

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 360/TT/2020

Coram:

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

Date of Order: 18.02.2022

In the matter of:

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and truing-up of transmission tariff of 2014-19 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of 2019-24 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for transmission assets covered under "Transmission System for Ultra Mega Solar Park in Anantpur District, Andhra Pradesh-Part A (Phase-I)" in Southern Region.

And in the matter of:

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

...Petitioner

Vs.

1. Karnataka Power Transmission Corporation Limited,
Kaveri Bhavan,
Bangalore – 560009.
2. Transmission Corporation of Andhra Pradesh Limited,
Vidyut Soudha, Gunadala, Eluru Road,
Vijayawada– 520004.
3. Kerala State Electricity Board,
Vaidyuthi Bhavanam, Pattom,
Thiruvananthapuram – 695004.
4. Tamil Nadu Generation and Distribution Corporation Limited,
(Formerly Tamil Nadu Electricity Board -TNEB),
NPKRR Maaligai, 800, Anna Salai,



Chennai – 600 002.

5. Electricity Department,
Government of Pondicherry,
Pondicherry – 605001.
6. Eastern Power Distribution Company of Andhra Pradesh Limited,
APEPDCL, P&T Colony, Seethmmadhara, Vishakhapatnam,
Andhra Pradesh.
7. Southern Power Distribution Company of Andhra Pradesh Limited,
D.No: 19-13-65/A, Srinivasapuram, Corporate Office,
Tiruchanoor Road, Tirupati-517 503, Chittoor District,
Andhra Pradesh.
8. Southern Power Distribution Company of Telangana Limited,
6-1-50, Corporate Office, Mint Compound,
Hyderabad – 500 063, Telangana.
9. Northern Power Distribution Company of Telangana Limited,
H.No. 2-5-3 1/2, Vidyut Bhawan, Corporate Office,
Nakkal Gutta, Hanamkonda,
Warangal – 506001, Telangana.
10. Bangalore Electricity Supply Company Limited,
Corporate Office, K.R.Circle,
Bangalore – 560001, Karnataka.
11. Gulbarga Electricity Supply Company Limited,
Station Main Road,
Gulbarga, Karnataka.
12. Hubli Electricity Supply Company Limited,
Navanagar, PB Road,
Hubli, Karnataka.
13. MESCOM Corporate Office,
Paradigm Plaza, AB Shetty Circle,
Mangalore – 575001, Karnataka.
14. Chamundeswari Electricity Supply Corporation Limited,
927, L J Avenue, Ground Floor, New Kantharaj Urs Road,
Saraswatipuram,
Mysore – 570 009, Karnataka.
15. Electricity Department,
Government of Goa, Vidyuti Bhawan,
Panaji, Goa – 403001.



16. Transmission Corporation of Telangana Limited,
Vidhyut Sudha, Khairatabad,
Hyderabad - 500082
17. Tamil Nadu Transmission Corporation,
NPKRR Maaligai, 800, Anna Salai,
Chennai – 600 002.
18. Andhra Pradesh Solar Power Corporation Private Limited,
6-3-856/A3, Neeraj Public School Lane,
Opposite to Green Park Hotel, Ameerpet,
Hyderabad – 500016.

...Respondents

For Petitioner : Shri S.S. Raju, PGCIL
Shri A.K. Verma, PGCIL
Shri B. Dash, PGCIL
Shri Ved Prakash Rastogi, PGCIL

For Respondents : Shri B. Vinodh Kanna, Advocate, TANGEDCO
Dr. R. Kathiravan, TANGEDCO

ORDER

The instant petition has been filed by Power Grid Corporation of India Limited, a deemed transmission licensee, for truing-up of the transmission tariff for the period from the date of commercial operation to 31.3.2019 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) and for determination of tariff for the period from 1.4.2019 to 31.3.2024 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) in respect of the following transmission assets covered under “Transmission System for Ultra Mega Solar Park in Anantpur District, Andhra Pradesh-Part A (Phase-I)” in the Southern Region (hereinafter referred to as “the transmission system”):



Asset-I: LILO of 400 kV Kadapa-Kolar SC Line at NP Kunta along with associated line bays and 1 no. of 500 MVA ICT along with its bays at NP Kunta Sub-station;

Asset-II: 2 x 500 MVA transformer & 1 x 125 MVAR reactor along with associated bays at NP Kunta Sub-station; and

Asset-III: +/- 100 MVAR Statcom at NP Kunta PS.

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

“1) Approve the trued up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the assets covered under this petition, as per para 11.2 and 12.0 above.

2) Approve the Completion cost and additional capitalization incurred during 2014-19 and allow the projected additional capitalization during 2019-24.

3) Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2014 and Tariff regulations 2019 as per para 11.2 and 12.0 above for respective block.

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

5) Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.

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

7) Allow the petitioner to file a separate petition before Hon'ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned at para 12.6 above.

8) Allow the additional RoE of 0.5 % during 2014-19 period as per para 6.5 above.

9) Allow the Initial spares claimed as project as a whole.

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

11) Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if GST on transmission is levied at any rate in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.



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

Background

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

a) The investment approval (IA) for the transmission system was accorded by the Board of Directors of the Petitioner Company vide Memorandum No. C/CP/Solar Park-A.P-A dated 3.6.2015 with estimated cost of ₹31294 lakh, based on price level of February 2015. As per IA, Asset-I and Asset-II were scheduled to be put into commercial operation within 12 months from the date of IA, i.e. by 3.6.2016. However, Asset-III i.e. ±100 MVAR STATCOM at NP Kunta Pooling Station was to be put into commercial operation with assets of Phase-II of Transmission System for Ultra Mega Solar Park in Anantpur District.

b) The approval for Phase-II of Transmission System for Ultra Mega Solar Park in Anantpur District was accorded by the Board of Directors of the Petitioner vide Memorandum dated 15.1.2016 at an estimated cost of ₹9909 lakh (based on August, 2015 price level) and assets under Phase-II were scheduled to be commissioned within 16 months for loop-in portions and 30 months for loop-out portion from the date of approval. Accordingly, the Commission vide Order dated 29.6.2018 in Petition No. 133/TT/2017 had considered the scheduled date of commercial operation (SCOD) in respect of Asset-III as 12.7.2018.

c) The Commission vide order dated 6.8.2015 in Petition No. 29/MP/2015 has granted Regulatory approval for execution of the transmission assets for Ultra Mega Solar Power Park (UMSPP) having capacity of 1000 MW in Anantpur district, Andhra Pradesh for the following transmission schemes:

Phase-I Scheme (250 MW)

- (i) Establishment of 3x 500 MVA, 400/220 kV Sub-station at NP Kunta Pooling Station
- (ii) LILO of 400 kV Kadapa (Cuddapah) - Kolar S/C line at NP Kunta Pooling Station
- (iii) 2 Numbers 220 kV line bays at NP Kunta Pooling Station
- (iv) 1x125 MVAR Bus Reactor at NP Kunta Pooling Station



(v) ± 100 MVAR STATCOM at 400 kV NP Kunta Pooling Station

Phase-II Scheme (750 MW)

- (i) LILO of Kadapa (Cuddapah)-Hindupur 400 kV D/C (Quad) line at NP Kunta Pooling Station
- (ii) 6 Numbers 220 kV line bays at NP Kunta Pooling Station

Phase-III Scheme (500 MW)

- (i) Augmentation of transformation capacity at NP Kunta station with 4th, 1x500 MVA, 400/220 kV transformer
- (ii) 4 Numbers 220 kV line bays at NP Kunta Pooling Station

d) The transmission assets were discussed and agreed in Standing Committee Meeting held on 7.3.2015 and 27th SRPC meeting held on 12.5.2015. The Petitioner has been entrusted with the implementation of the transmission assets. The broad scope of the transmission system is as follows:

Transmission Line

- i. LILO of 400 kV Kadapa- Kolar S/C Line at NP Kunta Sub-station

Sub-station

- i. Establishment of 400/220 kV NP Kunta Sub-station with 3*500 MVA Transformers.
- ii. 2 Numbers 220 kV line bays at NP Kunta Pooling Station

Reactive Compensation

- i. 1 x 125 MVAR, 420 kV bus reactor at NP Kunta Sub-station.
- ii. ± 100 MVAR STATCOM at NP Kunta Pooling Station

e) The details of the transmission assets and details of the previous petitions are as follows:

Asset	SCOD	COD	Previous Orders
I	3.6.2016	28.4.2016	Approval of transmission tariff from COD to 31.3.2019 vide order dated 30.6.2016 in Petition No. 26/TT/2016
II		11.7.2016	
III	12.7.2018	4.6.2017	Approval of transmission tariff from COD to 31.3.2019 vide order dated 29.6.2018 in Petition No. 133/TT/2017

f) The instant petition covers the transmission assets of the transmission system covered under Phase-I Scheme (250 MW).



g) The transmission tariff from COD to 31.3.2019 with respect to Asset-I and Asset-II was determined vide order dated 30.6.2016 in Petition No. 26/TT/2016 and tariff for Asset-III was determined vide order dated 29.6.2018 in Petition No. 133/TT/2017. The Commission vide its order dated 29.6.2018 has approved COD of 4.6.2017 in respect of Asset-III.

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

5. The Petitioner has served the petition on the Respondents and notice of this application has also been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or suggestions have been received from the general public in response to the aforesaid notices published in the newspapers by the Petitioner. Tamil Nadu Generation and Distribution Corporation Ltd. (TANGEDCO), i.e. Respondent No. 4, has filed its reply vide affidavit dated 23.3.2021 and has raised issues on sharing of transmission charges, time over-run in case of Asset-II and claim for IDC and IEDC, claim for additional RoE, GST and recovery of license fee. The Petitioner vide affidavit dated 5.4.2021 has filed its rejoinder to the reply of TANGEDCO. The Petitioner has also submitted revised forms for 2019-24 period vide affidavit dated 23.3.2021. The issues raised by TANGEDCO and the clarifications given by the Petitioner are dealt in the relevant portions of the instant order.

6. The hearing in this matter was held on 24.3.2021 through video conference and order was reserved. This order is being issued after taking into consideration the submissions made by the Petitioner in the petition vide affidavits dated 25.1.2020,



11.12.2020 and 23.3.2021, reply of affidavit of TANGEDCO dated 23.3.2021 and Petitioner's rejoinder affidavit dated 5.4.2021.

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

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

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

(₹ in lakh)

Asset-I			
Particulars	2016-17	2017-18	2018-19
Depreciation	282.25	418.66	450.52
Interest on Loan	347.20	442.79	439.07
Return on Equity	358.29	518.01	560.71
Interest on Working Capital	37.78	48.20	50.35
O&M Expenses	310.66	346.60	358.10
Total	1336.18	1774.26	1858.75

(₹ in lakh)

Asset-II			
Particulars	2016-17	2017-18	2018-19
Depreciation	170.28	258.70	259.94
Interest on Loan	183.59	258.81	238.26
Return on Equity	199.66	302.97	305.23
Interest on Working Capital	22.78	33.19	33.33
O&M Expenses	204.86	292.63	302.33
Total	781.17	1146.30	1139.09

(₹ in lakh)

Asset-III		
Particulars	2017-18	2018-19
Depreciation	349.33	474.18
Interest on Loan	349.83	437.27
Return on Equity	386.28	520.55
Interest on Working Capital	28.93	37.79
O&M Expenses	109.70	137.42
Total	1224.07	1607.21



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

(₹ in lakh)

Particulars	Asset-I		
	2016-17	2017-18	2018-19
Maintenance Spares	50.32	51.99	53.72
O&M Expenses	27.96	28.88	29.84
Receivables	240.49	295.71	309.79
Total	318.77	376.58	393.35
Rate of Interest (%)	12.80	12.80	12.80
Pro-rata Interest on Working Capital	37.78	48.20	50.35

(₹ in lakh)

Particulars	Asset-II		
	2016-17	2017-18	2018-19
Maintenance Spares	42.48	43.89	45.35
O&M Expenses	23.60	24.39	25.19
Receivables	180.01	191.05	189.85
Total	246.09	259.33	260.39
Rate of Interest (%)	12.80	12.80	12.80
Pro-rata Interest on Working Capital	22.78	33.19	33.33

(₹ in lakh)

Particulars	Asset-III	
	2017-18	2018-19
Maintenance Spares	19.95	20.61
O&M Expenses	11.09	11.45
Receivables	247.39	267.87
Total	278.43	299.93
Rate of Interest (%)	12.60	12.60
Pro-rata Interest on Working Capital	28.93	37.79

Date of Commercial Operation

10. Regulation 4(3) of the 2014 Tariff Regulations provide as follows:

“4. Date of Commercial Operation: The date of commercial operation of a generating station or unit or block thereof or a transmission system or element thereof shall be determined as under:

xxx

(3) Date of commercial operation in relation to a transmission system shall mean the date declared by the transmission licensee from 0000 hour of which an element of the transmission system is in regular service after successful trial operation for transmitting electricity and communication signal from sending end to receiving end:

xxx”



11. The Commission vide order dated 30.6.2016 in Petition No. 26/TT/2016, approved the date of commercial operation (COD) of Asset-I as 28.4.2016 and anticipated COD in respect of Asset-II as 1.7.2016 subject to the submission of RLDC trial run certificate at the time of truing up. In compliance of the directions of the Commission, the Petitioner has submitted RLDC trial run certificate dated 4.8.2016 and CEA energisation certificate dated 30.6.2016 and claimed the actual COD in respect of Asset-II as 11.7.2016 in the instant petition.

12. Taking into consideration the RLDC certificate dated 4.8.2016 and CEA energisation certificate dated 30.6.2016, COD of Asset-II is approved as 11.7.2016.

13. The Commission vide its order dated 29.6.2018 in Petition No. 133/TT/2017, approved the actual COD of Asset-III as 4.6.2017.

Capital Cost

14. The capital cost and Additional Capital Expenditure (ACE) approved by the Commission in respect of the transmission assets vide order dated 30.6.2016 in Petition No. 26/TT/2016 and vide order dated 29.6.2018 in Petition No. 133/TT/2017 are as follows:

(₹ in lakh)			
Name of the asset	Capital Cost as on COD	ACE during 2014-19	Total Capital Cost as on 31.3 2019
Asset-I	4631.64	6494.04	11125.68
Asset-II	4123.94**	712.60	4836.54
Asset-III	7258.57	1891.53	9150.10

**As on anticipated COD

15. The Petitioner has claimed capital cost as on COD and ACE incurred up to 31.3.2019 in respect of the transmission assets as follows:



(₹ in lakh)

Asset Details	Apportioned approved cost as per FR	Expenditure up to COD	ACE 2014-2019			Cost as on 31.3.2019
			(as per Auditor's Certificate)			
			2016-17	2017-18	2018-19	
Asset-I	14127.66	4704.28	3344.94	1528.70	471.49	10049.41
Asset-II	6151.34	4154.06	840.14	0.00	0.00	4994.20
Asset-III	11015.51	7781.39	0.00	1996.26	381.52	10159.17

Cost Over-Run

16. The completion cost claimed by the Petitioner including ACE in respect of the transmission assets is within the approved apportioned capital cost as per FR. Therefore, there is no cost over-run in respect of the transmission assets.

Time Over-run

17. SCOD and actual COD of the transmission assets are as follows:

Asset	SCOD	COD	Time over-run
Asset-I	3.6.2016	28.4.2016	Nil
Asset-II		11.7.2016	39 days
Asset-III	12.7.2018	4.6.2017	Nil

18. The Commission vide order dated 30.6.2016 in Petition No. 26/TT/2016 has allowed COD of Asset-I as on 28.4.2016 and vide order dated 29.6.2018 in Petition No. 133/TT/2017, COD of Asset-III has been approved as on 4.6.2017. There was no time over-run in commissioning of these two assets.

19. The Commission vide its order dated 30.6.2016 in Petition No. 26/TT/2016 allowed COD in respect of Asset-II on anticipated basis as 1.7.2016 and time over-run of 28 days was disallowed with the observation that it will be considered as and when actual COD of the transmission asset is achieved. In the instant petition, the Petitioner has claimed the actual COD of Asset-II as 11.7.2016 and has also submitted the details of time over-run along with justifications.



20. The Petitioner has submitted that time over run of 39 days in respect of Asset-II is on account of late receipt of the equipment at the project site and due to monsoons.

The reasons submitted by the Petitioner are as follows:

a. The Petitioner has submitted that the equipment was initially expected to be received on 4.5.2016. There were two routes which could be taken for transportation i.e. project site at NP Kunta could be approached through either of the nearest towns, Raichoti and Kadiri.

i. **Route through Raichoti-** This was not taken as it could withstand only up to 70 MT due to the presence of Velligallu dam, a project of State Govt, within just 5 km from the project site, whereas, the Petitioner's equipment weighed 250 MT.

ii. **Main road through Kadiri-** This could not be taken due to height restrictions of the vehicle entering on railway over bridge.

b. In view of above, the asset had to pass through a railway crossing at Kadiri, i.e. 35 km away from the site. The Petitioner vide letter dated 2.5.2016 approached South Central Railway (SCR) for railway clearance, clearly mentioning the details of vehicle and expected data of receipt. The clearance from SCR was accorded only in the last week of May 2016 upon which the equipment was received at site on 20.5.2016.

c. Thereafter, unexpected pre-monsoon rainfall in the months of May/ June 2016 resulted in frequent hindrances to erection works and engagement of labour which led to further delay in commissioning works.

d. Hence, the delay of 39 days in commissioning of Asset-II was beyond the control of the Petitioner.

e. Subsequently, liquidated damage (LD) amounting to ₹5.62 lakh was recovered from the contractor. This is reduced from the capital cost in the year 2016-17.



21. TANGEDCO has submitted that the Petitioner's justification for the delay in commissioning of Asset-II clearly exhibits poor project execution practices and attempt of the Petitioner to shift the contractual obligations and exigencies between the Petitioner and contractor to the beneficiaries/ DICs.

22. TANGEDCO has further submitted that the Petitioner is having vast experience in execution of transmission projects and the reasons given by the Petitioner for the delay are insubstantial. TANGEDCO has submitted that from the consignment notes enclosed, it is evident that ICTs were despatched on 21.3.2016 and 3.4.2016. The Petitioner was well aware of the fact that SCOD of the asset was 11.5.2016 and time was required for transportation, erection and testing of the ICTs. The Petitioner's letter to the Southern Railway reveals that a request for railway clearance was sent with delay of forty days after despatch of the materials and just two days prior to anticipated date of crossing the railway track. TANGEDCO has further submitted that the Petitioner has also cited a frivolous reason of unanticipated rainfall for the delay during May-June, 2016. Delay from SCOD to actual COD was attributable to the Petitioner and, hence, it should not be condoned.

23. We have considered the submissions of the Petitioner and TANGEDCO and have noted that the ICTs were dispatched on 21.3.2016 and 3.4.2016. The Petitioner has submitted that letter to South Central Railway (SCR) was sent on 2.5.2016 i.e. almost after delay of 30-40 days. It is further observed that rainfall statistics submitted by the Petitioner is general in nature and the Petitioner has failed to furnish other material on record to substantiate its claims on time over-run. We also note that the Petitioner has recovered LD from its contractor which implies that as per Petitioner, it was the contractor who was responsible for the delay in commissioning of Asset-II.



Now, the Petitioner claiming that the delay was on account of delayed clearance by Railways or due to rains is not acceptable. Hence, we are of the view that the entire delay of 39 days was attributable to the Petitioner and we do not find it justifiable to condone the delay. Accordingly, delay of 39 days is not condoned in the present facts and facts and circumstances of the case.

24. The Petitioner has reduced the amount of ₹5.62 lakh as liquidated damages (LD) recovered from the contractors during 2016-17 period from the capital cost. Since we have disallowed time over-run, the Petitioner is allowed to retain LD charges for 2016-17 period for which necessary adjustment has been made in the relevant portion of this order.

Interest During Construction (IDC)

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

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

27. Accordingly, based on the information furnished by the Petitioner, IDC allowed is as follows:



(₹ in lakh)

Assets	IDC as per Auditor's Certificate	IDC admissible	IDC disallowed			IDC allowed up to COD on cash basis	IDC discharged during		
			Computational difference	Due to Time over run	Undischarged IDC as on COD		2016-17	2017-18	2018-19
	A	B	C	D	E	F= (A-C-D-E)			
Asset-I	111.45	111.36	0.09	0.00	72.55	38.81	72.43	0.12	0.00
Asset-II	56.89	28.05	0.00	28.84	21.95	6.10	0.00	21.95	0.00
Asset-III	345.64	345.64	0.00	0.00	136.08	209.55	0.00	123.33	12.75

Incidental Expenditure During Construction (IEDC)

28. The Petitioner has claimed IEDC in respect of the transmission assets and submitted Auditor's Certificate in support of the same. The Petitioner has submitted that entire IEDC has been discharged up to COD. IEDC claimed is within the percentage of hard cost as indicated in the abstract cost estimate. Accordingly, IEDC allowed are as follows:

(₹ in lakh)

Assets	IEDC claimed as per Auditor Certificate	IEDC disallowed due to time overrun	IEDC allowed as on COD
	1	2	3=(1-2)
Asset I	160.21	0.00	160.21
Asset II	58.43	5.64	52.79
Asset III	214.95	0.00	214.95

Initial Spares

29. The Petitioner has claimed the following Initial Spares in light of the judgement of Appellate Tribunal for Electricity (APTEL) dated 14.9.2019 in Appeal No. 74 of 2017. Initial Spares claimed by the Petitioner are as follows:

Assets	Particulars	Plant & Machinery cost up to cut-off date (excluding IDC and IEDC as per Auditor's certificate) (A) (₹ in lakh)	Initial Spares claimed (B) (₹ in lakh)	Ceiling Limit as per Regulations (%)
Asset I	Transmission Sub-station (Greenfield)	4394.59	158.16	4%
	Transmission Line	2516.76	22.28	1%
Asset II	Transmission Sub-station (Greenfield)	4696.96	93.66	4%
Asset III	Transmission Sub-station (Greenfield)	9705.09	346.89	4%



30. We have considered the submissions of the Petitioner. As per APTEL's judgment dated 14.9.2019 in Appeal No. 74 of 2017, Initial Spares are to be allowed as per the ceiling on overall project cost.

31. The capital cost up to the cut-off date for all the transmission assets has been considered for computation of Initial Spares. It is observed that the Petitioner's claim for Initial Spares in respect of the transmission assets is within the norms specified in Regulation 13(d) of the 2014 Tariff Regulations and is allowed as follows:

Assets	Particulars	Plant & Machinery cost up to cut-off date (excluding IDC and IEDC as per Auditor certificate) (A) (₹ in lakh)	Initial Spares claimed (B) (₹ in lakh)	Ceiling Limit (%) (C)	Allowable Initial Spares worked out	Excess Initial Spares (₹ in lakh)	Initial Spares allowed (₹ in lakh)
					$D = [(A-B)*C / (100-C)]$		
Asset I	Transmission Sub-station (Greenfield)	4394.59	158.16	4%	176.52	0.00	158.16
	Transmission Line	2516.76	22.28	1%	25.20	0.00	22.28
Asset II	Transmission Sub-station (Greenfield)	4696.96	93.66	4%	191.80	0.00	93.66
Asset III	Transmission Sub-station (Greenfield)	9705.09	346.89	4%	389.925	0.00	346.89

Treatment of Grant received

32. The Petitioner has submitted that it has received Central Finance Assistance (CFA) from the Ministry of New and Renewable Energy (MNRE) for development of Solar Park and external transmission system. MNRE vide its letter dated 12.12.2014 issued administrative guidelines for release of fund for implementation of Scheme for development of Solar Park and Ultra Mega Solar Power projects. MNRE vide its O.M. No. 30/26//2014-15/NSM dated 29.9.2016 has further amended the said guidelines.

The relevant extracts of the same are as follows:

"The CFA for development of solar park and for development of external transmission system will be apportioned in the ratio of 60:40 i.e. Rs. 12 lakh per MW or 30% of the project cost, whichever is lower may be provided to the Solar Power Park Developers (SPPDs) towards development of solar parks and Rs.8 lakh per MW or 30% of the



project cost, whichever is lower will be provided to the CTU or STU towards development of external transmission system.....”

33. Accordingly, the Petitioner vide letters dated 27.10.2016 and 28.12.2016 submitted the details of release of the grant of CFA by MNRE. MNRE vide its O.M. No. F.No. 30/52/2014-15/NSM dated 28.2.2017 sanctioned the CFA grant. The relevant extracts of the O.M. is as follows:

“2. I am also directed to convey approval for setting up external power evacuation system for Anathapuramu Solar Park, Andhra Pradesh by PGCIL for evacuation of 1500 MW solar power from Anathapuramu Solar Park, Andhra Pradesh with total Central Finance Assistance (CFA) of Rs.120, 00, 00,000/- (Rupees One Hundred and Twenty Crore only).

3. As per Administrative Guidelines 30/26/2014-15/NSM, dated 12.12.2014 and subsequent clarification vide OM no. 30/26/2014-15/NSM dated 29.09.2016, an amount of Rs.60,26,47,625/- (Rupees Sixty Crore Twenty Six Lakh Forty Seven Thousand Six Hundred and Twenty Five only) is due to SECI, New Delhi towards award of work for external power evacuation system of for Anathapuramu Solar Park. The amount of Rs.60,26,47,625/- (Rupees Sixty Crore Twenty Six Lakh Forty Seven Thousand Six Hundred and Twenty Five only) includes Rs.60,00,00,000/- (Rupees Sixty Crore only) towards development of external power evacuation system for Anathapuramu Solar Park, Andhra Pradesh and Rs.26,47,625/- (Rupees Twenty Six Lakh Forty Seven Thousand Six Hundred and Twenty Five only) towards fund handling charges to SECI.

4. Accordingly, sanction of the President of India is hereby conveyed for release of Rs.26,74,10,125/- (Rupees Twenty Six Crore Seventy Four Lakh Ten Thousand and Twenty Five only) to Solar Energy Corporation of India (SECI), New Delhi after adjusting Rs.33,52,37,500/- (Rupees Thirty Three Crore Fifty Two Lakh Thirty Seven Thousand and Five Hundred only) of excess amount of CFA released to Andhra Pradesh Solar Power Corporation Ltd. (APSPCL) for development of internal infrastructure of Anathapuramu Solar Park, Andhra Pradesh by this Ministry under the Solar Park scheme, APSPCL will release Rs.33,52,37,500/- (Rupees Thirty Three Crore Fifty Two Lakh Thirty Seven Thousand and Five Hundred only) to PGCIL as CFA towards development of external power evacuation system of Anathapuramu Solar Park.

34. The Petitioner has submitted that it has received a grant of ₹109,55,54,100/- from SECI (₹26,47,62,500 on 30.8.2017 and ₹33,52,37,500 on 31.1.2018) during 2017-18 period and ₹49,55,54,000 on 16.10.2019 during 2019-20 period towards Transmission system for Ultra Mega Solar Park in Anantpur (Phase-I, Phase-II &



Phase-III). The balance grant for amount of ₹10,44,46,000 from CFA for Phase-I, Phase-II & Phase-III is yet to be disbursed.

35. The details of total grant received and adjustment in the capital cost of the transmission system for Phase-I, Phase-II and Phase-III are as follows:

(₹ in lakh)					
Particulars	Total CFA grant	CFA grant received (30.08.2017)	CFA grant received (31.01.2018)	CFA grant received (16.10.2019)	Balance yet to be received
Transmission System for Ultra Mega Solar Park in Anantpur District, Andhra Pradesh-(Part-A) (Phase-I)	12000.00	2647.63	3352.38	4955.54	1044.46
For - Part B (Phase-II)					
For - Part C (Phase-III)					

(₹ in lakh)			
Particulars	Grant received till 2019-20 and adjusted	Balance yet to be received	Total Grant
Transmission System for Ultra Mega Solar Park in Anantpur District, Andhra Pradesh-(Part-A) (Phase-I)	6755.3	696.31	7451.61
Transmission System for Ultra Mega Solar Park in Anantpur District, Andhra Pradesh - Part B (Phase-II)	3626.98	293.5	3920.48
Transmission System for Ultra Mega Solar Park in Anantpur District, Andhra Pradesh - Part C (Phase-III)	573.26	54.65	627.91
Total	10955.54	1044.46	12000.00

36. The details of total grant allocated to the transmission assets covered under the instant petition by the Petitioner are as follows:

(₹ in lakh)					
Particulars	Up to COD	Grant adjusted during 2017-18	Grant adjusted during 2019-20	Balance to be received and adjusted	Total
Asset- I	0.00	649.51	3437.72	0.00	4087.23
Asset- II	0.00	0.00	840.14	0.00	840.14
Asset- III	383.06	796.80	648.07	696.31	2524.24
Total	383.06	1446.31	4925.93	696.31	7451.61



37. The Petitioner has submitted that it has adjusted the grant received from the capital cost of the transmission assets.

38. We have considered the submissions of the Petitioner. Proviso of Regulation 9(6)(d) of the 2014 Tariff Regulations provide as follows:

“Provided that any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment shall be excluded from the Capital Cost for the purpose of computation of interest on loan, return on equity and depreciation.”

39. Proviso (iii) of Regulation 19(1) of the 2014 Tariff Regulations provide as follows:

“iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt: equity ratio.”

40. In line with the Regulation 9(6)(d) of the 2014 Tariff Regulations, we are of the view that funding through grant is not required to be considered for debt-equity ratio. Therefore, funding through any grant would not form part of the capital structure for the purpose of debt-equity ratio as per Regulation 19 of the 2014 Tariff Regulations and the same has been considered in the relevant paragraphs of this order.

Capital cost as on COD

41. Accordingly, capital cost allowed as on COD is as follows:

Particulars	(₹ in lakh)					
	Capital Cost claimed in Auditor Certificate as on COD (A)	IDC Disallowed due to time over-run and computational difference (B)	Un-discharged IDC as on COD (C)	IEDC Disallowed (D)	CFA Grant (E)	Expenditure up to COD (F)=(A-B-C-D-E)
Asset-I	4704.28	0.09	72.55	0.00	0.00	4631.64
Asset-II	4154.06	28.84	21.95	5.64	0.00	4097.63
Asset-III	7781.39	0.00	136.08	0.00	383.06	7262.24

Additional Capital Expenditure (ACE)

42. The Petitioner has claimed the following ACE in respect of the transmission assets:



(₹ in lakh)

Assets	ACE (on cash basis) (including IDC discharged)			
	2016-17	2017-18	2018-19	Total
Asset I	3417.58	879.19	471.49	4768.26
Asset II	835.26	47.41	0.00	882.67
Asset III	0.00	1322.77	394.27	1717.04

43. The cut-off dates in respect of the transmission assets works out as follows:

Asset	Cut-off Date
Asset I	31.3.2019
Asset II	31.3.2019
Asset III	31.3.2020

44. ACE claimed by the Petitioner is under Regulations 14(1)(i) and 14(1)(ii) of the 2014 Tariff Regulations as it is towards balance and retention payments and works deferred for execution. The details of ACE claimed are as follows:

(₹ in lakh)

Asset-I	ACE		
	2016-17	2017-18	2018-19
ACE to the extent of balance and retention payments and work deferred for execution/ ACE to the extent of unexecuted work.	3344.94	1528.70	471.49
Add: IDC discharged	72.64	0.00	0.00
Less: CFA grant	0.00	649.51	0.00
Total ACE	3417.58	879.19	471.49

(₹ in lakh)

Asset-II	ACE		
	2016-17	2017-18	2018-19
ACE to the extent of balance and retention payments and work deferred for execution/ ACE to the extent of unexecuted work.	840.14	0.00	0.00
Add: IDC Discharged	0.74	47.41	0.00
Less: Liquidated Damages	5.62	0.00	0.00
Total ACE	835.26	47.41	0.00

(₹ in lakh)

Asset-III	ACE		
	2016-17	2017-18	2018-19
ACE to the extent of balance & retention payments and work deferred for execution/ ACE to the extent of unexecuted work.	0.00	1996.26	381.52
Add: IDC Discharged	0.00	123.31	12.75
Less: CFA Grant	0.00	796.80	0.00
Total ACE	0.00	1322.77	394.27



45. The un-discharged IDC as on COD has been allowed as ACE. We have allowed the deduction of grants as discussed in above paragraphs for Asset-I and Asset-III. Further, LD charges are allowed to be retained by the Petitioner as time-over run has been disallowed for Asset-II. Accordingly, ACE allowed is as follows:

(₹ in lakh)

Asset-I	ACE		
	2016-17	2017-18	2018-19
ACE to the extent of balance & retention payments and work deferred for execution/ ACE to the extent of unexecuted work.	3344.94	1528.70	471.49
Add: IDC Discharged	72.64	0.00	0.00
Less: CFA Grant	0.00	649.51	0.00
Total ACE	3417.58	879.19	471.49

(₹ in lakh)

Asset-II	ACE		
	2016-17	2017-18	2018-19
ACE to the extent of balance & retention payments and work deferred for execution/ ACE to the extent of unexecuted work.	840.14	0.00	0.00
Add: IDC Discharged	0.00	21.95	0.00
Less: Liquidated Damages	0.00	0.00	0.00
Total ACE	840.14	21.95	0.00

(₹ in lakh)

Asset-III	ACE		
	2016-17	2017-18	2018-19
ACE to the extent of balance & retention payments and work deferred for execution/ ACE to the extent of unexecuted work.	0.00	1996.26	381.52
Add: IDC Discharged	0.00	123.33	12.75
Less: CFA Grant	0.00	796.80	0.00
Total ACE	0.00	1322.79	394.27

Capital Cost for 2014-19 tariff period

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



(₹ in lakh)

Assets	Capital cost as on COD on cash basis	Additional Capital Expenditure (ACE)				Total Capital cost as on 31.3.2019
		2016-17	2017-18	2018-19	Total ACE	
Asset-I	4631.64	3417.57	879.19	471.49	4768.25	9399.89
Asset-II	4097.63	840.14	21.95	0.00	862.09	4959.72
Asset-III	7262.24	0.00	1322.79	394.27	1717.06	8979.31

Debt-Equity Ratio

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

Asset I	As on COD		As on 31.3.2019	
	Amount	(%)	Amount	(%)
	(₹ in lakh)		(₹ in lakh)	
Debt	3242.15	70.00	6579.93	70.00
Equity	1389.49	30.00	2819.96	30.00
Total	4631.64	100.00	9399.89	100.00
Asset II	As on COD		As on 31.3.2019	
	Amount	(%)	Amount	(%)
	(₹ in lakh)		(₹ in lakh)	
Debt	2868.34	70.00	3471.81	70.00
Equity	1229.29	30.00	1487.91	30.00
Total	4097.63	100.00	4959.72	100.00
Asset III	As on COD		As on 31.3.2019	
	Amount	(%)	Amount	(%)
	(₹ in lakh)		(₹ in lakh)	
Debt	5083.57	70.00	6285.52	70.00
Equity	2178.67	30.00	2693.79	30.00
Total	7262.24	100.00	8979.31	100.00

Depreciation

48. It is observed that the Petitioner has apportioned a part of the capital expenditure (by segregating IT equipment component from rest of sub-station) towards IT Equipment and has claimed depreciation under the head "IT Equipment"



@15% at the time of truing up of the tariff of 2014-19 tariff period in respect of Asset-I and Asset-III. The Petitioner had not claimed depreciation for IT equipment @15% when it had filed Petition No. 26/TT/2016 or Petition No. 133/TT/2017.

49. Similar issue had come up in Petition No. 19/TT/2020 and the Commission vide its order dated 9.5.2020 observed that depreciation has been considered for IT Equipment @5.28% as part of the sub-station up to 31.3.2019 while truing up the capital expenditure for 2014-19 period.

50. It is observed that Regulation 8(1) of the 2014 Tariff Regulations provides for truing up of the capital expenditure including ACE, incurred up to 31.3.2019, admitted by the Commission after prudence check. We are of the view that scope of truing up exercise is restricted to truing up of the capital expenditure already admitted and apportionment or reapportionment of the capital expenditure cannot be allowed at the time of truing up. Therefore, we are not inclined to consider the Petitioner's prayer for apportionment of capital expenditure towards IT equipment and allowing depreciation @15% from 1.4.2014 onwards in respect of Asset-I and Asset-III. Further, in line with the Commission's order dated 9.5.2020 in Petition No. 19/TT/2020, depreciation @5.28% has been considered for IT Equipment as part of the sub-station upto 31.3.2019 while truing up the capital expenditure for 2014-19 tariff period. During 2019-24 tariff period, IT Equipment has been considered separately and depreciation has been allowed @15% for the balance depreciable value of IT Equipment in accordance with Regulation 33 read with Sr. No. (p) of the Appendix-I (Depreciation Schedule) of the 2019 Tariff Regulations. Accordingly, depreciation for 2014-19 period is trued up in respect of the transmission assets as per the methodology provided in Regulation 27 of the 2014 Tariff Regulations (as placed in Annexure I).



51. The Gross Block during 2014-19 tariff period has been depreciated at Weighted Average Rate of Depreciation (WAROD) (as placed in Annexure-1). WAROD has been worked out after taking into account the depreciation rate of the transmission assets as prescribed in the 2014 Tariff Regulations and trued up depreciation allowed in respect of the transmission assets during 2014-19 tariff period is as follows:

(₹ in lakh)

Asset-I			
Particulars	2016-17 (Pro-rata 338 days)	2017-18	2018-19
Opening Gross Block	4631.64	8049.21	8928.40
ACE	3417.57	879.19	471.49
Closing Gross Block	8049.21	8928.40	9399.89
Average Gross Block	6340.43	8488.81	9164.15
Weighted Average Rate of Depreciation (WAROD) (%)	4.74%	4.84%	4.83%
Balance useful life at the beginning of the year (Year)	29	29	28
Lapsed useful life of the asset at the beginning of the year (Year)	0	0	1
Aggregated Depreciable Value	5706.38	7639.92	8247.73
Depreciation during the year	278.51	410.61	442.47
Cumulative depreciation at the end of the year	278.51	689.14	1131.61
Remaining aggregated depreciable value at the end of the year	5427.87	6950.79	7116.12

(₹ in lakh)

Asset-II			
Particulars	2016-17 (Pro-rata 264 days)	2017-18	2018-19
Opening Gross Block	4097.63	4937.77	4959.72
ACE	840.14	21.95	0.00
Closing Gross Block	4937.77	4959.72	4959.72
Average Gross Block	4517.70	4948.74	4959.72
Weighted Average Rate of Depreciation (WAROD) (%)	5.20%	5.21%	5.21%
Balance useful life at the beginning of the year (Year)	25	25	24
Lapsed useful life of the asset at the beginning of the year (Year)	0	0	1
Aggregated Depreciable Value	4065.93	4453.87	4463.75
Depreciation during the year	170.06	257.87	258.44
Cumulative depreciation at the end of the year	170.06	427.92	686.36
Remaining aggregated depreciable value at the end of the year	3895.87	4025.95	3777.39



(₹ in lakh)

Asset-III		
Particulars	2017-18 (Pro-rata 301 days)	2018-19
Opening Gross Block	7262.24	8585.04
ACE	1322.79	394.27
Closing Gross Block	8585.04	8979.31
Average Gross Block	7923.64	8782.17
Weighted Average Rate of Depreciation (WAROD) (%)	5.28%	5.28%
Balance useful life at the beginning of the year (Year)	25.00	25.00
Lapsed useful life of the asset at the beginning of the year (Year)	0	0
Aggregated Depreciable Value	7131.28	7903.95
Depreciation during the year	345.01	463.70
Cumulative depreciation at the end of the year	345.01	808.71
Remaining aggregated depreciable value at the end of the year	6786.27	7095.24

52. The details of depreciation allowed in respect of the transmission assets vide order dated 30.6.2016 in Petition No. 26/TT/2016 and vide order dated 29.6.2018 in Petition No. 133/TT/2017, as claimed by the Petitioner in the instant petition and trueed up in the instant order are as follows:

(₹ in lakh)

Assets	Particulars	2016-17	2017-18	2018-19
Asset I	Approved vide order dated 30.6.2016 in Petition No. 26/TT/2016	296.57	465.00	499.80
	Claimed by the Petitioner in the instant petition.	282.25	418.66	450.52
	Allowed after true-up in this order	278.51	410.61	442.47
Asset II	Approved vide order dated 30.6.2016 in Petition No. 26/TT/2016	174.22	249.87	249.87
	Claimed by the Petitioner in the instant petition	170.28	258.70	259.94
	Allowed after true-up in this order	170.06	257.87	258.44
Asset III	Approved vide order dated 29.6.2018 in Petition No.133/TT/2017	0.00	335.68	456.99
	Claimed by the Petitioner in the instant petition	0.00	349.33	474.18
	Allowed after true-up in this order	0.00	345.01	463.70

Interest on Loan (IoL)

53. The Petitioner has claimed change in interest rates prevailing as on 1.4.2019 for respective loans. The change in interest rate is due to floating rate of interest



applicable for the transmission assets to be claimed/ adjusted over a period of 5 years directly from the beneficiaries. We have considered the submissions of the Petitioner and accordingly calculated IoL based on actual interest rate in accordance with Regulation 26 of the 2014 Tariff Regulations. IoL has been worked out as follows:

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

54. The details of IoL calculated are as follows:

(₹ in lakh)

Asset I			
Particulars	2016-17 (Pro-rata 338 days)	2017-18	2018-19
Gross Normative Loan	3242.15	5634.45	6249.88
Cumulative Repayments up to Previous Year	0.00	278.51	689.14
Net Loan-Opening	3242.15	5355.94	5560.75
Addition due to ACE	2392.30	615.43	330.04
Repayment during the year	278.51	410.62	442.47
Net Loan-Closing	5355.94	5560.75	5448.31
Average Loan	4299.04	5458.34	5504.53
Weighted Average Rate of Interest on Loan (%)	8.725%	8.124%	8.000%
Interest on Loan	347.35	443.42	440.34

(₹ in lakh)

Asset II			
Particulars	2016-17 (Pro-rata 264 days)	2017-18	2018-19
Gross Normative Loan	2868.34	3456.44	3471.81
Cumulative Repayments up to Previous Year	0.00	170.06	427.92
Net Loan-Opening	2868.34	3286.39	3043.88
Addition due to ACE	588.10	15.36	0.00
Repayment during the year	170.06	257.87	258.44
Net Loan-Closing	3286.39	3043.88	2785.45
Average Loan	3077.36	3165.13	2914.66
Weighted Average Rate of Interest on Loan (%)	8.238%	8.149%	8.123%
Interest on Loan	183.35	257.94	236.77



(₹ in lakh)

Asset-III		
Particular	2017-18 (Pro-rata 301 days)	2018-19
Gross Normative Loan	5083.57	6009.53
Cumulative Repayments up to Previous Year	0.00	345.01
Net Loan-Opening	5083.57	5664.52
Addition due to ACE	925.96	275.99
Repayment during the year	345.01	463.70
Net Loan-Closing	5664.52	5476.81
Average Loan	5374.04	5570.66
Weighted Average Rate of Interest on Loan (%)	7.897%	7.863%
Interest on Loan	349.97	438.02

55. The details of IoL allowed in respect of the transmission assets vide order dated 30.6.2016 in Petition No. 26/TT/2016 and vide order dated 29.6.2018 in Petition No. 133/TT/2017, as claimed by the Petitioner in the instant petition and trued up in the instant order are as follows:

(₹ in lakh)

Assets	Particulars	2016-17	2017-18	2018-19
Asset-I	Approved vide order dated 30.6.2016 in Petition No. 26/TT/2016	394.13	597.24	614.64
	Claimed by the Petitioner in the instant petition	347.20	442.79	439.07
	Allowed after true-up in this order	347.35	443.42	440.34
Asset II	Approved vide order dated 30.6.2016 in Petition No. 26/TT/2016	189.25	255.19	234.53
	Claimed by the Petitioner in the instant petition	183.59	258.81	238.26
	Allowed after true-up in this order	183.35	257.94	236.77
Asset III	Approved vide order dated 29.6.2018 in Petition No. 133/TT/2017	0.00	345.63	440.35
	Claimed by the Petitioner in the instant petition	0.00	349.83	437.27
	Allowed after true-up in this order	0.00	349.97	438.02

Return on Equity (RoE)

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



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

57. We have considered the submissions of the Petitioner. The Commission vide order dated 27.4.2020 in Petition No. 274/TT/2019 has arrived at the effective tax rate for the Petitioner based on the notified MAT rates and the same is given in the table as follows:

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

58. MAT rates are considered for the purpose of grossing up of the rate of RoE for truing up of the tariff for 2014-19 period in terms of the provisions of the 2014 Tariff Regulations as follows:

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

59. The Petitioner has prayed to allow it to claim the differential tariff on account of the trued-up RoE based on effective rate calculated on completion of Income tax assessment/ reassessment for 2014-15, 2015-16, 2016-17, 2017-18 and 2018-19 on receipt of respective assessment orders, directly from the beneficiaries, on yearly basis as provided under the 2014 Tariff Regulations.



60. The Petitioner has also claimed additional RoE of 0.5% in respect of Asset-I and Asset-II. The Petitioner has submitted SRPC certificate in support of its claim for additional RoE in line with Regulation 24(2)(iii) of the 2014 Tariff Regulations. The Petitioner has also submitted that the Commission vide its order dated 29.6.2018 in Petition No. 133/TT/2017 disallowed the claim in respect of additional RoE for Asset-III.

61. TANGEDCO has submitted that SRPC has issued certificate for claiming additional RoE in line with Regulation 24(2)(iii) of the 2014 Tariff Regulations for Asset-I and Asset-II in anticipation of commissioning of the ICT and the RE generators. TANGEDCO has further submitted that the assets were not brought into beneficial use as RE generators were not commissioned even though Asset-I and Asset-II were commissioned on 28.4.2016 and 11.7.2016 respectively. In the 39th CCM held on 29.10.2018, CTU stated that LTA of 1500 MW was operationalized at NP Kunta w.e.f 1.10.2018. TANGEDCO has submitted that the RE generators were not commissioned till 1.10.2018 and the transmission assets would have not been brought into beneficial use till 1.10.2018 and as such the claim for additional RoE in respect of transmission Asset-I and Asset-II may be disallowed. TANGEDCO has also submitted that Petitioner's claim for additional RoE in respect of Asset-II should be disallowed as it was commissioned with delay of 39 days from the SCOD.

62. In response, the Petitioner has submitted that the Commission vide order dated 30.6.2016 in Petition No. 26/TT/2016 did not allow the additional RoE in view of part commissioning of the transmission assets and observed that the same would be reviewed at the time of truing up. The Petitioner has submitted that Asset-I and Asset-



It have been commissioned within the specified timeline as stipulated in the 2014 Tariff Regulations as per Appendix-I.

63. We have considered the submission of the Petitioner and TANGEDCO. The Commission vide order dated 30.6.2016 in Petition No. 26/TT/2016 disallowed the additional RoE due to part commissioning of the transmission assets and the Petitioner was directed to submit SRPC certificate at the time of truing up in line with Regulation 24(2)(iii) of the 2014 Tariff Regulations. In compliance of the directions of the Commission vide order dated 30.6.2016 in Petition No. 26/TT/2016, the Petitioner has submitted SRPC Certificate in the instant petition.

64. APTEL vide its judgment dated 2.9.2013 in Appeal No. 46 of 2013 in the matter of PGCIL v. CERC held as follows:

“19. The time of completion of a transmission project could not be compared with the internal schedule set up by the transmission licensee for the purpose of considering additional Return on Equity. The completion time of the transmission line has to be compared with the schedule specified in the Regulations. Admittedly, the transmission project of the Appellant has been commissioned within the time schedule specified in the Regulations. Accordingly, the Appellant is entitled to additional Return on Equity @ 0.5% for the project.”

65. It is observed that Asset-I and Asset-II have been commissioned as per timelines specified in the 2014 Tariff Regulations for claiming additional RoE of 0.5%. However, as the line length for Asset-I is less than 50 km, it is not eligible for additional RoE of 0.5%. Accordingly, additional RoE of 0.5% only in respect of Asset-II is allowed in the instant petition.

66. Accordingly, RoE allowed in respect of the transmission assets is as follows:



(₹ in lakh)

Asset I			
Particulars	2016-17 (Pro-rata 338 days)	2017-18	2018-19
Opening Equity	1389.43	2414.70	2678.46
Addition due to ACE	1025.27	263.76	141.45
Closing Equity	2414.70	2678.46	2819.91
Average Equity	1902.07	2546.58	2749.18
Return on Equity (Base Rate) (%)	15.50	15.50%	15.50%
Tax Rate applicable (%)	21.342%	21.342%	21.549%
Rate of Return on Equity (Pre-tax)	19.705%	19.705%	19.758%
Return on Equity (Pre-tax)	347.09	501.82	543.19

(₹ in lakh)

Asset II			
Particulars	2016-17 (Pro-rata 264 days)	2017-18	2018-19
Opening Equity	1229.29	1481.33	1487.91
Addition due to ACE	252.04	6.58	0.00
Closing Equity	1481.33	1487.91	1487.91
Average Equity	1355.31	1484.62	1487.91
Return on Equity (Base Rate) (%)	16.000%	16.000%	16.000%
Tax Rate applicable (%)	21.342%	21.342%	21.549%
Rate of Return on Equity (Pre-tax)	20.341%	20.341%	20.395%
Return on Equity (Pre-tax)	199.40	301.99	303.46

(₹ in lakh)

Asset-III		
Particulars	2017-18 (Pro-rata 301 days)	2018-19
Opening Equity	2178.67	2575.51
Addition due to ACE	396.84	118.28
Closing Equity	2575.51	2693.79
Average Equity	2377.09	2634.65
Return on Equity (Base Rate) (%)	15.500%	15.500%
Tax Rate applicable (%)	21.342%	21.549%
Rate of Return on Equity (Pre-tax)	19.705%	19.758%
Return on Equity (Pre-tax)	386.27	520.55

67. The details of RoE allowed in respect of the transmission assets vide order dated 30.6.2016 in Petition No. 26/TT/2016 and vide order dated 29.6.2018 in Petition No. 133/TT/2017, as claimed by the Petitioner in the instant petition and tried up in the instant order are as follows:



(₹ in lakh)				
Assets	Particulars	2016-17	2017-18	2018-19
Asset I	Approved vide order dated 30.6.2016 in Petition No. 26/TT/2016	378.58	600.77	657.71
	Claimed by the Petitioner in the instant petition	358.29	518.01	560.71
	Allowed after true-up in this order	347.09	501.82	543.19
Asset II	Approved vide order dated 30.6.2016 in Petition No. 26/TT/2016	198.82	285.92	285.92
	Claimed by the Petitioner in the instant petition	199.66	302.97	305.23
	Allowed after true-up in this order	199.40	301.99	303.46
Asset III	Approved vide order dated 29.6.2018 in Petition No. 133/TT/2017	0.00	374.02	509.19
	Claimed by the Petitioner in the instant petition	0.00	386.28	520.55
	Allowed after true-up in this order	0.00	386.27	520.55

Operation & Maintenance Expenses (O&M Expenses)

68. Regulation 29(3) of the 2014 Tariff Regulations specifies the norms for O&M Expenses for the transmission system. The total O&M Expenses in respect of the transmission assets claimed by the Petitioner are as follows:

(₹ in lakh)			
Asset I			
Particulars	2016-17 (Pro-rata 338 days)	2017-18	2018-19
Sub-station bays			
400 kV Sub-station	3	3	3
220 kV Sub-station	2	2	2
Norm (₹ lakh/bay)			
400 kV Sub-station	64.37	66.51	68.71
220 kV Sub-station	45.06	46.55	48.10
Total Sub-station O&M Expenses	304.01	339.18	350.43
Transmission Line			
Norms (₹ lakh/ km)	0.76	0.78	0.81
Length of line (km)	9.512	9.512	9.512
Total Transmission line O&M Expenses	6.65	7.42	7.67
Total O&M Expenses	310.66	346.60	358.10



(₹ in lakh)

Asset II			
Particulars	2016-17 (Pro-rata 264 days)	2017-18	2018-19
Sub-station bays			
400 kV Sub-station	3	3	3
220 kV Sub-station	2	2	2
Norm (₹ lakh/bay)			
400 kV Sub-station	64.37	66.51	68.71
200 kV Sub-station	45.06	46.55	48.1
Total O&M Expenses	204.86	292.63	302.33

(₹ in lakh)

Asset III		
Particulars	2017-18 (Pro-rata 301 days)	2018-19
Sub-station bays		
400 kV Sub-station	2	2
Norm (₹ lakh/bay)		
400 kV Sub-station	66.51	68.71
Total O&M Expenses	109.70	137.42

69. O&M Expenses are in accordance with the 2014 Tariff Regulations and are accordingly allowed.

70. The details of the O&M Expenses allowed in respect of the transmission assets vide order dated 30.6.2016 in Petition No. 26/TT/2016 and vide order dated 29.6.2018 in Petition No. 133/TT/2017, as claimed by the Petitioner in the instant petition and as trued up in the instant order is as follows:

(₹ in lakh)

Assets	Particulars	2016-17	2017-18	2018-19
Asset I	Approved vide order dated 30.6.2016 in Petition No. 26/TT/2016	307.81	343.42	354.82
	Claimed by the Petitioner in the instant petition	310.66	346.60	358.10
	Allowed after in this order	310.66	346.60	358.10
Asset II	Approved vide order dated 30.6.2016 in Petition No. 26/TT/2016	212.62	292.63	302.33
	Claimed by the Petitioner in the instant petition	204.86	292.63	302.33
	Allowed after true-up in this order	204.86	292.63	302.33
Asset III	Approved vide order dated 29.6.2018 in Petition No. 133/TT/2017	0.00	109.70	137.42
	Claimed by the Petitioner in the instant petition	0.00	109.70	137.42
	Allowed after true-up in this order	0.00	109.70	137.42



Interest on Working Capital (IWC)

71. The Petitioner has claimed IWC as per Regulation 28(1)(c) of the 2014 Tariff Regulations.

72. IWC allowed in respect of the transmission assets is as follows:

(₹ in lakh)

Asset I			
Particulars	2016-17 (Pro-rata 338 days)	2017-18	2018-19
O&M Expenses (O&M Expenses for one month)	27.96	28.88	29.84
WC for Maintenance Spares (15% of O&M Expenses)	50.32	51.99	53.71
WC for receivables (Equivalent to two months of annual fixed cost /annual transmission charges)	237.77	291.69	305.65
Total Working Capital	316.04	372.56	389.21
Rate of Interest on working capital (%)	12.80%	12.80%	12.80%
Interest of Working Capital	37.46	47.69	49.82

(₹ in lakh)

Asset II			
Particulars	2016-17 (Pro-rata 264 days)	2017-18	2018-19
O&M Expenses (O&M Expenses for one month)	23.60	24.39	25.19
WC for Maintenance Spares (15% of O&M Expenses)	42.48	43.89	45.35
WC for receivables (Equivalent to two months of annual fixed cost /annual transmission charges)	179.83	190.59	189.04
Total Working Capital	245.92	258.87	259.58
Rate of Interest on working capital (%)	12.80%	12.80%	12.80%
Interest of Working Capital	22.77	33.14	33.23

(₹ in lakh)

Asset-III		
Particulars	2017-18 (Pro-rata 301 days)	2018-19
O&M Expenses (O&M Expenses for One month)	11.09	11.45
WC for Maintenance Spares (15% of O&M Expenses)	19.95	20.61
WC for receivables (Equivalent to two months of annual fixed cost /annual transmission charges)	246.52	266.21
Total Working Capital	277.56	298.28
Rate of Interest on working capital (%)	12.60%	12.60%
Interest of Working Capital	28.84	37.58



73. The details of IWC allowed in respect of the transmission assets vide order dated 30.6.2016 in Petition No. 26/TT/2016 and order dated 29.6.2018 in Petition No. 133/TT/2017, as claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

(₹ in lakh)				
Assets	Particulars	2016-17	2017-18	2018-19
Asset I	Approved vide order dated 30.6.2016 in Petition No. 26/TT/2016	39.41	54.22	57.19
	Claimed by the Petitioner in the instant petition	37.78	48.20	50.35
	Allowed after true-up in this order	37.46	47.69	49.82
Asset II	Approved vide order dated 30.6.2016 in Petition No. 26/TT/2016	23.38	32.55	32.61
	Claimed by the Petitioner in the instant petition	22.78	33.19	33.33
	Allowed after true-up in this order	22.77	33.14	33.23
Asset III	Approved vide order dated 29.6.2018 in Petition No. 133/TT/2017	0.00	28.74	37.85
	Claimed by the Petitioner in the instant petition	0.00	28.93	37.79
	Allowed after true-up in this order	0.00	28.84	37.58

Approved Annual Fixed Charges for 2014-19 Tariff Period

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

(₹ in lakh)			
Asset-I			
Particulars	2016-17 (Pro-rata 338 days)	2017-18	2018-19
Depreciation	278.51	410.62	442.47
Interest on Loan	347.35	443.42	440.34
Return on Equity	347.09	501.82	543.19
Interest on Working Capital	37.46	47.69	49.82
O&M Expenses	310.66	346.60	358.10
Total	1321.07	1750.14	1833.92

(₹ in lakh)			
Asset-II			
Particulars	2016-17 (Pro-rata 264 days)	2017-18	2018-19
Depreciation	170.06	257.87	258.44
Interest on Loan	183.35	257.94	236.77
Return on Equity	199.40	301.99	303.46
Interest on Working Capital	22.77	33.14	33.23
O&M Expenses	204.86	292.63	302.33
Total	780.43	1143.56	1134.22



(₹ in lakh)

Asset III		
Particulars	2017-18 (Pro-rata 301 days)	2018-19
Depreciation	345.01	463.70
Interest on Loan	349.97	438.02
Return on Equity	386.27	520.55
Interest on Working Capital	28.84	37.58
O&M Expenses	109.70	137.42
Total	1219.79	1597.28

75. The details of the annual fixed charges allowed in respect of the transmission assets vide order dated 30.6.2016 in Petition No. 26/TT/2016 and vide order dated 29.6.2018 in Petition No. 133/TT/2017, as claimed by the Petitioner in the instant petition and as trued up in the instant order are as follows:

(₹ in lakh)

Assets	Particulars	2016-17	2017-18	2018-19
Asset I	Approved vide order dated 30.6.2016 in Petition No. 26/TT/2016	1416.50	2060.65	2184.15
	Claimed by the Petitioner in the instant petition	1336.18	1774.26	1858.75
	Allowed after true-up in this order	1321.07	1750.14	1833.92
Asset II	Approved vide order dated 30.6.2016 in Petition No. 26/TT/2016	798.28	1116.16	1105.25
	Claimed by the Petitioner in the instant petition	781.17	1146.30	1139.09
	Allowed after true-up in this order	780.43	1143.56	1134.22
Asset III	Approved vide order dated 29.6.2018 in Petition No. 133/TT/2017	0.00	1193.78	1581.80
	Claimed by the Petitioner in the instant petition	0.00	1224.07	1607.21
	Allowed after true-up in this order	0.00	1219.79	1597.28

DETERMINATION OF ANNUAL FIXED CHARGES FOR 2019-24 TARIFF PERIOD

76. The Petitioner has claimed the following transmission charges in respect of the Combined Asset comprising of Asset-I, Asset-II and Asset-III for 2019-24 tariff period:



(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	960.50	971.64	978.57	981.94	966.12
Interest on Loan	793.51	732.06	668.94	599.86	520.25
Return on Equity	1050.12	1067.14	1078.84	1084.53	1084.53
Interest on Working Capital	86.02	87.25	88.17	88.95	89.00
O&M Expenses	1006.32	1042.25	1078.76	1117.33	1155.05
Total	3896.47	3900.34	3893.28	3872.61	3814.95

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

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M expenses	83.86	86.85	89.90	93.11	96.25
Maintenance Spares	150.95	156.34	161.81	167.60	173.26
Receivables	479.07	480.86	479.99	477.45	469.05
Total	713.88	724.05	731.70	738.16	738.56
Rate of Interest on working capital (%)	12.05%	12.05%	12.05%	12.05%	12.05%
Interest on Working Capital	86.02	87.25	88.17	88.95	89.00

Effective Date of Commercial Operation (E-COD)

78. The Petitioner has claimed E-COD in respect of the Combined Asset as 5.10.2016. Based on the trued-up admitted capital cost and actual COD of all the assets, E-COD has been worked out as follows:

Computation of E-COD						
Assets	Actual COD	Admitted Capital Cost as on 31.3.2019	Weight of the cost (%)	Number of Days from last COD	Weighted Days	E-COD (Latest COD – Total weighted Days)
Asset I	28.4.2016	9399.89	40.28%	402	161.91	5.10.2016
Asset II	11.7.2016	4959.72	21.25%	328	69.70	
Asset III	4.6.2017	8979.31	38.47%	0	0.00	

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



Weighted Average Life (WAL)

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

81. The Combined Asset may have multiple elements such as land, building, transmission line, sub-station and PLCC and each element may have different span of life. Therefore, the concept of WAL has been used as the useful life of the project as a whole.

82. WAL has been determined based on the admitted capital cost of individual elements as on 31.3.2019 and their respective life as stipulated in the 2019 Tariff Regulations. Element-wise life as defined in the 2014 Tariff Regulations prevailing at the time of actual COD of individual assets has been ignored for this purpose. The life as defined in the 2019 Tariff Regulations has been considered for determination of WAL. Accordingly, WAL of the Combined Asset has been worked out as 26 years as follows:

Admitted Capital Cost as on 31.03.2019				
Particulars	Combined Cost (₹ in lakh) (a)	Life as per 2019 Regulation (Years) (b)	Weight (c)=[(a)x(b)]	Weighted Average Life of Assets (in years) (d)=[(c)/(a)]
Buildings	2361.92	25	59047.94	25.92 Years, rounded off to 26 years
Transmission Line	2585.14	35	90480.07	
Sub-station	18106.65	25	452666.28	
PLCC	94.54	15	1418.10	
Leasehold land	0.00	25	0.00	
IT Equipment and Software	190.66	7	1271.07	
Total	23338.91		604883.46	

83. WAL as on 1.4.2019 as determined above is applicable prospectively i.e. from 2019-24 tariff period onwards and no retrospective adjustment of depreciation in previous tariff period is required to be done. As discussed above, E-COD of the assets is 5.10.2016 and the lapsed life of the project as a whole works out as two (2)



years as on 1.4.2019 (i.e. the number of completed years as on 1.4.2019 from E-COD). Accordingly, WAL has been used to determine the remaining useful life as on 31.3.2019 to be 24 years.

Capital Cost

84. Regulations 19 of the 2019 Tariff Regulations provides as follows:

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

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

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



Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.

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

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

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

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

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

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

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

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

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



- (d) Proportionate cost of land of the existing project which is being used for generating power from generating station based on renewable energy; and
(e) Any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment.”

85. The element-wise capital cost (i.e. land, building, transmission line, sub-station and PLCC) as admitted by the Commission as on 31.3.2019 in respect of the transmission assets is clubbed together and has been considered as capital cost in respect of the Combined Asset as on 1.4.2019 which is as follows:

				(₹ in lakh)
Element	Asset-I	Asset- II	Asset- III	Capital cost for Combined Asset as on 31.3.2019
Building	2184.79	177.13	0.00	2361.92
Transmission Line	2585.14	0.00	0.00	2585.14
Sub Station	4452.62	4782.59	8871.44	18106.65
PLCC	94.54	0.00	0.00	94.54
Leasehold Land	0.00	0.00	0.00	0.00
IT Equipment and software	82.79	0.00	107.87	190.66
Total	2184.79	4959.72	8979.31	23338.91

86. The trued-up capital cost in respect of the Combined Asset is considered as admitted capital cost as on 1.4.2019 for working out the tariff for 2019-24 period.

Treatment of Grants received

87. The details of grants received and adjusted during 2019-20 period in respect of the transmission assets as claimed by the Petitioner is as follows:

			(₹ in lakh)
Assets	CFA Grant adjusted During 2019-20	Balance yet to be received	
Asset I	3437.72	0.00	
Asset II	840.14	0.00	
Asset III	648.07	696.31	
Total	4925.93	696.31	

88. The Petitioner has adjusted the amount of grant of ₹4925.93 lakh from the capital cost as on 31.3.2019 to arrive at the net opening capital cost as on 1.4.2019. Accordingly, the amount of grant of ₹4925.93 lakh received during 2019-2020 has been reduced from the trued-up capital cost as on 31.3.2019 to arrive at the capital



cost as on 1.4.2019. Thus, capital cost as on 1.4.2019 worked out to be ₹18412.98 lakh (₹23338.91 lakh - ₹4925.93 lakh).

Additional Capital Expenditure (ACE)

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

“24. Additional Capitalization within the original scope and upto the cut-off date:

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

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

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

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

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

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

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

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



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

90. The Petitioner has claimed the following ACE for 2019-24 period:

Asset	Regulation Claimed	ACE		
		2019-20	2020-21	2021-22
I	25(1)(f) of 2019 Tariff Regulations- Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;	283.05	213.5	201.86
III	24(1)(a) (undischarged liabilities)	87.32	0.00	0.00
	24(1)(b) (Works deferred for execution) of the 2019 Tariff Regulations	20.00	0.00	0.00
Total		390.37	213.50	201.86

91. The Petitioner has claimed ACE vide revised Auditor's certificate dated 17.3.2021 for ₹283.05 lakh in respect of Asset-I which is within the original scope of works and executed after the cut-off date. The same has been claimed under Regulation 25(1)(f) of the 2019 Tariff Regulations on account of unexecuted works. For Asset-III, ACE incurred is on account of un-discharged liability towards final payment/ withheld payment due to contractual exigencies for works executed within the cut-off date under Regulation 24(1)(a) (undischarged liabilities) and 24(1)(b) (unexecuted works) of the 2019 Tariff Regulations.

92. ACE allowed in respect of the transmission assets of the Combined Asset is as follows:



(₹ in lakh)

Asset	Regulation Claimed	ACE			
		2019-20	2020-21	2021-22	Total
I	25(1)(f)- Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;	283.05	213.5	201.86	698.41
III	24(1)(a) (undischarged liabilities)	87.32	0.00	0.00	87.32
	24(1)(b) (Works deferred for execution)	20.00	0.00	0.00	20.00
Total		390.37	213.50	201.86	805.73

Capital Cost for 2019-24 tariff period

93. Accordingly, capital cost in respect of the Combined Asset considered for 2019-24 tariff period is as follows:

(₹ in lakh)

Assets	Capital Cost allowed as on 1.4.2019 (A)	CFA Grant adjusted as on 1.4.2019 (B)	Capital cost as on 1.4.2019 (C) = (A-B)	ACE allowed for the year 2019-24				Total Estimated Completion Cost up to 31.3.2024
				2019-20	2020-21	2021-22	Total	
I	9399.89	3437.72	5962.17	283.05	213.50	201.86	698.41	6660.58
II	4959.72	840.14	4119.58	0.00	0.00	0.00	0.00	4119.58
III	8979.31	648.07	8331.24	107.32	0.00	0.00	107.32	8438.56
Total	23338.92	4925.93	18412.99	390.37	213.50	201.86	805.73	19218.72

94. Against the overall apportioned approved capital cost as per FR of ₹31294.51 lakh, the estimated project cost in respect of the Combined Asset including ACE is ₹19218.72 lakh which is within the approved cost. Therefore, there is no cost over-run as per the apportioned approved cost. The major variation in the cost is due to the reduction in the IDC and IEDC.

Debt-Equity Ratio

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

“18. Debt-Equity Ratio:

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



Provided that:

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

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

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

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

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

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

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

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

(6) Any expenditure incurred for the emission control system during the tariff period as may be admitted by the Commission as additional capital expenditure for determination of supplementary tariff, shall be serviced in the manner specified in clause (1) of this Regulation.”



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

Particulars	(₹ in lakh)			
	Capital Cost as on 1.4.2019 (₹ in lakh)	(%)	Capital Cost as on 31.3.2024 (₹ in lakh)	(%)
Debt	12889.09	70.00	13453.10	70.00
Equity	5523.90	30.00	5765.61	30.00
Total	18412.99	100.00	19218.71	100.00

Depreciation

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

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

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

- a) twenty five years, in case the generating station or unit thereof is in operation for fifteen years or less as on the date of operation of the emission control system; or
- b) balance useful life of the generating station or unit thereof plus fifteen years, in case the generating station or unit thereof is in operation for more than fifteen years as on the date of operation of the emission control system; or
- c) ten years or a period mutually agreed by the generating company and the beneficiaries, whichever is higher, in case the generating station or unit thereof has completed its useful life."

98. IT equipment has been considered as a part of the Gross Block and depreciated using Weighted Average Rate of Depreciation (WAROD). WAROD has



been worked out and given as Annexure-2 after taking into account the depreciation rates of IT and non-IT assets as prescribed in the 2019 Tariff Regulations. The salvage value of IT equipment has been considered nil, i.e. IT asset has been considered as 100% depreciable. Depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. Depreciation allowed in respect of the Combined Asset is as follows:

(₹ in lakh)					
Combined Asset					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	18412.99	18803.35	19016.85	19218.71	19218.71
ACE	390.37	213.50	201.86	0.00	0.00
Closing Gross Block	18803.36	19016.85	19218.71	19218.71	19218.71
Average Gross Block	18608.17	18910.10	19117.78	19218.71	19218.71
Weighted Average Rate of Depreciation (WAROD) (%)	5.15%	5.13%	5.11%	5.10%	5.10%
Balance useful life at the beginning of the year (Year)	24	23	22	21	20
Lapsed useful life of the asset at the beginning of the year (Year)	2	3	4	5	6
Aggregated Depreciable Value	16762.40	17034.14	17221.05	17311.89	17311.89
Depreciation during the year	959.02	970.14	977.08	980.45	980.45
Cumulative depreciation at the end of the year	3585.70	4555.84	5532.92	6513.38	7493.83
Remaining aggregated depreciable value at the end of the year	13176.70	12478.30	11688.13	10798.51	9818.06

Interest on Loan (IoL)

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

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

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

(3) The repayment for each of the year of the tariff period 2019-24 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account



cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalisation of such asset.

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year. (5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:

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

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

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

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

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

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

(₹ in lakh)					
Combined Asset					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	12889.09	13162.35	13311.80	13453.10	13453.10
Cumulative Repayments up to Previous Year	2626.68	3585.70	4555.84	5532.92	6513.38
Net Loan-Opening	10262.41	9576.65	8755.96	7920.18	6939.73



Addition due to ACE	273.26	149.45	141.30	0.00	0.00
Repayment during the year	959.02	970.14	977.08	980.45	980.45
Net Loan-Closing	9576.65	8755.96	7920.18	6939.73	5959.27
Average Loan	9919.53	9166.30	8338.07	7429.95	6449.50
Weighted Average Rate of Interest on Loan (%)	8.014%	8.003%	8.043%	8.098%	8.086%
Interest on Loan	794.93	733.59	670.61	601.65	521.52

Return on Equity (RoE)

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

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

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

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

Provided further that:

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

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

iii. in case of a thermal generating station, with effect from 1.4.2020: rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute; an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute, subject to ceiling of additional rate of return on equity of 1.00%:



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

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

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

Rate of pre-tax return on equity = Base rate / (1-t)

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

Illustration-

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

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

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

(a) Estimated Gross Income from generation or transmission business for FY 2019-20 is Rs 1,000 crore;

(b) Estimated Advance Tax for the year on above is Rs 240 crore;

(c) Effective Tax Rate for the year 2019-20 = Rs 240 Crore / Rs 1000 Crore = 24%;

(d) Rate of return on equity = $15.50 / (1 - 0.24) = 20.395\%$.

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



102. RoE allowed in respect of the Combined Asset under Regulation 30 of the 2019 Tariff Regulations is as follows:

(₹ in lakh)					
Combined Asset					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	5523.90	5641.01	5705.06	5765.61	5765.61
Addition due to ACE	117.11	64.05	60.56	0.00	0.00
Closing Equity	5641.01	5705.06	5765.61	5765.61	5765.61
Average Equity	5582.45	5673.03	5735.33	5765.61	5765.61
Return on Equity (Base Rate) (%)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax Rate applicable (%)	17.47%	17.47%	17.47%	17.47%	17.47%
Rate of Return on Equity (Pre-tax)	18.78%	18.78%	18.78%	18.78%	18.78%
Return on Equity (Pre-tax)	1048.50	1065.51	1077.21	1082.90	1082.90

Operation & Maintenance Expenses (O&M Expenses)

103. Regulation 35(3)(a) and Regulation 35(4) of the 2019 Tariff Regulations provide as follows:

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

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<i>Norms for sub-station Bays (₹ Lakh per bay)</i>					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
132 kV and below	16.08	16.64	17.23	17.83	18.46
<i>Norms for Transformers (₹ Lakh per MVA)</i>					
765 kV	0.491	0.508	0.526	0.545	0.564
400 kV	0.358	0.371	0.384	0.398	0.411
220 kV	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.245	0.254	0.263	0.272	0.282
<i>Norms for AC and HVDC lines (₹ Lakh per km)</i>					
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-conductors)	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple Conductor)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single Conductor)	0.252	0.260	0.270	0.279	0.289



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Double Circuit (Bundled conductor with four or more sub-conductors)	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
Norms for HVDC stations					
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (₹ Lakh per 500 MW)	1,666	1,725	1,785	1,848	1,913
500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)	2,468	2,555	2,645	2,738	2,834
±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)	2,563	2,653	2,746	2,842	2,942

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

Provided further that:

- i. the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed pro-rata on the basis of normative rate of operation and maintenance expenses of similar HVDC bi-pole scheme for the corresponding year of the tariff period;
- ii. the O&M expenses norms for HVDC bi-pole line shall be considered as Double Circuit quad AC line;
- iii. the O&M expenses of ±500 kV Mundra-Mohindergarh HVDC bipole scheme (2000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ±500 kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);
- iv. the O&M expenses of ±800 kV Champa-Kurukshetra HVDC bi-pole scheme (3000 MW) shall be on the basis of the normative O&M expenses for ±800 kV, Bishwanath-Agra HVDC bi-pole scheme;
- v. the O&M expenses of ±800 kV, Alipurduar-Agra HVDC bi-pole scheme (3000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ±800 kV, Bishwanath-Agra HVDC bi-pole scheme; and
- vi. the O&M expenses of Static Synchronous Compensator and Static Var Compensator shall be worked at 1.5% of original project cost as on commercial operation which shall be escalated at the rate of 3.51% to work out



the O&M expenses during the tariff period. The O&M expenses of Static Synchronous Compensator and Static Var Compensator, if required, may be reviewed after three years.

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

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

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

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

104. The total O&M Expenses claimed by the Petitioner are as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Transmission Lines: Double Circuit (Twin Conductor)					
Normative Rate of O&M Expenses as per Regulation	0.881	0.912	0.944	0.977	1.011
Number of Units – (Length in km)	9.512	9.512	9.512	9.512	9.512
O&M Expenses	8.38	8.67	8.98	9.29	9.62
400 kV Sub-Station					
Normative Rate of O&M as per Regulation	32.15	33.28	34.45	35.66	36.91
Number of Units	6.00	6.00	6.00	6.00	6.00
O&M Expenses	192.90	199.68	206.70	213.96	221.46
220kV Sub-Station					
Normative Rate of O&M Expenses as per Regulation	22.51	23.30	24.12	24.96	25.84
Number of Units	5.00	5.00	5.00	5.00	5.00
O&M Expenses	112.55	116.50	120.60	124.80	129.20
400 kV Sub-Station ICT					
Normative Rate of O&M Expenses as per Regulation	0.358	0.371	0.384	0.398	0.411
Number of Units	3.00	3.00	3.00	3.00	3.00
MVA	500.00	500.00	500.00	500.00	500.00
O&M Expenses	537.00	556.50	576.00	597.00	616.50
Static Synchronous Compensator					
Normative Rate of O&M Expenses as per Regulation	1.500	1.553	1.607	1.664	1.722



Original project cost as on COD (Amount in ₹ lakh)	10266.49	10266.49	10266.49	10266.49	10266.49
O&M Expenses	154.00	159.40	165.00	170.79	176.78
PLCC					
Normative Rate of O&M as per Regulation	2.00	2.00	2.00	2.00	2.00
The original project cost / Asset related to the communication system (Amount in ₹ lakh)	74.61	74.61	74.61	74.61	74.61
O&M Expenses	1.49	1.49	1.49	1.49	1.49
Total O&M Expenses	1006.32	1042.25	1078.76	1117.33	1155.05

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

106. The O&M expenses worked out towards transmission lines and Sub-station is as follows:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Transmission Lines: Double Circuit (Twin Conductor)					
Normative Rate of O&M Expenses as per Regulation	0.881	0.912	0.944	0.977	1.011
Number of Units - (Length in km)	9.512	9.512	9.512	9.512	9.512
O&M Expenses (₹ in lakh)	8.38	8.67	8.98	9.29	9.62
400kV Sub-Station					
Normative Rate of O&M Expenses as per Regulation	32.15	33.28	34.45	35.66	36.91
Number of Units	6.00	6.00	6.00	6.00	6.00
O&M Expenses (₹ in lakh)	192.90	199.68	206.70	213.96	221.46



220kV Sub-Station					
Normative Rate of O&M Expenses as per Regulation	22.51	23.30	24.12	24.96	25.84
Number. of Units	5.00	5.00	5.00	5.00	5.00
O&M Expenses (₹ in lakh)	112.55	116.50	120.60	124.80	129.20
400 kV Sub-station ICT					
Normative Rate of O&M Expenses as per Regulation	0.358	0.371	0.384	0.398	0.411
Number of Units	3.00	3.00	3.00	3.00	3.00
MVA	500.00	500.00	500.00	500.00	500.00
O&M Expenses (₹ in lakh)	537.00	556.50	576.00	597.00	616.50
Total O&M Expenses allowed towards transmission line and Sub-station (₹ in lakh)	842.45	881.35	903.30	944.95	976.78

107. The Petitioner has claimed O&M expenses for +/- 100 MVAR Statcom (SVC) at NP Kunta PS by considering the capital cost as on 31.3.2019. Regulation 35(3)(v) of the 2019 Tariff Regulations, provides as follows:

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

108. Further, ‘original project cost’ is specified in Regulation 3(46) of the 2019 Tariff Regulations as follows:

“(46) ‘Original Project Cost’ means the capital expenditure incurred by the generating company or the transmission licensee, as the case may be, within the original scope of the project up to the cut-off date, and as admitted by the Commission.”

109. While “Original Project Cost” as defined in Regulation 3(46) of the 2019 Tariff Regulations covers capital expenditure/ cost within the original scope of the project up to the cut-off date, clause (vi) of the second proviso to Regulation 35(3)(a) of the 2019 Tariff Regulations refers to the “original project cost” of the STATCOM as on COD for the purpose of determining O&M Expenses.

110. We also observe that “original project cost” includes components of IDC, IEDC, land cost and cost of civil works. However, as per Regulation 3(45) of the 2019 Tariff



Regulations extracted hereunder, the O&M Expenses are allowed for operation and maintenance of the project or part thereof and includes the expenditure towards manpower, maintenance, repairs and maintenance etc. but it excludes IDC, IEDC, land cost and cost of civil works:

“(45) ‘Operation and Maintenance Expenses’ or ‘O&M expenses’ means the expenditure incurred for operation and maintenance of the project, or part thereof, and includes the expenditure on manpower, maintenance, repairs and maintenance spares, consumables, insurance and overheads and fuel other than used for generation of electricity;”

111. Therefore, we are of the view that determination of O&M Expenses on the basis of project cost (including IDC, IEDC land cost and cost of civil work) will not be consistent with the provisions of the 2019 Tariff Regulations as extracted above.

112. Regulation 76 of the 2019 Tariff Regulations provides for relaxation of any of the provisions of the 2019 Tariff Regulations by recording the reasons for the same.

The said Regulation provides as follows.

“76. Power to Relax: The Commission, for reasons to be recorded in writing, may relax any of the provisions of these regulations on its own motion or on an application made before it by an interested person.”

113. To address above issues arising out of the difference in the way in which “original project cost” has been considered in clause (vi) of the second proviso to Regulation 35(3)(a) and Regulation 3(46) of the 2019 Tariff Regulations, we relax clause (vi) of the second proviso to Regulation 35(3)(a) of the 2019 Tariff Regulations under Regulation 76 of the 2019 Tariff Regulations and allow O&M Expenses for the transmission assets @1.5% of the Plant and Machinery cost (excluding IDC, IEDC, land cost and cost of civil works) of the STATCOM as on the cut-off date. The same has been escalated at the rate of 3.51% to work out the O&M Expenses for the 2019-24 tariff period.



114. Accordingly, O&M Expenses allowed for STATCOM (SVC) are as follows:

Static Synchronous Compensator					
	2019-20	2020-21	2021-22	2022-23	2023-24
Plant and Machinery cost excluding IDC, IEDC, Land cost and cost of Civil works (₹ lakh)	9598.59	9598.59	9598.59	9598.59	9598.59
Normative Rate of O&M Expenses as per Regulation (%)	1.500	1.553	1.607	1.664	1.722
O&M Expenses (₹ in lakh)	143.98	149.03	154.26	159.68	165.28

Interest on Working Capital (IWC)

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

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

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

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

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

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

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

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

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

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

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



116. The Petitioner has submitted that it has computed IWC for 2019-24 period considering the bank rate as on 1.4.2019. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The rate of IWC considered is 12.05% (SBI 1-year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20, the rate of interest (RoI) for 2020-21 has been considered as 11.25% (SBI 1-year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points), whereas, RoI for 2021-22 onwards has been considered as 10.50% (SBI 1-year MCLR applicable as on 1.4.2021 of 7.00% plus 350 basis points). The components of the working capital and interest allowed thereon in respect of the Combined Asset are as follows:

(₹ in lakh)					
Combined Asset					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M expenses for one month)	82.90	85.87	88.88	92.06	95.17
Working Capital for Maintenance Spares (15% of O&M Expenses)	149.22	154.56	159.98	165.71	171.31
Working Capital for receivables (Equivalent to 45 days of annual fixed cost / annual transmission charges)	477.39	478.42	476.83	474.24	467.71
Total Working Capital	709.51	718.84	725.69	732.01	734.19
Rate of Interest (%)	12.05%	11.25%	10.50%	10.50%	10.50%
Interest of working capital	85.50	80.87	76.20	76.86	77.09

Annual Fixed Charges for 2019-24 Tariff Period

117. The various components of the Annual Fixed Charges in respect of the Combined Asset for 2019-24 tariff period are as follows:

(₹ in lakh)					
Combined Asset					
Particulars	2019-20	2020-21	201-22	2022-23	2023-24
Depreciation	959.02	970.14	977.08	980.45	980.45
Interest on Loan	794.93	733.59	670.61	601.65	521.52
Return on Equity	1048.50	1065.51	1077.21	1082.90	1082.90
Operation and Maintenance	85.50	80.87	76.20	76.86	77.09
Interest on Working Capital	994.81	1030.39	1066.54	1104.73	1142.06



Total	3882.75	3880.50	3867.64	3846.60	3804.02
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Filing Fee and Publication Expenses

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

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

Licence Fee and RLDC Fees and Charges

120. The Petitioner has requested to allow it to bill and recover license fee and RLDC fees and charges, separately from the Respondents.

121. TANGEDCO has submitted that the Petitioner is not entitled to claim licensee fee from the beneficiaries. TANGEDCO has further submitted that the parties herein are on commercial terms and since the Petitioner is a Company owned by Government of India, it cannot be permitted to put every financial burden on the beneficiaries.

122. In response, the Petitioner has submitted that fees and charges are to be paid by the Petitioner as ISTS licensee (deemed ISTS licensee) under the Central Electricity Regulatory Commission (Fees and Charges of RLDC and other matters) Regulations as amended from time to time shall also be recoverable from the DICs as provided under clause 70(3) of the 2019 Tariff Regulations.



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

Goods and Services Tax

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

125. TANGEDCO has submitted that the provisions under GST Act are very clear that GST is not applicable on transmission charges, hence, there is no question of claiming the tax retrospectively even if the tax is levied in future and it will be pass through. TANGEDCO has submitted that the Hon'ble High Court of Gujarat in its judgment dated 19.12.2018 in Special Civil Appeal No. 5343 of 2018 in the matter of Torrent Power Ltd. Vs. Union of India has quashed the clarification with regard to levying GST issued in para 4(1) of the impugned Circular No. 34/8/2018-GST dated 1.3.2018 by the Government of India as ultra vires the provisions of the GST Act as well as the notifications issued thereunder and made the rule absolute. TANGEDCO has submitted that the Petitioner should be restrained from including the paragraph relating to GST in all the petitions filed by it.



126. In response, the Petitioner has submitted that no GST is levied on the transmission service at present. In case, it is levied at any time in future, the same shall be borne and additionally paid by the Respondents directly to the Petitioner.

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

Security Expenses

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

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

Capital Spares

130. The Petitioner has sought reimbursement of capital spares at the end of tariff period. The Petitioner's claim, if any, shall be dealt with in accordance with the provisions of the 2019 Tariff Regulations.

Sharing of Transmission Charges

131. TANGEDCO has submitted that the Petitioner must recover the transmission charges of the transmission assets from the generators who have not commissioned



their project as on COD of the transmission assets. TANGEDCO has further submitted that as per Regulation 8(6) of the Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) Regulations, 2010 (in short, 'the 2010 Sharing Regulations'), the generator is liable to pay the transmission charges till the COD of the generating station.

132. TANGEDCO has submitted that CTUIL in its letter dated 28.5.2020 mentioned that an amount of ₹42.63 lakh is billed bilaterally to Andhra Pradesh Solar Power Corporation Pvt. Ltd. (APSPCPL) for the delay in commissioning of the solar generation. TANGEDCO has further submitted that in 39th CCM held on 29.10. 2018, CTUIL stated that LTA of 1500 MW was operationalized at NP Kunta w.e.f. 1.10.2018 which shows that large number of solar generators within the Solar Park have not commissioned their generating stations and, hence, they are liable to pay the transmission charges. The Petitioner should furnish the details of SPPDs/ generators who have not commissioned their generation projects on COD of the transmission assets along with statement of their proportionate tariff liability. The Petitioner should refund the excess amount, if any, recovered from DICs along with interest for the period from 28.4.2016 to 1.10.2018 attributable to the generators. TANGEDCO has further submitted that the Petitioner should be directed to furnish the details of the eligible generators as per the conditions stipulated in the Regulations.

133. In response, the Petitioner has submitted that the Petitioner has been entrusted with the implementation of "Transmission System for Ultra Mega Solar Park in Anantapur District, Andhra Pradesh - Part A (Phase-I), Part-B (Phase-II) and Part-C (Phase-III)". The scope of the scheme was discussed and agreed in 38th SCM meeting held on 7.3.2015, 27th SRPC meeting held on 12.5.2015 and 28th SRPC



meeting held on 10.10.2015. The Petitioner has submitted that the Commission vide order dated 6.8.2015 in Petition No. 29/MP/2015 accorded regulatory approval for execution of the transmission assets. The Petitioner has also submitted the details of the status of the generators, within the solar park of APSPCPL, covered in Part A (Phase-I), Part-B (Phase-II) and Part-C (Phase-III) of the transmission system. The Petitioner has submitted that LTA granted to APSPCCL at NP Kunta for 250 MW of Phase-I was operationalized with effect from 11.7.2016.

134. Though the Petitioner has provided status of solar power projects for Phase-I, Phase-II and Phase-III, in the instant petition, we are concerned only with Part A (Phase-I) of the transmission system for the purpose of sharing of transmission charges. Accordingly, we have extracted the details and status of the generators covered in Phase-I which is as follows:

Sl. No.	Block Name/ Name of the SPD	Phase	Block capacity in MW	Awarding Agency	Capacity commissioned (MW)	Date of commissioning
1.	NTPC	I (250)	100	NTPC	100	30.04.2016
2.	NTPC	I (250)	50	NTPC	50	30.05.2016
3.	NTPC	I (250)	50	NTPC	50	07.06.2016
4.	NTPC	I (250)	50	NTPC	50	10.08.2016

135. The Petitioner has submitted that APSPCPL is being billed for the period of mismatch between the transmission assets and the solar generators within the Solar Park.

136. We have considered the submissions of the Petitioner and TANGEDCO. Asset-I and Asset-II were envisaged to be put into commercial operation for evacuation of 250 MW of power commissioned under Phase-I of the solar park while Asset-III was required to be commissioned along with Phase-II of the solar park. The scheduled COD and the actual COD of the transmission assets are as follows:



Asset	SCOD	COD
Asset-I	03.06.2016	28.04.2016
Asset-II	03.06.2016	11.07.2016
Asset-III	12.07.2018	04.06.2017

137. From the above table, we note that Asset-I and Asset-III have achieved COD before their respective SCOD while COD of Asset-II is after its SCOD. Though Asset-III was envisaged to be put into commercial operation along with Phase-II of the solar park, the same was put into commercial operation along with Phase-I of the solar park to support the grid and voltage based upon discussions in 38th SCM of Power System Planning of SR and discussions and agreement in the meeting of SRPC held on 17.2.2018. This aspect was considered by the Commission in order dated 29.6.2018 in Petition No.133/TT/2017 and, accordingly, the Commission approved COD of Asset-III as 4.6.2017 even though it was before its SCOD of 12.7.2018. The relevant portion of the order dated 29.6.2018 is as follows:

“16. We have considered the submissions of the petitioner and TANGEDCO regarding the advancement of the COD of the instant asset. The petitioner has submitted that the COD of the instant asset was advanced and put into commercial operation on 4.6.2017 along with the Phase-I of the transmission system for Ultra Mega Solar Park. In support of commercial operation date, the petitioner has submitted the RLDC certificate dated 5.7.2017 issued by SRLDC, the CEA certificate dated 30.3.2017, under Regulation 43 of CEA (Measures Related to Safety & Electricity Supply) Regulations, 2010 and the CMD certificate. The instant asset would provide grid support through voltage control and also help in voltage ride through support to variable RE generation. It is further observed that the advancement of COD of the instant asset was discussed in the 38th Standing Committee Meeting on Power System Planning of SR and it was also discussed and agreed in the SRPC meeting held on 17.2.2018. Taking into consideration that the instant asset helps in grid support and voltage control and that the advancement has been agreed to by the constituents of SR, the advancement of the instant asset is approved and the COD of the instant asset is considered as 4.6.2017.”

138. We note that Asset-III has been put into commercial operation along with Phase-I of the solar park of APSPCPL. Accordingly, in terms of the discussions in SCM of Power System Planning of SR and discussions and agreement in the meeting of SRPC, transmission charges with effect from COD (4.6.2017) of Asset-III shall be



recovered from common pool of transmission charges as per provisions of the 2020 Sharing Regulations.

139. As observed above, Asset-I and Asset-II were envisaged for evacuation of power from Phase-I of the solar park. From the table at paragraph 134, we observe that 250 MW of Phase-I of the solar park was commissioned over the period from 30.4.2016 to 10.8.2016, with 100 MW commissioned on 30.4.2016 and 50 MW each commissioned on 30.5.2016, 7.6.2016 and 10.8.2016. From the table at paragraph 136, we observe that Asset-I was put into commercial on 28.4.2016, before its scheduled COD of 3.6.2016, while Asset-II was put into commercial operation on 11.7.2016, after its scheduled COD of 3.6.2016.

140. The Commission in order dated 6.8.2015 in Petition No. 29/MP/2015, while granting regulatory approval for the instant transmission system, observed that transmission charges for the period of delay in commissioning of generators in the solar park has to be borne by the solar park developer as in the case of thermal and hydro generating stations. Considering this aspect, the Commission in order dated 30.6.2016 in Petition No.26/TT/2016, held that transmission charges of Asset-I and Asset-II from the date of commercial operation of the transmission assets to the commissioning of generation capacity within the solar park shall be borne by APSPCPL. The relevant portion of the order dated 30.6.2016 in Petition No. 26/TT/2016 is extracted hereunder:

“50. We have considered the submission of the petitioner, TANGEDCO and KSEBL. TANGEDCO has submitted that it is not required to bear the transmission charges as they are not the beneficiaries of the solar project. We would like to clarify that the transmission charges will be recovered as per the provisions of Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2010 and subsequent amendments thereof.



51. There is delay in commissioning of solar generation by the developer. Accordingly, the transmission tariff for the instant assets from the date of commercial operation till the commissioning of solar generation shall be borne by Andhra Pradesh Solar Power Corporation Pvt. Ltd. in line with the Commission's order dated 6.8.2015 in Petition No.29/MP/2015. The relevant portion of the order is extracted hereunder:-

"33. With regard to recovery of transmission charges on account of delay in commissioning of solar generation, it has been clarified in the Statement of Reasons to the Central Electricity Regulatory Commission (Grant of Connectivity, Long-term Access and medium-term Open Access in inter-state Transmission and related matters) (Fifth Amendment) Regulations, 2015, and Central Electricity Regulatory Commission (Grant of Regulatory Approval for execution of Inter-State Transmission Scheme to Central Transmission Utility) (First Amendment) Regulations, 2015 that transmission charges for delay in commissioning of solar power generators are required to be paid by such solar generators/SPPD on the same line as the liability for payment by the thermal and hydro generating stations in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014. The relevant portion of the Statement of Reasons is extracted as under:

"8.2.1 With regard to the suggestions of PGCIL, it is clarified that SPPD who shall apply for Connectivity/Long term Access shall be liable to deposit Application Bank Guarantee/Construction Bank Guarantee as required under Connectivity Regulation. Further, SPPD shall also be liable for payment of transmission charges for delay in commissioning of generator and relinquishment charges towards transmission access under Connectivity Regulations and Sharing Regulations. Regulation 7(1)(u) of the Sharing Regulations provides that "No transmission charges for the use of ISTS network shall be charged to solar based generation" is applicable only when the power is evacuated through the transmission system to the beneficiaries after the commercial operation of the generating station. Therefore, transmission charges for delay in commissioning of solar power generators shall be payable by such solar generators/SPPD on the same line as the liability for payment by the thermal and hydro generating station in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

8.2.2 With regard to delay of internal system, it is clarified that SPPD shall be executing internal system on behalf of solar power generators. The treatment of delay or other modalities should be covered in Agreement between solar power generators and SPPD. In regard to NTPC's comments on development of transmission matching with generation, it is clarified that CTU shall carry out coordination with the SPPD/solar power generators in accordance with Section 38 of the Act."

52. After commissioning of the solar generation, the billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010, as amended from time to time, as provided in Regulation 43 of the 2014 Tariff Regulations."



141. Further, Regulation 8(5) and Regulation 8(6) of the 2010 Sharing Regulations provides as follows:

“(5) Where the Approved Withdrawal or Approved Injection in case of a DIC is not materializing either partly or fully for any reason whatsoever, the concerned DIC shall be obliged to pay the transmission charges allocated under these regulations:

Provided that in case the commissioning of a generating station or unit thereof is delayed, the generator shall be liable to pay Withdrawal Charges corresponding to its Long term Access from the date the Long Term Access granted by CTU becomes effective. The Withdrawal Charges shall be at the average withdrawal rate of the target region:

Provided further that where the operationalization of LTA is contingent upon commissioning of several transmission lines or elements and only some of the transmission lines or elements have been declared commercial, the generator shall pay the transmission charges for LTA operationalised corresponding to the transmission system commissioned:

Provided also that where the construction of dedicated transmission line has been taken up by the CTU or the transmission licensee, the transmission charges for such dedicated transmission line shall be payable by the generator as provided in the Regulation 8 (8) of the Connectivity Regulations:

Provided also that a generating station drawing start-up power or injecting infirm power before commencement of LTA shall be liable to pay the withdrawal or injection charges corresponding to the actual injection of infirm power or withdrawal start-up power during a month (concerned month) and the amount received on account of such payments shall be reimbursed to the DICs in the month following the month of billing, in proportion to the billing of the DICs during the concerned month.

Provided also that CTU shall maintain a separate account for the above amount received in a quarter and deduct the same from the transmission charges of ISTS considered in PoC calculation for the next application period.

(6) For Long Term Transmission Customers availing power supply from inter-State generating stations, the charges attributable to such generation for long term supply shall be calculated directly at drawal nodes as per methodology given in the Annexure-I. Such mechanism shall be effective only after commercial operation of the generator. Till then it shall be the responsibility of the generator to pay transmission charges.”

142. As the solar generation of 250 MW under Phase-I of solar park achieved COD on different dates, the only issue that arises for our consideration in this petition is what proportion of transmission charges will be included in the common pool and what proportion of transmission charges is to be paid by the solar power park



developer (APSPCPL). Asset-I was put into commercial operation on 28.4.2016. However, no generation had been commissioned as on 28.4.2016. Generation of 100 MW was commissioned on 30.4.2016. Accordingly, the Solar Park APSPCPL will pay the transmission charges for 250 MW for the period from 28.4.2016 to 29.04.2016. On the similar line, the Solar Park APSPCPL is liable to pay the transmission charges as per the details given below in terms of the principle given in abovementioned paragraph 140 and as provided under Regulation 8(5) and Regulation 8(6) of the 2010 Sharing Regulations.

COD of transmission asset	Solar generation capacity (MW) commissioned	Date of commissioning of solar generation capacity	Liability of transmission charges
Asset-I-28.04.2016	Nil	-----	From 28.04.2016 to 29.04.2016: Transmission charges of Asset-I for 250 MW shall be borne by APSPCPL
Asset-II-11.07.2016	100	30.04.2016	From 30.04.2016 to 29.05.2016: Transmission charges of Asset-I proportionate to 100 MW shall be included in the common pool while for 150 MW shall be borne by APSPCPL.
	50	30.05.2016	From 30.05.2016 to 06.06.2016: Transmission charges of Asset-I proportionate to 150 MW shall be included in the common pool while for 100 MW shall be borne by APSPCPL.
	50	07.06.2016	From 07.06.2016 to 10.07.2016: Transmission charges of Asset-I proportionate to 200 MW shall be included in the common pool while for 50 MW shall be borne by APSPCPL.
	50	10.08.2016	From 11.07.2016 to 09.08.2016: Transmission charges of Asset-I and Asset-II proportionate to 200 MW shall be included in the common pool while for 50 MW shall be borne by APSPCPL.
From 10.08.2016 , full transmission charges for Asset-I and Asset-II shall be included in the common pool.			

143. TANGEDCO has sought details of SPPDs/ generators who have not commissioned their generation projects on COD of the transmission assets along with



statement of their proportionate tariff liability. We note that the Petitioner has submitted the details of solar generation commissioned as on COD of the transmission assets but the Petitioner has not furnished the details of the tariff to be borne by the solar park for the period of mismatch between COD of the transmission assets and the commissioning of the generation. Further, on perusal of the CCM minutes enclosed by TANGEDCO, it is observed that CTUIL has not been sharing required data of bilateral billing with constituents. We direct CTUIL to carry out the billing in strict in accordance with the orders of the Commission and share details with constituents for transparency.

144. With effect from 1.11.2020, sharing of transmission charges is governed by the Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2020 (in short “the 2020 Sharing Regulations”). Accordingly, the liabilities of DICs for arrears of the transmission charges determined through this order shall be computed DIC-wise in accordance with the provisions of respective Tariff Regulations and shall be recovered from the concerned DICs through Bill 2 under Regulation 15(2)(b) of the 2020 Sharing Regulations. Billing, collection, and disbursement of transmission charges for subsequent period shall be recovered in terms of the provisions of the 2020 Sharing Regulations as provided in Regulation 57 of the 2019 Tariff Regulations.

145. TANGEDCO has filed an Appeal against the Commission’s order dated 16.5.2016 in Petition No. 26/TT/2016 before the Appellate Tribunal for Electricity (APTEL). Therefore, the transmission charges in respect of Asset-I and Asset-II shall be shared as per the instant order subject to the outcome of the Appeal filed by TANGEDCO before the APTEL.



146. To summarise:

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

(₹ in lakh)			
Particulars	2016-17 (Pro-rata 338 days)	2017-18	2018-19
Asset I	1321.07	1750.14	1833.92

(₹ in lakh)			
Particulars	2016-17 (Pro-rata 264 days)	2017-18	2018-19
Asset II	780.43	1143.56	1134.22

(₹ in lakh)		
Particulars	2017-18 (Pro-rata 301 days)	2018-19
Asset III	1219.79	1597.28

b) AFC allowed in respect of the Combined Asset for 2019-24 tariff period in the instant order are as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Combined Asset	3882.75	3880.50	3867.64	3846.60	3804.02

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

148. This order disposes of Petition No. 360/TT/2020 in terms of the above discussions and findings.

sd/-
(P.K. Singh)
Member

sd/-
(Arun Goyal)
Member

sd/-
(I. S. Jha)
Member

sd/-
(P. K. Pujari)
Chairperson



2014-19
True-Up

Annexure-I
Asset-I
(₹ lakh)

Particulars	Admitted Capital Cost as on COD (₹ in lakh)	ACE 2014-19	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations		
					2016-17	2017-18	2018-19
Building	1764.91	419.88	2184.72	3.34	55.02	66.42	72.97
Transmission Line	1811.15	773.99	2585.07	5.28	107.43	136.44	136.50
Sub Station	1055.57	3397.05	4452.58	5.28	111.28	197.40	222.65
PLCC	0.00	94.54	94.54	6.33	2.77	5.98	5.98
Leasehold Land	0.00	0.00	0.00	3.34	0.00	0.00	0.00
IT Equipment and software	0.00	82.79	82.79	5.28	2.02	4.37	4.37
Total	4631.64	4768.25	9399.70		278.51	410.62	442.47
Weighted Average Rate of Depreciation (%)					4.74%	4.84%	4.83%
Average Gross Block (₹ in lakh)					6340.43	8488.81	9164.15



Particulars	Admitted Capital Cost as on 1.4.2014 (₹ in lakh)	ACE 2014-19	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations		
					2016-17	2017-18	2018-19
Building	176.18	0.94	177.13	3.34	4.26	5.90	5.92
Transmission Line	0.00	0.00	0.00	5.28	0.00	0.00	0.00
Sub Station	3921.45	861.14	4782.59	5.28	165.80	251.97	252.52
PLCC	0.00	0.00	0.00	6.33	0.00	0.00	0.00
Leasehold Land	0.00	0.00	0.00	3.34	0.00	0.00	0.00
IT Equipment and software	0.00	0.00	0.00	5.28	0.00	0.00	0.00
Total	4097.63	862.09	4959.72		170.06	257.87	258.44
Weighted Average Rate of Depreciation (%)					5.20%	5.21%	5.21%
Average Gross Block (₹ in lakh)					4517.70	4948.74	4959.72



Particulars	Admitted Capital Cost as on 1.4.2014 (₹ in lakh)	ACE 2014-19	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations	
					2017-18	2018-19
Building	0.00	0.00	0.00	3.34	0.00	0.00
Transmission Line	0.00	0.00	0.00	5.28	0.00	0.00
Sub Station	7262.24	1609.19	8871.44	5.28	342.66	458.00
PLCC	0.00	0.00	0.00	6.33	0.00	0.00
Leasehold Land	0.00	0.00	0.00	3.34	0.00	0.00
IT Equipment and software	0.00	107.87	107.87	5.28	2.35	5.70
Total	7262.24	1717.06	8979.31		418.73	463.70
Weighted Average Rate of Depreciation (%)					5.28%	5.28%
Average Gross Block (₹ in lakh)					7869.71	8674.30



2019-24

Annexure-II
Combined Asset
(₹ lakh)

Particulars	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	ACE 2019-24	Admitted Capital Cost as on 1.4.2024 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations (₹ in lakh)				
					2019-20	2020-21	2021-22	2022-23	2023-24
Building	1863.71	698.41	2562.12	3.34	66.97	75.27	82.20	85.57	85.57
Transmission Line	2040.20	0.00	2040.20	5.28	107.72	107.72	107.72	107.72	107.72
Sub Station	14284.00	107.32	14391.32	5.28	757.03	759.86	759.86	759.86	759.86
PLCC	74.61	0.00	74.61	6.33	4.72	4.72	4.72	4.72	4.72
Leasehold Land	0.00	0.00	0.00	3.34	0.00	0.00	0.00	0.00	0.00
IT Equipment and software	150.47	0.00	150.47	5.28	22.57	22.57	22.57	22.57	22.57
Total	18412.98	805.73	19218.71		959.02	970.14	977.08	980.45	980.45
Weighted Average Rate of Depreciation (%)					5.15%	5.13%	5.11%	5.10%	5.10%
Average Gross Block (₹ in lakh)					18608.17	18910.10	19117.78	19218.71	19218.71

