

**Central Electricity Regulatory Commission
New Delhi**

Petition No. 127/TT/2022

Coram:

**Shri Jishnu Barua, Chairperson
Shri Arun Goyal, Member
Shri Ramesh Babu V., Member**

Date of order: 02.08.2024

In the matter of:

Petition for determination of tariff of the inter-State transmission lines connecting two States for the TSTRANSCO-owned transmission lines/system in terms of Commission's order dated 5.9.2018 in Petition No. 07/Suo-Motu/2017 and order dated 13.1.2020 in Petition No. 2/TT/2019 for inclusion in POC transmission charges for the period FY 2019-20 to FY 2023-24 in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.

And

In the matter of:

Transmission Corporation of Telangana Limited,
Vidyut Saudha, Kheiratabad, Hyderabad,
Telangana-500082.

....Petitioner

vs.

1. Transmission Corporation of Andhra Pradesh Limited,
Vidyut Saudha, Gundala, Eluru Road,
Vijayawada, Andhra Pradesh- 520004.

2. Karnataka Power Transmission Corporation Limited,
Kaveri Bhawan, Kempegowda Road,
Bangalore-560009.

....Respondents

For Petitioner : Ms. Swapna Seshadri, Advocate, TANTRANSCO
Ms. Kirti Soni, Advocate, TANTRANSCO
Ms. Aisharya, Advocate, TANTRANSCO

For Respondents : Shri Fahad Khan, Advocate, KPTCL



ORDER

The Petitioner, Transmission Corporation of Telangana Limited, has filed the present Petition for the determination of transmission tariff for the 2019-24 tariff period in respect of the 41 transmission lines owned by it connecting the other States and intervening transmission lines incidental to the inter-State transmission of electricity in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”).

2. The Petitioner has made the following prayers:

- “a) *Determine the tariff of Inter-State transmission lines connecting the State of Telangana with Andhra Pradesh (40 Assets) and the State of Telangana with Karnataka (1 Asset) for:*
- (i) FY 2019-20 (for 41 Assets, i.e., Asset-I to Asset-XXXXI);*
 - (ii) FY 2020-21 (for 41 Assets, i.e., Asset-I to Asset-XXXXI);*
 - (iii) FY 2021-22 (for 41 Assets, i.e., Asset-I to Asset-XXXXI);*
 - (iv) FY 2022-23 (for 41 Assets, i.e., Asset-I to Asset-XXXXI); and*
 - (v) FY 2023-24 (for 41 Assets, i.e., Asset-I to Asset-XXXXI).*
- b) *Approve the annual fixed charges for the assets covered under this Petition;*
- c) *Approve reimbursement of filing fees and publication expenses in connection with the present petition, directly from the beneficiaries in accordance with Regulation 70 of CERC (Terms and Conditions of Tariff) Regulations, 2019;*
- d) *Direct that as an interim measure, a provisional tariff of the assets (Asset-XVII and Assets-XXXVIII to XXXXI) be included in the PoC charges from FY 2016-17 onwards, till final determination of tariff for FY 2019-20 to FY 2023-24; and*
- e) *Pass any other and further order(s) as this Hon'ble Commission may deem fit and proper under the facts and circumstances of the present case and in the interest of justice.”*

Background

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

- a) The Petitioner, TANTRANSCO is a transmission licensee in the State of Telangana which owns certain inter-State transmission lines/system being



used by the States of Andhra Pradesh and Karnataka.

- b) On 2.6.2014, the erstwhile State of Andhra Pradesh was bifurcated and re-organized into the States of Andhra Pradesh and Telangana, which resulted in a number of inter-State transmission lines between the States of Andhra Pradesh and Telangana. Initially, there were 36 inter-State transmission lines, which were partly/wholly owned by the Petitioner. Subsequently, four new transmission lines were commissioned in the financial year 2016-17. Thus, currently, there are 40 inter-State transmission lines between the States of Telangana and Andhra Pradesh, and there is one inter-State transmission line between the States of Telangana and Karnataka.
- c) The Commission, vide its order dated 14.3.2012 in Petition No.15/SM/2012, directed the owners/developers of the inter-State transmission lines to file an appropriate application before the Commission for determination of tariff of the transmission lines or by State Transmission Utilities (STUs) where the transmission lines are owned by them in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009.
- d) The Commission vide its order dated 12.5.2017 in Petition No. 7/SM/2017 directed the State utilities to file Petitions for the determination of tariff for inclusion in the computation of Point of Connection transmission charges for the 2014-19 tariff period as per the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 ('the 2014 Tariff Regulations').



- e) Accordingly, the Petitioner filed Petition No. 2/TT/2019 before the Commission to include 38 ISTS transmission lines between the States of Telangana and Andhra Pradesh for which the Commission approved the tariff for the financial year 2016-17 vide its order dated 13.1.2020.
- f) The Commission vide its order dated 13.1.2020 in Petition No. 2/TT/2019 granted tariff for the 2016-17 in respect of 36 natural inter-State transmission lines except for the two lines (Assets-8 and 9 i.e. Uravakonda-Veltur-I and II Feeders) which were put under commercial operation w.e.f. 17.11.2016 and 18.11.2016, respectively. The Petitioner was directed to file a fresh Petition in respect of these two assets along with the required information specified in the Tariff Forms as per the 2014 Tariff Regulations.
- g) The Petitioner has filed the instant Petition for the determination of transmission tariff for the following 41 ISTS transmission lines (i.e. 40 transmission assets between the States of Telangana and Andhra Pradesh and 1 transmission line between the States of Telangana and Karnataka) for the FY 2019-20 to FY 2023-24:

Sl. No.	Assets	COD	Asset Name	Transmission Line Length in ckm (Telangana Portion)	Connecting States
1.	400 kV Srisailem - Kurnool (SC)	6.3.2001	Asset-1	1.5	Telangana – Andhra Pradesh
2.	400 kV Kalpaka – Asupaka	9.8.2017	Asset-2	Total TS Portion including LILO = 25.50 ckm	
	(a) 400 kV Kalpaka - Asupaka (Part of Old Line 400 kV Kalpaka – Khammam -I)	10.5.2002		portion of Old Line = 8.50 ckm	
	(b) LILO of Kalpaka to Khammam - I at Asupaka Sub-station	9.8.2017		New LILO Portion = 17.00 ckm	



3.	400 kV Kalpaka – Khammam – II	10.5.2002	Asset-3	121.00	
4	400 kV VTPS – Suryapet– I	30.3.2016	Asset-4	Total (TS Portion including LILO) = 56.66 ckm	
	(a) 400 kV VTPS - Suryapet– I (part of Old Main Line 400kV VTPS – Malkaram - I)	2.4.2013		Portion of Old line = 54.66 ckm	
	(b) LILO of VTPS to Malkaram – I at Suryapet Sub-station	30.3.2016		New LILO Portion = 2.00 ckm	
5.	400 kV VTPS- Suryapet – II	14.4.2018	Asset-5	Total TS Portion including LILO = 56.66 ckm	
	(a) 400 kV VTPS - Suryapet - II (Part of Old Line 400 kV VTPS-Malkaram - II)	2.4.2013		Portion of Old line = 54.66 ckm	
	(b) LILO of VTPS – Malkaram – II at Suryapet Sub-station	14.4.2018		New LILO Portion = 2.00 ckm	
6.	400 kV Srisailam – Sattenapalli Ckt – I	23.10.2000	Asset-6	0.40	Telangana – Andhra Pradesh
7.	400 kV Srisailam – Sattenapalli Ckt – II	23.10.2000	Asset-7	0.40	
8.	220 kV Lower Sileru - KTPS – I	31.3.1967	Asset-8	81.0	
9.	220 kV Lower Sileru - KTPS – II	31.3.1979	Asset-9	25.00	
10.	220 kV Srisailam - Dindi – I	12.9.1982	Asset-10	80.00	
11.	220 kV Srisailam – Domalapenta	17.4.2019	Asset-11	Total TS Portion including LILO = 0.30 ckm	
	(a) 220 kV Srisailam – Domalapenta (part of old line 220 kV Srisailam – Dindi - II)	12.9.1982		Portion of Old Line = 0.00 ckm (Main Line of 220 kV SSLM – Dindi – II Line)	
	(b) LILO of Srisailam – Dindi – II at Domalapenta Sub-station	17.4.2019		New LILO Portion = 0.30 ckm	
12.	220 kV Tallapalli - Nagarjunasagar – III	27.1.1985	Asset-12	4.00	
13.	220 kV Tallapalli - Nagarjunasagar – I	5.8.1985	Asset-13	2.10	
14.	220 kV Tallapalli - Nagarjunasagar – II	5.8.1985	Asset-14	2.10	
15.	220 kV Nagarjunasagar Receiving Station - Srisailam (SC) Line	7.2.1989	Asset-15	4.00	
16.	220 kV Nunna – KTPS	21.1.1992	Asset-16	64.45	
17.	220 kV Tandur - Sedam S/C Line	28.2.2001	Asset-17	33.60	Telangana - Karnataka
18.	220 kV Tallapalli – Chalakurthy	21.7.2007	Asset-18	27.40	Telangana – Andhra Pradesh
19.	220 kV Brahmnaotkur (LIS) – Wanaparthy	29.10.2009	Asset-19	78.79	
20.	220 kV Chillakallu – Suryapeta	21.12.2016	Asset-20	Total TS Portion including LILO = 50.30 ckm	Telangana – Andhra Pradesh
	(a) 220 kV Chillakallu - Suryapeta (part of old line 220 kV Chillakallu-Narketpally - I)	29. 3.1999		Portion of old Line = 38.62 ckm	
	(b) LILO of Chillakallu to Narketpally – I at Suryapeta Sub-station	21.12.2016		New LILO Portion = 11.68 ckm	
21.	220 kV Chillakallu – Pulichintala	5.12.2018	Asset-21	Total TS Portion including LILO = 66.78 ckm	



	(a) 220 kV Chillakallu - Pulichintala (Part of Old Line 220 kV Chillakallu-Narketpally - II)	29.3.1999		Old line portion = 18.08 ckm	
	(b) LILO of Chillakallu to Narketpally – II at Pulichintala Sub-station	5.12.2018		New LILO Portion = 48.70 ckm	
22.	132 kV Chillakallu–Ramapuram	21.10.1982	Asset-22	6.67	
23.	132 kV Kamavarapu Kota - Aswaraopet – I	9.6.1982	Asset-23	5.50	
24.	132 kV Kamavarapu Kota - Aswaraopet – II	9.6.1982	Asset-24	5.50	
25.	132 kV Nagarjunasagar–RCPH	25.2.1983	Asset-25	7.70	
26.	132 kV Chillakallu–Kusumanchi	24.12.1985	Asset-26	47.00	
27.	132 kV Chillakallu–Bonakallu – I	20.1.1987	Asset-27	2.80	
28.	132 kV Chillakallu–Bonakallu – II	20.1.1987	Asset-28	2.80	
29.	132 kV A.P.Carbides–Alampur – I	17.5.2004	Asset-29	Total TS Portion including LILO = 5.86 ckm	Telangana – Andhra Pradesh
	(a) 132 kV A.P. Carbides - Alampur – I (part of old line 132 kV A.P. Carbides - Wanaparthy)	20.1.1987		portion of old Line = 4.66 ckm	
	(b) LILO of A.P.Carbides to Wanaparthy at Alampur Sub-station	17.5.2004		New LILO Portion = 1.2 ckm	
30.	132 kV Chillakallu – Madhira	27.10.2001	Asset-30	7.00	
31.	132 kV Chillakallu – Khammam	2.12.2001	Asset-31	35.00	
32.	132 kV Chillakallu – Sitapuram	6.4.2004	Asset-32	2.50	
33.	132 kV Chillakallu – Kodada	10.6.2004	Asset-33	9.84	
34.	132 kV Sitapuram – KCP	10.5.2010	Asset-34	0.37	
35.	132 kV Tangeda – Wadapalli	26.8.2010	Asset-35	2.36	
36.	132 kV Piduguralla – Wadapalli	22.2.2014	Asset-36	2.36	
37.	132 kV A.P.Carbides - Alampur – II	6.9.2014	Asset-37	Total TS Portion including LILO = 5.86 ckm	
	(a) 132 kV A.P.Carbides - Alampur – II (part of old line 132 kV A.P.Carbides - Gadwal)	13.1.2000		portion of old Line = 4.66 ckm	
	(b) LILO of A.P.Carbides to Gadwal at Alampur Sub-station	6.9.2014		New LILO Portion = 1.2 ckm	
38.	400 kV Uravakonda - Veltoor – I	17.11.2016	Asset-38	73.50	
39.	400 kV Uravakonda - Veltoor – II	18.11.2016	Asset-39	73.50	
40.	400 kV Suryapeta - Kamavarapu Kota – I	20.10.2016	Asset-40	86.40	
41.	400 kV Suryapeta - Kamavarapu Kota – II	20.10.2016	Asset-41	86.40	

*Arabic numerals are used for numbering the assets in the order for the sake of convenience.

4. The Respondents are the transmission licensees, who are procuring the transmission services from the Petitioner, mainly beneficiaries of the Southern Region.



5. The Petitioner has served a copy of the Petition on the Respondents and notice regarding filing of this Petition has also been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003 (the Act). No comments or suggestions have been received from the general public in response to the aforesaid notice published in the newspapers by the Petitioner.

6. The hearing in this matter was concluded on 29.5.2024 and the order was reserved.

7. This order is issued considering the submissions made by the Petitioner in its affidavits dated 3.6.2021, 11.1.2023 and 23.2.2024, reply filed by the Respondent No. 2, Karnataka Power Transmission Corporation Limited (KPTCL), vide affidavit dated 1.12.2022, and the Petitioner's rejoinder filed vide affidavit dated 10.1.2023.

8. Having heard learned counsel for the Petitioner and perused the material on record, we proceed to dispose of the Petition.

9. The Petitioner in the instant Petition has prayed for interim tariff for Asset-17, Assets-38 to 41 to be included in PoC charges for FY 2016-17 onwards till the final determination of tariff for FYs 2019-20 to 2023-24.

10. We have considered the above submissions of the Petitioner and perused the documents available on the record. On perusal of the record, we note that the Commission, vide its order dated 1.1.2024 in Petition No. 325/TT/2022 has already determined the tariff in respect of the Asset-17, Assets-38-41 for the 2014-19 tariff period. Therefore, the prayer of the Petitioner for the interim tariff in respect of the aforesaid transmission assets for the 2014-19 tariff period is misconceived since it has already been determined. The determination of tariff for the 2019-24 period in respect of Asset-17, Assets-38 to 41 has been dealt with in the succeeding paragraphs.



11. The Commission vide order dated 1.1.2024 in Petition No. 325/TT/2022 has granted tariff for the financial years 2014-15, 2015-16, 2016-17, 2017-18, and 2018-19 for the above-mentioned 41 transmission assets on the basis of the methodology adopted by it in an order dated 13.1.2020 in Petition No. 2/TT/2019 for determining the tariff for the 36 transmission assets owned by the Petitioner. The relevant portions of the said order dated 13.1.2020 are as follows:

“15. Similar issue was considered by the Commission in its order dated 22.6.2018 in Petition No. 155/TT/2017 wherein the transmission charges in respect of natural ISTS lines were determined on the basis of methodology already adopted by the Commission. The relevant portion of the said order is extracted as under:

“9. Some of the State Utilities have filed similar petitions claiming tariff of inter-State transmission lines connecting two States for the 2014-19 tariff periods as per the directions of the Commission. The information submitted by the State Utilities is incomplete and inconsistent. Further, some of the lines were more than 25 years old and the States were not having the details of the capital cost etc. To overcome these difficulties, the Commission evolved a methodology for allowing transmission charges for such transmission lines connecting two States in orders dated 19.12.2017 in Petition Nos. 88/TT/2017, 173/TT/2016 and 168/TT/2016 filed by Madhya Pradesh Power Transmission Corporation Limited, Maharashtra State Electricity Regulatory Commission and Uttar Pradesh Power Transmission Corporation Limited respectively. The Commission adopted the same methodology in order dated 4.5.2018 in Petition No.112/TT/2017, while granting tariff for ISTS connecting Rajasthan with other States and owned by Rajasthan Rajya Vidyut Prasaran Limited. The Commission derived the benchmark cost on the basis of the transmission lines owned by PGCIL. The useful life of the transmission line was considered as 25 years and for lines more than or equal to 25 years, only O & M Expenses and Interest on Working Capital (IWC) is decided to be allowed as per the existing Tariff Regulations. For assets put into commercial operation on or after 1.4.2014, tariff is decided to be allowed on the basis of the audited financial capital cost. The relevant portion of the order dated 4.5.2018 is extracted hereunder:-

“13. It is observed that the information submitted by the Petitioner States for computation of transmission charges for the deemed ISTS lines are not uniform, thereby causing divergence in working out the tariff. In some cases, the data related to funding and depreciation was not available and in some cases the assets have already completed, or nearing, their useful life. In most of the petitions, the states have expressed their inability to furnish the audited capital cost of transmission lines as the lines are old. As a result, tariff workings for old assets are ending in skewed results. It is further observed that the YTC figures emerging out by the existing ARR methodology are on the higher side. Considering these facts, we have conceptualized a modified methodology for determining the tariff of the inter-State transmission lines. The methodology is broadly based on the following:-

(a)PGCIL’s Annual Report data has been used as the reference data; based on which, year wise benchmark cost has been derived.



(b) Useful life of Transmission Line has been considered as 25 years. Thus, if life is more than or equal to 25 years as on 1.4.2014, only O & M Expenses and Interest on Working Capital (IWC) shall be allowed as per the existing Tariff Regulations, in lieu of complete tariff.

(c) It is expected that the States do have the audited financial data of recently commissioned (i.e. on or after 1.4.2014) lines.

Tariff Methodology

14. As per the petitions filed by the states, their ISTS lines generally have the configuration of 132 kV, 220 kV or 400 kV. In the absence of an established tariff data base, in order to develop this methodology Annual Reports of PGCIL from 1989-90 to 2013-14 have been referred to. The Annual Reports depict, inter alia, the information pertaining to year wise total length of transmission lines in ckt-km and corresponding Gross Block. This pan-India data represents all the five transmission regions and is a composite mix of parameters like terrains, wind-zones, tower and conductor type etc. +/- 500 kV HVDC and 765 kV and above voltage level AC lines too have come up in between and the data also includes those lines. Voltage level- wise data as on 30th April 2017, obtained from PGCIL indicates that the percentage of 220 kV, 132 kV and 66 kV Transmission Line taken together makes it around 8.3% of the total line length owned by PGCIL. Further, 132 kV Transmission Lines were established in NER prior to 1990, and Transmission Lines of 220 kV voltage levels were last commissioned in around the year 2004 in NR. Majority of the transmission lines consist of 400 kV which corresponds to 66% of the total transmission line lengths. Thus, the 400 kV and lesser voltage levels account for approximately 75% of the transmission lines. Assuming the above referred spread of voltage wise percentages for earlier years too, it can be said that the year wise average Transmission Line cost figures derived from PGCIL data, when further reduced by 25%, fairly represent the average transmission line capital cost corresponding to a 400 kV S/C line. Considering 400 kV S/C transmission line cost as reference cost, analysis of PGCIL's indicative cost data (P/L Feb 2017) suggests the following:-

	Reference cost of 400 kV S/C TL	` X lakh/km
1.	400 kV D/C TL	1.39 X
2.	220 kV D/C TL	0.57 X
3.	220 kV S/C TL	0.36 X
4.	132 kV D/C TL	0.43 X
5.	132 kV S/C TL	0.31

15. Therefore, for arriving at the costs of transmission lines of other voltage levels and circuit configurations, the average transmission line cost data shall be multiplied by the factors illustrated in the above table. Lower voltage levels can be treated as part of 132 kV. The above table contemplates Twin Moose conductor which is widely used in State transmission lines.

16. Based on respective year end data, average transmission line length during the year has been worked out. Difference between a particular year's average transmission line length figures and that for the immediate preceding year provides us the transmission line length added during that year. Average gross block corresponding to transmission lines has been divided by the average transmission line length to arrive at the Average Cost of transmission line (in `



lakh per ckt-km) during the year. Thus, considering the year of COD of a State's ISTS line and its ckt-km, its cost would be worked out by relating it to PGCIL's transmission line cost during that year. Although the Commission has relied on PGCIL's Annual Reports, there are certain deviations in the cost data worked out. The year 1989-90 was the year of incorporation for PGCIL, and the transmission assets of NTPC, NHPC, NEEPCO etc. were taken over by PGCIL by mid-1991-92. Thus, as the base data for these years was not available, the corresponding average cost of transmission line could not be worked out. The average cost from 1992-93 onwards up to 2013-14 shows an increasing trend at a CAGR of 5.17%. Therefore, for the years 1989-90, 1990-91 and 1991-92, the average cost of transmission line has been back derived considering the 1992-93 average cost. Similarly, abnormal dip/spikes in the transmission line cost for the years 1996-97, 2001-02 and 2004-05 has been corrected by considering the average values of the transmission line costs in the immediate preceding and succeeding years.

17. While calculating tariff, the following has been considered:-

- i) Useful life of the transmission line shall be deemed to be 25 years.
- (ii) Prevailing depreciation rates as per the 2014 Tariff Regulations shall be considered uniformly for all the previous tariff periods so as to do away with the Advance Against Depreciation which was in vogue during earlier tariff periods. Notwithstanding the depreciation considered as recovered earlier, for the purpose of these tariff calculations, remaining depreciable value shall be spread over the remaining useful life of the transmission line, where the elapsed life is more than or equal to 12 years.
- (iii) Normative Debt-Equity ratio shall be 70:30.
- (iv) Normative loan repayment during a year shall be deemed to be equal to the depreciation allowed for that year.
- (v) Rate of Interest on normative loan shall be the weighted average rate of interest as derived on the basis of PGCIL's Balance Sheet.
- (vi) In order to avoid complexity, grossing up of rate of Return on Equity with tax rate is being dispensed with.
- (vii) Bank rate as defined in 2014 Tariff Regulations, 2014 as on 1.4.2014 shall be applied for calculating the rate of interest on working capital on normative basis.
- (viii) O & M Expenses as per the 2014 Tariff Regulations shall be considered.
- (ix) Where the life of transmission line is more than or equal to 25 years as on 1.4.2014, only O & M Expenses and IWC shall be allowed in lieu of complete tariff.

18. Thus, in effect, this is a normative tariff working methodology which shall be applied in those cases where the audited capital cost information is not available."

16. The same methodology is adopted for calculating the tariff for aforesaid 36 assets owned by TCTL. Asset-11, Asset-12, Asset-13, Asset-18, Asset-19, Asset-20, Asset-21, Asset-22, Asset-23, Asset-27, Asset-30, Asset-33, Asset-34, Asset-35, Asset-37 and Asset-38 have already completed twenty five years as on 1.4.2014. Therefore, as per the above methodology, only —Interest on Working Capital and —O & M Expenses components of tariff shall be allowable for these 16 assets. Remaining 20 assets (Asset-1 to Asset-7, Asset-10, Asset-14 to Asset-17, Asset-24 to Asset-26, Asset-28 & Asset-29, Asset-31, Asset-32 and Asset-36) have not completed have not completed 25 years as on 1.4.2014. Thus, in line with the aforesaid methodology, all tariff components are being allowed."



12. The APTEL, vide its common judgement dated 14.11.2022 in Appeal Nos. 267 and 274 of 2018 filed by RRVPNL and Appeal No. 415 of 2019 filed by MPPTCL had set aside the abovementioned methodology of allowing the tariff for the deemed ISTS lines reckoning their useful life as 25 years. The APTEL, in the said judgment, had observed that the useful life of the State-owned Deemed ISTS lines shall be the same as for the ISTS lines specified in the 2014 Tariff Regulations, which is 35 years. The relevant portions of the said judgment of APTEL are as follows:

“10. During the hearing, the Appellants had submitted that the only issue which they are challenging is the consideration of useful life of the said deemed ISTS lines as 25 years for the purpose of computing the Transmission Charges under POC mechanism as against the 35 years of useful life as prescribed in the Tariff Regulations, 2014 and the earlier notified regulations for the ISTS lines owned by the ISTS licensees, this having resulted into a curtailment of useful life which have not completed even their 35 years of service as on 01.04.2014 and the tariff is restricted to O&M expenses and IWC only.”

“30. Accordingly, as observed above, it is opined that the decision of the Central Commission for considering the useful life of the State owned Deemed ISTS lines as 25 years is not correct. The useful life of the subject transmission lines shall be the same as for the ISTS lines as specified in the Tariff Regulations 2014 and the Sharing Regulations, 2010 which is 35 years.

ORDER

For foregoing reasons as stated supra, we are of the considered view that the captioned Appeal No. 267 of 2018, Appeal No. 274 of 2018 and Appeal No. 415 of 2019 have merit and are allowed.

The impugned orders dated 20.06.2018 in Petition No. 215/TT/2017, dated 04.05.2018 in Petition No.112/TT/2017 and dated 19.12.2017 in Petition No. 88/TT/2017 read with the order dated 12.06.2019 in Review Petition 11/RP/2018 passed by the Central Electricity Regulatory Commission are set aside.

The Central Electricity Regulatory Commission is directed to revisit the impugned orders and pass the consequential orders in accordance with the observations made in the foregoing paragraphs.”

13. The APTEL in the aforesaid judgment dated 14.11.2022, directed the Commission to pass consequential orders in accordance with its observations in regard to its decision on the useful life of the transmission assets to be considered as 35 years. Accordingly, the Commission has approved a new methodology after



taking into consideration the useful life of the inter-State transmission lines as 35 years and modified the methodology adopted earlier for approving the transmission charges for the transmission lines connecting two States/deemed ISTS lines considering the useful life of the transmission lines as 35 years.

14. In view of the above, the transmission tariff for the 2014-19 period approved by the Commission vide order dated 1.1.2024 in Petition No. 325/TT/2022 is required to be revised in respect of those transmission assets that have not been completed their 35 years of services as on 1.4.2014, considering the useful life of the transmission assets as 35 years instead of 25 years.

15. Accordingly, we proceed to revise the transmission tariff for the 2014-19 tariff period in respect of the concerned transmission assets approved by the Commission vide order dated 1.1.2024 in Petition No. 325/TT/2022. The determination of the transmission tariff for the 2019-24 tariff period in respect of the transmission assets has been dealt with later in the instant order.

A. Revision/Re-determination of Transmission Tariff for the 2014-19 period
Revision of Tariff of 29 existing ISTS Lines

16. For determination of the transmission charges of the transmission assets which have not completed their 35 years of service as on 1.4.2014, the capital cost of the transmission lines is derived from the year 1979-80 onwards till 31.3.2014. As per the earlier methodology, the capital cost has been approved by the Commission from the year 1989-90 onwards till 31.3.2014. Further, in the earlier methodology, due to the unavailability of base data for the financial years 1989-90, 1990-91, and 1991-92, the average cost of the transmission lines has been back derived considering the average cost from the financial year 1992-93 onwards up to the financial year 2013-



14 at a Compound Annual Growth Rate (CAGR) of 5.17%. The methodology for deriving the average cost of the transmission lines for the financial years 1989-90, 1990-91, and 1991-92 has been extrapolated backward to derive the average cost of transmission lines for the financial years 1979-80 to 1988-89. Accordingly, the average capital cost of the transmission lines for the financial years 1979-80, 1980-81, 1981-82, 1982-83, 1983-84, 1984-85, 1985-86, 1986-87, 1987-88, and 1988-89 has been back derived by applying the CAGR factor of 5.17%. The capital cost of the transmission lines, which have not completed 35 years, is worked out as per the said methodology.

17. In view of the new methodology, the capital cost has been derived, taking into consideration the approved length and configurations of the line, the year of COD allowed, and the rationalized cost of the year. Accordingly, the derived capital cost in respect of the 29 transmission assets is as follows:

Sl. No.	Asset	Name of Transmission Lines	Type of conductor	Length approved in ckt. km for the purpose of tariff calculation	Date of Commercial operation	Capital Cost considered as on COD (₹ in lakh)
1	Asset-1	400 kV Srisailam-Kurnool (SC)	S/C ACSR Twin Moose	1.50	6.3.2001	81.85
2	Asset-6 and Asset-7	400 kV Srisailam-Sattenapalli Ckt-I	D/C ACSR Twin Moose	0.40	12.2.2014	52.64
3		400 kV Srisailam-Sattenapalli Ckt-II				
4	Asset-8	220 kV Lower Sileru-KTPS-I	S/C ACSR Deer	81.00	31.3.1967	0.00
5	Asset-9	220 kV Lower Sileru-KTPS-II	S/C ACSR Deer	25.00	31.3.1979	0.00
6	Asset-10 and	220 kV Srisailam-Dindi-I	D/C ACSR Zebra	80.00	12.9.1982	859.97



7	Asset-11	220 kV Srisailam-Dindi-II				
8	Asset-12	220 kV Tallapali-Nagarjuna sagar-III	S/C ACSR Zebra	4.00	27.1.1985	30.04
9	Asset-13 and Asset-14	220 kV Tallapali-Nagarjuna sagar-I	D/C ACSR Twin Moose	2.10	5.8.1985	26.26
10		220 kV Tallapali-Nagarjuna sagar-II				
11	Asset-15	220 kV Nagarjuna sagar Receiving station-Srisailam SC line	S/C ACSR Deer	4.00	7.2.1989	36.75
12	Asset-16	220 kV Nunna-KTPS	S/C ACSR Deer	64.45	21.1.1992	688.77
13	Asset-18	220 kV Tallapalli-Chalukurthy	S/C ACSR Zebra	27.40	21.7.2007	463.97
14	Asset-19	220 kV Brahmakotkur-Wanaparthy (LIS)	S/C ACSR Moose	78.79	29.10.2009	1373.86
15	Asset-22	132 kV Chillakallu-Ramapuram	D/C ACSR Panther	3.335	21.10.1982	27.04
16	Asset-23 and Asset-24	132 kV Kota-Aswaraopet-I	D/C ACSR Panther	5.50	9.6.1982	44.60
17		132 kV Kota-Aswaraopet-II				
18	Asset-25	132 kV Nagarjunasagar-RCPH	S/C ACSR Beer	7.70	25.2.1983	45.02
19	Asset-26	132 kV Chillakallu-Kusumanchi	D/C ACSR Panther	23.50	24.12.1985	221.68
20	Asset-27 and Asset-28	132 kV Chillakallu-Bonakallu-I	D/C ACSR Panther	2.80	20.1.1987	27.78
21		132 kV Chillakallu-Bonakallu-II				
22	Asset-30	132 kV Chillakallu-Madhira	S/C ACSR Panther	7.00	27.10.2001	96.09
23	Asset-31	132 kV Chillakallu-Khammam	D/C ACSR Panther	17.50	2.12.2001	333.22
24	Asset-32	132 kV Chillakallu-Sitapuram	D/C ACSR Panther	2.50	6.4.2004	29.24
25	Asset-33	132 kV Chillakallu-Kodada	S/C ACSR Panther	9.84	10.6.2004	82.98



26	Asset-34	132 kV Sitapuram-KCP	S/C ACSR Panther	0.37	10.5.2010	5.99
27	Asset-35	132 kV Tangeda-Wadapalli	S/C ACSR Panther	2.36	26.8.2010	38.23
28	Asset-36	132 kV Piduguralla-Wadapalli	S/C ACSR Panther	2.36	22.2.2014	69.26
29	Asset-17	220 kV Tandur-Sedam line	S/C ACSR Panther	9.46	28.2.2001	185.83

18. The bifurcation of the Andhra Pradesh and Telangana States was effective from 2.6.2014. Accordingly, the transmission tariff for the financial year 2014-15 shall be calculated with effect from 2.6.2014 to 31.3.2015 on pro-rata basis. Since SRPC in its certificate dated 11.9.2019, has certified the Asset-17 as natural inter-State transmission line owned by Telangana, its tariff is allowed with effect from 2.6.2014 (i.e., date of bifurcation of Andhra Pradesh) to 31.3.2019.

19. The transmission lines, namely, Assets-8 and 9 have already completed thirty-five (35) years of their useful life as on 1.4.2014. Therefore, as per the Commission's new methodology, 'nil' capital cost has been considered in respect of these two transmission assets. Only the 'Interest on Working Capital' (IWC) and 'O&M Expenses' components of the tariff have been allowed for these two transmission assets.

20. The transmission assets, namely, Asset-1, Assets-10 to 17, Assets- 22 to 28, Assets-30 and 31 have already completed 12 years of their useful life as on 1.4.2014. Therefore, Interest on Loan (IOL) in respect of these transmission assets has not been allowed during the 2014-19 tariff period. Assets-32 and 33 have completed their useful life of 12 years during the financial year 2016-17. Therefore, IOL for these assets have not been allowed for the financial years 2017-18 and 2018-19.



21. Similarly, Assets-10 and 11, Assets-22, 23, 24 and 25 have completed their useful life of 35 years during the 2014-19 tariff period. Therefore, all the components of the tariff, except for IOL, are allowed in respect of these transmission assets for the period till the date of completion of their useful life of 35 years. Thereafter, only IWC and O&M Expenses have been allowed for them till 31.3.2019.

22. In view of the above discussions, the revision of tariff has been considered in respect of the 29 transmission assets for the 2014-19 period.

23. The Commission in its order dated 1.1.2024 in Petition No. 325/TT/2022 allowed the following O&M Expenses in respect of the aforesaid transmission assets:

Asset	O&M Expenses				
	2014-15 (Pro-rata for 302 days)	2015-16	2016-17	2017-18	2018-19
Asset-1	0.5	0.63	0.65	0.67	0.69
Assets- 6 and 7	0.23	0.29	0.30	0.31	0.32
Asset- 8	27.17	33.86	34.99	36.13	37.34
Asset-9	8.38	10.45	10.80	11.15	11.53
Assets-10 and 11	46.95	58.48	60.40	62.4	64.48
Asset-12	1.34	1.67	1.73	1.78	1.84
Assets-13 and 14	1.23	1.54	1.59	1.64	1.69
Asset-15	1.34	1.67	1.73	1.78	1.84
Asset-16	21.61	26.94	27.84	28.74	29.71
Asset-18	9.19	11.45	11.84	12.22	12.63
Assets-19	26.42	32.93	34.04	35.14	36.32
Assets- 22	1.96	2.44	2.52	2.60	2.69
Asset-23 and 24	1.84	2.30	2.38	2.45	2.54
Asset-25	2.58	3.22	3.33	3.43	3.55
Assets-26	13.79	17.18	17.74	18.33	18.94
Assets-27and 28	1.64	2.05	2.11	2.18	2.26
Asset-30	2.35	2.93	3.02	3.12	3.23
Asset-31	10.27	12.79	13.21	13.65	14.11
Asset-32	1.47	1.83	1.89	1.95	2.02
Asset-33	3.30	4.11	4.25	4.39	4.54
Asset-34	0.12	0.15	0.16	0.17	0.17
Asset-35	1.39	1.73	1.78	1.84	1.90
Asset-36	0.79	0.99	1.02	1.05	1.09
Asset-17	3.17	3.95	4.08	4.22	4.36



24. In view of the above discussions, the O&M Expenses allowed for the aforesaid transmission assets vide order dated 1.1.2024 in Petition No. 325/TT/2022, have been considered in the present Petition for the purpose of revision of tariff of the said transmission assets under Regulation 29 (4) of the 2014 Tariff Regulations.

25. Based on the new methodology, as discussed above in detail, the computation of transmission charges for the existing 29 transmission assets is revised for the financial years 2014-15 (pro-rata from 2.6.2014 to 31.3.2015 i.e. 303 days), 2015-16, 2016-17, 2017-18, and 2018-19 are as follows:

(₹ in lakh)

Asset-1	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	0.79	0.96	0.96	0.96	0.96
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	3.16	3.81	3.81	3.81	3.81
Interest on Working Capital	0.12	0.14	0.15	0.15	0.15
O & M Expenses	0.50	0.63	0.65	0.67	0.69
Total	4.57	5.53	5.56	5.58	5.60

(₹ in lakh)

Asset-6 and Asset-7	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	2.31	2.78	2.78	2.78	2.78
Interest on Loan	2.11	2.38	2.19	2.01	1.87
Return on Equity	2.03	2.45	2.45	2.45	2.45
Interest on Working Capital	0.16	0.19	0.19	0.18	0.18
O & M Expenses	0.23	0.29	0.30	0.31	0.32
Total	6.84	8.09	7.91	7.73	7.60

(₹ in lakh)

Asset-8	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	1.50	1.87	1.93	2.00	2.06
O & M Expenses	27.17	33.86	34.99	36.13	37.34
Total	28.67	35.73	36.93	38.12	39.40

(₹ in lakh)

Asset-9	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	0.00	0.00	0.00	0.00	0.00



Interest on Working Capital	0.37	0.58	0.60	0.62	0.64
O & M Expenses	8.38	10.45	10.80	11.15	11.53
Total	8.76	11.03	11.40	11.77	12.16

(₹ in lakh)

Asset-10 and Asset-11	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	8.27	10.52	10.52	10.52	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	33.20	39.99	39.99	39.99	0.00
Interest on Working Capital	3.55	4.39	4.50	4.61	3.56
O & M Expenses	46.95	58.48	60.40	62.40	64.48
Total	91.97	113.39	115.41	117.52	68.04

(₹ in lakh)

Asset-12	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	0.29	0.36	0.36	0.36	0.36
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	1.16	1.40	1.40	1.40	1.40
Interest on Working Capital	0.11	0.13	0.14	0.14	0.14
O & M Expenses	1.34	1.67	1.73	1.78	1.84
Total	2.90	3.56	3.62	3.68	3.74

(₹ in lakh)

Asset-13 and Asset-14	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	0.25	0.31	0.31	0.31	0.31
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	1.01	1.22	1.22	1.22	1.22
Interest on Working Capital	0.10	0.12	0.12	0.13	0.13
O & M Expenses	1.23	1.54	1.59	1.64	1.69
Total	2.60	3.19	3.24	3.30	3.36

(₹ in lakh)

Asset-15	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	0.35	0.43	0.43	0.43	0.43
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	1.42	1.71	1.71	1.71	1.71
Interest on Working Capital	0.11	0.14	0.14	0.15	0.15
O & M Expenses	1.34	1.67	1.73	1.78	1.84
Total	3.23	3.96	4.02	4.07	4.14

(₹ in lakh)

Asset-16	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	6.62	8.09	8.09	8.09	8.09
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	26.59	32.03	32.03	32.03	32.03



Interest on Working Capital	1.96	2.41	2.46	2.51	2.56
O & M Expenses	21.61	26.94	27.84	28.74	29.71
Total	56.78	69.47	70.42	71.37	72.39

(₹ in lakh)

Asset-18	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	20.34	24.50	24.50	24.50	24.50
Interest on Loan	9.90	10.41	8.70	7.00	5.41
Return on Equity	17.91	21.57	21.57	21.57	21.57
Interest on Working Capital	1.62	1.93	1.91	1.90	1.88
O & M Expenses	9.19	11.45	11.84	12.22	12.63
Total	58.95	69.87	68.53	67.19	66.00

(₹ in lakh)

Asset-19	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	60.22	72.54	72.54	72.54	72.54
Interest on Loan	37.88	41.22	36.23	31.29	26.97
Return on Equity	53.03	63.88	63.88	63.88	63.88
Interest on Working Capital	4.94	5.91	5.85	5.80	5.77
O & M Expenses	26.42	32.93	34.04	35.14	36.32
Total	182.49	216.49	212.55	208.66	205.48

(₹ in lakh)

Asset-22	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	0.26	0.33	0.33	0.33	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	1.04	1.26	1.26	1.26	0.00
Interest on Working Capital	0.14	0.17	0.18	0.18	0.15
O & M Expenses	1.96	2.44	2.52	2.60	2.69
Total	3.40	4.20	4.28	4.37	2.84

(₹ in lakh)

Asset-23 and Asset-24	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	0.43	0.55	0.55	0.55	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	1.72	2.07	2.07	2.07	0.00
Interest on Working Capital	0.15	0.19	0.19	0.20	0.14
O & M Expenses	1.84	2.30	2.38	2.45	2.54
Total	4.15	5.11	5.19	5.27	2.68

(₹ in lakh)

Asset-25	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	0.43	0.55	0.55	0.55	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	1.74	2.09	2.09	2.09	0.00



Interest on Working Capital	0.19	0.24	0.24	0.25	0.20
O & M Expenses	2.58	3.22	3.33	3.43	3.55
Total	4.95	6.10	6.22	6.33	3.75

(₹ in lakh)

Asset-26	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	2.13	2.64	2.64	2.64	2.64
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	8.56	10.31	10.31	10.31	10.31
Interest on Working Capital	1.01	1.25	1.28	1.31	1.34
O & M Expenses	13.79	17.18	17.74	18.33	18.94
Total	25.49	31.37	31.97	32.59	33.23

(₹ in lakh)

Asset-27 and Asset-28	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	0.27	0.33	0.33	0.33	0.33
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	1.07	1.29	1.29	1.29	1.29
Interest on Working Capital	0.12	0.15	0.15	0.16	0.16
O & M Expenses	1.64	2.05	2.11	2.18	2.26
Total	3.10	3.82	3.89	3.96	4.04

(₹ in lakh)

Asset-30	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	0.92	1.12	1.12	1.12	1.12
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	3.71	4.47	4.47	4.47	4.47
Interest on Working Capital	0.24	0.29	0.30	0.30	0.31
O & M Expenses	2.35	2.93	3.02	3.12	3.23
Total	7.22	8.81	8.91	9.01	9.12

(₹ in lakh)

Asset-31	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	3.20	3.89	3.89	3.89	3.89
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	12.86	15.49	15.49	15.49	15.49
Interest on Working Capital	0.94	1.15	1.18	1.20	1.23
O & M Expenses	10.27	12.79	13.21	13.65	14.11
Total	27.28	33.33	33.77	34.23	34.71

(₹ in lakh)

Asset-32	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1.28	1.54	1.54	0.35	0.35
Interest on Loan	0.35	0.32	0.21	0.00	0.00
Return on Equity	1.13	1.36	1.36	1.36	1.36
Interest on Working Capital	0.14	0.18	0.18	0.15	0.15
O & M Expenses	1.47	1.83	1.89	1.95	2.02
Total	4.37	5.23	5.18	3.81	3.88



(₹ in lakh)

Asset-33	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	3.64	4.38	4.38	0.99	0.99
Interest on Loan	0.99	0.92	0.61	0.00	0.00
Return on Equity	3.20	3.86	3.86	3.86	3.86
Interest on Working Capital	0.36	0.44	0.44	0.35	0.36
O & M Expenses	3.30	4.11	4.25	4.39	4.54
Total	11.50	13.71	13.54	9.59	9.75

(₹ in lakh)

Asset-34	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	0.26	0.32	0.32	0.32	0.32
Interest on Loan	0.18	0.20	0.18	0.16	0.14
Return on Equity	0.23	0.28	0.28	0.28	0.28
Interest on Working Capital	0.02	0.03	0.03	0.03	0.03
O & M Expenses	0.12	0.15	0.16	0.17	0.17
Total	0.82	0.98	0.96	0.95	0.93

(₹ in lakh)

Asset-35	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1.68	2.02	2.02	2.02	2.02
Interest on Loan	1.17	1.29	1.15	1.02	0.90
Return on Equity	1.48	1.78	1.78	1.78	1.78
Interest on Working Capital	0.18	0.21	0.21	0.21	0.21
O & M Expenses	1.39	1.73	1.78	1.84	1.90
Total	5.89	7.03	6.94	6.87	6.81

(₹ in lakh)

Asset-36	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	3.04	3.66	3.66	3.66	3.66
Interest on Loan	2.77	3.13	2.88	2.64	2.46
Return on Equity	2.67	3.22	3.22	3.22	3.22
Interest on Working Capital	0.24	0.28	0.28	0.28	0.28
O & M Expenses	0.79	0.99	1.02	1.05	1.09
Total	9.51	11.28	11.06	10.85	10.70

(₹ in lakh)

Asset-17	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1.79	2.17	2.17	2.17	2.17
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	7.17	8.64	8.64	8.64	8.64
Interest on Working Capital	0.38	0.47	0.47	0.48	0.49
O & M Expenses	3.17	3.95	4.08	4.22	4.36
Total	12.51	15.23	15.36	15.51	15.66



B. Revision of tariff for 8 LILOs of the existing ISTS lines

26. As discussed above in detail with regard to the revision of transmission tariff for 29 transmission assets for the 2014-19 tariff period, the capital cost of the following 8 existing ISTS lines has been derived taking into consideration the approved length and configurations of the line, the year of COD allowed and the rationalized cost of the year. Accordingly, the derived capital cost of the transmission assets is as follows:

Sl. No.	Assets	Name of Transmission Lines	Type of conductor	Length approved in ckt. km for the purpose of tariff calculation	COD	Capital cost considered as on COD (₹ In lakh)
1	Asset-2	400 kV Kapaka-Aupaka SC line	S/C Line	121 ckm from 2.6.2014 to 8.8.2017 and from 9.8.2017 the length of line is 8.5 ckm	10.5.2002	4113.78 (From 2.6.2014 to 8.8.2017) and 288.98 (From 9.8.2017 to 31.3.2019)
2	Asset-3	400 kV Kalpaka-Khammam II DC line	D/C Line	121	10.5.2002	5718.16
3	Asset-4	400 kV VTPS-Suryapet-I DC line	D/C Line	54.66	2.4.2013	7193.06
4	Asset-5	400 kV VTPS-Suryapet-II DC line	D/C Line	54.66	2.4.2013	7193.06
5	Asset-20	220 kV Chillakallu-Suryapeta DC line	D/C Line	38.62	29.3.1999	386.20
6	Asset-21	220 kV Chillakallu-Pulichintala DC line	D/C Line	18.08	29. 3.1999	180.80
7	Asst-29	132 kV A.P. Carbides-Alampur-I DC line	D/C Line	4.66	20.1.1987	46.23
8	Asset-37	132 kV A.P. Carbides-Alampur-II DC line	D/C Line	4.66	13.1.2000	41.49



27. The transmission tariff for the financial year 2014-15 in respect of the transmission assets has been calculated from 2.6.2014 to 31.3.2015 on a pro-rata basis on account of the bifurcation of Andhra Pradesh and Telangana States w.e.f. 2.6.2014.

28. The transmission assets, namely, Assets-20 and 21, Asset-29 and Asset-37 have already completed 12 years of their useful life as on 1.4.2014. In view of the new methodology, IOL in respect of these transmission assets has not been allowed during the 2014-19 tariff period. Further, since Assets-2 and 3 have completed their useful life of 12 years during the 2014-19 period, IOL for these two transmission assets has not been allowed after 12 years of their useful life.

29. The Commission vide its order dated 1.1.2024 in Petition No. 325/TT/2022 had allowed the following O&M Expenses in respect of the following 8 transmission assets:

Asset	O&M Expenses				
	2014-15 (Pro-rata for 302 days)	2015-16	2016-17	2017-18	2018-19
Asset-2	71.02	88.45	91.36	33.61+4.25 =37.86	6.85
Asset-3	71.02	88.45	91.36	94.38	97.53
Asset-4	32.08	39.96	41.27	42.63	44.06
Asset-5	32.08	39.96	41.27	42.63	44.06
Asset-20	22.67	28.23	29.16	30.12	31.13
Asset-21	10.61	13.22	13.65	14.10	14.57
Asst-29	2.73	3.41	3.52	3.63	3.76
Asset-37	2.73	3.41	3.52	3.63	3.76

30. The O&M Expenses allowed for the aforesaid eight transmission assets vide order dated 1.1.2024 in Petition No. 325/TT/2022 have been considered in the present Petition for the purpose of revision of tariff of the aforesaid transmission



assets under Regulation 29 (4) of the 2014 Tariff Regulations. Based on the new methodology, the revised computation of the transmission charges for the existing eight transmission assets for the financial years 2014-15 (pro-rata from 2.6.2014 to 31.3.2015, i.e., 303 days), 2015-16, 2016-17, 2017-18, and 2018-19 are as follows:

(₹ in lakh)				
Asset-2(a)	2014-15	2015-16	2016-17	2017-18 (2.6.2014 to 8.8.2017)
Depreciation	180.31	49.25	49.25	17.54
Interest on Loan	23.63	0.00	0.00	0.00
Return on Equity	158.80	191.29	191.29	68.13
Interest on Working Capital	12.27	10.42	10.58	3.83
O & M Expenses	71.02	88.45	91.36	33.61
Total	446.03	339.42	342.48	123.12

(₹ in lakh)		
Asset-2(b)	2017-18 (9.8.2017 to 31.3.2018)	2018-19
Depreciation	2.16	3.41
Interest on Loan	0.00	0.00
Return on Equity	8.65	13.44
Interest on Working Capital	0.48	0.77
O & M Expenses	4.25	6.85
Total	15.54	24.46

(₹ in lakh)					
Asset-3	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	250.63	68.46	68.46	68.46	68.46
Interest on Loan	32.85	0.00	0.00	0.00	0.00
Return on Equity	220.73	265.89	265.89	265.89	265.89
Interest on Working Capital	15.53	12.58	12.74	12.91	13.08
O & M Expenses	71.02	88.45	91.36	94.38	97.53
Total	590.76	435.39	438.45	441.65	444.97

(₹ in lakh)					
Asset-4	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	315.28	379.79	379.79	379.79	379.79
Interest on Loan	288.05	324.71	299.24	274.38	255.79
Return on Equity	277.66	334.48	334.48	334.48	334.48
Interest on Working Capital	2.23	26.12	25.61	25.11	24.76
O & M Expenses	32.08	39.96	41.27	42.63	44.06
Total	915.31	1105.06	1080.39	1056.40	1038.88



(₹ in lakh)

Asset-5	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	315.28	379.79	379.79	379.79	379.79
Interest on Loan	288.05	324.71	299.24	274.38	255.79
Return on Equity	277.66	334.48	334.48	334.48	334.48
Interest on Working Capital	2.23	26.12	25.61	25.11	24.76
O & M Expenses	32.08	39.96	41.27	42.63	44.06
Total	915.31	1105.06	1080.39	1056.40	1038.88

(₹ in lakh)

Asset-20	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	3.71	4.51	4.51	4.51	4.51
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	14.91	17.96	17.96	17.96	17.96
Interest on Working Capital	0.77	2.08	2.13	2.18	2.24
O & M Expenses	22.67	28.23	29.16	30.12	31.13
Total	42.06	52.78	53.76	54.78	55.84

(₹ in lakh)

Asset-21	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1.74	2.11	2.11	2.11	2.11
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	6.98	8.41	8.41	8.41	8.41
Interest on Working Capital	0.36	0.97	1.00	1.02	1.05
O & M Expenses	10.61	13.22	13.65	14.10	14.57
Total	19.69	24.71	25.17	25.64	26.14

(₹ in lakh)

Asset-29	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	0.44	0.55	0.55	0.55	0.55
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	1.78	2.15	2.15	2.15	2.15
Interest on Working Capital	0.20	0.25	0.26	0.26	0.27
O & M Expenses	2.73	3.41	3.52	3.63	3.76
Total	5.17	6.36	6.47	6.60	6.72

(₹ in lakh)

Asset-37	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	0.40	0.48	0.48	0.48	0.48
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	1.60	1.93	1.93	1.93	1.93
Interest on Working Capital	0.20	0.24	0.25	0.26	0.26
O & M Expenses	2.73	3.41	3.52	3.63	3.76
Total	4.93	6.06	6.18	6.31	6.43



C. Revision of tariff of new ISTS lines

Date of Commercial Operation (COD)

31. The Commission in its order dated 1.1.2024 in Petition No. 325/TT/2022, had considered the COD of the Assets-38 and 39 (i.e., 400 kV D/C Uravakonda-Veltoor line-I and II) and Assets-40 and 41 (i.e., 400 kV K.V. Kota-Suryapet-I and II) feeders as 18.11.2016 and 25.1.2017 respectively for the purpose of tariff determination and the same COD has been considered in this Petition for the purpose of revision of the tariff. These 4 transmission assets are new, and they would be completing their useful life of 35 years beyond the 2014-19 tariff period. Therefore, these transmission assets will receive all the components of the tariff.

Capital Cost for the 2014-19 Tariff Period

32. The Commission, in its order dated 1.1.2024 in Petition No. 325/TT/2022, allowed the following capital cost in respect of Assets-38 and 39 and Assets-40 and 41 for the 2014-19 tariff period:

(₹ in lakh)

Assets	Capital cost allowed as on COD	ACE allowed in 2014-19 period	Total cost allowed up to 31.3.2019
Asset-38 and 39	14769.07	0.00	14769.07
Assets-40 and 41	20164.46	0.00	20164.46

33. The Commission vide its order dated 1.1.2024, in Petition No 325/TT/2022 directed the Petitioner to submit the revised Investment Approval post bifurcation of the State of Andhra Pradesh in respect of the Assets-38 to 41 and also directed to submit Form 5 and Form-12 at the time of truing up of tariff of the 2014-19 period.

The relevant extracts of the said order are as follows:

“57. We have considered the submissions of the Petitioner. The Petitioner has placed the copy of administrative approval dated 25.3.2013 in respect of Asset-38 & 39. The said administrative approval dated 25.3.2013 was further approved by APERC on 28.10.2013 and Investment Approval (IA) for Phase-I at an expenditure of ₹203700 lakh was accorded wherein the estimated cost of 400 kV D/C Quad Moose line from 400 kV Uravakonda Sub-station to 400 kV Veltoor Sub-station is about ₹45600 lakh.



58. On perusal of the said investment Approval (IA), it is observed that the IA was granted for erection of 400 kV Quad Moose D/C line from 400/220 kV Uravakonda Substation to 400 kV Mahaboobnagar (Veltoor) Sub-station having length of 190 km at an estimated cost of ₹45600 lakh. However, the Petitioner has claimed the line length in respect of Asset-38 & 39 as 73.60 km for the Petitioner's portion. The Petitioner has submitted the IA which shows the FR cost of entire transmission line of 190 km from 400 kV Uravakonda Sub-station to 400 kV Mahaboobnagar (Veltoor) Sub-station. However, the apportioned FR cost in respect of Telangana State portion of ISTS line (400 kV Uravakonda-Veltorr-I&II Transmission Line having length of 73.60 km) executed by the Petitioner post bifurcation of the State of Andhra Pradesh is neither made available nor execution schedule for the same is made available. Further, Petitioner in Form-12 has not furnished the details of time over-run. The Petitioner has also not provided Form-5.

59. The Petitioner has placed on record a copy of IA dated 17.1.2014 in respect of Asset-40 & 41 and the same was further approved by APERC on 12.3.2014. Thus, these two assets were envisaged as a part of intra-State Transmission System under the undivided State of Andhra Pradesh. It is observed that post bifurcation of the State of Andhra Pradesh, Asset-40 & 41 stand natural ISTS lines connecting the States of Andhra Pradesh and Telangana. TSTRANSCO is now claiming tariff in respect of Telangana portion of these natural ISTS lines.

60. On perusal of the IA, it is further observed that the IA was granted for erection of 400 kV Quad Moose D/C line from 400/220 kV Kamavarapukota Sub-station-Suryapeta 400/220/132 kV Sub-station having length of 212 km at an estimated cost of ₹56702.33 lakh. However, the Petitioner has claimed the line length in respect of Asset-40 & 41 as 86.40 km for TSTRANSCO portion. The Petitioner has submitted the IA which shows the FR cost of the entire transmission line of 212 km from Kamavarapukota Sub-station to Suryapeta 400/220/132 kV Sub-station. However, the apportioned FR cost in respect of Telangana State portion of ISTS line (400 kV K.V. Kota-Suryapeta-I and II Order in Petition No. 325/TT/2022 Page 48 of 105 Transmission Line having length of 86.40 km) executed by TSTRANSCO post bifurcation of the State of Andhra Pradesh is not made available nor execution schedule for the same is furnished. The Petitioner in Form-12 has not furnished the details of time over-run. The Petitioner has also not provided Form-5.

61. The Petitioner is directed to submit the revised investment approval post bifurcation of the State of Andhra Pradesh for the assets 38 to 41 and also submit Form5 and Form-12 at the time of truing up of 2014-19 tariff period.”

34. The Petitioner, in its affidavit dated 23.2.2024, has submitted that the revised Investment Approval post bifurcation of the State of Andhra Pradesh with respect to the Assets-38 to 41 has been furnished. However, on perusal of the said affidavit, we do not find the revised Investment Approval post bi-furcation of the State of Andhra Pradesh with respect to the Assets-38 to 41. In the absence of revised Investment Approval, post bifurcation of the State of Andhra Pradesh with regard to the Assets-38-41, we have no other option but to consider the capital cost approved



as on COD vide order dated 1.1.2024 in Petition No. 325/TT/2022, for the purpose of revision of tariff. The capital cost allowed by the Commission in respect of the Assets 38-41 vide its order dated 1.1.2024 in Petition No. 325/TT/2022 is as follows:

(₹ in lakh)	
Assets	Capital cost allowed as on COD
Assets-38 and 39	14769.07
Assets-40 and 41	20164.46

35. The Commission vide its order dated 1.1.2024 in Petition No. 325/TT/2022 had observed that the Petitioner did not submit the details of the Additional Capital Expenditure (ACE) and directed it to submit the same at the time of truing up. The Petitioner vide affidavit dated 23.2.2024 has claimed ACE of ₹392.48 lakh for the financial year 2017-18 and ₹12.59 lakh for the financial year 2018-19 in respect of Assets-38 and 39 respectively.

36. We have considered the submissions of the Petitioner. The Petitioner has not submitted any justification for the ACE claimed and also has not specified under which regulation the proposed ACE has been claimed. Therefore, in the absence of any justification/documents, we are not inclined to allow the ACE claimed by the Petitioner for the financial years 2017-18 and 2018-19.

37. In view of the above, we have considered the same capital cost as has been approved by the Commission vide order dated 1.1.2024 in Petition No. 325/TT/2022 for the revision of tariff during the 2014-19 tariff period.

Debt-Equity Ratio

38. The debt-equity ratio of 70:30 has been considered in respect of the following transmission assets as on COD and 31.3.2019 in accordance with Regulation 19 of the 2014 Tariff Regulations:



Asset-38 and Asset-39

Particulars	As on COD		As on 31.3.2019	
	Amount (₹ in lakh)	(In %)	Amount (₹ in lakh)	(In %)
Debt	10338.35	70.00	10338.35	70.00
Equity	4430.72	30.00	4430.72	30.00
Total	14769.07	100.00	14769.07	100.00

Asset-40 and Asset-41

Particulars	As on COD		As on 31.03.2019	
	Amount (₹ in lakh)	(In %)	Amount (₹ in lakh)	(In %)
Debt	14115.12	70.00	14115.12	70.00
Equity	6049.34	30.00	6049.34	30.00
Total	20164.46	100.00	20164.46	100.00

Depreciation

39. Depreciation has been worked out as per Regulation 27 of the 2014 of the Tariff Regulations. The transmission assets, namely, Assets-38 and 39 were declared under commercial operation on 18.11.2016 and Assets-40 and 41 were declared under commercial operation on 25.1.2017. These transmission assets will complete 12 years beyond the financial year 2018-19 and thus their depreciation has been calculated annually based on Straight Line Method at rates specified in the regulation.

40. Accordingly, depreciation in respect of the Assets-38 to 41 has been worked out on the basis of capital expenditure as on COD and additional capitalization incurred/ projected to be incurred. The depreciation for the first year has been calculated on the pro rata basis for the year/part of year.

Sr. No.	Particulars	Asset-38 and Asset-39		
		2016-17 (Pro-rata for 134 days)	2017-18	2018-19
A	Opening Gross Block	14769.07	14769.07	14769.07
B	Addition during the year 2014-19 due to projected ACE	0.00	0.00	0.00
C	Closing Gross Block (A+B)	14769.07	14769.07	14769.07
D	Average Gross Block (A+C)/2	14769.07	14769.07	14769.07



Sr. No.	Particulars	Asset-38 and Asset-39		
		2016-17 (Pro-rata for 134 days)	2017-18	2018-19
E	Weighted average rate of Depreciation (WAROD) (in %)	5.280	5.280	5.280
F	Balance useful life (at the beginning of the year)	35	35	34
G	Lapsed Life (at the beginning of the year)	0	0	1
H	Aggregated Depreciable Value	13292.17	13292.17	13292.17
I	Combined Depreciation during the year	286.29	779.81	779.81
J	Cumulative Depreciation (at the end of the year)	286.29	1066.09	1845.90
K	Remaining Depreciable Value (H-J)	13005.88	12226.07	11446.27

(₹ in lakh)

Sr. No.	Particulars	Assets-40 and 41		
		2016-17 (Pro-rata for 66 days)	2017-18	2018-19
A	Opening Gross Block	20164.46	20164.46	20164.46
B	Addition during the year 2014-19 due to projected ACE	0.00	0.00	0.00
C	Closing Gross Block (A+B)	20164.46	20164.46	20164.46
D	Average Gross Block (A+C)/2	20164.46	20164.46	20164.46
E	Weighted average rate of Depreciation (WAROD) (in %)	5.280	5.280	5.280
F	Balance useful life (at the beginning of the year)	35	35	34
G	Lapsed Life (at the beginning of the year)	0	0	1
H	Aggregated Depreciable Value	18148.02	18148.02	18148.02
I	Combined Depreciation during the year	192.52	1064.68	1064.68
J	Cumulative Depreciation (at the end of the year)	192.52	1257.20	2321.89
K	Remaining Depreciable Value (H-J)	17955.50	16890.81	15826.13

Interest on Loan

41. The Petitioner has submitted that the loan for the scheme was funded solely by Rural Electrification Corporation Limited (REC) at a fixed rate of interest of 10.50% per year. Further, it was observed that the amount of the loan as per Form-9C did not match with the amount of the loan apportioned as per Form-6.

42. The Commission, in its order dated 1.1.2024 in Petition No. 325/TT/2022, directed the Petitioner to submit the supporting documents for the loan amount



drawn, including the dates of drawl of loan, dates of repayment of loan, and rate of interest of loan at the time of truing-up. The same information was also sought through the Record of Proceedings for the hearing dated 6.2.2024. However, the Petitioner has failed to submit the revised tariff forms and supporting documents in this regard. Therefore, IoL in respect of Assets 38-41 has been allowed under Regulation 26 of the 2014 Tariff Regulations, and the same is as follows:

(₹ in lakh)

Sr. No.	Particulars	Asset-38 and Asset-39		
		2016-17 (Pro-rata for 134 days)	2017-18	2018-19
A	Gross Normative Loan	10338.35	10338.35	10338.35
B	Cumulative Repayments upto Previous Year	0.00	286.29	1066.09
C	Net Loan-Opening (A-B)	10338.35	10052.07	9272.26
D	Additions	0.00	0.00	0.00
E	Repayment during the year	286.29	779.81	779.81
F	Net Loan-Closing (C+D-E)	10052.07	9272.26	8492.45
G	Average Loan (C+F)/2	10195.21	9662.16	8882.36
H	Weighted Average Rate of Interest on Loan (in %)	10.50	10.50	10.50
I	Interest on Loan (G*H)	393.00	1014.53	932.65

(₹ in lakh)

Sr. No.	Particulars	Asset-40 and Asset-41		
		2016-17 (Pro-rata for 66 days)	2017-18	2018-19
A	Gross Normative Loan	14115.12	14115.12	14115.12
B	Cumulative Repayments upto Previous Year	0.00	192.52	1257.20
C	Net Loan-Opening (A-B)	14115.12	13922.60	12857.92
D	Additions	0.00	0.00	0.00
E	Repayment during the year	192.52	1064.68	1064.68
F	Net Loan-Closing (C+D-E)	13922.60	12857.92	11793.24
G	Average Loan (C+F)/2	14018.86	13390.26	12325.58
H	Weighted Average Rate of Interest on Loan (in %)	10.50	10.50	10.50
I	Interest on Loan (G*H)	266.17	1405.98	1294.19



Return on Equity

43. The Commission vide order dated 1.1.2024 in Petition No. 325/TT/2022, considered the effective tax rate during the 2014-19 tariff period as zero for the purpose of grossing up the rate of the RoE as the Petitioner did not submit any supporting documents for the same. The Commission, in the said order dated 1.1.2024, directed the Petitioner to submit the following information at the time of trueing up:

“80.

“To arrive at the Effective Tax Percentage for true up tariff for 2014-19 period, the Petitioner may be directed to submit the details (Section wise of Income Tax Act) of 'Total Tax & Interest paid', 'Assessed MAT Income' and 'Refund of Tax and interest recovered thereon or additional payment of tax and penalty for short deposited tax' duly certified by the Auditor in accordance with applicable Auditing Standard and Implementation Guideline and to submit the information separately for 'Tariff Income' and 'Non-Tariff Income' duly reconciled with Books of Accounts.”

44. The Petitioner has failed to submit the information as sought by the Commission vide its order dated 1.1.2024. Accordingly, RoE in respect of the Assets 38-41 has been computed as per Regulation 24 of the 2014 Tariff Regulations and the same is as follows:

Sr. No.	Particulars	Asset-38 and Asset-39		
		2016-17 (Pro-rata for 134 days)	2017-18	2018-19
A	Opening Equity	4430.72	4430.72	4430.72
B	Additions	0.00	0.00	0.00
C	Closing Equity	4430.72	4430.72	4430.72
D	Average Equity	4430.72	4430.72	4430.72
E	Return on Equity (Base Rate) (in %)	15.50	15.50	15.50
F	MAT Rate for respective year (in %)	0.000	0.000	0.000
G	Rate of Return on Equity (in %)	15.500	15.500	15.500
A	Return on Equity	252.13	686.76	686.76



(₹ in lakh)

Sr. No.	Particulars	Asset-40 and Asset-41		
		2016-17 (Pro-rata for 66 days)	2017-18	2018-19
A	Opening Equity	6049.34	6049.34	6049.34
B	Additions	0.00	0.00	0.00
C	Closing Equity	6049.34	6049.34	6049.34
D	Average Equity	6049.34	6049.34	6049.34
E	Return on Equity (Base Rate) (in %)	15.50	15.50	15.50
F	MAT Rate for respective year (in %)	0.000	0.000	0.000
G	Rate of Return on Equity (in %)	15.500	15.500	15.500
A	Return on Equity	169.55	937.65	937.65

Operation & Maintenance Expenses

45. The details of the transmission lines and line length in km are as follows:

Assets	Name of the line	COD considered	Length of line in km
Asset- 38	400 kV Uravakonda-Veltoor-I	18.11.2016	73.60
Asset- 39	400 kV Uravakonda-Veltoor-II		
Asset-40	400 kV Suryapeta-KV Kota line-I	25.1.2017	86.40
Asset-41	400 kV Suryapeta-KV Kota line-II		

46. Regulation 29 (4) of the 2014 Tariff Regulations specifies the norms for O&M Expenses for the transmission system. Norms specified in respect of the transmission assets are as follows:

Element	Norms for the FY 2016-17	Norms for the FY 2017-18	Norms for the FY 2018-19
Transmission Line: Double Circuit (Bundled conductor with four or more sub-conductors) (₹ in lakh per km)	1.133	1.171	1.210

47. We have considered the submissions of the Petitioner. The Petitioner has not claimed the capital cost of the 2 Nos. 400 kV bays at Veltoor and Suryapet Sub-stations and has claimed the O&M Expenses towards the two 400 kV bays at Veltoor and Suryapet Sub-stations. We are of the view that the O&M Expenses of the transmission assets can be allowed only if the transmission assets is approved by



the Commission under ISTS. In the instant case, the tariff is allowed for the transmission line only. Accordingly, the O&M Expenses are allowed for the transmission line only.

48. The details of the O&M Expenses allowed in respect of the transmission assets as per the provisions of Regulation 29(3)(a) of the 2014 Tariff Regulations are as follows:

	(₹ in lakh)		
O&M Expenses	2016-17	2017-18	2018-19
400 kV Uravakonda-Veltoor DC (ACSR Quad Moose) line Length in km: 73.60	30.39	86.18	89.05
400 kV Suryapeta-kV Kota line-I&II Length in km: 86.40	97.89	101.17	104.54

Interest on Working Capital

49. Interest on Working Capital has been worked out as per Regulation 28 of the 2014 Tariff Regulations, which provides as follows:

- (i) **Maintenance Spares:**
Maintenance spares have been worked out based on 15% of Operation and Maintenance Expenses.
- (ii) **O & M Expenses:**
O&M Expenses have been considered for one month.
- (iii) **Receivables:**
The receivables have been worked out on the basis 2 months of annual transmission charges as worked out above.
- (iv) **Rate of Interest on Working Capital:**

50. Regulation 28(3) of the 2014 Tariff Regulations provides as follows:

“28(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 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.”



51. Accordingly, SBI Base Rate Plus 350 bps as on 1.4.2016 (i.e.12.80%) has been considered as the rate of interest on working capital for the Assets 38-41. The interest on working capital has been worked out as follows:

(₹ in lakh)

Sr. No.	Particulars	Asset-38 and Asset-39		
		2016-17 (Pro-rata for 134 days)	2017-18	2018-19
A	Working Capital for O&M Expenses (one month of O&M Expenses)	6.90	7.18	7.42
B	Working Capital for Maintenance Spares (Maintenance Spares @15% of O&M Expenses)	12.42	12.93	13.36
C	Working Capital for Receivables (Receivable equivalent to two months of fixed cost)	446.58	437.64	424.20
D	Total Working Capital (A+B+C)	465.89	457.75	444.98
E	Rate of Interest (in %)	12.80	12.80	12.80
F	Interest on working capital (D*E)	21.89	58.59	56.96

(₹ in lakh)

Sr. No.	Particulars	Asset-40 and Asset-41		
		2016-17 (Pro-rata for 66 days)	2017-18	2018-19
A	Working Capital for O&M Expenses (one month of O&M Expenses)	45.11	8.43	8.71
B	Working Capital for Maintenance Spares (Maintenance Spares @15% of O&M Expenses)	81.20	15.18	15.68
C	Working Capital for Receivables (Receivable equivalent to two months of fixed cost)	686.62	598.18	579.73
D	Total Working Capital (A+B+C)	812.94	621.78	604.12
E	Rate of Interest (in %)	12.80	12.80	12.80
F	Interest on working capital (D*E)	18.82	79.59	77.33

Revised Transmission Tariff for the 2014-19 Period

52. Transmission charges allowed for Assets-38 and 39 and Assets-40 and 41 for the financial years 2016-17, 2017-18, and 2018-19 are summarized as follows:



(₹ in lakh)

Annual Transmission Charges	Asset-38 and Asset-39		
	2016-17 (Pro rata for 134 days)	2017-18	2018-19
Depreciation	286.29	779.81	779.81
Interest on Loan	393.00	1014.53	932.65
Return on Equity	252.13	686.76	686.76
O&M Expenses	30.39	86.18	89.05
Interest on Working Capital	21.89	58.59	56.96
Total	983.70	2625.87	2545.22

(₹ in lakh)

Annual Transmission Charges	(Asset-40 and Asset-41)		
	2016-17 (Pro rata for 66 days)	2017-18	2018-19
Depreciation	192.52	1064.68	1064.68
Interest on Loan	266.17	1405.98	1294.19
Return on Equity	169.55	937.65	937.65
O&M Expenses	97.89	101.17	104.54
Interest on Working Capital	18.82	79.59	77.33
Total	744.94	3589.07	3478.38

DETERMINATION OF TRANSMISSION TARIFF FOR THE 2019-24 PERIOD

53. Determination of the transmission tariff for the 2019-24 period of the transmission assets has been done as per the new methodology discussed above in this order.

Determination of tariff for the 29 existing ISTS lines

54. As per the new methodology, the capital cost as on 1.4.2019 has been considered after considering the approved length and configurations of the line, year of COD allowed, and the rationalized cost of the year.

Sl. No.	Asset	Name of Transmission Lines	Type of conductor	Length approved in ckt. km for the purpose of tariff calculation	Date of Commercial operation	Capital Cost considered as on COD (₹ in lakh)
1	Asset-1	400 kV Srisaillam-Kurnool (SC)	S/C ACSR Twin Moose	1.50	6.3.2001	81.85
2	Asset-6 and Asset-7	400 kV Srisaillam-Sattenapalli Ckt-I		0.40	12.2.2014	52.64



Sl. No.	Asset	Name of Transmission Lines	Type of conductor	Length approved in ckt. km for the purpose of tariff calculation	Date of Commercial operation	Capital Cost considered as on COD (₹ in lakh)
3		400 kV Srisailam-Sattenapalli Ckt-II	D/C ACSR Twin Moose			
4	Asset-8	220 kV Lower Sileru-KTPS-I	S/C ACSR Deer	81.00	31.3.1967	0.00
5	Asset-9	220 kV Lower Sileru-KTPS-II	S/C ACSR Deer	25.00	31.3.1979	0.00
6	Asset-10 and Asset-11	220 kV Srisailam-Dindi-I	D/C ACSR Zebra	80.00	12.9.1982	0.00
7		220 kV Srisailam-Dindi-II				
8	Asset-12	220 kV Tallapali-Nagarjuna sagar-III	S/C ACSR Zebra	4.00	27.1.1985	30.04
9	Asset-13 and Asset-14	220 kV Tallapali-Nagarjuna sagar-I	D/C ACSR Twin Moose	2.10	5.8.1985	26.26
10		220 kV Tallapali-Nagarjuna sagar-II				
11	Asset-15	220 kV Nagarjuna sagar Receiving station-Srisailam SC line	S/C ACSR Deer	4.00	7.2.1989	36.75
12	Asset-16	220 kV Nunna-KTPS	S/C ACSR Deer	64.45	21.1.1992	688.77
13	Asset-18	220 kV Tallapalli-Chalukurthy	S/C ACSR Zebra	27.40	21.7.2007	463.97
14	Asset-19	220 kV Brahmakotkur-Wanaparthy (LIS)	S/C ACSR Moose	78.79	29.10.2009	1373.86
15	Asset-22	132 kV Chillakallu-Ramapuram	D/C ACSR Panther	3.335	21.10.1982	0.00
16	Asset-23 and Asset-24	132 kV Kota-Aswaraopet-I	D/C ACSR Panther	5.50	9.6.1982	0.00
17		132 kV Kota-Aswaraopet-II				
18	Asset-25	132 kV Nagarjunasagar-RCPH	S/C ACSR Beer	7.70	25.2.1983	0.00
19	Asset-26	132 kV Chillakallu-Kusumanchi	D/C ACSR Panther	23.50	24.12.1985	221.68
20	Asset-27 and Asset-28	132 kV Chillakallu-Bonakallu-I	D/C ACSR Panther	2.80	20.1.1987	27.78
21		132 kV Chillakallu-Bonakallu-II				
22	Asset-30	132 kV Chillakallu-Madhira	S/C ACSR Panther	7.00	27.10.2001	96.09



Sl. No.	Asset	Name of Transmission Lines	Type of conductor	Length approved in ckt. km for the purpose of tariff calculation	Date of Commercial operation	Capital Cost considered as on COD (₹ in lakh)
23	Asset-31	132 kV Chillakallu-Khammam	D/C ACSR Panther	17.50	2.12.2001	333.22
24	Asset-32	132 kV Chillakallu-Sitapuram	D/C ACSR Panther	2.50	6.4.2004	29.24
25	Asset-33	132 kV Chillakallu-Kodada	S/C ACSR Panther	9.84	10.6.2004	82.98
26	Asset-34	132 kV Sitapuram-KCP	S/C ACSR Panther	0.37	10.5.2010	5.99
27	Asset-35	132 kV Tangeda-Wadapalli	S/C ACSR Panther	2.36	26.8.2010	38.23
28	Asset-36	132 kV Piduguralla-Wadapalli	S/C ACSR Panther	2.36	22.2.2014	69.26
29	Asset-17	220 kV Tandur-Sedam line	S/C ACSR Panther	9.46	28.2.2001	185.83

55. The transmission assets, namely, Assets-8, 9, 10 and 11, Assets-22, 23, 24 and 25 have already completed thirty-five (35) years of their useful life as on 1.4.2019. Therefore, as per the new methodology of the Commission, 'nil' capital cost has been considered for these transmission assets. Only IWC and O&M Expense's components of the tariff have been allowed for these transmission assets.

56. The transmission assets, namely, Asset-1, Assets-12, 13, 14, 15, 16 and 17, Assets-26, 27 and 28, Assets-30, 31, 32 and 33 have already completed 12 years of their useful life as on 1.4.2019. Therefore, IOL for these transmission assets has not been allowed during the 2019-24 tariff period. The transmission assets, namely, Assets-18 and 19, Assets-34 and 35 have completed their useful life of 12 years during the 2019-24 tariff period. Therefore, IOL for these transmission assets has not been allowed after 12 years. The transmission assets, viz, Assets-12, 13 and 14, Assets- 26, 27 and 28 have completed their useful life of 35 years during the 2019-24 tariff period. Therefore, all the components of the tariff are allowed for these



transmission assets except for IOL till the date they complete their useful life of 35 years. After the completion of 35 years useful life of these transmission assets, only IWC and O&M Expenses have been allowed.

57. Respondent, KPTCL has submitted that the transmission line, namely, 220 kV Tandur-Sedam S/C, inter-State transmission line at Annexure-B to the Petition in respect of the Asset-17 shows its COD as 28.2.2001. However, the record of KPTCL reveals that the 220 kV Shahad-Hyderabad SC line was executed in the year 1984. After the execution of the 220 kV Sedam Receiving Station, the said line is LILOOed at Sedam in 1997 and as such no part of the line was executed during the year 2001. KPTCL has further submitted that as per the Petitioner, the line length in the YTC Forms is 33.6 km. However, as per the Asset Register of KPTCL, the line lengths extending into Karnataka and Telangana are 10.3 km and 34.4 km respectively. KPTCL has further submitted that the original book value of the line and tower is ₹2,23,83,396/- which differs from the value mentioned in the Petition. According to KPTCL, applying normative values as per PGCIL rates when the cost is not available in the most cases, is a wrong approach especially when the book value is available. KPTCL has submitted that the Petitioner should justify the commercial operation date.

58. In response, the Petitioner has denied the submissions of KPTCL. The Petitioner has submitted that the 220 kV line from Tandur-Sedam was originally constructed from Shapur Nagar (Hyderabad) to Shahbad (Karnataka). Afterwards, this transmission line besides making LILOO at Sedam, has been LILOOed at 220 kV Sub Station at Tandur on Telangana side. Now, the 220 kV line between Tandur (Telangana) and Sedam (Karnataka) is the inter-State line. The LILOO portion of the line is DC/DC from Loc. 280/1 to 280/24 with a length of 7.18 km was executed on



28.2.2001. The rest of the inter-State line is a part of the old line which is DC/SC from Loc. 280 to 286 with a length of 2.28 km and SC line from Loc. 286 to 160 with a length of 24.14 km (DOC 13.10.1985). The Petitioner has submitted that the length of the line owned by TSTRANSCO is 33.60 km and the total line length is 43.70 km and the same was ensured with Taurus fault locator kit on 2.1.2020 in the presence of KPTCL authorities. The Petitioner has further submitted that since the original book value of this asset is not available, normative values are adopted to arrive at the asset value as per the 2019 Tariff Regulations.

59. We have considered the submissions of KPTCL and Petitioner and have also perused the record. SRPC vide its letter dated 11.9.2019 has certified the natural ISTS transmission lines owned by TSTRANSCO, wherein the length of the line and COD considered for the Asset-17 is as follows:

<i>Name of the line</i>	<i>Telangana Sub-station</i>	<i>D.O.C</i>	<i>Total line length (in CKT KM)</i>	<i>Line length of Telangana portion</i>	<i>Connecting States</i>
<i>220 kV Tandur Sedam S/C line</i>	<i>Tandur</i>	<i>28.02.2001</i>	<i>44.50</i>	<i>9.46</i>	<i>Telangana & Karnataka</i>

60. Taking into consideration the SRPC certificate dated 1.9.2009, the COD of the 220 kV Tandur Sedam S/C line is considered as 28.2.2001 and length of Telangana Portion is considered as 9.46 km.

Operation & Maintenance Expenses (O&M Expenses)

61. Regulation 35(3) of the 2019 Tariff Regulations provides the following O&M norms for the transmission systems:

“39. Operation and Maintenance Expenses:

(3). Transmission System



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

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	0.26	0.27	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

62. The O&M Expenses allowed in respect of the above-mentioned 29 transmission assets as per Regulation 35(3) of the 2019 Tariff Regulations are as follows:

Asset renamed in the instant Petition	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Asset-1	0.75	0.78	0.81	0.84	0.87
Asset-6 and Asset-7	0.35	0.36	0.38	0.39	0.40
Asset-8	40.74	42.20	43.66	45.20	46.82
Asset-9	12.58	13.03	13.48	13.95	14.45
Asset- 10 and Asset-11	70.48	72.96	75.52	78.16	80.88
Asset-12	2.01	2.08	2.16	2.23	2.31
Asset-13 and Asset-14	1.85	1.92	1.98	2.05	2.12



Asset-15	2.01	2.08	2.16	2.23	2.31
Asset-16	32.42	33.58	34.74	35.96	37.25
Asset-18	13.78	14.28	14.77	15.29	15.84
Assets-19	39.63	41.05	42.47	43.96	45.54
Assets-22	2.94	3.04	3.15	3.26	3.37
Assets-23 and Asset-24	4.85	5.02	5.19	5.37	5.56
Asset-25	3.87	4.01	4.15	4.30	4.45
Assets-26	20.70	21.43	22.18	22.96	23.76
Asset-27 and Asset-28	2.47	2.55	2.64	2.74	2.83
Asset-30	3.52	3.65	3.77	3.91	4.05
Asset-31	15.42	15.96	16.52	17.10	17.69
Asset-32	2.20	2.28	2.36	2.44	2.53
Asset-33	4.95	5.13	5.30	5.49	5.69
Asset-34	0.19	0.19	0.20	0.21	0.21
Asset-35	1.19	1.23	1.27	1.32	1.36
Asset-36	1.19	1.23	1.27	1.32	1.36
Asset-17	4.76	4.93	5.10	5.28	5.47

63. Based on the new methodology which has already been discussed in detail above, the transmission charges worked out for the existing 29 transmission assets for the financial years 2019-20, 2020-21, 2021-22, 2022-23, and 2023-24 are as follows:

(₹ in lakh)

Asset-1	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	0.96	0.96	0.96	0.96	0.96
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	3.81	3.81	3.81	3.81	3.81
Interest on Working Capital	0.10	0.10	0.09	0.09	0.11
O & M Expenses	0.75	0.78	0.81	0.84	0.87
Total	5.62	5.64	5.66	5.70	5.74

(₹ in lakh)

Asset-6 and Asset-7	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	2.78	2.78	2.78	2.78	2.78
Interest on Loan	1.68	1.40	1.17	1.02	0.81
Return on Equity	2.45	2.45	2.45	2.45	2.45
Interest on Working Capital	0.12	0.11	0.10	0.10	0.11
O & M Expenses	0.35	0.36	0.38	0.39	0.40
Total	7.38	7.10	6.88	6.73	6.55



(₹ in lakh)

Asset-8	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	1.78	1.72	1.66	1.71	2.03
O & M Expenses	40.74	42.20	43.66	45.20	46.82
Total	42.52	43.92	45.32	46.91	48.85

(₹ in lakh)

Asset-9	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	0.55	0.53	0.51	0.53	0.63
O & M Expenses	12.58	13.03	13.48	13.95	14.45
Total	13.13	13.56	13.99	14.48	15.08

(₹ in lakh)

Asset-10 and Asset-11	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	3.07	2.97	2.86	2.97	3.51
O & M Expenses	70.48	72.96	75.52	78.16	80.88
Total	73.55	75.93	78.38	81.13	84.39

(₹ in lakh)

Asset-12	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	0.36	0.00	0.00	0.00	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	1.40	0.00	0.00	0.00	0.00
Interest on Working Capital	0.11	0.08	0.08	0.08	0.10
O & M Expenses	2.01	2.08	2.16	2.23	2.31
Total	3.88	2.16	2.24	2.31	2.41

(₹ in lakh)

Asset-13 and Asset-14	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	0.31	0.31	0.00	0.00	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	1.22	1.22	0.00	0.00	0.00
Interest on Working Capital	0.10	0.10	0.08	0.08	0.09
O & M Expenses	1.85	1.92	1.98	2.05	2.12
Total	3.49	3.55	2.06	2.13	2.21



(₹ in lakh)

Asset-15	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	0.43	0.43	0.43	0.43	0.43
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	1.71	1.71	1.71	1.71	1.71
Interest on Working Capital	0.12	0.11	0.11	0.11	0.13
O & M Expenses	2.01	2.08	2.16	2.23	2.31
Total	4.27	4.34	4.41	4.49	4.59

(₹ in lakh)

Asset-16	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	8.09	8.09	8.09	8.09	8.09
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	32.03	32.03	32.03	32.03	32.03
Interest on Working Capital	2.02	1.93	1.84	1.89	2.22
O & M Expenses	32.42	33.58	34.74	35.96	37.25
Total	74.55	75.63	76.70	77.97	79.59

(₹ in lakh)

Asset-18	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	24.50	5.56	5.56	5.56	5.56
Interest on Loan	3.60	0.00	0.00	0.00	0.00
Return on Equity	21.57	21.57	21.57	21.57	21.57
Interest on Working Capital	1.35	0.96	0.92	0.94	1.09
O & M Expenses	13.78	14.28	14.77	15.29	15.84
Total	64.80	42.37	42.82	43.36	44.06

(₹ in lakh)

Asset-19	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	72.54	72.54	72.54	16.45	16.45
Interest on Loan	21.72	15.44	9.95	0.00	0.00
Return on Equity	63.88	63.88	63.88	63.88	63.88
Interest on Working Capital	4.11	3.81	3.53	2.72	3.18
O & M Expenses	39.63	41.05	42.47	43.96	45.54
Total	201.88	196.72	192.37	127.01	129.05

(₹ in lakh)

Asset-22	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	0.13	0.12	0.12	0.12	0.15
O & M Expenses	2.94	3.04	3.15	3.26	3.37
Total	3.07	3.16	3.27	3.38	3.52



(₹ in lakh)

Asset-23 and Asset-24	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	0.21	0.20	0.20	0.20	0.24
O & M Expenses	4.85	5.02	5.19	5.37	5.56
Total	5.06	5.22	5.39	5.57	5.80

(₹ in lakh)

Asset-25	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	0.17	0.16	0.16	0.16	0.19
O & M Expenses	3.87	4.01	4.15	4.30	4.45
Total	4.04	4.17	4.31	4.46	4.64

(₹ in lakh)

Asset-26	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	2.64	2.64	0.00	0.00	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	10.31	10.31	0.00	0.00	0.00
Interest on Working Capital	1.10	1.05	0.84	0.87	1.03
O & M Expenses	20.70	21.43	22.18	22.96	23.76
Total	34.75	35.43	23.02	23.83	24.79

(₹ in lakh)

Asset-27 and Asset-28	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	0.33	0.33	0.33	0.00	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	1.29	1.29	1.29	0.00	0.00
Interest on Working Capital	0.13	0.13	0.12	0.10	0.12
O & M Expenses	2.47	2.55	2.64	2.74	2.83
Total	4.22	4.30	4.38	2.84	2.95

(₹ in lakh)

Asset-30	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	1.12	1.12	1.12	1.12	1.12
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	4.47	4.47	4.47	4.47	4.47
Interest on Working Capital	0.24	0.23	0.22	0.22	0.26
O & M Expenses	3.52	3.65	3.77	3.91	4.05
Total	9.35	9.47	9.58	9.72	9.90



(₹ in lakh)

Asset-31	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	3.89	3.89	3.89	3.89	3.89
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	15.49	15.49	15.49	15.49	15.49
Interest on Working Capital	0.96	0.92	0.88	0.90	1.06
O & M Expenses	15.42	15.96	16.52	17.10	17.69
Total	35.77	36.27	36.79	37.39	38.13

(₹ in lakh)

Asset-32	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	0.35	0.35	0.35	0.35	0.35
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	1.36	1.36	1.36	1.36	1.36
Interest on Working Capital	0.12	0.12	0.11	0.11	0.14
O & M Expenses	2.20	2.28	2.36	2.44	2.53
Total	4.03	4.11	4.18	4.26	4.38

(₹ in lakh)

Asset-33	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	0.99	0.99	0.99	0.99	0.99
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	3.86	3.86	3.86	3.86	3.86
Interest on Working Capital	0.29	0.28	0.26	0.27	0.32
O & M Expenses	4.95	5.13	5.30	5.49	5.69
Total	10.09	10.26	10.42	10.61	10.86

(₹ in lakh)

Asset-34	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	0.32	0.32	0.32	0.32	0.07
Interest on Loan	0.12	0.09	0.07	0.05	0.00
Return on Equity	0.28	0.28	0.28	0.28	0.28
Interest on Working Capital	0.02	0.02	0.02	0.02	0.01
O & M Expenses	0.19	0.19	0.20	0.21	0.21
Total	0.92	0.89	0.88	0.87	0.57

(₹ in lakh)

Asset-35	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	2.02	2.02	2.02	2.02	0.46
Interest on Loan	0.76	0.58	0.42	0.29	0.00
Return on Equity	1.78	1.78	1.78	1.78	1.78
Interest on Working Capital	0.12	0.11	0.10	0.10	0.09
O & M Expenses	1.19	1.23	1.27	1.32	1.36
Total	5.87	5.71	5.59	5.51	3.69



(₹ in lakh)

Asset-36	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	3.66	3.66	3.66	3.66	3.66
Interest on Loan	2.21	1.84	1.54	1.34	1.07
Return on Equity	3.22	3.22	3.22	3.22	3.22
Interest on Working Capital	0.19	0.17	0.16	0.16	0.18
O & M Expenses	1.19	1.23	1.27	1.32	1.36
Total	10.47	10.12	9.85	9.70	9.49

(₹ in lakh)

Asset-17	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	2.17	2.17	2.17	2.17	2.17
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	8.64	8.64	8.64	8.64	8.64
Interest on Working Capital	0.37	0.35	0.34	0.34	0.40
O & M Expenses	4.76	4.93	5.10	5.28	5.47
Total	15.94	16.09	16.25	16.43	16.68

B. Determination of tariff of 8 LILOs of the existing ISTS lines

64. Based on the new methodology, the capital cost as on 1.4.2019 with respect to these 8 existing ISTS lines has been considered after taking into account the approved length and configurations of the line, year of COD allowed, and the rationalized cost of the year. The capital cost considered for these 8 transmission assets as on 1.4.2019 is as follows:

Sl. No.	Asset	Name of Transmission Lines	Type of conductor	Length approved in ckt. km for the purpose of tariff calculation	Date of Commercial operation	Capital Cost considered as on COD (₹ in lakh)
1	Asset-2	400 kV Kapaka-Aupaka SC line	S/C Line	8.5	10.5.2002	288.98
2	Asset-3	400 kV Kalpaka-Khammam II DC line	D/C Line	121	10.5.2002	5718.16
3	Asset-4	400 kV VTPS-Suryapet-I DC line	D/C Line	54.66	2.4.2013	7193.06



4	Asset-5	400 kV VTPS-Suryapet-II DC line	D/C Line	54.66	2.4.2013	7193.06
5	Asset-20	220 kV Chillakallu-Suryapeta DC line	D/C Line	38.62	29.3.1999	386.20
6	Asset-21	220 kV Chillakallu-Pulichintala DC line	D/C Line	18.08	29. 3.1999	180.80
7	Asset-29	132 kV A.P. Carbides-Alampur-I DC line	D/C Line	4.66	20.1.1987	46.23
8	Asset-37	132 kV A.P. Carbides-Alampur-II DC line	D/C Line	4.66	13.1.2000	41.49

65. Since Assets-2 and 3, Assets-20 and 21, Asset-29 and Asset-37 have already completed 12 years of their useful life as on 1.4.2019, IOL in respect of these transmission assets has not been allowed during the 2019-24 tariff period. Asset-29 has completed its useful life of 35 years during the 2019-24 tariff period. Therefore, all the components of tariff except for 'Interest on Loan', are allowed in respect of this transmission asset till the date of completing the useful life of 35 years. Thereafter, only IWC and O&M Expenses have been allowed till 31.3.2024.

O&M Expenses for the newly created 8 Nos. LILOs of the existing ISTS lines

66. The O&M Expenses allowed in respect of the above-mentioned transmission assets as per Regulation 35(3) of the 2019 Tariff Regulations are as follows:

(₹ in lakh)

Asset	O&M Expenses				
	2019-20	2020-21	2021-22	2022-23	2023-24
Asset-2	4.28	4.43	4.58	4.74	4.91
Asset-3	60.86	63.04	65.22	67.52	69.94
Asset-4	27.49	28.48	29.46	30.50	31.59
Asset-5	27.49	28.48	29.46	30.50	31.59
Asset-20	19.43	20.12	20.82	21.55	22.32



Asset-21	9.09	9.42	9.75	10.09	10.45
Asst-29	2.34	2.43	2.51	2.60	2.69
Asset-37	2.34	2.43	2.51	2.60	2.69

67. The transmission charges for 8 newly created LILOs of the existing ISTS lines based on the new methodology for the 2019-24 tariff period are as follows:

(₹ in lakh)

Asset-2	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	3.41	3.41	3.41	3.41	3.41
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	13.44	13.44	13.44	13.44	13.44
Interest on Working Capital	0.44	0.42	0.39	0.40	0.47
O & M Expenses	4.28	4.43	4.58	4.74	4.91
Total	21.56	21.69	21.82	21.99	22.22

(₹ in lakh)

Asset-3	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	68.46	68.46	68.46	68.46	68.46
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	265.89	265.89	265.89	265.89	265.89
Interest on Working Capital	7.68	7.27	6.86	6.95	8.04
O & M Expenses	60.86	63.04	65.22	67.52	69.94
Total	402.90	404.66	406.43	408.82	412.34

(₹ in lakh)

Asset-4	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	379.79	379.79	379.79	379.79	379.79
Interest on Loan	229.55	191.34	160.18	139.30	111.03
Return on Equity	334.48	334.48	334.48	334.48	334.48
Interest on Working Capital	15.39	13.90	12.59	12.35	13.73
O & M Expenses	27.49	28.48	29.46	30.50	31.59
Total	986.71	947.99	916.50	896.42	870.62

(₹ in lakh)

Asset-5	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	379.79	379.79	379.79	379.79	379.79
Interest on Loan	229.55	191.34	160.18	139.30	111.03
Return on Equity	334.48	334.48	334.48	334.48	334.48
Interest on Working Capital	15.39	13.90	12.59	12.35	13.73
O & M Expenses	27.49	28.48	29.46	30.50	31.59
Total	986.71	947.99	916.50	896.42	870.62



(₹ in lakh)

Asset-20	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	4.51	4.51	4.51	4.51	4.51
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	17.96	17.96	17.96	17.96	17.96
Interest on Working Capital	1.18	1.13	1.08	1.11	1.31
O & M Expenses	19.43	20.12	20.82	21.55	22.32
Total	43.09	43.73	44.38	45.13	46.10

(₹ in lakh)

Asset-21	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	2.11	2.11	2.11	2.11	2.11
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	8.41	8.41	8.41	8.41	8.41
Interest on Working Capital	0.55	0.53	0.51	0.52	0.61
O & M Expenses	9.09	9.42	9.75	10.09	10.45
Total	20.16	20.47	20.78	21.13	21.58

(₹ in lakh)

Asset-29	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	0.55	0.55	0.55	0.00	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	2.15	2.15	2.15	0.00	0.00
Interest on Working Capital	0.14	0.14	0.13	0.10	0.12
O & M Expenses	2.34	2.43	2.51	2.60	2.69
Total	5.18	5.27	5.34	2.70	2.81

(₹ in lakh)

Asset-37	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	0.48	0.48	0.48	0.48	0.48
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	1.93	1.93	1.93	0.00	0.00
Interest on Working Capital	0.14	0.13	0.13	0.10	0.12
O & M Expenses	2.34	2.43	2.51	2.60	2.69
Total	4.89	4.98	5.05	3.19	3.30

C. Determination of tariff for the newly commissioned ISTS lines

Capital Cost

68. The following capital cost in respect of the Assets-38 & 39 and Assets-40 & 41 has been approved by the Commission as on 31.3.2019 and the same has been considered as opening capital cost as on 1.4.2019 for the purpose of determination



of the transmission tariff in accordance with Regulation 19 of the 2019 Tariff Regulations:

(₹ in lakh)	
Assets	Capital cost allowed as on 31.3.2019
Asset-38 & Asset-39	14769.07
Asset-40 & Asset-41	20164.46

Additional Capital Expenditure (ACE)

69. The Petitioner has not claimed any ACE in respect of the Assets-38 to 41 for the 2019-24 tariff period.

Debt- Equity Ratio

70. The debt-equity ratio of 70:30 has been considered in respect of the following transmission assets as on 1.4.2019 and 31.3.2024 in accordance with Regulation 18(3) of the 2019 Tariff Regulations:

Asset-38 & Asset-39

Particulars	As on 31.3.2019		As on 31.03.2024	
	Amount (₹ lakh)	(In %)	Amount (₹ lakh)	(In %)
Debt	10338.35	70.00	10338.35	70.00
Equity	4430.72	30.00	4430.72	30.00
Total	14769.07	100.00	14769.07	100.00

Asset-40 & Asset-41

Particulars	As on 31.3.2019		As on 31.3.2024	
	Amount (₹ lakhs)	(In %)	Amount (₹ Lakhs)	(In %)
Debt	14115.12	70.00	14115.12	70.00
Equity	6049.34	30.00	6049.34	30.00
Total	20164.46	100.00	20164.46	100.00

Depreciation

71. The depreciation has been worked out considering the admitted capital expenditure as on 1.4.2019 and accumulated depreciation up to 31.3.2019. The depreciation has been allowed as per Regulation 33 of the 2019 Tariff Regulations for in respect of the Assets-38 to 41 which is as follows:



Asset-38 & Asset-39

(₹ in lakh)						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
A	Opening Gross Block	14769.07	14769.07	14769.07	14769.07	14769.07
B	ACE	0.00	0.00	0.00	0.00	0.00
C	Closing Gross Block (A+B)	14769.07	14769.07	14769.07	14769.07	14769.07
D	Average Gross Block (A+C)/2	14769.07	14769.07	14769.07	14769.07	14769.07
E	Weighted average rate of Depreciation (WAROD) (In %)	5.28	5.28	5.28	5.28	5.28
F	Balance useful life of the asset at the beginning of the year (In year)	33	32	31	30	29
G	Elapsed life at the beginning of the year (In year)	2	3	4	5	6
H	Aggregate Depreciable Value	13292.17	13292.17	13292.17	13292.17	13292.17
I	Depreciation during the year	779.81	779.81	779.81	779.81	779.81
J	Cumulative Depreciation at the end of the year	2625.71	3405.51	4185.32	4965.13	5744.93
K	Remaining Depreciable Value at the end of the year (H-J)	10666.46	9886.65	9106.85	8327.04	7547.23

Asset-40 & Asset-41

(₹ in lakh)						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
A	Opening Gross Block	20164.46	20164.46	20164.46	20164.46	20164.46
B	ACE	0.00	0.00	0.00	0.00	0.00
C	Closing Gross Block (A+B)	20164.46	20164.46	20164.46	20164.46	20164.46
D	Average Gross Block (A+C)/2	20164.46	20164.46	20164.46	20164.46	20164.46
E	Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28	5.28	5.28
F	Balance useful life of the asset at the beginning of the year (In year)	33	32	31	30	29
G	Elapsed life at the beginning of the year (In year)	2	3	4	5	6



	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
H	Aggregate Depreciable Value	18148.02	18148.02	18148.02	18148.02	18148.02
I	Depreciation during the year	1064.68	1064.68	1064.68	1064.68	1064.68
J	Cumulative Depreciation at the end of the year	3386.57	4451.25	5515.94	6580.62	7645.30
K	Remaining Depreciable Value at the end of the year (H-J)	14761.45	13696.76	12632.08	11567.40	10502.71

Interest on Loan (IoL)

72. The Petitioner has submitted that it has considered the rate of interest for all the transmission assets as per the Weighted Average Rate of Interest on Loan as a whole for the reason that the individual line-wise break-up details of the interest rates are not available. Therefore, in the absence of individual line-wise break-up of the interest rates, the fixed rate of interest at 10.50% per year has been applied for the 2019-24 tariff period. IoL allowed in respect of the Assets-38 to 41 under Regulation 32 of the 2019 Tariff Regulations for the 2019-24 tariff period is as follows:

Asset- 38 & Asset-39

		(₹ in lakh)				
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
A	Gross Normative Loan	10338.35	10338.35	10338.35	10338.35	10338.35
B	Cumulative Repayments upto Previous Year	1845.90	2625.71	3405.51	4185.32	4965.13
C	Net Loan-Opening (A-B)	8492.45	7712.64	6932.84	6153.03	5373.22
D	Additions	0.00	0.00	0.00	0.00	0.00
E	Repayment during the year	779.81	779.81	779.81	779.81	779.81
F	Net Loan-Closing (C+D-E)	7712.64	6932.84	6153.03	5373.22	4593.42
G	Average Loan (C+F)/2	8102.55	7322.74	6542.93	5763.13	4983.32
H	Weighted Average Rate of Interest on Loan (In %)	10.50	10.50	10.50	10.50	10.50
I	Interest on Loan (G*H)	850.77	768.89	687.01	605.13	523.25



Asset-40 & Asset-41

(₹ in lakh)

	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
A	Gross Normative Loan	14115.12	14115.12	14115.12	14115.12	14115.12
B	Cumulative Repayments upto Previous Year	2321.89	3386.57	4451.25	5515.94	6580.62
C	Net Loan-Opening (A-B)	11793.24	10728.55	9663.87	8599.19	7534.50
D	Additions	0.00	0.00	0.00	0.00	0.00
E	Repayment during the year	1064.68	1064.68	1064.68	1064.68	1064.68
F	Net Loan-Closing (C+D-E)	10728.55	9663.87	8599.19	7534.50	6469.82
G	Average Loan (C+F)/2	11260.90	10196.21	9131.53	8066.85	7002.16
H	Weighted Average Rate of Interest on Loan (In %)	10.50	10.50	10.50	10.50	10.50
I	Interest on Loan (G*H)	1182.39	1070.60	958.81	847.02	735.23

Return on Equity (RoE)

73. The Petitioner has claimed the tax rate @34.944% for each year during the 2019-24 tariff period. However, the Petitioner has not submitted any supporting documents for the same. Therefore, the effective tax rate during the 2019-24 tariff period has been considered as 'zero' for the purpose of grossing up of RoE. Accordingly, as per Regulation 31(3) of the 2019 Tariff Regulations, RoE allowed for Assets-38 to 41 is as follows:

Asset-38 & Asset-39

(₹ in lakh)

	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
A	Opening Equity	4430.72	4430.72	4430.72	4430.72	4430.72
B	Additions	0.00	0.00	0.00	0.00	0.00
C	Closing Equity (A+B)	4430.72	4430.72	4430.72	4430.72	4430.72
D	Average Equity (A+C)/2	4430.72	4430.72	4430.72	4430.72	4430.72
E	Return on Equity (Base Rate) (In %)	15.50	15.50	15.50	15.50	15.50
F	MAT Rate for respective year (In %)	0.00	0.00	0.00	0.00	0.00
G	Rate of Return on Equity (In %)	15.50	15.50	15.50	15.50	15.50
H	Return on Equity (D*G)	686.76	686.76	686.76	686.76	686.76

Asset-40 & Asset-41

(₹ in lakh)

	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
A	Opening Equity	6049.34	6049.34	6049.34	6049.34	6049.34
B	Additions	0.00	0.00	0.00	0.00	0.00



	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
C	Closing Equity (A+B)	6049.34	6049.34	6049.34	6049.34	6049.34
D	Average Equity (A+C)/2	6049.34	6049.34	6049.34	6049.34	6049.34
E	Return on Equity (Base Rate) (In %)	15.50	15.50	15.50	15.50	15.50
F	MAT Rate for respective year (In %)	0.00	0.00	0.00	0.00	0.00
G	Rate of Return on Equity (In %)	15.50	15.50	15.50	15.50	15.50
H	Return on Equity (D*G)	937.65	937.65	937.65	937.65	937.65

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

74. The O&M Expenses claimed by the Petitioner in respect of the Assets-38 and 39 are as follows:

							(₹ in lakh)
Asset	Name of the line	2019-20	2020-21	2021-22	2022-23	2023-24	
Assets-38 and Asset-39	400 kV Uravakonda-Veltoor-I and 400 kV Uravakonda-Veltoor-II	161.47	167.11	172.98	179.07	185.32	
Assets-40 and 41	400 kV Suryapeta-KV Kota line-I and 400 kV Suryapeta-KV Kota line-II	178.52	184.76	191.24	197.98	204.89	

75. Regulation 35(3) of the 2019 Tariff Regulations specifies the norms for O&M Expenses for the transmission system. Norms specified in respect of the transmission assets are as follows:

Element	2019-20	2020-21	2021-22	2022-23	2023-24
Transmission Line: Double Circuit (Bundled conductor with four or more sub-conductors) (in ₹ lakh per km)	1.322	1.368	1.416	1.466	1.517

76. We have considered the submissions of the Petitioner. The Petitioner has not claimed the capital cost for 2 Nos. of 400 kV bays at Veltoor and Suryapet Sub-stations and has claimed the O&M Expenses towards 2 Nos. of 400 kV bays at Veltoor and Suryapet Sub-stations. We are of the view that the O&M Expenses of



the transmission assets can be allowed only if the capital cost of the assets is approved by the Commission under ISTS. In the instant case, the tariff is allowed for the transmission line only. Accordingly, the O&M Expenses are being allowed for the transmission line only.

77. The details of O&M Expenses allowed in respect of the Assets-38 to 41 as per Regulation 35(3) of the 2019 Tariff Regulations are as follows:

Asset	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Assets-38 and 39 (73.60 km)	97.30	100.68	104.22	107.90	111.65
Assets-40 and 41 (86.40 km)	114.22	118.20	122.34	126.66	131.07

Interest on Working Capital (IWC)

78. The IWC has been worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The Rate of Interest (ROI) considered is 12.05% (SBI 1-year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for the financial year 2019-20, 11.25% (SBI 1-year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) for the financial year 2020-21, 10.50% (SBI 1-year MCLR applicable as on 1.4.2020 of 7.00% plus 350 basis points) for the financial years 2021-22 & 2022-23, and 12.00% (SBI 1-year MCLR applicable as on 1.4.2023 of 8.5% plus 350 basis points) for the financial year 2023-24. The components of the working capital and interest allowed thereon in respect of Assets-38 to 41 are as follows:

Asset-38 & Asset-39

		(₹ in lakh)				
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
A	Working Capital for O&M Expenses (O&M Expenses for 1 month)	8.11	8.39	8.69	8.99	9.30



	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
B	Working Capital for Maintenance Spares (15% of O&M Expenses)	14.60	15.10	15.63	16.19	16.75
C	Working Capital for Receivables (Equivalent to 45 days of annual transmission charges)	301.69	292.40	282.33	272.57	262.64
D	Total Working Capital	324.39	315.89	306.65	297.75	288.69
E	Rate of Interest (In %)	12.05	11.25	10.50	10.50	12.00
F	Interest on Working Capital	39.09	35.54	32.20	31.26	34.64

Assets-40 & Asset-41

	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
						(₹ in lakh)
A	Working Capital for O&M Expenses (O&M Expenses for 1 month)	9.52	9.85	10.20	10.56	10.92
B	Working Capital for Maintenance Spares (15% of O&M Expenses)	17.13	17.73	18.35	19.00	19.66
C	Working Capital for Receivables (Equivalent to 45 days of annual transmission charges)	412.11	399.35	385.52	372.10	358.44
D	Total Working Capital	438.76	426.93	414.06	401.66	389.02
E	Rate of Interest (In %)	12.05	11.25	10.50	10.50	12.00
F	Interest on Working Capital	52.87	48.03	43.48	42.17	46.68

Annual Fixed Charges For the 2019-24 Tariff Period

79. The transmission charges allowed in respect of the Assets-38 to 41 for the 2019-24 tariff period are as follows:

Asset- 38 & Asset-39

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	779.81	779.81	779.81	779.81	779.81
Interest on Loan	850.77	768.89	687.01	605.13	523.25
Return on Equity	686.76	686.76	686.76	686.76	686.76
Interest on Working Capital	39.09	35.54	32.20	31.26	34.64
O & M Expenses	97.30	100.68	104.22	107.90	111.65
Total	2453.73	2371.67	2289.99	2210.86	2136.11



Asset-40 & Asset-41

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	1064.68	1064.68	1064.68	1064.68	1064.68
Interest on Loan	1182.39	1070.60	958.81	847.02	735.23
Return on Equity	937.65	937.65	937.65	937.65	937.65
Interest on Working Capital	52.87	48.03	43.48	42.17	46.68
O & M Expenses	114.22	118.20	122.34	126.66	131.07
Total	3351.82	3239.16	3126.96	3018.18	2915.31

Sharing of Transmission Charges

80. With effect from 1.7.2011, the sharing of transmission charges for inter-State transmission systems was governed by the provisions of the 2010 Sharing Regulations. However, with effect from 1.11.2020, the 2010 Sharing Regulations has been repealed, and the sharing of transmission charges is governed by the provisions of the 2020 Sharing Regulations. Accordingly, the transmission charges approved in this order for the transmission assets shall be recovered in accordance with the applicable Sharing Regulations as per Regulation 43 of the 2014 Tariff Regulations and Regulation 57(2) of the 2019 Tariff Regulations. Further, the transmission charges allowed in this order shall be adjusted against the ARR approved by the State Commission.

Filing Fee and Publication Expenses

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



82. This order disposes of Petition No. 127/TT/2022 in terms of the above discussions and findings.

**sd/-
(Ramesh Babu V.)
Member**

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

**sd/-
(Jishnu Barua)
Chairperson**

