

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 168/TT/2022**

**Coram:**

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

**Date of Order: 31.10.2022**

**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 2014-19 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of 2019-24 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 in respect of Asset-1: Bhiwani-Hisar 400 kV D/C line along with associated bays at Bhiwani and Hisar; Asset-2: LILO of Moga- Bhiwadi 400 kV D/C line at Hisar along with associated bays and Asset-3: 765 kV S/C Jaipur (RVPN) - Bhiwani TL (CKT-II) along with associated bays under "Northern Region system Strengthening Scheme XXV" in the Northern Region.

**And in the matter of:**

Power Grid Corporation of India Limited,  
SAUDAMINI, Plot No-2,  
Sector-29, Gurgaon-122 001 (Haryana).

**.....Petitioner**

**Versus**

1. Ajmer Vidyut Vitran Nigam Limited,  
132 kV, GSS RVPNL Sub-Station Building,  
Caligiri Road, Malviya Nagar, Jaipur-302017 (Rajasthan).
2. Jaipur Vidyut Vitran Nigam Limited,  
132 kV, GSS RVPNL Sub-Station Building,  
Caligiri Road, Malviya Nagar, Jaipur-302017 (Rajasthan).
3. Jodhpur Vidyut Vitran Nigam Limited,  
132 kV, GSS RVPNL Sub-Station Building,  
Caligiri Road, Malviya Nagar, Jaipur-302017 (Rajasthan).
4. Himachal Pradesh State Electricity Board,  
Vidyut Bhawan, Kumar House Complex Building II,  
Shimla-171004 (Himachal Pradesh).



5. Punjab State Power Corporation Limited,  
The Mall, PSEB Head Office,  
Patiala-147001 (Punjab).
6. Haryana Power Purchase Centre,  
Shakti Bhawan, Sector-6,  
Panchkula-134109 (Haryana).
7. Power Development Department,  
Government of Jammu & Kashmir,  
Mini Secretariat, Jammu.
8. Uttar Pradesh Power Corporation Limited,  
Shakti Bhawan, 14, Ashok Marg,  
Lucknow-226001 (Uttar Pradesh).
9. BSES Yamuna Power Limited,  
B-Block, Shakti Kiran Building (Near Karkadooma Court),  
Karkadooma 2nd Floor, New Delhi-110092.
10. BSES Rajdhani Power Limited,  
BSES Bhawan, Nehru Place,  
New Delhi-110019.
11. Tata Power Delhi Distribution Limited,  
NDPL House, Hudson Lines,  
Kingsway Camp, North Delhi-110009.
12. Chandigarh Administration,  
Sector -9, Chandigarh.
13. Uttarakhand Power Corporation Limited,  
Urja Bhawan, Kanwali Road,  
Dehradun (Uttarakhand).
14. North Central Railway,  
Allahabad (Uttar Pradesh).
15. New Delhi Municipal Council,  
Palika Kendra, Sansad Marg,  
New Delhi-110002.

...Respondent(s)

**For Petitioner:** Shri S. S. Raju, PGCIL  
Shri D. K. Biswal, PGCIL

**For Respondent:** None.



## ORDER

The instant petition has been filed by Power Grid Corporation of India Limited, a deemed transmission licensee, for truing up of transmission tariff based on capital expenditure of 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) and for determination of transmission tariff of 2019-24 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) in respect of the following assets under “Northern Region System Strengthening Scheme - XXV” in the Northern Region (hereinafter referred to as “the transmission project”):

**Asset-1:** Bhiwani-Hisar 400 kV D/C line along with associated bays at Bhiwani and Hisar;

**Asset-2:** LILO of Moga Bhiwadi 400 kV D/C line at Hisar along with associated bays; and

**Asset-3:** 765 kV S/C Jaipur (RVPN)- Bhiwani Transmission Line (CKT-II) along with associated bays (collectively referred to as “transmission assets in 2014-19 tariff period and as “Combined Asset” in 2019-24 tariff period).

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

*“1) Approve the trued up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the assets covered under this petition, as per para 8 and 9 above.*

*2) Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2014 and Tariff regulations 2019 as per para 8 and 9 above for respective block.*

*3) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, and other expenditure (if any) in relation to the filing of petition.*

*4) Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations,*



2019.

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

6) Allow the Petitioner to claim the overall security expenses and consequential IOWC on that security expenses separately as mentioned at para 9.10 above.

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

8) Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if GST on transmission is 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.

9) Allow the petitioner to recover FERV on the foreign loans deployed as provided under clause 50 of the Tariff Regulations, 2014.

10) Approve the Additional ROE of 0.50% for Asset-1 in accordance with Regulation 24(2)(i) of the 2014 Tariff Regulations.

11) Condone the delay in filing the present petition caused due to prevailing Covid-19 pandemic.

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) of the transmission project was accorded by the Board of Directors of the Petitioner's Company in its 291<sup>st</sup> meeting held on 19.9.2013 and communicated vide Memorandum No. C/CP/NRSS XXV, dated 24.9.2013 at an estimated cost of ₹68069 lakh including IDC of ₹3595 lakh, based on June, 2013 price level. The Revised Cost Estimate (RCE) of the transmission project has been approved by the Board of Directors in its 338<sup>th</sup> meeting held on 10.3.2017 and communicated vide Memorandum No. C/CP/NRSS-XXV, dated 31.3.2017 at an estimated cost of ₹75690 lakh including IDC of ₹4638 lakh, based on October, 2016 price level.

b. The scope of work under the transmission project is as follows:

### **Transmission Line**

- i. Jaipur (RVPNL)-Bhiwani 765 kV S/C line (2<sup>nd</sup>) - 255 km.
- ii. Bhiwani – Hisar 400 kV D/C line - 55 km.



- iii. LILO of Moga – Bhiwadi 400 kV D/C line at Hisar - 2 km.

**Sub-station**

- i. Extension of 765/400 kV Bhiwani Sub-station.
- ii. Extension of 400/220 kV Hisar Sub-station.
- iii. Extension of 765/400 kV Jaipur (RVPNL) Sub-station.

**Reactive Compensation**

- i. 765 kV, 240 MVAR line reactors at each end of Jaipur (RVPNL) – Bhiwani line.
- c. The complete scope of the transmission project as per IA is covered in the instant petition. The details of scheduled date of commercial operation (SCOD), date of commercial operation (COD) and time over-run in respect of the transmission assets are as follows:

Nomenclature of the asset in previous orders	Nomenclature of the asset in instant petition	COD	SCOD	Time over-run	Time over-run condoned
<b>Order dated 26.4.2016 in Petition No. 208/TT/2015</b>					
Asset-1	Asset-1	2.11.2015	18.3.2016	NA	NA
Asset-2	Asset-2	2.7.2015	18.3.2016	NA	NA
<b>Order dated 27.5.2021 in Petition No. 84/TT/2019 and order dated 7.9.2017 in Petition No. 213/TT/2016</b>					
Asset-1	Asset-3	7.10.2016	18.3.2016	6 months 19 days	6 months 19 days

- d. The Commission vide order dated 26.4.2016 in Petition No. 208/TT/2015 restricted the claimed capital cost of Asset-1 and Asset-2 to FR apportioned cost for the purpose of tariff determination and the same will be reviewed at the time of truing up. The relevant portion of the order dated 26.4.2016 in Petition No. 208/TT/2015 is as follows:

*“14. .... The Petitioner has submitted, vide affidavit dated 12.4.2016, that the RCE is under approval and will be submitted after the RCE is approved by its Board. The capital cost of the instant assets is restricted to the approved apportioned FR cost and the same will be reviewed at the time of truing-up.”*

- e. Further, the Commission, vide order dated 26.4.2016 in Petition No. 208/TT/2015 disallowed the Petitioner’s claim of additional RoE of 0.50% for early COD of Asset-1 in accordance with Regulation 24(2)(i) of the 2014 Tariff Regulations in the absence of the requisite certificate and directed the



Petitioner to submit the certificate at the time of truing up. The relevant portion of the order dated 26.4.2016 is as follows:

*“31. ....As Asset-1 has been commissioned on 2.11.2015, which is within the above timeline, the petitioner has claimed the additional ROE of 0.05% for Asset-1. However, in accordance with the Regulation 24(2)(iii) of the 2014 Tariff Regulations, the petitioner is also required to submit the certificate issued by the Regional Power Committee/ National Power Committee that commissioning of the particular element will benefit the system operation in the regional/ national grid, which is not provided by the petitioner. Accordingly, in absence of such certificate by RLDC, we have not allowed the additional ROE of 0.05% and direct the petitioner to submit the certificate issued by the Regional Power Committee/ National Power Committee for Asset-1 stating clearly that commissioning of the particular element has benefitted the system operation in the regional/ national grid at the time of truing up.”*

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

5. The Petitioner has served the petition on the Respondents and notice regarding filing of this petition has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or suggestions have been received from the general public in response to the aforesaid notice published in the newspapers by the Petitioner. Uttar Pradesh Power Corporation Limited (UPPCL), Respondent No. 1, has filed its reply vide affidavit dated 21.6.2022 and has raised issues of extension of SCOD as per RCE, completion cost to be compared with the bid cost, grossing up of RoE, additional RoE for Asset-1, Additional Capital Expenditure (ACE) and Initial Spares. In response, the Petitioner has filed its rejoinder vide affidavit dated 12.9.2022. The issues raised by UPPCL and the clarifications given by the Petitioner are considered in the relevant portions of this order.

6. The hearing in the matter was held on 14.9.2022 and order was reserved. This order is issued considering the submissions made by the Petitioner in the petition vide



affidavits dated 14.3.2022, and 4.8.2022, UPPCL's reply filed vide affidavit dated 21.6.2022 and Petitioner's rejoinder vide affidavit dated 12.9.2022.

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

**Truing up of Annual Fixed Charges of 2014-19 Period**

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

**Asset-1**

(₹ in lakh)

Particulars	2015-16 (pro-rata 151 days)	2016-17	2017-18	2018-19
Depreciation	203.09	544.02	551.89	559.47
Interest on Loan	192.78	511.39	470.99	444.31
Return on Equity	234.27	627.35	636.44	646.91
Interest on Working Capital	21.13	55.32	55.33	55.70
O&M Expenses	119.88	300.19	310.16	320.44
<b>Total</b>	<b>771.15</b>	<b>2,038.27</b>	<b>2,024.81</b>	<b>2,026.83</b>

**Asset-2**

(₹ in lakh)

Particulars	2015-16 (pro-rata 274 days)	2016-17	2017-18	2018-19
Depreciation	108.21	182.39	187.56	192.71
Interest on Loan	92.32	160.05	149.65	143.93
Return on Equity	120.63	203.13	208.92	215.26
Interest on Working Capital	17.73	26.82	27.31	27.93
O&M Expenses	187.11	258.24	266.82	275.65
<b>Total</b>	<b>526.00</b>	<b>830.63</b>	<b>840.26</b>	<b>855.48</b>

**Asset-3**

(₹ in lakh)

Particulars	2016-17 (pro-rata 176 days)	2017-18	2018-19
Depreciation	1,264.13	2,855.16	2,962.63
Interest on Loan	1,150.38	2,438.16	2,402.00
Return on Equity	1,417.05	3,202.52	3,333.63



Interest on Working Capital	92.58	204.61	209.67
O&M Expenses	173.16	371.16	383.42
<b>Total</b>	<b>4,097.30</b>	<b>9,071.61</b>	<b>9,291.35</b>

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

**Asset-1**

(₹ in lakh)

Particulars	2015-16 (pro-rata 151 days)	2016-17	2017-18	2018-19
O&M Expenses	24.21	25.02	25.85	26.70
Maintenance Spares	43.58	45.03	46.52	48.07
Receivables	311.52	339.71	337.47	337.80
Total Working Capital	379.31	409.76	409.84	412.57
Rate of Interest (in %)	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>21.13</b>	<b>55.32</b>	<b>55.33</b>	<b>55.70</b>

**Asset-2**

(₹ in lakh)

Particulars	2015-16 (pro-rata 274 days)	2016-17	2017-18	2018-19
O&M Expenses	20.83	21.52	22.24	22.97
Maintenance Spares	37.49	38.74	40.02	41.35
Receivables	117.10	138.44	140.05	142.58
Total Working Capital	175.42	198.70	202.31	206.90
Rate of Interest (in %)	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>17.73</b>	<b>26.82</b>	<b>27.31</b>	<b>27.93</b>

**Asset-3**

(₹ in lakh)

Particulars	2016-17 (pro-rata 176 days)	2017-18	2018-19
O&M Expenses	29.93	30.93	31.95
Maintenance Spares	53.87	55.67	57.51
Receivables	1,416.21	1,511.94	1,548.56
Total Working Capital	1,500.01	1,598.54	1,638.02
Rate of Interest (in %)	12.80	12.80	12.80
<b>Interest on Working Capital</b>	<b>92.58</b>	<b>204.61</b>	<b>209.67</b>





## Capital Cost

10. The capital cost of the transmission assets has been calculated in accordance with Regulation 9(3) of the 2014 Tariff Regulations.

11. The Commission admitted the capital cost as on COD with respect to Asset-1 and Asset-2 in order dated 26.4.2016 in Petition No. 208/TT/2015 and Asset-3 in order dated 27.5.2021 in Petition No. 84/TT/2019 and the ACE in 2015-19 period in respect of the transmission assets. The details of the same are as follows:

Asset	Apportioned approved cost as per FR	Admitted cost as on COD	Admitted ACE				Admitted cost as on 31.3.2019
			2015-16	2016-17	2017-18	2018-19	
Asset-1	8693.38	8160.06	510.53	22.79	0.00	0.00	8693.38
Asset-2	2731.72	1989.20	739.87	2.65	0.00	0.00	2731.72
Asset-3	56643.9	46653.66	0.00	6116.48	2805.26	1000.00	56575.40

12. The Petitioner in the instant true-up petition has submitted the following capital cost as on COD and actual ACE incurred in respect of the transmission assets:

Assets	Apportioned approved cost as per FR	Apportioned approved cost (RCE)	Admitted cost as on COD	Admitted ACE				Cost as on 31.3.2019
				2015-16	2016-17	2017-18	2018-19	
Asset-1	8693.38	11109.91	8485.86	1945.73	4.27	234.56	69.85	10740.27
Asset-2	2731.72	3672.98	2038.07	1398.48	0.00	195.05	0.00	3631.60
Asset-3	56643.9	60907.11	47272.66	0.00	5575.15	2727.59	1331.48	56906.88
<b>Total</b>	<b>68069.00</b>	<b>75690.00</b>	<b>57796.59</b>	<b>3344.21</b>	<b>5579.42</b>	<b>3157.2</b>	<b>1401.33</b>	<b>71278.75</b>

## Cost over-run

13. The Petitioner has claimed total capital cost of ₹57796.59 lakh in respect of the transmission assets as on COD and ₹71278.75 as on 31.3.2019 against the FR cost of ₹68069.00 lakh and RCE approved cost of ₹75690.00 lakh.

14. UPPCL has submitted that after the execution of Asset-1, Asset-2 and Asset-3, the Petitioner's Board approved Revised Cost Estimates (RCE) on 10.3.2017 with an



estimated cost of project at ₹75690 lakh which is higher by ₹7621 lakh when compared to the estimate as per the IA. The RCE has also revised the SCOD to October, 2016 in place of original SCOD of 18.3.2016 in order to coincide with the SCOD of the project i.e. 7.10.2016 of Asset-3 for claiming that there was no delay in execution of the project. UPPCL has submitted that after splitting the transmission project into three assets and revising the cost estimate of the transmission project and SCOD, the Petitioner has avoided issuing asset-wise estimates. The Petitioner not issued RCE asset wise after considering costs, asset-wise costs in Petition No. 208/TT/2015 and Petition No. 84/TT/2019.

15. In response, the Petitioner has submitted that RCE was approved by its Board of Directors vide memorandum dated 10.3.2017, wherein individual assets are defined similar to the IA. Regulation 6 of the 2014 Tariff Regulations provides the flexibility to the transmission licensees to split/ break the capital cost of the project into parts based on transmission lines or sub-stations forming part of the transmission project for the purpose of tariff. Therefore, it has grouped various assets of the projects as per their COD for claiming the transmission tariff. The Petitioner has submitted that it is claiming truing up of tariff for 2014-19 period for all 3 numbers of assets covered in the instant project individually as claimed and approved in its original petition. The Petitioner has combined all 3 numbers of assets on effective COD during 2019-24 and accordingly transmission tariff of Combined Asset for 2019-24 tariff period is claimed. The Petitioner has considered SCOD of 18.3.2016 as given in the IA and reasons for time over-run in case of Asset-3 have already been submitted in Petition No. 213/TT/2016, and the Commission has condoned the time over-run in case of Asset-3 vide order dated 7.9.2017.



16. UPPCL has submitted that the Petitioner has considered some tariff related parameters (such as IA approval, RCE, equity infusion, debt infusion, IDC, initial spares) on overall project basis while the Petitioner has presented few other parameters (such as element/ asset tariff, initial spares in asset-wise tariff and true up tariff) on individual asset basis. At the stage of true up, the project as a whole must be considered and accordingly all the costs after consolidating costs of individual assets shall be considered.

17. In response, the Petitioner has submitted that it has filed the instant true-up petition for all the assets covered in the project as per the 2014 Tariff Regulations. Further, based on the nature of work, multiple packages are awarded by the Petitioner for given scope of work. Depending upon factors such as nature of work i.e. supply, erection, 'Civil', 'Consultancy' packages, on shore, off shore contracts and quantum of work i.e. line length, Green field /Brown field Sub-station and supply items such as tower package, conductor package, insulator packages etc., multiple packages are awarded for given scope of work. It is done for the purpose of competitiveness, efficiency, availability of prospective bidders, project execution schedule, combination/ clubbing of equipment/ services that can be advantageously engineered and independence with regard to its work content and clear-cut terminal points for interfacing, the reference bids/ contracts vary from item to item.

18. In response to the Commission's query with regard to reasons for variation in capital cost as on COD of the transmission assets, the Petitioner vide affidavit dated 4.8.2022 has submitted the details of cost over-run with respect to apportioned approved FR cost and RCE, and the same are as follows:



Sl. No.	Variation on account of	Increase	
		(₹ in lakh)	(in %)
(i)	<b>Price Variation</b>		
a	DPR to LOA (on competitive bidding while award)	947	1.39 %
b	LoA provisions (towards PV based on indices)	4422	6.50 %
	<b>Sub-Total (PV)</b>	<b>5369</b>	<b>7.89 %</b>
(ii)	<b>Variation in quantities of approved Items</b>	<b>1197</b>	<b>1.76 %</b>
(iii)	<b>Crop, Tree and Forest Compensation</b>	<b>1513</b>	<b>2.22 %</b>
(iv)	<b>FERV</b>	<b>997</b>	<b>1.46 %</b>
(v)	<b>Other Reasons (IEDC and IDC)</b>		
a	IEDC (incl. Contingencies)	(-) 2498	(-) 3.67 %
b	IDC	1043	1.53 %
	<b>Sub- Total (IEDC &amp; IDC)</b>	<b>(-) 1455</b>	<b>(-) 2.14 %</b>
	<b>GRAND TOTAL</b>	<b>7621</b>	<b>11.20</b>

a. **Price Variation (PV) (Net increase of ₹5369 lakh: 7.89 %)**

The Petitioner has submitted that there has been an increase in the cost of the project by ₹5369 lakh on account of price variation , which works out to 7.89% of the approved cost. Out of a total price variation, variation of ₹947 lakh has been incurred from the time of approval of project till award of various contracts (DPR to LOA) based on prices received as per competitive bidding and a variation of ₹4422 lakh has been incurred/ likely to be incurred on the basis of PV based on indices as per provision of respective contracts. In regard to PV from DPR to LOA, the Petitioner has submitted that the contracts for various packages under the transmission project were awarded to the lowest evaluated and responsive bidder, on the basis of Competitive Bidding by the Petitioner, after publication of NITs in leading newspapers. Thus, the award prices represent the lowest prices



available at the time of bidding of various packages. Further, the Petitioner has submitted that a price variation ₹4422 lakh has been incurred/ likely to be incurred under contract on the basis of provision of respective contracts. The reasons for the same is attributable to inflationary trends prevalent during execution of project which is seen from the trend of variation in indices of various major raw materials as follows:

Name of Indices	December 2011 (one month prior to first OBD)	March 2012	DPR (June 2013 PL)	March 2014	March 2015	% Increase from first OBD
Tower Steel	51961	53234	53423	53586	49918	-3.93%
HG Zinc	118700	120600	125900	159200	155600	31.09%
EC Grade Al	136000	142167	138633	147717	151883	11.68%
CRGO	180040	165697	157399	194009	226050	25.56%
Copper	425758	460084	440199	422611	393972	-7.47%
WPI	157.30	161.00	173.20	180.30	176.10	11.95%
WPI for Ferrous metals	151.10	154.80	153.70	157.80	151.40	0.20%
WPI for Fuel & Power	172.70	177.80	194.70	214.20	187.30	8.45%
CPI	197.00	201.00	231.00	239.00	254.00	28.93%

Thus, the PV under the project is attributable to the inflationary trend (except tower steel and copper) prevailing during execution of project and also market forces prevailing at the time of bidding process of various packages.

b. **Variation in quantities of approved items (net increase of ₹1197 lakh: 1.76%)**

During execution of project, there has been increase in overall line length from 312 km in DPR to 334 km. This has mainly resulted in higher conductor and stringing quantity as per actual execution and site conditions as follows:

Conductor : ₹1002 lakh

Stringing : ₹106 lakh



Accordingly, there has been an increase in the cost of the project by ₹1197 lakh, which works out to 1.76 % of the approved cost.

c. **Crop, tree and forest compensation (net increase of ₹1513 lakh: 2.22%)**

₹1893 lakh were provided under this head in the approved DPR. However, the actual expenditure made and balance anticipated expenditure of ₹3405 lakh is likely to be incurred under the head, resulting in an increase of ₹1513 lakh in cost of the transmission project. The details of increase in cost under the head is as follows:

(₹ in lakh)			
Description	As per DPR	As per RCE	Remarks
Compensation towards crop, PTCC	1704	3258	Based on actual/ anticipated payment.
Compensation towards Forest	189	147	Based on actual/ anticipated payment.
<b>Total</b>	<b>1893</b>	<b>3405</b>	

d. **Foreign Exchange Rate Variation (Net increase of ₹997 lakh: 1.46%)**

The project involves funding assistance from the World Bank along with domestic sources. Further, the project also involves payment in foreign currency for various contracts awarded in the project. Net increase in liability on account of FERV is ₹997 lakh. The detail of exchange rates considered is as follows:

Foreign currency (in ₹)		
	Approved DPR (June 2013 PL)	Remarks
1 USD	58.09	Varied from 58.09 to 68.69

19. We have considered the submissions of the Petitioner and UPPCL. The details of the capital cost of the transmission project approved by the Board of Directors of the Petitioner Company are as follows:



Date	Project cost
IA approved in 291 <sup>st</sup> Board of Directors meeting held on 19.9.2013	₹68069 lakh including IDC of ₹3595 lakh
RCE approved in 338 <sup>st</sup> Board of Directors meeting held on 10.3.2017	₹75690 lakh including IDC of ₹4638 lakh

20. The Petitioner has submitted that RCE of the transmission project has been duly approved by the Board of Directors dated 10.3.2017 vide Memorandum No. C/CP/NRSS-XXV dated 31.3.2017 with an estimated cost of ₹75690 lakh including IDC ₹4638 lakh based on August, 2016 price level.

21. The estimated completion cost of Asset-1, Asset-2 and Asset-3 is more than the FR cost by ₹2046.89 lakh, ₹899.88 lakh and ₹262.98 lakh respectively. The total project cost as per FR is ₹68069.00 lakh and as per RCE it is ₹75690.00 lakh. It is observed that the estimated completion cost of ₹71278.75 lakh claimed by the Petitioner as on 31.3.2019 is more than the FR approved cost. However, the estimated completion cost of the transmission assets is within RCE cost and the same is allowed.

### **Time Over-run**

22. As per IA dated 24.9.2013, the SCOD of the project was 18.3.2016. Asset-1 and Asset-2 were put into commercial operation within the SCOD and Asset-3 was put into commercial operation on 7.10.2016 after a time over-run of 6 months 19 days and the same has already been condoned by the Commission.

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

23. The Petitioner has claimed IDC in respect of the transmission assets covered in the instant petition and has submitted statement showing IDC claim, discharge of IDC liability as on COD and thereafter and the same is as follows:



(₹ in lakh)

Assets	COD	IDC as per Auditor's Certificate	IDC Discharged upto COD	Accrual IDC Discharged			
				2015-16	2016-17	2017-18	2018-19
Asset-1	2.11.2015	355.26	238.11	43.23	73.92	0.00	0.00
Asset-2	2.7.2015	69.94	47.49	21.45	0.99	0.00	0.00
Asset-3	7.10.2016	3362.16	2741.60	0.00	540.71	79.85	0.00

24. The Petitioner has submitted IDC computation statement which consists of name of the loan, drawl date, loan amount, interest rate and interest claimed. IDC is claimed as per the details given in IDC statement. Further, loan amount as on COD has been mentioned in Form 6 and Form 9C. The Petitioner has prayed to allow to recover FERV on the foreign loans deployed as provided under Regulation 50 of the 2014 Tariff Regulations.

25. We have considered the submissions of the Petitioner. The allowable IDC has been worked out based on the information available on record and relying on loan amount as per Form 9C. IDC considered in respect of the transmission assets as on COD and summary of discharge of IDC liability up to COD and thereafter for the purpose of tariff determination is as follows:

(₹ in lakh)

Assets	IDC as per Auditor's Certificate	IDC allowed	IDC discharged upto COD	IDC discharged during 2015-16	IDC discharged during 2016-17	IDC discharged during 2017-18
Asset-1	355.26	355.26	238.11	43.23	73.92	0.00
Asset-2	69.94	69.94	47.49	21.45	0.99	0.00
Asset-3	3362.16	3362.16	2741.60	0.00	540.71	79.85

26. The Petitioner has claimed IEDC in respect of the transmission assets as per the Auditor's Certificate. The Petitioner has submitted that entire IEDC mentioned in the Auditor's Certificate is on cash basis and was paid upto COD and accordingly, it is allowed. IEDC claimed as per Auditor's Certificate, IEDC considered and discharged up to COD in respect of the transmission assets is as follows:





(₹ in lakh)

Assets	IEDC claimed as per Auditor's Certificate	IEDC allowed	IEDC discharged upto COD
Asset-1	263.45	263.45	263.45
Asset-2	42.87	42.87	42.87
Asset-3	1569.00	1569.00	1569.00

### Initial Spares

27. Regulation 13(d) of the 2014 Tariff Regulations provides that Initial Spares shall be capitalised as a percentage of plant and machinery cost up to the cut-off date, subject to the following ceiling norms:

*“(d) Transmission System*

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

28. Initial Spares as claimed by the Petitioner are as follows:

(₹ in lakh)

Asset	Plant and Machinery Cost		Initial Spares claimed		Initial Spares allowable	
	Transmission Line	Sub-station	Transmission Line	Sub-station	Transmission Line	Sub-station
Asset-1	8368.94	1710.14	241.48	89.52	82.10	67.53
Asset-2	NA	3176.55	NA	122.95	NA	127.23
Asset-3	45370.16	6189.20	436.73	102.41	453.87	253.62

29. UPPCL has submitted that all of the Initial Spares have not been supplied as on COD of the transmission assets. The Petitioner has submitted in the petition that the payments have been withheld. Some parts of the spares have been supplied during the year 2015-16, 2016-17 and 2017-18 and the expenditure is being considered as ACE within the cut off period with IDC being charged on the same. The total delayed supply during 2015-18 is worth ₹576.32 lakh. The IDC on ₹576.32 lakh may not be allowed, since balance/ retention of payments are on account of delayed supply of Initial



Spares and are attributable to suppliers of the Petitioner and beneficiaries should not be asked to share the cost of delayed supply.

30. In response, the Petitioner has submitted that Initial Spares calculation has been submitted in the instant petition along with the year wise discharge summary of Initial Spares.

31. UPPCL has further submitted that, the Petitioner is claiming Initial Spares considering Asset-1, Asset-2 and Asset-3 to constitute one project, namely NRSS XXV scheme.

32. In response, the Petitioner has submitted that it has claimed Initial Spares asset wise as per the actual expenditure/requirements to meet the smooth and reliable operation of the equipment. Allowable Initial Spares has been calculated based on overall project basis and has prayed to allow the same as claimed.

33. We have considered the submissions of the Petitioner and UPPCL. The Initial Spares are allowed in the 2014-19 Tariff Period on the basis of the Plant & Machinery cost of the individual assets and in 2019-24 tariff period on the basis of project cost as per the APTEL's judgement dated 14.9.2019 in Appeal No. 74 of 2017. The Initial Spares claimed in the case of Asset-2 and Asset-3 are within the norms specified under the 2014 Tariff Regulations and accordingly allowed as claimed by the Petitioner. In the case of Asset-1, the Initial Spares claimed by the Petitioner for both the transmission line and the sub-station portions are more than the norms under the 2014 the Tariff Regulations and therefore restricted to norms. Initial Spares allowed for the transmission assets as percentage of Plant & Machinery cost specified in the 2014 Tariff Regulations is as follows:



Asset	Particulars	Plant and Machinery cost (excluding IDC/IEDC, land cost & cost of Civil Works) (₹ in lakh)	Initial Spares claimed (₹ in lakh)	Norms as per 2014 Tariff Regulations (in %)	Initial Spares allowable (₹ in lakh)	Initial Spares disallowed (₹ in lakh)	Initial Spares allowed (₹ in lakh)
		A	B	C	$D=(A-B)*C/(100-C)$	B-D	
Asset-1	Transmission Line	8368.94	241.48	1.00%	82.10	159.38	82.10
	Sub-station	1710.14	89.52	4.00%	67.53	21.99	67.53
Asset-2	Sub-station	3176.55	122.95	4.00%	127.23	0.00	122.95
Asset-3	Transmission Line	45370.16	436.73	1.00%	453.87	0.00	436.73
	Sub-station	6189.20	102.41	4.00%	253.62	0.00	102.41

34. The year wise discharge details of initial spares are as follows:

**Asset-1:**

(₹ in lakh)

Particulars	Sub-station	Transmission Line
Total Value of Spares as per Auditor's Certificate	89.52	241.48
Actual Expenditure Up to COD	67.32	52.11
Actual Expenditure from 2.11.2015 to 31.3.2016	14.23	172.04
Actual Expenditure 2017-18	7.97	14.84
Actual Expenditure 2018-19	0.00	2.49

**Asset-2:**

(₹ in lakh)

Particulars	Sub-station
Total Value of Spares as per Auditor's Certificate	122.95
Actual Expenditure Up to COD	70.24
Actual Expenditure from 2.7.2015 to 31.3.2016	48.08
Actual Expenditure 2017-18	4.63



**Asset-3:**

(₹ in lakh)

Particulars	Sub-station	Transmission Line
Total Value of Spares as per Auditor's Certificate	102.41	436.73
Actual Expenditure Up to COD	0.00	227.10
Actual Expenditure from 7.10.2016 to 31.3.2017	38.92	135.96
Actual Expenditure 2017-18	63.49	73.67

35. The capital cost allowed as on COD in respect of the transmission assets after adjusting disallowed/undischarged IDC and excess Initial Spares is as follows:

(₹ in lakh)

Assets	Capital Cost claimed as per Auditor's Certificate	Undischarged IDC	Excess Initial Spares disallowed from COD	Capital Cost allowed as on COD
	(A)	(B)	(C)	(D) = (A-B-C)
Asset-1	8485.86	117.15	0.00	8368.71
Asset-2	2038.07	22.45	0.00	2015.62
Asset-3	47272.66	620.56	0.00	46652.10

**Additional Capital Expenditure ("ACE")**

36. The Commission allowed the following ACE in respect of the transmission assets for 2014-19 tariff period *vide* orders dated 26.4.2016 in Petition No. 208/TT/2015 and dated 27.5.2021 in Petition No. 84/TT/2019:

(₹ in lakh)

Assets	Apportioned approved cost as per FR	Admitted capital cost as on COD	Admitted ACE				Admitted capital cost as on 31.3.2019
			2015-16	2016-17	2017-18	2018-19	
Asset-1	8693.38	8160.06*	510.53#	22.79#	0.00#	0.00#	8693.38
Asset-2	2731.72	1989.20*	739.87#	2.65#	0.00#	0.00#	2731.72
Asset-3	56643.90	46653.66	0.00	6116.48	2805.26	1000.00	56575.40

\* Capital Cost after deducting accrued IDC to be discharged and excess Initial Spares

# ACE after addition of IDC discharged/to be discharged in respective years

37. The Petitioner *vide* Auditor's Certificate dated 2.9.2021 has claimed following ACE in respect of the transmission assets based on actual expenditure:



(₹ in lakh)

Name of the Assets	Approved Cost as per FR	Approved Cost (RCE)	Capital Cost as on COD	ACE				Total ACE Claimed	Capital Cost as on 31.3.2019
				2015-16	2016-17	2017-18	2018-19		
Asset-1	8693.38	11109.91	8485.86	1945.73	4.27	234.56	69.85	2254.41	10740.27
Asset-2	2731.72	3672.98	2038.07	1398.48	0.00	195.05	0.00	1593.53	3631.60
Asset-3	56643.90	60907.11	47272.66	0.00	5575.15	2727.59	1331.48	9634.22	56906.88
Total	68069.00	75690.00	57796.59	3344.21	5579.42	3157.2	1401.33	13482.16	75690

38. UPPCL has submitted that ACE during 2014-19 is on account of balance and retention payment due to un-discharged liability. Generally, balance and retention of payments are on account of un-fulfilled contractual obligation on part of the supplier or contractors. There may also be some dispute between them and the Petitioner. In absence of Form-5 and Form-5A it is difficult to ascertain reason or the clarification issued by the Petitioner.

39. In response, the Petitioner has submitted that it has submitted the package-wise and vendor-wise details of ACE along with the liability flow statement vide affidavit dated 4.8.2022. Further, Form-5 and Form-5A has already been submitted in the instant petition and in its original petition.

40. In response to the Commission's query regarding justification for ACE during 2014-19 tariff period, the Petitioner vide affidavit dated 4.8.2022 has submitted as follows:

**Asset-1:**

(₹ in lakh)

Year	ACE	Party Name	Package	Balance and Retention/ Differed work
2015-16	684.95	KEC International, Gupta Power, Gold Stone	Transmission Line	Balance and Retention payment as per Regulation 14(1) (i) of the 2014 Tariff Regulations.
	611.44	KEC International, Gupta Power, Gold Stone	Transmission Line	Deferred work liability as per Regulation 14(1)(ii) of the 2014 Tariff Regulations.



Year	ACE	Party Name	Package	Balance and Retention/ Differed work
	320.20	GE T&D India Ltd	Sub-station	Balance and Retention payment as per Regulation 14(1) (i) of the 2014 Tariff Regulations.
	285.83	GE T&D India Ltd	Sub-station	Deferred work liability as per Regulation 14(1)(ii) of the 2014 Tariff Regulations.
	22.88	GE T&D India Ltd	PLCC	Balance and Retention payment as per Regulation 14(1) (i) of the 2014 Tariff Regulations.
	20.43	GE T&D India Ltd	PLCC	Deferred work liability as per Regulation 14(1)(ii) of the 2014 Tariff Regulations.
2016-17	4.27	KEC International, Gupta Power, Gold Stone	Transmission Line	Deferred work liability as per Regulation 14(1)(ii) of the 2014 Tariff Regulations.
2017-18	150.10	KEC International, Gupta Power, Gold Stone	Transmission Line	Balance and Retention payment as per Regulation 14(1) (i) of the 2014 Tariff Regulations.
	84.46	. GE T&D India Ltd	Sub-station	Balance and Retention payment as per Regulation 14(1) (i) of the 2014 Tariff Regulations.
2018-19	69.85	KEC International, Gupta Power, Gold Stone	Transmission Line	Balance and Retention payment as per Regulation 14(3) (v) of the 2014 Tariff Regulations.

**Asset-2:**

(₹ in lakh)

Year	ACE	Party Name	Package	Balance and Retention/ Differed work
2015-16	126.73	KEC International, Gupta Power. Gold Stone	Transmission Line	Deferred work liability as per Regulation 14(1)(ii) of the 2014 Tariff Regulations.
	1207.71	GE T&D India Ltd	Sub-station	Deferred work liability as per Regulation 14(1)(ii) of the 2014 Tariff Regulations.
	64.04	GE T&D India Ltd	PLCC	Deferred work liability as per Regulation 14(1)(ii) of the 2014 Tariff Regulations.
2017-18	195.05	GE T&D India Ltd	Sub-station	Balance and Retention payment as per Regulation 14(1) (i) of the 2014 Tariff Regulations.



**Asset-3:****(₹ in lakh)**

Year	ACE	Party Name	Package	Balance and Retention/ Differed work
2016-17	30.33	GE T&D India Ltd	Civil & Building	Deferred work liability as per Regulation 14(1)(ii) of the 2014 Tariff Regulations.
	3374.29	KEC International, Gupta Power, M/s. Gold Stone	Transmission Line	Deferred work liability as per Regulation 14(1)(ii) of the 2014 Tariff Regulations.
	2163.88	GE T&D India Ltd, ABB	Sub-station	Deferred work liability as per Regulation 14(1)(ii) of the 2014 Tariff Regulations.
	6.65	GE T&D India Ltd	PLCC	Deferred work liability as per Regulation 14(1)(ii) of the 2014 Tariff Regulations.
2017-18	187.18	GE T&D India Ltd	Civil & Building	Balance and Retention payment as per Regulation 14(1) (i) of the 2014 Tariff Regulations.
	1260.50	KEC International, Gupta Power, Gold Stone	Transmission Line	Balance and Retention payment as per Regulation 14(1) (i) of the 2014 Tariff Regulations.
	1273.81	GE T&D India Ltd, ABB	Sub-station	Balance and Retention payment as per Regulation 14(1) (i) of the 2014 Tariff Regulations.
	6.10	GE T&D India Ltd	PLCC	Balance and Retention payment as per Regulation 14(1) (i) of the 2014 Tariff Regulations.
2018-19	1149.29	KEC International, Gupta Power, M/s. Gold Stone	Transmission Line	Balance and Retention payment as per Regulation 14(1) (i) of the 2014 Tariff Regulations.
	182.20	GE T&D India Ltd, M/s. ABB	Sub-station	Balance and Retention payment as per Regulation 14(1) (i) of the 2014 Tariff Regulations.

41. The Petitioner has submitted the liability flow statements in respect of the transmission assets vide affidavit dated 4.8.2022. We have considered the submissions of the Petitioner and UPPCL. As per Regulation 3(13) of the 2014 Tariff Regulations,



the cut-off date in case of Asset-1, Asset-2 and Asset-3 is 31.3.2018, 31.3.2018 and 31.3.2019 respectively.

42. The Petitioner has submitted Auditor’s Certificate dated 2.9.2021 for Asset-1, Asset-2 and Asset-3 in support of ACE for 2015-16, 2016-17, 2017-18 and 2018-19. The Petitioner has claimed ACE under Regulation 14(1)(i) of the 2014 Tariff Regulations i.e., Balance and Retention payment, Regulation 14(1)(ii) of the 2014 Tariff Regulations i.e. Deferred work liability for ACE within the cut-off date and under Regulation 14(3)(v) of the 2014 Tariff Regulations for ACE incurred after the cut-off date and the same is as follows:

(₹ in lakh)				
Assets	Year	Amount claimed on account of Balance & Retention Payment as per 14(1)(i) of the 2014 Tariff Regulations	Amount claimed on account of deferred work liability –as per 14(1)(ii) of the 2014 Tariff Regulations	Total
Asset-1	2015-16	684.95+320.20+22.88 =1028.03	611.44+285.83+20.43 =917.70	
	2016-17	0.00	4.27	
	2017-18	150.10+84.46 =234.56	0.00	
	2018-19 (after-cut-off date)	69.85	0.00	
<b>Sub-total</b>		<b>1332.44</b>	<b>921.97</b>	<b>2254.41</b>
Asset-2	2015-16	0.00	126.73+1207.71+64.04 =1398.48	
	2017-18	195.05	0.00	
<b>Sub-total</b>		<b>195.05</b>	<b>1398.48</b>	<b>1593.53</b>
Asset-3	2016-17	0.00	30.33+3374.29+2163.88 +6.65 =5575.15	
	2017-18	187.18+1260.50+1273.81+6.10 =2727.59	0.00	
	2018-19	1149.29+182.20 =1331.49	0.00	





<b>Sub-total</b>		<b>4059.08</b>	<b>5575.15</b>	<b>9634.23</b>
	<b>Total</b>	<b>5586.57</b>	<b>7895.60</b>	<b>13482.17</b>

43. Thus, from the above, it is observed that, out of total ACE claimed of ₹2254.41 lakh for Asset-1, the Petitioner has claimed an amount of ₹1332.44 lakh on account of balance and retention payment and remaining amount of ₹921.97 lakh is on account of deferred work liability. Similarly, in case of Asset-2, out of total ACE claimed of ₹1593.53 lakh, the Petitioner has claimed an amount of ₹195.05 lakh on account of balance and retention payment and remaining amount of ₹1398.48 lakh on account of deferred work liability and for Asset-3, out of total ACE claimed of ₹9634.23, the Petitioner has claimed an amount of ₹4059.08 lakh on account of balance and retention payment and remaining amount of ₹5575.15 lakh on account of deferred work liability. Further, the overall as well as individual asset-wise, capital cost as on 31.3.2019 is within the RCE. Accordingly, ACE claimed by the Petitioner has been allowed under Regulation 14(1)(i), of the 2014 Tariff Regulations (Balance and Retention payment) and Regulation 14(1)(ii) of the 2014 Tariff Regulations (Deferred work liability) for ACE within the cut-off date and under Regulation 14(3)(v) of the 2014 Tariff Regulations for ACE incurred after cut-off date (liability for works executed prior to the cut-off date). The details of ACE (including undischarged IDC and Initial Spares) approved up to 31.3.2019 in respect of the transmission assets covered in the instant petition are as follows:

		(₹ in lakh)			
Asset	Particulars	ACE (including undischarged IDC)			
		2015-16	2016-17	2017-18	2018-19
Asset-1	ACE as per Auditor's Certificate	1945.73	4.27	234.56	69.85
	IDC Discharged	43.23	73.92	-	-
	Excess Initial Spares	(156.08)	-	(22.81)	(2.49)
	<b>ACE allowed</b>	<b>1832.88</b>	<b>78.19</b>	<b>211.75</b>	<b>67.36</b>
Asset-2	ACE as per Auditor's Certificate	1398.48	-	195.05	-
	IDC Discharged	21.45	0.99	-	-
	Excess Initial Spares	-	-	-	-



	<b>ACE allowed</b>	<b>1419.93</b>	<b>0.99</b>	<b>195.05</b>	<b>0.00</b>
Asset-3	ACE as per Auditor's Certificate	-	5575.16	2727.59	1331.48
	IDC Discharged	-	540.71	79.85	
	Excess Initial Spares	-	-	-	-
	<b>ACE allowed</b>	<b>-</b>	<b>6115.86</b>	<b>2807.44</b>	<b>1331.48</b>

44. The details of capital cost allowed as on COD and ACE (including undischarged IDC and Initial Spares) approved up to 31.3.2019 in respect of the transmission assets covered in the instant petition are as follows:

Asset	Approved Cost as per FR	Approved Cost (RCE)	Capital Cost as on COD	ACE (including undischarged IDC)				Capital Cost as on 31.3.2019
				2015-16	2016-17	2017-18	2018-19	
				(₹ in lakh)				
Asset-1	8693.38	11109.91	8368.71	1832.88	78.19	211.75	67.36	10558.89
Asset-2	2731.72	3672.98	2015.62	1419.93	0.99	195.05	0.00	3631.59
Asset-3	56643.90	60907.11	46652.10	0.00	6115.86	2807.44	1331.48	56906.88

### Debt-Equity ratio

45. The Petitioner has claimed debt-equity ratio of 70:30 as on COD and for ACE. 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-1

Particulars	Capital Cost as on COD (₹ in lakh)	(in %)	ACE during 2014-19 (₹ in lakh)	(in %)	Capital Cost as on 31.3.2019 (₹ in lakh)	(in %)
Debt	5858.10	70.00	1533.13	70.00	7391.22	70.00
Equity	2510.61	30.00	657.05	30.00	3167.67	30.00
<b>Total</b>	<b>8368.71</b>	<b>100.00</b>	<b>2190.18</b>	<b>100.00</b>	<b>10558.89</b>	<b>100.00</b>



## Asset-2

Particulars	Capital Cost as on COD (₹ in lakh)	(in %)	ACE during 2014-19 (₹ in lakh)	(in %)	Capital Cost as on 31.3.2019 (₹ in lakh)	(in %)
Debt	1410.93	70.00	1131.18	70.00	2542.11	70.00
Equity	604.69	30.00	484.79	30.00	1089.48	30.00
<b>Total</b>	<b>2015.62</b>	<b>100.00</b>	<b>1615.97</b>	<b>100.00</b>	<b>3631.59</b>	<b>100.00</b>

## Asset-3

Particulars	Capital Cost as on COD (₹ in lakh)	(in %)	ACE during 2014-19 (₹ in lakh)	(in %)	Capital Cost as on 31.3.2019 (₹ in lakh)	(in %)
Debt	32656.47	70.00	7178.35	70.00	39834.82	70.00
Equity	13995.63	30.00	3076.43	30.00	17072.06	30.00
<b>Total</b>	<b>46652.10</b>	<b>100.00</b>	<b>10254.78</b>	<b>100.00</b>	<b>56906.88</b>	<b>100.00</b>

## Depreciation

46. The Gross Block during 2014-19 tariff period has been depreciated at Weighted Average Rate of Depreciation (WAROD) and is placed at (Annexure-I). WAROD has been worked out after considering the depreciation rates of assets as prescribed in the 2014 Tariff Regulations. Depreciation allowed in respect of the transmission assets is as follows:

## Asset-1

Particulars	(₹ in lakh)			
	2015-16 (pro-rata 151 days)	2016-17	2017-18	2018-19
<b>Depreciation</b>				
Opening Gross Block (A)	8368.71	10201.59	10279.78	10491.53
ACE(B)	1832.88	78.19	211.75	67.36
Closing Gross Block (C) = A+B	10201.59	10279.78	10491.53	10558.89
Average Gross Block (D) = (A+C)/2	9285.15	10240.69	10385.66	10525.21
Freehold Land	0.00	0.00	0.00	0.00
Weighted Average Rate of Depreciation (WAROD) (in %)	5.29	5.29	5.29	5.29
Balance useful life of the asset (Year)	34.00	34.00	33.00	32.00
Lapsed life of the asset (Year)	0.00	0.00	1.00	2.00
Depreciable Value	8356.64	9216.62	9347.09	9472.69
<b>Combined Depreciation during the year</b>	<b>202.66</b>	<b>541.91</b>	<b>549.57</b>	<b>556.94</b>



Particulars	2015-16 (pro-rata 151 days)	2016-17	2017-18	2018-19
Cumulative Depreciation at the end of the year	202.66	744.58	1294.14	1851.08
Remaining Depreciable Value at the end of the year	8153.97	8472.04	8052.95	7621.61

47. The details of depreciation allowed in respect of Asset-1 vide order dated 26.4.2016 in Petition No. 208/TT/2015, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

(₹ in lakh)				
Particulars	2015-16 (pro-rata 151 days)	2016-17	2017-18	2018-19
Approved vide order dated 26.4.2016 in Petition No. 208/TT/2015	183.65	459.27	459.87	459.87
Claimed by Petitioner in the instant petition	203.09	544.02	551.89	559.47
Allowed after true-up in this order	202.66	541.91	549.57	556.94

### Asset-2

(₹ in lakh)				
Particulars	2015-16 (pro-rata 274 days)	2016-17	2017-18	2018-19
<b>Depreciation</b>				
Opening Gross Block (A)	2015.62	3435.55	3436.54	3631.59
ACE(B)	1419.93	0.99	195.05	0.00
Closing Gross Block (C) = A+B	3435.55	3436.54	3631.59	3631.59
Average Gross Block (D) = (A+C)/2	2725.59	3436.05	3534.07	3631.59
Freehold Land	0.00	0.00	0.00	0.00
Weighted Average Rate of Depreciation (WAROD) (in %)	5.30	5.31	5.31	5.31
Balance useful life of the asset (Year)	26.00	26.00	25.00	24.00
Lapsed life of the asset (Year)	0.00	0.00	1.00	2.00
Depreciable Value	2453.03	3092.44	3180.66	3268.43
<b>Combined Depreciation during the year</b>	<b>108.20</b>	<b>182.38</b>	<b>187.56</b>	<b>192.71</b>
Cumulative Depreciation at the end of the year	81.00	290.59	478.15	670.86
Remaining Depreciable Value at the end of the year	2344.82	2801.85	2702.51	2597.57



48. The details of depreciation allowed in respect of Asset-2 vide order dated 26.4.2016 in Petition No. 208/TT/2015, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

(₹ in lakh)				
Particulars	2015-16 (pro-rata 274 days)	2016-17	2017-18	2018-19
Approved vide order dated 26.4.2016 in Petition No. 208/TT/2015	93.62	144.85	144.92	144.92
Claimed by Petitioner in the instant petition	108.21	182.39	187.56	192.71
Allowed after true-up in this order	108.20	182.38	187.56	192.71

### **Asset-3**

(₹ in lakh)			
Particulars	2016-17 (pro-rata 176 days)	2017-18	2018-19
<b>Depreciation</b>			
Opening Gross Block (A)	46652.10	52767.96	55575.40
ACE(B)	6115.86	2807.44	1331.48
Closing Gross Block (C) = A+B	52767.96	55575.40	56906.88
Average Gross Block (D) = (A+C)/2	49710.03	54171.68	56241.14
Freehold Land	0.00	0.00	0.00
Weighted Average Rate of Depreciation (WAROD) (in %)	5.27	5.27	5.27
Balance useful life of the asset (Year)	34.00	34.00	33.00
Lapsed life of the asset (Year)	0.00	0.00	1.00
Depreciable Value	44739.03	48754.51	50617.03
<b>Combined Depreciation during the year</b>	<b>1264.13</b>	<b>2855.15</b>	<b>2962.63</b>
Cumulative Depreciation at the end of the year	1264.13	4119.29	7081.92
Remaining Depreciable Value at the end of the year	43474.89	44635.23	43535.10

49. The details of depreciation allowed in respect of Asset-3 vide order dated 27.5.2021 in Petition No. 84/TT/2019, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:



Particulars	(₹ in lakh)		
	2016-17 (pro-rata 176 days)	2017-18	2018-19
Approved vide order dated 27.5.2021 in Petition No. 84/TT/2019	1264.18	2855.21	2953.88
Claimed by Petitioner in the instant petition	1264.13	2855.16	2962.63
Allowed after true-up in this order	1264.13	2855.15	2962.63

### **Interest on Loan (“IoL”)**

50. The Petitioner has claimed the weighted average rate of IoL based on its actual loan portfolio and rate of interest. Accordingly, IoL is calculated based on actual interest rate in accordance with Regulation 26 of the 2014 Tariff Regulations. The details of IoL allowed in respect of the transmission assets are as follows:

### **Asset-1**

Particulars	(₹ in lakh)			
	2015-16 (pro-rata 151 days)	2016-17	2017-18	2018-19
<b>Interest on Loan</b>				
Gross Normative Loan	5858.10	7141.11	7195.85	7344.07
Cumulative Repayments up to Previous Year	0.00	202.66	744.58	1294.14
Net Loan-Opening	5858.10	6938.45	6451.27	6049.93
Additions	1283.02	54.73	148.23	47.15
Repayment during the year	202.66	541.91	549.57	556.94
Net Loan-Closing	6938.45	6451.27	6049.93	5540.14
Average Loan	6398.27	6694.86	6250.60	5795.04
Weighted Average Rate of Interest on Loan (in %)	7.2872	7.6085	7.5027	7.6310
<b>Interest on Loan</b>	<b>192.36</b>	<b>509.38</b>	<b>468.96</b>	<b>442.22</b>

51. The details of IoL approved in respect of Asset-1 vide order dated 26.4.2016 in Petition No. 208/TT/2015, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:



(₹ in lakh)

Particulars	2015-16 (pro-rata 151 days)	2016-17	2017-18	2018-19
Approved vide order dated 26.4.2016 in Petition No. 208/TT/2015	164.35	391.13	361.71	330.12
Claimed by Petitioner in the instant petition	192.78	511.39	470.99	444.31
Allowed after true-up in this order	192.36	509.38	468.96	442.22

**Asset-2**

(₹ in lakh)

Particulars	2015-16 (pro-rata 274 days)	2016-17	2017-18	2018-19
<b>Interest on Loan</b>				
Gross Normative Loan	1410.93	2404.89	2405.58	2542.11
Cumulative Repayments up to Previous Year	0.00	108.20	290.59	478.15
Net Loan-Opening	1410.93	2296.68	2114.99	2063.96
Additions	993.95	0.69	136.54	0.00
Repayment during the year	108.20	182.38	187.56	192.71
Net Loan-Closing	2296.68	2114.99	2063.96	1871.26
Average Loan	1853.81	2205.84	2089.48	1967.61
Weighted Average Rate of Interest on Loan (in %)	6.6520	7.2559	7.1619	7.3147
<b>Interest on Loan</b>	<b>92.32</b>	<b>160.05</b>	<b>149.65</b>	<b>143.93</b>

52. The details of IoL approved in respect of Asset-2 vide order dated 26.4.2016 in Petition No. 208/TT/2015, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

(₹ in lakh)

Particulars	2015-16 (pro-rata 274 days)	2016-17	2017-18	2018-19
Approved vide order dated 26.4.2016 in Petition No. 208/TT/2015	67.33	99.08	91.27	82.58
Claimed by Petitioner in the instant petition	92.32	160.05	149.65	143.93
Allowed after true-up in this order	92.32	160.05	149.65	143.93



**Asset-3**

(₹ in lakh)

Particulars	2016-17 (pro-rata 176 days)	2017-18	2018-19
<b>Interest on Loan</b>			
Gross Normative Loan	32656.47	36937.57	38902.78
Cumulative Repayments up to Previous Year	0.00	1264.13	4119.29
Net Loan-Opening	32656.47	35673.44	34783.49
Additions	4281.10	1965.21	932.04
Repayment during the year	1264.13	2855.15	2962.63
Net Loan-Closing	35673.44	34783.49	32752.89
Average Loan	34164.95	35228.47	33768.19
Weighted Average Rate of Interest on Loan (in %)	6.9830	6.9210	7.1132
<b>Interest on Loan</b>	<b>1150.38</b>	<b>2438.15</b>	<b>2402.00</b>

53. The details of IoL approved in respect of Asset-3 vide order dated 27.5.2021 in Petition No. 84/TT/2019, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

(₹ in lakh)

Particulars	2016-17 (pro-rata 176 days)	2017-18	2018-19
Approved vide order dated 27.5.2021 in Petition No. 84/TT/2019	1144.69	2465.33	2367.27
Claimed by Petitioner in the instant petition	1150.38	2438.16	2402.00
Allowed after true-up in this order	1150.38	2438.15	2402.00

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

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

Year	Claimed effective tax rate (in %)	Grossed up RoE (in %) [(Base Rate)/(1-t)]
2014-15	20.961	19.610
2015-16	21.342	19.705





<b>Year</b>	<b>Claimed effective tax rate (in %)</b>	<b>Grossed up RoE (in %) [(Base Rate)/(1-t)]</b>
2016-17	21.342	19.705
2017-18	21.342	19.705
2018-19	21.549	19.758

55. UPPCL has submitted that Regulation 25(3) of the 2014 Tariff Regulations provide that transmission licensee shall true up the grossed-up RoE at the end of every year based on actual tax paid together with any additional tax demand including interest duly adjusted or refund of tax including interest, as the case may be. The Petitioner has not finalized the return for the control period and as such praying for approval of grossed up RoE rate would be contrary to the intent of the abovesaid Regulations. In this context, the Petitioner may be allowed grossed up rate of RoE for the years for which it has actually paid the tax.

56. In response, the Petitioner has submitted that the effective rates of tax considered for 2014-15, 2015-16 and 2016-17 are based on assessment orders issued by Income-Tax Authorities for the purpose of grossing up of RoE rate. Further, effective rates of tax considered for 2017-18 and 2018-19 are based on the income-tax returns filed for the purpose of grossing up of RoE rate of respective years. Hence, authenticated tax rates have been considered for calculation of RoE. The Petitioner has further submitted that it has so far been granted trued-up tariff of 2014-19 period by the Commission vide tariff orders in Petition No. 247/TT/2019 dated 18.4.2020, Petition No. 274/TT/2019 dated 27.4.2020, Petition No. 245/TT/2019 dated 23.4.2020 and Petition No. 307/TT/2019 dated 16.4.2020 in respect of the transmission assets under the respective petitions.



### **Additional Return on Equity**

57. As stated earlier in the order, the Commission *vide* order dated 26.4.2016 in Petition No. 208/TT/2015 disallowed the claim of additional RoE of 0.50% for Asset-1 in the absence of the requisite certificate as required under Regulation 24(2)(iii) of the 2014 Tariff Regulations and directed to submit the certificate at the time of truing. The relevant portion of the order dated 26.4.2016 is as follows:

*“31. ....As Asset-1 has been commissioned on 2.11.2015, which is within the above timeline, the petitioner has claimed the additional ROE of 0.50% for Asset-1. However, in accordance with the Regulation 24(2)(iii) of the 2014 Tariff Regulations, the petitioner is also required to submit the certificate issued by the Regional Power Committee/ National Power Committee that commissioning of the particular element will benefit the system operation in the regional/ national grid, which is not provided by the petitioner. Accordingly, in absence of such certificate by RPC/NPC, we have not allowed the additional ROE of 0.5% and direct the petitioner to submit the certificate issued by the Regional Power Committee/ National Power Committee for Asset-1 stating clearly that commissioning of the particular element has benefitted the system operation in the regional/ national grid at the time of truing up.”*

58. In the instant petition, the Petitioner has submitted NRPC certificate dated 4.11.2016 stating that the early COD of Asset-1 has benefitted the system operation in the regional/ national grid in accordance with Regulation 24(2)(iii) of the 2014 Tariff Regulations.

59. UPPCL has submitted that the claim of additional RoE for Asset-1 may not be allowed. Asset-3 was executed on 7.10.2016 after the SCOD i.e., 18.3.2016 with a delay of about 9 months. Therefore, to say that the project was executed late but one of its assets has achieved COD prior to SCOD is contradictory. This contradiction cannot be allowed and the prayer of additional RoE for Asset-1 may be rejected. In case, additional RoE for early execution has been allowed earlier, then the same should be withdrawn in this true-up tariff, because pending execution of whole of the project, any element cannot be treated to have been executed early. Hence, additional RoE for



early execution of Asset-1 may not be allowed and withdraw additional RoE, if allowed in case of Asset-2 earlier.

60. In response, the Petitioner has submitted that it is claiming additional RoE of 0.50% in accordance with the Regulation 24(2)(i) and Regulation 24(2)(iii) of the 2014 Tariff Regulations. As per Appendix-I of the 2014 Tariff Regulations, the specified timeline for 400 kV D/C transmission line in plain areas is 34 months from the date of IA. Asset-1 was put into commercial operation on 2.11.2015 which is within the timeline specified under Appendix-I of the 2014 Tariff Regulations. The Petitioner has further submitted that in order dated 26.4.2016 in Petition No. 208/TT/2015, the Commission disallowed the additional RoE of 0.50% and directed the Petitioner to submit the certificate issued by the Regional Power Committee/ National Power Committee for Asset-1 in accordance with the Regulation 24(2)(iii) of the 2014 Tariff Regulations. The Petitioner has submitted the NRPC certificate dated 4.11.2016 in the instant petition and therefore, claiming the additional RoE of 0.50% for Asset-I as per the 2014 Tariff Regulations. The Petitioner has further submitted that Asset-2 does not qualify for additional RoE of 0.50% as per Regulation 24(2)(iii) of the 2014 Tariff Regulations as the line length is less than 50 km.

61. We have considered the submissions of the Petitioner and UPPCL regarding additional RoE. The Petitioner has claimed additional RoE of 0.50% for one of the three assets of the instant transmission projects for having put into commercial operation within the timeline specified in Appendix-I of the 2014 Tariff Regulations. The other two transmission assets of the transmission assets do not fulfil the stipulations of Regulation 24(2) of the 2014 Tariff and hence the Petitioner has not claimed additional RoE of 0.50%. UPPCL has contended that there is time over-run in case of one of the



transmission assets and the transmission project has not been put into commercial operation within the SCOD and hence additional RoE may not be allowed as claimed by the Petitioner. Regulation 24(2) of the 2014 Tariff Regulations provides for grant of additional RoE of 0.50% if the individual transmission assets/elements of the transmission project are put into commercial operation within the timeline specified in Appendix-I of the 2014 Tariff Regulations as provided in Regulation 24(2) of the 2014 Tariff Regulations and it is not linked to COD of the entire project.. Therefore, the objections raised by UPPCL are rejected. Accordingly, RoE of 0.50% is granted for Asset-1 as provided under Regulation 24(2) of the Tariff Regulations.

62. Regulation 24(2) of the 2014 Tariff Regulations specifies as follows:

**“24. Return on Equity:**

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

- i. in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in **Appendix-I**:*
- ii. the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:*
- iii. additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:*
- iv. the rate of return of a new project shall be reduced by 1% 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)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:*
- v. as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:*
- vi. additional RoE shall not be admissible for transmission line having length of less than 50 kilometers.”*



63. It is observed that Asset-1 has been put into commercial operation within 34 months which is the timeline specified for 400 kV D/C transmission line in plain areas in Appendix-I of the 2014 Tariff Regulations, as required under Regulation 24(2)(i) of the 2014 Tariff Regulations. The Petitioner has also submitted the NRPC certificate dated 4.11.2016 as required under Regulation 24(2)(iii) of the 2014 Tariff Regulations. Asset-1 meets the requirements of Regulation 24(2) of the 2014 Tariff Regulations. Therefore, Asset-1 is granted additional RoE of 0.50%. Asset-2 is of less than 50 km and it does not meet the requirement of Regulation 24(2)(vi) and hence the Petitioner has not claimed additional RoE of 0.50%.

64. 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 and the same are as follows:

Year	Notified MAT rates (in %) (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

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

Year	Notified MAT rates (inclusive of surcharge & cess) (in %)	Base rate of RoE (in %)		Grossed up RoE [(Base Rate)/(1-t)] (in %)	
		For Asset-1	For Asset-2 & Asset-3	For Asset-1	For Asset-2 & Asset-3
2015-16	21.342	16.00	15.50	20.341	19.705
2016-17	21.342	16.00	15.50	20.341	19.705
2017-18	21.342	16.00	15.50	20.341	19.705



2018-19	21.549	16.00	15.50	20.395	19.758
---------	--------	-------	-------	--------	--------

66. The Petitioner has claimed RoE for 2014-19 tariff period after grossing up RoE of 16.00% for Asset-1 and 15.50% for Asset-2 and Asset-3 with effective tax rates (based on MAT rates) each year as per the above said Regulation. RoE is trued up on the basis of the MAT rate applicable in the respective years and the same is allowed in respect of the transmission assets and it is as follows:

**Asset-1**

(₹ in lakh)				
Particulars	2015-16 (pro-rata 151 days)	2016-17	2017-18	2018-19
<b>Return on Equity</b>				
Opening Equity (A)	2510.61	3060.48	3083.93	3147.46
Additions (B)	549.86	23.46	63.53	20.21
Closing Equity (C) = A+B	3060.48	3083.93	3147.46	3167.67
Average Equity (D) = (A+C)/2	2785.55	3072.21	3115.70	3157.56
Return on Equity (Base Rate) (in %)	16.000	16.000	16.000	16.000
MAT Rate for respective year (in %)	21.342	21.342	21.342	21.549
Rate of Return on Equity (in %)	20.341	20.341	20.341	20.395
<b>Return on Equity</b>	<b>233.76</b>	<b>624.92</b>	<b>633.76</b>	<b>643.99</b>

67. RoE allowed in respect of Asset-1 vide order dated 26.4.2016 in Petition No. 208/TT/2015, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

(₹ in lakh)				
Particulars	2015-16 (pro-rata 151 days)	2016-17	2017-18	2018-19
Approved vide order dated 26.4.2016 in Petition No. 208/TT/2015	204.25	510.76	511.43	511.43
Claimed by Petitioner in the instant petition	234.27	627.35	636.44	646.91
Allowed after true-up in this order	233.76	624.92	633.76	643.99



## Asset-2

(₹ in lakh)

Particulars	2015-16 (pro-rata 274 days)	2016-17	2017-18	2018-19
<b>Return on Equity</b>				
Opening Equity (A)	604.69	1030.67	1030.96	1089.48
Additions (B)	425.98	0.30	58.52	0.00
Closing Equity (C) = A+B	1030.67	1030.96	1089.48	1089.48
Average Equity (D) = (A+C)/2	817.68	1030.81	1060.22	1089.48
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500
MAT Rate for respective year (in %)	21.342	21.342	21.342	21.549
Rate of Return on Equity (in %)	19.705	19.705	19.705	19.758
<b>Return on Equity</b>	<b>120.62</b>	<b>203.12</b>	<b>208.92</b>	<b>215.26</b>

68. RoE allowed in respect of Asset-2 vide order dated 26.4.2016 in Petition No. 208/TT/2015, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

(₹ in lakh)

Particulars	2015-16 (pro-rata 274 days)	2016-17	2017-18	2018-19
Approved vide order dated 26.4.2016 in Petition No. 208/TT/2015	103.90	160.63	160.71	160.71
Claimed by Petitioner in the instant petition	120.63	203.13	208.92	215.26
Allowed after true-up in this order	120.62	203.12	208.92	215.26

## Asset-3

(₹ in lakh)

Particulars	2016-17 (pro-rata 176 days)	2017-18	2018-19
<b>Return on Equity</b>			
Opening Equity (A)	13995.63	15830.39	16672.62
Additions (B)	1834.76	842.23	399.44
Closing Equity (C) = A+B	15830.39	16672.62	17072.06
Average Equity (D) = (A+C)/2	14913.01	16251.50	16872.34
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500
MAT Rate for respective year (in %)	21.342	21.342	21.549
Rate of Return on Equity (in %)	19.705	19.705	19.758
<b>Return on Equity</b>	<b>1416.97</b>	<b>3202.36</b>	<b>3333.64</b>



69. RoE allowed in respect of Asset-3 vide order dated 27.5.2021 in Petition No. 84/TT/2019, claimed by the Petitioner in the instant petition and trued up in in the instant order is as follows:

(₹ in lakh)

Particulars	2016-17 (pro-rata 176 days)	2017-18	2018-19
Approved vide order dated 27.5.2021 in Petition No. 84/TT/2019	1417.03	3202.43	3323.82
Claimed by Petitioner in the instant petition	1417.05	3202.52	3333.63
Allowed after true-up in this order	1416.97	3202.36	3333.64

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

70. O&M Expenses claimed by the Petitioner in respect of the transmission assets for 2014-19 period are as follows:

**Asset-1**

(₹ in lakh)

Particulars	2015-16 (pro-rata 151 days)	2016-17	2017-18	2018-19
Bhiwani-Hisar 400 kV D/C line along with associated bays at Bhiwani and Hisar				
<b>Total O&amp;M Expenses Claimed</b>	<b>119.88</b>	<b>300.19</b>	<b>310.16</b>	<b>320.44</b>

**Asset-2**

(₹ in lakh)

Particulars	2015-16 (Pro-rata 274 days)	2016-17	2017-18	2018-19
LILO of Moga -Bhiwadi 400 kV D/C line at Hisar along with associated bays at Hissar				
<b>Total O&amp;M Expenses Claimed</b>	<b>187.11</b>	<b>258.24</b>	<b>266.82</b>	<b>275.65</b>

**Asset-3**

(₹ in lakh)

Particulars	2015-16 (Pro-rata 176 days)	2016-17	2017-18	2018-19
765 kV S/C Jaipur (Phagi) RVPNL- Bhiwani CKT-II along with associated bays at Bhiwani and Phagi				
<b>Total O&amp;M Expenses Claimed</b>	<b>173.16</b>	<b>371.16</b>	<b>383.42</b>	<b>173.16</b>





71. Regulation 29(3) of the 2014 Tariff Regulations specifies norms for O&M Expenses for the transmission system. Norms specified in respect of the elements covered in the transmission assets are as follows:

Elements	Norms for 2014-15	Norms for 2015-16	Norms for 2016-17	Norms for 2017-18	Norms for 2018-19
Single Circuit (Bundled conductor -4 sub-conductors)	₹0.606 lakh/ km	₹0.627 lakh/ km	₹0.647 lakh/ km	₹0.669 lakh/ km	₹0.691 lakh/ km
Double Circuit Twin/Triple Conductor	₹0.707 lakh/ km	₹0.731 lakh/ km	₹0.755 lakh/ km	₹0.780 lakh/ km	₹0.806 lakh/ km
765 kV Sub-station	₹84.42 lakh/bay	₹87.22 lakh/bay	₹90.12 lakh/ bay	₹93.11 lakh/ bay	₹96.20 lakh/ bay
400 kV Sub-station	₹60.30 lakh/bay	₹62.30 lakh/bay	₹64.37 lakh/ bay	₹66.51 lakh/ bay	₹68.71 lakh/ bay

72. We have considered the submissions of the Petitioner. O&M Expenses allowed in respect of the transmission assets as per norms specified in the 2014 Tariff Regulations and are as follows:

**Asset-1**

	(₹ in lakh)			
	2015-16 (Pro-rata 151 days)	2016-17	2017-18	2018-19
<b>O&amp;M Expenses</b>				
4 Numbers of 400 kV bays				
Norms (₹ lakh/Bay)	62.30	64.37	66.51	68.71
Total	102.81	257.48	266.04	274.84
56.57 km Double Circuit (Twin/ Triple conductor)				
Norms (₹ lakh/km)	0.731	0.755	0.780	0.806
Total	17.06	42.71	44.12	45.60
<b>Total O&amp;M Expenses allowed (₹ in lakh)</b>	<b>119.87</b>	<b>300.19</b>	<b>310.16</b>	<b>320.44</b>

73. The details of O&M Expenses allowed in respect of Asset-1 vide order dated 26.4.2016 in Petition No. 208/TT/2015, claimed by the Petitioner in the instant petition and tried up in the instant order is as follows:



(₹ in lakh)

Particulars	2015-16 (Pro-rata 151 days)	2016-17	2017-18	2018-19
Approved <i>vide</i> order dated 26.4.2016 in Petition No. 208/TT/2015	119.87	300.19	310.16	320.44
Claimed by Petitioner in the instant petition	119.88	300.19	310.16	320.44
Allowed after true-up in this order	119.87	300.19	310.16	320.44

**Asset-2**

(₹ in lakh)

	2015-16 (Pro-rata 274 days)	2016-17	2017-18	2018-19
<b>O&amp;M Expenses</b>				
4 Numbers of 400 kV bays				
Norms (₹ lakh/Bay)	62.30	64.37	66.51	68.71
Total	186.56	257.48	266.04	274.84
1 km Double Circuit (Twin/ Triple conductor)				
Norms (₹ lakh/km)	0.731	0.755	0.78	0.806
Total	0.55	0.76	0.78	0.81
<b>Total O&amp;M Expenses allowed (₹ in lakh)</b>	<b>187.11</b>	<b>258.24</b>	<b>266.82</b>	<b>275.65</b>

74. The details of O&M Expenses allowed in respect of Asset-2 vide order dated 26.4.2016 in Petition No. 208/TT/2015, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

(₹ in lakh)

Particulars	2015-16 (Pro-rata 274 days)	2016-17	2017-18	2018-19
Approved <i>vide</i> order dated 26.4.2016 in Petition No. 208/TT/2015	187.11	258.24	266.82	275.65
Claimed by Petitioner in the instant petition	187.11	258.24	266.82	275.65
Allowed after true-up in this order	187.11	258.24	266.82	275.65



### Asset-3

	(₹ in lakh)		
	2016-17 (Pro-rata 176 days)	2017-18	2018-19
<b>O&amp;M Expenses</b>			
2 Numbers of 765 kV bays			
Norms (₹ lakh/Bay)	90.12	93.11	96.2
Total	86.91	186.22	192.40
276.44 km Single Circuit (Bundled conductor -4 sub-conductors)			
Norms (₹ lakh/km)	0.647	0.669	0.691
Total	86.24	184.94	191.02
<b>Total O&amp;M Expenses allowed (₹ in lakh)</b>	<b>173.15</b>	<b>371.15</b>	<b>383.42</b>

75. The details of O&M Expenses allowed in respect of Asset-3 vide order dated 27.5.2021 in Petition No. 84/TT/2019, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

	(₹ in lakh)		
Particulars	2016-17 (Pro-rata 176 days)	2017-18	2018-19
Approved vide order dated 27.5.2021 in Petition No. 84/TT/2019	173.15	371.15	383.42
Claimed by Petitioner in the instant petition	173.16	371.16	383.42
Allowed after true-up in this order	173.15	371.15	383.42

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

76. IWC has been worked out as per the methodology provided in Regulation 28 of the 2014 Tariff Regulations in respect of the transmission assets and the same is as follows:

### Asset-1

	(₹ in lakh)			
Particulars	2015-16 (pro-rata 151 days)	2016-17	2017-18	2018-19
O&M Expenses (O&M Expenses for one month)	24.21	25.02	25.85	26.70



Maintenance Spares (15% of O&M Expenses)	43.58	45.03	46.52	48.07
Receivables (Equivalent to two months of annual fixed cost)	310.96	338.59	336.27	336.52
Total Working Capital	378.76	408.64	408.64	411.29
Rate of Interest (in %)	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>21.10</b>	<b>55.17</b>	<b>55.17</b>	<b>55.52</b>

77. The details of IWC allowed in respect of Asset-1 vide order dated 26.4.2016 in Petition No. 208/TT/2015, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

Particulars	(₹ in lakh)			
	2015-16 (pro-rata 151 days)	2016-17	2017-18	2018-19
Approved vide order dated 26.4.2016 in Petition No. 208/TT/2015	19.33	47.91	47.82	47.66
Claimed by Petitioner in the instant petition	21.13	55.32	55.33	55.70
Allowed after true-up in this order	21.10	55.17	55.17	55.52

### **Asset-2**

Particulars	(₹ in lakh)			
	2015-16 (pro-rata 274 days)	2016-17	2017-18	2018-19
O&M Expenses (O&M Expenses for one month)	20.83	21.52	22.24	22.97
Maintenance Spares (15% of O&M Expenses)	37.49	38.74	40.02	41.35
Receivables (Equivalent to two months of annual fixed cost)	117.10	138.44	140.04	142.58
Total Working Capital	175.41	198.69	202.30	206.90
Rate of Interest (in %)	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>17.73</b>	<b>26.82</b>	<b>27.31</b>	<b>27.93</b>

78. The details of IWC allowed in respect of Asset-2 vide order dated 26.4.2016 in Petition No. 208/TT/2015, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:



(₹ in lakh)

Particulars	2015-16 (pro-rata 274 days)	2016-17	2017-18	2018-19
Approved vide order dated 26.4.2016 in Petition No. 208/TT/2015	16.43	23.58	23.88	24.16
Claimed by Petitioner in the instant petition	17.73	26.82	27.31	27.93
Allowed after true-up in this order	17.73	26.82	27.31	27.93

**Asset-3**

(₹ in lakh)

Particulars	2016-17 (pro-rata 176 days)	2017-18	2018-19
O&M Expenses (O&M Expenses for one month)	29.92	30.93	31.95
Maintenance Spares (15% of O&M Expenses)	53.86	55.67	57.51
Receivables (Equivalent to two months of annual fixed cost)	1416.18	1511.90	1548.56
Total Working Capital	1499.97	1598.51	1638.02
Rate of Interest (in %)	12.80	12.80	12.80
<b>Interest on Working Capital</b>	<b>92.58</b>	<b>204.61</b>	<b>209.67</b>

79. The details of IWC allowed in respect of Asset-C vide order dated 27.5.2021 in Petition No. 84/TT/2019, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

(₹ in lakh)

Particulars	2016-17 (pro-rata 176 days)	2017-18	2018-19
Approved vide order dated 27.5.2021 in Petition No. 84/TT/2019	92.46	205.20	208.51
Claimed by Petitioner in the instant petition	92.58	204.61	209.67
Allowed after true-up in this order	92.58	204.61	209.67

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

80. The trued up Annual Fixed Charges (AFC) allowed in respect of the transmission assets for 2014-19 tariff period are as follows:



## Asset-1

(₹ in lakh)

Particulars	2015-16 (pro-rata 151 days)	2016-17	2017-18	2018-19
Depreciation	202.66	541.91	549.57	556.94
Interest on Loan	192.36	509.38	468.96	442.22
Return on Equity	233.76	624.92	633.76	643.99
O&M Expenses	119.87	300.19	310.16	320.44
Interest on Working Capital	21.10	55.17	55.17	55.52
<b>Total</b>	<b>769.75</b>	<b>2031.57</b>	<b>2017.62</b>	<b>2019.11</b>

81. Accordingly, the comparison between Annual Transmission Charges allowed in respect of Asset-1 vide order dated 26.4.2016 in Petition No. 208/TT/2015, claimed by the Petitioner in the instant petition and approved after truing up in the instant order is as follows:

(₹ in lakh)

Particulars	2015-16 (pro-rata 151 days)	2016-17	2017-18	2018-19
Approved vide order dated 26.4.2016 in Petition No. 208/TT/2015	691.46	1709.26	1690.99	1669.52
Claimed by Petitioner in the instant petition	771.15	2038.27	2024.81	2026.83
Allowed after true-up in this order	<b>769.75</b>	<b>2031.57</b>	<b>2017.62</b>	<b>2019.11</b>

## Asset-2

(₹ in lakh)

Particulars	2015-16 (pro-rata 274 days)	2016-17	2017-18	2018-19
Depreciation	108.20	182.38	187.56	192.71
Interest on Loan	92.32	160.05	149.65	143.93
Return on Equity	120.62	203.12	208.92	215.26
O&M Expenses	187.11	258.24	266.82	275.65
Interest on Working Capital	17.73	26.82	27.31	27.93
<b>Total</b>	<b>525.98</b>	<b>830.61</b>	<b>840.26</b>	<b>855.48</b>



82. Accordingly, the comparison between Annual Transmission Charges allowed in respect of Asset-2 vide order dated 26.4.2016 in Petition No. 208/TT/2015, claimed by the Petitioner in the instant petition and approved after truing up in the instant order is as follows:

(₹ in lakh)				
Particulars	2015-16 (pro-rata 274 days)	2016-17	2017-18	2018-19
Approved vide order dated 26.4.2016 in Petition No. 208/TT/2015	468.39	686.37	687.60	688.01
Claimed by Petitioner in the instant petition	526.00	830.63	840.26	855.48
Allowed after true-up in this order	525.98	830.61	840.26	855.48

### **Asset-3**

(₹ in lakh)			
Particulars	2016-17 (pro-rata 176 days)	2017-18	2018-19
Depreciation	1264.13	2855.15	2962.63
Interest on Loan	1150.38	2438.15	2402.00
Return on Equity	1416.97	3202.36	3333.64
O&M Expenses	173.15	371.16	383.42
Interest on Working Capital	92.58	204.61	209.67
<b>Total</b>	<b>4097.21</b>	<b>9071.43</b>	<b>9291.36</b>

83. Accordingly, the comparison between Annual Transmission Charges allowed in respect of Asset-3 vide order dated 27.5.2021 in Petition No. 84/TT/2019, claimed by the Petitioner and approved after truing up in the instant order is as follows:

(₹ in lakh)			
Particulars	2016-17 (pro-rata 176 days)	2017-18	2018-19
Approved vide order dated 27.5.2021 in Petition No. 84/TT/2019	4091.51	9099.32	9236.89
Claimed by Petitioner in the instant petition	4097.30	9071.61	9291.35
Allowed after true-up in this order	4097.21	9071.43	9291.36



### **Determination of Annual Fixed Charges for 2019-24 Tariff Period**

84. The Petitioner has combined the transmission assets into one single asset and has claimed combined tariff and has also submitted the tariff forms for the Combined Asset. Accordingly, as per proviso (i) of Regulation 8(1) of the 2019 Tariff Regulations, combined tariff has been worked out for 2019-24 tariff period for the transmission assets.

85. The Petitioner has claimed the following transmission charges in respect of the Combined Asset for 2019-24 tariff period:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	3752.87	3757.79	3761.57	3761.57	3761.57
Interest on Loan	2794.22	2509.40	2228.11	1942.67	1662.32
Return on Equity	4009.96	4015.42	4019.68	4019.68	4019.68
Interest on Working Capital	185.20	182.45	179.30	175.99	172.37
O&M Expenses	606.65	627.84	650.04	672.77	696.51
<b>Total</b>	<b>11348.90</b>	<b>11092.90</b>	<b>10838.70</b>	<b>10572.68</b>	<b>10312.45</b>

86. The Petitioner has claimed the following IWC in respect of the Combined Asset for 2019-24 tariff period:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	50.55	52.32	54.17	56.06	58.04
Maintenance Spares	91.00	94.18	97.51	100.92	104.48
Receivables	1395.36	1367.62	1336.28	1303.48	1267.92
Total Working Capital	1536.91	1514.12	1487.96	1460.46	1430.44
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
<b>Interest on Working Capital</b>	<b>185.20</b>	<b>182.45</b>	<b>179.30</b>	<b>175.99</b>	<b>172.37</b>

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

87. The Petitioner has submitted that E-COD of the Combined Asset works out to be 25.7.2016 and the same has been worked out as 24.7.2016 based on the trued-up capital cost and COD of the individual assets. E-COD has been worked out as follows:





Assets	Capital cost as on COD (₹ in lakh)	COD	Number of days from COD from last COD	Weight of cost (in %)	Weighted days	E-COD (latest COD – total weighted days)
Asset-1	10558.89	2.11.2015	340	14.85%	50.49	<b>24.7.2016</b>
Asset-2	3631.59	2.7.2015	463	5.11%	23.65	
Asset-3	56906.88	7.10.2016	0	80.04%	0.00	
<b>Total</b>	<b>71097.36</b>			<b>100.00%</b>	<b>74.14</b>	

88. E-COD is used to determine the lapsed life of the project as a whole which works out as 2 (two) years as on 1.4.2019 (i.e. the number of completed years as on 1.4.2019 from E-COD).

### **Weighted Average Life (“WAL”) of the Project**

89. The life as defined in Regulation 33 of the 2019 Tariff Regulations has been considered for determination of WAL.

90. 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 WAL has been used as the useful life of the project as a whole. WAL has been determined based on the admitted capital cost of individual elements as on 31.3.2019 and their respective life as specified in the 2019 Tariff Regulations. The 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 all the transmission assets executed during 2014-19 period has been worked out as 33 years and the same is as follows:



Particulars	Life (in years) (1)	Capital cost as on 31.3.2019 (₹ in lakh) (2)	Weighted cost (₹ in lakh) (3) = (1) * (2)	Weighted Average Life of Asset (in years) (4) = (3) / (2)
Building & Civil Works	25	417.90	10447.50	33.2335 years (rounded off to 33 years)
Transmission Line	35	58859.65	2060087.79	
Sub-Station	25	11498.13	287453.26	
PLCC	15	321.68	4825.20	
IT Equipment including software	6.67	-	-	
<b>Total</b>		<b>71097.36</b>	<b>2362813.75</b>	

91. WAL as on 1.4.2019 as determined above is applicable prospectively (i.e. for 2019-24 tariff period onwards) and no retrospective adjustment of depreciation in previous tariff period is required to be done. As discussed above, E-COD of the Combined Asset is 24.7.2016 and elapsed life of the project as a whole works out as 2 years as on 1.4.2019 (i.e. the number of completed years as on 1.4.2019 from Effective COD). Accordingly, WAL has been used to determine the remaining useful life of the Combined Asset as on 31.3.2019 to be 31 years.

### **Capital Cost**

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

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

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

- (a) *The expenditure incurred or projected to be incurred up to the date of commercial operation of the project;*
- (b) *Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;*
- (c) *Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period;*
- (d) *Interest during construction and incidental expenditure during construction as computed in accordance with these regulations;*
- (e) *Capitalised initial spares subject to the ceiling rates in accordance with these*



- regulations;
- (f) *Expenditure on account of additional capitalization and de-capitalisation determined in accordance with these regulations;*
  - (g) *Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the date of commercial operation as specified under Regulation 7 of these regulations;*
  - (h) *Adjustment of revenue earned by the transmission licensee by using the assets before the date of commercial operation;*
  - (i) *Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
  - (j) *Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;*
  - (k) *Capital expenditure on account of biomass handling equipment and facilities, for co-firing;*
  - (l) *Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;*
  - (m) *Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;*
  - (n) *Expenditure on account of change in law and force majeure events; and*
  - (o) *Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.*

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

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

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

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



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

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

*Provided that in case replacement of transmission asset is recommended by Regional Power Committee, such asset shall be de-capitalised only after its redeployment;*

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

- (c) *In case of hydro generating stations, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State Government by following a transparent process;*
- (d) *Proportionate cost of land of the existing project which is being used for generating power from generating station based on renewable energy; and*
- (e) *Any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment.”*

93. We have considered the submissions of the Petitioner. The Petitioner has claimed capital cost of ₹71145.24 lakh as on 31.3.2019 in respect of the Combined Asset. However, the capital cost as on 31.3.2019 has been worked out as ₹71097.36 lakh as on 31.3.2019.

### **Initial Spares**

94. As discussed above, the transmission assets covered in the transmission project are combined and overall project cost is arrived at in 2019-24 tariff period. Therefore, Initial Spares are allowed during 2019-24 tariff period on the basis of overall project cost as per the APTEL's judgement dated 14.9.2019 in Appeal No. 74 of 2017. Accordingly, Initial Spares allowed in the 2019-24 tariff period are as follows:



Assets	Elements	Plant and Machinery cost (excluding IDC and IEDC, land cost & cost of civil works) up to cut-off date (₹ in lakh)	Initial Spares claimed	Ceiling limit as per 2014 Tariff Regulations (in %)	Allowable Initial Spares	Initial spares allowed in 2014-19 period (₹ in lakh)	Additional Initial Spares allowed on Combined Asset (₹ in lakh)
		A	B	C	$D = (A - B) * C / (100 - C)$	E	F = D - E
Asset-1	Transmission Line	8368.94	241.48	1.00%	82.10	<b>518.83</b>	<b>19.69</b>
Asset-2	Transmission Line	252.18	0.00	1.00%	2.55		
Asset-3	Transmission Line	45370.16	436.73	1.00%	453.87		
<b>Sub-total</b>	<b>Transmission Line</b>	<b>53991.28</b>	<b>678.21</b>	<b>1.00%</b>	<b>538.52</b>		
Asset-1	Sub-station	1710.14	89.52	4.00%	67.53	<b>292.89</b>	<b>21.99</b>
Asset-2	Sub-station	3176.55	122.95	4.00%	127.23		
Asset-3	Sub-station	6189.20	102.41	4.00%	253.62		
<b>Sub-total</b>	<b>Sub-station</b>	<b>11075.89</b>	<b>314.88</b>	<b>4.00%</b>	<b>448.38</b>		

95. Thus, in line with APTEL's judgement dated 14.9.2019 in Appeal No. 74 of 2017, additional Initial Spares of ₹41.68 lakh (₹19.69 lakh for transmission line and ₹21.99 lakh for sub-station in case of Asset-1) are admissible.

96. Capital cost as on 1.4.2019 allowed after adding Initial Spares is as follows:

(₹ in lakh)		
Combined capital cost as on 31.3.2019	Additional Initial Spares allowed as per APTEL's judgement dated 14.9.2019	Combined capital cost as on 1.4.2019
71097.36	41.68	71139.05

97. The trued-up capital cost of ₹71139.05 lakh in respect of the Combined Asset is considered as admitted capital cost as on 1.4.2019 for working out tariff for 2019-24 period in accordance with Regulation 19 of the 2019 Tariff Regulations.



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

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

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

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

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

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

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

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

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

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

99. The Petitioner has claimed ACE of ₹194.00 lakh during 2019-24 tariff period. The proposed ACE is on account of balance and retention payments/ work deferred for execution and is claimed under Regulation 25(1)(d) of the 2019 Tariff Regulations. The Petitioner vide Auditor’s Certificate dated 2.9.2021 has claimed the following capital cost as on 31.3.2024:

Assets	Apportioned approved cost as per FR	Apportioned approved cost as per RCE	Capital cost as on 31.3.2019	Projected ACE		Capital cost as on 31.3.2024
				2019-20	2020-21	
Asset-1	8693.38	11109.91	10740.27	42.71	24.46	10807.44
Asset-2	2731.72	3672.98	3631.60	0.00	0.00	3631.60
Asset-3	56643.90	60907.11	56906.88	0.00	126.83	57033.71
<b>Total</b>	<b>68069.00</b>	<b>75690.00</b>	<b>71278.75</b>	<b>42.71</b>	<b>151.29</b>	<b>71472.75</b>

100. In response to the Commission’s query regarding ACE during 2019-24 tariff period, the Petitioner vide affidavit dated 4.8.2022 has submitted as follows:

**Asset-1:**

Year	ACE (₹ in lakh)	Party Name	Package	Balance and Retention/ Deferred work*
2019-20	42.71	KEC International, Gupta Power, Gold Stone	Transmission Line	Balance and Retention payment as per Regulation 25(1)(d) of the 2019 Tariff Regulations
2020-21	24.46	GE T&D India Ltd.	Sub-station	Balance and Retention payment as per Regulation 25(1)(d) of the 2019 Tariff Regulations



**Asset-3:**

Year	ACE (₹ in lakh)	Party Name	Package	Balance and Retention/ Deferred work
2020-21	20.80	GE T&D India Ltd	Civil & Building	Balance and Retention payment as per Regulation 25(1)(d) of the 2019 Tariff Regulations
	91.29	. KEC International, Gupta Power, Gold Stone	Transmission Line	Balance and Retention payment as per Regulation 25(1)(d) of the 2019 Tariff Regulations
	14.74	. GE T&D India Ltd, ABB	Sub-station	Balance and Retention payment as per Regulation 25(1)(d) of the 2019 Tariff Regulations

101. We have considered the submissions of the Petitioner. The cut-off date for Asset-1 and Asset-2 is 31.3.2018 and for Asset-3 is 31.3.2019. In case of Asset-1, the Petitioner has claimed an amount of ₹42.71 lakh in 2019-20 and ₹24.46 lakh for 2020-21, totalling to an amount of ₹67.17 lakh. The Petitioner has not claimed any ACE in case of Asset-2 in 2019-24 tariff period. In case of Asset-3, the Petitioner has claimed an amount of ₹126.83 lakh for 2020-21. Thus, the Petitioner has claimed overall ACE amounting to ₹197.00 lakh (₹67.17 lakh for Asset-1 and ₹126.83 lakh for Asset-3) in 2019-24 under Regulation 25(1)(d) of the 2019 Tariff Regulation on account of balance and retention payment and same has been allowed subject to true-up. Accordingly, capital cost considered in respect of the Combined Asset for 2019-24 tariff period is as follows:

Capital cost as on 31.3.2019	ACE		Capital Cost as on 31.3.2024
	2019-20	2020-21	
	71139.05	42.71	151.29

**Debt-Equity ratio**

102. 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.”*



103. Debt-equity ratio for 2019-24 period is allowed as per Regulation 18(3) of the 2019 Tariff Regulations. Debt-equity ratio considered for the purpose of computation of tariff for 2019-24 tariff period is as follows:

Particulars	Capital Cost as on 1.4.2019 (₹ in lakh)	(in %)	ACE during 2019-24 (₹ in lakh)	(in %)	Capital Cost as on 31.3.2024 (₹ in lakh)	(in %)
Debt	49797.33	70.00	135.80	70.00	49933.13	70.00
Equity	21341.71	30.00	58.20	30.00	21399.91	30.00
<b>Total</b>	<b>71139.05</b>	<b>100.00</b>	<b>194.00</b>	<b>100.00</b>	<b>71333.05</b>	<b>100.00</b>

### Depreciation

104. Regulation 33 of the 2019 Tariff Regulations provides as follows:

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

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

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

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

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

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

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



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

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

*(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in **Appendix-I** to these regulations for the assets of the generating station and transmission system:*

*Provided that the remaining depreciable value as on 31<sup>st</sup> March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.*

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

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

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

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

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

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

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

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



105. Depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. WAROD has been worked out as Annexure-II as per the rates of depreciation specified in the 2019 Tariff Regulations. Depreciation allowed in respect of the Combined Asset is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block (A)	71139.05	71181.76	71333.05	71333.05	71333.05
Projected ACE (B)	42.71	151.29	0.00	0.00	0.00
Closing Gross Block (C) = A+B	71181.76	71333.05	71333.05	71333.05	71333.05
Average Gross Block (D) = (A+C)/2	71160.40	71257.40	71333.05	71333.05	71333.05
Freehold Land	0.00	0.00	0.00	0.00	0.00
Weighted average rate of Depreciation (WAROD) (in %)	5.27	5.27	5.27	5.27	5.27
Balance useful life of the asset (Year)	31	30	29	28	27
Lapsed life (Year)	2	3	4	5	6
Depreciable Value	64044.36	64131.66	64199.74	64199.74	64199.74
<b>Depreciation</b>	<b>3752.54</b>	<b>3757.46</b>	<b>3761.25</b>	<b>3761.25</b>	<b>3761.25</b>
Aggregate Cumulative Depreciation	13356.40	17113.86	20875.11	24636.36	28397.61
Remaining Aggregate Depreciable Value	50687.96	47017.80	43324.63	39563.38	35802.13

### **Interest on Loan (“IoL”)**

106. 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 assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalisation of such asset.

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

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



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

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

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

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

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

107. We have considered the submissions of the Petitioner. 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 change in interest rate due to floating rate of interest applicable, if any, during 2019-24 tariff period will be adjusted. Accordingly, the floating rate of interest, if any, shall be considered at the time of truing-up. In view of above, IoL has been worked out in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed in respect of the Combined Asset is as follows:

<b>Particulars</b>	<b>(₹ in lakh)</b>				
	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Gross Normative Loan	49797.33	49827.23	49933.13	49933.13	49933.13
Cumulative Repayments up to Previous Year	9603.86	13356.40	17113.86	20875.11	24636.36
Net Loan-Opening	40193.47	36470.83	32819.27	29058.02	25296.77
Additions	29.90	105.90	0.00	0.00	0.00
Repayment during the year	3752.54	3757.46	3761.25	3761.25	3761.25
Net Loan-Closing	36470.83	32819.27	29058.02	25296.77	21535.52
Average Loan	38332.15	34645.05	30938.65	27177.39	23416.14
Weighted Average Rate of Interest on Loan (in %)	7.2901	7.2439	7.2025	7.1492	7.1004
<b>Interest on Loan</b>	<b>2794.46</b>	<b>2509.66</b>	<b>2228.37</b>	<b>1942.97</b>	<b>1662.64</b>



## **Return on Equity (“RoE”)**

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

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

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

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

*Provided further that:*

- i. In case of a new project, the rate of return on equity shall be reduced by 1.00% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO) or Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system based on the report submitted by the respective RLDC;*
- ii. in case of existing generating station, as and when any of the requirements under (i) above of this Regulation are found lacking based on the report submitted by the concerned RLDC, rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues;*
- iii. in case of a thermal generating station, with effect from 1.4.2020:*
  - a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;*
  - b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute, subject to ceiling of additional rate of return on equity of 1.00%:*

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

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



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

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

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

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

**Illustration-**

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

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

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

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

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



109. The Petitioner has submitted that MAT rate is applicable to it. Accordingly, MAT rate applicable in 2019-20 has been considered for the purpose of RoE which shall be trued up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. RoE allowed in respect of the Combined Asset has been worked out as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity (A)	21341.71	21354.53	21399.91	21399.91	21399.91
Additions (B)	12.81	45.39	0.00	0.00	0.00
Closing Equity (C) = A+B	21354.53	21399.91	21399.91	21399.91	21399.91
Average Equity (D) = (A+C)/2	21348.12	21377.22	21399.91	21399.91	21399.91
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (in %)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782	18.782
<b>Return on Equity</b>	<b>4009.60</b>	<b>4015.07</b>	<b>4019.33</b>	<b>4019.33</b>	<b>4019.33</b>

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

110. O&M Expenses claimed by the Petitioner in respect of the Combined Asset for 2019-24 period are as follows:

(₹ in lakh)					
Assets	2019-20	2020-21	2021-22	2022-23	2023-24
2 Number of 765 kV line bays for 765 kV S/C Jaipur (Phagi)-Bhiwani CKT-II	90.02	93.20	96.46	99.86	103.36
2 Numbers of 400 kV bays at Bhiwani, 2 numbers of 400 kV bays at Hissar and 4 numbers of 400 kV bays at Hissar (Total 8 Numbers of 400 kV bays)	257.20	266.24	275.60	285.28	295.28
765 kV S/C Jaipur (Phagi)-Bhiwani CKT-II (276.44 km Single Circuit (Bundled with 4 sub-conductors))	208.71	215.90	223.64	231.38	239.67
400 kV D/C Hissar-Bhiwani line and LILO of 400 kV Moga-Bhiwadi Transmission Line at Hissar ((57.57 km Double Circuit (Twin conductor))	50.72	52.50	54.34	56.25	58.20
<b>Total O&amp;M Expenses claimed</b>	<b>606.65</b>	<b>627.84</b>	<b>650.04</b>	<b>672.77</b>	<b>696.51</b>

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





**“35. Operation and Maintenance Expenses:**

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

<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
<b>Norms for sub-station Bays (Rs Lakh per bay)</b>					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
132 kV and below	16.08	16.64	17.23	17.83	18.46
<b>Norms for Transformers (Rs Lakh per MVA)</b>					
765 kV	0.491	0.508	0.526	0.545	0.564
400 kV	0.358	0.371	0.384	0.398	0.411
220 kV	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.245	0.254	0.263	0.272	0.282
<b>Norms for AC and HVDC lines (Rs Lakh per km)</b>					
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-conductors)	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple Conductor)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single Conductor)	0.252	0.260	0.270	0.279	0.289
Double Circuit (Bundled conductor with four or more sub-conductors)	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
<b>Norms for HVDC stations</b>					
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (Rs. 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  $\pm 500$  kV Mundra-Mohindergarh HVDC bipole scheme (2500 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for  $\pm 500$  kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);

(iv) the O&M expenses of  $\pm 800$  kV Champa-Kurukshetra HVDC bi-pole scheme (3000 MW) shall be on the basis of the normative O&M expenses for  $\pm 800$  kV, Bishwanath-Agra HVDC bi-pole scheme;

(v) the O&M expenses of  $\pm 800$  kV, Alipurduar-Agra HVDC bi-pole scheme (3000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for  $\pm 800$  kV, Bishwanath-Agra HVDC bi-pole scheme; and

(vi) the O&M expenses of Static Synchronous Compensator and Static Var Compensator shall be worked at 1.5% of original project cost as on commercial operation which shall be escalated at the rate of 3.51% to work out the O&M expenses during the tariff period. The O&M expenses of Static Synchronous Compensator and Static Var Compensator, if required, may be reviewed after three years.

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

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

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

112. We have considered the submissions of the Petitioner. O&M Expenses have been worked out as per the norms specified in the 2019 Tariff Regulations and the same are as follows:

**Asset-1**

	(₹ in lakh)				
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>O&amp;M Expenses</b>					
2 Numbers of 400 kV bays at Bhiwani					



Norms (₹ lakh/Bay)	32.15	33.28	34.45	35.66	36.91
<b>Total (A)</b>	64.30	66.56	68.90	71.32	73.82
2 Numbers of 400 kV bays at Hissar					
Norms (₹ lakh/Bay)	32.15	33.28	34.45	35.66	36.91
<b>Total (B)</b>	64.30	66.56	68.90	71.32	73.82
56.57 km 400 kV Bhiwani-Hissar Double Circuit (Twin/ Triple conductor)					
Norms (₹ lakh/km)	0.881	0.912	0.944	0.977	1.011
<b>Total (C)</b>	49.83	51.59	53.40	55.26	57.19
<b>Total O&amp;M Expenses (D)=(A)+(B)+(C)</b>	<b>178.43</b>	<b>184.71</b>	<b>191.20</b>	<b>197.90</b>	<b>204.83</b>

### Asset-2

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>O&amp;M Expenses</b>					
4 Numbers of 400 kV bays at Hissar					
Norms (₹ lakh/Bay)	32.15	33.28	34.45	35.66	36.91
<b>Total (A)</b>	128.60	133.12	137.80	142.64	144.40
1 km LILO of 400 kV Moga-Bhiwadi Double Circuit (Twin/ Triple conductor)					
Norms (₹ lakh/km)	0.881	0.912	0.944	0.977	1.011
<b>Total (B)</b>	0.881	0.912	0.944	0.977	1.011
<b>Total O&amp;M Expenses (C)=(A)+(B)</b>	129.481	134.032	138.744	143.617	145.411

### Asset-3

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>O&amp;M Expenses</b>					
1 Number of 765 kV bays at Bhiwani:Phagi-1_Bhiwani					
Norms (₹ lakh/Bay)	45.01	46.60	48.23	49.93	51.68
<b>Total (A)</b>	45.01	46.60	48.23	49.93	51.68
1 Number of 765 kV bays at Phagi (RRVNL): Bhiwani-I_Phagi (RRVNL)_Jaipur					
Norms (₹ lakh/Bay)	45.01	46.60	48.23	49.93	51.68
<b>Total (B)</b>	45.01	46.60	48.23	49.93	51.68
276.440 km 765 kV Jaipur (Phagi) RVPNL-Bhiwani Ckt-II Single Circuit (Bundled conductor - 4 sub-conductors)					



Norms (₹ lakh/km)	0.755	0.781	0.809	0.837	0.867
<b>Total (C)</b>	208.712	215.899	223.639	231.380	239.673
<b>Total O&amp;M (D)=(A)+(B)+(C)</b>	298.732	309.099	320.099	331.24	343.033

113. In view of the above, O&M Expenses claimed and allowed in respect of the Combined Asset is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Total O&M Expenses Claimed	606.65	627.84	650.04	672.77	696.51
Total O&M Expenses Calculated	606.65	627.84	650.05	672.77	696.52
Total O&M Expenses allowed	606.65	627.84	650.05	672.77	696.52

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

114. Regulation 34(1)(c), Regulation 34(3), Regulation 34(4) and Regulation 3(7) of the 2019 Tariff Regulations specify 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 1<sup>st</sup> April of the year during the tariff period 2019-24 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later:*

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

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

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



**'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;"

115. The Petitioner has submitted that it has computed IWC for 2019-24 period considering SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of IWC as 12.05%.

116. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The Rate of Interest (RoI) considered is 12.05% (SBI 1-year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20, RoI for 2020-21 has been considered as 11.25% (SBI 1-year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) whereas RoI for 2021-22 onwards has been considered as 10.50% (SBI 1-year MCLR applicable as on 1.4.2021 of 7.00% plus 350 basis points). The components of the working capital and interest allowed thereon are as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses (O&M Expenses for one month)	50.55	52.32	54.17	56.06	58.04
Maintenance Spares (15% of O&M Expenses)	91.00	94.18	97.51	100.91	104.48
Receivables (Equivalent to 45 days of annual transmission charges)	1395.30	1366.05	1333.35	1300.61	1265.12
<b>Total Working Capital</b>	<b>1536.85</b>	<b>1512.55</b>	<b>1485.02</b>	<b>1457.59</b>	<b>1427.64</b>
Rate of Interest (in %)	12.05	11.25	10.50	10.50	10.50
<b>Interest on Working Capital</b>	<b>185.19</b>	<b>170.16</b>	<b>155.93</b>	<b>153.05</b>	<b>149.90</b>

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

117. The transmission charges allowed in respect of the Combined Asset for 2019-24 tariff period are as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	3752.54	3757.46	3761.25	3761.25	3761.25
Interest on Loan	2794.46	2509.66	2228.37	1942.97	1662.64



Return on Equity	4009.60	4015.07	4019.33	4019.33	4019.33
O&M Expenses	606.65	627.84	650.05	672.77	696.52
Interest on Working Capital	185.19	170.16	155.93	153.05	149.90
<b>Total</b>	<b>11348.44</b>	<b>11080.19</b>	<b>10814.93</b>	<b>10549.37</b>	<b>10289.64</b>

### **Filing Fees and Publication Expenses**

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

### **Licence Fees & RLDC Fees and Charges**

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

### **Security Expenses**

120. 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.

121. We have considered the submissions of the Petitioner. The Petitioner has claimed consolidated security expenses for all the transmission assets owned by it on projected basis for 2019-24 tariff period on the basis of actual security expenses incurred in 2018-19 in Petition No. 260/MP/2020. The said petition has already been disposed of by the Commission vide order dated 3.8.2021. wherein the Commission has approved the 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. Therefore, the Petitioner's prayer in the instant petition for allowing it to file a separate petition for claiming the overall security expenses and consequential IWC has become infructuous.

### **Goods and Services Tax**

122. The Petitioner has submitted that GST, if it is levied at any rate and at any point of time in future on charges of transmission of electricity, the same will be borne and additionally paid by the Respondent(s) to the Petitioner and the same will be charged and billed separately by the Petitioner. Further additional taxes, if any, are to be paid by the Petitioner on account of demand from Government/ Statutory authorities, the same may be allowed to be recovered from the beneficiaries.

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

### **Capital Spares**

124. 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**

125. With effect from 1.7.2011, sharing of transmission charges for inter-State transmission system was governed by the Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2010. With effect from 1.11.2020, sharing of transmission charges is governed by the Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations,



2020 ('the 2020 Sharing Regulations'). The COD of the Asset-1, Asset-2 and Asset-3 is approved as 2.11.2015, 2.7.2015 and 7.10.2016 respectively. Therefore, the transmission charges from COD to 31.10.2020 shall be governed by the 2010 Sharing Regulations and from 1.11.2020 shall be governed by the 2020 Sharing Regulations Accordingly, the liabilities of the DICs for arrears of transmission charges determined through this order shall be computed DIC-wise in accordance with the provisions of respective Tariff Regulations and shall be recovered from the concerned DICs through Bill 2 under Regulation 15(2)(b) of the 2020 Sharing Regulations.

126. To summarise:

- a. The trued-up AFC allowed in respect of the transmission assets for 2014-19 period are as follows:

(₹ in lakh)				
<b>Assets</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Asset-1</b>	769.75	2031.57	2017.62	2019.11
<b>Asset-2</b>	525.98	830.61	840.26	855.48
<b>Asset-3</b>		4097.21	9071.43	9291.36

- b. AFC allowed in respect of the Combined Asset for 2019-24 tariff period in this order is as follows:

(₹ in lakh)					
<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
<b>AFC</b>	<b>11348.44</b>	<b>11080.19</b>	<b>10814.93</b>	<b>10549.37</b>	<b>10289.64</b>

127. Annexure-I and Annexure-II to this order form part of the order.





128. This order disposes of Petition No. 168/TT/2022 in terms of the above findings and discussions.

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

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

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



**Annexure-I****Asset-1**

2014-19 Capital Expenditure	Admitted Capital Cost as on 1.4.2014/COD (₹ in lakh)	ACE (₹ in lakh)					Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)					
		2015-16	2016-17	2017-18	2018-19	Total			2015-16	2016-17	2017-18	2018-19		
Transmission Line	7239.50	1191.73	68.22	135.26	67.36	1462.57	8702.07	5.28%	413.71	446.97	452.34	457.69		
Sub Station	1058.64	597.47	9.35	76.49	-	683.32	1741.96	5.28%	71.67	87.69	89.96	91.98		
PLCC	70.57	43.67	0.62	-	-	44.30	114.87	6.33%	5.85	7.25	7.27	7.27		
<b>Total</b>	<b>8368.71</b>	<b>1832.88</b>	<b>78.19</b>	<b>211.75</b>	<b>67.36</b>	<b>2190.18</b>	<b>10558.89</b>		<b>491.23</b>	<b>541.91</b>	<b>549.57</b>	<b>556.94</b>		
									<b>Average Gross Block (₹ in lakh)</b>		<b>9285.15</b>	<b>10240.69</b>	<b>10385.66</b>	<b>10525.21</b>
									<b>Weighted Average Rate of Depreciation (in %)</b>		<b>5.29%</b>	<b>5.29%</b>	<b>5.29%</b>	<b>5.29%</b>



**Asset-2**

2014-19 Capital Expenditure	Admitted Capital Cost as on 1.4.2014/COD (₹ in lakh)	ACE (₹ in lakh)					Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)			
		2015-16	2016-17	2017-18	2018-19	Total			2015-16	2016-17	2017-18	2018-19
Transmission Line	131.33	128.13	0.06	-	-	128.19	259.52	5.28%	10.32	13.70	13.70	13.70
Sub Station	1857.06	1227.47	0.91	195.05	-	1423.43	3280.49	5.28%	130.46	162.89	168.06	173.21
PLCC	27.24	64.33	0.01	-	-	64.34	91.58	6.33%	3.76	5.80	5.80	5.80
<b>Total</b>	<b>2015.62</b>	<b>1419.93</b>	<b>0.99</b>	<b>195.05</b>	<b>-</b>	<b>1615.97</b>	<b>3631.59</b>		<b>144.53</b>	<b>182.38</b>	<b>187.56</b>	<b>192.71</b>
									<b>Average Gross Block (₹ in lakh)</b>			
									<b>2725.59</b>	<b>3436.05</b>	<b>3534.07</b>	<b>3631.59</b>
									<b>Weighted Average Rate of Depreciation (in %)</b>			
									<b>5.30%</b>	<b>5.31%</b>	<b>5.31%</b>	<b>5.31%</b>



**Asset-3**

2014-19 Capital Expenditure	Admitted Capital Cost as on 1.4.2014/COD (₹ in lakh)	ACE (₹ in lakh)				Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)			
		2016-17	2017-18	2018-19	Total			2016-17	2017-18	2018-19	
Building Civil Works & Colony	197.76	32.62	187.52	-	220.14	417.90	3.34%	7.15	10.83	13.96	
Transmission Line	43537.17	3878.90	1335.02	1149.28	6363.20	49900.37	5.28%	2401.17	2538.81	2604.40	
Sub Station	2816.03	2196.52	1278.63	182.20	3657.35	6473.38	5.28%	206.67	298.42	336.98	
PLCC	101.13	7.82	6.27	-	14.10	115.23	6.33%	6.65	7.10	7.29	
<b>Total</b>	<b>46652.10</b>	<b>6115.86</b>	<b>2807.44</b>	<b>1331.48</b>	<b>10254.78</b>	<b>56906.88</b>		<b>2621.64</b>	<b>2855.15</b>	<b>2962.63</b>	
								<b>Average Gross Block (₹ in lakh)</b>	<b>49710.03</b>	<b>54171.68</b>	<b>56241.14</b>
								<b>Weighted Average Rate of Depreciation (in %)</b>	<b>5.27%</b>	<b>5.27%</b>	<b>5.27%</b>



## Annexure-II

## Combined Asset

2019-24 Capital Expenditure	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Projected ACE (₹ in lakh)			Admitted Capital Cost as on 31.3.2024 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)				
		2019- 20	2020- 21	Total			2019-20	2020-21	2021-22	2022-23	2023-24
Building Civil Works & Colony	417.90	-	20.80	20.80	438.70	3.34%	13.96	14.31	14.65	14.65	14.65
Transmission Line	58881.65	42.71	91.29	134.00	59015.65	5.28%	3110.08	3113.62	3116.03	3116.03	3116.03
Sub Station	11517.82	-	39.20	39.20	11557.02	5.28%	608.14	609.18	610.21	610.21	610.21
PLCC	321.68	-	-	-	321.68	6.33%	20.36	20.36	20.36	20.36	20.36
<b>Total</b>	<b>71139.05</b>	<b>42.71</b>	<b>151.29</b>	<b>194.00</b>	<b>71333.05</b>		<b>3752.54</b>	<b>3757.46</b>	<b>3761.25</b>	<b>3761.25</b>	<b>3761.25</b>
<b>Average Gross Block (₹ in lakh)</b>							<b>71160.40</b>	<b>71257.40</b>	<b>71333.05</b>	<b>71333.05</b>	<b>71333.05</b>
<b>Weighted Average Rate of Depreciation (in %)</b>							<b>5.27%</b>	<b>5.27%</b>	<b>5.27%</b>	<b>5.27%</b>	<b>5.27%</b>

