

CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 112/TT/2021

Coram:

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

Date of Order : 03.01.2023

In the matter of:

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for determination of transmission tariff from COD to 31.3.2024 for Asset-1: 400 kV D/C Hiriyyur – Mysore transmission line along with associated bays and 2X80 MVAR switchable line reactors along with associated bays at 400/220 kV Mysore Sub-station, Asset-2: 1X500 MVA 400/220 kV ICTs along with associated bays at Tumkur (Pavagada) Sub-station, Asset-3: 1X125 MVA 400 kV Bus Reactor along with associated bays at Tumkur (Pavagada) Pooling Sub-station and Asset-4: 1X500 MVA 400/220 kV ICT along with associated bays and equipment at Tumkur (Vasantnarsapur) Sub-station under “Transmission System for Ultra Mega Solar Power Park at Tumkur (Pavagada), Karnataka - Phase II (Part A)” in the Southern Region.

And in the matter of:

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

.....Petitioner

Versus

1. Tamil Nadu Generation and Distribution Corporation Limited,
(Formerly Tamil Nadu Electricity Board -TNEB)
NPKRR Maaligai, 800, Anna Salai,
Chennai-600002.
2. Transmission Corporation of Andhra Pradesh Limited,
Vidyut Soudha, Near Axis Bank, Eluru Road,
Gunadala, Vijayawada– 520004.



3. Kerala State Electricity Board,
Vaidyuthi Bhavanam
Pattom, Thiruvananthapuram-695004.
4. Electricity Department,
Government of Goa,
Vidyuti Bhawan, Panaji,
Goa-403001.
5. Electricity Department,
Government of Pondicherry,
Pondicherry-605001.
6. Eastern Power Distribution Company of Andhra Pradesh Limited,
P&T Colony, Seethmmadhara,
Vishakhapatnam, Andhra Pradesh.
7. Southern Power Distribution Company of Andhra Pradesh Limited,
Srinivasasa Kalyana Mandapam Backside,
Tiruchanoor Road, Kesavayana Gunta,
Tirupati-517 501, Chittoor District, Andhra Pradesh.
8. Southern Power Distribution Company of Telangana Limited,
6-1-50, Corporate Office, Mint Compound,
Hyderabad -500063 (Telangana).
9. Northern Power Distribution Company of Andhra Pradesh Limited, (
Opp. NIT Petrol Pump
Chaitanyapuri, Kazipet, Warangal-506004
Andhra Pradesh.
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,
L J Avenue, Ground Floor, New Kantharaj URS Road,
Saraswatipuram, Mysore-570009 (Karnataka).

15. Transmission Corporation of Telangana Limited,
Vidhyut Sudha, Khairatabad,
Hyderabad-500082.

16. Karnataka Solar Power Development Corporation Limited , ,
2nd Floor, South Block, Beeja Raja Seed Complex,
Bellary Road, Hebbala, Bengaluru-560024, Karnataka.

17. Tamil Nadu Transmission Corporation Limited,
5B Block 144, Anna Salai,
Chennai-600002.

18. Karnataka Power Transmission Corporation Limited,
Kaveri Bhavan, Bangalore-560009.

...Respondent(s)

For Petitioner: Shri S. S. Raju, PGCIL
Shri D. K. Biswal, PGCIL
Shri V. P. Rastogi, PGCIL
Shri A. K. Verma, PGCIL

For Respondent: Shri S. Vallinyagam, Advocate, TANGEDCO
Dr. R. Kathivaran, TANGEDCO
Shri R. Ramalakshmi, TANGEDCO
Shri R. Srinivasan, TANGEDCO
Shri R. Kumutha, TANGEDCO

ORDER

The instant petition has been filed by Power Grid Corporation of India Limited, a deemed transmission licensee, for determination of tariff under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) from the date of commercial operation (COD) to 31.3.2024 in respect of the following assets (hereinafter referred to as “the transmission assets”) under “Transmission system for Ultra Mega Solar Power Park at



Tumkur (Pavagada), Karnataka - Phase II (Part A)” (hereinafter referred to as “the transmission system”) in the Southern Region:

Asset-1: 400 kV D/C Hiriur – Mysore transmission line along with associated bays and 2X80 MVAR switchable line reactors along with associated bays at 400/220 kV Mysore Sub-station;

Asset-2: 1X500 MVA 400/220 kV ICTs along with associated bays at Tumkur (Pavagada) Sub-station;

Asset-3: 1X125 MVA 400 kV Bus Reactor along with associated bays at Tumkur (Pavagada) pooling Sub-station; and

Asset-4: 1X500 MVA 400/220 kV ICT along with associated bays and equipment at Tumkur (Vasantnarsapur) Sub-station.

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

“1) Admit the capital cost as claimed in the Petition and approve the Additional Capitalisation incurred/projected to be incurred.

2) Approve the Transmission Tariff for the tariff block 2019-24 block for the asset covered under this petition, as per para –8.4 above.

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 2019 as per para 8 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 beneficiaries.

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 8.9 above.

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

9) 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.

10) Allow interim tariff in accordance with Regulation 10 (3) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for purpose of inclusion in the PoC charges.

11) Allow Final tariff in accordance with Regulation 10 (5) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for purpose of inclusion in the PoC charges

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 facts of the case succinctly stated are as follows:
 - a. Ministry of New and Renewable Energy (MNRE), Government of India vide letter dated 14.7.2015 notified Karnataka Solar Power Development Corporation Private Limited (KSPDCL) as the Solar Power Park Developer for 2000 MW Solar Power Park at Pagavada Taluk, Tumkur district in Karnataka.
 - b. KSPDCL, a Joint Venture Company of Karnataka Renewable Energy Development Limited and Solar Energy Corporation of India Limited (SECI), made an application to CTUIL for grant of connectivity/ LTA for 2000 MW Ultra Mega Solar Park to be set up in Tumkur District of Karnataka as per the Central Electricity Regulatory Commission (Grant of Connectivity, Long Term Access and Medium Term Open Access in inter-State transmission and related matters) Regulations, 2009.
 - c. The Solar Power Park was to be developed in two phases (2x1000 MW) with their scheduled commissioning by April, 2017 and September, 2017. However, due to Right of Way (RoW) issues, timelines for completion of



Phase-I and Phase-II of the Solar Power Park was revised as September, 2017 and September, 2018 respectively.

- d. The Petitioner identified the transmission system for evacuation/ transfer of power from Solar Power Park comprising of the following:

Phase-I

- i. LILO of 400 kV Gooty-Tumkur (Vasantnarsapur) D/C at Tumkur (Pavagada) Pooling Station;
- ii. Tumkur (Pavagada) Pooling Station-Hiriyur 400 kV D/C;
- iii. LILO of 400 kV Bellary Pool-Tumkur (Vasantnarsapur) D/C (Quad) (both circuits) (KPTCL line) at Tumkur (Pavagada) Pooling Station;
- iv. Establishment of 3x500 MVA, 400/220 kV Pooling Station at Tumkur (Pavagada) along with 1x125 MVAR bus reactor; and
- v. 8 numbers 220 kV line bays at Tumkur (Pavagada) Pooling Station for Solar inter-connection.

Phase-II

- i. Hiriyur-Mysore 400 kV D/C line* ;
- ii. Tumkur (Pavagada) Pooling Station-Devanhalli (KPTCL) 400 kV D/C (Quad)**;
- iii. Augmentation of 2x500 MVA, 400/220 kV transformer at Tumkur (Pavagada) Pooling Station;
- iv. 1x125 MVAR bus reactor (2nd) at Tumkur (Pavagada) Pooling Station;
- v. Third 400/220 kV, 1x500 MVA transformer at Tumkur (Vasantnarsapur) Sub-station;
- vi. 1x80 MVAR switchable line reactor at Mysore end of Hiriyur- Mysore D/C (each circuit (Ckt.) ; and
- vii. 8 numbers 220 kV line bays at 400/220 kV Tumkur (Pavagada) Pooling Station for Solar inter-connection.

** With the completion of this line, it would be connected with Tumkur (Pavagada) Pooling Station-Hiriyur 400 kV D/C line to form Tumkur (Pavagada)-Mysore D/C line*

*** KPTCL would complete establishment of 400/220 kV sub-station at Devanahally including inter-linking 400 kV and 220 kV lines before Phase-II at Ultra Mega Solar Power Park.*

- e. On 26.11.2014, Ministry of Power (MoP), Government of India (GoI) convened a meeting with the representatives of the Central Electricity



Authority (CEA), the Petitioner, MNRE, SECI and the Commission in which MoP clarified the scope of work to the Petitioner. In the said meeting, MoP directed the Petitioner to seek regulatory approval from the Commission to construct the transmission system.

- f. MoP, GoI, vide letter dated 8.1.2015 intimated the Petitioner for taking up of the transmission system for evacuation of power from 9 solar generating parks to be set up in 7 States along with pooling stations as ISTS schemes which includes the transmission system in compressed time schedule.
- g. The issue of implementation of the transmission system was discussed and agreed in the 39th and 40th Standing Committee Meeting (SCM) on Power System Planning of Southern Region held on 28/29.12.2015 and 19.11.2016.
- h. The status update pertaining to the transmission system was discussed and noted in the 29th and 30th Southern Regional Power Committee (SRPC) held on 5.3.2016 and 27.8.2016 respectively.
- i. In terms of the Central Electricity Regulatory Commission (Grant of Regulatory Approval for execution of Inter-State Transmission Scheme to Central Transmission Utility) Regulations, 2010 (hereinafter referred to as “Regulatory Approval Regulations”), the regulatory approval with respect to the transmission system was granted by the Commission vide order dated 19.8.2016 in Petition No. 36/MP/2016.
- j. Investment Approval (IA) of the transmission system was accorded by the Board of Directors of the Petitioner’s Company (in its 334th meeting held on



22.10.2016) vide Memorandum Ref. No. C/CP/PA1617-10-0Q-IA-015 dated 11.11.2016 at estimated cost of ₹40846.00 lakh including IDC of ₹1760.00 lakh (based on June, 2016 price level).

k. The broad scope of work are as follows:

Transmission Lines

- i. Hiriya-Mysore 400 kV D/C line: 195 km
(Upon completion, this line would be connected with Tumkur (Pavagada) Pooling Station-Hiriya 400 kV D/C line (under Phase-I) near Hiriya to form Tumkur (Pavagada)-Mysore D/C direct line.)

Sub-stations

i. Extension of 400/220 kV Tumkur (Pavagada) Pooling Station

400 kV

- 500 MVA transformer : 2 Numbers
- Transformer bay : 2 Numbers
- Bus Reactor bay : 1 Number
- 125 MVAR Bus Reactor : 1 Number

220 kV

- Transformer bays : 2 Numbers

ii. Extension of 400/220 kV Mysore (POWERGRID) Sub-station

400 kV

- Line Bay : 2 Numbers
- 80 MVAR Switchable Line Reactor : 2 Numbers
- 80 MVAR Switchable Line Reactor bay : 2 Numbers

iii. Extension 400/220 kV Tumkur (Vasantnarsapur) Sub-station

400 kV

- 500 MVA transformer : 1 Number
- Transformer bay : 1 Number

220 kV

- Transformer bay : 1 Number

Reactive Compensation

Bus Reactor

Sub-station	Bus Reactor
400/220 kV Tumkur (Pavagada) Pooling Station	1x125 MVAR (420 kV) 2 nd Bus Reactor



Line Reactor

Transmission Line	From end (each ckt.) MVAR	To end (each ckt.)
Hiriyur-Mysore 400 kV D/C	-	1x80 (switchable)

- l. In the 40th SCM meeting on Power System Planning of Southern Region held on 19.11.2016, the transmission system was reviewed and accordingly addition and modification of the scope covered under Phase-II was agreed as follows:

Addition in the scope

- Fixed Series Capacitor (40%) on 400 kV Tumkur (Pavagada)-Tumkur (Vasantnarsapura) D/C (Quad) line at Tumkur (Pavagada) Pooling Station end **

*** formed after LILO of 400 kV Bellary pool-Tumkur (Vasantnarsapura) D/C (Quad) line at Tumkur (Pavagada) Pooling Station end*

Modification in the scope

- Hiriyur-Mysore 400 kV D/C line (after completion of this line, one circuit of this line would be connected with one ckt of Tumkur-Hiriyur line so as to make Tumkur-Mysore direct line); and
 - 220 kV bays (8 numbers) at Tumkur (Pavagada) Pooling Station for inter-connection with solar project (earlier 16 numbers of 220 kV bays)
- m. The status of the transmission system was further discussed and noted in the 31st SRPC meeting held on 25.2.2017.
- n. Subsequently, as per the Regulatory Approval Regulations, the regulatory approval to the aforesaid addition and modification of the transmission system was granted by the Commission vide order dated 7.9.2017 in Petition No. 131/MP/2017.



- o. Further, Revised Cost Estimate (RCE) of the transmission system was accorded by Board of Directors of the Petitioner's Company vide Memorandum Ref.: PA1920-11-0Z-RCE006 dated 10.2.2020, at an estimated cost of ₹48264.00 lakh including IDC of ₹2626.00 lakh, based on price level of September, 2019.
- p. The Petitioner vide affidavit dated 25.11.2021 has submitted the Revised Cost Estimate II (RCE-II). RCE-II was accorded by the Board of Directors of the Petitioner vide letter Ref. No.: C/CP/PA2021-09-0S-RCE011 dated 6.1.2021, at an estimated cost of ₹51612.00 lakh including IDC of ₹2760.00 lakh, based on price level of September, 2020.
- q. The Petitioner has submitted that the transmission assets under the transmission scheme have been executed. Out of the 5 assets under the transmission scheme, 4 f assets are covered in instant petition and the remaining 1 number of asset (1X500 MVA 400/220 kV ICT along with associated bays at Tumkur (Pavagada) Sub-station) is covered in true-up Petition No. 656/TT/2020 as per the 2014 Tariff Regulations. Details of the transmission assets covered in the instant petition are as follows:

Sl. No.	Assets
1	Asset-1: 400 kV D/C Hiriyur-Mysore transmission line along with associated bays and 2X80 MVAR switchable line reactors along with associated bays at 400/220 kV Mysore Sub-station
2	Asset-2: 1X500 MVA 400/220 kV ICTs along with associated bays at Tumkur (Pavagada) Sub-station
3	Asset-3: 1X125 MVA 400kV Bus Reactor along with associated bays at Tumkur (Pavagada) pooling Sub-station
4	Asset-4: 1X500 MVA 400/220 kV ICT along with associated bays and equipment at Tumkur (Vasantnarsapur) Sub-station



- r. The scheduled date of commercial operation (SCOD), COD alongwith the details of time over-run for the transmission assets are as follows:

Assets	I.A. date	Time line	SCOD	COD	Time over-run
Asset-1	22.10.2016	27 months	22.1.2019	1.5.2020	465 days
Asset-2				28.4.2019	96 days
Asset-3				3.6.2019	132 days
Asset-4				17.6.2019	146 days

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

5. The Petitioner has served the petition on the Respondents and notice regarding filing of this petition has also been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. 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 Limited (TANGEDCO), Respondent No. 1, has filed its reply vide dated 15.11.2021 and has mainly raised the issues of time over-run, IDC and IEDC, cost over-run and sharing of transmission charges. The Petitioner vide affidavit dated 7.12.2021 has submitted its rejoinder to the reply TANGEDCO. The issues raised by TANGEDCO and the clarifications thereto given by the Petitioner have been dealt in the relevant portions of this order.

6. The matter was heard on various dates through video conference and order in this matter was reserved on 1.8.2022.



7. This order is issued on consideration of submissions made by the Petitioner in the petition vide affidavit dated 18.11.2020 and affidavits dated 12.11.2021 and 25.11.2021, TANGEDCO's reply filed vide affidavit dated 15.11.2021 and Petitioner's rejoinder filed vide affidavit dated 7.12.2021. The issues raised by the Respondent and reply thereto given by the Petitioner have been dealt in detail in the relevant portions of this order.

8. We have heard learned counsels for the Petitioner and TANGEDCO and perused the material on record. Accordingly, we now proceed to dispose of the petition.

DETERMINATION OF ANNUAL FIXED CHARGES FOR 2019-24 TARIFF PERIOD

9. The Petitioner has claimed the following transmission charges for the transmission assets for 2019-24 tariff period:

Asset-1

(₹ in lakh)

Particulars	2020-21 (pro-rata 335 days)	2021-22	2022-23	2023-24
Depreciation	1716.41	2025.23	2052.83	2052.83
Interest on Loan	970.27	1054.81	978.11	892.73
Return on Equity	1824.92	2152.46	2181.87	2181.87
Interest on Working Capital	75.91	87.63	87.82	86.90
O&M Expenses	306.23	344.92	356.55	368.55
Total	4893.74	5665.05	5657.18	5582.88

Asset-2

(₹ in lakh)

Particulars	2019-20 (pro-rata 339 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	119.63	141.52	142.64	142.64	142.64
Interest on Loan	84.65	93.06	82.61	71.10	63.57
Return on Equity	120.24	142.07	143.17	143.17	143.17
Interest on Working Capital	14.31	16.24	16.49	16.71	16.94
O&M Expenses	216.43	242.08	250.57	259.62	268.25
Total	555.26	634.97	635.48	633.24	634.57



Asset-3

(₹ in lakh)

Particulars	2019-20 (pro-rata 303 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	32.25	48.75	49.70	49.70	49.70
Interest on Loan	23.56	33.69	31.06	27.78	25.15
Return on Equity	34.41	52.03	53.04	53.04	53.04
Interest on Working Capital	2.52	3.48	3.52	3.52	3.53
O&M Expenses	26.62	33.28	34.45	35.66	36.91
Total	119.36	171.23	171.77	169.70	168.33

Asset-4

(₹ in lakh)

Particulars	2019-2020 (pro-rata 289 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	88.83	127.09	128.48	128.48	128.48
Interest on Loan	60.76	81.27	72.41	62.55	56.36
Return on Equity	93.89	133.57	134.95	134.95	134.95
Interest on Working Capital	11.70	15.72	16.00	16.24	16.50
O&M Expenses	184.50	242.08	250.57	259.62	268.25
Total	439.68	599.73	602.41	601.84	604.54

10. The Petitioner has claimed the following Interest on Working Capital (IWC) for the transmission assets for 2019-24 tariff period:

Asset-1

(₹ in lakh)

Particulars	2020-21 (pro-rata 335 days)	2021-22	2022-23	2023-24
O&M Expenses	27.81	28.74	29.71	30.71
Maintenance Spares	50.05	51.74	53.48	55.28
Receivables	657.37	698.43	697.46	686.42
Total Working Capital	735.23	778.91	780.65	772.41
Rate of Interest (in %)	11.25	11.25	11.25	11.25
Interest on Working Capital	75.91	87.63	87.82	86.90



Asset-2

(₹ in lakh)

Particulars	2019-20 (pro-rata 339 days)	2020-21	2021-22	2022-23	2023-24
O&M Expenses	19.47	20.17	20.88	21.64	22.35
Maintenance Spares	35.05	36.31	37.59	38.94	40.24
Receivables	73.71	78.28	78.35	78.07	78.02
Total Working Capital	128.23	134.76	136.82	138.65	140.61
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	14.31	16.24	16.49	16.71	16.94

Asset-3

(₹ in lakh)

Particulars	2019-20 (pro-rata 303 days)	2020-21	2021-22	2022-23	2023-24
O&M Expenses	2.68	2.77	2.87	2.97	3.08
Maintenance Spares	4.82	4.99	5.17	5.35	5.54
Receivables	17.73	21.11	21.18	20.92	20.70
Total Working Capital	25.23	28.87	29.22	29.24	29.32
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	2.52	3.48	3.52	3.52	3.53

Asset-4

(₹ in lakh)

Particulars	2019-2020 (pro-rata 289 days)	2020-21	2021-22	2022-23	2023-24
O&M Expenses	19.47	20.17	20.88	21.64	22.35
Maintenance Spares	35.05	36.31	37.59	38.94	40.24
Receivables	68.46	73.94	74.27	74.20	74.33
Total Working Capital	122.98	130.42	132.74	134.78	136.92
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	11.70	15.72	16.00	16.24	16.50

Data of Commercial Operation (“COD”)

11. The Petitioner has claimed the actual COD of Asset-1 as 1.5.2020, Asset-2 as 28.4.2019, Asset-3 as 3.6.2019 and Asset-4 as 17.6.2019.

12. Regulation 5 of the 2019 Tariff Regulations provides as follows:



“5. Date of Commercial Operation: (1) *The date of commercial operation of a generating station or unit thereof or a transmission system or element thereof and associated communication system shall be determined in accordance with the provisions of the Grid Code.*

(2) *In case the transmission system or element thereof executed by a transmission licensee is ready for commercial operation but the interconnected generating station or the transmission system of other transmission licensee as per the agreed project implementation schedule is not ready for commercial operation, the transmission licensee may file petition before the Commission for approval of the date of commercial operation of such transmission system or element thereof:*

Provided that the transmission licensee seeking the approval of the date of commercial operation under this clause shall give prior notice of at least one month, to the generating company or the other transmission licensee and the long term customers of its transmission system, as the case may be, regarding the date of commercial operation:

Provided further that the transmission licensee seeking the approval of the date of commercial operation of the transmission system under this clause shall be required to submit the following documents along with the petition:

- (a) Energisation certificate issued by the Regional Electrical Inspector under Central Electricity Authority;*
- (b) Trial operation certificate issued by the concerned RLDC for charging element with or without electrical load;*
- (c) Implementation Agreement, if any, executed by the parties;*
- (d) Minutes of the coordination meetings or related correspondences regarding the monitoring of the progress of the generating station and transmission systems;*
- (e) Notice issued by the transmission licensee as per the first proviso under this clause and the response;*
- (f) Certificate of the CEO or MD of the company regarding the completion of the transmission system including associated communication system in all respects.”*

13. The date of approval for energization of electrical installations for the transmission assets under Regulation 43 of Central Electricity Authority (Measures relating to Safety and Electric Supply), Regulations 2010 (as amended till date) are as follows:



Sl. No.	Particulars	CEA Clearance date
1	400 kV D/C Hiriya – Mysore transmission line along with associated bays and 2X80 MVAR switchable line reactors along with associated bays at 400/220 kV Mysore Sub-station	23.3.2020 & 2.12.2019
2	1X500 MVA 400/220 kV ICTs along with associated bays at Tumkur (Pavagada) Sub-station	22.4.2019
3	1X125 MVA 400 kV Bus Reactor along with associated bays at Tumkur (Pavagada) pooling Sub-station	22.4.2019
4	1X500 MVA 400/220 kV ICT along with associated bays and equipment at Tumkur (Vasanthnarsapur) Sub-station	12.6.2019

14. The Petitioner has submitted RLDC charging certificates dated 5.5.2020 and 16.1.2020 for Asset-1, dated 16.5.2019 for Asset-2, dated 24.6.2019 for Asset-3 and dated 5.7.2019 for Asset-4 certifying that trial operation was completed for Asset-1, Asset-2, Asset-3 and Asset-4 as follows:

Assets	Name of Elements	Start of trial operation	Completion of trial operation
Asset-1	One ckt. of Hiriya-Mysore 400 kV D/C line along with associated bays and equipment at 400/220 kV Mysore Sub-station i.e. Bay Number 406	17:50 hrs on 27.3.2020	17:50 hrs on 28.3.2020
	2 nd ckt of 400 kV Mysore-Hiriya D/C line along with associated bays and equipment at Mysore (Bay Number 403) Sub-station.	14:18 hrs on 28.4.2020	14:18 hrs on 29.4.2020
	1 x 80 MVAR Switchable line reactors-1 and equipment at 400 kV Mysore	10:45 hrs on 11.12.2019	10:45 hrs on 12.12.2019
	1 x 80 MVAR Switchable line reactors-1 and equipment at 400 kV Mysore	10:58 hrs on 11.12.2019	10:58 hrs on 12.12.2019
Asset-2	1x500 MVA, 400/220 kV ICT-5 at Pavagada along with bay numbers 429, 430 and 215	23:00 hrs on 26.4.2019	23:00 hrs on 27.4.2019
Asset-3	125 MVAR Bus Reactor-2 at 400 kV Pavagada Sub-station along with its associated bays and equipment	13:53 hrs on 1.6.2019	13:53 hrs on 2.6.2019



Asset-4	1x500 MVA, 400/220 kV ICT-3 at 400 kV Tumkur alongwith bay numbers 436 & 212.	16:34 hrs on 15.6.2019	16:34 hrs on 16.6.2019
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15. The Petitioner has also submitted self-declaration of COD letters dated 1.5.2020, 20.5.2019, 25.6.2019 and 10.7.2019 for Asset-1, Asset-2, Asset-3 and Asset-4 respectively and CMD certificates as required under the Grid Code.

16. Taking into consideration the CEA energization certificates, RLDC charging certificates and CMD certificates, COD of Asset-1, Asset-2, Asset-3 and Asset-4 are approved as 1.5.2020, 28.4.2019, 3.6.2019 and 17.6.2019 respectively.

Capital Cost

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

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

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

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



- handling and transportation facility;*
- (j) *Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;*
 - (k) *Capital expenditure on account of biomass handling equipment and facilities, for co-firing;*
 - (l) *Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;*
 - (m) *Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;*
 - (n) *Expenditure on account of change in law and force majeure events; and*
 - (o) *Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.*
- (3) *The Capital cost of an existing project shall include the following:*
- (a) *Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;*
 - (b) *Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;*
 - (c) *Capital expenditure on account of renovation and modernisation as admitted by this Commission in accordance with these regulations;*
 - (d) *Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
 - (e) *Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and*
 - (f) *Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.*
- (4) *The capital cost in case of existing or new hydro generating station shall also include:*
- (a) *cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and*
 - (b) *cost of the developer's 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) project in the affected area.*
- (5) *The following shall be excluded from the capital cost of the existing and new projects:*
- (a) *The assets forming part of the project, but not in use, as declared in the tariff petition;*
 - (b) *De-capitalised Assets after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:*

Provided that in case replacement of transmission asset is recommended by



Regional Power Committee, such asset shall be de-capitalised only after its redeployment;

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

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

18. The Petitioner vide affidavit dated 25.11.2021 has submitted RCE-II. The Petitioner has claimed the capital cost incurred as on COD, Additional Capital Expenditure (ACE) projected to be incurred in respect of the transmission assets and has submitted the Auditor’s Certificates dated 20.9.2020 for Asset-1, dated 30.7.2019 for Asset-2, Asset-3 and Asset-4 in support of the same which are as follows:

(₹ in lakh)

Assets	Apportioned approved cost (RCE-II)	Capital cost up to COD	Projected ACE			Capital cost as on 31.3.2024
			2019-20	2020-21	2021-22	
Asset-1	40794.20	34568.95	0.00	4455.59	1043.25	40067.79
Asset-2	3202.60	2251.35	351.47	39.05	0.00	2641.87
Asset-3	1188.00	620.57	323.44	35.94	0.00	979.95
Asset-4	2738.80	1999.26	442.14	49.13	0.00	2490.53

Cost over-run

19. The Petitioner vide affidavit dated 25.11.2021 has submitted the details of the estimated completion cost vis-à-vis apportioned approved cost for the transmission assets and the same are as follows:

(₹ in lakh)

Assets	FR Apportioned approved cost	Apportioned approved cost (RCE-I)	Apportioned approved cost (RCE-II)	Estimated completion cost
Asset-1	31101.69	37951.68	40794.20	40067.79



Asset-2	2519.25	2724.52	3202.60	2641.87
Asset-3	960.76	1084.87	1188.00	979.95
Asset-4	2692.85	2750.70	2738.80	2490.53

20. TANGEDCO has submitted as follows:

- (a) The Petitioner has claimed that there is increase of compensation due to actual site condition and route alignment and the compensation has been released as per the assessment of the respective departments. TANGEDCO has submitted that the Petitioner has not furnished the details of initially assessed compensation amount and total increase in compensation. Hence, the Petitioner may be directed to submit the details with necessary documentary evidence failing which the increase in cost may be restricted to the FR cost.
- (b) The Petitioner has claimed an increase of ₹944 lakh due to increase in cost of tower steel. Further, the Petitioner has stated that the transmission line unavoidably passes through urban areas of Tirupur and Coimbatore districts. The present petition is related to Solar Park in Karnataka which is in no way related to Tirupur and Coimbatore districts located in Tamil Nadu. This raises the question of credibility of claims made by the Petitioner and requested to direct the Petitioner to explain its claim.
- (c) There is increase in the cost of conductor of ₹400 lakh and same is due to the rate quoted by the bidder through competitive bidding process. The copy of the bids awarded have not been submitted by the Petitioner justifying the reason stated. Hence, the Petitioner should furnish justifications for variation in the rates and the same may be admitted only after due prudent check.



In response, the Petitioner has submitted the following major reasons of cost variation with respect to FR:

Asset-1

(₹ in lakh)

Sl. No.	Description	Cost as per FR	Estimated Capital Cost	Variation
				(-decrease, +increase)
		a	b	c = b - a
1	Preliminary works including compensation	6603.17	12201.79	5598.62
2	Towers Steel	4866.96	5811.80	944.84
3	Conductor	6862.16	7262.31	400.15
4	Erection, Stringing & Civil works including foundation	3289.31	2985.09	-304.22
5	Miscellaneous Transmission Lines	2019.95	2001.71	-18.24
6	Sub-station's equipment, Civil works Communication system etc	2227.31	2139.08	-88.23
7	Taxes & Duties	294.98	3092.64	2797.66
8	Over heads	3597.53	1883.61	-1713.92
9	Interest During Construction (IDC)	1340.33	1592.19	251.86
10	Foreign Exchange Rate Variation (FERV)	0.00	1097.47	1097.47
	Grand Total	31101.69	40067.79	8966.1

- i. There is variation (increase) in the cost of about ₹5599 lakh with respect to FR on account of compensation against transmission line for construction of crop, tree, PTCC and Forest/NPV. The variation is due to the actual assessment of crops/trees/land and household and forest area encountered in line corridor by the concerned Government officials of respective States, forest department, quantity and value of which are much less than the notional estimate. The estimate was prepared by considering compensation @ 15 lakh/ acre (mostly agricultural land in rural setting), compensation @ 25 lakh/acre (mostly urban/semi-urban land near cities/towns), compensation @ 50 lakh/ acre (mostly urban land near big cities/metro towns). However, due



to actual site condition and route alignment, there was an increase in the compensation cost. Compensation has been released as per the assessment of respective department like forest/horticulture for tree/crop and compensation orders issued by respective DCs.

- ii. Due to RoW issues encountered during the construction of line, the actual line length and routing changed due to severe RoW issues. This increased the number of angle and extension towers which resulted into increase of cost of tower steel by about ₹944.84 lakh with respect to FR.
- iii. The cost variation (increase) ₹400.15 lakh with respect to FR of conductor, insulators and hardware fittings is due to the rate received through competitive biddings. The contracts for various packages under this project were awarded to the lowest evaluated and responsive bidder on the basis of Open International/Domestic Competitive Bidding. The award prices represent the lowest prices available at the time of bidding of various packages and as such capture the price level at the bidding stage.
- iv. There is reduction of ₹304 lakh with respect to FR on account of erection, stringing and civil works including foundation. The cost variation is due to the actual site condition encountered during execution. In addition, the rate received through competitive biddings also affect the actual variation of the items with respect to estimate. The contracts for various packages under this project were awarded to the lowest evaluated and responsive bidder on the basis of Open International/ Domestic Competitive Bidding. The award prices



represent the lowest prices available at the time of bidding of various packages, thus capturing the price level at the bidding stage.

- v. The FR costs of individual items/materials are exclusive of taxes and duties which have been indicated under a separate head while the cost of items as per the actual expenditure is inclusive of taxes and duties. Increase of about ₹2798 lakh is mainly on account of actual taxes and duties, octroi, custom duty, excise duty, GST etc. paid based on the prevailing rate and charges raised by respective district, State and statutory authorities at the time of execution of transmission system.
- vi. The IEDC including contingencies, establishment and other overheads for the asset in approved FR was estimated at ₹3598 lakh, whereas based on the actual expenditure incurred, IEDC works out to ₹1884 lakh. Thus, IEDC under the transmission system has decreased by ₹1714 lakh with respect to FR in case of Asset-1. During the estimation of FR, 3% and 5% of equipment cost and civil works was considered for contingency and IEDC respectively. The actual IEDC claimed is 5.31% of the hard cost and within the limit of 8% as per FR.
- vii. Interest during Construction (IDC) for the transmission asset as per FR cost was estimated at ₹1340.00 lakh, IDC for the transmission asset is ₹1592 lakh. Thus, there is an increase of ₹252 lakh with respect to FR in IDC in case of Asset-1. The main reason for reduction in IDC is attributable to delay in execution of the asset, increase in overall capital cost with respect to FR



and due to deployment of loan of lower interest rate as compared to interest rates considered in FR.

- viii. On account of deployment of foreign loan (ADB/SUMITOMO) in the transmission asset, there is an incidence of increase in FERV liability from FR cost to the tune of ₹1097 lakh with respect to FR in the case of Asset-1 due to re-valuation of the said loans. The variation in exchange rate increased the FERV in overall cost of the transmission asset.

Asset-2:

Sl. No	Description	Cost as per FR	Estimated Capital Cost	Variation
				(-decrease, +increase)
				c = b - a
A	b	c = b - a		
1	Preliminary works, Land and Civil works	118.52	82.99	-35.53
2	Sub-stations equipment, Spares, etc.	1964.32	1939.84	-24.48
3	Taxes & Duties	36.51	355.73	319.22
4	Overheads	291.41	77.51	-213.9
5	Interest During Construction (IDC)	108.49	180.53	72.04
6	FERV	0.00	5.27	5.27
Grand Total		2519.25	2641.87	122.62

- ix. The FR costs of individual items/materials are exclusive of taxes and duties which have been indicated under a separate head while the cost of items as per the actual expenditure is inclusive of taxes and duties. Increase of about ₹319.22 lakh is mainly on account of actual taxes and duties, custom duty, excise duty, GST etc. paid based on the prevailing rate and charges raised by respective district, State and statutory authorities at the time of execution of transmission system.



i. **IDC**

Interest during Construction (IDC) for the Asset-2 as per FR cost was estimated at ₹108.49 lakh and the same is estimated to be the IDC for the transmission asset is ₹180.53 lakh. Thus, there is an increase of ₹72.04 lakh with respect to FR in IDC in the case of Asset-2. The main reason for increase in IDC is attributable to delay in execution of the transmission asset, increase in overall capital cost with respect to FR and due to deployment of loan of lower interest rate as compared to interest rates considered in FR. The actual IDC accrued upto COD has been considered in the Auditor's Certificate.

ii. **IEDC**

IEDC including contingencies, establishment and other overheads for the transmission asset in approved FR was estimated at ₹291.41 lakh whereas based on the actual expenditure incurred, IEDC works out to ₹77.51 lakh. Thus, IEDC under the transmission system has decreased by ₹213.90 lakh with respect to FR in the case of Asset-2. During estimation for FR, 3% and 5% of equipment cost and civil works has been considered for contingency and IEDC respectively. The actual amount of IEDC, establishment and contingency has been considered at the time of claim of tariff. The actual IEDC claimed comes out to 3.25% of the hard cost and thus within the limit of 8% as per FR.

iii. On account of deployment of foreign loan (ADB/SUMITOMO) in the transmission asset, there is an incidence of increase in FERV liability from FR cost to the tune of ₹5.27 lakh with respect to FR in the case of Asset-2



due to re-valuation of the said loans. The variation in exchange rate increased the FERV in overall cost of the transmission asset.

Asset-3:

(₹ in lakh)				
Sl. No.	Description	Cost as per FR	Estimated Capital Cost	Variation
				(-decrease, +increase)
		a	b	c = b - a
1	Preliminary works and Land and Civil works	60.80	56.96	-3.84
2	Substations equipment, Spares, etc	733.21	724.18	-9.03
3	Taxes & Duties	14.24	129.19	114.95
4	Over heads	111.14	23.38	-87.76
5	Interest During Construction (IDC)	41.37	44.60	3.23
6	FERV	0.00	1.63	1.63
	Grand Total	960.76	979.94	19.18

i. The FR costs of individual items/materials are exclusive of taxes and duties which have been indicated under a separate head while the cost of items as per the actual expenditure is inclusive of taxes and duties. Increase of about ₹114.95 lakh is mainly on account of actual taxes and duties, custom duty, excise duty, GST etc. paid based on the prevailing rates and charges raised by the respective district, State and statutory authorities at the time of execution of the transmission system.

ii. **IDC:**

IDC for the transmission asset as per FR cost was estimated at ₹41.37 lakh, the IDC for the transmission asset works out to ₹44.60 lakh. Thus, there is an increase of ₹3.23 lakh with respect to FR in IDC in the case of Asset-3. The main reason for increase in IDC is attributable to delay in execution of the asset, increase in overall capital cost with respect to FR and due to



deployment of loan of lower interest rate as compared to interest rates considered in FR. The actual IDC accrued upto COD has been considered in the Auditor's Certificate.

iii. **IEDC:**

IEDC including contingencies, establishment and other overheads for the asset in approved FR was estimated at ₹111.14 lakh whereas based on the actual expenditure incurred, IEDC works out to ₹23.38 lakh. Thus, IEDC under the project has decreased by ₹87.76 lakh with respect to . to FR in the case of Asset-3. During estimation for FR, 3% and 5% of equipment cost and civil works have been considered for contingency and IEDC respectively. The actual amount of IEDC, establishment and contingency has been considered at the time of claim of tariff. The actual IEDC claimed is 2.56% of the hard cost and thus within the limit of 8% as per FR.

iv. On account of deployment of foreign loan (ADB/SUMITOMO) in the transmission asset, there is an incidence of increase in FERV liability from FR cost to the tune of ₹1.63 lakh with respect to FR case of Asset-3 due to revaluation of the said loans. The variation in exchange rate increased the FERV in overall cost of the transmission asset.

Asset-4:

(₹ in lakh)

Sl. No.	Description	Cost as per FR	Estimated Capital Cost	Variation
				(-decrease, +increase)
		a	b	c = b - a
1	Preliminary works and Land and Civil works	118.52	82.99	-35.53
2	Sub-stations equipment, Spares etc.	1964.32	1939.84	-24.48



Sl. No.	Description	Cost as per FR	Estimated Capital Cost	Variation
				(-decrease, +increase)
		a	b	c = b - a
3	Taxes & Duties	36.51	355.73	319.22
4	Over heads	291.41	77.51	-213.9
5	Interest During Construction (IDC)	108.49	180.53	72.04
6	FERV	0.00	5.27	5.27
	Grand Total	2519.25	2641.87	122.62

i. The FR costs of individual items/materials are exclusive of taxes and duties which have been indicated under a separate head while the cost of items as per the actual expenditure is inclusive of taxes and duties. Increase of about ₹297.79 lakh is mainly on account of actual taxes and duties, custom duty, excise duty, GST etc. paid based on the prevailing rate and charges raised by respective district, State and statutory authorities at the time of execution of project.

ii. **IDC:**

IDC for the transmission asset as per FR cost was estimated at ₹116.03 lakh, the IDC for the transmission asset works out to ₹146.23 lakh. Thus there is an increase of ₹30.20 lakh with respect to FR in IDC in the case of Asset-3. The main reason for the increase in IDC is attributable to delay in execution of the asset, increase in overall capital cost with respect to FR and due to deployment of loan of lower interest rate as compared to interest rates considered in FR. The actual IDC accrued upto COD has been considered in the Auditor's Certificate.



iii. **IEDC:**

The IEDC including contingencies, establishment and other overheads for the asset in approved FR was estimated at ₹311.48 lakh whereas based on the actual expenditure incurred, IEDC works out to ₹89.65 lakh. Thus, IEDC under the project has decreased by ₹221.80 lakh with respect to FR in the case of Asset-4. During estimation for FR, 3% and 5% of equipment cost and civil works has been considered for contingency and IEDC respectively. The actual amount of IEDC, establishment and contingency has been considered at the time of claim of tariff. The actual IEDC claimed comes out to 3.98% of the hard cost and thus within the limit of 8% as per FR.

iv. On account of deployment of foreign loan (ADB/SUMITOMO) in the transmission asset, there is an incidence of increase in FERV liability from FR cost to the tune of ₹6.37 lakh with respect to FR in the case of Asset-4 due to re-valuation of the said loans. The variation in exchange rate increased the FERV in overall cost of the transmission asset.

21. The Petitioner has submitted that being a Government entity, the Petitioner has the obligation for indigenous development of manufacturer as well as to adhere to Government of India guidelines in vogue. Accordingly, the Petitioner has followed a well laid down procurement policy which ensures both transparency and competitiveness in the bidding process. Route of International Competitive Bidding (ICB) as well as Domestic Competitive Bidding (DCB) process have been followed to award this special mega project. The best competitive bid prices against tenders has varied as compared to the cost estimate depending upon prevailing market conditions, design and site requirements. The estimates are prepared by the Petitioner as per well-defined



procedures for cost estimate. The Petitioner has further submitted that the cost estimate of the project is on the basis of June, 2016 price level.

22. The Petitioner has submitted that item-wise unit prices in contracts and their variation over unit rate considered in FR estimates were beyond the control of the Petitioner. Further, the Petitioner has submitted that RCE-II and revised tariff has already been submitted vide affidavit dated 25.11.2021 and has requested to allow the tariff from COD based on estimated completion cost of the transmission assets.

23. We have considered the submissions made by the Petitioner and TANGEDCO. Against the apportioned approved cost of ₹31101.69 lakh, ₹2519.25 lakh, ₹960.76 lakh and ₹2692.85 lakh for Asset-1, Asset-2, Asset-3 and Asset-4 respectively, the estimated completion cost is ₹40067.79 lakh, ₹2641.87 lakh, ₹979.95 lakh and ₹2490.53 lakh for Asset-1, Asset-2, Asset-3 and Asset-4 respectively. Thus, there is a cost over-run/variation of ₹8966.10 lakh, ₹122.62 lakh, ₹19.19 lakh and ₹202.32 lakh in Asset-1, Asset-2, Asset-3 and Asset-4 respectively.

24. The Petitioner has submitted detailed justifications and break-up of cost for cost variation in capital cost as per FR and estimated capital cost. It is observed that the cost variation is mainly due to increase in the cost of preliminary works including compensation, increase in the cost of tax and duties, IDC due to rates received through competitive bidding and they were beyond the control of the Petitioner. The Petitioner vide affidavit dated 25.11.2021 has submitted RCE-II. The estimated total completion cost of the transmission assets viz Asset-1, Asset-2, Asset-3 and Asset-4 is within the RCE-II. Accordingly, cost variation in case of Asset-1, Asset-2, Asset-3 and Asset-4 is allowed.



Time over-run

25. As per IA dated 22.10.2016, the transmission system was scheduled to be executed within 27 months from the date of IA i.e. by 22.1.2019. However, the actual execution of the transmission assets is as follows:

Assets	Date of I.A.	Time line	SCOD	COD	Time over-run
Asset-1	22.10.2016	27 months	22.1.2019	1.5.2020	465 days
Asset-2				28.4.2019	96 days
Asset-3				3.6.2019	132 days
Asset-4				17.6.2019	146 days

26. The Petitioner has submitted the following reasons for time over-run in respect of commercial operation of the transmission assets:

Asset 1

- a. Time over-run in declaring the commercial operation of Asset-1 was primarily due to numerous RoW issues, Court cases, stringing works and *force majeure* event. The chronology of the events in respect of time over-run of Asset-1 is as follows:

Sl. No	Date	Details
1	9.8.2018	Tree enumeration in section 135/0–142/0 was carried out. However, large number of land-owners/farmers gathered in the above section and stopped the work.
2	24.8.2018	Enumeration of trees with the police protection was carried out. However, land owners/farmers alongwith the support of Karnataka Rajya Raitha Sangha leaders stopped the same demanding for diversion of route. This resistance/obstruction of the land owners/farmers was brought to the notice of Deputy Commissioner, Mysore.
3	1.9.2018	A meeting was conducted by DC at Mysore on 1.9.2018 to resolve the issue. However, the same could not be resolved in the said meeting.



Sl. No	Date	Details
4	30.11.2018	On regular follow up of the matter with DC Mysore to give necessary police protection, police protection was given to carry out the work. However, due to agitation of the land owners, no progress could be made and police protection was withdrawn.
5	11.6.2019	Land-owners, farmers and Raitha Sangha leaders gathered in front of sub-station demanding diversion of the line.
6	23.8.2019, 4.10.2019, 19.11.2019	Multiple letters were sent to DC Mysore to provide police protection and resolve the RoW issues.
7	2.12.2019	Meeting of DC Mysore with land-owners, farmers and Sangha leaders took place. However, land owners, farmers and Sangha leaders did not agree with the proposal of work to be started. Therefore, meeting was adjourned.
8	17.12.2019	Member of Parliament (MP), Mysore-Kodagu convened a meeting to resolve the issue. However, the land-owners were adamant for diversion of line. It was decided to inspect the line to take decision about diversion of work.
9	28.12.2019	Farmers started indefinite strike before the DC Mysore office obstructing construction of transmission line.
10	13.1.2020	Executive Director, SRTS-II, DC Mysore and MP Mysore-Kodagu constituency visited the disputed RoW sections. MP was convinced that the diversion of line was not possible. Even the farmers refused to accept the enhanced compensation and insisted for diversion of line.
11	16.1.2020	DC Mysore directed Superintendent of Police (SP) Mysore to provide police protection for carrying out works.
12	19.1.2020	Accordingly, 250 police personnels were deployed at site. Under police protection, the survey work by the Petitioner was started. However, again agitation started and work was stopped.
13	20.1.2020	Meeting of DC Mysore was held with Raitha Sangha leaders and land owners/farmers on the issue of diversion of line wherein the Petitioner categorically dined for diversion of line.
14	24.1.2020	Meeting of DC Mysore was held with Raitha Sangha leaders and land owners/farmers. In the meeting, RoW issues were resolved.
15	25.1.2020	The foundation at 4 number of locations, tower erection works at 13 locations and stringing in 7 km at Mysore end was affected due to severe RoW issues and the same were cleared with the support of local and State administration.

- b. Thereafter all the works, except the final checking and pre-execution works, in the line were completed by 21.3.2020.



- c. Delay from 21.3.2020 to 1.5.2020 was due to “*force majeure*” event which prevailed due to lock-down of the entire country imposed by Government of India since 24.3.2020. The period from 24.3.2020 to 28.4.2020 may be considered as *force majeure* event as the Petitioner carried out the work with limited men and material after obtaining the permission from Mysore district administration.
- d. Brief summary of RoW issues and court cases faced by the Petitioner during the construction of line are as follows:

Description	Remarks
SCOD as per IA	10.2.2019
Date of RoW reported	17.6.2018 and 9.8.2018
Date of RoW resolved	25.1.2020
Date of completion of the line after considering working period and force majeure.	28.4.2020
Period of delay due to ROW issue	534 days
Period of delay after SCOD	446 days
Start of <i>force majeure</i>	23.3.2020
Period of <i>force majeure</i>	36 days
Period of delay attributable to RoW issues	426 days

Asset 2, Asset-3, and Asset-4

- e. With regard to delay in execution of Asset-2, Asset-3 and Asset-4, award for procurement of the instant ICT was placed after one month of the IA. However, the transmission system was delayed due to deferment in supply of ICT by the supplier. The supplier took inordinate time for submission and approval of drawings which severely affected the Petitioner’s critical projects execution. This eventually delayed the execution of the instant ICTs. Due to de-monetization, there was non-availability of labourers and as such de-monetization contributed delay of 90 days. Owing to implementation of GST, contractor and vendors were



required to go through the first time transactions pertaining to GST which resulted in delay of around 60 days in placing purchase orders to different vendors for oil and spares. According to the Petitioner, time over-run was beyond its control and as such the same may be condoned.

27. In response, TANGEDCO with respect to time over-run in case of Asset-1 has submitted that according to the Petitioner, the transmission line was delayed mainly due to RoW issues and protest from the land-owners demanding enhanced compensation. TANGEDCO has further submitted that except for the lock-down period imposed from 24.3.2020, other delays were in the purview of the Petitioner as per Regulation 22(1)(a) of the 2019 Tariff Regulations. The reasons stated by the Petitioner for time over-run do not show any change in the scope of work or attributable to change in statutory levies or change in law. TANGEDCO has submitted that RoW issues are not covered under force majeure. Hence, the claim of the Petitioner for condonation of delay is unjustified and is required to be rejected.

28. With reference to Asset-2, Asset-3 and Asset-4, TANGEDCO has submitted that execution of these assets was delayed because of delay in supply of ICT by the contractor, de-monization and GST and the same are controllable factors in terms of Regulation 22(1) (b) of the 2019 Tariff Regulations. TANGEDCO has further submitted that de-monization and GST issues cannot be said to have restricted the execution activities of the Petitioner in the absence of any documentary evidence. TANGEDCO has placed reliance on the Commission's order in Petition No. 34/TT/2019, wherein the Commission did not condone the time over-run of 68 days for want of proper justification. TANGEDCO has requested that applying the same analogy, delay in the present petition may not be condoned.



29. The Petitioner in rejoinder has reiterated its submissions as made in the petition.

30. We have considered the submissions of the Petitioner and TANGEDCO and have perused the record. As per IA dated 22.10.2016, the transmission assets were scheduled to be put into commercial operation within 27 months i.e. by 22.1.2019, against which Asset-1, Asset-2, Asset-3 and Asset-4 were put into commercial operation on 1.5.2020, 28.4.2019, 3.6.2019 and 17.6.2019 with delay of about 465 days, 96 days, 132 days and 146 days respectively. The Petitioner has submitted that Asset-1 was delayed due to RoW issues and Court cases while Asset-2, Asset-3 and Asset-4 were delayed due to delayed supply of ICT by the contractor, de-monetization and implementation of GST.

31. Asset-wise time over-run is discussed in the subsequent paragraphs and the same is as follows:

Asset-1:

32. There is delay of 465 days in execution of Asset-1. The Petitioner has contended that delay in execution of Asset-1 was mainly on account of RoW issues at various locations, Court cases, stringing works and force majeure event. On perusal of record, we notice that the Petitioner faced RoW issues right from 9.8.2018 at various locations viz 135/0- 135/1, 137/0-137/1,134/0-134/1, 138/0-142/0 and the last RoW issues were faced by it on 24.1.2020. On perusal of the Petitioner's letter dated 23.8.2019 written to the Deputy Commissioner, Mysore, we find that out of 565 tower locations, 561 foundations and 552 tower erections were completed. As regards the balance 4 foundations and 13 tower erections, the Petitioner stated that they come under Mysore Taluk where they were facing severe Row issues in the execution of 400 kV Hiriyur-



Mysore transmission line for which they sought intervention of Deputy Commissioner, Mysore. The Petitioner's letter dated 4.10.2019 written to Deputy Commissioner and District Magistrate, Mysore with regard to construction of 400 kV D/C Hiriur-Mysore transmission line reveals that the work in Mysore district was severely hampered due to RoW issues and the Petitioner sought their intervention to remove obstruction and to provide police protection. On perusal of Petitioner's letter dated 10.12.2019, addressed to Deputy Commissioner/District Magistrate, Mysore, it is found that certain land-owners approached Hon'ble High Court of Karnataka to quash the notices issued by the Petitioner, whereupon the Hon'ble High Court of Karnataka on 11.11.2019 directed the Deputy Commissioner to pass independent order for compensation payable by it. The Petitioner's letter dated 19.11.2019 addressed to Deputy Commissioner and District Magistrate on the issue of construction of 400 kV D/C Hiriur-Mysore transmission line shows that stringing of 185 km as against the total 205 km total line length was complete, and that 15 km stringing was in Mysore district for execution of the transmission system and the Petitioner was facing severe RoW issues on approximate 8 km of line length. On perusal of Petitioner's letter dated 20.12.2019, addressed to Deputy Commissioner and District Magistrate, Mysore on the issue of construction of 400 kV Hiriur-Mysore, it is found that the Petitioner requested to provide necessary police protection to it with effect from 22.12.2019 as the work was stalled for a period of about one year due to severe right of way by the land-owners. On perusal of Petitioner's letter dated 16.1.2020 addressed to Deputy Commissioner and District Magistrate, Mysore, we find that it was written to provide necessary police protection as the construction of 400 kV Hiriur-Mysore transmission line had been completed except for 8 km Kallurunaganahalli, Anandpr, Megalapura, Chikkanahalli, Mydanahalli village



limits, Yelwala Hobli, Mysore Taluk. The Petitioner was facing serious RoW issues at 8 km length at Yelwala (Hobli) near Mysore Sub-station for construction of 400 kV Hiriur-Mysore transmission line where certain land-owners/farmers obstructed the work, resultantly an FIR was lodged with the police on 19.1.2020. Perusal of minutes dated 24.1.2020 shows that a meeting was held at DC Office wherein DC Mysore, Raitha Sangha leaders and land owners were present whereupon RoW issues were resolved and the work was commenced on 25.1.2020. The Petitioner thereafter completed the works of the line by 21.3.2020 except for final checking and pre-execution works. We also notice that delay from 21.3.2020 to 1.5.2020 was attributable to force majeure as from 24.3.2020, Covid-19 pandemic broke out in the country due to which the Government imposed strict lock down as a result of which transportation services such as road, air and railways were suspended with exception of essential goods and emergency services and strict restrictions were imposed for movement from one place to another. Thus, the sites remained closed on account of Covid-19 outbreak restrictions imposed by the Government of India. The Government unlocked Covid-19 restrictions on 31.8.2020. However, we observe that the Petitioner managed to follow up the matter with Mysore District Administration, obtained permission for movement of limited men and material, executed 1st circuit of the transmission line on 27.3.2020 and 2nd circuit on 28.4.2020 after completion of pre-execution testing. The Petitioner after completing the minor works and testing declared the commercial operation of Asset-1 on 1.5.2020. In our view, the Petitioner took around 534 days (9.8.2018 to 24.1.2020) to resolve the reported RoW issues in respect of Asset-1. However, the Petitioner compressed the execution time and put the Asset-1 into commercial operation within overall time over-run of 465 days. Since the time over-run due to Covid 19 pandemic is



considered under force majeure event, the time over-run from 24.3.2020 to 28.4.2020, the same is condoned. Accordingly, time over-run of 465 days with respect to Asset-1 on account of RoW issues and force majeure is condoned. Further, time over-run due to court cases at location nos. 126-127-128, 76/8, 114/6 and 114/7 during the 2019-20 period and stringing work is subsumed in time condonation of RoW issues.

Asset-2, Asset-3 and Asset-4:

33. There is delay of 96 days, 132 days and 146 days in execution of Asset-2, Asset-3 and Asset-4 respectively. The Petitioner has contended that time over-run in respect of these assets is mainly due to supplier/contractor, de-monetization and implementation of GST.

Delay in supply of ICT by the contractor

34. The Petitioner has contended that supply of ICT was delayed by the contractor. To examine the contention of the Petitioner that supply of ICT was delayed by the contractor, we feel it appropriate to extract the following provisions of Regulation 22(1)(b) of the 2019 Tariff Regulations:

“22. Controllable and Uncontrollable factors: The following shall be considered as controllable and uncontrollable factors for deciding time over-run, cost escalation, IDC and IEDC of the project:

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

- a. Efficiency in the implementation of the project not involving approved change in scope of such project, change in statutory levies or change in law or force majeure events; and*
- b. Delay in execution of the project on account of contractor or supplier or agency of the generating company or transmission licensee.”*

35. We note that in terms of the provisions of Regulation 22(1)(b) of the 2019 Tariff Regulations, delay in execution of a project on account of contractor or supplier or agency of the generating company or transmission licensee is a controllable factor and



the same shall not be considered for condoning delay. In the present case, delay in achieving COD of Asset-2, Asset-3 and Asset-4 is on account of the Petitioner's contractor and as such we are of the view that the reasons submitted by the Petitioner for time over-run in the execution of Asset-2, Asset-3 and Asset-4 were not beyond its control as the said reasons come under the purview of controllable factors as specified above in Regulation 22(1)(b) of the 2019 Tariff Regulations.

Delay due to De-monetisation

36. The Petitioner has contended that on 8.11.2016, the Government of India de-monetized the high denomination bank notes of ₹500 and ₹1000. The Petitioner has further contended that the same affected the execution of the transmission work as the construction workers are paid daily wages and due to restricted cash withdrawal limits imposed by the Government of India, there was delay in payment of wages to the workers. The Petitioner has contended that the impact on account of the above is 90 days.

37. We have considered the contentions of the Petitioner. In our view, the de-monetization of the notes of ₹500 and ₹1000 cannot be considered to be a *force majeure* event within the provisions of the Tariff Regulations. Therefore, the claim of the Petitioner for condoning time over-run on account of the de-monetisation cannot be considered under *force majeure* and the same is, therefore, rejected.

Delay due to Notification of Goods and Service Taxes (GST) Act, 2017

38. The Petitioner has contended that pursuant to the Notification of GST laws with effect from 1.7.2017, associated contractor had to follow all the transactions pertaining GST i.e new material codes/HSN codes etc., which took enormous amount of time in



placing purchase orders on different vendors as a result of which there was delay of 60 days in placing purchase orders to different vendors for oil and spares.

39. We have considered the contentions of the Petitioner. No material is brought on record by the Petitioner to show how it was affected by the aforesaid event in performance of its obligations which could not be avoided by exercising reasonable care/control or by complying with prudent utility practices. Therefore, the claim of the Petitioner for condoning the time over-run on account of the GST Notification is liable to be rejected. Accordingly, we reject the contentions of the Petitioner on this count.

40. Accordingly, time over-run of 96 days, 132 days and 146 days in declaring commercial operation of Asset-2, Asset-3 and Asset-4 respectively is not condoned.

41. Accordingly, the decision with regard to time over-run in respect of the transmission assets is as follows:

Assets	I.A. date	SCOD	COD	Time over-run	Time Over-run condoned	Time Over-run not condoned
Asset-1	22.10.2016	22.1.2019	1.5.2020	465 days	465 days	–
Asset-2			28.4.2019	96 days	–	96 days
Asset-3			3.6.2019	132 days	–	132 days
Asset-4			17.6.2019	146 days	–	146 days

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

42. The Petitioner has submitted the revised claim of IDC with respect to the transmission assets and has submitted the statement showing IDC claim, discharge of IDC liability as on COD and thereafter and the same is as follows:



(₹ in lakh)

Assets	IDC as per Auditor's Certificate	IDC Discharged upto COD	IDC discharged during 2019-20	IDC discharged during 2020-21	IDC discharged during 2021-22
Asset-1	1592.19	1265.91	0.00	325.58	0.70
Asset-2	180.53	136.15	44.38	0.00	0.00
Asset-3	44.60	32.98	11.62	0.00	0.00
Asset-4	146.23	116.96	29.27	0.00	0.00

43. We have considered the submissions of the Petitioner. As discussed above , time over-run in declaring the commercial operation of Asset-1 has been condoned whereas time over-run for Asset-2, Asset-3 and Asset-4 has not been condoned. Accordingly, IDC on cash basis up to the COD has been worked out on the basis of the loan details given in the statement showing discharge of IDC and Form-9C for the transmission assets.

44. TANGEDCO has submitted that the increase in IDC of ₹357 cr is due to the time over-run for the transmission assets and the Petitioner has not submitted any phasing of funds in case of the IDC, details of IEDC during the period of time over-run and liquidated damages recovered or recoverable corresponding to the time over-run. TANGEDCO has further submitted that since the delay is not condonable and attributed to the Petitioner, IDC and IEDC for the delayed period i.e, from SCOD to actual COD may be restricted.

45. In response, the Petitioner has submitted that the reasons are incorrect and misleading.

46. We have considered the submissions of the Petitioner and TANGEDCO. IDC claimed and considered as on COD, summary of discharge of IDC liability up to COD



and thereafter for the purpose of tariff determination subject to revision at the time of truing up is as follows:

(₹ in lakh)

Assets	IDC as per Auditor's Certificate	IDC disallowed due to computational error	IDC disallowed due to time over-run	IDC Allowed	Undischarged IDC	IDC allowed on COD	IDC discharged during 2019-20	IDC discharged during 2020-21	IDC discharged during 2021-22
Asset-1	1592.19	5.01	0.00	1587.18	325.99	1261.20	0.00	325.58	0.41
Asset-2	180.53	0.00	40.11	140.42	23.91	116.51	23.91	0.00	0.00
Asset-3	44.60	0.00	12.64	31.96	6.29	25.67	6.29	0.00	0.00
Asset-4	146.23	0.00	44.57	101.66	12.80	88.86	12.80	0.00	0.00

47. Further, the Petitioner has claimed revised IEDC for the transmission assets vide affidavit dated 25.11.20210 as per the Auditor's Certificate. The Petitioner has further submitted that the entire amount of IEDC for the transmission assets has been discharged up to COD. As the time over-run for Asset-1 has been entirely condoned, there is no disallowance of IEDC. However, for Asset-2, Asset-3 and Asset-4, time over-run has not been condoned. Accordingly, details of IEDC claimed as per Auditor's Certificate, IEDC disallowed and IEDC allowed are as follows:

(₹ in lakh)

Assets	IEDC as per Auditor's Certificate (A)	IEDC disallowed due to computational error (B)	IEDC disallowed due to time over-run not condoned (C)	IEDC allowed (A-B-C)
Asset-1	1883.61	0.00	0.00	1883.61
Asset-2	77.51	0.00	8.11	69.40
Asset-3	23.38	0.00	3.23	20.15
Asset-4	89.65	0.00	13.52	76.13



Initial Spares

48. The Petitioner has submitted that as per Regulation 23 of the 2019 tariff Regulations, Initial Spares for sub-station and transmission line have to be claimed at the project cost. Accordingly, Initial Spares are calculated at project level and the same are as follows:

(₹ in lakh)							
Assets	Parts	Plant and Machinery cost for calculation of Initial Spares (A)	Initial Spares Claimed (B)	Ceiling (C)	Initial Spares Worked out $D = [(A-B)*C / (100-C)]$	Excess [B-D] If B>D	Balance Available within criteria [D-B] If D>B
Asset covered in Petition No. 34/TT/2019 (true up Petition No. 656/TT/2020)							
Asset II(a)*	SS	2987.68	136.54	6	181.99	0.00	45.45
Total (14-19)	SS	2987.68	136.54	6	181.99	0.00	45.45
Assets covered in the present petition							
Asset- 1	TL	32560.66	320.25	1	325.66	0.00	5.41
	SS	2933.87	165.97	6	176.67	0.00	10.70
Asset- 2	SS	2296.69	0	6	146.6	0.00	146.6
Asset- 3	SS	910.34	40.93	6	55.49	0.00	14.56
Asset- 4	SS	2227.72	139.44	6	133.29	6.15	0.00
Total (19-24)	SS	8368.62	346.34	6	512.06	0.00	165.72
	TL	32560.66	320.25	1	325.66	0.00	5.41
Total (Project Level)	SS	11356.30	482.88	6	694.05	0.00	211.17
	TL	32560.66	320.25	1	325.66	0.00	5.41

* The asset in the instant project executed during 2014-19 tariff period was claimed in Petition No. 34/TT/2019. The Commission vide order dated 14.4.2020 admitted the Initial Spares as claimed for the asset.



49. The Petitioner has submitted that the Initial Spares for the transmission system are within the specified limit under Regulation 23 of the 2019 Tariff Regulations and prayed that to allow the same as claimed in the instant petition.

50. We have considered the submissions of the Petitioner. Regulation 23(d) of the 2019 Tariff Regulations provides that Initial Spares shall be capitalised as a percentage of plant and machinery cost up to the cut-off date, subject to the following ceiling norms:

- “(d) Transmission System*
- i. Transmission line: 1.00%*
 - ii. Transmission sub-station*
 - Green Field: 4.00%*
 - Brown Field: 6.00%*
 - iii. Series Compensation devices and HVDC Station: 4.00%*
 - iv. Gas Insulated Sub-station (GIS)*
 - Green Field: 5.00%*
 - Brown Field: 7.00%*
 - v. Communication System: 3.50%*
 - vi. Static Synchronous Compensator: 6.00%”*

51. The Petitioner has claimed the Initial Spares on overall project basis and has prayed to allow the same on project as a whole basis. It is observed that the instant petition does not cover the entire project. Initial Spares are allowed on overall project basis only when the Petitioner has combined all the transmission assets of the project. In the instant petition, Initial Spares for the transmission assets are allowed as per respective percentage of the plant and machinery cost as on the cut-off date on individual basis. Initial Spares allowed for the transmission assets are as follows:



Assets	Particulars	Plant and Machinery cost (excluding IDC/IEDC, Land cost & Cost of Civil Works) (₹ in lakh)	Initial Spares claimed (₹ in lakh)	Norms as per 2019 Tariff Regulations (in %)	Initial Spares allowable (₹ in lakh)	Initial Spares disallowed (₹ in lakh)	Initial Spares Allowed (₹ in lakh)
		A	B	C	$D=(A-B)*C/(100-C)$	$E=B-D$	
Asset-1	Transmission line	32560.66	320.25	1.00%	325.66	NIL	320.25
	Sub-station	2933.87	165.97	6.00%	176.67	NIL	165.97
Asset-2	Sub-station	2296.69	0.00	6.00%	146.60	NIL	0.00
Asset-3	Sub-station	910.34	40.93	6.00%	55.49	NIL	40.93
Asset-4	Sub-station	2227.72	139.44	6.00%	133.29	6.15	133.29

Central Finance Assistance (“CFA”)

52. Sub- clause (e) of Clause 5 of Regulation 19 of the 2019 Tariff Regulations provides for exclusion of grant (from the capital cost) 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.

53. The Petitioner has submitted the following:

- a) CFA for development of Solar Park and associated external transmission system was provided by the Ministry of New and Renewable Energy (MNRE) and vide order ref: 30/26/2014-15/NSM dated 12.12.2014, administrative guidelines for release of fund for implementation of scheme for development of Solar Park and Ultra Mega Solar Power projects were issued and amended vide Office Memorandum No. F. No. 30/26/2014-15/NSM dated 29.9.2016. 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.....”

- b) The details for release of CFA by MNRE to the Petitioner was given vide letter dated 16.1.2018. CFA grant was sanctioned by MNRE vide Office Memorandum No. F. No. 320/6/2017/NSM dated 29.6.2018. The relevant extracts of the order are as follows:

“2. It is mention that this ministry vide its sanction order no. 30/52/2014-15/ NSM dated 28.02.2017 released central finance assistance (CFA) of Rs 28,28,00,000/- (Rupees twenty Crore and twenty eight lakhs only) to SECI for further disbursement of Rs. 28,00,00,000/- (Rupees twenty eight crore only) to PGCIL towards development of external power evacuation system for evacuation of 1000 MW (phase-I) solar power from Pavagada solar park, Karnataka and Rs. 28,00, 000/- (Rupees Twenty eight lakhs only) to SECI towards fund handling charges. Further, Ministry vide its sanction order no. 320/6/2017-NSM dated 29.12.2017 released CFA of Rs. 12,12,00,000/- (Rupees twelve Crore and twelve lakhs only) to SECI for further disbursement of Rs. 12,00,00,000/- (Rupees Twelve Crore only) to PGCIL for development of external power evacuation system for evacuation of 1000 MW (Phase-I) solar power from Pavagada Solar Park, Karnataka and Rs. 12,00,000/- (Rupees twelve lakhs only) to SECI towards fund handling charges @1%.

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, administrative guidelines 30/26/2014-15/NSM dated 21.03.2017 & OM no. 320/14/2017 –NSM dated 18-01-2018 an amount of Rs 40,40,00,000/- (Rupees Forty Crore Forty Lakh only) is due to SECI, New Delhi towards award of work for external power evacuation system of Pavagada Solar Park phase-II of external power evacuation system of Pavagada Solar Park (1000MW) in Karnataka. The amount of Rs 40,40,00,000/- (Rupees Forty Crore Forty Lakh only) includes Rs 40,00,00,000/- (Rupees Forty Crore only) towards development of external power evacuation system Phase-I of Pavagada Solar Park, Karnataka and Rs 40,00,000/- (Rupees Forty Lakh only) towards fund handling charges to SECI.

4. Accordingly, sanction of the President of India is hereby conveyed for release of Rs. 40,40,00,000/- (Rupees Forty Crore Forty Lakh only) to Solar Energy Corporation of India (SECI), New Delhi as CFA towards development of external power evacuation system of Pavagada Solar Park (Phase-II,1000 MW) in Karnataka.”

54. The Petitioner has submitted that in the transmission system the CFA grant under Phase II is based on capacity of 1000 MW @ ₹800,000/ MW (Total ₹8000 lakh). 50 % of the applied grant is released by MNRE through SECI – ₹4000 lakh which has been



received on 29.6.2018 towards the transmission system for Ultra Mega Solar Power Park at Tumkur (Pavagada), Karnataka-Phase-II (Part A, Part B and Part C). As per the sanction order, the grant received were kept in an interest bearing account. The interest accrued of ₹17.22 lakh has been treated as part of the grant in accordance with the guidelines. Total grant of ₹4017.22 lakh has been allocated to the transmission system for Ultra Mega Solar Power Park at Tumkur (Pavagada), Karnataka-Phase-II (Part A, Part B and Part C). The details of the grant allocated are as follows:

			(₹ in lakh)
Project Name	Asset Name	COD	Grant allocated
Transmission System for Ultra Mega Solar Park at Tumkur (Pavagada), Karnataka - Phase II (Part A)	Asset-1: 400 kV D/C Hiriur – Mysore transmission line along with associated bays and 2X80 MVAR switchable line reactors along with associated bays at 400/220 kV Mysore Sub-station	1.5.2020	1344.92
	1X500 MVA 400/220 kV ICTs along with associated bays at Tumkur (Pavagada) Sub-station	31.3.2019	153.72
	Asset-2: 1X500 MVA 400/220 kV ICTs along with associated bays at Tumkur (Pavagada) Sub-station	28.4.2019	100.96
	Asset-3: 1X125 MVA 400 kV Bus Reactor along with associated bays at Tumkur (Pavagada) pooling Sub-station	3.6.2019	38.64
	Asset-4: 1X500 MVA 400/220 kV ICT along with associated bays and equipment at Tumkur (Vasantnarsapur) Sub-station	17.6.2019	95.42
Additional ATS for Tumkur (Pavagada) [Transmission System for Ultra Mega Solar Park at Tumkur (Pavagada), Karnataka -Phase-II (Part-B)]	Tumkur (Pavagada) Pool-Devanhally (KPTCL) 400 kV D/C line along with associated bays and equipment at both ends.	Yet to be commissioned	1892.53
Transmission System for Ultra Mega Solar Power Park at Tumkur	Fixed Series Capacitor (40%) on Circuit-I & II of 400 kV Tumkur (Pavagada) - Tumkur (Vasantharapura) D/c Quad Line at Tumkur (Pavagada) PS end.	1.9.2019	391.03



(Pavagada), Karnataka - Phase-II Part-C			
Total Grant (including interest accrued of ₹17.22 lakh)			4017.22

55. The Petitioner has further submitted that the balance 50% of approved grant for Phase-II (Part A, Part B and Part C) is yet to be disbursed and the same shall be adjusted accordingly and the grant received as on date has been adjusted in the capital cost of the transmission assets covered in the instant petition.

56. We have considered the submissions of the Petitioner. Regulation 19(5) of the 2019 Tariff Regulations speak of exclusion of certain categories of capital costs from the existing and new projects while Clause (e) to Regulation 19(5) of the 2019 Tariff Regulations provide as follows:

“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.”

57. In view of above, the capital cost considered after adjusting grant for the transmission assets as on COD is as follows:

(₹ in lakh)

Assets	Capital cost claimed as on COD (Auditor’s Certificate) (A)	Grant (B)	IDC disallowed (C)	IEDC disallowed (D)	Undis-charged IDC (E)	Excess Initial Spares dis-allowed (F)	Capital Cost as on COD (A-B-C-D-E-F)
Asset-1	34568.95	1344.92	5.01	0.00	325.99	0.00	32893.03
Asset-2	2251.35	100.96	40.11	8.11	23.91	0.00	2078.27
Asset-3	620.57	38.64	12.64	3.23	6.29	0.00	559.76
Asset-4	1999.26	95.42	44.57	13.52	12.80	6.15	1826.80

Additional Capital Expenditure (“ACE”)

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



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

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

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

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

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

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

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

- i. *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;*
- ii. *Change in law or compliance of any existing law;*
- iii. *Deferred works relating to ash pond or ash handling system in the original scope of work;*
- iv. *Liability for works executed prior to the cut-off date;*
- v. *Force Majeure events;*
- vi. *Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments; and*
- vii. *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.”*



59. The Petitioner has submitted that the ACE incurred/ projected to be incurred is mainly on account of balance/ retention payments and hence, the same is claimed under Regulations 24(1)(a) and 24(1)(b) of the 2019 Tariff Regulations. The Petitioner vide affidavit dated 25.11.2021 has revised the claimed capital cost as per the cash IDC discharge as on 31.3.2024 and the same is as follows:

(₹ in lakh)

Assets	FR approved cost	RCE approved cost	RCE II approved cost	Capital cost up to COD	Projected ACE			Capital Cost as on 31.3.2024
					2019-20	2020-21	2021-22	
Asset-1	31101.69	37951.88	40794.20	34568.95	0.00	4455.59	1043.25	40067.79
Asset-2	2519.25	2724.52	3202.60	2251.35	351.47	39.05	0.00	2641.87
Asset-3	960.76	1084.87	1188.00	620.57	323.44	35.94	0.00	979.95
Asset-4	2692.85	2750.72	2738.80	1999.26	442.14	49.13	0.00	2490.53

60. The Petitioner has submitted contractor-wise details of ACE (liabilities flow statement) claimed including details of balance and retention payments vide affidavit dated 25.11.2021. Further, the details with regard to ACE claimed during 2019-24 period as submitted by the Petitioner vide affidavit dated 12.11.2021 are as follows:

(₹ in lakh)

Asset-1						
Party-wise	Particulars	Outstanding Liability as on COD	Discharge of Liability		Unexecuted Work Recognized	
			2020-21	2021-22	2020-21	2021-22
Simple Infrastructures Limited	Transmission Line	948.98	903.47	45.51	674.36	
Compensation		47.32	47.32		2210.72	892.26
Bureau Veritas		22.29	1.82	20.47		
Total Transmission Line		1018.59	952.61	65.98	2885.08	892.26
BHEL	S/S	471.21	390.65	80.56		
Total Sub-station		471.21	390.65	80.56		
Simple Infrastructures Limited	PLCC	209.42	205.33	4.09		
BHEL		20.47	20.47			
Total PLCC		229.89	225.8	4.09		
BHEL	IT	1.81	1.45	0.36		
Total IT		1.81	1.45	0.36		
Total		1721.5	1570.51	150.99	2885.08	892.26



(₹ in lakh)

Asset-2				
Party-wise	Particulars	Outstanding Liability as on COD	Discharge of Liability	
			2019-20	2020-21
BHEL	S/S	373.56	336.21	37.35
	IT	16.96	15.26	1.7
Total		390.52	351.47	39.05

(₹ in lakh)

Asset-3				
Party wise	Particulars	Outstanding Liability as on COD	Discharge of Liability	
			2019-20	2020-21
BHEL	S/S	359.37	323.44	35.94
Total		359.37	323.44	35.94

(₹ in lakh)

Asset-4				
Party-wise	Particulars	Outstanding Liability as on COD	Discharge of Liability	
			2019-20	2020-21
BHEL	S/S	473.82	426.43	47.39
	IT	17.45	15.71	1.74
Total		491.27	442.14	49.13

61. In response to the Technical Validation letter, the Petitioner has submitted that as on date ACE is not expected beyond 2023-24 period. However, considering the severe RoW issues that were faced in execution of the transmission assets, there may be ACE on account of payment of additional compensation as per the directions of Court orders that may be issued in future as has been observed in similar cases in other petitions also. However, as on date no such ACE is expected beyond 2023-24.

62. We have considered the submissions made by the Petitioner. ACE claimed by the Petitioner has been allowed under Regulation 24(1)(a) and Regulation 24(1)(b) of the 2019 Tariff Regulations on account of balance and retention payments for works already executed. Accordingly, ACE allowed for 2019-24 period in respect of the transmission assets is as follows:



Asset-1

(₹ in lakh)

ACE 2019-24		
Particulars	2020-21	2021-22
ACE claimed as per Auditor's Certificate	4455.59	1043.25
Add: IDC Discharged	325.58	0.41
ACE allowed	4781.17	1043.66

Asset-2

(₹ in lakh)

ACE 2019-24		
Particulars	2019-20	2020-21
ACE claimed as per Auditor's Certificate	351.47	39.05
Add: IDC Discharged	23.91	0.00
ACE allowed	375.38	39.05

Asset-3

(₹ in lakh)

ACE 2019-24		
Particulars	2019-20	2020-21
ACE claimed as per Auditor's Certificate	323.44	35.94
Add: IDC Discharged	6.29	0.00
ACE allowed	329.73	35.94

Asset-4

(₹ in lakh)

ACE 2019-24		
Particulars	2019-20	2020-21
ACE claimed as per Auditor's Certificate	442.14	49.13
Add: IDC Discharged	12.80	0.00
ACE allowed	454.94	49.13

63. The capital cost considered for the transmission assets for 2019-24 tariff period is as follows:

Assets	Capital cost as on COD	ACE 2019-24			Capital cost as on 31.3.2024
		2019-20	2020-21	2021-22	
Asset-1	32893.03	0.00	4781.17	1043.66	38717.85
Asset-2	2078.27	375.38	39.05	0.00	2492.70
Asset-3	559.76	329.73	35.94	0.00	925.43
Asset-4	1826.80	454.94	49.13	0.00	2330.87



Debt-Equity ratio

64. 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.”

65. Debt-equity ratio considered for the purpose of computation of tariff for 2019-24 tariff period for the transmission assets is as follows:

Asset-1

Particulars	Capital Cost as on COD (₹ in lakh)	(in %)	ACE during 2019-24 (₹ in lakh)	(in %)	Capital Cost as on 31.3.2024 (₹ in lakh)	(in %)
Debt	23025.13	70.00	4077.38	70.00	27102.50	70.00
Equity	9867.91	30.00	1747.45	30.00	11615.36	30.00
Total	32893.04	100.00	5824.83	100.00	38717.86	100.00

Asset-2

Particulars	Capital Cost as on COD (₹ in lakh)	(in %)	ACE during 2019-24 (₹ in lakh)	(in %)	Capital Cost as on 31.3.2024 (₹ in lakh)	(in %)
Debt	1454.79	70.00	290.10	70.00	1744.89	70.00
Equity	623.48	30.00	124.33	30.00	747.81	30.00
Total	2078.27	100.00	414.43	100.00	2492.70	100.00

Asset-3

Particulars	Capital Cost as on COD (₹ in lakh)	(in %)	ACE during 2019-24 (₹ in lakh)	(in %)	Capital Cost as on 31.3.2024 (₹ in lakh)	(in %)
Debt	391.83	70.00	255.97	70.00	647.80	70.00
Equity	167.93	30.00	109.70	30.00	277.63	30.00
Total	559.76	100.00	365.67	100.00	925.43	100.00

Asset-4

Particulars	Capital Cost as on COD (₹ in lakh)	(in %)	ACE during 2019-24 (₹ in lakh)	(in %)	Capital Cost as on 31.3.2024 (₹ in lakh)	(in %)
Debt	1278.76	70.00	352.85	70.00	1631.61	70.00
Equity	548.04	30.00	151.22	30.00	699.26	30.00
Total	1826.80	100.00	504.07	100.00	2330.87	100.00



Depreciation

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

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

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

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

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

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

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

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

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

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

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

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



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

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

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

67. Depreciation has been worked out considering the admitted capital expenditure as on COD. The Weighted Average Rate of Depreciation (WAROD) has been worked out as per the rates of depreciation prescribed in the 2019 Tariff Regulations and the WAROD table is placed in the Annexures. The depreciation allowed for the transmission assets is as follows:



Asset-1

(₹ in lakh)

Particulars	2020-21 (pro-rata 335 days)	2021-22	2022-23	2023-24
Depreciation				
Opening Gross Block	32893.03	37674.20	38717.85	38717.85
ACE	4781.17	1043.66	0.00	0.00
Closing Gross Block	37674.20	38717.85	38717.85	38717.85
Average Gross Block	35283.61	38196.02	38717.85	38717.85
Weighted Average Rate of Depreciation (WAROD) (in %)	5.30	5.30	5.30	5.30
Balance useful life of the asset (Year)	34.00	33.00	32.00	31.00
Lapsed life at the beginning of the year (Year)	0.00	1.00	2.00	3.00
Aggregate Depreciable Value	31756.83	34378.10	34847.77	34847.77
Combined Depreciation during the year	1716.19	2024.98	2052.57	2052.57
Aggregate Cumulative Depreciation	1716.19	3741.17	5793.74	7846.30
Remaining Aggregate Depreciable Value	30040.64	30636.94	29054.03	27001.46

Asset-2

(₹ in lakh)

Particulars	2019-20 (pro-rata 339 days)	2020-21	2021-22	2022-23	2023-24
Depreciation					
Opening Gross Block	2078.27	2453.65	2492.70	2492.70	2492.70
ACE	375.38	39.05	0.00	0.00	0.00
Closing Gross Block	2453.65	2492.70	2492.70	2492.70	2492.70
Average Gross Block	2265.96	2473.17	2492.70	2492.70	2492.70
Weighted Average rate of Depreciation (WAROD) (in %)	5.61	5.61	5.61	5.61	5.61
Balance useful life of the asset (Year)	24.00	23.00	22.00	21.00	20.00
Lapsed life at the beginning of the year (Year)	0.00	1.00	2.00	3.00	4.00
Aggregate Depreciable Value	2046.95	2234.33	2251.99	2251.99	2251.99
Combined Depreciation during the year	117.65	138.82	139.94	139.94	139.94
Aggregate Cumulative Depreciation	117.65	256.47	396.41	536.34	676.28



Particulars	2019-20 (pro-rata 339 days)	2020-21	2021-22	2022-23	2023-24
Remaining Aggregate Depreciable Value	1929.30	1977.86	1855.58	1715.65	1575.71

Asset-3

(₹ in lakh)

Particulars	2019-20 (pro-rata 303 days)	2020-21	2021-22	2022-23	2023-24
Depreciation					
Opening Gross Block	559.76	889.49	925.43	925.43	925.43
ACE	329.73	35.94	0.00	0.00	0.00
Closing Gross Block	889.49	925.43	925.43	925.43	925.43
Average Gross Block	724.63	907.46	925.43	925.43	925.43
Weighted average rate of Depreciation (WAROD) (in %)	5.28	5.28	5.28	5.28	5.28
Balance useful life of the asset (Year)	25.00	24.00	23.00	22.00	21.00
Lapsed life at the beginning of the year (Year)	0.00	1.00	2.00	3.00	4.00
Aggregate Depreciable Value	652.16	816.72	832.89	832.89	832.89
Combined Depreciation during the year	31.67	47.91	48.86	48.86	48.86
Aggregate Cumulative Depreciation	31.67	79.59	128.45	177.31	226.18
Remaining Aggregate Depreciable Value	620.49	737.13	704.44	655.58	606.71

Asset-4

(₹ in lakh)

Particulars	2019-20 (pro-rata 289 days)	2020-21	2021-22	2022-23	2023-24
Depreciation					
Opening Gross Block	1826.80	2281.74	2330.87	2330.87	2330.87
ACE	454.94	49.13	0.00	0.00	0.00
Closing Gross Block	2281.74	2330.87	2330.87	2330.87	2330.87
Average Gross Block	2054.27	2306.30	2330.87	2330.87	2330.87
Weighted Average Rate of Depreciation (WAROD) (in %)	5.33	5.36	5.37	5.37	5.37
Balance useful life of the asset (Year)	25.00	24.00	23.00	22.00	21.00



Particulars	2019-20 (pro-rata 289 days)	2020-21	2021-22	2022-23	2023-24
Lapsed life at the beginning of the year (Year)	0.00	1.00	2.00	3.00	4.00
Aggregate Depreciable Value	1849.94	2077.65	2099.84	2099.84	2099.84
Combined Depreciation during the year	86.49	123.69	125.07	125.07	125.07
Aggregate Cumulative Depreciation	86.49	210.18	335.25	460.33	585.40
Remaining Aggregate Depreciable Value	1763.45	1867.47	1764.59	1639.52	1514.44

Interest on Loan (“IoL”)

68. 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.”

69. The Petitioner has claimed the Weighted Average rate of IoL, based on its actual loan portfolio and rate of interest. Accordingly, IoL has been calculated based on actual interest rate submitted by the Petitioner, in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed for the transmission assets is as follows:

Asset-1

(₹ in lakh)

Particulars	2020-21 (pro-rata 335 days)	2021-22	2022-23	2023-24
Interest on Loan				
Gross Normative Loan	23025.12	26371.94	27102.50	27102.50
Cumulative Repayments upto Previous Year	0.00	1716.19	3741.17	5793.74
Net Loan-Opening	23025.12	24655.75	23361.33	21308.76
Additions	3346.82	730.56	0.00	0.00
Repayment during the year	1716.19	2024.98	2052.57	2052.57
Net Loan-Closing	24655.75	23361.33	21308.76	19256.19
Average Loan	23840.43	24008.54	22335.05	20282.48
Weighted Average Rate of Interest on Loan (in %)	4.43	4.39	4.38	4.40
Interest on Loan	970.14	1054.67	977.98	892.61

Asset-2

(₹ in lakh)

Particulars	2019-20 (pro-rata 339 days)	2020-21	2021-22	2022-23	2023-24
Interest on Loan					
Gross Normative Loan	1454.79	1717.55	1744.89	1744.89	1744.89
Cumulative Repayments upto Previous Year	0.00	117.65	256.47	396.41	536.34



Particulars	2019-20 (pro-rata 339 days)	2020-21	2021-22	2022-23	2023-24
Net Loan-Opening	1454.79	1599.91	1488.42	1348.48	1208.55
Additions	262.77	27.34	0.00	0.00	0.00
Repayment during the year	117.65	138.82	139.94	139.94	139.94
Net Loan-Closing	1599.91	1488.42	1348.48	1208.55	1068.61
Average Loan	1527.35	1544.16	1418.45	1278.52	1138.58
Weighted Average Rate of Interest on Loan (in %)	5.88	5.91	5.71	5.45	5.48
Interest on Loan	83.25	91.26	81.03	69.74	62.35

Asset-3

(₹ in lakh)

Particulars	2019-20 (pro-rata 303 days)	2020-21	2021-22	2022-23	2023-24
Interest on Loan					
Gross Normative Loan	391.83	622.65	647.80	647.80	647.80
Cumulative Repayments upto Previous Year	0.00	31.67	79.59	128.45	177.31
Net Loan-Opening	391.83	590.97	568.22	519.35	470.49
Additions	230.81	25.16	0.00	0.00	0.00
Repayment during the year	31.67	47.91	48.86	48.86	48.86
Net Loan-Closing	590.97	568.22	519.35	470.49	421.63
Average Loan	491.40	579.59	543.78	494.92	446.06
Weighted Average Rate of Interest on Loan (in %)	5.69	5.71	5.62	5.52	5.54
Interest on Loan	23.14	33.11	30.54	27.32	24.73

Asset-4

(₹ in lakh)

Particulars	2019-20 (pro-rata 289 days)	2020-21	2021-22	2022-23	2023-24
Interest on Loan					
Gross Normative Loan	1278.76	1597.22	1631.61	1631.61	1631.61
Cumulative Repayments upto Previous Year	0.00	86.49	210.18	335.25	460.33
Net Loan-Opening	1278.76	1510.73	1421.43	1296.35	1171.28
Additions	318.46	34.39	0.00	0.00	0.00
Repayment during the year	86.49	123.69	125.07	125.07	125.07
Net Loan-Closing	1510.73	1421.43	1296.35	1171.28	1046.21
Average Loan	1394.74	1466.08	1358.89	1233.82	1108.75
Weighted Average Rate of Interest on Loan (in %)	5.3709	5.3930	5.1851	4.9333	4.9462
Interest on Loan	59.15	79.07	70.46	60.87	54.84



Return on Equity (“RoE”)

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

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

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

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

Provided further that:

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

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

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



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

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

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

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

Illustration-

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

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

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

- (a) Estimated Gross Income from generation or transmission business for FY 2019-20 is ₹ 1,000 crore;
- (b) Estimated Advance Tax for the year on above is ₹ 240 crore;
- (c) Effective Tax Rate for the year 2019-20 = ₹ 240 Crore / ₹ 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 trueing up, shall be recovered or refunded to beneficiaries or the long term customers, as the case may be, on year to year basis.”



71. The Petitioner has submitted that MAT rate is applicable to the Petitioner's Company. Accordingly, MAT rate applicable in 2019-20 has been considered for the purpose of RoE which shall be tried up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. RoE in respect of the transmission assets has been worked out and allowed as follows:

Asset-1

(₹ in lakh)

Particulars	2020-21 (pro-rata 335 days)	2021-22	2022-23	2023-24
Return on Equity				
Opening Equity	9867.91	11302.26	11615.36	11615.36
Additions	1434.35	313.10	0.00	0.00
Closing Equity	11302.26	11615.36	11615.36	11615.36
Average Equity	10585.08	11458.81	11615.36	11615.36
Return on Equity (Base Rate) (in %)	15.50	15.50	15.50	15.50
MAT Rate for respective year (in %)	17.47	17.47	17.47	17.47
Rate of Return on Equity (in %)	18.78	18.78	18.78	18.78
Return on Equity	1824.69	2152.19	2181.60	2181.60

Asset-2

(₹ in lakh)

Particulars	2019-20 (pro-rata 339 days)	2020-21	2021-22	2022-23	2023-24
Return on Equity					
Opening Equity	623.48	736.09	747.81	747.81	747.81
Additions	112.61	11.72	0.00	0.00	0.00
Closing Equity	736.09	747.81	747.81	747.81	747.81
Average Equity	679.79	741.95	747.81	747.81	747.81
Return on Equity (Base Rate) (in %)	15.50	15.50	15.50	15.50	15.50
MAT Rate for respective year (in %)	17.47	17.47	17.47	17.47	17.47
Rate of Return on Equity (in %)	18.78	18.78	18.78	18.78	18.78
Return on Equity	118.26	139.35	140.45	140.45	140.45



Asset-3

(₹ in lakh)

Particulars	2019-20 (pro-rata 303 days)	2020-21	2021-22	2022-23	2023-24
Return on Equity					
Opening Equity	167.93	266.85	277.63	277.63	277.63
Additions	98.92	10.78	0.00	0.00	0.00
Closing Equity	266.85	277.63	277.63	277.63	277.63
Average Equity	217.39	272.24	277.63	277.63	277.63
Return on Equity (Base Rate) (in %)	15.50	15.50	15.50	15.50	15.50
MAT Rate for respective year (in %)	17.47	17.47	17.47	17.47	17.47
Rate of Return on Equity (in %)	18.78	18.78	18.78	18.78	18.78
Return on Equity	33.80	51.13	52.14	52.14	52.14

Asset-4

(₹ in lakh)

Particulars	2019-20 (pro-rata 289 days)	2020-21	2021-22	2022-23	2023-24
Return on Equity					
Opening Equity	548.04	684.52	699.26	699.26	699.26
Additions	136.48	14.74	0.00	0.00	0.00
Closing Equity	684.52	699.26	699.26	699.26	699.26
Average Equity	616.28	691.89	699.26	699.26	699.26
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (in %)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782	18.782
Return on Equity	91.40	129.95	131.34	131.34	131.34

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

72. O&M Expenses claimed by the Petitioner for the transmission assets for 2019-24 period are as follows:

Asset-1

(₹ in lakh)

Particulars	2020-21 (pro-rata 335 days)	2021-22	2022-23	2023-24
Transmission Lines				
i. 400 kV D/C (twin) AC station - Hiriyur -Mysore Line (205.724 km)				
Double Circuit (Bundled conductor with twin sub-conductors) (km)	205.724	205.724	205.724	205.724
Norms (₹ lakh/units)	0.912	0.944	0.977	1.011
Bays:				
400 kV				
i. Mysore:400 kV Reactor Bays (2 number)				



Particulars	2020-21 (pro-rata 335 days)	2021-22	2022-23	2023-24
ii. Mysore:400 kV Line Bays (2 number)				
400 kV (number)	33.28	34.45	35.66	36.91
Norms (₹ lakh/bay)	4.00	4.00	4.00	4.00
PLCC(@ 2% of capital cost)				
Original Project cost (₹ lakh)	630.01	630.01	630.01	630.01
Total O&M Expenses	306.23	344.92	356.55	368.55

Asset-2

(₹ in lakh)

Particulars	2019-20 (pro-rata 339 days)	2020-21	2021-22	2022-23	2023-24
Sub-station:					
i. Pavagada: ICT (500 MVA)					
400 kV (MVA)	0.358	0.371	0.384	0.398	0.411
Norms (₹ lakh per MVA)	500	500	500	500	500
Bays:					
400 kV					
i. Pavagada:220 kV ICT Bay (1 number)					
ii. Pavagada:400 kV ICT Bay (1 number)					
220 kV (numbers)	1.00	1.00	1.00	1.00	1.00
Norms (₹ lakh/bay)	22.51	23.3	24.12	24.96	25.84
400 kV (numbers)	1.00	1.00	1.00	1.00	1.00
Norms (₹ lakh/bay)	32.15	33.28	34.45	35.66	36.91
Total O&M Expenses	216.43	242.08	250.57	259.62	268.25

Asset-3

(₹ in lakh)

Particulars	2019-20 (pro-rata 303 days)	2020-21	2021-22	2022-23	2023-24
Bays:					
400 kV					
i. Pavagada:400 kV Reactor Bay (1 number)					
400 kV (number)	1	1	1	1	1
Norms (₹ lakh/MVA)	32.15	33.28	34.45	35.66	36.91
Total O&M Expenses	26.62	33.28	34.45	35.66	36.91



Asset-4

(₹ in lakh)

Particulars	2019-20 (pro-rata 289 days)	2020-21	2021-22	2022-23	2023-24
Sub-station					
400 kV					
i. Tumkur (Vasantnarsapur) Sub-station 400 kV-ICT (500 MVA)					
400 kV (MVA)	500	500	500	500	500
Norms (₹ lakh/units)	0.358	0.371	0.384	0.398	0.411
Bays:					
220 kV ICT					
i. Tumkur (Vasantnarsapur):220 kV ICT Bay (1 number)					
400 kV					
ii. Tumkur (Vasantnarsapur):400 kV Bay (1 number)					
220 kV ICT (numbers)	1	1	1	1	1
Norms (₹ lakh/bay)	22.51	23.30	24.12	24.96	25.84
400 kV (numbers)	1	1	1	1	1
Norms (₹ lakh/bay)	32.15	33.28	34.45	35.66	36.91
Total O&M Expenses	184.50	242.08	250.57	259.62	268.25

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

“35. Operation and Maintenance Expenses:

...

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

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



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Single Circuit (Twin & Triple Conductor)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single Conductor)	0.252	0.260	0.270	0.279	0.289
Double Circuit (Bundled conductor with four or more sub-conductors)	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
Norms for HVDC stations					
HVDC Back-to-Back stations (₹ 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 (₹ Lakh) (1500 MW)	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bipole scheme (₹ Lakh) (2000 MW)	2,468	2,555	2,645	2,738	2,834
±500 kV Bhiwadi-Balia HVDC bipole scheme (₹ Lakh) (2500 MW)	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath-Agra HVDC bipole scheme (₹ 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.”*

74. We have considered the submission of the Petitioner. The Petitioner has claimed O&M Expenses separately in case of Asset-1 for PLCC under Regulation 35(4) of the 2019 tariff Regulations @2% of its original project cost in the instant petition. The Petitioner has made similar claim in other petitions as well. Though PLCC is a communication system, it has been considered as part of the sub-station in the 2019 Tariff Regulations and 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.

75. O&M Expenses are worked out for various elements of the transmission assets as per the norms specified in the 2019 Tariff Regulations and the same are as follows:

Asset-1

Particulars	(₹ in lakh)			
	2020-21 (pro-rata 335 days)	2021-22	2022-23	2023-24
Transmission Lines				
i. 400 kV D/C (twin) AC station - Hiriyur Mysore Line (205.724 km)				
Double Circuit (Bundled conductor with twin sub-conductors) (km)	205.724	205.724	205.724	205.724
Norms (₹ lakh/km)	0.912	0.944	0.977	1.011
Bays:				
400 kV				
i. Mysore:400 kV Reactor Bays (2 numbers)				
ii. Mysore:400 kV Line Bays (2 numbers)				
400 kV (numbers)	33.28	34.45	35.66	36.91
Norms (₹ lakh/bay)	4.00	4.00	4.00	4.00
Total O&M Expenses	305.94	344.60	356.23	368.23

Asset-2

Particulars	(₹ in lakh)				
	2019-20 (pro-rata 339 days)	2020-21	2021-22	2022-23	2023-24
Sub-station:					
i. 400 kV D/C AC station - Pavagada: ICT (500 MVA)					
400 kV (MVA)	0.358	0.371	0.384	0.398	0.411
Norms (₹ lakh per MVA)	500	500	500	500	500
Bays:					
400 kV					
i. Pavagada:220 kV ICT Bay (1 number)					
ii. Pavagada:400 kV Bay (1 number)					
220 kV (numbers)	1.00	1.00	1.00	1.00	1.00
Norms (₹ lakh/bay)	22.51	23.3	24.12	24.96	25.84
400 kV (numbers)	32.15	33.28	34.45	35.66	36.91
Norms (₹ lakh/bay)	1.00	1.00	1.00	1.00	1.00



Total O&M Expenses	216.42	242.08	250.57	259.62	268.25
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Asset-3

(₹ in lakh)

Particulars	2019-20 (pro-rata 303 days)	2020-21	2021-22	2022-23	2023-24
Bays:					
400 kV					
i. Pavagada:400 kV Reactor Bay (1 number)					
400 kV (numbers)	1	1	1	1	1
Norms (₹ lakh/MVA)	32.15	33.28	34.45	35.66	36.91
Total O&M Expenses	26.62	33.28	34.45	35.66	36.91

Asset-4

(₹ in lakh)

Particulars	2019-20 (pro-rata 289 days)	2020-21	2021-22	2022-23	2023-24
Sub-station					
400 kV					
i. Tumkur (Vasantnarsapur) Sub-station 400 kV-ICT (500 MVA)					
400 kV (MVA)	500	500	500	500	500
Norms (₹ lakh/units)	0.358	0.371	0.384	0.398	0.411
Bays:					
220 kV ICT					
i. Tumkur (Vasantnarsapur):220 kV ICT Bay (1 number)					
400 kV					
i. Tumkur (Vasantnarsapur):400 kV Bay (1 number)					
220 kV ICT (numbers)	1	1	1	1	1
Norms (₹ lakh/bay)	22.51	23.30	24.12	24.96	25.84
400 kV (numbers)	1	1	1	1	1
Norms (₹ lakh/bay)	32.15	33.28	34.45	35.66	36.91
Total O&M Expenses	184.50	242.08	250.57	259.62	268.25

Interest on Working Capital (“IWC”)

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

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

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



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

(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2019 or as on 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. Definitions. - 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;”

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

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



Asset-1**(₹ in lakh)**

Particulars	2020-21 (pro-rata 335 days)	2021-22	2022-23	2023-24
Interest on Working Capital				
Working Capital for O&M Expenses (O&M Expenses for one month)	27.78	28.72	29.69	30.69
Working Capital for Maintenance Spares (15% of O&M Expenses)	50.00	51.69	53.43	55.23
Working Capital for Receivables (Equivalent to 45 days of annual fixed cost/ annual transmission charges)	657.25	697.58	696.61	685.57
Total Working Capital	735.03	777.99	779.73	771.49
Rate of Interest (in %)	11.25	10.50	10.50	10.50
Interest on Working Capital	75.89	81.69	81.87	81.01

Asset-2**(₹ in lakh)**

Particulars	2019-20 (pro-rata 339 days)	2020-21	2021-22	2022-23	2023-24
Interest on Working Capital					
Working Capital for O&M Expenses (O&M Expenses for one month)	19.47	20.17	20.88	21.64	22.35
Working Capital for Maintenance Spares (15% of O&M Expenses)	35.05	36.31	37.59	38.94	40.24
Working Capital for Receivables (Equivalent to 45 days of annual fixed cost/ annual transmission charges)	72.98	77.25	77.21	76.95	76.92
Total Working Capital	127.50	133.73	135.67	137.53	139.51
Rate of Interest (in %)	12.05	11.25	10.50	10.50	10.50
Interest on Working Capital	14.23	15.04	14.25	14.44	14.65



Asset-3

(₹ in lakh)

Particulars	2019-20 (pro-rata 303 days)	2020-21	2021-22	2022-23	2023-24
Interest on Working Capital					
Working Capital for O&M Expenses (O&M Expenses for one month)	2.68	2.77	2.87	2.97	3.08
Working Capital for Maintenance Spares (15% of O&M Expenses)	4.82	4.99	5.17	5.35	5.54
Working Capital for Receivables (Equivalent to 45 days of annual fixed cost/annual transmission charges)	17.48	20.79	20.84	20.59	20.37
Total Working Capital	24.99	28.56	28.88	28.91	28.98
Rate of Interest (in %)	12.05	11.25	10.50	10.50	10.50
Interest on Working Capital	2.49	3.21	3.03	3.04	3.04

Asset-4

(₹ in lakh)

Particulars	2019-20 (pro-rata 289 days)	2020-21	2021-22	2022-23	2023-24
Interest on Working Capital					
Working Capital for O&M Expenses (O&M Expenses for one month)	19.47	20.17	20.88	21.64	22.35
Working Capital for Maintenance Spares (15% of O&M Expenses)	35.05	36.31	37.59	38.94	40.24
Working Capital for Receivables (Equivalent to 45 days of annual fixed cost/annual transmission charges)	67.44	72.66	72.89	72.85	73.00
Total Working Capital	121.97	129.14	131.36	133.43	135.59
Rate of Interest (in %)	12.05	11.25	10.50	10.50	10.50
Interest on Working Capital	11.60	14.53	13.79	14.01	14.24



Annual Fixed Charges for 2019-24 Tariff Period

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

Asset-1

(₹ in lakh)

Particulars	2020-21 (pro-rata 335 days)	2021-22	2022-23	2023-24
Depreciation	1716.19	2024.98	2052.57	2052.57
Interest on Loan	970.14	1054.67	977.98	892.61
Return on Equity	1824.69	2152.19	2181.60	2181.60
Interest on Working Capital	75.89	81.69	81.87	81.01
O&M Expenses	305.94	344.60	356.23	368.23
Total	4892.85	5658.13	5650.25	5576.02

Asset-2

(₹ in lakh)

Particulars	2019-20 (pro-rata 339 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	117.65	138.82	139.94	139.94	139.94
Interest on Loan	83.25	91.26	81.03	69.74	62.35
Return on Equity	118.26	139.35	140.45	140.45	140.45
Interest on Working Capital	14.23	15.04	14.25	14.44	14.65
O&M Expenses	216.42	242.08	250.57	259.62	268.25
Total	549.81	626.55	626.24	624.19	625.64

Asset-3

(₹ in lakh)

Particulars	2019-20 (pro-rata 303 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	31.67	47.91	48.86	48.86	48.86
Interest on Loan	23.14	33.11	30.54	27.32	24.73
Return on Equity	33.80	51.13	52.14	52.14	52.14
Interest on Working Capital	2.49	3.21	3.03	3.04	3.04
O&M Expenses	26.62	33.28	34.45	35.66	36.91
Total	117.72	168.64	169.02	167.02	165.68



Asset-4

(₹ in lakh)

Particulars	2019-2020 (pro-rata 289 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	86.49	123.69	125.07	125.07	125.07
Interest on Loan	59.15	79.07	70.46	60.87	54.84
Return on Equity	91.40	129.95	131.34	131.34	131.34
Interest on Working Capital	11.60	14.53	13.79	14.01	14.24
O&M Expenses	184.50	242.08	250.57	259.62	268.25
Total	433.14	589.32	591.23	590.91	593.74

Filing Fees and the Publication Expenses

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

Licence Fee & RLDC Fees and Charges

81. 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 fees and charges in accordance with Regulations 70(3) of the 2019 Tariff Regulations for 2019-24 tariff period.

Security Expenses

82. The Petitioner has submitted that security expenses for the transmission assets have not been claimed in the instant petition and it would file a separate petition for claiming the overall security expenses and consequential IWC.



83. We have considered the above submissions of Petitioner. The Petitioner has claimed consolidated security expenses for all the transmission assets owned by it on projected basis for 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 and the Commission has approved security expenses from 1.4.2019 to 31.3.2024. Therefore, security expenses will be shared in terms of the order dated 3.8.2021 in Petition No. 260/MP/2020. Hence, the Petitioner's prayer in the instant petition for allowing it to file a separate petition for claiming the overall security expenses and consequential IWC has become infructuous.

Goods and Services Tax

84. 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 Respondent(s) 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.

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

Capital Spares

86. 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

87. The Petitioner has prayed that the transmission charges for 2019-24 period may be allowed to be recovered on monthly basis in accordance with Regulation 57 of the 2019 Tariff Regulations and may be shared by the Respondents in accordance with the 2010 Sharing Regulations.

88. TANGEDCO has submitted that with notification of the 2020 Sharing Regulations, it is inevitable to segregate capital cost of the assets into the 2010 Sharing Regulations regime and the 2020 Sharing Regulations regime. TANGEDCO has also submitted that the Commission in order dated 25.7.2016 in Petition No. 102/TT/2016 directed to split the capital cost under two heads viz. pre-PoC and post-PoC i.e. up to 30.6.2011 and beyond 30.6.2011 respectively. Further, the components of the tariff had also been reworked based on the splitting of the capital cost based on pre-PoC and post-PoC regime. TANGEDCO has submitted that there is a need to split the capital cost including ACE based on the 2010 Sharing Regulations and the 2020 Sharing Regulations i.e. up to 31.12.2020 and from 1.1.2021 onwards. Further, the Yearly Transmission Charges (YTC) up to 31.12.2020 and from 1.1.2021 onwards are required to be split and the tariff components for the same need to be worked out accordingly. TANGEDCO has requested to direct the Petitioner to split the capital cost of the assets and the tariff components on the basis of Sharing Regulations 2010 regime and Sharing Regulations 2020 regime, share the transmission charges accordingly and has also prayed to direct the Petitioner to submit the details in the above manner in all the petitions.



89. In response, the Petitioner has submitted that reliance placed by TANGEDCO in Commission's order dated 25.7.2016 in Petition No. 102/TT/2016 is misconceived. The Petitioner has clarified that an error occurred in the filing of the said petition where the Petitioner inadvertently combined the assets from 1.4.2009 instead of 1.7.2011. The Petitioner has further submitted that with regard to the comparisons between the 2010 Sharing Regulations and the 2020 Sharing Regulations, the manner of sharing has been modified based on the experience gained during the operation of the 2010 Sharing Regulations. There is no error in the present case while claiming the date of applicability of tariff order by combining the assets. The Petitioner has submitted that the principle decided in the order dated 25.7.2016 in Petition No. 102/TT/2016 are not applicable at all and there can be no question of the Petitioner to split the capital cost of the assets or the tariff component based on the 2010 Sharing Regulations and the 2020 Sharing Regulations. The Petitioner has further submitted that TANGEDCO itself has filed a Writ Petition challenging the validity and vires of the 2020 Sharing Regulations notified by the Commission by filing a Writ Petition No. 4379/2021 before the Hon'ble High Court of Madras. Hence, TANGEDCO's submission may be dismissed on the above grounds and grant the tariff in accordance with the Tariff Regulations and sharing of it in conjuncture with the Sharing Regulations and procedures laid therein.

90. We have considered the submissions of the Petitioner and TANGEDCO. TANGEDCO's has contended that the capital cost of the transmission assets should be split based on the 2010 Sharing Regulations and the 2020 Sharing Regulations and the YTC should be determined accordingly. These contentions of TANGEDCO have already been considered and rejected by the Commission in order dated 30.6.2022 in Petition No. 23/TT/2021 and order dated 5.7.2022 in Petition No. 662/TT/2020.



However, in the instant case, TANGEDCO has placed reliance on the Commission's order dated 25.7.2016 in Petition No.102/TT/2016. We have perused the said order dated 25.7.2016. It is observed that in Petition No. 367/TT/2014 while claiming true up of the tariff of the 2009-14 tariff period and determination of tariff of 2014-19 tariff period in respect of the assets under System Strengthening-VI of Southern Region Grid in Southern Region, the Petitioner had inadvertently combined the transmission assets put into commercial operation before and after the notification of the 2010 Sharing Regulations. This led to difficulties in billing and recovery of the tariff. Taking into consideration the inadvertent mistake of combining the assets on the part of the Petitioner, the Commission considered the individual capital cost of the asset put into commercial operation before the notification of the 2010 Sharing and after the notification of the Sharing Regulations and determined separate tariff in order dated 25.7.2016 in Petition No. 102/TT/2016. The relevant portions of the order dated 25.7.2016 in Petition No. 102/TT/2016 is as follows:

"8. The petitioner accepted that assets have been combined inadvertently from 1.4.2009 in Petition No. 367/TT/2014 for determination of trueing up tariff for 2009- 14 period and determination of tariff for 2014-19 period instead of from 1.7.2011. The petitioner has faced difficulties in billing based on combined tariff determined by the Commission in Petition No. 367/TT/2014. Therefore, the petitioner has approached this Commission to revise the combined tariff of Asset I and Asset II determined in the petition 367/TT/2014. The petitioner has sought the approval for separation of tariff of Asset I and Asset II from 1.4.2009 to 30.6.2011 ("Pre-POC period") and combined tariff from 1.7.2011 to 31.3.2014 ("Post-POC period") and combined tariff from 1.7.2011 to 31.3.2014 (Post POC period)"

"10. We have considered the submission of the petitioner. Taking into cognizance of the philosophy prevailing as per the order dated 28.3.2008 in Petition No. 85/2007 (Suo-motu) prior to introduction of the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010 that the transmission charges of Asset II is to be apportioned to the host state only, we feel that the tariff determined in the order dated 26.11.2015 in the petition 367/TT/2014 is to be separated between Asset I and Asset II upto 30.6.2011 to enable the recovery of the transmission charges from host State. The separate working of the tariff for the individual asset involves the determination of separate capital cost, change in opening equity, gross opening loan, and net normative opening loan as on 1.4.2009, the tariff of individual assets has been determined in accordance with the 2009 Tariff Regulations.



Accordingly, separation of true up transmission tariff for block 2009- 14 has been worked out for the period up to 30.6.2011 & from 1.7.2011 to 31.3.2014 as discussed in the subsequent paragraph. The tariff determined in this order will supersede the tariff determination in the order dated 26.11.2015 in petition no 367/TT/2014 for the tariff period 2009-14 and 2014-19.”

91. Therefore, we are of the considered view that the facts and circumstances of the present case are different. Thus, the issue raised by TANGEDCO for splitting the capital cost of the transmission assets and the tariff components on the basis of the 2010 Sharing Regulations and the 2020 Sharing Regulations regimes on the lines of the said order dated 25.7.2016 is misconceived and is therefore rejected.

92. TANGEDCO has further submitted as follows:

- a) Referring to regulatory approval granted by the Commission vide order dated 19.8.2016 in Petition No. 36/MP/2016 for the transmission assets under the transmission system, the transmission charges for the period of delay in commissioning of the solar power generators have be borne by the solar generators. Relevant excerpts of the order dated 19.8.2016 are as follows:

“32...With regard to recovery of transmission charges on account of delay in commissioning of solar generation, in the Statement of Reasons for 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, the following has been clarified:

“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."

Therefore, the transmission charges for delay in commissioning of solar power generators shall be paid by such solar generators/SPPD in accordance with the relevant regulation of the Commission"

- b) 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.
- c) Regulatory approval orders the makes commitment of the Petitioner to tie up about 400 MW solar power with other State beneficiaries and transmission charges liabilities till generators declare COD, will rest with solar generators/SPPDs. In terms of the 2010 Sharing Regulations, the Petitioner is duty bound to recover the transmission charges from the generators who have not executed their projects on the COD of the associated transmission system.
- d) Referring to Regulation 7(1)(y) of the 2010 Sharing Regulation, TANGEDCO has submitted that waiver of certain category of RE



generators is applicable only from COD of the generation projects.

Relevant extracts of the said Regulation are as follows:

"(y) No transmission charges and losses for the use of ISTS network shall be payable for the capacity of the generation projects based on solar resources for a period of 25 years from the date of commercial operation of the such generation projects if they fulfill the following conditions:

- i. Such generation capacity has been awarded through competitive bidding; and*
- ii. Such generation capacity has been declared under commercial operation between 1.7.2017 and 31.12.2019; and*
- iii. Power Purchase Agreement(s) have been executed for sale of power from such generation capacity to the Distribution Companies for compliance of their renewable purchase obligation."*

- e) TANGEDCO has further submitted that as per Regulation 8(6) of the 2010 Sharing Regulations, the generator is liable to pay the transmission charges till COD of the generating station. Regulation 8(6) of the 2010 Sharing Regulations provides as follows:

"(6) For Long Term customers availing supplies from inter-state generating stations, the charges payable by such generators for such Long Term supply shall be billed directly to the respective Long Term customers based on their share of capacity in such generating stations. Such mechanism shall be effective only after "commercial operation" of the generator. Till then, it shall be the responsibility of generator to pay these charges."

- f) TANGEDCO has submitted that the Petitioner is required to submit the details of generator-wise/SPD-wise COD covered under Phase-II (1000 MW).

93. In response, the Petitioner has submitted that the sharing of transmission charges for the transmission assets upto 31.10.2020 shall be done as per the 2010 Sharing Regulations and thereafter from 1.11.2020 onwards shall be done as per the 2020 Sharing Regulations. Regarding the details of generators commissioned and LTA operationalized, the Petitioner has submitted that 1050 MW solar capacity from Pavagada Solar Park (Phase II) is declared under commercial operation till 31.12.2019.



With regard to the LTA operationalization, 200 MW LTA was made operational from 30.12.2019 and additional 850 MW from 3.5.2020 upon execution of Hiriyur – Mysore 400 kV D/C line. Details of generation commissioning and LTA are as follows:

Sl. No.	Applicant	Connectivity granted (MW)	LTA quantum (MW)	Status of LTA Operationalization	Generator name/Status of Generation MW/Date of Commissioning
1	Karnataka Solar Power Development Corporation Ltd.	1000	1000	LTA operationalized w.e.f. 30.12.2019 (200 MW) and 3.5.2020 (850 MW)	Azure Power: 50 MW: 6.3.2019 Tata Power: 50 MW: 6.3.2019 Azure Power: 50 MW: 12.3.2019 Renew Power: 100 MW: 20.3.2019 Tata Power: 50 MW: 22.3.2019 Tata Power: 50 MW: 25.3.2019 Renew Power: 50 MW: 28.3.2019 Fortum Solar: 100 MW: 15.7.2019 Fortum Solar: 50 MW: 18.7.2019 Fortum Solar: 50 MW: 3.8.2019 Fortum Solar: 50 MW: 5.8.2019 Avada Solarise: 50 MW: 8.11.2019 Avada Solarise: 50 MW: 21.11.2019 Avada Solarise: 50 MW: 27.11.2019 Karnataka REDL: 50 MW: 20.10.2019 SBG Cleantech: 200 MW: 30.12.2019 (Total 1050 MW till 31.12.2019)

94. We have considered the submissions made by the Petitioner and TANGEDCO. We feel it appropriate to refer here to relevant extracts of the regulatory approval for execution of the transmission system granted vide order dated 19.8.2016 in Petition



No. 36/MP/2016 with I.A. No. 9/2016 and the addition and modification in the scope of work for execution of transmission scheme for Phase-II vide order dated 7.9.2017 in Petition No. 131/MP/2017 with I.A. No. 38/2017. The relevant extracts of the orders are as follows:

Petition No. 36/MP/2016 with IA. No 9/2016

“30. We are of the view that the transmission system needs to be implemented matching with the time schedule of the generation projects so that the generation from Ultra Mega Solar Power Projects in Tumkur (Pavagada) District in the State of Karnataka do not get stranded. Accordingly, we accord regulatory approval under Regulation 3 of the Regulatory Approval Regulations for execution of the following transmission scheme:

Phase-I

- (i) LILO of 400 kV Gooty-Tumkur (Vasanthnarsapur) D/C at Tumkur (Pavagada) Pooling station
- (ii) Tumkur (Pavagada) Pooling station - Hiriur 400 kV D/C
- (iii) LILO of 400 kV Bellary Pool-Tumkur (Vasanthnarsapur) D/C (Quad) (both circuits) (KPTCL line) at Tumkur (Pavagada) Pooling station
- (iv) Establishment of 3x500 MVA, 400/220 kV Pooling station at Tumkur (Pavagada) along with 1x125 MVAR bus reactor
- (v) 8 Numbers 220 kV Line bays at Tumkur (Pavagada) Pooling Station for Solar Inter-connection

Phase-II

- (i) Hiriur - Mysore 400 kV D/C line\$
- (ii) Tumkur (Pavagada) Pooling station - Devanhalli (KPTCL) 400kV D/C (Quad)^
- (iii) Augmentation of 2x500 MVA, 400/220KV transformer at Tumkur (Pavagada) Pooling station
- (iv) 1x125 MVAR bus reactor (2nd) at Tumkur (Pavagada) Pooling Station
- (v) Third 400/220 kV, 1x500 MVA transformer at Tumkur (Vasanthnarsapur) S/s
- (vi) 1x80 MVAR switchable Line reactor at Mysore end of Hiriur- Mysore D/C (each ckt)
- (vii) 8 nos. 220 kV line Bays at 400/220 kV Tumkur (Pavagada) Pooling station for Solar interconnection

\$With the completion of this line, it would be connected with Tumkur (Pavagada) Pooling station- Hiriur 400kV D/C line to form Tumkur (Pavagada)-Mysore D/C line.

^KPTCL would complete establishment of 400/220 kV sub-station at Devanahally including inter-linking 400 kV and 220 kV lines before Phase-II at Ultra Mega Solar Power Park.

31. In regard to development of transmission system matching with generation projects in the Solar Park at Tumkur (Pavagada), CTU is directed to coordinate with the SPPD who is responsible for development of internal transmission system. CTU shall pace the development of transmission system matching with the progress of different phases of the Solar Park. We further direct the CTU to submit quarterly progress report as per



Annexure to this order which shall also contain the status of execution of the transmission system for which regulatory approval has been accorded, the progress of solar based generation projects in the Solar Power Park and the internal transmission system within the solar park. Perusal of quarterly reports submitted by CTU vide its letter dated 4.5.2016 in Petition Nos. 29/MP/2015 and 228/MP/2015 reveals that CTU signed LTA Agreement with SPPDs on 17.12.2015 for evacuation of power from NP Kunta Solar Park. However, in respect of REWA Ultra Mega Solar Power Park, CTU had not signed LTA Agreement with SPPDs till 4.5.2016. It is noted that PGCIL in its Petition No. 26/TT/2016 has submitted that the transmission system related to NP Kunta-Part-A has been commissioned on 25.4.2016. Accordingly, we direct CTU to sign LTA Agreement with SPPDs immediately, if not signed.

32. *With regard to recovery of transmission charges on account of delay in commissioning of solar generation, in the Statement of Reasons for 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, the following has been clarified:*

“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.

Therefore, the transmission charges for delay in commissioning of solar power generators shall be paid by such solar generators/SPPD in accordance with the relevant regulation of the Commission.”

95. The Commission vide order dated 7.9.2017 in Petition No. 131/MP/2017, while granting regulatory approval observed as follows:



“12. We are of the view that the transmission system needs to be implemented matching with the time schedule of the generation projects so that the generation from Ultra Mega Solar Power Projects in Tumkur (Pavagada) District in the State of Karnataka do not get stranded. Accordingly, we accord regulatory approval under Regulation 3 of the Regulatory Approval Regulations for the following addition and modification in the scope of work for execution of the transmission scheme:

Addition in the scope

- Fixed Series Capacitor (40%) on 400 kV Tumkur (Pavagada)-Tumkur (Vasantnarsapura) D/C (Quad) line at Tumkur (Pavagada) PS end * *

** formed after LILO of 400 kV Bellary pool-Tumkur (Vasantnarsapura) D/C (Quad) line at Tumkur (Pavagada) PS end

Modification in the scope

- Hiriyur-Mysore 400 kV D/C line (after completion of this line, one circuit of this line would be connected with one ckt of Tumkur-Hiriyur line so as to make Tumkur-Mysore direct line)
- 220 kV bays (8nos.) at Tumkur (Pavagada) PS for interconnection with solar project (earlier 16 nos of 220 kV bays)

13. All other terms and conditions of the order dated 19.8.2016 in Petition No. 36/MP/2016 remains unchanged.”

96. Regulation 8(5) and Regulation 8(6) of the 2010 Sharing Regulations provide 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 drawl nodes as per methodology given in the Annexure. 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.”

97. It is observed that out of the total LTA of 2000 MW, 1000 MW was to be implemented under Phase-I and the remaining under Phase-II. The transmission assets (Asset-1, Asset-2, Asset-3 and Asset-4) are part of Phase-II and it has been implemented for the purpose of reliable evacuation of power from Tumkur (Pavagada) Solar Park Phase-II (1000 MW). As per the order dated 19.8.2016 in Petition No. 36/MP/2016, the transmission assets are implemented for Pavagada Solar Park Phase-II generation i.e. 1050 MW.

98. It is further observed that solar generation of 1050 MW under Phase-II of Solar Park achieved COD on different dates. Accordingly, issue which arises for our consideration is that the amount of transmission charges that has to be included in the common pool and the amount of transmission charges that is to be paid by the Solar Power Park Developer, KSPDPL. Out of 1050 MW power generation under Phase-II of the Solar Park, 400 MW generation was commissioned on 31.3.2019 and the remaining 650 MW generation was commissioned over a period of time up to 30.12.2019. Accordingly, the Solar Power Park Developer, KPSDPL, is liable to pay the transmission charges as per the details given below in terms of the principle adopted by the



Commission in similar other cases and as provided under Regulation 8(5) and Regulation 8(6) of the 2010 Sharing Regulations:

COD of the transmission assets	Solar generation capacity (MW) commissioned within the Solar Park	Date of commissioning of solar generation capacity	Liability of transmission charges
Asset-1 COD :1.5.2020	1050 MW	On various dates up to 30.12.2019	Full transmission charges shall be included in the common pool from 1.5.2020
Asset-2 COD: 28.4.2019	400 MW	On various dates up to 31.3.2019 (i.e. before COD of the transmission asset)	Transmission charges proportionate to 400 MW shall be included in the common pool from 28.4.2019 (COD of transmission asset) to 14.7.2019 while transmission charges for 650 MW shall be borne by KSPDCL.
	100 MW	15.7.2019	Transmission charges proportionate to 500 MW shall be included in the common pool from 15.7.2019 to 17.7.2019 while transmission charges for 550 MW shall be borne by KSPDCL.
	50 MW	18.7.2019	Transmission charges proportionate to 550 MW shall be included in the common pool from 18.7.2019 to 2.8.2019 while transmission charges for 500 MW shall be borne by KSPDCL.
	50 MW	3.8.2019	Transmission charges proportionate to 600 MW shall be included in the common pool from 3.8.2019 to 4.8.2019 while transmission charges for 450 MW shall be borne by KSPDCL.
	50 MW	5.8.2019	Transmission charges proportionate to 650 MW shall be included in the common pool from 5.8.2019 to 19.10.2019 while



			transmission charges for 400 MW shall be borne by KSPDCL.
	50 MW	20.10.2019	Transmission charges proportionate to 700 MW shall be included in the common pool from 20.10.2019 to 7.11.2019 while transmission charges for 350 MW shall be borne by KSPDCL.
	50 MW	8.11.2019	Transmission charges proportionate to 750 MW shall be included in the common pool from 8.11.2019 to 20.11.2019 while transmission charges for 300 MW shall be borne by KSPDCL.
	50 MW	21.11.2019	Transmission charges proportionate to 800 MW shall be included in the common pool from 21.11.2019 to 26.11.2019 while transmission charges for 250 MW shall be borne by KSPDCL.
	50 MW	27.11.2019	Transmission charges proportionate to 850 MW shall be included in the common pool from 27.11.2019 to 29.12.2019 while transmission charges for 200 MW shall be borne by KSPDCL.
	200 MW	30.12.2019	Full transmission charges shall be included in the common pool from 30.12.2019.
Asset-3 COD: 3.6.2019	400 MW	On various dates up to 3.6.2019 (i.e. before COD of the transmission asset)	Transmission charges proportionate to 400 MW shall be included in the common pool from 28.4.2019 (COD of transmission asset) to 14.7.2019 while transmission charges for 650 MW shall be borne by KSPDCL.



	100 MW	15.7.2019	Transmission charges proportionate to 500 MW shall be included in the common pool from 15.7.2019 to 17.7.2019 while transmission charges for 550 MW shall be borne by KSPDCL.
	50 MW	18.7.2019	Transmission charges proportionate to 550 MW shall be included in the common pool from 18.7.2019 to 2.8.2019 while transmission charges for 500 MW shall be borne by KSPDCL.
	50 MW	3.8.2019	Transmission charges proportionate to 600 MW shall be included in the common pool from 3.8.2019 to 4.8.2019 while transmission charges for 450 MW shall be borne by KSPDCL.
	50 MW	5.8.2019	Transmission charges proportionate to 650 MW shall be included in the common pool from 5.8.2019 to 19.10.2019 while transmission charges for 400 MW shall be borne by KSPDCL.
	50 MW	20.10.2019	Transmission charges proportionate to 700 MW shall be included in the common pool from 20.10.2019 to 7.11.2019 while transmission charges for 350 MW shall be borne by KSPDCL.
	50 MW	8.11.2019	Transmission charges proportionate to 750 MW shall be included in the common pool from 8.11.2019 to 20.11.2019 while transmission charges for 300 MW shall be borne by KSPDCL.



	50 MW	21.11.2019	Transmission charges proportionate to 800 MW shall be included in the common pool from 21.11.2019 to 26.11.2019 while transmission charges for 250 MW shall be borne by KSPDCL
	50 MW	27.11.2019	Transmission charges proportionate to 850 MW shall be included in the common pool from 27.11.2019 to 29.12.2019 while transmission charges for 200 MW shall be borne by KSPDCL.
	200 MW	30.12.2019	Full transmission charges shall be included in the common pool from 30.12.2019.
Asset-4 COD: 17.6.2019	400 MW	On various dates up to 17.6.2019(i.e. before COD of the transmission asset)	Transmission charges proportionate to 400 MW shall be included in the common pool from 28.4.2019 (COD of transmission asset) to 14.7.2019 while transmission charges for 650 MW shall be borne by KSPDCL.
	100 MW	15.7.2019	Transmission charges proportionate to 500 MW shall be included in the common pool from 15.7.2019 to 17.7.2019 while transmission charges for 550 MW shall be borne by KSPDCL.
	50 MW	18.7.2019	Transmission charges proportionate to 550 MW shall be included in the common pool from 18.7.2019 to 2.8.2019 while transmission charges for 500 MW shall be borne by KSPDCL.
	50 MW	3.8.2019	Transmission charges proportionate to 600 MW shall be included in the common pool from 3.8.2019 to 4.8.2019 while transmission charges for



			450 MW shall be borne by KSPDCL
	50 MW	5.8.2019	Transmission charges proportionate to 650 MW shall be included in the common pool from 5.8.2019 to 19.10.2019 while transmission charges for 400 MW shall be borne by KSPDCL.
	50 MW	20.10.2019	Transmission charges proportionate to 700 MW shall be included in the common pool from 20.10.2019 to 7.11.2019 while transmission charges for 350 MW shall be borne by KSPDCL.
	50 MW	8.11.2019	Transmission charges proportionate to 750 MW shall be included in the common pool from 8.11.2019 to 20.11.2019 while transmission charges for 300 MW shall be borne by KSPDCL.
	50 MW	21.11.2019	Transmission charges proportionate to 800 MW shall be included in the common pool from 21.11.2019 to 26.11.2019 while transmission charges for 250 MW shall be borne by KSPDCL.
	50 MW	27.11.2019	Transmission charges proportionate to 850 MW shall be included in the common pool from 27.11.2019 to 29.12.2019 while transmission charges for 200 MW shall be borne by KSPDCL.
	200 MW	30.12.2019	Full transmission charges shall be included in the common pool from 30.12.2019.

99. With effect from 1.7.2011, sharing of transmission charges for inter-State transmission systems was governed by the Central Electricity Regulatory Commission



(Sharing of Transmission Charges and Losses) Regulations, 2010. With effect from 1.11.2020, sharing of transmission charges is governed by the Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2020. Accordingly, the liabilities of the DICs for arrears of transmission charges determined through this order shall be computed DIC-wise in accordance with the provisions of the respective Sharing Regulations and shall be recovered from the concerned DICs through Bill under Regulation 15(2)(b) of the 2020 Sharing Regulations. For subsequent period, the billing, collection and disbursement of the transmission charges approved in this order shall be governed by the provisions of the 2020 Sharing Regulations as provided in Regulation 57 of the 2019 Tariff Regulations.

100. To summarise, AFC allowed for the transmission assets for 2019-24 tariff period in this order are as follows:

					(₹ in lakh)
Asset	2020-21 (pro-rata 335 days)	2021-22	2022-23	2023-24	
Asset-1	4892.85	5658.13	5650.25	5576.02	
					(₹ in lakh)
Asset	2019-20 (pro-rata 339 days)	2020-21	2021-22	2022-23	2023-24
Asset-2	549.81	626.55	626.24	624.19	625.64
					(₹ in lakh)
Asset	2019-20 (pro-rata 303 days)	2020-21	2021-22	2022-23	2023-24
Asset-3	117.72	168.64	169.02	167.02	165.68
					(₹ in lakh)
Asset	2019-20 (pro-rata 289 days)	2020-21	2021-22	2022-23	2023-24
Asset-4	433.14	589.32	591.23	590.91	593.74

101. The Annexures to this order form part of the order.



102. This order disposes of Petition No. 112/TT/2021 in terms of the above findings and discussions.

sd/-
(P. K. Singh)
Member

sd/-
(Arun Goyal)
Member

sd/-
(I. S. Jha)
Member



ANNEXURE-I

2019-24 Capital Expenditure	Admitted Capital Cost as on 1.4.2019/COD (₹ in lakh)	Projected ACE (₹ in lakh)			Admitted Capital Cost as on 31.3.2024 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)			
		2020-21	2021-22	Total			2020-21	2021-22	2022-23	2023-24
Transmission Line	30452.82	4139.12	958.62	5097.73	35550.55	5.28%	1717.18	1851.76	1877.07	1877.07
Sub Station	2029.03	410.73	80.59	491.32	2520.35	5.28%	117.98	130.95	133.07	133.07
PLCC	396.13	229.72	4.09	233.82	629.95	6.33%	32.35	39.75	39.88	39.88
IT Equipment (Incl. Software)	15.04	1.60	0.36	1.96	17.00	15.00%	2.38	2.52	2.55	2.55
Total	32893.03	4781.17	1043.66	5824.83	38717.85		1869.88	2024.98	2052.57	2052.57
					Average Gross Block (₹ in lakh)		35283.61	38196.02	38717.85	38717.85
					Weighted Average Rate of Depreciation (in %)		5.30%	5.30%	5.30%	5.30%



ANNEXURE-II

2019-24	Admitted Capital Cost as on 1.4.2019/COD (₹ in lakh)	Projected ACE (₹ in lakh)			Admitted Capital Cost as on 31.3.2024 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)					
		2019-20	2020-21	Total			2019-20	2020-21	2021-22	2022-23	2023-24	
Capital Expenditure												
Sub Station	2010.40	359.34	37.35	396.69	2407.09	5.28%	115.64	126.11	127.09	127.09	127.09	
IT Equipment (Incl. Software)	67.86	16.04	1.70	17.74	85.61	15.00%	11.38	12.71	12.84	12.84	12.84	
Total	2078.27	375.38	39.05	414.43	2492.70		127.02	138.82	139.94	139.94	139.94	
					Average Gross Block (₹ in lakh)		2265.96	2473.17	2492.70	2492.70	2492.70	
					Weighted Average Rate of Depreciation (in %)		5.61%	5.61%	5.61%	5.61%	5.61%	



ANNEXURE-III

2019-24	Admitted Capital Cost as on 1.4.2019/COD (₹ in lakh)	Projected ACE (₹ in lakh)			Admitted Capital Cost as on 31.3.2024 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)					
		2019-20	2020-21	Total			2019-20	2020-21	2021-22	2022-23	2023-24	
Capital Expenditure												
Sub Station	559.76	329.73	35.94	365.67	925.43	5.28%	38.26	47.91	48.86	48.86	48.86	
Total	559.76	329.73	35.94	365.67	925.43		38.26	47.91	48.86	48.86	48.86	
					Average Gross Block (₹ in lakh)		724.63	907.46	925.43	925.43	925.43	
					Weighted Average Rate of Depreciation (in %)		5.28%	5.28%	5.28%	5.28%	5.28%	



ANNEXURE-IV

2019-24	Admitted Capital Cost as on 1.4.2019/CO D (₹ in lakh)	Projected ACE (₹ in lakh)			Admitted Capital Cost as on 31.3.2024 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)					
		2019-20	2020-21	Total			2019-20	2020-21	2021-22	2022-23	2023-24	
Capital Expenditure												
Sub Station	1823.67	439.21	47.39	486.60	2310.27	5.28%	107.88	120.73	121.98	121.98	121.98	
IT Equipment (Incl. Software)	3.13	15.73	1.74	17.47	20.60	15.00%	1.65	2.96	3.09	3.09	3.09	
Total	1826.80	454.94	49.13	504.07	2330.87		109.53	123.69	125.07	125.07	125.07	
					Average Gross Block (₹ in lakh)		2054.27	2306.30	2330.87	2330.87	2330.87	
					Weighted Average Rate of Depreciation (in %)		5.33%	5.36%	5.37%	5.37%	5.37%	

