTs were recently proposed to CEA by BSPTCL.

About the above proposals of BSPTCL, CEA informed that augmentation of transformation capacity at Muzaffarpur (PG) with an additional 500 MVA, 400/220 kV ICT, was approved in the last SCM and it is under the process of implementation. With this, the 400/220kV sub-station capacity of Muzaffarpur would reach to 1130 MVA. It was felt that no further augmentation at this stage would be required at Muzaffarpur (PG) at this stage. Provision for augmentation of 2x315 MVA 400/220kV ICTs at Sasaram by replacement with 2x500 MVA ICTs, due to severe space constraint at Sasaram, has been already included in the agenda for concurrence.

POWERGRID stated that there is also severe space constraint at Purnea, Pusauli (Sasaram) & Patna sub-stations for addition of transformer(s), and only available alternative would be to replace existing 2x315 MVA ICTs by 2x500 MVA ICTs. 315 MVA ICTs thus released from Purnea, Pusauli and Patna could be kept in the pool of regional spares.

CEA stated that there would be number of spare 315 MVA ICTs and these ICTs



should not go waste. POWERGRID stated that these ICTs could be utilized at any other places after refurbishment. MD, BSPTCL suggested that out of the 315 MVA ICTs emerging as spare, two ICTs (one at Sasaram and one at Patna) could be kept as stand-by/spare, and one could be utilized for augmentation of transformation capacity at Jamshedpur (PG) as 3rd ICT. AGM, NTPC stated that at present there is only 1x315 MVA 400/22 kV ICT at Farakka and stressed upon the need for augmentation of the transformation capacity. On query about the space availability for an additional ICT at Farakka, NTPC confirmed that space for 2nd ICT would be made available by shifting the location of 50MVAR bus reactor. It was decided that one 315 MVA ICT released after replacement of ICTs at Purnea, Pusauli and Patna would be installed as additional (2nd ICT) at Farakka.

After deliberations, the following were decided and agreed.

- Replacement of 2x315 MVA, 400/220 kV ICTs at Purnea (PG) by 2x500 MVA, 400/220 kV ICTs.
- Replacement of 2x315 MVA, 400/220 kV ICTs at Pausali (Sasaram (PG) by 2x500 MVA, 400/220 kV ICTs, and one of the 2x315 MVA ICTs being released to be kept as stand-by/spare.
- Replacement of 2x315 MVA, 400/220 kV ICT at Patna (POWERGRID) by 2x500 MVA, 400/220 kV ICT, and one of the 2x315 MVA ICTs being released to be kept as stand-by.
- Shifting of 1X315 MVA, 400/220 kV ICT from any suitable location (after replacement by 1x500MVA ICT) to Jamshedpur 400/220 kV S/S (PG) as 3rd ICT and installation of the same along with associated bays.
- Shifting of 1X315 MVA, 400/220 kV ICT from any suitable location (after replacement by 1x500MVA ICT) to Farakka STPS as 2nd ICT and installation of the same along with associated bays.
- Thus, out of the 6 nos. 315 MVA 400/220kV ICTs to be released from Purnea, Patna & Pusauli substations, one would be kept as spare at Patna and one as spare at Pusauli, one to be diverted and utilized at Jamshedpur as 3rd ICT, one to be diverted and installed at Farakka as 2nd ICT, and remaining ICTs would be utilized as Regional Spare.

As regards the proposal of BSPTCL for establishment of 220 kV MTPS (Extn.)- Muzaffarpur (PG) D/C line (3rd & 4th circuit), this requirement was agreed and it was decided that the line, including the associated bays, would be constructed by BSPTCL at their own cost.”

56. In view of the approval of the SCM and RPC, the following has been approved with respect of Asset-I, II, III, IV, V, VII and XXI:



Sl. No.	Asset	COD	Original Petition/ Project under Old ICT claimed	Old ICT COD	Decision of the Commission
1	Asset-I: Replacement of existing 100 MVA, 220/132 ICT with 01 No. 1X160 MVA ICT at 220/132kV Birpara Sub-station alongwith associated bays at Birpara Sub-station	1.1.2016	269/TT/2020 (Chukka TS)	1.4.1992	As per the approval of the 1 st Standing Committee Meeting on Power System planning held on 2.5.2014, 100 MVA ICT at Birpara has been approved as Spare ICT.
2	Asset-II: Replacement of existing 100 MVA, 220/132 ICT with 1x160 MVA, 220/132 kV ICT at 220/132 kV Siliguri Sub-station along with necessary bay eqpt/ protection system at Siliguri Sub-station.	2.2.2016	269/TT/2020 (Chukka TS)	1.4.1992	As per the approval of the 1 st Standing Committee Meeting on Power System planning held on 2.5.2014, 100 MVA ICT at Siliguri has been approved as Spare ICT.
3	Asset III: Replacement of 315 MVA 400/220 kV ICT I with 500 MVA 400/220 kV ICT at Patna Sub-station	24.9.2016	86/TT/2020 (Kahalgaoon Stage II Phase-I)	1.11.2007	As per the approval of 2 nd Standing Committee Meeting (SCM) on Power System Planning in Eastern Region held on 27.8.2013, 315 MVA ICT at Patna Sub-station has been approved as Spare.
4	Asset IV: Replacement of 315 MVA 400/220 kV ICT II with 500 MVA 400/220 kV ICT at Patna Sub-station	17.2.2019		1.1.2008	As per the approval of the 2 nd Standing Committee Meeting (SCM) on Power System Planning in Eastern Region held on 27.8.2013, 351 MVA ICT-II at Patna Sub-station has



					been approved as Spare.
5	Asset V: Replacement of 315 MVA 400/220 kV ICT I with 500 MVA 400/220 kV ICT at Pusauli Sub-station	3.4.2016	390/TT/2019 (Bihar grid Strengthening scheme)	1.11.2004	The Commisison vide order dated 15.7.2022 has approved the de-capitalisation of 315 MVA ICT as 26.2.2016 .The Petiitoner has diverted this ICT to Durgapur and the Re-capitalisation of 315 MVA ICT will be dealth with as when the Petitioner files the Petition.
6	Asset VII: Replacement of 1x 100 MVA (3 rd) ICT with 1x160 MVA220/132 kV ICT at Purnea Sub-station	29.2.2016	246/TT/2019 (LILO of Purnea - Dalkola at Purnea)	1.11.2003	As per the approval of of the 1 st Standing Committee Meeting on Power System planning held on 2.5.2014, 100 MVA ICT at Purnea has been approved as Spare ICT.
7	Asset-XXI: Replacement of 315 MVA 400/220 kV ICT I with 500 MVA 400/220 kV ICT at Purnea Sub-station	13.7.2015	213/TT/2020 (LILO of Bongaigaon Malda TL at Purnea S/S)	1.11.2003	2 nd Standing Committee Meeting (SCM) on Power System Planning in Eastern Region held on 27.8.2013

57. The Petitioner has claimed re-capitalisation of “400/220 kV 315 MVA ICT at Purnea Sub-station” which was de-capitalised vide order dated 5.3.2021 in Petition No. 290/TT/2020. The relevant portion of order dated 5.3.2021 in Petition No. 290/TT/2020 is extracted as follows:

“51. We have considered the submissions of the Petitioner and BRPL. The Petitioner has de-capitalized an amount of ₹878.63 lakh in 2016-17, ₹303.94 lakh in 2017-18 and ₹779.32 lakh in 2018-19 and re-capitalised them under the projects ERSS-XII, NRSS-XXX and NRSS-XL respectively. Regulation 9(6) of the 2014 Tariff



Regulations inter alia provide that the assets not in use or de-capitalised assets shall be removed from the capital cost of the existing and new projects. Regulation 9(6) of the 2014 Tariff Regulations is reproduced as under:-

“(6) The following shall be excluded or removed from the capital cost of the existing and new project:

(a) The assets forming part of the project, but not in use;

(b) Decapitalisation of Asset;

(c) In case of hydro generating station 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 two stage transparent process of bidding; and

(d) the proportionate cost of land which is being used for generating power from generating station based on renewable energy:

Provided that 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 shall be excluded from the Capital Cost for the purpose of computation of interest on loan, return on equity and depreciation;”

52. As per submissions of the Petitioner, the dismantling of 400/220 kV 315 MVA ICT at Purnea Sub-station, 50 MVAR line reactor at Mandola Sub-station and 400/220 kV 315 MVA ICT at Lucknow Sub-station started from 16.8.2016, 8.1.2015 and 25.1.2019 respectively and thereafter, they have been recapitalised w.e.f. 16.12.2017, 28.9.2017 and 3.8.2020 respectively. In terms of Regulation 9(6) of the 2014 Tariff Regulations, these assets are not in use between the period of decapitalisation and subsequent recapitalisation. Accordingly, 400/220 kV 315 MVA ICT at Purnea Sub-station was not in use from 16.8.2016 to 16.12.2017; 50 MVAR line reactor at Mandola Sub-station was not in use from 8.1.2015 to 28.9.2017; and 400/220 kV 315 MVA ICT at Lucknow Sub-station was not in use from 25.1.2019 to 3.8.2020. Hence, the transmission charges from the actual date of de-capitalisation to the actual date of re-capitalisation are not allowed. It is also observed that the Petitioner had started the work of removing 50 MVAR line reactor at Mandola substation from 8.1.2015 but has deducted the book value of de-capitalised asset in the year 2017-18 from the gross block of Combined Asset-II. Since the 50 MVAR line reactor at Mandola Sub-station is not in use from 8.1.2015, we have considered the de-capitalisation in the year 2014-15 and truing up of transmission tariff of Combined Asset-II has been done accordingly.

53. The Petitioner has submitted that carrying cost from the date of decapitalisation to the date of recapitalisation has been claimed in the petition where it has been recapitalised. The Petitioner's claim in respect of carrying cost shall be considered after prudence check of the claim for recapitalisation in the respective petitions.”

58. We have considered the date of de-capitalisation in respect of “400/220 kV 315 MVA ICT at Purnea Sub-station” as 16.8.2016 in Petition No. 290/TT/2020 and date of re-capitalisation as 16.12.2017 in the instant petition. The re-capitalisation has been considered as per the following details:



Work/ Equipment to be re- capitalised	Original book value of the Asset being re-capitalised (₹ in lakh)	Debt Equity ratio at the time of capitalisation	Cumulative Depreciation corresponding to re- capitalisation date (₹ in lakh)	Cumulative repayment of loan corresponding to re- capitalisation (₹ in lakh)
400/220 kV 315MVA ICT at Purnea Sub- station	878.63	71.41: 28.59	434.09	413.70

59. Further, the Petitioner has claimed the carrying cost of ₹17.28 lakh for the period between 29.9.2016 to 16.12.2017 and submitted the details as follows:

400/220 kV 315 MVA ICT at Purnea Sub-station			
Loan	Amount (₹ in lakh)	Interest rate (%)	Weighted rate of interest (%)
Bond XV	407.00	6.68	6.83
Bond XVI	220.43	7.1	
Total Loan Decap	627.43		
Loan repay	418.99		
Net loan	208.44		
Carrying cost= Net loan * Weighted average rate of interest			
Carrying cost for 2016-17 is ₹7.14 lakh			
Carrying cost for 2017-18 is ₹10.14 lakh			
Total Carrying cost is ₹17.28 lakh			

60. We have considered the submissions of the Petitioner. We are of the view that since, there is no specific provision in the 2014 Tariff Regulations to allow the carrying cost, we are not inclined to allow carrying cost. Therefore, ₹17.28 lakh towards carrying cost is not allowed.

Additional Capital Expenditure (ACE)

61. The Petitioner has submitted that ACE claimed up to 31.3.2019 for Asset-I to Asset-XX, and ACE up to 31.3.2018 for Asset-XXI are within cut-off date and hence have been claimed under Regulation 14(1)(i) of the 2014 Tariff Regulations; the ACE



claimed for 2018-19 for Asset-XXI is beyond cut-off date and is claimed under Regulation 14(2)(iv) of the 2014 Tariff Regulations.

62. The Petitioner has claimed the following ACE for the assets covered in the instant petition and has submitted the Auditor's Certificates in support of the same:

(₹ in lakh)

Assets	ACE 2014-2019			
	(as per auditor's certificate)			
	2015-16	2016-17	2017-18	2018-19
Asset-I	629.14	112.37	27.47	0.00
Asset-II	521.49	169.94	50.00	0.00
Asset-III	0.00	54.86	305.57	0.00
Asset-IV	0.00	0.00	0.00	2.64
Asset-V	0.00	1531.02	78.61	0.00
Asset-VI	0.00	126.55	199.92	28.16
Asset-VII	73.96	152.44	43.91	174.06
Asset- VIII	0.00	558.67	185.68	232.73
Aset-IX	0.00	974.02	577.51	453.13
Asset-X	0.00	57.49	275.02	71.29
Asset-XI	0.00	3064.81	269.43	443.46
Asset-XII	0.00	46.81	173.28	101.79
Asset- XIII	0.00	0.00	173.28	101.79
Asset-XIV	0.00	246.82	369.45	234.26
Asset-XV	0.00	0.00	132.48	348.99
Asset-XVI	0.00	0.00	95.12	361.02
Asset-XVII	0.00	0.00	41.16	91.78
Asset-XVIII	0.00	0.00	230.07	127.86
Asset-XIX	0.00	0.00	0.00	0.00
Asset-XX	0.00	0.00	0.00	249.86
Asset-XXI	161.38	130.97	179.68	25.90

63. The transmission assets have achieved the COD during 2014-19 tariff period and, accordingly, cut-off date for the Individual assets is as follows:

Assets	COD Date	Cut-off date
Asset-I	1.1.2016	31.3.2019
Asset-II	2.2.2016	31.3.2019
Asset-III	24.9.2016	31.3.2019
Asset-IV	17.2.2019	31.3.2022
Asset-V	3.4.2016	31.3.2019
Asset-VI	30.9.2016	31.3.2019
Asset-VII	29.2.2016	31.3.2019
Asset-VIII	2.10.2016	31.3.2019
Asset-IX	2.10.2016	31.3.2019



Asset-X	29.8.2016	31.3.2019
Asset-XI	6.10.2016	31.3.2019
Asset-XII	20.10.2016	31.3.2019
Asset-XIII	10.3.2017	31.3.2020
Asset-XIV	30.11.2016	31.3.2019
Asset-XV	16.12.2017	31.3.2020
Asset-XVI	12.3.2018	31.3.2021
Asset-XVII	29.3.2018	31.3.2021
Asset-XVIII	14.2.2018	31.3.2021
Asset-XIX	25.9.2017	31.3.2020
Asset-XX	30.9.2018	31.3.2021
Asset-XXI	13.7.2015	31.3.2018

64. We have considered the submissions made by the Petitioner. The undischarged IDC as on COD has been allowed as ACE during the year of discharge. ACE claimed by the Petitioner has been allowed under the Regulation 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations. The actual ACE allowed in respect of the transmission assets is as follows:

(₹ in lakh)

Asset- I				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	629.14	110.10	27.47	0.00
Less: Initial Spares disallowed	0.00	0.00	0.00	0.00
Add: IDC discharge	0.00	2.24	0.00	0.00
Total	629.14	112.34	27.47	0.00

(₹ in lakh)

Asset- II				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	521.49	166.76	50.00	0.00
Less: Initial Spares disallowed	0.00	0.00	0.00	0.00
Add: IDC discharge	0.00	3.12	0.00	0.00
Total	521.49	169.88	50.00	0.00



(₹ in lakh)

Asset- III				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	0.00	54.77	292.33	0.00
Less: Initial Spares disallowed	0.00	0.00	0.00	0.00
Add: IDC discharge	0.00	0.09	13.09	0.00
Total	0.00	54.86	305.42	0.00

(₹ in lakh)

Asset- IV				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	0.00	0.00	0.00	0.00
Less: Initial Spares disallowed	0.00	0.00	0.00	0.00
Add: IDC discharge	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00

(₹ in lakh)

Asset- V				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	0.00	1527.98	78.61	0.00
Less: Initial Spares disallowed	0.00	0.00	0.00	0.00
Add: IDC discharge	0.00	3.05	0.00	0.00
Total	0.00	1531.03	78.61	0.00

(₹ in lakh)

Asset- VI				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	0.00	125.33	185.01	28.16
Less: Initial Spares disallowed	0.00	0.00	0.00	0.00
Add: IDC discharge	0.00	1.24	14.72	0.00
Total	0.00	126.57	199.73	28.16



(₹ in lakh)

Asset- VII				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	72.67	141.39	43.91	174.06
Less: Initial Spares disallowed	0.00	0.00	0.00	0.00
Add: IDC discharge	1.23	11.08	0.00	0.00
Total	73.90	152.47	43.91	174.06

(₹ in lakh)

Asset- VIII				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	0.00	558.46	174.41	232.73
Less: Initial Spares disallowed	0.00	22.06	0.00	0.00
Add: IDC discharge	0.00	0.22	11.13	0.00
Total	0.00	536.62	185.54	232.73

(₹ in lakh)

Asset- IX				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	0.00	973.67	561.22	453.13
Less: Initial Spares disallowed	0.00	0.00	12.83	0.00
Add: IDC discharge	0.00	0.36	16.09	0.00
Total	0.00	974.03	564.48	453.13

(₹ in lakh)

Asset- X				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	0.00	56.72	274.51	71.29
Less: Initial Spares disallowed	0.00	2.00	2.01	0.00
Add: IDC discharge	0.00	0.68	0.78	0.00
Total	0.00	55.40	273.28	71.29



(₹ in lakh)

Asset- XI				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	0.00	3064.65	234.40	443.46
Less: Initial Spares disallowed	0.00	22.46	22.45	0.00
Add: IDC discharge	0.00	0.16	34.95	0.00
Total	0.00	3042.35	246.90	443.46

(₹ in lakh)

Asset- XII				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	0.00	46.26	0.00	0.00
Less: Initial Spares disallowed	0.00	0.00	0.00	0.00
Add: IDC discharge	0.00	0.55	0.00	0.00
Total	0.00	46.81	0.00	0.00

(₹ in lakh)

Asset- XIII				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	0.00	0.00	307.30*	203.58*
Less: Initial Spares disallowed	0.00	0.00	0.00	0.00
Add: IDC discharge	0.00	0.54	39.06#	0.00
Total	0.00	0.54	346.36	203.58

*Including ACE allowed for Asset-XII.

#Including IDC discharge for Asset-XII.

(₹ in lakh)

Asset- XIV				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	0.00	244.64	336.32	234.26
Less: Initial Spares disallowed	0.00	10.30	10.29	0.00
Add: IDC discharge	0.00	2.22	32.92	0.00
Total	0.00	236.56	358.95	234.26



(₹ in lakh)

Asset- XV				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	0.00	0.00	132.48	348.99
Less: Initial Spares disallowed	0.00	0.00	0.00	0.00
Add: IDC discharge	0.00	0.00	0.00	0.00
Total	0.00	0.00	132.48	348.99

(₹ in lakh)

Asset- XVI				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	0.00	0.00	95.12	292.95
Less: Initial Spares disallowed	0.00	0.00	0.00	0.00
Add: IDC discharge	0.00	0.00	0.00	67.50
Total	0.00	0.00	95.12	360.45

(₹ in lakh)

Asset- XVII				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	0.00	0.00	41.16	91.78
Less: Initial Spares disallowed	0.00	0.00	0.00	0.00
Add: IDC discharge	0.00	0.00	0.00	0.00
Total	0.00	0.00	41.16	91.78

(₹ in lakh)

Asset- XVIII				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	0.00	0.00	230.07	113.54
Less: Initial Spares disallowed	0.00	0.00	0.00	0.00
Add: IDC discharge	0.00	0.00	0.00	14.18
Total	0.00	0.00	230.07	127.72



(₹ in lakh)

Asset- XIX				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	0.00	0.00	0.00	0.00
Less: Initial Spares disallowed	0.00	0.00	0.00	0.00
Add: IDC discharge	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00

(₹ in lakh)

Asset- XX				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	0.00	0.00	0.00	249.86
Less: Initial Spares disallowed	0.00	0.00	0.00	0.00
Add: IDC discharge	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	249.86

(₹ in lakh)

Asset- XXI				
Particulars	Actual ACE			
	2015-16	2016-17	2017-18	2018-19
ACE allowed under Regulations 14(1)(i) and 14(2)(iv) of the 2014 Tariff Regulations	161.38	125.34	179.68	25.90
Less: Initial Spares disallowed	0.00	0.00	0.00	0.00
Add: IDC discharge	0.00	5.63	0.00	0.00
Total	161.38	130.97	179.68	25.90

65. Accordingly, capital cost allowed as on 31.3.2019 after including ACE in respect of the transmission assets is as follows:

(₹ in lakh)

Assets	Capital Cost allowed as on COD	ACE allowed				Capital Cost as on 31.3.2019
		2015-16	2016-17	2017-18	2018-19	
Asset-I	126.89	629.14	112.34	27.47	0.00	895.84
Asset-II	137.19	521.49	169.88	50.00	0.00	878.56
Asset-III	1248.45	0.00	54.86	305.42	0.00	1608.73
Asset-IV	976.23	0.00	0.00	0.00	0.00	976.23
Asset-V	202.10	0.00	1531.03	78.61	0.00	1811.74
Asset-VI	1558.35	0.00	126.57	199.73	28.16	1912.81
Asset-VII	542.21	73.90	152.47	43.91	174.06	986.55



Asset-VIII	2203.38	0.00	536.62	185.54	232.73	3158.27
Asset-IX	3595.91	0.00	974.03	564.48	453.13	5587.55
Asset-X	179.70	0.00	55.40	273.28	71.29	579.67
Asset-XI	1541.90	0.00	3042.34	246.90	443.46	5274.60
Asset-XII	1554.29	0.00	46.81	0.00	0.00	1601.10*
Asset-XIII	3204.24**	0.00	0.54	346.36	203.58	3754.72
Asset-XIV	2580.48	0.00	236.56	358.95	234.26	3410.25
Asset-XV	3319.57#	0.00	0.00	132.48	348.99	3801.04
Asset-XVI	4476.18	0.00	0.00	95.12	360.45	4931.75
Asset-XVII	475.54	0.00	0.00	41.16	91.78	608.48
Asset-XVIII	1293.80	0.00	0.00	230.07	127.72	1651.59
Asset-XIX	1399.79	0.00	0.00	0.00	0.00	1399.79
Asset-XX	842.14	0.00	0.00	0.00	249.86	1092.00
Asset-XXI	1248.03	161.38	130.97	179.68	25.90	1745.96

*Capital cost as on 9.3.2017

**Capital cost including the capital cost as on 9.3.2017 for Asset-XII

#Capital cost including the re-capitalisation of ₹878.63 lakh

Debt-Equity Ratio

66. The Petitioner has claimed debt-equity ratio of 70:30 as on COD and for ACE post COD. The debt-equity ratio of 70:30 has been considered for capital cost as on COD and ACE during 2014-19 tariff period as provided under Regulation 19 of the 2014 Tariff Regulations. The details of debt-equity ratio in respect of the transmission assets as on COD and 31.3.2019 are as follows:

Asset –I	Amount as on COD (₹ in lakh)	(%)	Amount as on 31.3.2019 (₹ in lakh)	(%)
Debt	88.82	70.00	627.09	70.00
Equity	38.07	30.00	268.75	30.00
Total	126.89	100.00	895.84	100.00
Asset –II	Amount as on COD (₹ in lakh)	(%)	Amount as on 31.3.2019 (₹ in lakh)	(%)
Debt	96.03	70.00	614.99	70.00
Equity	41.16	30.00	263.56	30.00
Total	137.19	100.00	878.56	100.00
Asset –III	Amount as on COD (₹ in lakh)	(%)	Amount as on 31.3.2019 (₹ in lakh)	(%)
Debt	873.91	70.00	1126.11	70.00
Equity	374.53	30.00	482.62	30.00
Total	1248.45	100.00	1608.73	100.00
Asset –IV	Amount	(%)	Amount as on	(%)



	as on COD (₹ in lakh)		31.3.2019 (₹ in lakh)	
Debt	683.36	70.00	683.36	70.00
Equity	292.87	30.00	292.87	30.00
Total	976.23	100.00	976.23	100.00
Asset –V	Amount as on COD (₹ in lakh)	(%)	Amount as on 31.3.2019 (₹ in lakh)	(%)
Debt	141.47	70.00	1268.23	70.00
Equity	60.63	30.00	543.51	30.00
Total	202.10	100.00	1811.74	100.00
Asset –VI	Amount as on COD (₹ in lakh)	(%)	Amount as on 31.3.2019 (₹ in lakh)	(%)
Debt	1090.84	70.00	1338.98	70.00
Equity	467.50	30.00	573.83	30.00
Total	1558.35	100.00	1912.81	100.00
Asset –VII	Amount as on COD (₹ in lakh)	(%)	Amount as on 31.3.2019 (₹ in lakh)	(%)
Debt	379.55	70.00	690.59	70.00
Equity	162.66	30.00	295.96	30.00
Total	542.21	100.00	986.55	100.00
Asset –VIII	Amount as on COD (₹ in lakh)	(%)	Amount as on 31.3.2019 (₹ in lakh)	(%)
Debt	1542.37	70.00	2210.79	70.00
Equity	661.01	30.00	947.48	30.00
Total	2203.38	100.00	3158.27	100.00
Asset –IX	Amount as on COD (₹ in lakh)	(%)	Amount as on 31.3.2019 (₹ in lakh)	(%)
Debt	2517.14	70.00	3911.29	70.00
Equity	1078.77	30.00	1676.26	30.00
Total	3595.91	100.00	5587.55	100.00
Asset –X	Amount as on COD (₹ in lakh)	(%)	Amount as on 31.3.2019 (₹ in lakh)	(%)
Debt	125.79	70.00	405.77	70.00
Equity	53.91	30.00	173.90	30.00
Total	179.70	100.00	579.67	100.00
Asset –XI	Amount as on COD (₹ in lakh)	(%)	Amount as on 31.3.2019 (₹ in lakh)	(%)
Debt	1079.33	70.00	3692.23	70.00
Equity	462.57	30.00	1582.38	30.00
Total	1541.90	100.00	5274.60	100.00
Asset –XII	Amount as on COD (₹ in lakh)	(%)	Amount as on 9.3.2017 (₹ in lakh)	(%)



Debt	1088.00	70.00	1120.77	70.00
Equity	466.29	30.00	480.33	30.00
Total	1554.29	100.00	1601.10	100.00
Asset –XIII	Amount as on COD (₹ in lakh)	(%)	Amount as on 31.3.2019 (₹ in lakh)	(%)
Debt	2242.97	70.00	2628.31	70.00
Equity	961.27	30.00	1126.41	30.00
Total	3204.24	100.00	3754.72	100.00
Asset –XIV	Amount as on COD (₹ in lakh)	(%)	Amount as on 31.3.2019 (₹ in lakh)	(%)
Debt	1806.34	70.00	2387.19	70.00
Equity	774.15	30.00	1023.07	30.00
Total	2580.48	100.00	3410.25	100.00
Asset –XV*	Amount as on COD (₹ in lakh)	(%)	Amount as on 31.3.2019 (₹ in lakh)	(%)
Debt	2336.09	70.37	2673.12	70.33
Equity	983.48	29.63	1127.92	29.67
Total	3319.57	100.00	3801.04	100.00
Asset –XVI	Amount as on COD (₹ in lakh)	(%)	Amount as on 31.3.2019 (₹ in lakh)	(%)
Debt	3133.33	70.00	3452.23	70.00
Equity	1342.85	30.00	1479.52	30.00
Total	4476.18	100.00	4931.75	100.00
Asset –XVII	Amount as on COD (₹ in lakh)	(%)	Amount as on 31.3.2019 (₹ in lakh)	(%)
Debt	332.88	70.00	425.94	70.00
Equity	142.66	30.00	182.54	30.00
Total	475.54	100.00	608.48	100.00
Asset –XVIII	Amount as on COD (₹ in lakh)	(%)	Amount as on 31.3.2019 (₹ in lakh)	(%)
Debt	905.66	70.00	1156.12	70.00
Equity	388.14	30.00	495.48	30.00
Total	1293.80	100.00	1651.59	100.00
Asset –XIX	Amount as on COD (₹ in lakh)	(%)	Amount as on 31.3.2019 (₹ in lakh)	(%)
Debt	979.85	70.00	979.85	70.00
Equity	419.94	30.00	419.94	30.00
Total	1399.79	100.00	1399.79	100.00
Asset –XX	Amount as on COD (₹ in lakh)	(%)	Amount as on 31.3.2019 (₹ in lakh)	(%)
Debt	589.50	70.00	764.40	70.00
Equity	252.64	30.00	327.60	30.00



Total	842.14	100.00	1092.00	100.00
Asset –XXI	Amount as on COD (₹ in lakh)	(%)	Amount as on 31.3.2019 (₹ in lakh)	(%)
Debt	873.62	70.00	1222.18	70.00
Equity	374.41	30.00	523.78	30.00
Total	1248.03	100.00	1745.96	100.00

**The debt-equity ratio of re-capitalisation is 71.41: 28.59*

Depreciation

67. The Petitioner's claim towards depreciation in the instant petition has been found to be higher than the depreciation allowed in previous orders. The Petitioner has neither given any justification for claiming higher depreciation than that was allowed earlier nor made any specific prayer for allowing higher depreciation in the instant petition. It is observed that in previous orders, the depreciation for IT equipment was allowed @5.28%. The Petitioner now at the time of truing-up of the tariff of the 2014-19 period has segregated the IT equipment cost from the Sub-station cost and has considered depreciation rate for IT Equipment @15% and NIL salvage value for IT Equipment as per the 2014 Tariff Regulations. A similar issue had come up in some earlier petitions filed by the Petitioner. In this regard, the Commission in order dated 9.5.2020 in Petition No. 19/TT/2020 held as follows:

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



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

68. In line with the above decision in order dated 9.5.2020 in Petition No. 19/TT/2020, depreciation has been considered for IT Equipment @5.28% as part of the Sub-station upto 31.3.2019 while truing up the transmission tariff for the 2014-19 period. However, for the 2019-24 tariff period, the IT equipment has been considered separately and depreciation has been allowed @15% for the balance depreciable value of IT equipment in accordance with Regulation 33 of the 2019 Tariff Regulations. The gross block during the 2014-19 tariff period has been depreciated at weighted average rate of depreciation (WAROD). WAROD at Annexure-I has been worked out after taking into account the depreciation rates of assets as specified in the 2014 Tariff Regulations and accordingly, depreciation allowed during 2014-19 tariff period is as follows:

(₹ in lakh)

	Particulars	Asset- I			
		2015-16 (Pro-rata for 91 days)	2016-17	2017-18	2018-19
A	Opening Gross Block	126.89	756.03	868.37	895.84
B	Additional Capitalisation	629.14	112.34	27.47	0.00
C	Closing Gross Block (A+B)	756.03	868.37	895.84	895.84
D	Average Gross Block (A+C)/2	441.46	812.20	882.10	895.84



Asset- I					
	Particulars	2015-16 (Pro-rata for 91 days)	2016-17	2017-18	2018-19
E	Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28	5.28
F	Aggregated Depreciable Value (D*90%)	397.31	730.98	793.89	806.25
G	Combined Depreciation during the year (D*E)	5.80	42.88	46.58	47.30
H	Cumulative Depreciation at the end of the year	5.80	48.68	95.25	142.55
I	Remaining Aggregated Depreciable Value	391.52	682.30	698.64	663.70

(₹ in lakh)

Asset- II					
	Particulars	2015-16 (Pro-rata for 59 days)	2016-17	2017-18	2018-19
A	Opening Gross Block	137.19	658.68	828.56	878.56
B	Additional Capitalisation	521.49	169.88	50.00	0.00
C	Closing Gross Block (A+B)	658.68	828.56	878.56	878.56
D	Average Gross Block (A+C)/2	397.94	743.62	853.56	878.56
E	Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28	5.28
F	Aggregated Depreciable Value (D*90%)	358.14	669.26	768.20	790.70
G	Combined Depreciation during the year (D*E)	3.39	39.26	45.07	46.39
H	Cumulative Depreciation at the end of the year	3.39	42.65	87.72	134.11
I	Remaining Aggregated Depreciable Value	354.75	626.61	680.48	656.59

(₹ in lakh)

Asset- III					
	Particulars	2016-17 (Pro-rata for 189 days)	2017-18	2018-19	Asset-IV 2018-19 (Pro-rata for 43 days)
A	Opening Gross Block	1248.45	1303.31	1608.73	976.23
B	Additional Capitalisation	54.86	305.42	0.00	0.00
C	Closing Gross Block (A+B)	1303.31	1608.73	1608.73	976.23
D	Average Gross Block (A+C)/2	1275.88	1456.02	1608.73	976.23
E	Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28	5.28
F	Aggregated Depreciable Value (D*90%)	1148.29	1310.42	1447.85	878.60
G	Combined Depreciation during the year (D*E)	34.88	76.88	84.94	6.07
H	Cumulative Depreciation at the end of the year	34.88	111.76	196.70	6.07
I	Remaining Aggregated Depreciable Value	1113.41	1198.66	1251.15	872.53



(₹ in lakh)

Asset- V				
	Particulars	2016-17 (Pro-rata for 363 days)	2017-18	2018-19
A	Opening Gross Block	202.10	1733.13	1811.74
B	Additional Capitalisation	1531.03	78.61	0.00
C	Closing Gross Block (A+B)	1733.13	1811.74	1811.74
D	Average Gross Block (A+C)/2	967.62	1772.44	1811.74
E	Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28
F	Aggregated Depreciable Value (D*90%)	870.85	1595.19	1630.57
G	Combined Depreciation during the year (D*E)	50.81	93.58	95.66
H	Cumulative Depreciation at the end of the year	50.81	144.39	240.05
I	Remaining Aggregated Depreciable Value	820.04	1450.80	1390.51

(₹ in lakh)

Asset- VI				
	Particulars	2016-17 (Pro-rata for 183 days)	2017-18	2018-19
A	Opening Gross Block	1558.35	1684.92	1884.65
B	Additional Capitalisation	126.57	199.73	28.16
C	Closing Gross Block (A+B)	1684.92	1884.65	1912.81
D	Average Gross Block (A+C)/2	1621.63	1784.79	1898.73
E	Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28
F	Aggregated Depreciable Value (D*90%)	1459.47	1606.31	1708.86
G	Combined Depreciation during the year (D*E)	42.93	94.24	100.25
H	Cumulative Depreciation at the end of the year	42.93	137.17	237.42
I	Remaining Aggregated Depreciable Value	1416.54	1469.14	1471.44

(₹ in lakh)

Asset- VII					
	Particulars	2015-16 (Pro-rata for 32 days)	2016-17	2017-18	2018-19
A	Opening Gross Block	542.21	616.11	768.58	812.49
B	Additional Capitalisation	73.90	152.47	43.91	174.06
C	Closing Gross Block (A+B)	616.11	768.58	812.49	986.55
D	Average Gross Block (A+C)/2	579.16	692.34	790.53	899.52
E	Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28	5.28
F	Aggregated Depreciable Value (D*90%)	521.24	623.11	711.48	809.57
G	Combined Depreciation during the year (D*E)	2.67	36.56	41.74	47.49
H	Cumulative Depreciation at the end of the year	2.67	39.23	80.97	128.46
I	Remaining Aggregated Depreciable Value	518.57	583.88	630.51	681.10



(₹ in lakh)

Asset- VIII				
	Particulars	2016-17 (Pro-rata for 181 days)	2017-18	2018-19
A	Opening Gross Block	2203.38	2740.00	2925.54
B	Additional Capitalisation	536.62	185.54	232.73
C	Closing Gross Block (A+B)	2740.00	2925.54	3158.27
D	Average Gross Block (A+C)/2	2471.69	2832.77	3041.90
E	Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28
F	Aggregated Depreciable Value (D*90%)	2224.52	2549.49	2737.71
G	Combined Depreciation during the year (D*E)	64.72	149.57	160.61
H	Cumulative Depreciation at the end of the year	64.72	214.29	374.90
I	Remaining Aggregated Depreciable Value	2159.80	2335.20	2362.81

(₹ in lakh)

Asset- IX				
	Particulars	2016-17 (Pro-rata for 181 days)	2017-18	2018-19
A	Opening Gross Block	3595.91	4569.94	5134.42
B	Additional Capitalisation	974.03	564.48	453.13
C	Closing Gross Block (A+B)	4569.94	5134.42	5587.55
D	Average Gross Block (A+C)/2	4082.93	4852.18	5360.99
E	Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28
F	Aggregated Depreciable Value (D*90%)	3674.64	4366.96	4824.89
G	Combined Depreciation during the year (D*E)	106.90	256.20	283.06
H	Cumulative Depreciation at the end of the year	106.90	363.10	646.16
I	Remaining Aggregated Depreciable Value	3567.73	4003.87	4178.73

(₹ in lakh)

Asset- X				
	Particulars	2016-17 (Pro-rata for 215 days)	2017-18	2018-19
A	Opening Gross Block	179.70	235.10	508.38
B	Additional Capitalisation	55.40	273.28	71.29
C	Closing Gross Block (A+B)	235.10	508.38	579.67
D	Average Gross Block (A+C)/2	207.40	371.74	544.02
E	Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28
F	Aggregated Depreciable Value (D*90%)	186.66	334.56	489.62
G	Combined Depreciation during the year (D*E)	6.45	19.63	28.72



Asset- X				
	Particulars	2016-17 (Pro-rata for 215 days)	2017-18	2018-19
H	Cumulative Depreciation at the end of the year	6.45	26.08	54.80
I	Remaining Aggregated Depreciable Value	180.21	308.49	434.82

(₹ in lakh)

Asset- XI					
	Particulars	2016-17 (Pro-rata for 177 days)	2017-18	2018-19	Asset- XII 2016-17 (Pro-rata for 141 days)
A	Opening Gross Block	1541.90	4584.24	4831.14	1554.29
B	Additional Capitalisation	3042.34	246.90	443.46	46.81
C	Closing Gross Block (A+B)	4584.24	4831.14	5274.60	1601.10
D	Average Gross Block (A+C)/2	3063.07	4707.69	5052.87	1577.70
E	Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28	5.29
F	Aggregated Depreciable Value (D*90%)	2756.76	4236.92	4547.59	1419.93
G	Combined Depreciation during the year (D*E)	78.43	248.57	266.79	32.24
H	Cumulative Depreciation at the end of the year	78.43	326.99	593.79	32.24
I	Remaining Aggregated Depreciable Value	2678.33	3909.93	3953.80	1387.69

(₹ in lakh)

Asset- XIII				
	Particulars	2016-17 (Pro-rata for 22 days)	2017-18	2018-19
A	Opening Gross Block	3204.24	3204.78	3551.14
B	Additional Capitalisation	0.54	346.36	203.58
C	Closing Gross Block (A+B)	3204.78	3551.14	3754.72
D	Average Gross Block (A+C)/2	3204.51	3377.96	3652.93
E	Weighted average rate of Depreciation (WAROD) (%)	5.29	5.29	5.29
F	Aggregated Depreciable Value (D*90%)	2884.06	3040.17	3287.64
G	Combined Depreciation during the year (D*E)	10.22	178.71	193.23
H	Cumulative Depreciation at the end of the year	10.22	188.93	382.16
I	Remaining Aggregated Depreciable Value	2873.84	2851.23	2905.48

(₹ in lakh)

Asset- XIV				
	Particulars	2016-17 (Pro-rata for days)	2017-18	2018-19
A	Opening Gross Block	2580.48	2817.04	3175.99
B	Additional Capitalisation	236.56	358.95	234.26
C	Closing Gross Block (A+B)	2817.04	3175.99	3410.25



	Asset- XIV			
	Particulars	2016-17 (Pro-rata for days)	2017-18	2018-19
D	Average Gross Block (A+C)/2	2698.76	2996.52	3293.12
E	Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28
F	Aggregated Depreciable Value (D*90%)	2428.89	2696.87	2963.81
G	Combined Depreciation during the year (D*E)	47.63	158.22	173.88
H	Cumulative Depreciation at the end of the year	47.63	205.84	379.72
I	Remaining Aggregated Depreciable Value	2381.26	2491.02	2584.09

(₹ in lakh)

		Asset- XV		Asset- XVI	
	Particulars	2017-18 (Pro-rata for 106 days)	2018-19	2017-18 (Pro-rata for 20 days)	2018-19
A	Opening Gross Block	3319.57	3452.05	4476.18	4571.30
B	Additional Capitalisation	132.48	348.99	95.12	360.45
C	Closing Gross Block (A+B)	3452.05	3801.04	4571.30	4931.75
D	Average Gross Block (A+C)/2	3385.81	3626.54	4523.74	4751.52
E	Weighted average rate of Depreciation (WAROD) (%)	5.28%	5.28%	5.28	5.28
F	Aggregated Depreciable Value (D*90%)	3047.23	3263.89	4071.37	4276.37
G	Combined Depreciation during the year (D*E)	51.92	191.48	13.09	250.88
H	Cumulative Depreciation at the end of the year	486.01	677.49	13.09	263.97
I	Remaining Aggregated Depreciable Value	2561.22	2586.40	4058.28	4012.40

(₹ in lakh)

		Asset- XVII		Asset- XVIII	
	Particulars	2017-18 (Pro-rata for 3 days)	2018-19	2017-18 (Pro-rata for 46 days)	2018-19
A	Opening Gross Block	475.54	516.70	1293.80	1523.87
B	Additional Capitalisation	41.16	91.78	230.07	127.72
C	Closing Gross Block (A+B)	516.70	608.48	1523.87	1651.59
D	Average Gross Block (A+C)/2	496.12	562.59	1408.84	1587.73
E	Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28	5.28
F	Aggregated Depreciable Value (D*90%)	446.51	506.33	1267.95	1428.96
G	Combined Depreciation during the year (D*E)	0.22	29.70	9.37	83.83
H	Cumulative Depreciation at the end of the year	0.22	29.92	9.37	93.21
I	Remaining Aggregated Depreciable Value	446.29	476.41	1258.58	1335.75



(₹ in lakh)

	Particulars	Asset- XIX		Asset- XX
		2017-18 (Pro-rata for 188 days)	2018-19	2018-19 (Pro-rata for 183 days)
A	Opening Gross Block	1399.79	1399.79	842.14
B	Additional Capitalisation	0.00	0.00	249.86
C	Closing Gross Block (A+B)	1399.79	1399.79	1092.00
D	Average Gross Block (A+C)/2	1399.79	1399.79	967.07
E	Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28
F	Aggregated Depreciable Value (D*90%)	1259.81	1259.81	870.36
G	Combined Depreciation during the year (D*E)	38.07	73.91	25.60
H	Cumulative Depreciation at the end of the year	38.07	111.98	25.60
I	Remaining Aggregated Depreciable Value	1221.74	1147.83	844.76

(₹ in lakh)

	Particulars	Asset- XXI			
		2015-16 (Pro-rata for 263 days)	2016-17	2017-18	2018-19
A	Opening Gross Block	1248.03	1409.41	1540.38	1720.06
B	Additional Capitalisation	161.38	130.97	179.68	25.90
C	Closing Gross Block (A+B)	1409.41	1540.38	1720.06	1745.96
D	Average Gross Block (A+C)/2	1328.72	1474.90	1630.22	1733.01
E	Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28	5.28
F	Aggregated Depreciable Value (D*90%)	1195.85	1327.41	1467.20	1559.71
G	Combined Depreciation during the year (D*E)	50.41	77.87	86.08	91.50
H	Cumulative Depreciation at the end of the year	50.41	128.29	214.36	305.87
I	Remaining Aggregated Depreciable Value	1145.44	1199.12	1252.83	1253.84

Interest on Loan (IoL)

69. The Petitioner has claimed the weighted average interest rate of based on its actual loan portfolio and actual rate of interest on loan. Accordingly, IoL is calculated based on actual interest rate, in accordance with Regulation 26 of the 2014 Tariff Regulations.

70. The Respondent, BSPHCL has submitted that the 2014 Tariff Regulations do not permit change in interest rate due to floating rate of interest.



71. In response, the Petitioner has submitted that in the tariff calculation for 2014-19 tariff period, interest on loan has been calculated on the basis of actual rate of interest of various loan deployed for each year.

72. We have considered the submissions of the Petitioner and BSPHCL. The details of IoL approved are as follows:

(₹ in lakh)

Asset- I					
	Particulars	2015-16 (Pro-rata for 91 days)	2016-17	2017-18	2018-19
A	Gross Normative Loan	88.82	529.22	607.86	627.09
B	Cumulative Repayments upto Previous year	0.00	5.80	48.68	95.25
C	Net Loan-Opening (A-B)	88.82	523.43	559.18	531.84
D	Addition due to Additional Capitalization	440.40	78.64	19.23	0.00
E	Repayment during the year	5.80	42.88	46.58	47.30
F	Net Loan-Closing (C+D-E)	523.43	559.18	531.84	484.54
G	Average Loan (C+F)/2	306.13	541.30	545.51	508.19
H	Weighted Average Rate of Interest on Loan (%)	9.22	9.09	8.30	8.10
I	Interest on Loan (G*H)	7.02	49.22	45.30	41.18

(₹ in lakh)

Asset- II					
	Particulars	2015-16 (Pro-rata for 59 days)	2016-17	2017-18	2018-19
A	Gross Normative Loan	96.03	461.08	579.99	614.99
B	Cumulative Repayments upto Previous year	0.00	3.39	42.65	87.72
C	Net Loan-Opening (A-B)	96.03	457.69	537.34	527.27
D	Addition due to Additional Capitalization	365.04	118.92	35.00	0.00
E	Repayment during the year	3.39	39.26	45.07	46.39
F	Net Loan-Closing (C+D-E)	457.69	537.34	527.27	480.89
G	Average Loan (C+F)/2	276.86	497.52	532.31	504.08
H	Weighted Average Rate of Interest on Loan (%)	9.15	9.01	8.28	8.10
I	Interest on Loan (G*H)	4.09	44.85	44.07	40.83



(₹ in lakh)					
		Asset- III			Asset-IV
	Particulars	2016-17 (Pro-rata for 189 days)	2017-18	2018-19	2018-19 (Pro-rata for 43 days)
A	Gross Normative Loan	873.91	912.32	1126.11	683.36
B	Cumulative Repayments upto Previous year	0.00	34.88	111.76	0.00
C	Net Loan-Opening (A-B)	873.91	877.43	1014.35	683.36
D	Addition due to Additional Capitalization	38.40	213.79	0.00	0.00
E	Repayment during the year	34.88	76.88	84.94	6.07
F	Net Loan-Closing (C+D-E)	877.43	1014.35	929.41	677.29
G	Average Loan (C+F)/2	875.67	945.89	971.88	680.32
H	Weighted Average Rate of Interest on Loan (%)	8.00	7.96	7.91	8.21
I	Interest on Loan (G*H)	36.26	75.30	76.91	6.58

(₹ in lakh)				
	Asset- V			
	Particulars	2016-17 (Pro-rata for 363 days)	2017-18	2018-19
A	Gross Normative Loan	141.47	1213.20	1268.23
B	Cumulative Repayments upto Previous year	0.00	50.81	144.39
C	Net Loan-Opening (A-B)	141.47	1162.39	1123.83
D	Addition due to Additional Capitalization	1071.73	55.03	0.00
E	Repayment during the year	50.81	93.58	95.66
F	Net Loan-Closing (C+D-E)	1162.39	1123.83	1028.17
G	Average Loan (C+F)/2	651.93	1143.11	1076.00
H	Weighted Average Rate of Interest on Loan (%)	8.30	8.14	8.10
I	Interest on Loan (G*H)	53.82	93.03	87.17

(₹ in lakh)				
	Asset- VI			
	Particulars	2016-17 (Pro-rata for 183 days)	2017-18	2018-19
A	Gross Normative Loan	1090.84	1179.45	1319.27
B	Cumulative Repayments upto Previous year	0.00	42.93	137.17
C	Net Loan-Opening (A-B)	1090.84	1136.52	1182.10
D	Addition due to Additional Capitalization	88.61	139.82	19.71
E	Repayment during the year	42.93	94.24	100.25
F	Net Loan-Closing (C+D-E)	1136.52	1182.10	1101.56
G	Average Loan (C+F)/2	1113.68	1159.31	1141.83
H	Weighted Average Rate of Interest on Loan (%)	8.18	8.06	8.00
I	Interest on Loan (G*H)	45.70	93.43	91.37

(₹ in lakh)



Asset- VII					
	Particulars	2015-16 (Pro-rata for 32 days)	2016-17	2017-18	2018-19
A	Gross Normative Loan	379.55	431.28	538.01	568.75
B	Cumulative Repayments upto Previous year	0.00	2.67	39.23	80.97
C	Net Loan-Opening (A-B)	379.55	428.60	498.78	487.78
D	Addition due to Additional Capitalization	51.73	106.73	30.74	121.84
E	Repayment during the year	2.67	36.56	41.74	47.49
F	Net Loan-Closing (C+D-E)	428.60	498.78	487.78	562.12
G	Average Loan (C+F)/2	404.07	463.69	493.28	524.95
H	Weighted Average Rate of Interest on Loan (%)	8.95	8.80	8.29	8.16
I	Interest on Loan (G*H)	3.16	40.78	40.89	42.83

(₹ in lakh)

Asset- VIII				
	Particulars	2016-17 (Pro-rata for 181 days)	2017-18	2018-19
A	Gross Normative Loan	1542.37	1918.00	2047.88
B	Cumulative Repayments upto Previous year	0.00	64.72	214.29
C	Net Loan-Opening (A-B)	1542.37	1853.28	1833.59
D	Addition due to Additional Capitalization	375.63	129.88	162.91
E	Repayment during the year	64.72	149.57	160.61
F	Net Loan-Closing (C+D-E)	1853.28	1833.59	1835.89
G	Average Loan (C+F)/2	1697.82	1843.44	1834.74
H	Weighted Average Rate of Interest on Loan (%)	8.52	8.11	7.99
I	Interest on Loan (G*H)	71.76	149.46	146.57

(₹ in lakh)

Asset- IX				
	Particulars	2016-17 (Pro-rata for 181 days)	2017-18	2018-19
A	Gross Normative Loan	2517.14	3198.97	3594.10
B	Cumulative Repayments upto Previous year	0.00	106.90	363.10
C	Net Loan-Opening (A-B)	2517.14	3092.06	3231.00
D	Addition due to Additional Capitalization	681.83	395.14	317.19
E	Repayment during the year	106.90	256.20	283.06
F	Net Loan-Closing (C+D-E)	3092.06	3231.00	3265.14
G	Average Loan (C+F)/2	2804.60	3161.53	3248.07
H	Weighted Average Rate of Interest on Loan (%)	8.54	8.10	7.97



	Asset- IX			
	Particulars	2016-17 (Pro-rata for 181 days)	2017-18	2018-19
I	Interest on Loan (G*H)	118.76	256.05	258.76

(₹ in lakh)

	Asset- X			
	Particulars	2016-17 (Pro-rata for 215 days)	2017-18	2018-19
A	Gross Normative Loan	125.79	164.57	355.86
B	Cumulative Repayments upto Previous year	0.00	6.45	26.08
C	Net Loan-Opening (A-B)	125.79	158.12	329.79
D	Addition due to Additional Capitalization	38.78	191.29	49.90
E	Repayment during the year	6.45	19.63	28.72
F	Net Loan-Closing (C+D-E)	158.12	329.79	350.96
G	Average Loan (C+F)/2	141.95	243.95	340.37
H	Weighted Average Rate of Interest on Loan (%)	8.66	8.12	8.03
I	Interest on Loan (G*H)	7.25	19.81	27.35

(₹ in lakh)

		Asset- XI			Asset- XII
	Particulars	2016-17 (Pro-rata for 177 days)	2017-18	2018-19	2016-17 (Pro-rata for 141 days)
A	Gross Normative Loan	1079.33	3208.97	3381.80	1088.00
B	Cumulative Repayments upto Previous year	0.00	78.43	326.99	0.00
C	Net Loan-Opening (A-B)	1079.33	3130.54	3054.81	1088.00
D	Addition due to Additional Capitalization	2129.64	172.83	310.42	32.77
E	Repayment during the year	78.43	248.57	266.79	32.24
F	Net Loan-Closing (C+D-E)	3130.54	3054.81	3098.44	1088.53
G	Average Loan (C+F)/2	2104.94	3092.68	3076.62	1088.27
H	Weighted Average Rate of Interest on Loan (%)	7.89	7.74	7.75	8.23
I	Interest on Loan (G*H)	80.49	239.47	238.33	34.61

(₹ in lakh)

	Asset- XIII			
	Particulars	2016-17 (Pro-rata for 22 days)	2017-18	2018-19
A	Gross Normative Loan	2242.97	2243.35	2485.80
B	Cumulative Repayments upto Previous year	0.00	10.22	188.93
C	Net Loan-Opening (A-B)	2242.97	2233.13	2296.87
D	Addition due to Additional Capitalization	0.38	242.46	142.51
E	Repayment during the year	10.22	178.71	193.23



	Asset- XIII			
	Particulars	2016-17 (Pro-rata for 22 days)	2017-18	2018-19
F	Net Loan-Closing (C+D-E)	2233.13	2296.87	2246.15
G	Average Loan (C+F)/2	2238.05	2265.00	2271.51
H	Weighted Average Rate of Interest on Loan (%)	8.20	8.12	8.07
I	Interest on Loan (G*H)	11.06	183.91	183.30

(₹ in lakh)

	Asset- XIV			
	Particulars	2016-17 (Pro-rata for days)	2017-18	2018-19
A	Gross Normative Loan	1806.34	1971.94	2223.21
B	Cumulative Repayments upto Previous year	0.00	47.63	205.84
C	Net Loan-Opening (A-B)	1806.34	1924.31	2017.36
D	Addition due to Additional Capitalization	165.60	251.27	163.98
E	Repayment during the year	47.63	158.22	173.88
F	Net Loan-Closing (C+D-E)	1924.31	2017.36	2007.47
G	Average Loan (C+F)/2	1865.32	1970.83	2012.41
H	Weighted Average Rate of Interest on Loan (%)	7.90	7.78	7.74
I	Interest on Loan (G*H)	49.28	153.39	155.75

(₹ in lakh)

		Asset- XV		Asset- XVI	
	Particulars	2017-18 (Pro-rata for 106 days)	2018-19	2017-18 (Pro-rata for 20 days)	2018-19
A	Gross Normative Loan	2336.09	2428.83	3133.33	3199.92
B	Cumulative Repayments upto Previous year	413.70	465.62	0.00	13.09
C	Net Loan-Opening (A-B)	1922.39	1963.21	3133.33	3186.83
D	Addition due to Additional Capitalization	92.74	244.29	66.59	252.31
E	Repayment during the year	51.92	191.48	13.09	250.88
F	Net Loan-Closing (C+D-E)	1963.21	2016.02	3186.83	3188.26
G	Average Loan (C+F)/2	1942.80	1989.61	3160.08	3187.55
H	Weighted Average Rate of Interest on Loan (%)	7.96%	8.01%	7.87	7.96
I	Interest on Loan (G*H)	44.92	159.28	13.64	253.60

(₹ in lakh)

		Asset- XVII		Asset- XVIII	
	Particulars	2017-18 (Pro-rata for 3 days)	2018-19	2017-18 (Pro-rata for 46 days)	2018-19
A	Gross Normative Loan	332.88	361.69	905.66	1066.71



	Particulars	Asset- XVII		Asset- XVIII	
		2017-18 (Pro-rata for 3 days)	2018-19	2017-18 (Pro-rata for 46 days)	2018-19
B	Cumulative Repayments upto Previous year	0.00	0.22	0.00	9.37
C	Net Loan-Opening (A-B)	332.88	361.47	905.66	1057.34
D	Addition due to Additional Capitalization	28.81	64.25	161.05	89.41
E	Repayment during the year	0.22	29.70	9.37	83.83
F	Net Loan-Closing (C+D-E)	361.47	396.02	1057.34	1062.91
G	Average Loan (C+F)/2	347.18	378.75	981.50	1060.12
H	Weighted Average Rate of Interest on Loan (%)	7.88	7.90	7.70	7.72
I	Interest on Loan (G*H)	0.22	29.92	9.52	81.82

(₹ in lakh)

	Particulars	Asset- XIX		Asset- XX
		2017-18 (Pro-rata for 188 days)	2018-19	2018-19 (Pro-rata for 183 days)
A	Gross Normative Loan	979.85	979.85	589.50
B	Cumulative Repayments upto Previous year	0.00	38.07	0.00
C	Net Loan-Opening (A-B)	979.85	941.78	589.50
D	Addition due to Additional Capitalization	0.00	0.00	174.90
E	Repayment during the year	38.07	73.91	25.60
F	Net Loan-Closing (C+D-E)	941.78	867.88	738.80
G	Average Loan (C+F)/2	960.82	904.83	664.15
H	Weighted Average Rate of Interest on Loan (%)	7.75	7.85	8.20
I	Interest on Loan (G*H)	38.33	70.99	27.30

(₹ in lakh)

Asset- XXI					
	Particulars	2015-16 (Pro-rata for 263 days)	2016-17	2017-18	2018-19
A	Gross Normative Loan	873.62	986.59	1078.27	1204.05
B	Cumulative Repayments upto Previous year	0.00	50.41	128.29	214.36
C	Net Loan-Opening (A-B)	873.62	936.18	949.98	989.69
D	Addition due to Additional Capitalization	112.97	91.68	125.78	18.13
E	Repayment during the year	50.41	77.87	86.08	91.50
F	Net Loan-Closing (C+D-E)	936.18	949.98	989.69	916.32
G	Average Loan (C+F)/2	904.90	943.08	969.84	953.00
H	Weighted Average Rate of Interest on Loan (%)	8.96	8.80	8.30	8.15
I	Interest on Loan (G*H)	58.27	83.03	80.51	77.66

Return on Equity (RoE)



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

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

74. The Commission vide order dated 27.4.2020 in Petition No. 274/TT/2019 has arrived at the effective tax rate for the Petitioner based on the notified MAT rates as follows:

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

75. The MAT rates as considered in order dated 27.4.2020 in Petition No. 274/TT/2019 are considered for the purpose of grossing up of the rate of RoE for truing up of the tariff for the 2014-19 tariff period in terms of the provisions of the 2014 Tariff Regulations, which is as follows :

Year	MAT Rate (%)	Grossed-up RoE [(Base Rate)/(1-t)] (%)
2014-15	20.961	19.610
2015-16	21.342	19.705
2016-17	21.342	19.705
2017-18	21.342	19.705



Year	MAT Rate (%)	Grossed-up RoE [(Base Rate)/(1-t)] (%)
2018-19	21.549	19.758

76. Accordingly, the RoE approved for the transmission assets is as follows:

(₹ in lakh)

Asset- I					
	Particulars	2015-16 (Pro-rata for 91 days)	2016-17	2017-18	2018-19
A	Opening Equity	38.07	226.81	260.51	268.75
B	Addition due to Additional Capitalization	188.74	33.70	8.24	0.00
C	Closing Equity (A+B)	226.81	260.51	268.75	268.75
D	Average Equity (A+C)/2	132.44	243.66	264.63	268.75
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
F	Tax Rate applicable (%)	21.342	21.342	21.342	21.549
G	Rate of Return on Equity (Pre-tax)	19.705	19.705	19.705	19.758
H	Return on Equity (Pre-tax) (D*G)	6.49	48.01	52.14	53.10

(₹ in lakh)

Asset- II					
	Particulars	2015-16 (Pro-rata for 59 days)	2016-17	2017-18	2018-19
A	Opening Equity	41.16	197.60	248.56	263.56
B	Addition due to Additional Capitalization	156.45	50.96	15.00	0.00
C	Closing Equity (A+B)	197.60	248.56	263.56	263.56
D	Average Equity (A+C)/2	119.38	223.08	256.06	263.56
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
F	Tax Rate applicable (%)	21.342	21.342	21.342	21.549
G	Rate of Return on Equity (Pre-tax)	19.705	19.705	19.705	19.758
H	Return on Equity (Pre-tax) (D*G)	3.79	43.96	50.46	52.08

(₹ in lakh)

Asset- III					
	Particulars	2016-17 (Pro-rata for 189 days)	2017-18	2018-19	Asset-IV 2018-19 (Pro-rata for 43 days)
A	Opening Equity	374.53	390.99	482.62	292.87
B	Addition due to Additional Capitalization	16.46	91.62	0.00	0.00
C	Closing Equity (A+B)	390.99	482.62	482.62	292.87
D	Average Equity (A+C)/2	382.76	436.80	482.62	292.87
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
F	Tax Rate applicable (%)	21.342	21.342	21.549	21.549
G	Rate of Return on Equity (Pre-tax)	19.705	19.705	19.758	19.758



		Asset- III			Asset-IV
	Particulars	2016-17 (Pro-rata for 189 days)	2017-18	2018-19	2018-19 (Pro-rata for 43 days)
H	Return on Equity (Pre-tax) (D*G)	39.05	86.07	95.36	6.82

(₹ in lakh)

	Asset- V			
	Particulars	2016-17 (Pro-rata for 363 days)	2017-18	2018-19
A	Opening Equity	60.63	519.93	543.51
B	Addition due to Additional Capitalization	459.30	23.58	0.00
C	Closing Equity (A+B)	519.93	543.51	543.51
D	Average Equity (A+C)/2	290.28	531.72	543.51
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500
F	Tax Rate applicable (%)	21.342	21.342	21.549
G	Rate of Return on Equity (Pre-tax)	19.705	19.705	19.758
H	Return on Equity (Pre-tax) (D*G)	56.89	104.78	107.39

(₹ in lakh)

	Asset- VI			
	Particulars	2016-17 (Pro-rata for 183 days)	2017-18	2018-19
A	Opening Equity	467.50	505.47	565.38
B	Addition due to Additional Capitalization	37.97	59.91	8.45
C	Closing Equity (A+B)	505.47	565.38	573.83
D	Average Equity (A+C)/2	486.49	535.43	569.61
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500
F	Tax Rate applicable (%)	21.342	21.342	21.549
G	Rate of Return on Equity (Pre-tax)	19.705	19.705	19.758
H	Return on Equity (Pre-tax) (D*G)	48.06	105.51	112.54

(₹ in lakh)

	Asset- VII				
	Particulars	2015-16 (Pro-rata for 32 days)	2016-17	2017-18	2018-19
A	Opening Equity	162.66	184.83	230.57	243.74
B	Addition due to Additional Capitalization	22.17	45.74	13.17	52.22
C	Closing Equity (A+B)	184.83	230.57	243.74	295.96
D	Average Equity (A+C)/2	173.75	207.70	237.16	269.85
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
F	Tax Rate applicable (%)	21.342	21.342	21.342	21.549
G	Rate of Return on Equity (Pre-tax)	19.705	19.705	19.705	19.758
H	Return on Equity (Pre-tax) (D*G)	2.99	40.93	46.73	53.32

(₹ in lakh)



Asset- VIII				
	Particulars	2016-17 (Pro-rata for 181 days)	2017-18	2018-19
A	Opening Equity	661.01	822.00	877.66
B	Addition due to Additional Capitalization	160.99	55.66	69.82
C	Closing Equity (A+B)	822.00	877.66	947.48
D	Average Equity (A+C)/2	741.51	849.83	912.57
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500
F	Tax Rate applicable (%)	21.342	21.342	21.549
G	Rate of Return on Equity (Pre-tax)	19.705	19.705	19.758
H	Return on Equity (Pre-tax) (D*G)	72.46	167.46	180.30

(₹ in lakh)

Asset- IX				
	Particulars	2016-17 (Pro-rata for 181 days)	2017-18	2018-19
A	Opening Equity	1078.77	1370.98	1540.32
B	Addition due to Additional Capitalization	292.20	169.34	135.94
C	Closing Equity (A+B)	1370.98	1540.32	1676.26
D	Average Equity (A+C)/2	1224.88	1455.65	1608.29
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500
F	Tax Rate applicable (%)	21.342	21.342	21.549
G	Rate of Return on Equity (Pre-tax)	19.705	19.705	19.758
H	Return on Equity (Pre-tax) (D*G)	119.69	286.84	317.77

(₹ in lakh)

Asset- X				
	Particulars	2016-17 (Pro-rata for 215 days)	2017-18	2018-19
A	Opening Equity	53.91	70.53	152.51
B	Addition due to Additional Capitalization	16.62	81.98	21.39
C	Closing Equity (A+B)	70.53	152.51	173.90
D	Average Equity (A+C)/2	62.22	111.52	163.21
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500
F	Tax Rate applicable (%)	21.342	21.342	21.549
G	Rate of Return on Equity (Pre-tax)	19.705	19.705	19.758
H	Return on Equity (Pre-tax) (D*G)	7.22	21.98	32.25

(₹ in lakh)

		Asset- XI			Asset- XII
	Particulars	2016-17 (Pro-rata for 177 days)	2017-18	2018-19	2016-17 (Pro-rata for 141 days)
A	Opening Equity	462.57	1375.27	1449.34	466.29



		Asset- XI			Asset- XII
	Particulars	2016-17 (Pro-rata for 177 days)	2017-18	2018-19	2016-17 (Pro-rata for 141 days)
B	Addition due to Additional Capitalization	912.70	74.07	133.04	14.04
C	Closing Equity (A+B)	1375.27	1449.34	1582.38	480.33
D	Average Equity (A+C)/2	918.92	1412.30	1515.86	473.31
E	Return on Equity (Base Rate) (%)	15.500%	15.500%	15.500%	15.500
F	Tax Rate applicable (%)	21.342%	21.342%	21.549%	21.342
G	Rate of Return on Equity (Pre-tax)	19.705%	19.705%	19.758%	19.705
H	Return on Equity (Pre-tax) (D*G)	87.81	278.29	299.50	36.03

(₹ in lakh)

	Asset- XIII			
	Particulars	2016-17 (Pro-rata for 22 days)	2017-18	2018-19
A	Opening Equity	961.27	961.43	1065.34
B	Addition due to Additional Capitalization	0.16	103.90	61.07
C	Closing Equity (A+B)	961.43	1065.34	1126.41
D	Average Equity (A+C)/2	961.35	1013.39	1095.87
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500
F	Tax Rate applicable (%)	21.342	21.342	21.549
G	Rate of Return on Equity (Pre-tax)	19.705	19.705	19.758
H	Return on Equity (Pre-tax) (D*G)	11.42	199.69	216.52

(₹ in lakh)

	Asset- XIV			
	Particulars	2016-17 (Pro-rata for days)	2017-18	2018-19
A	Opening Equity	774.15	845.11	952.79
B	Addition due to Additional Capitalization	70.96	107.68	70.28
C	Closing Equity (A+B)	845.11	952.79	1023.07
D	Average Equity (A+C)/2	809.63	898.95	987.93
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500
F	Tax Rate applicable (%)	21.342	21.342	21.549
G	Rate of Return on Equity (Pre-tax)	19.705	19.705	19.758
H	Return on Equity (Pre-tax) (D*G)	53.32	177.14	195.19

(₹ in lakh)

		Asset- XV		Asset- XVI	
	Particulars	2017-18 (Pro-rata for 106 days)	2018-19	2017-18 (Pro-rata for 20 days)	2018-19
A	Opening Equity	983.48	1023.22	1342.85	1371.38
B	Addition due to Additional Capitalization	39.74	104.70	28.53	108.13
C	Closing Equity (A+B)	1023.22	1127.92	1371.38	1479.52
D	Average Equity (A+C)/2	1003.35	1075.57	1357.12	1425.45



		Asset- XV		Asset- XVI	
	Particulars	2017-18 (Pro-rata for 106 days)	2018-19	2017-18 (Pro-rata for 20 days)	2018-19
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
F	Tax Rate applicable (%)	21.342	21.549	21.342	21.549
G	Rate of Return on Equity (Pre-tax)	19.705	19.758	19.705	19.758
H	Return on Equity (Pre-tax) (D*G)	57.42	212.51	14.65	281.64

(₹ in lakh)

		Asset- XVII		Asset- XVIII	
	Particulars	2017-18 (Pro-rata for 3 days)	2018-19	2017-18 (Pro-rata for 46 days)	2018-19
A	Opening Equity	142.66	155.01	388.14	457.16
B	Addition due to Additional Capitalization	12.35	27.53	69.02	38.32
C	Closing Equity (A+B)	155.01	182.54	457.16	495.48
D	Average Equity (A+C)/2	148.84	168.78	422.65	476.32
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
F	Tax Rate applicable (%)	21.342	21.549	21.342	21.549
G	Rate of Return on Equity (Pre-tax)	19.705	19.758	19.705	19.758
H	Return on Equity (Pre-tax) (D*G)	0.24	33.35	10.50	94.11

(₹ in lakh)

		Asset- XIX		Asset- XX
	Particulars	2017-18 (Pro-rata for 188 days)	2018-19	2018-19 (Pro-rata for 183 days)
A	Opening Equity	419.94	419.94	252.64
B	Addition due to Additional Capitalization	0.00	0.00	74.96
C	Closing Equity (A+B)	419.94	419.94	327.60
D	Average Equity (A+C)/2	419.94	419.94	290.12
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500
F	Tax Rate applicable (%)	21.342	21.549	21.549
G	Rate of Return on Equity (Pre-tax)	19.705	19.758	19.758
H	Return on Equity (Pre-tax) (D*G)	42.62	82.97	28.74

(₹ in lakh)

	Asset- XXI				
	Particulars	2015-16 (Pro-rata for 263 days)	2016-17	2017-18	2018-19
A	Opening Equity	374.41	422.82	462.11	516.01
B	Addition due to Additional Capitalization	48.41	39.29	53.90	7.77
C	Closing Equity (A+B)	422.82	462.11	516.01	523.78
D	Average Equity (A+C)/2	398.61	442.46	489.06	519.89
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
F	Tax Rate applicable (%)	21.342	21.342	21.342	21.549
G	Rate of Return on Equity (Pre-tax)	19.705	19.705	19.705	19.758
H	Return on Equity (Pre-tax) (D*G)	56.44	87.19	96.37	102.72



Operation & Maintenance Expenses (O&M Expenses)

77. The Petitioner has not claimed any O&M expenses in respect of Assets- I, II, III, IV, V, VI, VII, XIV, XVII, XIX, XX, XXI. Accordingly, the O&M expenses for Assets- I, II, III, IV, V, VI, VII, XIV, XVII, XIX, XX and XXI are not allowed.

78. The details of the O&M Expenses claimed by the Petitioner for Assets- VIII, IX, X, XI, XII, XIII, XV, XVI, and XVIII as per Regulation 29(4)(a) of the 2014 Tariff Regulations for the purpose of transmission tariff are as follows:

(₹ in lakh)

Asset- VIII			
Particulars	2016-17 (Pro-rata for 181 days)	2017-18	2018-19
Sub-station Bays			
400 kV (GIS) : Baripada: Bus Reactor Bay at Baripada	1	1	1
Norms			
400 kV (GIS)	55.02	56.84	58.73
Total Sub-station Bays O&M Expenses	55.02	56.84	58.73
Total O&M Expenses	27.28	56.84	58.73

(₹ in lakh)

Asset- IX			
Particulars	2016-17 (Pro-rata for 181 days)	2017-18	2018-19
Sub-station Bays			
400 kV (GIS) : Baripada:400 kV ICT Bay at Baripada Sub-station	1	1	1
220 kV (GIS) : Baripada: 220 kV ICT Bay at Baripada Sub-station	1	1	1
Norms			
400 kV (GIS)	55.02	56.84	58.73
220 kV (GIS)	45.06	46.55	48.10
Total Sub-station Bays O&M Expenses	100.08	103.39	106.83
Total O&M Expenses	49.63	103.39	106.83

(₹ in lakh)

Asset- X			
Particulars	2016-17 (Pro-rata for 215 days)	2017-18	2018-19



Sub-station Bays			
400 kV (AIS) : Jeerat: Bus Reactor Bay at Jeerat	1	1	1
Norms			
400 kV (AIS)	64.37	66.51	68.71
Total Sub-station Bays O&M Expenses	64.37	66.51	68.71
Total O&M Expenses	37.92	66.51	68.71

(₹ in lakh)

Asset- XI			
Particulars	2016-17 (Pro-rata for 177 days)	2017-18	2018-19
Sub-station Bays			
400 kV (GIS) : Maithon: Bus Reactor Bay at Maithon Sub-station	1	1	1
Norms			
400 kV (GIS)	55.02	56.84	58.73
Total Sub-station Bays O&M Expenses	55.02	56.84	58.73
Total O&M Expenses	26.68	56.84	58.73

(₹ in lakh)

Asset- XII	
Particulars	2016-17 (Pro-rata for 141 days)
Sub-station Bays	
220 kV (GIS) : 2 Nos. GIS Bays at Kishanganj Sub-station	2
Norms	
220 kV (GIS)	45.06
Total Sub-station Bays O&M Expenses	90.12
Total O&M Expenses	34.81

(₹ in lakh)

Asset- XIII			
Particulars	2016-17 (Pro-rata for 22 days)	2017-18	2018-19
Sub-station Bays			
220 kV (GIS) : 4 Nos of 220 kV GIS Bays at Kishanganj Sub-station	4	4	4
Norms			
220 kV (GIS)	45.06	46.55	48.10
Total Sub-station Bays O&M Expenses	180.24	186.20	192.40
Total O&M Expenses	10.86	186.20	192.40

(₹ in lakh)

Asset- XV		
Particulars	2017-18 (Pro-rata for 106 days)	2018-19



Sub-station Bays		
400 kV (AIS) : Jamshedpur: ICT Bay at Jamshedpur	1	1
220 kV (AIS) : Jamshedpur:ICT Bay at Jamshedpur	1	1
Norms		
400 kV (AIS)	66.51	68.71
220 kV (AIS)	46.55	48.10
Total Sub-station Bays O&M Expenses	113.06	116.81
Total O&M Expenses	32.83	116.81

(₹ in lakh)

Asset- XVI		
Particulars	2017-18 (Pro-rata for 20 days)	2018-19
Sub-station Bays		
132 kV (AIS) : Purnea:132 kV Bay at Purnea Sub-station	7	7
Norms		
132 kV (AIS)	33.25	34.36
Total Sub-station Bays O&M Expenses	232.75	240.52
Total O&M Expenses	12.75	240.52

(₹ in lakh)

Asset- XVIII		
Particulars	2017-18 (Pro-rata for 46 days)	2018-19
Sub-station Bays		
220 kV (AIS) : Patna:220 kV ICT Bay at Patna	1	1
Norms		
220 kV (AIS)	46.55	48.10
Total Sub-station Bays O&M Expenses	46.55	48.10
Total O&M Expenses	5.87	48.10

Interest on Working Capital (IWC)

79. The Interest on Working Capital (IWC) has been allowed as per Regulation 28(1)(c) of the 2014 Tariff Regulations as follows:-

i. Working Capital for Maintenance Spares :

Maintenance spares have been worked out based on 15% of O&M expenses.

ii. Working Capital for O & M Expenses :



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

iii. Working Capital for Receivables:

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

iv. Rate of Interest on Working Capital :

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

80. The trued-up IWC allowed for the transmission assets are as follows:

(₹ in lakh)

Asset- I					
	Particulars	2015-16 (Pro-rata for 91 days)	2016-17	2017-18	2018-19
A	Working Capital for O & M Expenses (O&M expenses for 1 month)	0.00	0.00	0.00	0.00
B	Working Capital for Maintenance Spares (15% of O&M expenses)	0.00	0.00	0.00	0.00
C	Working Capital for Receivables (Equivalent to 2 months of annual fixed cost / annual transmission charges)	13.24	23.89	24.56	24.14
D	Total of Working Capital (A+B+C)	13.24	23.89	24.56	24.14
E	Rate of Interest on Working Capital(%)	13.50	13.50	13.50	13.50
F	Interest of Working Capital (D*E)	0.44	3.23	3.31	3.26

(₹ in lakh)

Asset- II					
	Particulars	2015-16 (Pro-rata for 59 days)	2016-17	2017-18	2018-19
A	Working Capital for O & M Expenses (O&M expenses for 1 month)	0.00	0.00	0.00	0.00
B	Working Capital for Maintenance Spares (15% of O&M expenses)	0.00	0.00	0.00	0.00
C	Working Capital for Receivables (Equivalent to 2 months of annual fixed cost / annual transmission charges)	11.91	21.84	23.80	23.75
D	Total of Working Capital (A+B+C)	11.91	21.84	23.80	23.75
E	Rate of Interest on Working Capital(%)	13.50	13.50	13.50	13.50
F	Interest of Working Capital (D*E)	0.26	2.95	3.21	3.21

(₹ in lakh)



		Asset- III			Asset-IV
	Particulars	2016-17 (Pro-rata for 189 days)	2017-18	2018-19	2018-19 (Pro-rata for 43 days)
A	Working Capital for O & M Expenses (O&M expenses for 1 month)	0.00	0.00	0.00	0.00
B	Working Capital for Maintenance Spares (15% of O&M expenses)	0.00	0.00	0.00	0.00
C	Working Capital for Receivables (Equivalent to 2 months of annual fixed cost / annual transmission charges)	36.24	40.57	43.80	28.12
D	Total of Working Capital (A+B+C)	36.24	40.57	43.80	28.12
E	Rate of Interest on Working Capital(%)	12.80	12.80	12.80	12.20
F	Interest of Working Capital (D*E)	2.40	5.19	5.61	0.40

(₹ in lakh)

	Asset- V			
	Particulars	2016-17 (Pro-rata for 363 days)	2017-18	2018-19
A	Working Capital for O & M Expenses (O&M expenses for 1 month)	0.00	0.00	0.00
B	Working Capital for Maintenance Spares (15% of O&M expenses)	0.00	0.00	0.00
C	Working Capital for Receivables (Equivalent to 2 months of annual fixed cost / annual transmission charges)	27.66	49.62	49.42
D	Total of Working Capital (A+B+C)	27.66	49.62	49.42
E	Rate of Interest on Working Capital(%)	12.80	12.80	12.80
F	Interest of Working Capital (D*E)	3.52	6.35	6.33

(₹ in lakh)

	Asset- VI			
	Particulars	2016-17 (Pro-rata for 183 days)	2017-18	2018-19
A	Working Capital for O & M Expenses (O&M expenses for 1 month)	0.00	0.00	0.00
B	Working Capital for Maintenance Spares (15% of O&M expenses)	0.00	0.00	0.00
C	Working Capital for Receivables (Equivalent to 2 months of annual fixed cost / annual transmission charges)	46.43	49.93	51.80
D	Total of Working Capital (A+B+C)	46.43	49.93	51.80
E	Rate of Interest on Working Capital(%)	12.80	12.80	12.80
F	Interest of Working Capital (D*E)	2.98	6.39	6.63



(₹ in lakh)

Asset- VII					
	Particulars	2015-16 (Pro-rata for 32 days)	2016-17	2017-18	2018-19
A	Working Capital for O & M Expenses (O&M expenses for 1 month)	0.00	0.00	0.00	0.00
B	Working Capital for Maintenance Spares (15% of O&M expenses)	0.00	0.00	0.00	0.00
C	Working Capital for Receivables (Equivalent to 2 months of annual fixed cost / annual transmission charges)	17.22	20.16	22.06	24.49
D	Total of Working Capital (A+B+C)	17.22	20.16	22.06	24.49
E	Rate of Interest on Working Capital(%)	13.50	13.50	13.50	13.50
F	Interest of Working Capital (D*E)	0.20	2.72	2.98	3.31

(₹ in lakh)

Asset- VIII				
	Particulars	2016-17 (Pro-rata for 181 days)	2017-18	2018-19
A	Working Capital for O & M Expenses (O&M expenses for 1 month)	4.59	4.74	4.89
B	Working Capital for Maintenance Spares (15% of O&M expenses)	8.25	8.53	8.81
C	Working Capital for Receivables (Equivalent to 2 months of annual fixed cost / annual transmission charges)	81.40	89.41	93.32
D	Total of Working Capital (A+B+C)	94.24	102.67	107.02
E	Rate of Interest on Working Capital(%)	12.80	12.80	12.80
F	Interest of Working Capital (D*E)	5.98	13.14	13.70

(₹ in lakh)

Asset- IX				
	Particulars	2016-17 (Pro-rata for 181 days)	2017-18	2018-19
A	Working Capital for O & M Expenses (O&M expenses for 1 month)	8.34	8.62	8.90
B	Working Capital for Maintenance Spares (15% of O&M expenses)	15.01	15.51	16.02
C	Working Capital for Receivables (Equivalent to 2 months of annual fixed cost / annual transmission charges)	136.15	154.22	165.12
D	Total of Working Capital (A+B+C)	159.51	178.34	190.05
E	Rate of Interest on Working Capital(%)	12.80	12.80	12.80
F	Interest of Working Capital (D*E)	10.12	22.83	24.33



(₹ in lakh)

Asset- X				
	Particulars	2016-17 (Pro-rata for 215 days)	2017-18	2018-19
A	Working Capital for O & M Expenses (O&M expenses for 1 month)	5.36	5.54	5.73
B	Working Capital for Maintenance Spares (15% of O&M expenses)	9.66	9.98	10.31
C	Working Capital for Receivables (Equivalent to 2 months of annual fixed cost / annual transmission charges)	17.34	22.12	27.09
D	Total of Working Capital (A+B+C)	32.36	37.64	43.12
E	Rate of Interest on Working Capital(%)	12.80	12.80	12.80
F	Interest of Working Capital (D*E)	2.44	4.82	5.52

(₹ in lakh)

Asset- XI					
	Particulars	2016-17 (Pro-rata for 177 days)	2017-18	2018-19	Asset- XII 2016-17 (Pro-rata for 141 days)
A	Working Capital for O & M Expenses (O&M expenses for 1 month)	4.59	4.74	4.89	7.51
B	Working Capital for Maintenance Spares (15% of O&M expenses)	8.25	8.53	8.81	13.52
C	Working Capital for Receivables (Equivalent to 2 months of annual fixed cost / annual transmission charges)	96.30	140.47	147.33	61.16
D	Total of Working Capital (A+B+C)	109.13	153.74	161.03	82.18
E	Rate of Interest on Working Capital(%)	12.80	12.80	12.80	12.80
F	Interest of Working Capital (D*E)	6.77	19.68	20.61	4.06

(₹ in lakh)

Asset- XIII				
	Particulars	2016-17 (Pro-rata for 22 days)	2017-18	2018-19
A	Working Capital for O & M Expenses (O&M expenses for 1 month)	15.02	15.52	16.03
B	Working Capital for Maintenance Spares (15% of O&M expenses)	27.04	27.93	28.86
C	Working Capital for Receivables (Equivalent to 2 months of annual fixed cost / annual transmission charges)	124.01	128.42	134.74
D	Total of Working Capital (A+B+C)	166.07	171.86	179.63
E	Rate of Interest on Working Capital(%)	12.80	12.80	12.80



Asset- XIII				
	Particulars	2016-17 (Pro-rata for 22 days)	2017-18	2018-19
F	Interest of working Capital (D*E)	1.28	22.00	22.99

(₹ in lakh)

Asset- XIV				
	Particulars	2016-17 (Pro-rata for days)	2017-18	2018-19
A	Working Capital for O & M Expenses (O&M expenses for 1 month)	0.00	0.00	0.00
B	Working Capital for Maintenance Spares (15% of O&M expenses)	0.00	0.00	0.00
C	Working Capital for Receivables (Equivalent to 2 months of annual fixed cost / annual transmission charges)	76.55	83.23	89.38
D	Total of Working Capital (A+B+C)	76.55	83.23	89.38
E	Rate of Interest on Working Capital(%)	12.80	12.80	12.80
F	Interest of Working Capital (D*E)	3.27	10.65	11.44

(₹ in lakh)

		Asset- XV		Asset- XVI	
	Particulars	2017-18 (Pro-rata for 106 days)	2018-19	2017-18 (Pro-rata for 20 days)	2018-19
A	Working Capital for O & M Expenses (O&M expenses for 1 month)	9.42	9.73	19.40	20.04
B	Working Capital for Maintenance Spares (15% of O&M expenses)	16.96	17.52	34.91	36.08
C	Working Capital for Receivables (Equivalent to 2 months of annual fixed cost / annual transmission charges)	110.24	116.36	169.34	175.98
D	Total of Working Capital (A+B+C)	136.62	143.62	223.65	232.10
E	Rate of Interest on Working capital(%)	12.60	12.60	12.60	12.60
F	Interest of Working Capital (D*E)	5.00	18.10	1.54	29.24



(₹ in lakh)

		Asset- XVII		Asset- XVIII	
	Particulars	2017-18 (Pro-rata for 3 days)	2018-19	2017-18 (Pro-rata for 46 days)	2018-19
A	Working Capital for O & M Expenses (O&M expenses for 1 month)	0.00	0.00	3.88	4.01
B	Working Capital for Maintenance Spares (15% of O&M expenses)	0.00	0.00	6.98	7.22
C	Working Capital for Receivables (Equivalent to 2 months of annual fixed cost / annual transmission charges)	14.11	15.83	47.86	52.65
D	Total of Working Capital (A+B+C)	14.11	15.83	58.72	63.88
E	Rate of Interest on Working capital(%)	12.60	12.60	12.60	12.60
F	Interest of Working Capital (D*E)	0.01	1.99	0.93	8.05

(₹ in lakh)

		Asset- XIX		Asset- XX
	Particulars	2017-18 (Pro-rata for 188 days)	2018-19	2018-19 (Pro-rata for 183 days)
A	Working Capital for O & M Expenses (O&M expenses for 1 month)	0.00	0.00	0.00
B	Working Capital for Maintenance Spares (15% of O&M expenses)	0.00	0.00	0.00
C	Working Capital for Receivables (Equivalent to 2 months of annual fixed cost / annual transmission charges)	39.34	38.79	27.70
D	Total of Working Capital (A+B+C)	39.34	38.79	27.70
E	Rate of Interest on Working Capital(%)	12.60	12.60	12.20
F	Interest of Working Capital (D*E)	2.55	4.89	1.69

(₹ in lakh)

		Asset- XXI			
	Particulars	2015-16 (Pro-rata for 263 days)	2016-17	2017-18	2018-19
A	Working Capital for O & M Expenses (O&M expenses for 1 month)	0.00	0.00	0.00	0.00
B	Working Capital for Maintenance Spares (15% of O&M expenses)	0.00	0.00	0.00	0.00
C	Working Capital for Receivables	39.18	42.30	44.84	46.36



Asset- XXI					
	Particulars	2015-16 (Pro-rata for 263 days)	2016-17	2017-18	2018-19
	(Equivalent to 2 months of annual fixed cost / annual transmission charges)				
D	Total of Working Capital (A+B+C)	39.18	42.30	44.84	46.36
E	Rate of Interest on Working Capital(%)	13.50	13.50	13.50	13.50
F	Interest of Working Capital (D*E)	3.80	5.71	6.05	6.26

Approved Annual Fixed Charges for the 2014-19 Tariff Period

81. The trued-up annual fixed charges approved in respect of the transmission assets for the 2014-19 tariff period are as follows:

(₹ in lakh)

Asset- I				
Particulars	2015-16 (Pro-rata for 91 days)	2016-17	2017-18	2018-19
Depreciation	5.80	42.88	46.58	47.30
Interest on Loan	7.02	49.22	45.30	41.18
Return on Equity	6.49	48.01	52.14	53.10
O & M Expenses	0.00	0.00	0.00	0.00
Int. on Working Capital	0.44	3.23	3.31	3.26
Total	19.75	143.34	147.33	144.84

(₹ in lakh)

Asset- II				
Particulars	2015-16 (Pro-rata for 59 days)	2016-17	2017-18	2018-19
Depreciation	3.39	39.26	45.07	46.39
Interest on Loan	4.09	44.85	44.07	40.83
Return on Equity	3.79	43.96	50.46	52.08
O & M Expenses	0.00	0.00	0.00	0.00
Int. on Working Capital	0.26	2.95	3.21	3.21
Total	11.53	131.02	142.81	142.51

(₹ in lakh)

Asset- III				Asset-IV
Particulars	2016-17 (Pro-rata for 189 days)	2017-18	2018-19	2018-19 (Pro-rata for 43 days)
Depreciation	34.88	76.88	84.94	6.07
Interest on Loan	36.26	75.30	76.91	6.58
Return on Equity	39.05	86.07	95.36	6.82
O & M Expenses	0.00	0.00	0.00	0.00



	Asset- III			Asset-IV
Particulars	2016-17 (Pro-rata for 189 days)	2017-18	2018-19	2018-19 (Pro-rata for 43 days)
Int. on Working Capital	2.40	5.19	5.61	0.40
Total	112.59	243.44	262.82	19.87

(₹ in lakh)

Asset- V			
Particulars	2016-17 (Pro-rata for 363 days)	2017-18	2018-19
Depreciation	50.81	93.58	95.66
Interest on Loan	53.82	93.03	87.17
Return on Equity	56.89	104.78	107.39
O & M Expenses	0.00	0.00	0.00
Int. on Working Capital	3.52	6.35	6.33
Total	165.04	297.74	296.55

(₹ in lakh)

Asset- VI			
Particulars	2016-17 (Pro-rata for 183 days)	2017-18	2018-19
Depreciation	42.93	94.24	100.25
Interest on Loan	45.70	93.43	91.37
Return on Equity	48.06	105.51	112.54
O & M Expenses	0.00	0.00	0.00
Int. on Working Capital	2.98	6.39	6.63
Total	139.67	299.57	310.79

(₹ in lakh)

Asset- VII				
Particulars	2015-16 (Pro-rata for 32 days)	2016-17	2017-18	2018-19
Depreciation	2.67	36.56	41.74	47.49
Interest on Loan	3.16	40.78	40.89	42.83
Return on Equity	2.99	40.93	46.73	53.32
O & M Expenses	0.00	0.00	0.00	0.00
Int. on Working Capital	0.20	2.72	2.98	3.31
Total	9.02	120.99	132.34	146.95



(₹ in lakh)

Asset- VIII			
Particulars	2016-17 (Pro-rata for 181 days)	2017-18	2018-19
Depreciation	64.72	149.57	160.61
Interest on Loan	71.76	149.46	146.57
Return on Equity	72.46	167.46	180.30
O & M Expenses	27.28	56.84	58.73
Int. on Working Capital	5.98	13.14	13.70
Total	242.20	536.47	559.91

(₹ in lakh)

Asset- IX			
Particulars	2016-17 (Pro-rata for 181 days)	2017-18	2018-19
Depreciation	106.90	256.20	283.06
Interest on Loan	118.76	256.05	258.76
Return on Equity	119.69	286.84	317.77
O & M Expenses	49.63	103.39	106.83
Int. on Working Capital	10.12	22.83	24.33
Total	405.10	925.31	990.75

(₹ in lakh)

Asset- X			
Particulars	2016-17 (Pro-rata for 215 days)	2017-18	2018-19
Depreciation	6.45	19.63	28.72
Interest on Loan	7.25	19.81	27.35
Return on Equity	7.22	21.98	32.25
O & M Expenses	37.92	66.51	68.71
Int. on Working Capital	2.44	4.82	5.52
Total	61.28	132.75	162.55

(₹ in lakh)

Particulars	Asset- XI			Asset- XII
	2016-17 (Pro-rata for 177 days)	2017-18	2018-19	2016-17 (Pro-rata for 141 days)
Depreciation	78.43	248.57	266.79	32.24
Interest on Loan	80.49	239.47	238.33	34.61
Return on Equity	87.81	278.29	299.50	36.03
O & M Expenses	26.68	56.84	58.73	34.81
Int. on Working Capital	6.77	19.68	20.61	4.06
Total	280.18	842.85	883.96	141.75



(₹ in lakh)

Asset- XIII			
Particulars	2016-17 (Pro-rata for 22 days)	2017-18	2018-19
Depreciation	10.22	178.71	193.23
Interest on Loan	11.06	183.91	183.30
Return on Equity	11.42	199.69	216.52
O & M Expenses	10.86	186.20	192.40
Int. on Working Capital	1.28	22.00	22.99
Total	44.84	770.51	808.44

(₹ in lakh)

Asset- XIV			
Particulars	2016-17 (Pro-rata for days)	2017-18	2018-19
Depreciation	47.63	158.22	173.88
Interest on Loan	49.28	153.39	155.75
Return on Equity	53.32	177.14	195.19
O & M Expenses	0.00	0.00	0.00
Int. on Working Capital	3.27	10.65	11.44
Total	153.50	499.40	536.26

(₹ in lakh)

Particulars	Asset- XV		Asset- XVI	
	2017-18 (Pro-rata for 106 days)	2018-19	2017-18 (Pro-rata for 20 days)	2018-19
Depreciation	51.92	191.48	13.09	250.88
Interest on Loan	44.92	159.28	13.64	253.60
Return on Equity	57.42	212.51	14.65	281.64
O & M Expenses	32.83	116.81	12.75	240.52
Int. on Working Capital	5.00	18.10	1.54	29.24
Total	192.09	698.18	55.67	1055.88

(₹ in lakh)

Particulars	Asset- XVII		Asset- XVIII	
	2017-18 (Pro-rata for 3 days)	2018-19	2017-18 (Pro-rata for 46 days)	2018-19
Depreciation	0.22	29.70	9.37	83.83
Interest on Loan	0.22	29.92	9.52	81.82
Return on Equity	0.24	33.35	10.50	94.11
O & M Expenses	0.00	0.00	5.87	48.10
Int. on Working Capital	0.01	1.99	0.93	8.05
Total	0.69	94.96	36.19	315.91



(₹ in lakh)

Particulars	Asset- XIX		Asset- XX
	2017-18 (Pro-rata for 188 days)	2018-19	2018-19 (Pro-rata for 183 days)
Depreciation	38.07	73.91	25.60
Interest on Loan	38.33	70.99	27.30
Return on Equity	42.62	82.97	28.74
O & M Expenses	0.00	0.00	0.00
Int. on Working Capital	2.55	4.89	1.69
Total	121.57	232.76	83.33

(₹ in lakh)

Particulars	Asset- XXI			
	2015-16 (Pro-rata for 263 days)	2016-17	2017-18	2018-19
Depreciation	50.41	77.87	86.08	91.50
Interest on Loan	58.27	83.03	80.51	77.66
Return on Equity	56.44	87.19	96.37	102.72
O & M Expenses	0.00	0.00	0.00	0.00
Int. on Working Capital	3.80	5.71	6.05	6.26
Total	168.92	253.80	269.01	278.14

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

82. The Petitioner has combined all the assets into a single asset in 2019-24 tariff period and submitted the Tariff Forms for the Combined Asset. (hereinafter referred to as 'combined asset'). Accordingly, as per proviso (i) of Regulation 8(1) of the 2019 Tariff Regulations, transmission tariff for the combined asset has been worked out for the 2019-24 tariff period.

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

(₹ in lakh)

Particulars	2019-20	2020-21	201-22	2022-23	2023-24
Depreciation	2516.06	2576.37	2592.53	2593.95	2581.34
Interest on Loan	2146.81	2004.49	1812.53	1604.31	1394.91
Return on Equity	2666.37	2730.72	2747.97	2749.49	2749.49
Interest on Working Capital	212.33	216.13	217.46	218.31	218.40



Particulars	2019-20	2020-21	201-22	2022-23	2023-24
Operation and Maintenance Expenses	2343.25	2427.06	2512.41	2602.90	2690.69
Total	9884.82	9954.77	9882.90	9768.96	9634.83

84. The Petitioner has claimed the following Interest on Working Capital for the combined asset for the 2019-24 tariff period:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M expenses	195.27	202.26	209.37	216.91	224.22
Maintenance Spares	351.49	364.06	376.86	390.44	403.60
Receivables	1215.35	1227.30	1218.44	1204.39	1184.61
Total	1762.11	1793.62	1804.67	1811.74	1812.43
Rate of Interest	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	212.33	216.13	217.46	218.31	218.40

Effective Date of Commercial Operation (E-COD)

85. The Petitioner has claimed E-COD of the combined asset as 23.2.2017. Based on the trued-up admitted capital cost and actual COD of all the assets, the E-COD has been worked out as follows:

Computation of Effective COD					
Assets	Actual COD	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Weight of the cost (%)	No. of Days from last COD	Weighted Days
Asset-I	1-1-2016	895.84	1.94	1143	22.23
Asset-II	2-2-2016	878.56	1.91	1111	21.19
Asset-III	24-9-2016	1608.73	3.49	876	30.59
Asset-IV	17-2-2019	976.23	2.12	0	0.00
Asset-V	3-4-2016	1811.74	3.93	1050	41.30
Asset-VI	30-9-2016	1912.81	4.15	870	36.13
Asset-VII	29-2-2016	986.55	2.14	1084	23.21
Asset-VIII	2-10-2016	3158.27	6.86	868	59.51
Asset-IX	2-10-2016	5587.55	12.13	868	105.28
Asset-X	29-8-2016	579.67	1.26	902	11.35
Asset-XI	6-10-2016	5274.60	11.45	864	98.93
Asset-XIII	10-3-2017	3754.72	8.15	709	57.79
Asset-XIV	30-11-2016	3410.25	7.40	809	59.89
Asset-XV	16-12-2017	3801.04	8.25	428	35.32
Asset-XVI	12-3-2018	4931.75	10.71	342	36.61
Asset-XVII	29-3-2018	608.48	1.32	325	4.29



Asset-XVIII	14-2-2018	1651.59	3.59	368	13.19
Asset-XIX	25-9-2017	1399.79	3.04	510	15.50
Asset-XX	30-9-2018	1092.00	2.37	140	3.32
Asset-XXI	13-7-2015	1745.96	3.79	1315	49.84
Total	17.2.2019*	46066.13	100.00		725.47
Effective COD (Latest COD – Total weighted Days) 21.2.2017					

*Latest COD

86. The 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)

87. The life as defined in Regulation 33 of the 2019 Tariff Regulations has been considered for determination of weighted average life. The combined asset may have multiple elements such as land, building, transmission line, Sub-station and PLCC and each element may have different span of life. Therefore, the concept of weighted average Life (WAL) has been used as the useful life of the project as a whole.

88. WAL has been determined based on the admitted capital cost of individual elements as on 31.3.2019 irrespective of life of the individual elements as stipulated in the 2019 Tariff Regulations. The element-wise life as defined in the 2014 Tariff Regulations prevailing at the time of actual COD of individual assets has been ignored for this purpose. The life as defined in the 2019 Tariff Regulations has been considered for determination of WAL. Accordingly, WAL of the Combined Asset has been worked out as 25 years as follows:

Admitted Capital Cost as on 31.3.2019				
Particulars	Combined Asset Cost (₹in lakh) (1)	Life in Years (2)	Weighted Cost (3)=(1) x(2) (in lakh) (3)	Weighted Avg. Life of Asset (in years) (4)=(3)/(1)



Sub-Station Equipment	45878.46	25	1146961.50	
PLCC	33.98	15	509.63	
IT equipment	153.68	6.67	1024.56	
Total	46066.12		1148495.69	24.93 years, rounded off to 25 years

89. WAL as on 1.4.2019 as determined above is applicable prospectively (i.e. for 2019-24 tariff period, no retrospective adjustment of depreciation in previous tariff period is required to be done. As discussed, the E- COD of the combined asset is 21.2.2017 and the lapsed life of the project as a whole, 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). Accordingly, WAL has been used to determine the remaining useful life as on 31.3.2019, which works out to be 23 years.

Capital Cost

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

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

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

- (a) *The expenditure incurred or projected to be incurred up to the date of commercial operation of the project;*
- (b) *Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;*
- (c) *Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period;*
- (d) *Interest during construction and incidental expenditure during construction as computed in accordance with these regulations;*
- (e) *Capitalised Initial Spares subject to the ceiling rates in accordance with these regulations;*
- (f) *Expenditure on account of additional capitalization and de-capitalisation determined in accordance with these regulations;*
- (g) *Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the date of commercial operation as specified under Regulation 7 of these regulations;*



- (h) Adjustment of revenue earned by the transmission licensee by using the Asset-before the date of commercial operation;
- (i) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;
- (j) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;
- (k) Capital expenditure on account of biomass handling equipment and facilities, for co-firing;
- (l) Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;
- (m) Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;
- (n) Expenditure on account of change in law and force majeure events; and
- (o) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.

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

- (a) Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;
- (b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;
- (c) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;
- (d) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;
- (e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal up to the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and
- (f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.”

(4) The capital cost in case of existing or new hydro generating station shall also include:

- (a) cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and
- (b) cost of the developer's 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) project in the affected area.

(5) The following shall be excluded from the capital cost of the existing and new projects:



- (a) The Asset-forming part of the project, but not in use, as declared in the tariff petition;
 (b) De-capitalised Asset-after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:

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

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

- (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.”

91. The trued-up capital cost as on 31.3.2019 for Assets-1 to 21 has been considered as capital cost as on 31.3.2019 for the combined asset. The capital cost has been dealt 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 transmission assets are clubbed together and the capital cost has been considered as capital cost for combined asset as on 31.3.2019 as per following details:

(₹ in lakh)						
Particulars	Asset-1	Asset-2	Asset-3	Asset-4	Asset-5	Asset-6
Freehold Land	0.00	0.00	0.00	0.00	0.00	0.00
Building & Other Civil Works	0.00	0.00	0.00	0.00	0.00	0.00
Transmission Line	0.00	0.00	0.00	0.00	0.00	0.00
Sub-Station Equipment	895.84	878.56	1603.58	976.23	1811.74	1912.81
PLCC	0.00	0.00	0.00	0.00	0.00	0.00
Leasehold Land	0.00	0.00	0.00	0.00	0.00	0.00
IT Equipment and Software	0.00	0.00	5.15	0.00	0.00	0.00



Total	895.84	878.56	1608.73	976.23	1811.74	1912.81
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(₹ in lakh)

Particulars	Asset-7	Asset-8	Asset-9	Asset-10	Asset-11	Asset-13
Freehold Land	0.00	0.00	0.00	0.00	0.00	0.00
Building & Other Civil Works	0.00	0.00	0.00	0.00	0.00	0.00
Transmission Line	0.00	0.00	0.00	0.00	0.00	0.00
Sub-Station Equipment	986.55	3158.27	5587.55	579.67	5274.60	3577.67
PLCC	0.00	0.00	0.00	0.00	0.00	33.98
Leasehold Land	0.00	0.00	0.00	0.00	0.00	0.00
IT Equipment and Software	0.00	0.00	0.00	0.00	0.00	143.08
Total	986.55	3158.27	5587.55	579.67	5274.60	3754.72

(₹ in lakh)

Particulars	Asset-14	Asset-15	Asset-16	Asset-17	Asset-18	Asset-19
Freehold Land	0.00	0.00	0.00	0.00	0.00	0.00
Building & Other Civil Works	0.00	0.00	0.00	0.00	0.00	0.00
Transmission Line	0.00	0.00	0.00	0.00	0.00	0.00
Sub-Station Equipment	3410.25	3801.04	4931.75	608.48	1646.13	1399.79
PLCC	0.00	0.00	0.00	0.00	0.00	0.00
Leasehold Land	0.00	0.00	0.00	0.00	0.00	0.00
IT Equipment and Software	0.00	0.00	0.00	0.00	5.46	0.00
Total	3410.25	3801.04	4931.75	608.48	1651.59	1399.79

(₹ in lakh)

Particulars	Asset-20	Asset-21	Total Capital Cost as on 31.3.2019
Freehold Land	0.00	0.00	0.00
Building & Other Civil Works	0.00	0.00	0.00
Transmission Line	0.00	0.00	0.00
Sub-Station Equipment	1092.00	1745.96	45878.46
PLCC	0.00	0.00	33.98
Leasehold Land	0.00	0.00	0.00
IT Equipment and Software	0.00	0.00	153.68
Total	1092.00	1745.96	46066.12

92. The trued-up capital cost of ₹46066.12 lakh for combined asset has been considered as admitted capital cost as on 31.3.2019 for working out tariff for 2019-



24 tariff period.

Initial Spares

93. As stated earlier in this order, initial spares are approved for the 2014-19 period on the basis of the cost of individual assets. The transmission assets covered in the transmission project are combined during the 2019-24 tariff period and hence, the initial spares are allowed on the basis of the overall project cost as per the APTEL's judgement dated 14.9.2019 in Appeal No. 74 of 2017.

94. Accordingly, initial spares allowed in the 2019-24 tariff period are as follows:

Sub-stations :

Asset	Capital Cost/P&M Cost as on cut-off date (₹ in lakh)	Initial Spares Claimed (₹ in lakh)	Norms as per 2014 Tariff Regulations (in %)	Initial Spares allowable as per the 2014 Tariff Regulations	Initial Spares Allowed (₹ in lakh) during 2014-19 period	Initial Spares allowed on Combined Asset (₹ in lakh)
Asset-1	883.94	29.36	6.00	54.55	29.36	
Asset-2	870.86	16.13	6.00	54.56	16.13	
Asset-3	1520.45	97.15	6.00	90.85	90.85	
Asset-4	1122.09	44.88	6.00	68.76	44.88	
Asset-5	1793.78	104.65	6.00	107.82	104.65	
Asset-6	1784.53	105.46	6.00	107.17	105.46	
Asset-7	968.96	60.01	6.00	58.02	58.02	
Asset-8	3100.84	176	5.00	153.94	153.94	
Asset-9	5468.94	285.64	5.00	272.81	272.81	
Asset-10	577.83	40.15	6.00	34.32	34.32	
Asset-11	5404.79	449.07	5.00	260.83	260.83	
Asset-12	1590.26	82.02	5.00	79.38	79.38	
Asset-13	1640.43	82.02	5.00	82.02	82.02	
Asset-14	3375.7	205.96	5.00	166.83	166.83	
Asset-15	2338.45	140.31	6.00	140.31	140.31	
Asset-16	4340.76	173.63	5.00	219.32	173.63	
Asset-17	794.2	47.65	6.00	47.65	47.65	
Asset-18	1641.52	65	6.00	100.63	65.00	
Asset-19	1369.95	0	6.00	87.44	0.00	



Asset-20	1443.55	79	6.00	87.10	79.00	
Asset-21	1649.99	64.9	6.00	101.18	64.90	
Combined Asset		2348.99		2375.47	2069.95	279.04

**Additional Initial Spares of ₹279.04 lakh (₹2348.99-₹2069.95)lakh are allowed for Sub-station. Further, out of ₹279.04 lakh, ₹272.73 lakh allowed as on 1.4.2019 and ₹6.30 lakh allowed as ACE in 2019-20.*

95. Accordingly, the capital cost allowed as on 1.4.2019 is as follows:

(₹ in lakh)			
Asset	Capital Cost as on 31.3.2019	Initial Spares allowed as per APTEL's Judgement	Capital Cost as on 1.4.2019
Combined Asset	46066.12	272.73	46338.85

Additional Capital Expenditure (ACE)

96. Regulation 24 and Regulation 25 of the 2019 Tariff Regulations provide as follows:-

“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.”

97. The Petitioner has claimed projected ACE for 2019-24 period on account of balance and retention payments due to undischarged liability projected for works executed within the cut-off date, work deferred for execution and undischarged liabilities recognized to be payable at a future date. The details of the projected ACE in respect of the transmission assets are as follows:

(₹ in lakh)

Asset	ACE (as per Auditor's Certificate)		
	2019-20	2020-21	2021-22
Asset-1	100.00	0.00	0.00
Asset-2	100.00	0.00	0.00
Asset-3	133.93	0.00	0.00
Asset-4	108.88	107.95	53.97
Asset-5	0.00	0.00	0.00
Asset-6	8.36	0.00	0.00
Asset-7	84.20	0.00	0.00
Asset-8	69.92	0.00	0.00
Asset-9	0.00	0.00	0.00
Asset-10	50.00	0.00	0.00
Asset-11	100.00	0.00	0.00



Asset-12	50.18	0.00	0.00
Asset-13	50.18	0.00	0.00
Asset-14	100.00	0.00	0.00
Asset-15	122.00	0.00	0.00
Asset-16	265.89	66.47	0.00
Asset-17	173.87	43.47	0.00
Asset-18	136.84	34.19	0.00
Asset-19	0.00	0.00	0.00
Asset-20	72.00	306.00	0.00
Asset-21	0.00	0.00	0.00
Total	1726.25	558.08	53.97

98. We have considered the submissions of the Petitioner. ACE claimed towards balance and retention payments and undischarged liability is allowed under Regulation 24(1)(a) and 25(1)(d) of the 2019 Tariff Regulations. The ACE allowed is summarized below, which is subject to true-up:

(₹ in lakh)

Asset	Regulations	ACE (as per Auditor's Certificate)		
		2019-20	2020-21	2021-22
Combined Asset	Regulation 24(1)(a) and 25(1)(d) of TR,2019	1726.25	558.08	53.97
	Total	1726.25	558.08	53.97

Capital Cost considered for the 2019-24 tariff period

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

(₹ in lakh)

Assets	Capital Cost as on 1.4.2019	Admitted ACE			Capital Cost as on 31.3.2024
		2019-20	2020-21	2021-22	
Combined Asset	46338.85	1726.25	558.08	53.97	48677.15

Debt-Equity Ratio

100. Regulation 18 of the 2019 Tariff Regulations provides as follows:-

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

Provided that:



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

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

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

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

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

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

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

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

(6) Any expenditure incurred for the emission control system during the tariff period as may be admitted by the Commission as additional capital expenditure for



determination of supplementary tariff, shall be serviced in the manner specified in clause (1) of this Regulation.”

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

Funding	Capital Cost as on 1.4.2019 (₹ in lakh)	(%)	Total Capital Cost as on 31.3.2024 (₹ in lakh)	(%)
Debt	32449.68	70.03	34086.49	70.03
Equity	13889.17	29.97	14590.66	29.97
Total	46338.85	100.00	48677.15	100.00

Depreciation

102. Regulation 33 of the 2019 Tariff Regulations provide as follows:-

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

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

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

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

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

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



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

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

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

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-I to these regulations for the Asset-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 asset.

(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 up to 31.3.2019 from the gross depreciable value of the asset.

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

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

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

a) twenty five years, in case the generating station or unit thereof is in operation for fifteen years or less as on the date of operation of the emission control system; or



b) balance useful life of the generating station or unit thereof plus fifteen years, in case the generating station or unit thereof is in operation for more than fifteen years as on the date of operation of the emission control system; or

c) ten years or a period mutually agreed by the generating company and the beneficiaries, whichever is higher, in case the generating station or unit thereof has completed its useful life.”

103. We have considered the submissions of the Petitioner. WAROD at Annexure-II has been worked out after taking into account the depreciation rates of transmission assets as prescribed in the 2019 Tariff Regulations. The depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. The depreciation allowed is as follows:

(₹ in lakh)						
	Combined Asset					
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
A	Opening Gross Block	46338.85	48065.10	48623.18	48677.15	48677.15
B	Addition during the year 2019-24 due to projected Additional Capitalisation	1726.25	558.08	53.97	0.00	0.00
C	Closing Gross Block (A+B)	48065.10	48623.18	48677.15	48677.15	48677.15
D	Average Gross Block (A+C)/2	47201.98	48344.14	48650.17	48677.15	48677.15
E	Weighted average rate of Depreciation (WAROD) (%)	5.31	5.31	5.31	5.31	5.31
F	Elapsed useful life at the beginning of the year	2.00	3.00	4.00	5.00	6.00
G	Balance useful life at the beginning of the year	23.00	22.00	21.00	20.00	19.00
H	Depreciable value (D*90%)	42497.15	43525.10	43800.52	43824.81	43824.81
I	Combined Depreciation during the year (D*E)	2507.56	2567.87	2584.02	2585.45	2585.45
J	Cumulative Depreciation at the end of the year	7564.71	10132.58	12716.60	15302.05	17887.50
K	Remaining Aggregate Depreciable Value at the end of the year	34932.44	33392.52	31083.92	28522.76	25937.31

Interest on Loan (IoL)

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



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

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

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

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

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

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

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

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

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

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

105. The weighted average rate of interest of IoL has been considered on the basis of the rates 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 true-up.

106. The Respondent, BSPHCL, has submitted that the 2019 Tariff Regulations do not permit change in interest rate due to floating rate of interest.

107. In response, the Petitioner has submitted that in the tariff calculation for 2019-24, weighted average rate of interest of IoL has been considered on the basis of the rates prevailing as on 1.4.2019 and floating rate of interest, if any, will be claimed directly from the beneficiaries.

108. We have considered the submissions of the Petitioner and BSPHCL. IoL has been worked out in accordance with Regulation 32 of the 2019 Tariff Regulations.

The IoL allowed is as follows:

(₹ in lakh)						
	Combined Asset					
	Particular	2019-20	2020-21	2021-22	2022-23	2023-24
A	Gross Normative Loan	32449.68	33658.05	34048.71	34086.49	34086.49
B	Cumulative Repayments upto Previous Year	5036.76	7544.32	10112.19	12696.21	15281.66
C	Net Loan-Opening (A-B)	27412.91	26113.73	23936.52	21390.27	18804.83
D	Addition due to Additional Capitalization	1208.38	390.66	37.78	0.00	0.00
E	Repayment during the year	2507.56	2567.87	2584.02	2585.45	2585.45
F	Net Loan-Closing (C+D-E)	26113.73	23936.52	21390.27	18804.83	16219.38
G	Average Loan (C+F)/2	26763.32	25025.12	22663.40	20097.55	17512.10
H	Weighted Average Rate of Interest on Loan (%)	8.01	8.00	7.99	7.98	7.96
I	Interest on Loan (G*H)	2143.90	2002.26	1810.99	1603.44	1394.23

Return on Equity(RoE)

109. Regulations 30 and 31 of the 2019 Tariff Regulations provide as follows:-

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

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating station, transmission system including communication system and run-



of-river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run-of-river generating station with pondage:

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

Provided further that:

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

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

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

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

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

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

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



business other than business of generation or transmission, as the case may be) shall be excluded for the calculation of effective tax rate.

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

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

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

Illustration-

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

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

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

- (a) Estimated Gross Income from generation or transmission business for FY 2019-20 is Rs 1,000 crore;*
- (b) Estimated Advance Tax for the year on above is Rs 240 crore;*
- (c) Effective Tax Rate for the year 2019-20 = Rs 240 Crore / Rs 1000 Crore = 24%;*
- (d) Rate of return on equity = $15.50 / (1 - 0.24) = 20.395\%$.*

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

110. The Petitioner has submitted that MAT rate is applicable to the Petitioner's company. We have considered the submissions of the Petitioner. The MAT rate applicable in 2019-20 has been considered for the purpose of RoE, which will be



trued-up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. The RoE allowed under Regulation 30 of the 2019 Tariff Regulations is as follows:

(₹ in lakh)						
	Combined Asset					
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
A	Opening Equity	13889.17	14407.05	14574.47	14590.66	14590.66
B	Addition due to Additional Capitalization	517.88	167.42	16.19	0.00	0.00
C	Closing Equity (A+B)	14407.05	14574.47	14590.66	14590.66	14590.66
D	Average Equity (A+C)/2	14148.11	14490.76	14582.57	14590.66	14590.66
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
F	Tax Rate applicable (%)	17.472	17.472	17.472	17.472	17.472
G	Rate of Return on Equity (Pre-tax)	18.782	18.782	18.782	18.782	18.782
H	Return on Equity (Pre-tax) (D*G)	2657.30	2721.65	2738.90	2740.42	2740.42

Operation & Maintenance Expenses (O&M Expenses)

111. Regulation 35(3)(a) of the 2019 Tariff Regulations provides as follows:

“35 (3) Transmission system: (a) The following normative operation and maintenance expenses shall be admissible for the combined 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
<i>Norms for AC and HVDC lines (₹ lakh per km)</i>					
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-conductors)	0.755	0.781	0.809	0.837	0.867



Single Circuit (Twin & Triple Conductor)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single Conductor)	0.252	0.260	0.270	0.279	0.289
Double Circuit (Bundled conductor with four or more sub-conductors)	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
Norms for HVDC stations					
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (₹ Lakh per 500 MW)	1,666	1,725	1,785	1,848	1,913
500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)	2,468	2,555	2,645	2,738	2,834
±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)	2,563	2,653	2,746	2,842	2,942

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

Provided further that:

- i. the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed pro-rata on the basis of normative rate of operation and maintenance expenses of similar HVDC bi-pole scheme for the corresponding year of the tariff period;*
- ii. the O&M expenses norms for HVDC bi-pole line shall be considered as Double Circuit quad AC line;*
- iii. the O&M expenses of ±500 kV Mundra-Mohindergarh HVDC bipole scheme*



(2000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ± 500 kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);

- iv. the O&M expenses of ± 800 kV Champa-Kurukshetra HVDC bi-pole scheme (3000 MW) shall be on the basis of the normative O&M expenses for ± 800 kV, Bishwanath-Agra HVDC bi-pole scheme;
- v. the O&M expenses of ± 800 kV, Alipurduar-Agra HVDC bi-pole scheme (3000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ± 800 kV, Bishwanath-Agra HVDC bi-pole scheme; and
- vi. the O&M expenses of Static Synchronous Compensator and Static Var Compensator shall be worked at 1.5% of original project cost as on commercial operation which shall be escalated at the rate of 3.51% to work out the O&M expenses during the tariff period. The O&M expenses of Static Synchronous Compensator and Static Var Compensator, if required, may be reviewed after three years.

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

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

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

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

112. The O&M expenses claimed by the Petitioner for the combined asset are as follows:

(₹ in lakh)

Combined Asset					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Sub-station Bays					
400 kV (GIS) : Baripada: Bus Reactor Bay at Baripada	1	1	1	1	1
400 kV (GIS) : Baripada: 400 kV ICT Bay at Baripada Sub-station	1	1	1	1	1
400 kV (GIS) : Maithon: Bus Reactor Bay at Maithon Sub-station	1	1	1	1	1

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400 kV (AIS) : Jeerat: Bus Reactor Bay at Jeerat	1	1	1	1	1
400 kV (AIS) : Jamshedpur: ICT Bay at Jamshedpur	1	1	1	1	1
220 kV (GIS) : Baripada:220 kV ICT Bay at Baripada Sub-station	1	1	1	1	1
220 kV (GIS) : 4 Nos of 220 kV GIS Bays at Kishanganj Sub-station	4	4	4	4	4
220 kV (AIS) : Jamshedpur:ICT Bay at Jamshedpur	1	1	1	1	1
220 kV (AIS) : Patna:220 kV ICT Bay at Patna	1	1	1	1	1
132 kV (AIS) : Purnea:132 kV Bay at Purnea Sub-station	7	7	7	7	7
Total					
400 kV (GIS)	3	3	3	3	3
400 kV (AIS)	2	2	2	2	2
220 kV (GIS)	5	5	5	5	5
220 kV (AIS)	2	2	2	2	2
132 kV (AIS)	7	7	7	7	7
Norms					
400 kV (GIS)	22.505	23.296	24.115	24.962	25.837
400 kV (AIS)	32.15	33.28	34.45	35.66	36.91
220 kV (GIS)	15.757	16.310	16.884	17.472	18.088
220 kV (AIS)	22.51	23.30	24.12	24.96	25.84
132 kV (AIS)	16.08	16.64	17.23	17.83	18.46
Total Sub-station Bays O&M Expenses (A)	368.18	381.08	394.52	408.30	422.67
Transformer (MVA Capacity)					
765 kV: Angul: ICT at Angul	500	500	500	500	500
765 kV: Jharsuguda/Sundargarh: ICT at Sundergarh	500	500	500	500	500
400 kV: Jamshedpur:ICT at Jamshedpur	315	315	315	315	315
400 kV: Baripada:500 MVA ICT at Baripada Sub-station	500	500	500	500	500
400 kV: Patna:500 MVA ICT at Patna	500	500	500	500	500
400 kV: Purnea:ICT at Purnea	500	500	500	500	500
400 kV: Patna:ICT-I & II	1000	1000	1000	1000	1000
400 kV: Purnea:ICT- II	500	500	500	500	500
400 kV: Sasaram:ICT	500	500	500	500	500
220 kV: Birpara:ICT-I	160	160	160	160	160
220 kV: Siliguri:ICT-I	160	160	160	160	160
220 kV: Purnea:ICT	160	160	160	160	160
Total					
765 kV	1000	1000	1000	1000	1000
400 kV	3815	3815	3815	3815	3815
220 kV	480	480	480	480	480
Norms					
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



Total Transformer O&M Expenses (B)	1974.37	2045.29	2117.20	2193.93	2267.33
Communication System					
PLCC	33.92	33.92	33.92	33.92	33.92
Norms (%)	2	2	2	2	2
Total Communication System (C)	0.68	0.68	0.68	0.68	0.68
Total O&M Expenses (D)=(A)+(B)+(C)	2343.23	2427.04	2512.39	2602.90	2690.67

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

114. The O&M Expenses allowed in respect of the combined asset are as follows

(₹ in lakh)					
Combined Asset					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Sub-station Bays					
400 kV (GIS) : Baripada: Bus Reactor Bay at Baripada	1	1	1	1	1
400 kV (GIS) : Baripada:400 kV ICT Bay at Baripada Sub-station	1	1	1	1	1
400 kV (GIS) : Maithon: Bus Reactor Bay at Maithon Sub-station	1	1	1	1	1
400 kV (AIS) : Jeerat: Bus Reactor Bay at Jeerat	1	1	1	1	1
400 kV (AIS) : Jamshedpur: ICT Bay at Jamshedpur	1	1	1	1	1
220 kV (GIS) : Baripada:220 kV ICT Bay at Baripada Sub-station	1	1	1	1	1
220 kV (GIS) : 4 Nos of 220 kV GIS Bays at Kishanganj Sub-station	4	4	4	4	4



220 kV (AIS) : Jamshedpur:ICT Bay at Jamshedpur	1	1	1	1	1
220 kV (AIS) : Patna:220 kV ICT Bay at Patna	1	1	1	1	1
132 kV (AIS) : Purnea:132 kV Bay at Purnea Sub-station	7	7	7	7	7
Total					
400 kV (GIS)	3	3	3	3	3
400 kV (AIS)	2	2	2	2	2
220 kV (GIS)	5	5	5	5	5
220 kV (AIS)	2	2	2	2	2
132 kV (AIS)	7	7	7	7	7
Norms					
400 kV (GIS)	22.505	23.296	24.115	24.962	25.837
400 kV (AIS)	32.15	33.28	34.45	35.66	36.91
220 kV (GIS)	15.757	16.310	16.884	17.472	18.088
220 kV (AIS)	22.51	23.30	24.12	24.96	25.84
132 kV (AIS)	16.08	16.64	17.23	17.83	18.46
Total Sub-station Bays O&M Expenses (A)	368.18	381.08	394.52	408.30	422.67
Transformer (MVA Capacity)					
765 kV: Angul: ICT at Angul	500	500	500	500	500
765 kV: Jharsuguda/Sundargarh: ICT at Sundergarh	500	500	500	500	500
400 kV: Jamshedpur:ICT at Jamshedpur	315	315	315	315	315
400 kV: Baripada:500 MVA ICT at Baripada Sub-station	500	500	500	500	500
400 kV: Patna:500 MVA ICT at Patna	500	500	500	500	500
400 kV: Purnea:ICT at Purnea	500	500	500	500	500
400 kV: Patna:ICT-I & II	1000	1000	1000	1000	1000
400 kV: Purnea:ICT- II	500	500	500	500	500
400 kV: Sasaram:ICT	500	500	500	500	500
220 kV: Birpara:ICT-I	160	160	160	160	160
220 kV: Siliguri:ICT-I	160	160	160	160	160
220 kV: Purnea:ICT	160	160	160	160	160
Total					
765 kV	1000	1000	1000	1000	1000
400 kV	3815	3815	3815	3815	3815
220 kV	480	480	480	480	480
Norms					
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
Total Transformer O&M Expenses (B)	1974.37	2045.29	2117.20	2193.93	2267.33
Total O&M Expenses (C)=(A)+(B)	2342.55	2426.36	2511.72	2602.23	2690.00

Interest on Working Capital (IWC)

115. Regulations 34(1)(c), (3) and (4) and 3(7) of the 2019 Tariff Regulations



provide as follows:

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

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

(i) Receivables equivalent to 45 days of annual fixed cost;

(ii) Maintenance spares @ 15% of operation and maintenance expenses including security expenses; and

(iii) Operation and maintenance expenses, including security expenses for one month.”

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

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

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

“3. Definition - *In these regulations, unless the context otherwise requires:-*

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

116. The Petitioner has submitted that it has computed the 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%. The IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The rate of IWC considered is 12.05% (SBI 1 year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20, 11.25% (SBI 1 year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) for 2020-21, 10.50% (SBI 1 year MCLR applicable as on 1.4.2021 of 7.00% plus 350 basis points) for 2021-24 onwards. The components of the working capital and interest allowed thereon are as follows:



(₹ in lakh)

Combined Asset						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
A	Working Capital for O & M Expenses (O&M expenses for 1 month)	195.21	202.20	209.31	216.85	224.17
B	Working Capital for Maintenance Spares (15% of O&M expenses)	351.38	363.95	376.76	390.33	403.50
C	Working Capital for Receivables (Equivalent to 45 days of annual fixed cost / annual transmission charges)	1212.70	1222.94	1212.47	1198.50	1180.32
D	Total of Working Capital	1759.30	1789.09	1798.54	1805.68	1807.98
E	Rate of Interest for Working Capital (%)	12.05	11.25	10.50	10.50	10.50
F	Interest of working capital	212.00	201.27	188.85	189.60	189.84

Annual Fixed Charges for the 2019-24 Tariff Period

117. The transmission charges allowed for the 2019-24 tariff period are as follows:

(₹ in lakh)

Combined Asset					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	2507.56	2567.87	2584.02	2585.45	2585.45
Interest on Loan	2143.90	2002.26	1810.99	1603.44	1394.23
Return on Equity	2657.30	2721.65	2738.90	2740.42	2740.42
Operation and Maintenance Expenses	2342.55	2426.36	2511.72	2602.23	2690.00
Interest on Working Capital	212.00	201.27	188.85	189.60	189.84
Total	9863.31	9919.41	9834.48	9721.14	9599.94

Filing Fee and Publication Expenses

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

119. BSPHCL has submitted that grant of filing fee and expenses incurred are upon the discretion of the Commission and need not necessarily be allowed in all cases.



120. In response, the Petitioner has reiterated its submissions made in the petition.

121. We have considered the submissions of the Petitioner and BSPHCL. 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

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

Goods and Services Tax

123. 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. BSPHCL has opposed the prayer for GST as premature.

124. In response, the Petitioner has reiterated its submissions made in the petition.

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

Security Expenses

126. The Petitioner has submitted that security expenses for the transmission



assets are not claimed in the instant petition and it would file a separate petition for claiming the overall security expenses and the consequential 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 will be filed on yearly basis on the basis of the actual expenses of previous year subject to true-up at the end of the year on actual expenses. The Petitioner has submitted that the difference, if any, between the estimated security expenses and actual security expenses as the audited accounts may be allowed to be recovered from the beneficiaries on a yearly basis.

127. We have considered the submissions of the Petitioner. The Petitioner has claimed consolidated security expenses on projected basis for the 2019-24 tariff period on the basis of actual security expenses incurred in 2018-19 in Petition No. 260/MP/2020. The Commission vide order dated 3.8.2021 in Petition No. 260/MP/2020 approved security expenses from 1.4.2019 to 31.3.2024. Therefore, security expenses will be shared in terms of the order dated 3.8.2021 in Petition No. 260/MP/2020. Accordingly, the Petitioner's prayer in the instant petition for allowing it to file a separate petition for claiming the overall security expenses and consequential IWC has become infructuous.

Capital Spares

128. The Petitioner has sought reimbursement of capital spares at the end of tariff period. The Petitioner's claim, if any, shall be dealt with in accordance with the



provisions of the 2019 Tariff Regulations.

Sharing of Transmission Charges

129. BSPHCL has submitted that present consumers cannot be burdened for the past charges.

130. In response, the Petitioner has submitted that the sharing of transmission charges is being claimed as per the relevant regulations.

131. We have considered the submissions of the Petitioner and BSPHCL. The Commission vide order dated 19.9.2019 in respect of Asset-XII has held as follows:

“18. We have considered the submissions made by the petitioner regarding the COD of Asset-III. Out of the four bays covered in Asset-III, the COD of two bays is allowed matching with downstream line on 20.10.2016. The COD of remaining two bays as claimed by the petitioner under Regulation 4(3)(ii) is not admissible. The COD for remaining two bays is allowed on 10.3.2017 matching with commissioning of downstream system. The IDC/IEDC in respect of two bays which is considered as commissioned on 10.3.2017 shall not be capitalized and same (from 20.10.2016 to 9.3.2017) shall be borne by the BSPHCL.”

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



133. To summarise,

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

(₹ in lakh)

Asset- I				
Particulars	2015-16 (Pro-rata for 91 days)	2016-17	2017-18	2018-19
Total	19.75	143.34	147.33	144.84

(₹ in lakh)

Asset- II				
Particulars	2015-16 (Pro-rata for 59 days)	2016-17	2017-18	2018-19
Total	11.53	131.02	142.81	142.51

(₹ in lakh)

Asset- III				Asset-IV
Particulars	2016-17 (Pro-rata for 189 days)	2017-18	2018-19	2018-19 (Pro-rata for 43 days)
Total	112.59	243.44	262.82	19.87

(₹ in lakh)

Asset- V			
Particulars	2016-17 (Pro-rata for 363 days)	2017-18	2018-19
Total	165.04	297.74	296.55

(₹ in lakh)

Asset- VI			
Particulars	2016-17 (Pro-rata for 183 days)	2017-18	2018-19
Total	139.67	299.57	310.79

(₹ in lakh)



Asset- VII				
Particulars	2015-16 (Pro-rata for 32 days)	2016-17	2017-18	2018-19
Total	9.02	120.99	132.34	146.95

(₹ in lakh)

Asset- VIII			
Particulars	2016-17 (Pro-rata for 181 days)	2017-18	2018-19
Total	242.20	536.47	559.91

(₹ in lakh)

Asset- IX			
Particulars	2016-17 (Pro-rata for 181 days)	2017-18	2018-19
Total	405.10	925.31	990.75

(₹ in lakh)

Asset- X			
Particulars	2016-17 (Pro-rata for 215 days)	2017-18	2018-19
Total	61.28	132.75	162.55

(₹ in lakh)

Asset- XI				Asset- XII
Particulars	2016-17 (Pro-rata for 177 days)	2017-18	2018-19	2016-17 (Pro-rata for 141 days)
Total	280.18	842.85	883.96	141.75

(₹ in lakh)

Asset- XIII			
Particulars	2016-17 (Pro-rata for 22 days)	2017-18	2018-19
Total	44.84	770.51	808.44

(₹ in lakh)

Asset- XIV			
Particulars	2016-17 (Pro-rata for days)	2017-18	2018-19
Total	153.50	499.40	536.26

(₹ in lakh)



	Asset- XV		Asset- XVI	
Particulars	2017-18 (Pro-rata for 106 days)	2018-19	2017-18 (Pro-rata for 20 days)	2018-19
Total	192.09	698.18	55.67	1055.88

(₹ in lakh)

	Asset- XVII		Asset- XVIII	
Particulars	2017-18 (Pro-rata for 3 days)	2018-19	2017-18 (Pro-rata for 46 days)	2018-19
Total	0.69	94.96	36.19	315.91

(₹ in lakh)

	Asset- XIX		Asset- XX
Particulars	2017-18 (Pro-rata for 188 days)	2018-19	2018-19 (Pro-rata for 183 days)
Total	121.57	232.76	83.33

(₹ in lakh)

Asset- XXI				
Particulars	2015-16 (Pro-rata for 263 days)	2016-17	2017-18	2018-19
Total	168.92	253.80	269.01	278.14

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

(₹ in lakh)

Asset	2019-20	2020-21	2021-22	2022-23	2023-24
Combined Asset	9863.31	9919.41	9834.48	9721.14	9599.94

134. Annexure-I and Annexure-II given hereinafter shall form part of the order.

135. This order disposes of Petition No. 670/TT/2020 in terms of the above discussions and findings.

sd/-
(P. K. Singh)
Member

sd/-
(Arun Goyal)
Member

sd/-
(I. S. Jha)
Member



Annexure-I

Asset-I								
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations			
Capital Expenditure as on COD		2014-19			2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Sub-station	126.89	768.95	895.84	5.28	23.31	42.88	46.58	47.30
Total	126.89	768.95	895.84		23.31	42.88	46.58	47.30
Average Gross Block (₹ in lakh)					441.46	812.20	882.10	895.84
Weighted Average Rate of Depreciation (%)					5.28	5.28	5.28	5.28

Asset-II								
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations			
Capital Expenditure as on COD		2014-19			2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Sub-station	137.19	741.37	878.56	5.28	21.01	39.26	45.07	46.39
Total	137.19	741.37	878.56		21.01	39.26	45.07	46.39
Average Gross Block (₹ in lakh)					397.94	743.62	853.56	878.56
Weighted Average Rate of Depreciation (%)					5.28	5.28	5.28	5.28



Asset-III							
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations		
Capital Expenditure as on COD		2014-19			2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Sub-station	1243.35	360.22	1603.58	5.28	67.10	76.61	84.67
IT Equipment and Software	5.10	0.05	5.15	5.28	0.27	0.27	0.27
Total	1248.45	360.28	1608.73		67.37	76.88	84.94
Average Gross Block (₹ in lakh)					1275.88	1456.02	1608.73
Weighted Average Rate of Depreciation (%)					5.28	5.28	5.28

Asset-IV					
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations
Capital Expenditure as on COD		2014-19			2018-19 (₹ in lakh)
Sub-station	976.23	0.00	976.23	5.28	51.54
Total	976.23	0.00	976.23		51.54
Average Gross Block (₹ in lakh)					976.23
Weighted Average Rate of Depreciation (%)					5.28



Asset-V							
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations		
Capital Expenditure as on COD		2014-19			2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Sub-station	202.10	1609.64	1811.74	5.28	51.09	93.58	95.66
Total	202.10	1609.64	1811.74		51.09	93.58	95.66
Average Gross Block (₹ in lakh)					967.62	1772.44	1811.74
Weighted Average Rate of Depreciation (%)					5.28	5.28	5.28

Asset-VI							
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations		
Capital Expenditure as on COD		2014-19			2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Sub-station	1558.35	354.46	1912.81	5.28	85.62	94.24	100.25
Total	1558.35	354.46	1912.81		85.62	94.24	100.25
Average Gross Block (₹ in lakh)					1621.63	1784.79	1898.73
Weighted Average Rate of Depreciation (%)					5.28	5.28	5.28



Asset-VII								
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations			
Capital Expenditure as on COD		2014-19			2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Sub-station	542.21	444.34	986.55	5.28	30.58	36.56	41.74	47.49
Total	542.21	444.34	986.55		30.58	36.56	41.74	47.49
Average Gross Block (₹ in lakh)					579.16	692.34	790.53	899.52
Weighted Average Rate of Depreciation (%)					5.28	5.28	5.28	5.28

Asset-VIII							
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations		
Capital Expenditure as on COD		2014-19			2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Sub-station	2203.38	954.89	3158.27	5.28	130.51	149.57	160.61
Total	2203.38	954.89	3158.27		130.51	149.57	160.61
Average Gross Block (₹ in lakh)					2471.69	2832.77	3041.90
Weighted Average Rate of Depreciation (%)					5.28	5.28	5.28



Asset-IX							
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations		
Capital Expenditure as on COD		2014-19			2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Sub-station	3595.91	1991.64	5587.55	5.28	215.58	256.20	283.06
Total	3595.91	1991.64	5587.55		215.58	256.20	283.06
Average Gross Block (₹ in lakh)					4082.93	4852.18	5360.99
Weighted Average Rate of Depreciation (%)					5.28	5.28	5.28

Asset-X							
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations		
Capital Expenditure as on COD		2014-19			2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Sub-station	179.70	399.97	579.67	5.28	10.95	19.63	28.72
Total	179.70	399.97	579.67		10.95	19.63	28.72
Average Gross Block (₹ in lakh)					207.40	371.74	544.02
Weighted Average Rate of Depreciation (%)					5.28	5.28	5.28



Asset-XI							
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations		
Capital Expenditure as on COD		2014-19			2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Sub-station	1541.90	3732.71	5274.60	5.28	161.73	248.57	266.79
Total	1541.90	3732.71	5274.60		161.73	248.57	266.79
Average Gross Block (₹ in lakh)					3063.07	4707.69	5052.87
Weighted Average Rate of Depreciation (%)					5.28	5.28	5.28

Asset-XII					
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations
Capital Expenditure as on COD		2014-19			2016-17 (₹ in lakh)
Sub-station	1472.04	41.58	1513.63	5.28	78.82
PLCC	11.61	5.20	16.81	6.33	0.90
IT Equipment and Software	70.64	0.03	70.67	5.28	3.73
Total	1554.29	46.81	1601.10		83.45
Average Gross Block (₹ in lakh)					1577.70
Weighted Average Rate of Depreciation (%)					5.29



Asset-XIII							
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations		
Capital Expenditure as on COD		2014-19			2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Sub-station	3029.35	548.32	3577.67	5.28	159.96	169.06	183.53
PLCC	33.56	0.41	33.98	6.33	2.12	2.14	2.15
IT Equipment and Software	141.33	1.75	143.08	5.28	7.46	7.51	7.55
Total	3204.24	550.48	3754.72		169.55	178.71	193.23
Average Gross Block (₹ in lakh)					3204.51	3377.96	3652.93
Weighted Average Rate of Depreciation (%)					5.29	5.29	5.29

Asset-XIV							
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations		
Capital Expenditure as on COD		2014-19			2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Sub-station	2580.48	829.77	3410.25	5.28	142.49	158.22	173.88
Total	2580.48	829.77	3410.25		142.49	158.22	173.88
Average Gross Block (₹ in lakh)					2698.76	2996.52	3293.12
Weighted Average Rate of Depreciation (%)					5.28	5.28	5.28



Asset-XV						
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations	
Capital Expenditure as on COD		2014-19			2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Sub-station	3319.57	481.47	3801.04	5.28	178.77	191.48
Total	3319.57	481.47	3801.04		178.77	191.48
Average Gross Block (₹ in lakh)					3385.81	3626.54
Weighted Average Rate of Depreciation (%)					5.28	5.28

Asset-XVI						
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations	
Capital Expenditure as on COD		2014-19			2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Sub-station	4476.18	455.57	4931.75	5.28	238.85	250.88
Total	4476.18	455.57	4931.75		238.85	250.88
Average Gross Block (₹ in lakh)					4523.74	4751.52
Weighted Average Rate of Depreciation (%)					5.28	5.28



Asset-XVII						
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations	
Capital Expenditure as on COD		2014-19			2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Sub-station	475.54	132.94	608.48	5.28	26.20	29.70
Total	475.54	132.94	608.48		26.20	29.70
Average Gross Block (₹ in lakh)					496.12	562.59
Weighted Average Rate of Depreciation (%)					5.28	5.28

Asset-XVIII						
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations	
Capital Expenditure as on COD		2014-19			2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Sub-station	1288.40	357.73	1646.13	5.28	74.10	83.55
IT Equipment and Software	5.40	0.06	5.46		0.29	0.29
Total	1293.80	357.79	1651.59		74.39	83.83
Average Gross Block (₹ in lakh)					1408.84	1587.73
Weighted Average Rate of Depreciation (%)					5.28	5.28



Asset-XIX						
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations	
Capital Expenditure as on COD		2014-19			2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Sub-station	1399.79	0.00	1399.79	5.28	73.91	73.91
Total	1399.79	0.00	1399.79		73.91	73.91
Average Gross Block (₹ in lakh)					1399.79	1399.79
Weighted Average Rate of Depreciation (%)					5.28	5.28

Asset-XX					
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations
Capital Expenditure as on COD		2014-19			2018-19 (₹ in lakh)
Sub-station	842.14	249.86	1092.00	5.28	51.06
Total	842.14	249.86	1092.00		51.06
Average Gross Block (₹ in lakh)					967.07
Weighted Average Rate of Depreciation (%)					5.28



Asset-XXI								
2014-19	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations			
Capital Expenditure as on COD		2014-19			2015-16 (₹ in lakh)	2016-17 (₹ in lakh)	2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Sub-station	1248.03	497.93	1745.96	5.28	70.16	77.87	86.08	91.50
Total	1248.03	497.93	1745.96		70.16	77.87	86.08	91.50
Average Gross Block (₹ in lakh)					1328.72	1474.90	1630.22	1733.01
Weighted Average Rate of Depreciation (%)					5.28	5.28	5.28	5.28



Annexure-II

Combined Asset									
2019-24	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2024 (₹ in lakh)	Rate of Depreci ation (%)	Annual Depreciation as per Regulations				
Capital Expenditure as on 1.4.2019		2019-24			2019-20 (₹ in lakh)	2020-21 (₹ in lakh)	2021-22 (₹ in lakh)	2022-23 (₹ in lakh)	2023-24 (₹ in lakh)
Sub-station	46151.19	2338.30	48489.49	5.28	2482.36	2542.66	2558.82	2560.25	2560.25
PLCC	33.98	0.00	33.98	6.33	2.15	2.15	2.15	2.15	2.15
IT Equipment and software	153.68	0.00	153.68	15.00	23.05	23.05	23.05	23.05	23.05
Total	46338.85	2338.30	48677.15		2507.56	2567.87	2584.02	2585.45	2585.45
Average Gross Block (₹ in lakh)					47201.98	48344.14	48650.17	48677.15	48677.15
Weighted Average Rate of Depreciation (%)					5.31	5.31	5.31	5.31	5.31

