

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 378/TT/2020

Coram:

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

Date of Order: 01.03.2022

In the matter of:

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and truing-up of transmission tariff of 2014-19 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of 2019-24 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for **Asset-I:** LILO of both circuits of 400 kV D/C Kishenpur Wagoora T/L along with bays at New Wanpoh & 1 No. 315 MVA, 400/220 kV ICT-I along with associated bays at New Wanpoh and 03 No. 220 kV Line Bays; **Asset-II:** 400/220 kV 315 MVA ICT-II along with associated bays at New Wanpoh Sub-station; **Asset-III:** 400 kV 125 MVAR Bus Reactor along with associated bays; and **Asset-IV:** 400 kV D/C Kishenpur-New Wanpoh Line along with associated bays at both ends associated with "Northern Region System Strengthening Scheme-XVI" in Northern Region.

And in the matter of:

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

....Petitioner

Vs

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



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



14. Chandigarh Administration,
Sector -9,
Chandigarh
15. Uttarakhand Power Corporation Limited,
Urja Bhawan, Kanwali Road,
Dehradun (Uttarakhand).
16. North Central Railway,
Allahabad (Uttar Pradesh)
17. New Delhi Municipal Council,
Palika Kendra, Sansad Marg,
New Delhi-110002

...Respondents

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

For Respondents : None

ORDER

The Petitioner, Power Grid Corporation of India Ltd., a deemed transmission licensee, has filed the instant petition for truing-up of the transmission tariff for the 2014-19 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (herein referred to as “the 2014 Tariff Regulations”) and for determination of tariff for the period from 1.4.2019 to 31.3.2024 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) in respect of the following assets under “Northern Region System Strengthening Scheme-XVI” (hereinafter referred to as “the transmission project”) in Northern Region:

Asset-I: LILO of both circuits of 400 kV D/C Kishenpur Wagoora T/L along with bays at New Wanpoh & 1 No. 315 MVA, 400/220 kV ICT-I along with associated bays at New Wanpoh and 03 No. 220 kV line bays;



Asset-II: 400/220 kV 315 MVA ICT-II along with associated bays at New Wanpoh Sub-station;

Asset- III: 400 kV 125 MVAR Bus Reactor along with associated bays; and

Asset-IV: 400 kV D/C Kishenpur- New Wanpoh line alongwith associated bays at both ends.

Asset-I, Asset-II, Asset-III and Asset-IV have hereinafter been referred to as “the transmission assets” with reference to 2014-19 tariff period and for 2019-24 tariff period they have been combined and as such referred to as “the Combined Asset”.

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

“1) Approve the trued-up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the assets covered under this petition, as per para 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 file a separate petition before Hon'ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned at para 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.

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”

Backdrop of the case

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

a) The Investment Approval (IA) for the transmission project was accorded by Board of Directors of the Petitioner vide Memorandum No. C/CP/NRSS-XVI dated 6.7.2010 with an estimated cost of ₹75264.00 lakh including Interest During Construction (IDC) of ₹6331.00 lakh based on 1st Quarter 2010 price level.

b) Revised Cost Estimate (RCE-II) of the transmission project was accorded by Board of Directors of Petitioner vide Memorandum dated 31.3.2017 with an estimated cost of ₹75794.00 lakh including IDC of ₹12622.00 lakh based on October 2016 price level.

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

Transmission Lines:

(i) LILO of both circuits of Kishenpur-Wagoora 400 kV D/C Line at New Wanpoh: 8 km

(ii) Kishenpur-New Wanpoh 400 kV line: 132 km

(125 km Double circuit+7 km Multi circuit in Pir Panjal Mountain Range)



Sub-stations:

- (i) New 2x315 MVA, (7x105 MVA Single Phase Units considered), 400/220 kV New Wanpoh Sub-station
- (ii) Extension of 400/220 kV Kishenpur Sub-station

Reactive Compensation:

- (i) 1X125 MVAR bus reactor at New Wanpoh
- d) The entire scope of work under the transmission project has been completed and covered under the instant petition.
- e) The transmission project scheduled to be put into commercial operation within 36 months from the date of the IA (2.7.2010). Accordingly, scheduled commercial operation date (SCOD) of the transmission assets was 1.7.2013.
- f) The details of scheduled commercial operation date (SCOD), date of commercial operation (COD) and time over-run are as follows:

Particulars	SCOD	COD	Time over-run
Asset-I	1.7.2013	1.10.2013	92 days
Asset-II		3.7.2014	367 days
Asset-III		16.6.2014	350 days
Asset-IV		31.7.2017	1491 days

- g) The Commission vide order dated 9.10.2018 in Petition No.161/TT/2017 trued up the transmission tariff in respect of Asset-I from COD to 31.3.2014 and determined the tariff for 2014-19 period. Transmission tariff in respect of Asset-II and Asset-III from COD to 31.3.2019 was approved by the Commission vide order dated 31.3.2016 in Petition No.111/TT/2013. Transmission tariff in respect of Asset-IV from COD to 31.3.2019 was allowed by the Commission vide order dated 7.3.2019 in Petition No.62/TT/2018.
- h) The Annual Fixed Charges (AFC) approved by the Commission vide order dated 9.10.2018 in Petition No.161/TT/2017 in respect of Asset-I, vide order dated 31.3.2016 in Petition No.111/TT/2013 in respect of Asset-II and Asset-III and vide order dated 7.3.2019 in Petition No. 62/TT/2018 in respect of



Asset-IV and trued up tariff claimed by the Petitioner in respect of the transmission assets for the 2014-19 tariff period are as follows:

(₹ in lakh)

Particulars	Asset – I				
	2014-15	2015-16	2016-17	2017-18	2018-19
AFC approved vide order dated 9.10.2018 in Petition No.161/TT/2017.	2278.51	2353.48	2366.55	2341.57	2318.19
AFC claimed by the Petitioner based on truing up in the instant petition.	2392.99	2494.63	2581.21	2603.27	2594.30

(₹ in lakh)

Particulars	Asset – II				
	2014-15 (Pro-rata for 272 days)	2015-16	2016-17	2017-18	2018-19
AFC approved vide order dated 31.3.2016 in Petition No.111/TT/2013.	459.21	641.47	679.15	694.44	690.51
AFC claimed by the Petitioner based on truing up in the instant petition.	470.84	660.06	677.99	674.10	688.76

(₹ in lakh)

Particulars	Asset – III				
	2014-15 (Pro-rata for 289 days)	2015-16	2016-17	2017-18	2018-19
AFC approved vide order dated 31.3.2016 in Petition No.111/TT/2013.	177.13	230.40	244.98	250.48	247.29
AFC claimed by the Petitioner based on truing up in the instant petition.	182.24	231.61	231.80	227.67	238.96

(₹ in lakh)

Particulars	Asset – IV	
	2017-18 (Pro-rata for 244 days)	2018-19
AFC approved vide order dated 7.3.2019 in Petition No.62/TT/2018.	6384.91	9713.75
AFC claimed by the Petitioner based on truing up in the instant petition.	6311.36	9617.93

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



5. The Petitioner has served the petition on the Respondents and notice of this application has also been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or suggestions have been received from the general public in response to the aforesaid notices published in the newspapers by the Petitioner. Uttar Pradesh Power Corporation Ltd. (UPPCL) i.e., Respondent No. 9 has filed its reply vide affidavit dated 24.8.2021 and has raised issues of apportionment of cost, capital cost of the project, time over-run, cost over-run, Return on Equity (RoE), Additional Capital Expenditure (ACE), Interest on Loan (IoL) and adoption of Indian Accounting Standards. In response, the Petitioner has filed rejoinder vide affidavit dated 2.9.2021. The issues raised by the Respondent and their clarifications given by the Petitioner have been dealt in the relevant portions of this order.

6. Hearing in this matter was held on 26.10.2021 through video conference and order was reserved.

7. Having heard the representatives of the Petitioner and after perusal of the materials on record, we proceed to dispose of the petition.

8. This order is issued considering the submissions made by the Petitioner in the petition vide affidavits dated 28.1.2020 and 9.12.2020, reply filed by UPPCL vide affidavit dated 24.8.2021 and Petitioner's rejoinder affidavit dated 2.9.2021.

9. It has been placed before us that UPPCL has repeatedly been raising the issue of grossing up of RoE which has already been rejected by the Commission in various orders including vide order dated 24.1.2021 in Petition No.136/TT/2020 and vide



order dated 16.2.2021 in Petition No.114/TT/2020. Since UPPCL has not appealed against these findings of the Commission, the same have attained finality. UPPCL has raised the issue of Adoption of Indian Accounting Standard and variation in cost on account of the same. We observe that similar contention was placed before us by BRPL in Petition No. 24/TT/2020 and it was rejected vide order dated 11.2.2021. There is no merit in the contention of UPPCL that introduction of Indian Accounting Standards by the Petitioner would lead to variation in tariff. Accordingly, we reject the submissions of UPPCL on this count. The contentions of UPPCL and Petitioner's response thereto have not been narrated in this order to avoid repetition.

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

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

(₹ in lakh)

Asset-I					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	535.76	573.03	607.42	626.18	634.34
Interest on Loan	661.16	659.75	649.37	610.53	563.03
Return on Equity	653.89	701.17	745.03	769.38	782.08
O&M Expenses	473.43	489.14	505.39	522.16	539.48
Interest on Working Capital	68.75	71.54	74.00	75.02	75.37
Total	2392.99	2494.63	2581.21	2603.27	2594.30

(₹ in lakh)

Asset-II					
Particulars	2014-15 (Pro-rata for 272 days)	2015-16	2016-17	2017-18	2018-19
Depreciation	86.41	124.88	131.70	132.72	138.39
Interest on Loan	101.44	136.49	131.62	117.30	110.53
Return on Equity	96.25	139.64	147.10	148.24	155.01
O&M Expenses	170.77	236.74	244.61	252.71	261.11
Interest on Working Capital	15.97	22.31	22.96	23.13	23.72
Total	470.84	660.06	677.99	674.10	688.76



(₹ in lakh)

Asset-III					
Particulars	2014-15 (Pro-rata for 289 days)	2015-16	2016-17	2017-18	2018-19
Depreciation	38.70	50.68	52.30	52.30	55.66
Interest on Loan	47.03	54.69	49.33	43.08	44.57
Return on Equity	43.16	56.77	58.56	58.56	62.48
O&M Expenses	47.74	62.30	64.37	66.51	68.71
Interest on Working Capital	5.61	7.17	7.24	7.22	7.54
Total	182.24	231.61	231.80	227.67	238.96

(₹ in lakh)

Asset-IV		
Particulars	2017-18 (Pro-rata for 244 days)	2018-19
Depreciation	1832.76	2851.80
Interest on Loan	2019.25	2935.35
Return on Equity	2071.27	3233.85
O&M Expenses	248.24	383.67
Interest on Working Capital	139.84	213.26
Total	6311.36	9617.93

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

(₹ in lakh)

Asset-I					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O & M Expenses	39.45	40.76	42.12	43.51	44.96
Maintenance Spares	71.01	73.37	75.81	78.32	80.92
Receivables	398.83	415.77	430.20	433.88	432.38
Total Working Capital	509.29	529.90	548.13	555.71	558.26
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	68.75	71.54	74.00	75.02	75.37



(₹ in lakh)

Asset-II					
Particulars	2014-15 (Pro-rata for 272 days)	2015-16	2016-17	2017-18	2018-19
O&M Expenses	19.10	19.73	20.38	21.06	21.76
Maintenance Spares	34.37	35.51	36.69	37.91	39.17
Receivables	105.30	110.01	113.00	112.35	114.80
Total Working Capital	158.77	165.25	170.07	171.32	175.73
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	15.97	22.31	22.96	23.13	23.72

(₹ in lakh)

Asset-III					
Particulars	2014-15 (Pro-rata for 289 days)	2015-16	2016-17	2017-18	2018-19
O&M Expenses	5.03	5.19	5.36	5.54	5.73
Maintenance Spares	9.05	9.35	9.66	9.98	10.31
Receivables	38.36	38.60	38.64	37.95	39.83
Total Working Capital	52.44	53.14	53.66	53.47	55.87
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	5.61	7.17	7.24	7.22	7.54

(₹ in lakh)

Asset-IV		
Particulars	2017-18 (Pro-rata for 244 days)	2018-19
O&M Expenses	30.95	31.97
Maintenance Spares	55.70	57.55
Receivables	1573.53	1602.99
Total Working Capital	1660.18	1692.51
Rate of Interest (in %)	12.60	12.60
Interest on Working Capital	139.84	213.26

Capital Cost

12. The Commission vide order dated 9.10.2018 in Petition No.161/TT/2017 in respect of Asset-I, vide order dated 31.3.2016 in Petition No.111/TT/2013 in respect of Asset-II and Asset-III and vide order dated 7.3.2019 in Petition No.62/TT/2018 in



respect of Asset-IV approved the following capital cost and ACE for the transmission assets covered in the instant petition which is as follows:

(₹ in lakh)

Asset	Approved cost	Admitted Cost as on COD	ACE					Admitted Cost as on 31.3.2019
			2014-15	2015-16	2016-17	2017-18	2018-19	
Asset-I	14488.33	10764.87	683.02	392.66	0.00	0.00	0.00	11840.55
Asset-II	2781.62	890.05	0.00	96.10	96.10	0.00	0.00	1082.25
Asset-III	1230.71	2077.96	56.42	241.56	216.10	0.00	0.00	2592.04
Asset-IV	57293.13	51406.18	0.00	0.00	0.00	2880.00	1306.92	55593.19

13. UPPCL has submitted that the Petitioner has failed to explain the rationale of splitting the original project cost into four different assets in the original IA. The project cost was determined by the Petitioner based on competitive bids invited for all the transmission assets of the transmission project. After selection of successful bidder, there is no relevance of the original cost approved on 6.7.2010 for the purpose of comparison of cost and there was no need of revised cost estimate (RCE-II) approved on 31.3.2017. UPPCL has further submitted that the transmission project has been over-estimated since the stage of IA and the Commission may direct the Petitioner to explain the same vis-à-vis the bids received and the formula for price escalation, if any. UPPCL has submitted that price escalation claimed by the successful bidder over and above the quoted price may be considered as cost over-run on account of delay in execution of the transmission project.

14. In response, the Petitioner has made the following submissions:

- a) The apportionment of cost among the transmission elements is done as per the Detailed Project Report (DPR) of IA and RCE which covers complete break-up of IA.



- b) Implementation of various transmission schemes by the Petitioner is based on the recommendations of CEA/ RPC/ Standing Committee/ National Committee on Transmission etc. Therefore, size of transmission scheme and its configuration etc. are beyond the control of the Petitioner. A transmission scheme executed by the Petitioner consists of various assets like transmission lines, sub-stations, bays and equipment like ICTs, reactors, statcoms etc.
- c) Inherently all infrastructure projects, particularly linear projects such as transmission projects are prone to delay due to various factors beyond the control of the developers such as: project specific conditions as terrain, project location, land issues and Right of Way (RoW) constraints. Individual components of a transmission scheme are usually commissioned in phases. Complete scheme is completed progressively and, sometimes, there is difference of 2-3 years in completion of first asset and last asset of the scheme.
- d) The Commission while approving the capital cost and determining transmission tariff decides merits of delay on the basis of reasons provided.
- e) Regulation 6(2) of the 2014 Tariff Regulations provides flexibility to transmission licensees to break the capital cost of a project into stages, blocks, units, transmission lines and Sub-stations forming part of the project, if need be.
- f) Though SCOD of the transmission assets is 1.7.2013, they have been commissioned progressively from 1.10.2013 to 31.7.2017 because of reasons not attributable to the Petitioner. Therefore, the transmission assets have been grouped as per their COD for the purpose of tariff based on pre-commissioning work completion and further the work is as per the scope defined in IA and RCE.
- g) Cost over-run in respect of Asset-IV is on account of increase in compensation, change in route of portion of line from multi circuit to D/C at Pir-Panjaj and other factors which led to preparation of RCE-II.
- h) Cost estimates are prepared based on Schedule of Rates. The schedule of rates is prepared based on average of units rates of latest three bids/ LOAs/ raw material prices in order to achieve the cost efficiency by



estimating the capital cost of the instant transmission project. Later, award for execution of the transmission project was placed after following transparent process of tendering, bid evaluation and award of work to lowest technical and commercially responsive bid.

i) The Petitioner follows a robust and time-tested system of preparing cost estimates before obtaining IA. After IA, award letters are placed on the executing agencies on the basis of tendering process as per best industry practices and due diligence is undertaken including justification of bid prices vis-à-vis estimated cost before placing the awards.

j) Cost control measures are taken during execution of the project and only in unavoidable situations caused by the actual soil/ terrain conditions, crossing requirements (river, power line, railway line, forest stretches and any other compelling technical reason), the cost may undergo changes.

15. We have given our thoughtful consideration to the contentions of the Petitioner and UPPCL. Regulation 6(2) of the 2014 Tariff Regulations provides breaking of capital cost of a project into stages, blocks, units, transmission lines and sub-stations forming part of the project. Further, the Commission allow transmission tariff only after prudence check and taking into consideration all aspects of the matter as per applicable regulations.

Cost Over-Run

16. The Petitioner has claimed capital cost of ₹10818.33 lakh, ₹2177.31 lakh, ₹929.15 lakh and ₹52915.15 lakh for Asset-I, Asset-II, Asset-III and Asset-IV respectively as on COD.

17. The total completion cost including ACE in respect of the transmission assets is ₹73214.039 lakh and approved Revised Cost Estimate-II (RCE-II) is ₹75793.79 lakh. Hence, the completion cost in respect of the transmission assets is within the



approved RCE-II cost. Therefore, there is no cost over-run with regard to the transmission assets.

Time Over-run

18. As per IA, the transmission assets were scheduled to be put under commercial operation within 36 months from the date of IA (2.7.2010). SCOD of the transmission assets and their actual CODs are as follows:

Asset	SCOD	COD	Time over-run	Previous order	Time over-run condoned in previous order
Asset-I	1.7.2013	1.10.2013	92 days	Order dated 9.10.2018 in Petition No.161/TT/2017 (true-up of 2009-14 period) Order dated 9.3.2016 in Petition No.34/TT/2013 (tariff determination of 2009-14 period)	92 days
Asset-II		16.6.2014	367 days	Order dated 31.3.2016 in Petition No.111/TT/2013	-
Asset-III		3.7.2014	350 days		-
Asset-IV		31.7.2017	1491 days	Order dated 7.3.2019 in Petition No.62/TT/2018	1491 days

19. Entire time over-run of around three months in case of Asset-I was condoned by the Commission vide order dated 9.3.2016 in Petition No.34/TT/2013. For Asset-IV, the Commission condoned entire time over-run of 49 months vide order dated 7.3.2019 in Petition No.62/TT/2018.

20. The Commission vide order dated 31.3.2016 in Petition No.111/TT/2013 did not allow time over-run of 367 days and 350 days in Asset-II and Asset-III respectively. However, in the said order, the Commission granted liberty to the Petitioner approach the Commission with proper and specific chronology of events along with documentary evidence for time over-run such as police or military advisory for cessation of work, report of IMD for unprecedented or rare weather disturbance



causing cessation of work in the work area at the time of truing up. The relevant extracts of the order dated 31.3.2016 in Petition No.111/TT/2013 is as follows:

“26. The petitioner has further submitted that intensified militant activities were prevailing during May, 2012 to June, 2012, September, 2012 to October-2013 and weather disturbance existed from August, 2012 to September, 2012, November, 2012 to December, 2012 and November, 2013 to December, 2013. We have also perused the documentary evidences submitted by the petitioner but these are only newspaper cuttings which are not sufficient to ascertain the period of disturbances. The information submitted by the petitioner on pursuant to directions of the Commission vide RoP of hearing dated 20.10.2015, regarding time over-run in specific format along with documentary evidence does not provide specific details about exact time over-run or delay due to disturbances in that area. In view of this, we are not inclined to condone the time over-run on account of non-availability of proper and specific information. There is a delay of 22 months in land acquisition which has not be explained by the petitioner. The delay on account of militant activities and weather conditions from 5.11.2010 to 19.9.2012 get subsumed therein. Further, delay beyond September, 2013 is mainly because of militancy activities and adverse weather. However, credible evidences have not been provided by the petitioner to support its claim. However, there is an overall time over-run of 11 months & 11 days for Asset 1 and 11 months & 28 days for Asset-2 which has not been condoned. The petitioner is at liberty to approach the Commission with proper and specific chronology of events alongwith documentary evidence for time over-run such as police or military advisory for cessation of work, report of IMD for unprecedented or rare weather disturbance causing cessation of work in the work area etc. at the time of truing up for the consideration of the Commission.”

21. In compliance of the directions given by the Commission vide order dated 31.3.2016 in Petition No. 111/TT/2013, the Petitioner in the instant petition has submitted reasons for delay in respect of Asset-II and Asset-III as follows:

a) Delay in acquiring land due to late approval by J & K Government

- The proposal for land acquisition after carrying out joint survey in association with J&K Revenue Department in Damjan near Qazikund on NHIA was submitted vide letter dated 19.3.2008, where request was made to Deputy Commissioner (J&K Government) to issue necessary instructions to the concerned authority.
- The Petitioner again vide letter dated 24.7.2008 requested to start land acquisition proceedings as required under Jammu and Kashmir Land Acquisition Act.
- The concerned authority vide notification dated 23.4.2009 under Section 4(i) of Jammu and Kashmir Land Acquisition Act called for objections from the interested persons and indenting Department.



- In response to the notification, a few objections were received on the ground that due to land acquisition, they would lose their land and livelihood.
- Some other landowners also represented before the Government for change of location of the Petitioner because the proposed area was paddy growing area having high agriculture utility. The objections were brought to the notice for the Petitioner. However, the Petitioner expressed its inability to change the location on technical grounds.
- Taking note of the objections filed by the interested persons and keeping in view the importance of the project for up-gradation and strengthening the power supply to the Kashmir valley, a report was submitted to the Government, recommending issuance of declaration under section 6 of the Jammu and Kashmir Land Acquisition Act and seeking order for acquisition under section 7 of the Jammu and Kashmir Land Acquisition Act.
- In view of the urgency of implementation of the transmission project, request for grant of permission for invoking section 17 of the Jammu and Kashmir Land Acquisition Act and taking possession of the proposed land was also made.

Date	Action Taken
7.5.2010	In pursuance of notification for acquisition of land under sections 6 and 7 of the Jammu and Kashmir Land Acquisition Act, notices under sections 9 and 9A vide office No. LA/Ang/94-97 were issued calling for objections from the interested persons.
24.6.2010	The Government issued declaration notification under Revenue Department's endorsement No. FC-LS/LA-4075-2010 under section 6 and section 7 of the Jammu and Kashmir Land Acquisition Act to take order of acquisition of the land.
20.10.2010	The total awarded amount of compensation exceeded pecuniary jurisdiction of the Collectorate. Therefore, the case was submitted to Deputy Commissioner (District Collector), Anantnag vide office No. 334 -36/LA/Ang for obtaining necessary approval from the competent authority.
5.11.2010	The Deputy Commissioner, Anantnag recommended the case to Divisional Commissioner, Kashmir vide office No. /1042/LA/ANG for grant of approval to the proposed rate of compensation.

- After communication letter dated 5.11.2010, the case was submitted to the Office of Revenue Minister for approval of compensation for said land in District Anantnag for construction of 400 kV Grid Station by Divisional Commissioner, Kashmir. During the period, the portfolio of Minister of Revenue was changed and additional charge of revenue was vested with CM Secretariat. After some



time, the Ministry of Revenue was again transferred from CM Secretariat to a new incumbent which again resulted in delay of approval of land acquisition.

b) Delay due to disturbance caused by various factors such as weather disturbance, militant attacks, security threats, shutdown, encounters

- The acquired land i.e. New Wanpoh comes under remote location in Kashmir Valley which experiences off and on militant activity, disturbances which leads to intermittent stoppage of work and slowing down pace of work. It also affects the transportation of men and material, creates fear among the workers which hampered the work considerably. Such situation is experienced intermittently throughout the year and, sometimes, it was so intensified that work was stopped completely.

- In the instant case, especially from May 2012 till September 2013 (16 months), various militancy activities were intensified which severely hampered the execution of work. The Petitioner has submitted various paper cuttings indicating disturbance in Kashmir valley.

- Further, during winter period of November 2013 to January 2014, there was unprecedented snowfall in the valley which completely stopped the work for about four months. Brief of documents attached is as follow:-

Month	Disturbances	Date
February 2012	Weather Disturbances	
March 2012	Weather Disturbances	11 th and 24 th
May 2012	Encounters, Protests, Stone pelting etc.	6 th and 31 st
June 2012	Attack on Army camp.	29 th
September 2012	Militant threat	3 rd
October 2012	Militant attack	19 th
November 2012	Militant attack	28 th
December 2012	Militant attack	28 th
	Weather Disturbances	22 nd and 31 st
March 2013	Encounters, Protests, Stone pelting etc.	14 th , 22 nd and 25 th
	Weather disturbance	5 th
September 2013	Curfew	16 th to 21 st
	Encounters, Protests, Stone pelting etc	16 th , 18 th , 20 th , 23 rd , 26 th



October 2013	Militants attack	16 th and 19 th
November 2013	FIR lodged for missing parts of ICT	14 th
	Encounters, Protests, Stone pelting etc.	23 rd
	Weather Disturbances	24 th , 29-30 th
December 2013	Encounters, Protests, Stone pelting etc	12 th and 27 th
	Weather Disturbances	11 th -31 st
	Inspection of ICT by insurance officials	
January 2014	Weather Disturbances	12 th and 22 nd
February 2014	Snow Shuts	23 rd
March 2014	Security disturbance	4 th and 30 th
	Weather disturbance Heavy snowfall	10 th and 13 th

22. We have considered the submissions of the Petitioner and perused the documents placed on record regarding time over-run. We have also gone through the detailed chronology of events submitted by the Petitioner with reference to land acquisition.

23. The summary of chronology of events is as follows:

Date/ Time period	Events which led to delay
19.3.2008	Proposal given by PGCIL
25.7.2008	Follow up by Petitioner with the concerned authorities
23.4.2009	Office of Deputy Commissioner, Anantnag, prepared Shajra khasra got the same authenticated by Tehsildar Dooru and Manager (PGCIL) and then notified the proposed land particulars under Section 4(i) of the State Land Acquisition Act.
10.2.2010	Follow up by Petitioner with concerned authorities
5.3.2010	No objection statement was issued by the office of the Deputy Speaker, Legislative Assembly, J&K
24.6.2010	The Revenue Department of Government of J&K issued a notification under Section 6 of the State Land Acquisition Act
6.7.2010	Investment Approval
5.11.2010	The office of Additional Deputy Commissioner determined the amount of compensation and sought the approval of the Divisional Commissioner through the Deputy Commissioner
6.4.2012	The Divisional Commissioner conveyed the approval of the proposed rate of compensation
19.9.2012	Additional Commissioner notified the final award of compensation
5.7.2013	SCOD



Date/ Time period	Events which led to delay
May-June, 2012, September, 2012, November & December, 2012, November & December, 2013	Militant Activities
December, 2013 – March, 2014	Snowfall

24. It is observed that land acquired for Asset-II i.e., 400/220 kV 315 MVA ICT-II along with associated bays at New Wanpoh Sub-station and Asset-III i.e. 400 kV 125 MVAR Bus Reactor along with associated bays shall be same as the land acquired for Asset-I (LILO of both circuits of 400 kV D/C Kishenpur Wagoora T/L along with bays at New Wanpoh & 1 No. 315 MVA, 400/220 kV ICT-I along with associated bays at New Wanpoh and 03 No.. 220 kV line bays). It is noted that the process of acquisition of land commenced prior to the IA. Further, the Petitioner approached the Deputy Commissioner, J&K Government, vide letter dated 19.3.2008 with the proposal for land acquisition. After follow up by the Petitioner with the concerned authorities, as is clear by letter dated 25.7.2008, no objection was given by the Office of Deputy Speaker, Legislative Assembly, J&K vide letter dated 5.3.2010. Subsequently, the land was awarded by the Additional Deputy Commissioner vide letter dated 19.9.2012. The Commission vide order dated 9.3.2016 in Petition No 34/TT/2013 has already considered time over-run at Wanpoh Sub-station and relevant extracts of the said order are as follows:

16. We have considered the reasons and documents submitted by the Petitioner regarding time over-run. We have also gone through the detailed chronology of events in the process of land acquisition submitted by the petitioner. It is observed that the process of acquisition of land commenced prior to the Investment Approval. Further, the petitioner has approached the Deputy Commissioner, J&K Government, vide letter dated 19.3.2008 with the proposal for land acquisition. After follow up by the petitioner with the concerned authorities as evidenced by letter dated 24.7.2008, no objection statement was issued by the office of the Deputy Speaker, Legislative Assembly, J&K vide letter dated 5.3.2010. Subsequently, the land was awarded by the Additional Deputy Commissioner vide letter dated 19.9.2012. The petitioner, vide affidavit dated 11.12.2015, has submitted information in support of justification of delay in land



acquisition. The delay in obtaining permission of land acquisition is controllable in nature, however, it is observed that the delay in this case is on account of processing by Government agencies, which is not directly attributable to the petitioner. It is further observed that disturbance caused due to increased militant activities, curfew situations and severe snowfall and rains during 2012-13 period were the additional factors responsible for the time over-run. We are of the view that the time over-run of 3 months in commissioning of the transmission asset is beyond the control of the petitioner and therefore it is condoned. Accordingly, IDC and IEDC for 3 months are capitalized.”

25. Accordingly, delay till 1.10.2013 i.e., delay of 92 days on account of land acquisition is condoned for both Asset-II and Asset-III.

26. It is further observed that disturbance caused due to increased militant activities, curfew situations and severe snowfall and rains during 2012-13 period were additional factors responsible for time over-run. However, the Petitioner has not submitted specific documents which proves that militant activities, curfew situations and severe snowfall had directly impacted the work of the Petitioner. Needless to say, snowfall in higher reaches of the State is a common phenomenon and the Petitioner need to plan accordingly. Therefore, time over-run on account of these reasons for Asset-II and Asset-III is not condoned.

27. The following table indicates the time over-run condoned and not condoned in respect of Asset-II and Asset-III:

Assets	SCOD	COD	Time over-run (days)	Time over- run condoned (days)	Time over-run not condoned (days)
Asset-II	1.7.2013	16.6.2014	367	92	275
Asset-III		3.7.2014	350	92	258

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

28. The Petitioner has claimed Interest During Construction (IDC) in respect of the transmission assets and has submitted Auditor’s Certificates dated 30.7.2019 in



support of the same. The Petitioner has submitted computation of IDC alongwith year-wise details of IDC discharged.

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

30. Accordingly, based on the information submitted by the Petitioner, IDC considered is summarized as follows:

(₹ in lakh)

Assets	IDC as per Auditor's Certificate	IDC Admissible	IDC Discharge as on COD	IDC Undischarged as on COD	IDC Discharge during				
	A	B	C	D=B-C	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-II	260.58	185.17	181.91	3.26	3.26	-	-	-	-
Asset-III	107.97	82.94	77.63	5.31	5.31	-	-	-	-
Asset-IV	11216.42	11216.42	10019.36	1197.06	-	-	-	1086.80	110.26

31. The Petitioner has claimed IEDC in respect of transmission assets and has submitted Auditor's Certificate in support of the same. IEDC claimed is within the percentage of hard cost of 5.00% as indicated in FR abstract cost estimate. Accordingly, IEDC is allowed as claimed subject to adjustment of delay condonation on account of time over-run. The details of claimed and allowed IEDC are as follows:

(₹ in lakh)

Assets	IEDC claimed as per Auditor's Certificate	IEDC disallowed due to time over-run	IEDC allowed as on COD
	1	2	3= (1-2)
Asset-II	73.69	13.86	59.83



Asset-III	32.22	5.75	26.47
Asset-IV	2520.32	0.00	2520.32

Initial Spares

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

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

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

(₹ in lakh)

Assets	Particulars	Plant & Machinery cost (excluding IDC/IEDC, Land cost and cost of civil works) (A)	Initial Spares Claimed (B)	Ceiling (%) (C)	Initial Spares Worked Out	Excess Initial Spares
					$D = [(A-B) * C / (100-C)]$	
Asset – I	Sub-station	11028.37	243.20	2.50	276.54	-
	Transmission Line	2570.57	0.00	0.75	19.42	-
Asset – II	Sub-station	2357.12	30.61	6.00	30.61	-
Asset – III	Sub-station	850.37	24.94	6.00	24.94	-
Asset – IV	Transmission Line	40845.68	717.24	1.00	405.34	311.90

34. We have considered the submissions of the Petitioner. As per the APTEL’s judgment dated 14.9.2019 in Appeal No. 74 of 2017, Initial Spares are to be allowed as per the ceiling on overall project cost. The APTEL in judgement dated 14.9.2019 in Appeal No. 74 of 2017 held as follows:

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



35. In terms of the above, Initial Spares are to be allowed as percentage of the project cost as a whole. The transmission project was completed during 2014-19 tariff period and the overall project cost of the transmission assets is arrived at only when all the transmission assets are combined while claiming the tariff for the 2019-24 tariff period. Therefore, the Initial Spares are allowed on the basis of the cost of the individual transmission assets in 2014-19 tariff period and Initial Spares are allowed on the basis of the overall project cost in the 2019- 24 period.

36. Accordingly, Initial Spares are allowable subject to the ceiling specified in Regulation 13(d) of the 2014 Tariff Regulations. The Petitioner's claim of Initial Spares is within the ceiling for Asset-II and Asset-III and, hence, the same is allowed. For Asset-IV, the Petitioner has claimed excess spares which shall be adjusted in the 2019-24 tariff period, the details of the same have been given in the relevant portion of this order.

37. In case of Asset-I, it is observed that the Petitioner has claimed ₹243.20 lakh for Initial Spares under sub-station. However, year-on-year discharge comes to ₹192.79 lakh. Hence, we have considered ₹192.79 lakh for computation of Initial Spares. Also, hard cost upto the cut-off date has been re-calculated as per Auditor's certificate. Accordingly, the details of the Initial Spares allowed in respect of the transmission assets for 2014-19 tariff period are as follows:

Sub-station		(₹ in lakh)									
Assets	P&M cost considered as on cut-off date	Initial Spares claimed	Norms as per 2014 Tariff Regulations (in %)	Initial Spares allowable as per 2014 Tariff Regulations	Initial Spares allowed	Discharge of Initial Spares					
						As on COD	2014 -15	2015 -16	2016 -17	2017 -18	2018 -19
Asset – I	5223.81	192.96	2.50	129.00	129.00	4.14	33.87	24.94	2.99	46.35	16.71
Asset – II	2357.12	30.61	6.00	148.50	30.61	6.21	17.13	7.27	-	-	-
Asset – III	850.37	24.94	6.00	52.69	24.94	0.02	-	-	-	-	24.92



Transmission Line**(₹ in lakh)**

Assets	P&M cost considered as on cut-off date	Initial Spares claimed	Norms as per 2014 Tariff Regulations (in %)	Initial Spares allowable as per 2014 Tariff Regulations	Initial Spares allowed	Discharge of Initial Spares
						As on COD
Asset – I	1606.59	0.00	0.75	12.14	0.00	-
Asset – IV	40845.68	717.25	1.00	405.34	405.34	405.34

Capital cost as on COD

38. Accordingly, the capital cost allowed as on COD of Asset-II, Asset-III and Asset-IV is summarized as follows:

(₹ in lakh)

Assets	Capital cost as on 1.4.2014 or COD whichever is later as per Auditor's Certificate	Less: IDC as on COD due to		Less: IEDC disallowed as on COD	Excess Initial Spares as on COD	Capital cost considered as on 1.4.2014
		Time over-run/ Computational difference	Un-discharged			
Asset-II	2177.31	75.41	3.26	13.86	0.00	2084.78
Asset-III	929.15	25.03	5.31	5.75	0.00	893.06
Asset-IV	52915.15	0.00	1197.06	0.00	227.48	51490.61

Additional Capital Expenditure (“ACE”)

39. The Commission vide order dated 9.10.2018 in Petition No.161/TT/2017 in respect of Asset-I, vide order dated 31.3.2016 in Petition No.111/TT/2013 in respect of Asset-II and Asset-III and vide order dated 7.3.2019 in Petition No.62/TT/2018 in respect of Asset-IV, approved ACE as follows:

(₹ in lakh)

Particulars	Additional Capital Expenditure				
	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-I	683.02	392.66	0.00	0.00	0.00
Asset-II	0.00	96.10	96.10	0.00	0.00
Asset-III	56.42	241.56	216.10	0.00	0.00
Asset-IV	0.00	0.00	0.00	2880.09	1306.92

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



(₹ in lakh)

Particulars	Additional Capital Expenditure				
	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-I	629.65	814.52	681.17	142.82	216.01
Asset-II	56.42	254.65	0.00	38.81	175.94
Asset-III	0.00	61.41	0.00	0.00	127.27
Asset-IV	0.00	0.00	0.00	720.07	2455.80

41. Thus, ACE claimed includes accrued IDC discharged during the 2014-19 tariff period. It is observed that total estimated completion cost including ACE for 2014-19 period is within the approved cost as per RCE.

42. We have considered the submissions of the petitioner. ACE claimed by the Petitioner has been allowed under Regulation 14(1)(i) and Regulation 14(1)(ii) of the 2014 Tariff Regulations as it is towards balance and retention payments and works deferred for execution. The un-discharged IDC as on COD has been allowed as ACE.

The details of ACE allowed in respect of the transmission assets are as follows:

(₹ in lakh)

Asset-I	ACE				
	2014-15	2015-16	2016-17	2017-18	2018-19
ACE to the extent of balance & retention payments	0.00	78.07	681.17	142.82	216.01
Work deferred for execution/ ACE to the extent of unexecuted work	629.56	736.45	0.00	0.00	0.00
IDC Discharged	53.46	0.00	0.00	0.00	0.00
Less: Excess Initial Spares	0.00	0.00	0.00	0.00	63.79
Total ACE allowed	683.02	814.52	681.17	142.82	152.22

(₹ in lakh)

Asset-II	ACE				
	2014-15	2015-16	2016-17	2017-18	2018-19
ACE to the extent of balance & retention payments	0.00	0.00	0.00	38.81	175.94
Work deferred for execution/ ACE to the extent of unexecuted work	56.42	254.65	0.00	0.00	0.00
IDC discharged	3.26	0.00	0.00	0.00	0.00
Total ACE allowed	59.68	254.65	0.00	38.81	175.94



(₹ in lakh)

Asset-III	ACE				
	2014-15	2015-16	2016-17	2017-18	2018-19
ACE to the extent of balance & retention payments	0.00	0.00	0.00	0.00	127.27
Work deferred for execution/ ACE to the extent of unexecuted work	0.00	61.41	0.00	0.00	0.00
IDC discharged	5.31	0.00	0.00	0.00	0.00
Total ACE allowed	5.31	61.41	0.00	0.00	127.27

(₹ in lakh)

Asset-IV	ACE	
	2017-18	2018-19
ACE to the extent of balance & retention payments	0.00	2347.99
Work deferred for execution/ACE to the extent of unexecuted work	720.06	23.39
IDC discharged	1086.80	110.26
Less: Excess Initial Spares	0.00	0.00
Total ACE allowed	1806.86	2481.64

Capital Cost for 2014-19 tariff period

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

(₹ in lakh)

Particulars	Approved Capital Cost	Capital Cost as on COD on cash basis	Additional Capital Expenditure (ACE)					Total Capital Cost as on 31.3.2019
			2014-15	2015-16	2016-17	2017-18	2018-19	
Asset-I	14488.33	10764.87	683.02	814.52	681.17	142.82	152.22	13238.62
Asset-II	2781.62	2084.78	59.68	254.65	0.00	38.81	175.94	2613.85
Asset-III	1230.71	893.06	5.31	61.41	0.00	0.00	127.27	1087.05
Asset-IV	57293.13	51490.61	0.00	0.00	0.00	1806.86	2481.64	55779.11

Debt-Equity Ratio

44. The Petitioner has considered a debt-equity ratio of 70:30 as on COD and for Additional Capital Expenditure post COD. The debt-equity ratio of 70:30 has been considered for capital cost as on COD and ACE during the 2014-19 period as



provided under Regulation 19 of the 2014 Tariff Regulations. The details of debt-equity ratio in respect of the transmission assets as on the date of commercial operation and as on 31.3.2019 is as follows:

Asset-I	As on COD		As on 31.3.2019	
	Amount	(in %)	Amount	(in %)
	(₹ in lakh)		(₹ in lakh)	
Debt	7535.41	70.00	9267.04	70.00
Equity	3229.46	30.00	3971.58	30.00
Total	10764.87	100.00	13238.62	100.00
Asset-II	As on COD		As on 31.3.2019	
	Amount	(in %)	Amount	(in %)
	(₹ in lakh)		(₹ in lakh)	
Debt	1459.35	70.00	1829.72	70.00
Equity	625.43	30.00	784.14	30.00
Total	2084.78	100.00	2613.85	100.00
Asset-III	As on COD		As on 31.3.2019	
	Amount	(in %)	Amount	(in %)
	(₹ in lakh)		(₹ in lakh)	
Debt	625.14	70.00	760.94	70.00
Equity	267.92	30.00	326.11	30.00
Total	893.06	100.00	1087.05	100.00
Asset-IV	As on COD		As on 31.3.2019	
	Amount	(in %)	Amount	(in %)
	(₹ in lakh)		(₹ in lakh)	
Debt	36043.43	70.00	39045.39	70.00
Equity	15447.18	30.00	16733.72	30.00
Total	51490.61	100.00	55779.11	100.00

Depreciation

45. Depreciation has been allowed as per the methodology provided in Regulation 27 of the 2014 Tariff Regulations. Depreciation has been allowed considering capital expenditure as on 1.4.2014 and approved ACE during the 2014-19 tariff period. The Gross Block during 2014-19 tariff period has been depreciated at weighted average rate of depreciation (WAROD) and working of WAROD is given at Annexure-I, Annexure-II, Annexure-III and Annexure-IV. The depreciation for 2014-19 period is



trued-up for transmission assets as per the methodology provided in Regulation 27 of the 2014 Tariff Regulations and the same is as follows:

(₹ in lakh)

Asset-I						
	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
	Depreciation					
A	Opening Gross Block	10764.87	11447.89	12262.41	12943.58	13086.40
B	ACE	683.02	814.52	681.17	142.82	152.22
C	Closing Gross Block (A+B)	11447.89	12262.41	12943.58	13086.40	13238.62
D	Average Gross Block [(A+C)/2]	11106.38	11855.15	12603.00	13014.99	13162.51
E	Average Gross Block (90% depreciable assets)	10926.26	11664.65	12411.05	12823.04	12970.56
F	Average Gross Block (100% depreciable assets)	180.12	190.51	191.95	191.95	191.95
G	Depreciable value (excluding IT equipment and software) (E*90%)	9833.63	10498.18	11169.94	11540.73	11673.50
H	Depreciable value of IT equipment and software	162.11	171.46	172.76	172.76	172.76
I	Total Depreciable Value (G+H)	9995.74	10669.64	11342.70	11713.49	11846.26
J	Weighted Average Rate of Depreciation (WAROD) (in %)	4.67	4.68	4.67	4.67	4.67
K	Lapsed useful life at the beginning of the year (Year)	0	1	2	3	4
L	Balance useful life at the beginning of the year (Year)	26	25	24	23	22
M	Depreciation during the year (D*J)	518.26	554.50	588.76	607.52	614.13
N	Aggregate Cumulative Depreciation at the end of the year	707.23	1261.73	1850.49	2458.01	3072.15
O	Remaining Aggregate Depreciable Value at the end of the year(I-N)	9288.51	9407.90	9492.20	9255.48	8774.11



(₹ in lakh)

Asset-II						
	Particulars	2014-15 (Pro-rata for 272 days)	2015-16	2016-17	2017-18	2018-19
	Depreciation					
A	Opening Gross Block	2084.78	2144.45	2399.10	2399.10	2437.91
B	ACE	59.68	254.65	0.00	38.81	175.94
C	Closing Gross Block (A+B)	2144.45	2399.10	2399.10	2437.91	2613.85
D	Average Gross Block [(A+C)/2]	2114.62	2271.78	2399.10	2418.51	2525.88
E	Average Gross Block (90% depreciable assets)	2114.62	2271.78	2399.10	2418.51	2525.88
F	Average Gross Block (100% depreciable assets)	0.00	0.00	0.00	0.00	0.00
G	Depreciable value (excluding IT equipment and software) (E*90%)	1903.15	2044.60	2159.19	2176.66	2273.30
H	Depreciable value of IT equipment and software	0.00	0.00	0.00	0.00	0.00
I	Total Depreciable Value (G+H)	1903.15	2044.60	2159.19	2176.66	2273.30
J	Weighted Average Rate of Depreciation (WAROD) (in %)	5.29	5.29	5.29	5.29	5.29
K	Elapsed useful life at the beginning of the year (Year)	0	0	1	2	3
L	Balance useful life at the beginning of the year (Year)	25	25	24	23	22
M	Depreciation during the year (D*J)	83.30	120.16	126.97	128.00	133.67
N	Aggregate Cumulative Depreciation at the end of the year	83.30	203.46	330.43	458.43	592.10
O	Remaining Aggregate Depreciable Value at the end of the year(I-N)	1819.86	1841.14	1828.76	1718.23	1681.20

(₹ in lakh)

Asset-III						
	Particulars	2014-15 (Pro-rata for 289 days)	2015-16	2016-17	2017-18	2018-19
	Depreciation					
A	Opening Gross Block	893.06	898.37	959.78	959.78	959.78
B	ACE	5.31	61.41	0.00	0.00	127.27
C	Closing Gross Block (A+B)	898.37	959.78	959.78	959.78	1087.05
D	Average Gross Block [(A+C)/2]	895.72	929.08	959.78	959.78	1023.42
E	Average Gross Block (90% depreciable assets)	895.72	929.08	959.78	959.78	1023.42
F	Average Gross Block (100% depreciable assets)	0.00	0.00	0.00	0.00	0.00
G	Depreciable value (excluding IT equipment and software)	806.14	836.17	863.80	863.80	921.08



	(E*90%)					
H	Depreciable value of IT equipment and software	0.00	0.00	0.00	0.00	0.00
I	Total Depreciable Value (G+H)	806.14	836.17	863.80	863.80	921.08
J	Weighted Average Rate of Depreciation (WAROD) (in %)	5.28	5.28	5.28	5.28	5.28
K	Elapsed useful life at the beginning of the year (Year)	0	0	1	2	3
L	Balance useful life at the beginning of the year (Year)	25	25	24	23	22
M	Depreciation during the year (D*J)	37.45	49.06	50.68	50.68	54.04
N	Aggregate Cumulative Depreciation at the end of the year	37.45	86.50	137.18	187.85	241.89
O	Remaining Aggregate Depreciable Value at the end of the year(I-N)	768.70	749.67	726.63	675.95	679.18

(₹ in lakh)

Asset-IV			
	Particulars	2017-18 (Pro-rata for 244 days)	2018-19
	Depreciation		
A	Opening Gross Block	51490.61	53297.47
B	ACE	1806.86	2481.64
C	Closing Gross Block (A+B)	53297.47	55779.11
D	Average Gross Block [(A+C)/2]	52394.04	54538.29
E	Average Gross Block (90% depreciable assets)	52394.04	54538.29
F	Average Gross Block (100% depreciable assets)	0.00	0.00
G	Depreciable value (excluding IT equipment and software) (E*90%)	47154.63	49084.46
H	Depreciable value of IT equipment and software	0.00	0.00
I	Total Depreciable Value (G+H)	47154.63	49084.46
J	Weighted Average Rate of Depreciation (WAROD) (in %)	5.23	5.23
K	Elapsed useful life at the beginning of the year (Year)	0	0
L	Balance useful life at the beginning of the year (Year)	35	35
M	Depreciation during the year (D*J)	1832.07	2850.74
N	Aggregate Cumulative Depreciation at the end of the year	1832.07	4682.81
O	Remaining Aggregate Depreciable Value at the end of the year(I-N)	45322.56	44401.65

46. The details of depreciation allowed for the transmission assets vide order dated 9.10.2018 in Petition No.161/TT/2017 in respect of Asset-I, vide order dated 31.3.2016 in Petition No.111/TT/2013 in respect of Asset-II and Asset-III and vide



order dated 7.3.2019 in Petition No. 62/TT/2018 in respect of Asset-IV, as claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

(₹ in lakh)

Assets	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-I	Allowed vide order dated 9.10.2018 in Petition No. 161/TT/2017	419.05	447.09	457.19	457.19	457.19
	As claimed by the Petitioner	535.76	573.03	607.42	626.18	634.34
	Approved after truing up	518.26	554.50	588.76	607.52	614.13
Asset- II	Allowed vide order dated 31.3.2016 in Petition No. 111/TT/2013	82.96	119.24	131.41	137.16	137.16
	As claimed by the Petitioner	86.41	124.88	131.70	132.72	138.39
	Approved after truing up	83.30	120.16	126.97	128.00	133.67
Asset- III	Allowed vide order dated 31.3.2016 in Petition No. 111/TT/2013	37.21	49.53	54.61	57.14	57.14
	As claimed by the Petitioner	38.70	50.68	52.30	52.30	55.66
	Approved after truing up	37.45	49.06	50.68	50.68	54.04
Asset- IV	Allowed vide order dated 7.3.2019 in Petition No. 62/TT/2018	0.00	0.00	0.00	1848.34	2874.12
	As claimed by the Petitioner	0.00	0.00	0.00	1832.76	2851.80
	Approved after truing up	0.00	0.00	0.00	1832.07	2850.74

Interest on Loan ("IoL")

47. 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:

(₹ in lakh)

		Asset-I				
	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
A	Gross Normative Loan	7535.41	8013.53	8583.69	9060.51	9160.49
B	Cumulative Repayments up to Previous Year	188.97	707.23	1261.73	1850.49	2458.01
C	Net Loan-Opening (A-B)	7346.44	7306.30	7321.96	7210.02	6702.47
D	Addition due to Additional Capitalization	478.12	570.16	476.82	99.97	106.56
E	Repayment during the year	518.26	554.50	588.76	607.52	614.13
F	Net Loan-Closing (C+D-E)	7306.30	7321.96	7210.02	6702.47	6194.89
G	Average Loan [(A+F)/2]	7326.37	7314.13	7265.99	6956.25	6448.68
H	Weighted Average Rate of Interest on Loan (in %)	9.035	9.053	8.993	8.858	8.814
I	Interest on Loan (GxH)	661.95	662.17	653.45	616.20	568.42



(₹ in lakh)

Asset-II						
	Particulars	2014-15 (Pro-rata for 272 days)	2015-16	2016-17	2017-18	2018-19
A	Gross Normative Loan	1459.35	1501.13	1679.39	1679.39	1706.56
B	Cumulative Repayments upto Previous Year	0.00	83.30	203.46	330.43	458.43
C	Net Loan-Opening (A-B)	1459.35	1417.83	1475.93	1348.95	1248.13
D	Addition due to Additional Capitalization	41.78	178.26	0.00	27.17	123.16
E	Repayment during the year	83.30	120.16	126.97	128.00	133.67
F	Net Loan-Closing (C+D-E)	1417.83	1475.93	1348.95	1248.13	1237.62
G	Average Loan [(A+F)/2]	1438.59	1446.88	1412.44	1298.54	1242.87
H	Weighted Average Rate of Interest on Loan (%)	9.121	9.075	8.986	8.714	8.597
I	Interest on Loan (GxH)	97.78	131.31	126.92	113.15	106.85

(₹ in lakh)

Asset-III						
	Particulars	2014-15 (Pro-rata for 289 days)	2015-16	2016-17	2017-18	2018-19
A	Gross Normative Loan	625.14	628.86	671.85	671.85	671.85
B	Cumulative Repayments up to Previous Year	0.00	37.45	86.50	137.18	187.86
C	Net Loan-Opening (A-B)	625.14	591.41	585.35	534.67	484.00
D	Addition due to Additional Capitalization	3.72	42.99	0.00	0.00	89.09
E	Repayment during the year	37.45	49.06	50.68	50.68	54.04
F	Net Loan-Closing (C+D-E)	591.41	585.35	534.67	484.00	519.05
G	Average Loan [(A+F)/2]	608.28	588.38	560.01	509.33	501.52
H	Weighted Average Rate of Interest on Loan (%)	9.448	8.997	8.536	8.196	8.636
I	Interest on Loan (GxH)	45.51	52.94	47.80	41.75	43.31

(₹ in lakh)

Asset-IV			
	Particulars	2017-18 (Pro-rata for 244 days)	2018-19
A	Gross Normative Loan	36043.43	37308.24
B	Cumulative Repayments upto Previous Year	0.00	1832.07
C	Net Loan-Opening (A-B)	36043.43	35476.16
D	Addition due to Additional Capitalization	1264.81	1737.15
E	Repayment during the year	1832.07	2850.74
F	Net Loan-Closing (C+D-E)	35476.16	34362.58
G	Average Loan [(A+F)/2]	35759.79	34919.37
H	Weighted Average Rate of Interest on Loan (%)	8.444	8.403
I	Interest on Loan (GxH)	2018.51	2934.31



48. The details of IoL allowed in respect of the transmission assets *vide* order dated 9.10.2018 in Petition No.161/TT/2017 in respect of Asset-I, *vide* order dated 31.3.2016 in Petition No.111/TT/2013 in respect of Asset-II and Asset-III and *vide* order dated 7.3.2019 in Petition No.62/TT/2018 in respect of Asset-IV, as claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

(₹ in lakh)						
Asset	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-I	Allowed <i>vide</i> order dated 9.10.2018 in Petition No. 161/TT/2017	666.42	663.83	638.19	596.47	555.76
	As claimed by the Petitioner in the instant petition	661.16	659.75	649.37	610.53	563.03
	Approved after truing up in this order	661.95	662.17	653.45	616.20	568.42
Asset- II	Allowed <i>vide</i> order dated 31.3.2016 in Petition No. 111/TT/2013	97.45	130.93	134.01	128.49	115.99
	As claimed by the Petitioner in the instant order	101.44	136.49	131.62	117.30	110.53
	Approved after truing up in this order	97.78	131.31	126.92	113.15	106.85
Asset- III	Allowed <i>vide</i> order dated 31.3.2016 in Petition No. 111/TT/2013	45.23	56.23	57.62	55.43	50.04
	As claimed by the Petitioner in the instant petition	47.03	54.69	49.33	43.08	44.57
	Approved after truing up in this order	45.51	52.94	47.80	41.75	43.31
Asset- IV	Allowed <i>vide</i> order dated 7.3.2019 in Petition No. 62/TT/2018	0.00	0.00	0.00	2068.60	3008.60
	As claimed by the Petitioner in the instant petition	0.00	0.00	0.00	2019.25	2935.35
	Approved after truing up in this order	0.00	0.00	0.00	2018.51	2934.31

Return on Equity ("RoE")

49. 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 it is liable to pay income tax at MAT rates and has claimed the following effective tax rates for the 2014-19 tariff period:



Year	Claimed effective tax (in %)	Grossed-up RoE (in %) [(Base Rate)/(1-t)]
2014-15	21.018	19.624
2015-16	21.382	19.715
2016-17	21.338	19.704
2017-18	21.337	19.704
2018-19	21.549	19.757

50. 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 is given in the table below. The same MAT rates are considered for the purpose of grossing up of rate of RoE for truing up of tariff of the 2014-19 period in terms of the provisions of the 2014 Tariff Regulations, as under:

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

51. The Petitioner has claimed RoE for 2014-19 tariff period after grossing up the RoE at 15.50% with effective tax rates (based on MAT rates) each year. Trued-up RoE on the basis of the MAT rates applicable in the respective years and allowed for the transmission assets are as follows: -

(₹ in lakh)

		Asset-I				
	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
A	Opening Equity	3229.46	3434.36	3678.72	3883.07	3925.91
B	Additions	204.90	244.36	204.35	42.85	45.66
C	Closing Equity (A-B)	3434.36	3678.72	3883.07	3925.91	3971.58
D	Average Equity [(A+B)/2]	3331.91	3556.54	3780.89	3904.49	3948.74
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
F	MAT Rate for respective year (in %)	20.961	21.342	21.342	21.342	21.549
G	Rate of Return on Equity	19.610	19.705	19.705	19.705	19.758
H	Return on Equity (DxG)	653.39	700.82	745.02	769.38	780.19



(₹ in lakh)

Asset-II						
	Particulars	2014-15 (Pro-rata for 272 days)	2015-16	2016-17	2017-18	2018-19
A	Opening Equity	625.43	643.33	719.72	719.72	731.36
B	Additions	17.90	76.39	0.00	11.64	52.78
C	Closing Equity (A-B)	643.33	719.72	719.72	731.36	784.14
D	Average Equity [(A+B)/2]	634.38	681.52	719.72	725.54	757.75
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
F	MAT Rate for respective year (in %)	20.961	21.342	21.342	21.342	21.549
G	Rate of Return on Equity	19.610	19.705	19.705	19.705	19.758
H	Return on Equity (DxG)	92.70	134.29	141.82	142.97	149.72

(₹ in lakh)

Asset-III						
	Particulars	2014-15 (Pro-rata for 289 days)	2015-16	2016-17	2017-18	2018-19
A	Opening Equity	267.92	269.51	287.93	287.93	287.93
B	Additions	1.59	18.42	0.00	0.00	38.18
C	Closing Equity (A-B)	269.51	287.93	287.93	287.93	326.11
D	Average Equity [(A+B)/2]	268.71	278.72	287.93	287.93	307.02
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
F	MAT Rate for respective year (in %)	20.961	21.342	21.342	21.342	21.549
G	Rate of Return on Equity	19.610	19.705	19.705	19.705	19.758
H	Return on Equity (DxG)	41.72	54.92	56.74	56.74	60.66

(₹ in lakh)

Asset-IV			
	Particulars	2017-18 (Pro-rata for 244 days)	2018-19
A	Opening Equity	15447.18	15989.23
B	Additions	542.05	744.49
C	Closing Equity (A-B)	15989.23	16733.72
D	Average Equity [(A+B)/2]	15718.21	16361.48
E	Return on Equity (Base Rate) (in %)	15.500	15.500
F	MAT Rate for respective year (in %)	21.342	21.549
G	Rate of Return on Equity	19.705	19.758
H	Return on Equity (DxG)	2070.51	3232.70

52. The details of RoE allowed for the transmission assets *vide* order dated 9.10.2018 in Petition No.161/TT/2017 in respect of Asset-I, dated 31.3.2016 in



Petition No.111/TT/2013 in respect of Assets-II and III and dated 7.3.2019 in Petition No.62/TT/2018 in respect of Asset-IV, as claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

(₹ in lakh)						
Assets	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-I	Allowed vide order dated 9.10.2018 in Petition No. 161/TT/2017	653.42	685.06	696.62	696.62	696.62
	As claimed by the Petitioner in the instant petition	653.89	701.17	745.03	769.38	782.08
	Approved after truing up in this order	653.39	700.82	745.02	769.38	780.19
Asset-II	Allowed vide order dated 31.3.2016 in Petition No. 111/TT/2013	92.34	132.67	146.13	152.49	152.49
	As claimed by the Petitioner in the instant petition	96.25	139.64	147.10	148.24	155.01
	Approved after truing up in this order	92.70	134.29	141.82	142.97	149.72
Asset-III	Allowed vide order dated 31.3.2016 in Petition No. 111/TT/2013	41.46	55.19	60.84	63.67	63.67
	As claimed by the Petitioner in the instant petition	43.16	56.77	58.56	58.56	62.48
	Approved after truing up in this order	41.72	54.92	56.74	56.74	60.66
Asset-IV	Allowed vide order dated 7.3.2019 in Petition No. 62/TT/2018	0.00	0.00	0.00	2078.31	3232.10
	As claimed by the Petitioner in the instant petition	0.00	0.00	0.00	2071.27	3233.85
	Approved after truing up in this order	0.00	0.00	0.00	2070.51	3232.70



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

53. The O&M expenses as claimed by the Petitioner are within norms specified under the 2014 Tariff Regulations. The allowable O&M expenses are as follows:

(₹ in lakh)

Asset – I						
Transmission lines						
Sl. No.	Name of Line	Single Circuit / Double Circuit	Number of Sub-Conductors	Line Length Km		
1	LILO of both Ckt. of 400 kV D/C Kishenpur-Wagoora transmission line	Double Circuit	2	4.376		
Sl. No.	400 kV Sub-station bay					
1	New Wanpoh: ICT Bay Wagoora Kishenpur I and II Bays					
2	New Wanpoh: ICT I Bay Line I II III Bays*					
O&M Expenses						
		2014-15	2015-16	2016-17	2017-18	2018-19
Sub-station						
400 kV						
Number of bays		5	5	5	5	5
220 kV (GIS)						
Number of bays		4	4	4	4	4
Transmission lines						
D/C Twin/Triple Conductor (km)		4.376	4.376	4.376	4.376	4.376
Total O&M Expense (₹ in lakh)		473.43	489.14	505.39	522.16	539.48

*The Petitioner has inadvertently claimed under norms of 400 kV. The same has been corrected and allowed under norms of 220 kV (GIS).

(₹ in lakh)

Asset – II						
Srl. No.	400 kV Sub-station bay					
1	New Wanpoh-ICT II Bay					
Srl. No.	220 kV Sub-station bay					
1	New Wanpoh: New Wanpoh-ICT-II Bay					
2	New Wanpoh: New Wanpoh-Line Bay					
O&M Expenses						
		2014-15	2015-16	2016-17	2017-18	2018-19
Sub-station						
400 kV						
Number of bays		1	1	1	1	1
220 kV						
Number of bays		4	4	4	4	4
Total O&M Expense (₹ in lakh)		170.76	236.74	244.61	252.71	261.11



(₹ in lakh)

Asset – III					
Srl. No.	400 kV Sub-station bay				
1	New Wanpoh: 400 kV 125 MVAR Bus Reactor with associated bays at New Wanpoh				
O&M Expenses					
	2014-15	2015-16	2016-17	2017-18	2018-19
Sub-station					
400 kV					
Number of bays	1	1	1	1	1
Total O&M Expense (₹ in lakh)	47.74	62.30	64.37	66.51	68.71

(₹ in lakh)

Asset – IV				
Transmission lines				
Srl. No.	Name of Line	Single Circuit / Double Circuit	Number of Sub-Conductors	Line Length Km
1	400 kV D/C Kishenpur-New Wanpoh	Double Circuit	2	135.020
Srl. No.	400 kV Sub-station bay			
1	Kishenpur: Kishenpur S/S Line Bay I and II			
2	New Wanpoh: New Wanpoh S/S			
O&M Expenses				
		2017-18	2018-19	
Sub-station				
400 kV				
Number of bays		4	4	
Transmission lines				
D/C Twin/Triple Conductor (km)		135.02	135.02	
Total O&M Expense (₹ in lakh)		248.25	383.67	

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

Asset – I						
Element	Unit of Measurement (UoM)	Norms for 2014-15	Norms for 2015-16	Norms for 2016-17	Norms for 2017-18	Norms for 2018-19
400 kV Sub-station	₹ lakh/bay	60.30	62.30	64.37	66.51	68.71
220 kV GIS Sub-station	₹ lakh/bay	42.21	43.61	45.06	46.55	48.10
D/C Twin/Triple Conductor	₹ lakh/km	0.707	0.731	0.755	0.780	0.806



Asset – II						
Element	UoM	Norms for 2014-15	Norms for 2015-16	Norms for 2016-17	Norms for 2017-18	Norms for 2018-19
400 kV Sub-station	₹ lakh/bay	60.30	62.30	64.37	66.51	68.71
220 kV Sub-station	₹ lakh/bay	42.21	43.61	45.06	46.55	48.10

Asset – III						
Element	UoM	Norms for 2014-15	Norms for 2015-16	Norms for 2016-17	Norms for 2017-18	Norms for 2018-19
400 kV Sub-station	₹ lakh/bay	60.30	62.30	64.37	66.51	68.71

Asset – IV						
Element	UoM	Norms for 2014-15	Norms for 2015-16	Norms for 2016-17	Norms for 2017-18	Norms for 2018-19
400 kV Sub-station	₹ lakh/bay	60.30	62.30	64.37	66.51	68.71

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

(₹ in lakh)					
Asset – I	2014-15	2015-16	2016-17	2017-18	2018-19
5 Numbers of 400 kV Sub-station bays	301.50	311.50	321.85	332.55	343.55
4 Numbers of 220 kV GIS Sub-station bays	168.84	174.44	180.24	186.20	192.40
4.376 km D/C Twin/Triple Conductor transmission line	3.09	3.20	3.30	3.41	3.53
Total	473.43	489.14	505.39	522.16	539.48

(₹ in lakh)					
Asset – II	2014-15	2015-16	2016-17	2017-18	2018-19
1 Number of 400 kV Sub-station bays	60.30	62.30	64.37	66.51	68.71
4 Numbers of 220 kV Sub-station bays	168.84	174.44	180.24	186.20	192.40
Total	170.76	236.74	244.61	252.71	261.11

(₹ in lakh)					
Asset – III	2014-15	2015-16	2016-17	2017-18	2018-19
1 Number of 400 kV Sub-station bays	60.30	62.30	64.37	66.51	68.71
Total	47.74	62.30	64.37	66.51	68.71



(₹ in lakh)		
Asset – IV	2017-18	2018-19
4 Numbers of 400 kV Sub-station bays	266.04	274.84
135.02 km D/C Twin/Triple Conductor transmission line	105.32	108.83
Total	248.25	383.67

56. The details of O&M Expenses allowed in respect of the transmission assets *vide* order dated 9.10.2018 in Petition No.161/TT/2017 in respect of Asset-I, *vide* order dated 31.3.2016 in Petition No.111/TT/2013 in respect of Asset-II and Asset-III and *vide* order dated 7.3.2019 in Petition No.62/TT/2018 in respect of Asset-IV, as claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

(₹ in lakh)						
Asset	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-I	Allowed <i>vide</i> order dated 9.10.2018 in Petition No. 161/TT/2017	473.43	489.14	505.39	522.16	539.48
	As claimed by the Petitioner in the instant petition	473.43	489.14	505.39	522.16	539.48
	Approved after truing up in this order	473.43	489.14	505.39	522.16	539.48
Asset- II	Allowed <i>vide</i> order dated 31.3.2016 in Petition No. 111/TT/2013	170.75	236.74	244.61	252.71	261.11
	As claimed by the Petitioner in the instant petition	170.77	236.74	244.61	252.71	261.11
	Approved after truing up in this order	170.76	236.74	244.61	252.71	261.11
Asset- III	Allowed <i>vide</i> order dated 31.3.2016 in Petition No. 111/TT/2013	47.74	62.30	64.37	66.51	68.71
	As claimed by the Petitioner in the instant petition	47.74	62.30	64.37	66.51	68.71
	Approved after truing up in this order	47.74	62.30	64.37	66.51	68.71



Asset- IV	Allowed vide order dated 7.3.2019 in Petition No. 62/TT/2018	0.00	0.00	0.00	248.28	383.66
	As claimed by the Petitioner in the instant petition	0.00	0.00	0.00	248.24	383.67
	Approved after truing up in this order	0.00	0.00	0.00	248.25	383.67

Interest on Working Capital (“IWC”)

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

i. **Maintenance spares:**

Maintenance spares have been worked out based on 15% of Operation and Maintenance Expenses specified in Regulation 28.

ii. **O & M Expenses:**

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

iii. **Receivables:**

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

iv. **Rate of interest on working capital:**

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

58. The Interest on Working Capital allowed for the transmission assets is as follows:

(₹ in lakh)						
Asset-I						
	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
A	Working Capital for O&M Expenses (1 month of O&M Expenses)	39.45	40.76	42.12	43.51	44.96
B	Working Capital for Maintenance Spares (Maintenance Spares @15% of	71.02	73.37	75.81	78.32	80.92



	O&M Expenses)					
C	Working Capital for receivables (Receivable equivalent to 2 months of fixed cost)	395.90	412.96	427.72	431.67	429.53
D	Total Working Capital (A+B+C)	506.37	527.10	545.64	553.50	555.41
E	Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
F	Interest on Working Capital (DxE)	68.36	71.16	73.66	74.72	74.98

(₹ in lakh)

Asset-II						
	Particulars	2014-15 (Pro-rata for 272 days)	2015-16	2016-17	2017-18	2018-19
A	Working Capital for O&M Expenses (1 month of O&M Expenses)	19.10	19.73	20.38	21.06	21.76
B	Working Capital for Maintenance Spares (Maintenance Spares @15% of O&M Expenses)	34.37	35.51	36.69	37.91	39.17
C	Working Capital for receivables (Receivable equivalent to 2 months of fixed cost)	102.94	107.41	110.49	109.94	112.46
D	Total Working Capital (A+B+C)	156.41	162.65	167.57	168.90	173.38
E	Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
F	Interest on Working Capital (DxE)	15.73	21.96	22.62	22.80	23.41

(₹ in lakh)

Asset-III						
	Particulars	2014-15 (Pro-rata for 289 days)	2015-16	2016-17	2017-18	2018-19
A	Working Capital for O&M Expenses (1 month of O&M Expenses)	5.03	5.19	5.36	5.54	5.73
B	Working Capital for Maintenance Spares (Maintenance Spares @15% of O&M Expenses)	9.05	9.35	9.66	9.98	10.31
C	Working Capital for Receivables (Receivable equivalent to 2 months of fixed cost)	37.45	37.71	37.79	37.13	39.03
D	Total Working Capital (A+B+C)	51.52	52.25	52.81	52.65	55.06
E	Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
F	Interest on Working Capital (DxE)	5.51	7.05	7.13	7.11	7.43



(₹ in lakh)

Asset-IV			
	Particulars	2017-18 (Pro-rata for 244 days)	2018-19
A	Working Capital for O&M Expenses (1 month of O&M Expenses)	30.95	31.97
B	Working Capital for Maintenance Spares (Maintenance Spares @15% of O&M Expenses)	55.70	57.55
C	Working Capital for Receivables (Receivable equivalent to 2 months of fixed cost)	1572.97	1602.43
D	Total Working Capital (A+B+C)	1659.62	1691.96
E	Rate of Interest (in %)	12.60	12.60
F	Interest on Working Capital (DxE)	139.79	213.19

59. The details of IWC allowed for the transmission assets *vide* order dated 9.10.2018 in Petition No.161/TT/2017 in respect of Asset-I, *vide* order dated 31.3.2016 in Petition No.111/TT/2013 in respect of Asset-II and Asset-III and *vide* order dated 7.3.2019 in Petition No.62/TT/2018 in respect of Asset-IV, as claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

(₹ in lakh)						
Asset	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-I	Allowed <i>vide</i> order dated 9.10.2018 in Petition No. 161/TT/2017	66.18	68.36	69.17	69.13	69.15
	As claimed by the Petitioner in the instant petition	68.75	71.54	74.00	75.02	75.37
	Approved after truing up in this order	68.36	71.16	73.66	74.72	74.98
Asset- II	Allowed <i>vide</i> order dated 31.3.2016 in Petition No. 111/TT/2013	15.71	21.89	22.99	23.59	23.76
	As claimed by the Petitioner in the instant petition	15.97	22.31	22.96	23.13	23.72
	Approved after truing up in this order	15.73	21.96	22.62	22.80	23.41
Asset- III	Allowed <i>vide</i> order dated 31.3.2016 in Petition No. 111/TT/2013	5.49	7.15	7.54	7.73	7.73



	As claimed by the Petitioner in the instant petition	5.61	7.17	7.24	7.22	7.54
	Approved after truing up in this order	5.51	7.05	7.13	7.11	7.43
Asset- IV	Allowed vide order dated 7.3.2019 in Petition No. 62/TT/2018	0.00	0.00	0.00	141.38	215.27
	As claimed by the Petitioner in the instant petition	0.00	0.00	0.00	139.84	213.26
	Approved after truing up in this order	0.00	0.00	0.00	139.79	213.19

Approved Annual Fixed Charges for the 2014-19 Tariff Period

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

(₹ in lakh)

Asset-I					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	518.26	554.50	588.76	607.52	614.13
Interest on Loan	661.95	662.17	653.45	616.20	568.42
Return on Equity	653.39	700.82	745.02	769.38	780.19
O&M Expenses	473.43	489.14	505.39	522.16	539.48
Interest on Working Capital	68.36	71.16	73.66	74.72	74.98
Total	2375.39	2477.78	2566.29	2589.99	2577.20

(₹ in lakh)

Asset-II					
Particulars	2014-15 (Pro-rata for 272 days)	2015-16	2016-17	2017-18	2018-19
Depreciation	83.30	120.16	126.97	128.00	133.67
Interest on Loan	97.78	131.31	126.92	113.15	106.85
Return on Equity	92.70	134.29	141.82	142.97	149.72
O&M Expenses	170.76	236.74	244.61	252.71	261.11
Interest on Working Capital	15.73	21.96	22.62	22.80	23.41
Total	460.27	644.47	662.95	659.63	674.75

(₹ in lakh)

Asset-III					
Particulars	2014-15 (Pro-rata for 289 days)	2015-16	2016-17	2017-18	2018-19
Depreciation	37.45	49.06	50.68	50.68	54.04
Interest on Loan	45.51	52.94	47.80	41.75	43.31
Return on Equity	41.72	54.92	56.74	56.74	60.66



O&M Expenses	47.74	62.30	64.37	66.51	68.71
Interest on Working Capital	5.51	7.05	7.13	7.11	7.43
Total	177.93	226.27	226.71	222.78	234.15

(₹ in lakh)

Asset-IV		
Particulars	2017-18 (Pro-rata for 244 days)	2018-19
Depreciation	1832.07	2850.74
Interest on Loan	2018.51	2934.31
Return on Equity	2070.51	3232.70
O&M Expenses	248.25	383.67
Interest on Working Capital	139.79	213.19
Total	6309.12	9614.60

61. The details of Annual Fixed Charges allowed in respect of the transmission assets vide order dated 9.10.2018 in Petition No.161/TT/2017 in respect of Asset-I, vide order dated 31.3.2016 in Petition No.111/TT/2013 in respect of Asset-II and Asset-III and vide order dated 7.3.2019 in Petition No.62/TT/2018 in respect of Asset-IV, as claimed by the Petitioner in the instant petition and trued up in the instant order are as follows:

(₹ in lakh)

Asset	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-I	Allowed vide order dated 9.10.2018 in Petition No. 161/TT/2017.	2278.50	2353.48	2366.56	2341.57	2318.20
	As claimed by the Petitioner in the instant petition.	2392.99	2494.63	2581.21	2603.27	2594.30
	Approved after truing up in this order.	2375.39	2477.78	2566.29	2589.99	2577.20
Asset- II	Allowed vide order dated 31.3.2016 in Petition No. 111/TT/2013.	459.21	641.47	679.15	694.44	690.51
	As claimed by the Petitioner in the instant petition.	470.84	660.06	677.99	674.10	688.76
	Approved after truing up in this order.	460.27	644.47	662.95	659.63	674.75



Asset- III	Allowed vide order dated 31.3.2016 in Petition No. 111/TT/2013.	177.13	230.40	244.98	250.48	247.29
	As claimed by the Petitioner in the instant petition.	182.24	231.61	231.80	227.67	238.96
	Approved after truing up in this order.	177.93	226.27	226.71	222.78	234.15
Asset- IV	Allowed vide order dated 7.3.2019 in Petition No. 62/TT/2018.	0.00	0.00	0.00	6384.91	9713.75
	As claimed by the Petitioner in the instant petition.	0.00	0.00	0.00	6311.36	9617.93
	Approved after truing up in this order.	0.00	0.00	0.00	6309.12	9614.60

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

62. The Petitioner has submitted tariff forms combining Asset-I, Asset-II, Asset-III and Asset-IV as a single asset. Accordingly, as per proviso (i) of Regulation 8(1) of the 2019 Tariff Regulations, single tariff for the Combined Asset has been worked out for the 2019-24 tariff period.

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

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	3780.87	3791.93	3775.28	3775.28	3775.28
Interest on Loan	3470.07	3175.32	2855.12	2533.10	2206.12
Return on Equity	4138.48	4168.11	4168.11	4168.11	4168.11
O&M Expenses	664.29	687.36	711.25	735.88	761.41
Interest on Working Capital	200.23	197.91	193.87	190.09	185.81
Total	12253.94	12020.63	11703.63	11402.46	11096.73



64. The Petitioner has claimed the following Interest on Working Capital in respect of the Combined Asset for the 2019-24 tariff period:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	55.36	57.28	59.27	61.32	63.45
Maintenance Spares	99.64	103.10	106.69	110.38	114.21
Receivables	1506.63	1482.00	1442.91	1405.78	1364.35
Total Working Capital	1661.63	1642.38	1608.87	1577.48	1542.01
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	200.23	197.91	193.87	190.09	185.81

Effective Date of Commercial Operation (E-COD)

65. The Petitioner has claimed E-COD of the Combined Asset as 20.9.2016. Based on the trued-up admitted capital cost and actual COD of the transmission assets, E-COD has been worked out as follows:

Computation of Effective COD					
Assets	Actual COD	Admitted Capital Cost as on 31.3.2019	Weight of the cost (in %)	Number of Days from last COD	Weighted Days
Asset-I	01-Oct-13	13238.62	18.21	1399.00	254.69
Asset-II	03-Jul-14	2613.85	3.59	1124.00	40.40
Asset-III	16-Jun-14	1087.05	1.49	1141.00	17.06
Asset-IV	31-Jul-17	55779.11	76.71	0.00	0.00
Total		72718.63	100.00		312.15
Effective COD (Latest COD – Total weighted Days) – 21.9.2016					

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

Weighted Average Life (“WAL”)

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

68. The Combined Asset may have multiple elements such as land, building, transmission line, Sub-station and PLCC and each element may have different span



of life. Therefore, the concept of Weighted Average Life (WAL) has been used as the useful life of the project as a whole.

69. WAL has been determined based on the admitted capital cost of individual elements as on 31.3.2019 and their respective life as stipulated in the 2019 Tariff Regulations. The element-wise life as defined in the 2014 Tariff Regulations prevailing at the time of actual COD of individual assets has been ignored for this purpose. The life as defined in the 2019 Tariff Regulations has been considered for determination of WAL. Accordingly, WAL of the Combined Asset has been worked out as 33 years and is demonstrated as follows:

Admitted Capital Cost as on 31.03.2019				
Particulars	Combined Asset Cost (₹ in lakh) (1)	Life as per 2019 Regulation (Years) (2)	Weighted Cost (3) = [(1)x(2)]	Weighted Average Life of Asset (in years) (4) =[(3)/(1)]
Building	1343.84	25	33595.89	
Transmission Line	55600.90	35	1946031.61	
Sub-station	10605.47	25	265136.75	
PLCC	387.47	15	5812.04	
Leasehold Land	4589.01	25	114725.16	
IT Equipment and Software	191.95	7	1279.67	
Total	72718.63		2366581.11	(32.54 years rounded off to 33 years)

70. WAL as on 1.4.2019 as determined above is applicable prospectively i.e., for 2019-24 tariff period. No retrospective adjustment of depreciation in previous tariff period is required to be done. As discussed, E-COD of the combined Asset is 21.9.2016 and the lapsed life of the project as a whole, works out as two (2) years as on 1.4.2019 (i.e., the number of completed years as on 1.4.2019 from Effective COD). Accordingly, WAL has been used to determine the remaining useful life as on 31.3.2019 to be 31 years.



Capital Cost

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

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

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

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

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

- (a) *Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;*
- (b) *Additional capitalization and de-capitalization for the respective year of tariff as*



determined in accordance with these regulations;

(c)Capital expenditure on account of renovation and modernisation as admitted by this Commission in accordance with these regulations;

(d)Capital expenditure on account of ash disposal and utilization including handling and transportation facility;

(e)Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and

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

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

(a)cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and

(b)cost of the developer's 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) project in the affected area.

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

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

(b)De-capitalised Assets after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:

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

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

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

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

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

72. The Petitioner has claimed the capital cost of individual assets which has been added to arrive at the capital cost claimed during 2019-24 period in respect of



the Combined Asset and the same is as follows:

(₹ in lakh)

Asset	Apportioned Approved Capital Cost	Capital Cost claimed as on 31.3.2019	ACE	Estimated Completion Cost as on 31.3.2024
			2019-20	
Combined Asset	75793.79	72921.90	1051.58	73973.48

73. Against the overall apportioned approved capital cost of ₹75793.79 lakh, the estimated completion cost is ₹73973.48 lakh. The individual capital cost of each transmission asset is also within the respective FR apportioned capital cost. Therefore, there is no cost over-run in respect of the Combined Asset.

74. The capital cost has been dealt in line with Regulation 19(3) of the 2019 Tariff Regulations. The element-wise capital cost (i.e., land, building, transmission line, Sub-station and PLCC) as admitted by the Commission as on 31.3.2019 in respect of the transmission assets and has been considered as capital cost of the Combined Asset as on 1.4.2019 as per the following details:

(₹ in lakh)

Element	Asset-I	Asset-II	Asset-III	Asset-IV	Capital Cost for Combined Assets as on 31.3.2019
Building	1343.84	0.00	0.00	0.00	1343.84
Transmission Line	2570.57	0.00	0.00	53030.33	55600.90
Sub-Station	5935.53	2585.18	1087.05	997.71	10605.47
PLCC	230.57	28.68	0.00	128.22	387.47
Leasehold Land	2966.16	0.00	0.00	1622.85	4589.01
IT Equipment and Software	191.95	0.00	0.00	0.00	191.95
Total	13238.62	2613.85	1087.05	55779.11	72718.63

75. UPPCL has submitted that closing capital cost of project even after including ACE claimed by the Petitioner is much less than the cost estimated in RCE-II. Therefore, the Petitioner must explain the need for bringing RCE-II. UPPCL has



further submitted that there is time over-run of varied period with respect to commissioning of the transmission assets and as such the project cost is required to be scrutinized with reference to cost over-run. The Commission determined tariff for 2014-19 period based on apportioned cost of the transmission assets and now actual project cost is available, therefore, capital cost of the project as on COD, at the end of control period on 31.3.2019 and project cut-off date i.e. 31.3.2017 may be re-determined in accordance with quoted bid- price and bills plus escalations paid to the executing agency till 31.3.2019 and thereafter till 31.3.2024.

76. In response, the Petitioner has submitted that tariff has been claimed only on the actual expenditure as per the tariff regulations which has been duly certified by the auditor.

77. We have considered the submissions of the Petitioner and UPPCL. We have already observed in earlier part of this order that transmission tariff is allowed only after prudence check and taking into consideration all aspects of the matter as per applicable regulations. The Commission has worked out capital cost of ₹72718.63 lakh as on 31.3.2019.

Initial Spares

78. As stated above in this order, Initial Spares are allowed for 2014-19 period on the basis of cost of individual assets. The transmission assets covered in the transmission project have been combined during 2019-24 tariff period. Accordingly, Initial Spares are allowed on the basis of the overall project cost in terms of the APTEL's judgement dated 14.9.2019 in Appeal No. 74 of 2017. Initial Spares allowed for 2019-24 tariff period are as follows:



Sub-station

Assets	P&M cost considered as on cut-off date (A)	Initial Spares claimed (B)	Norms as per 2014 Tariff Regulations (in %) (C)	Initial Spares allowable as per 2014 Tariff Regulations (D) = [(A-B)*C/(100-C)]	Initial Spares allowed during 2014-19 period (E)	Initial Spares allowed for Combined Asset (F) = [(B-E)]
Asset – I	5223.81	192.96	2.50	129.00	129.00	
Asset – II	2357.12	30.61	6.00	148.50	30.61	
Asset – III	850.37	24.94	6.00	52.69	24.94	
Total	8431.30	248.51		330.19	184.55	63.96

Transmission Line

Assets	P&M cost considered as on cut-off date (A)	Initial Spares claimed (B)	Norms as per 2014 Tariff Regulations (in %) (C)	Initial Spares allowable as per 2014 Tariff Regulations (D) = [(A-B)*C/(100-C)]	Initial Spares allowed during 2014-19 period (E)	Initial Spares allowed for Combined Asset (F) = [(D-E)]
Asset – I	1606.59	0.00	0.75	12.14	0.00	
Asset – IV	40845.68	717.25	1.00	405.34	405.34	
Total	42452.27	717.25		417.48	405.34	12.14

79. Thus, in line with APTEL's judgement dated 14.9.2019 in Appeal No. 74 of 2017, additional Initial Spares of ₹76.10 lakh are admissible. Accordingly, considering the details of Initial Spares discharged, Initial Spares of ₹76.10 lakh is allowed as on 1.4.2019. The capital cost considered for Combined Asset as on 1.4.2019 is as follows:

Asset	Total Capital Cost as on 31.3.2019	Additional Initial Spares allowed as on 1.4.2019 as per APTEL's Judgment dated 14.9.2019	Total Capital Cost as on 1.4.2019
Combined Asset	72718.63	76.10	72794.73

Additional Capital Expenditure ("ACE")

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

"24. Additional Capitalization within the original scope and upto the cut-off date (1) The Additional Capital Expenditure in respect of a new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:
(a) Undischarged liabilities recognized to be payable at a future date;



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

Provided that in case of any replacement of the assets, the additional capitalization shall be worked out after adjusting the gross fixed assets and cumulative depreciation of the assets replaced on account of de-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; and*
- (g) Raising of ash dyke as a part of ash disposal system.*

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

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

81. The Petitioner has claimed ACE in respect of the Combined Asset during 2019-24 in accordance with Regulation 25(1)(d) of the 2019 Tariff Regulations and the same is as follows:



(₹ in lakh)

Assets	Apportioned approved Cost	Capital Expenditure claimed as on 31.03.2019	ACE 2019-24	Capital Cost as on 31.3.2024
			(as per auditor's certificate)	
			2019-20	
Asset-I	14488.33	13302.41	296.53	13598.94
Asset-II	2781.62	2703.13	0.00	2703.13
Asset-III	1230.71	1117.83	0.00	1117.83
Asset-IV	57293.13	55798.53	755.05	56553.58
Total	75793.79	72921.90	1051.58	73973.48

82. UPPCL has submitted that since the approval of completion cost was for incurring expenditure up to the project cut-off date i.e. 31.3.2017 only. As such, any amount which is within un-utilised amount as per RCE-II is not available to the Petitioner for the purpose of ACE.

83. In response, the Petitioner has submitted that tariff has been claimed only on actual expenditure as per provisions of the 2019 Tariff Regulations and duly certified by the auditor.

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

(₹ in lakh)

Particulars	Regulation	ACE (2019-24)
ACE to extent of Balance & Retention Payments and work deferred for execution before cut-off date/ after cut-off date	Regulation 25(1)(d) of the 2019 Tariff Regulations	1051.58



Capital Cost for the 2019-24 tariff period

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

(₹ in lakh)		
Capital Cost (as on 1.4.2019)	ACE (2019-20)	Total Estimated Completion Cost (up to 31.3.2024)
72794.73	1051.58	73846.31

86. Against the overall apportioned approved capital cost as per RCE of ₹75793.79 lakh, the estimated project cost of the Combined Asset including Additional Capital Expenditure is ₹73846.31 lakh which is within the approved cost. Therefore, there is no cost over-run as per the apportioned approved cost.

Debt-Equity Ratio

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

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

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

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

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

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

(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.”

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

Funding	Capital Cost (as on 1.4.2019) (₹ in lakh)	(in %)	Capital Cost (as on 31.3.2024) (₹ in lakh)	(in %)
Debt	50956.36	70.00	51692.46	70.00
Equity	21838.38	30.00	22153.85	30.00
Total	72794.73	100.00	73846.31	100.00

Depreciation

89. 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 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

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

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

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

(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.”

90. The weighted average rate of depreciation (WAROD) has been worked out and given at Annexure-V after taking into account the depreciation rates of IT and non-IT assets as prescribed in the 2019 Tariff Regulations. The depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. The depreciation allowed for the Combined Asset is as follows:

(₹ in lakh)

Combined Asset						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	Depreciation					
A	Opening Gross Block	72794.73	73846.31	73846.31	73846.31	73846.31
B	ACE	1051.58	0.00	0.00	0.00	0.00
C	Closing Gross Block (A+B)	73846.31	73846.31	73846.31	73846.31	73846.31
D	Average Gross Block [(A+C)/2]	73320.52	73846.31	73846.31	73846.31	73846.31
E	Average Gross Block (90% depreciable assets)	73128.57	73654.36	73654.36	73654.36	73654.36
F	Average Gross Block (100% depreciable assets)	191.95	191.95	191.95	191.95	191.95
G	Depreciable value (excluding IT equipment and software) (E*90%)	65815.72	66288.93	66288.93	66288.93	66288.93
H	Depreciable value of IT equipment and software	191.95	191.95	191.95	191.95	191.95
I	Total Depreciable Value (G+H)	66007.66	66480.88	66480.88	66480.88	66480.88
J	Weighted Average Rate of Depreciation (WAROD) (in %)	5.15	5.14	5.14	5.14	5.14
K	Elapsed useful life at the beginning of the year (Year)	2	3	4	5	6
L	Balance useful life at the beginning of the year (Year)	31	30	29	28	27



M	Depreciation during the year (D*J)	3774.38	3797.58	3797.58	3797.58	3795.59
N	Aggregate Cumulative Depreciation at the end of the year	12363.33	16160.91	19958.48	23756.06	27551.65
O	Remaining Aggregate Depreciable Value at the end of the year(I-N)	53644.34	50319.97	46522.39	42724.82	38929.22

Interest on Loan (“IoL”)

91. 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”.

92. UPPCL has submitted that in line with the order of the Commission dated 30.12.2015 in Petition No. 435/TT/2014, the Petitioner may be allowed only weighted average rate of interest based on loan prevailing as on 1.4.2014 and floating rate of interest, if any, may be considered at the time of truing up for the 2019-24 period.

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

(₹ in lakh)						
Combined Asset						
	Particular	2019-20	2020-21	2021-22	2022-23	2023-24
A	Gross Normative Loan	50956.36	51692.46	51692.46	51692.46	51692.46
B	Cumulative Repayments upto Previous Year	8588.94	12363.33	16160.91	19958.48	23756.06
C	Net Loan-Opening (A-B)	42367.41	39329.14	35531.56	31733.98	27936.40
D	Additions	736.11	0.00	0.00	0.00	0.00
E	Repayment during the year	3774.38	3797.58	3797.58	3797.58	3795.59
F	Net Loan-Closing (C+D-E)	39329.14	35531.56	31733.98	27936.40	24140.81
G	Average Loan [(A+F)/2]	40848.27	37430.35	33632.77	29835.19	26038.61
H	Weighted Average Rate of Interest on Loan (in %)	8.503	8.492	8.496	8.491	8.467
I	Interest on Loan (GxH)	3473.41	3178.69	2857.31	2533.39	2204.60

Return on Equity (“RoE”)

94. 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 cutoff date beyond the original scope, excluding additional capitalization on 7 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.”

95. RoE considered for the Combined Asset under Regulation 30 of the 2019 Tariff

Regulations is as follows:



(₹ in lakh)

Combined Asset						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
A	Opening Equity	21838.38	22153.85	22153.85	22153.85	22153.85
B	Additions	315.47	0.00	0.00	0.00	0.00
C	Closing Equity (A-B)	22153.85	22153.85	22153.85	22153.85	22153.85
D	Average Equity [(A+B)/2]	21996.11	22153.85	22153.85	22153.85	22153.85
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
F	MAT Rate for respective year (in %)	17.470	17.470	17.470	17.470	17.470
G	Rate of Return on Equity (in %)	18.780	18.780	18.780	18.780	18.780
H	Return on Equity (DxG)	4131.31	4160.94	4160.94	4160.94	4160.94

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

96. The O&M Expenses claimed by the Petitioner for the Combined Asset is as follows:

O&M Expenses					
	2019-20	2020-21	2021-22	2022-23	2023-24
Sub-station					
11 No of 400 kV Bays					
O&M Expenses claimed	353.65	366.08	378.95	392.26	406.01
8 No of 220 kV Bays					
O&M Expenses claimed	180.08	186.40	192.96	199.68	206.72
Transmission lines					
D/C Twin/Triple Conductor (139.396 km)	122.871	127.13	131.59	136.19	140.93
PLCC					
2% Original project cost (₹ in lakh)	7.75	7.75	7.75	7.75	7.75
Total O&M Expenses (₹ in lakh)	664.29	687.36	711.25	735.88	761.41

97. The norms for O&M Expenses under Regulation 35(3)(a) of the 2019 Tariff Regulations is as follows:

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

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<i>Norms for sub-station Bays (₹ Lakh per bay)</i>					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84



132 kV and below	16.08	16.64	17.23	17.83	18.46
Norms for Transformers (₹ Lakh per MVA)					
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
Norms for AC and HVDC lines (₹ Lakh per km)					
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-conductors)	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple Conductor)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single Conductor)	0.252	0.260	0.270	0.279	0.289
Double Circuit (Bundled conductor with four or more sub-conductors)	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
Norms for HVDC stations					
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (₹ Lakh per 500 MW)	1,666	1,725	1,785	1,848	1,913
500 kV Rihand-Dadri HVDC bi-pole scheme (Rs Lakh) (1500 MW)	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bi-pole scheme (Rs Lakh) (2000 MW)	2,468	2,555	2,645	2,738	2,834
±500 kV Bhiwadi-Balia HVDC bi-pole scheme (Rs Lakh) (2500 MW)	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath-Agra HVDC bi-pole scheme (Rs Lakh) (3000 MW)	2,563	2,653	2,746	2,842	2,942

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

Provided further that:

- i. the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed pro-rata on the basis of normative rate of operation and maintenance expenses of similar HVDC bi-pole scheme for the corresponding year of the tariff period;
- ii. the O&M expenses norms for HVDC bi-pole line shall be considered as Double Circuit quad AC line;
- iii. the O&M expenses of ±500 kV Mundra-Mohindergarh HVDC bipole scheme (2000 MW) shall be allowed as worked out by multiplying 0.80 of the normative



O&M expenses for ± 500 kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);

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

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

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

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

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

98. We have considered the submissions of the Petitioner. The Petitioner has claimed O&M Expenses separately for the PLCC under Regulation 35(4) of the 2019 Tariff Regulations @2% of its original project cost in the instant petition. The Petitioner has made similar claim in other petitions as well. Though PLCC is a communication system, it has been considered as part of the Sub- station in the 2014 Tariff Regulations and the 2019 Tariff Regulations and the norms for Sub-station have been specified accordingly. Accordingly, the Commission vide order dated 24.1.2021 in Petition No.126/TT/2020 has already concluded that no separate O&M Expenses can be allowed for PLCC under Regulation 35(4) of the 2019 Tariff Regulations even



though PLCC is a communication system. Therefore, the Petitioner's claim for separate O&M Expenses for PLCC @2% is not allowed.

99. Further, the Petitioner has claimed O&M Expenses for 8 no. of 220 kV bays considering them as AIS. However, out of 8 no. of 220 kV bays, 4 are AIS bays and 4 are GIS bays. The O&M Expenses have been worked out accordingly as per the norms in the 2019 Tariff Regulations and are as follows:

Details	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
11 Numbers of 400 kV Sub-station bays	353.65	366.08	378.95	392.26	406.01
4 Numbers of 220 kV Sub-station bays	90.04	93.20	96.48	99.84	103.36
4 Numbers of 220 kV GIS Sub-station bays	63.03	65.24	67.54	69.89	72.35
139.396 km D/C Twin/Triple Conductor transmission line	122.81	127.13	131.59	136.19	140.93
Total	629.53	651.65	674.56	698.18	722.65

Interest on Working Capital ("IWC")

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

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

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

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



(aa) For emission control system of coal or lignite based thermal generating stations:

- (i) Cost of limestone or reagent towards stock for 20 days corresponding to the normative annual plant availability factor;
- (ii) Advance payment for 30 days towards cost of reagent for generation corresponding to the normative annual plant availability factor;
- (iii) Receivables equivalent to 45 days of supplementary capacity charge and supplementary energy charge for sale of electricity calculated on the normative annual plant availability factor;
- (iv) Operation and maintenance expenses in respect of emission control system for one month;
- (v) Maintenance spares @20% of operation and maintenance expenses in respect of emission control system.

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

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

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

- (i) Receivables equivalent to 45 days of annual fixed cost;
- (ii) Maintenance spares @ 15% of operation and maintenance expenses including security expenses; and
- (iii) Operation and maintenance expenses, including security expenses for one month.

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

Provided that in case of new generating station, the cost of fuel for the first financial year shall be considered based on landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 39 of these regulations) and gross calorific value of the fuel as per actual weighted average



for three months, as used for infirm power, preceding date of commercial operation for which tariff is to be determined.

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

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

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

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

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

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

(₹ in lakh)						
Combined Asset						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
A	Working Capital for O&M Expenses (Equivalent to annualized O&M Expenses for 1 month)	52.46	54.30	56.21	58.18	60.22
B	Working Capital for Maintenance Spares (Equivalent to 15% of O&M Expenses)	94.43	97.75	101.18	104.73	108.40
C	Working Capital for Receivables (Equivalent	1500.88	1476.00	1437.27	1399.83	1357.88



	to 45 days of annual transmission charges)					
D	Total Working Capital (A+B+C)	1647.77	1628.05	1594.66	1562.74	1526.49
E	Rate of Interest (in %)	12.05	11.25	10.50	10.50	10.50
F	Interest on Working Capital (DxE)	198.56	183.16	167.44	164.09	160.28

Annual Fixed Charges for the 2019-24 Tariff Period

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

(₹ in lakh)

Combined Asset					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	3774.38	3797.58	3797.58	3797.58	3795.59
Interest on Loan	3473.41	3178.69	2857.31	2533.39	2204.60
Return on Equity	4131.31	4160.94	4160.94	4160.94	4160.94
Operation and Maintenance	629.53	651.65	674.56	698.18	722.65
Interest on Working Capital	198.56	183.16	167.44	164.09	160.28
Total	12207.18	11972.01	11657.82	11354.16	11044.06

Filing Fee and Publication Expenses

103. The Petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses.

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

Licence Fee & RLDC Fees and Charges

105. The Petitioner shall be entitled to reimbursement of licence fee in accordance with Regulation 70(4) of the 2019 Tariff Regulations for 2019-24 tariff period. The



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

Good and Service Tax

106. The Petitioner has submitted that if GST is levied at any rate and at any point of time in future on charges of transmission of electricity, the same shall be borne and additionally paid by the Respondents to the Petitioner and the same shall 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.

Security Expenses

107. The Petitioner has submitted that security expenses in respect of instant assets are not claimed in the instant petition, and it would file a separate petition for claiming the overall security expenses and the consequential IWC.

108. We have considered the above submissions of Petitioner. The Petitioner has claimed consolidated security expenses for all the transmission assets owned by it on projected basis for the 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. Therefore, security expenses will be shared in terms of the order dated 3.8.2021 in Petition No. 260/MP/2020. Accordingly, the Petitioner's prayer in the instant petition for allowing it to file a separate petition for claiming the overall security expenses and consequential IWC has become infructuous.

Capital Spares

109. 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

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

111. To summarise:

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

(₹ in lakh)

Asset-I					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
AFC	2375.39	2477.78	2566.29	2589.99	2577.20

(₹ in lakh)

Asset-II					
Particulars	2014-15 (Pro-rata for 272 days)	2015-16	2016-17	2017-18	2018-19
AFC	460.27	644.47	662.95	659.63	674.75

(₹ in lakh)

Asset-III					
------------------	--	--	--	--	--



Particulars	2014-15 (Pro-rata for 289 days)	2015-16	2016-17	2017-18	2018-19
AFC	177.93	226.27	226.71	222.78	234.15

(₹ in lakh)

Asset-IV		
Particulars	2017-18 (Pro-rata for 244 days)	2018-19
AFC	6309.12	9614.60

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

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Combined Asset	12207.18	11972.01	11657.82	11354.16	11044.06

112. Annexure-I, Annexure-II, Annexure-III, Annexure-IV and Annexure-V given hereinafter form part of the order.

113. This order disposes of Petition No.378/TT/2020 in terms of the above discussions and findings.

sd/-
(P. K. Singh)
Member

sd/-
(Arun Goyal)
Member

sd/-
(I.S. Jha)
Member

sd/-
(P.K. Pujari)
Chairperson



Petition No.:	378/TT/2020
Period	2014-19 Tariff

Annexure-I

Asset-I

Particulars	Admitted Capital Cost as on 1.4.2014 (₹ in lakh)	ACE 2014-19					Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations (₹ in lakh)				
		2014-15	2015-16	2016-17	2017-18	2018-19			2014-15	2015-16	2016-17	2017-18	2018-19
Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building	668.19	12.99	318.54	222.80	85.63	35.69	1343.84	3.34	22.53	28.07	37.11	42.26	44.29
Transmission Line	1802.64	521.68	246.25	0.00	0.00	0.00	2570.57	5.28	108.95	129.23	135.73	135.73	135.73
Substation	4952.95	107.97	242.52	458.37	57.19	116.53	5935.53	5.28	264.37	273.62	292.12	305.73	310.32
PLCC	218.41	7.84	4.32	0.00	0.00	0.00	230.57	6.33	14.07	14.46	14.60	14.60	14.60
Leasehold Land	2951.50	14.66	0.00	0.00	0.00	0.00	2966.16	3.34	98.82	99.07	99.07	99.07	99.07
IT Equipment & Software	171.18	17.88	2.89	0.00	0.00	0.00	191.95	5.28	9.51	10.06	10.13	10.13	10.13
Total	10764.87	683.02	814.52	681.17	142.82	152.22	13238.62		518.26	554.50	588.76	607.52	614.13
Average Gross Block (₹ in lakh)									11106.38	11855.15	12603.00	13014.99	13162.51
Weighted Average Rate of Depreciation (%)									4.67	4.68	4.67	4.67	4.67



Petition No.:	378/TT/2020
Period	2014-19 Tariff

Annexure-II

Asset-II

Particulars	Admitted Capital Cost as on 1.4.2014 (₹ in lakh)	ACE 2014-19					Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations (₹ in lakh)				
		2014-15	2015-16	2016-17	2017-18	2018-19			2014-15	2015-16	2016-17	2017-18	2018-19
Substation	2073.02	59.66	237.75	0.00	38.81	175.94	2585.18	5.28	111.03	118.88	125.16	126.18	131.85
PLCC	11.76	0.02	16.90	0.00	0.00	0.00	28.68	6.33	0.75	1.28	1.82	1.82	1.82
Total	2084.78	59.68	254.65	0.00	38.81	175.94	2613.85		111.78	120.16	126.98	128.00	133.67
Average Gross Block (₹ in lakh)									2114.62	2271.78	2399.10	2418.51	2525.88
Weighted Average Rate of Depreciation (%)									5.29	5.29	5.29	5.29	5.29



Petition No.:	378/TT/2020
Period	2014-19 Tariff

Annexure-III

Asset-III

Particulars	Admitted Capital Cost as on 1.4.2014 (₹ in lakh)	ACE (2014-19)					Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations (₹ in lakh)				
		2014-15	2015-16	2016-17	2017-18	2018-19			2014-15	2015-16	2016-17	2017-18	2018-19
Substation	893.06	5.31	61.41	0.00	0.00	127.27	1087.05	5.28	47.30	49.06	50.68	50.68	54.04
Total	893.06	5.31	61.41	0.00	0.00	127.27	1087.05		47.30	49.06	50.68	50.68	54.04
Average Gross Block (₹ in lakh)									895.72	929.08	959.78	959.78	1023.42
Weighted Average Rate of Depreciation (%)									5.28	5.28	5.28	5.28	5.28



Petition No.:	378/TT/2020
Period	2014-19 Tariff

Annexure-IV

Asset-IV

Particulars	Admitted Capital Cost as on 1.4.2014 (₹ in lakh)	ACE 2014-19		Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations (₹ in lakh)				
		2017-18	2018-19			2014-15	2015-16	2016-17	2017-18	2018-19
Transmission Line	49209.85	1569.65	2250.84	53030.33	5.28	-	-	-	2639.71	2740.58
Substation	881.88	29.91	85.92	997.71	5.28	-	-	-	47.36	50.41
PLCC	105.74	12.12	10.36	128.22	6.33	-	-	-	7.08	7.79
Leasehold Land	1293.14	195.18	134.53	1622.85	5.28	-	-	-	46.45	51.96
Total	51490.61	1806.86	2481.64	55779.11		-	-	-	2740.60	2850.74
Average Gross Block (₹ in lakh)						-	-	-	52394.04	54538.29
Weighted Average Rate of Depreciation (%)						-	-	-	5.23	5.23



Period	2019-24 Tariff
--------	----------------

Annexure - V

Combined Assets

2019-24 Capital Expenditure as on 1.4.2019	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	ACE	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations				
		2019-20			2019-20 (₹ in lakh)	2020-21 (₹ in lakh)	2021-22 (₹ in lakh)	2022-23 (₹ in lakh)	2023-24 (₹ in lakh)
Building	1343.84	296.53	1640.37	3.34	49.84	54.79	54.79	54.79	54.79
Transmission Line	55613.04	520.63	56133.67	5.28	2950.11	2963.86	2963.86	2963.86	2963.86
Substation	10669.43	60.00	10729.43	5.28	564.93	566.51	566.51	566.51	566.51
PLCC	387.47	0.00	387.47	6.33	24.53	24.53	24.53	24.53	24.53
Leasehold Land	4589.01	174.42	4763.43	3.34	156.19	159.10	159.10	159.10	159.10
IT Equipment & Software	191.95	0.00	191.95	15.00	28.79	28.79	28.79	28.79	26.81
TOTAL	72794.73	1051.58	73846.31		3774.38	3797.58	3797.58	3797.58	3795.59
Average Gross Block (₹ in lakh)					73320.52	73846.31	73846.31	73846.31	73846.31
Weighted Average Rate of Depreciation (%)					5.15	5.14	5.14	5.14	5.14

