

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 656/TT/2020**

**Coram:**

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

**Date of Order: 21.03.2022**

**In the matter of:**

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and truing up of transmission tariff of the 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of the 2019-24 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 of **Asset 1: 1X500 MVA 400/220 kV ICTs** along with associated bays at Tumkur (Pavagada) Sub-station under Transmission System for Ultra Mega Solar Power Park at Tumkur (Pavagada), Karnataka-Phase II (Part A) in Southern Region.

**And in the matter of:**

Power Grid Corporation of India Limited,  
'SAUDAMINI', Plot No-2, Sector-29,  
Gurgaon-122001 (Haryana).

**.....Petitioner**

**Versus**

1. Karnataka Power Transmission Corporation Limited,  
Kaveri Bhavan,  
Bangalore-560009.
2. Transmission Corporation of Andhra Pradesh Limited,  
Vidyut Soudha, Gunadala, Eluru Road,  
Vijayawada-520004.
3. Kerala State Electricity Board,  
Vaidyuthi Bhavanam, Pattom,  
Thiruvananthapuram-695004.
4. Tamil Nadu Generation and Distribution Corporation Limited,  
(Formerly Tamil Nadu Electricity Board),  
NPKRR Maaligai, 800, Anna Salai,  
Chennai-600002.
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, D. No: 19-13-65/A, Srinivasapuram, Corporate Office, Tiruchanoor Road, Chittoor District, Tirupati-517503 (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 Telangana Limited, H. No 2-5-3 1/2, Vidyut Bhawan, Corporate Office, Nakkal Gutta, Hanamkonda, Warangal-506001 (Telangana).
10. Bangalore Electricity Supply Company Limited, Corporate Office, K. R. Circle, Bangalore-560001 (Karnataka).
11. Gulbarga Electricity Supply Company Limited, Station Main Road, Gulbarga, Karnataka.
12. Hubli Electricity Supply Company Limited, Navanagar, PB Road, Hubli, Karnataka.
13. Mangalore Electricity Supply Company Limited, MESCOM Corporate Office, Paradigm Plaza, AB Shetty Circle, Mangalore-575001 (Karnataka).
14. Chamundeswari Electricity Supply Corporation Limited, 927, L J Avenue, Ground Floor, New Kantharaj URS Road Saraswatipuram, Mysore-570009 (Karnataka).
15. Electricity Department, Government of Goa, Vidyuti Bhawan, Panaji, Goa-403001.
16. Transmission Corporation of Telangana Limited, Vidhyut Sudha, Khairatabad, Hyderabad-500082.
17. Tamil Nadu Transmission Corporation Limited, NPKRR Maaligai, 800, Anna Salai,



Chennai-600002.

18. Karnataka Solar Power Development Corporation Limited,  
2<sup>nd</sup> Floor, South Block, Beeja Raja Seed Complex,  
Bellary Road, Hebbala,  
Bengaluru-560024 (Karnataka).

.....Respondent(s)

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

**For Respondents** : Shri S. Vallinayagam, Advocate, TANGEDCO  
Shri R. Ramalakshmi, TANGEDCO  
Dr. R. Kathiravan, TANGEDCO  
Shri R. Srinivasan, TANGEDCO

### **ORDER**

The Petitioner, Power Grid Corporation of India Limited, a deemed transmission licensee, has filed the instant petition for truing-up of transmission tariff of the 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”); and for determination of transmission tariff for the period from 1.4.2019 to 31.3.2024 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) in respect of **Asset 1**: 1X500 MVA 400/220 kV ICTs along with associated bays at Tumkur (Pavagada) Sub-station (hereinafter referred to as “the transmission asset”) under Transmission System for Ultra Mega Solar Power Park at Tumkur (Pavagada), Karnataka-Phase II (Part A) in Southern Region (hereinafter referred to as “the transmission project”).

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

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

2) Approve the Completion cost and additional capitalization incurred during 2014-19 and



*allow the projected additional capitalization during 2019-24.*

- 3) *Allow the depreciation on the claim of IT equipment in the current true up petition as Bifurcation of Substation cost.*
- 4) *Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2014 and Tariff regulations 2019 as per para 11.2 and 12.0 above for respective block.*
- 5) *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.*
- 6) *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.*
- 7) *Allow the petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2019-24 period, if any, from the respondents.*
- 8) *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 11.6 above.*
- 9) *Allow the additional RoE of 0.5 % during 2014-19 period as per para 5.5 above.*
- 10) *Allow the petitioner to claim the capital spares at the end of tariff block as per actual.*
- 11) *Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if GST on transmission is levied at any rate in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.*

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

### 3. **Backdrop of the case**

- a) Ministry of New and Renewable Energy (MNRE), Government of India vide letter dated 14.7.2015 had 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) had made an application to CTU 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 had identified the transmission system for evacuation/ transfer of power from Solar Power Park (hereinafter referred to as “the transmission system”) 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 Interconnection.

#### **Phase-II**

- i. Hiriyur-Mysore 400 kV D/C line<sup>§</sup>;
- 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 (2<sup>nd</sup>) 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 ckt); and
- vii. 8 numbers 220 kV line Bays at 400/220 kV Tumkur (Pavagada) Pooling Station for Solar interconnection.

<sup>§</sup> *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*

<sup>\*</sup> *KPTCL would complete establishment of 400/220 kV substation 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 (Gol) had convened a meeting with the representatives of the Central Electricity Authority, the Petitioner, MNRE, SECI and the Commission in which MoP had clarified the scope of work to the Petitioner. In the said meeting, MoP had directed the Petitioner to seek regulatory approval from the Commission to construct the transmission system.
- f) MoP, Gol, vide letter dated 8.1.2015 had 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 Tumkur (Pavagada) Ultra Mega Solar Power Park on compressed time schedule basis.
- g) The issue of implementation of the transmission system was discussed in the 39<sup>th</sup> Standing Committee Meeting (SCM) on Power System Planning of Southern Region held on 28/29.12.2015.
- h) The status update pertaining to the transmission system was discussed and noted in the 29<sup>th</sup> Southern Regional Power Committee (SRPC) held on 5.3.2016.
- 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 “the 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) The status update pertaining to the transmission system was also discussed and noted in the 30<sup>th</sup> SRPC meeting held on 27.8.2016.
- k) Investment Approval (IA) of the transmission project was accorded by the Board of Directors of the Petitioner’s company (in its 334<sup>th</sup> 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) with the broad scope of work as follows:

**Transmission Lines**

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

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

### **Line Reactor**

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

- l) In the 40<sup>th</sup> SCM 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) 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**

- Hiriya-Mysore 400 kV D/C line (after completion of this line, one circuit of this line would be connected with one ckt of Tumkur-Hiriya line so as to make Tumkur-Mysore direct line); and
  - 220 kV bays (8 numbers) at Tumkur (Pavagada) PS for interconnection with solar project (earlier 16 numbers of 220 kV bays)
- m) The status of the transmission system was further discussed and noted in the 31<sup>st</sup> SRPC meeting held on 25.2.2017.
- n) Subsequently, as per the Regulatory Approval Regulations, the Regulatory Approval to the aforesaid addition and modification to the transmission system was granted by the Commission vide order dated 7.9.2017 in Petition No. 131/MP/2017.
- o) The Petitioner vide affidavit dated 28.12.2018 had initially filed Petition No. 34/TT/2019 seeking approval of the transmission tariff of **Asset-I:** 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, **Asset-II:** 2X500 MVA 400/220 kV ICTs along with associated bays at Tumkur (Pavagada) Sub-station and **Asset-III:** 1X500 MVA 400/220 kV ICT along with associated bays and equipment at Tumkur (Vasantnarsapur) Sub-station from their common anticipated COD of 28.12.2018 to 31.3.2019.
- p) However, the Petitioner vide affidavit dated 13.11.2019 had split Asset-II into Asset-II(a), Asset-II(b) and Asset-II(c) and had claimed the actual COD of Asset-II(a). The Petitioner had further submitted that Asset-I was yet to achieve COD while Asset-II(b), Asset-II(c) and Asset-III had achieved COD after 31.3.2019 and, hence, were covered under the 2019 Tariff Regulations. The status was summarised as follows:

<b>Asset claimed at the time of filing of Petition No. 34/TT/2019</b>	<b>COD claimed at the time of filing of Petition No. 34/TT/2019</b>	<b>Assets revised vide affidavit dated 13.11.2019</b>	<b>Claimed COD</b>
<b>Asset-I:</b> 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	28.12.2018 (Anticipated)	<b>Asset-I:</b> 400 kV D/C Hiriya- Mysore transmission line along with associated bays at 400/220 Mysore S/s and 2X80 MVAR switchable line reactors along with associated bays at	Yet to be commissioned





Sub-station		400/220 kV Mysore Sub-station	
<b>Asset-II:</b> 2X500 MVA 400/220 kV ICTs along with associated bays at Tumkur (Pavagada) Sub-station	28.12.2018 (Anticipated)	<b>Asset-II(a):</b> 1X500 MVA 400/220 kV ICT along with associated bays at Tumkur (Pavagada) Sub-station	31.3.2019 (actual)
		<b>Asset-II(b):</b> 1X500 MVA 400/220 kV ICTs along with associated bays at Tumkur (Pavagada) Sub-station	28.4.2019 (actual)
		<b>Asset-II(c):</b> 1X125 MVA 400 kV Bus Reactor along with associated bays at Tumkur (Pavagada) pooling Sub-station	3.6.2019 (actual)
<b>Asset-III:</b> 1X500 MVA 400/220 kV ICT along with associated bays and equipment at Tumkur (Vasantnarsapur) Sub-station	28.12.2018 (Anticipated)	<b>Asset-III:</b> 1X500 MVA 400/220 kV ICT along with associated bays at Tumkur (Vasantnarsapur) Sub-station	17.6.2019 (actual)

- q) The Petitioner had submitted that the Petitioner will file a separate petition for Asset-I, Asset-II(b), Asset-II(c) and Asset-III. Accordingly, the Petitioner, in Petition No. 34/TT/2019 had claimed tariff for Asset-II(a) only.
- r) In view of the above, the transmission tariff of Asset-II(a) for the 2014-2019 tariff period was approved by the Commission vide order dated 14.4.2020 in Petition No. 34/TT/2019, where time over-run of 68 days in case of Asset-II(a) was not condoned.
- s) The Petitioner has filed the instant petition seeking approval of the trued-up transmission tariff of Asset-II(a) [named as Asset-1 in this petition] for the 2014-19 tariff period along with tariff for the 2019-24 tariff period.
- t) The Petitioner vide affidavit dated 5.8.2021 has submitted the status of the transmission assets covered under the transmission project as follows:

Asset	Scheduled COD	Actual COD	Covered in
1X500 MVA 400/220 kV ICT along with associated bays at Tumkur (Pavagada) Sub-station	10.2.2019	31.3.2019	Instant petition
400 kV D/C Hiriyur-Mysore transmission line along with associated		1.5.2020	Petition No. 121/TT/2021



bays and 2X80 MVAR switchable line reactors along with associated bays at 400/220 kV Mysore Sub-station			
1X500 MVA 400/220 kV ICTs along with associated bays at Tumkur (Pavagada) Sub-station		28.4.2019	
1X125 MVA 400 kV Bus Reactor along with associated bays at Tumkur (Pavagada) pooling Sub-station		3.6.2019	
1X500 MVA 400/220 kV ICT along with associated bays at Tumkur (Vasantnarsapur) Sub-station		17.6.2019	

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

5. The Petitioner has served the petition on the Respondents and notice regarding filing of this petition has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or suggestions have been received from the general public in response to the aforesaid notices published in the newspapers by the Petitioner. Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO), Respondent No. 4, has filed its reply vide affidavit dated 16.8.2021 and has raised issues of IEDC and sharing of transmission charges.

6. TANGEDCO has again raised the issue of sharing of transmission charges in this petition despite clear findings of the Commission rejecting similar contentions of TANGEDCO earlier in other petitions. The contentions of TANGEDCO have been rejected by the Commission in other petitions including Petition No. 134/TT/2020 vide order dated 3.12.2021. As TANGEDCO has not challenged the findings on the issue, the same have attained finality. The issues which are specific to the instant petition and not dealt by the Commission earlier are considered in the relevant paragraphs of this order.



7. This order is issued considering the submissions made by the Petitioner in the petition vide affidavit dated 13.7.2020, the Petitioner's affidavit dated 5.8.2021 filed in response to the technical validation letter, TANGEDCO's reply filed vide affidavit dated 16.8.2021 and the Petitioner's rejoinder filed vide affidavit dated 31.8.2021.

8. The hearing in this matter was held on 17.8.2021 through video conference and the order was reserved. Having heard the learned counsel for TANGEDCO and representatives of the Petitioner and after perusal of the materials on record, we proceed to dispose of the petition.

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

9. The details of the trued-up transmission charges as claimed by the Petitioner for the transmission asset are as follows:

(₹ in lakh)	
Particulars	2018-19 (Pro-rata for 1 day)
Depreciation	0.41
Interest on Loan	0.21
Return on Equity	0.44
O&M Expenses	0.32
Interest on Working Capital	0.04
<b>Total</b>	<b>1.42</b>

10. The details of the trued-up Interest on Working Capital (IWC) as claimed by the Petitioner for the transmission asset are as follows:

(₹ in lakh)	
Particulars	2018-19 (Pro-rata for 1 day)
Working Capital for O&M Expenses	9.73
Working Capital for Maintenance Spares	17.52
Working Capital for Receivables	86.26
<b>Total Working Capital</b>	<b>113.51</b>
Rate of Interest (in %)	12.20
<b>Interest on Working Capital</b>	<b>13.85</b>
<b>Pro rata Interest on Working Capital</b>	<b>0.04</b>



## Capital Cost

11. Based on the Auditor's Certificate dated 30.7.2019, the details of claimed capital cost as on COD and as on 31.3.2019 including Additional Capital Expenditure (ACE) during the 2014-19 period are as follows:

(₹ in lakh)

Apportioned Approved Cost (as per FR)	Capital Cost claimed (as on COD)	ACE claimed (2018-19)	Capital Cost claimed (as on 31.3.2019)
3576.46	2897.88	0.00	2897.88

12. The Petitioner vide affidavit dated 5.8.2021 has submitted that the tariff calculation in the instant petition has been done based on actual IDC discharged up to COD and IDC accrued on COD and discharged thereafter has been reduced from the claimed cost as on COD. The Petitioner has claimed the capital cost as on COD for the transmission asset after carrying out the necessary adjustments for accrual IDC, Grant received and IEDC disallowed due to time over-run not condoned as follows:

(₹ in lakh)

Capital Cost (as on COD as per Auditor's Certificate) (A)	IEDC disallowed due to time over-run (B)	Un-discharged IDC (C)	Grant Received (D)	Capital Cost claimed (as on COD) (E)=(A-B-C-D)
2897.88	19.80	16.74	153.72	2707.62

13. We note that the details of the capital cost of the transmission asset as approved by the Commission vide order dated 14.4.2020 in Petition No. 34/TT/2019 are as follows:

(₹ in lakh)

Capital Cost allowed as on COD after adjusting grant	ACE for 2018-19 after adjusting grant	Capital Cost allowed as on 31.3.2019 after adjusting grant
2608.40	0.00	2608.40

14. We have considered the submissions of the Petitioner regarding capital cost.



### **Cost Over-run**

15. We note that the completion cost in respect of the transmission asset is within the apportioned approved FR cost and therefore, there is no cost over-run.

### **Time Over-run**

16. As per IA dated 22.10.2016, the transmission asset was scheduled to be put under commercial operation within 27 months from the date of IA. Accordingly, the scheduled COD was 22.1.2019 against which the transmission asset was put under commercial operation on 31.3.2019. Therefore, there was a time over-run of 68 days which has not been condoned by the Commission vide order dated 14.4.2020 in Petition No. 34/TT/2019.

### **Central Finance Assistance (CFA)**

17. Regulation 19(5) 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.

18. The Petitioner has submitted as follows:

- a) CFA for development of Solar Park and associated external transmission system was provided by 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 was issued which were amended vide Office Memorandum No. F. No. 30/26/2014-15/NSM dated 29.9.2016, the relevant extracts of which as submitted, 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 vide letter dated 16.1.2018 had been submitted. CFA grant had been sanctioned by MNRE vide Office Memorandum No. F. No. 320/6/2017/NSM dated 29.6.2018, the relevant extracts of which as submitted, 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."*

- c) Based on capacity of 1000 MW, grant under Phase II was applied by the Petitioner for ₹8000 lakh. 50% of the grant applied was released by MNRE through SECI on 29.6.2018 towards the Transmission System for Ultra mega Solar Power Park at Tumkur (Pavagada), Karnataka-Phase-II and the remaining 50% is yet to be disbursed. The said grant received as on date has been adjusted in the capital cost of the transmission asset covered in this petition.



19. The Petitioner while reiterating the submissions regarding CFA made in the petition, vide affidavit dated 5.8.2021 has submitted that 50% of the grant applied is released by MNRE through SECI i.e. ₹4000.00 lakh on 29.6.2018 towards 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 grants received were kept in an interest-bearing account and the interest of ₹17.22 lakh accrued has been treated as part of grant in accordance with the guidelines. Therefore, the total grant of ₹4017.22 lakh has been allocated to Transmission System for Ultra mega Solar Power Park at Tumkur (Pavagada), Karnataka-Phase-II (Part A, Part B and Part C). The Petitioner has submitted the grants allocated with respect to Transmission System for Ultra mega Solar Power Park at Tumkur (Pavagada), Karnataka-Phase-II (Part A, Part B and Part C) as follows:

(₹ in lakh)

Project	Asset	COD	Grant allocated
Transmission System for Ultra Mega Solar Park at Tumkur (Pavagada), Karnataka-Phase-II (Part A)	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	1.5.2020	1344.92
	1X500 MVA 400/220 kV ICTs along with associated bays at Tumkur (Pavagada) Sub-station <b>(Covered under the instant petition)</b>	31.3.2019	153.72
	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
	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 A)	Tumkur (Pavagada) pool-Devanhally (KPTCL) 400 kV D/C line along with associated bays & equipment at both ends	Yet to be put into commercial operation	1892.53





Transmission System for Ultra Mega Solar Power Park at Tumkur (Pavagada), Karnataka-Phase-II Part-C	Fixed Series Capacitor (40%) on Circuit-I & Circuit-II of 400 kV Tumkur (Pavagada)-Tumkur (Vasantharapura) D/c Quad Line at Tumkur (Pavagada) pooling Sub-station end	1.9.2019	391.03
<b>Total Grant (including interest accrued of ₹17.22 lakh)</b>			<b>4017.22</b>

20. The Petitioner vide affidavit dated 5.8.2021 has further submitted that 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 asset covered in the instant petition.

21. We have considered the submissions of the Petitioner. Proviso to clause (d) of Regulation 9(6) and Proviso (iii) of Regulation 19(1) of the 2014 Tariff Regulations respectively provide as follows:

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

*“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.”*

22. The Commission vide order dated 14.4.2020 in Petition No. 34/TT/2019 has already decided to adjust the grant received from the capital cost and the relevant portion of the order dated 14.4.2020 is extracted hereunder. We have adopted the same methodology in the instant order.

*“29. We have considered the submission of the Petitioner and noted that in line with the above provisions, funding through grant is not required to be considered for debt:equity ratio. Therefore, funding sans any grant would form remaining capital structure for the purpose of debt: equity ratio as per Regulation 19 of the 2014 Tariff Regulations and the same has been considered in the relevant para of this Order.”*

### **Interest during construction (IDC)**

23. The Petitioner has claimed IDC for the transmission asset and has submitted the statement showing IDC claim, discharge of IDC liability as on COD and thereafter as follows:



(₹ in lakh)

IDC as per Auditor's Certificate	IDC discharged up to COD and claimed as on COD	IDC claimed during 2019-20		
		IDC discharged during 2019-20	IDC deducted on time over-run not condoned	IDC claimed during 2019-20
A	B	C	D	E=(C-D)
137.80	121.06	16.74	9.25	7.49

24. The Petitioner has submitted IDC computation statement which contains name of the loan, drawl date, loan amount, interest rate and interest claimed. The Petitioner vide affidavit dated 5.8.2021 has submitted revised IDC statement for foreign loan showing name of the loan, drawl date, gross loan amount in foreign currency and allocated loan amount in Indian rupees, finance charges and interest claimed.

25. We have considered the submissions of the Petitioner. The details of the IDC claimed and considered as on COD and summary of discharge of IDC liability up to COD and thereafter for the purpose of tariff determination is as follows:

(₹ in lakh)

IDC as per Auditor's Certificate	IDC disallowed due to time over-run not condoned	IDC allowed in the instant order	IDC discharged during 2019-20
137.80	53.64	84.16	5.45

#### **Incidental Expenditure During Construction (IEDC)**

26. The Commission vide order dated 14.4.2020 in Petition No. 34/TT/2019 had allowed IEDC of ₹239.27 lakh after restricting the claimed amount up to 10.75% of hard cost and due to time over-run not condoned. However, the Commission had held that the same will be reconsidered at the time of true-up in light of the directions of Appellate Tribunal for Electricity (APTEL) in judgment dated 2.12.2019 in Appeal No. 95 of 2018 and Appeal No. 140 of 2018 against the Commission's orders dated 29.7.2016 and 5.10.2017 in Petition No. 46/TT/2014 and Petition No. 2/RP/2017 respectively.

27. The Petitioner in the instant petition has claimed the IEDC for the transmission asset:



(₹ in lakh)

<b>IEDC as per Auditor's Certificate</b>	<b>IEDC dis-allowed due to time over-run not condoned</b>	<b>IEDC claimed as on COD</b>
349.14	19.80	349.14

28. The Petitioner has submitted that entire IEDC claimed in Auditor's Certificate is on cash basis and is paid up to COD. The Petitioner has submitted that in judgment dated 2.12.2019 of APTEL in Appeal No. 95 of 2018 and Appeal No. 140 of 2018, IEDC claimed shall not be restricted to the percentage of the hard cost mentioned in the Abstract Cost Estimates given along with the Investment Approval and should be allowed after prudence check.

29. TANGEDCO has submitted as follows:

- a) The Petitioner while claiming the final tariff of the transmission asset vide Petition No. 34/TT/2019 had submitted the detailed statement of IEDC vide Form 12 A. in which IEDC in respect of 2 numbers 500 MVA ICT's along with associated bays and 1 number 125 MVA reactor and its associated bays and equipment was claimed. The total IEDC claimed was ₹207.56 lakh. However, the Petitioner subsequently split the assets into 3 elements, as ICT 1, ICT 2 and Reactor based on COD of the assets and claimed tariff for ICT 1.
- b) The Petitioner in the instant petition has claimed ₹349.14 lakh towards IEDC in respect of one number ICT based on the Auditor's Certificate. Whereas, as per their detailed expenditure statement given for all the 3 elements, only Asset-II was claimed in Petition No. 34/TT/2019. The total amount claimed was ₹230.37 lakh.
- c) The Commission restricted IEDC to 10.75% of the hard cost for an amount of ₹239.37 lakh duly disallowing the time over-run also. Now, the Petitioner in the instant petition has claimed ₹349.14 lakh including the disallowed amount citing APTEL's order.
- d) The Petitioner's claim of IEDC is totally wrong. The detailed expenditure statement in Form 12A submitted along with Petition No. 34/TT/2019 reveals the fact that IEDC incurred by the Petitioners' combined 3 elements of Asset-II under Petition No. 34/TT/2019. There is a huge mismatch between the Petitioner's statement and Auditor's Certificate in respect of IEDC.



- e) The Petitioner is liable to segregate IEDC for all the 3 elements on pro-rata basis. However, the Petitioner had claimed additional expenses over and above total IEDC claim made through the Form 12A. The expenditure incurred for the other elements should be booked in the respective petition. The claim of the Petitioner is unjustifiable and exorbitant.
- f) The Petitioner's approach towards making imprudent claim without justifying through the tariff form is unacceptable. The Petitioner has miserably failed to submit the detailed expenses statement of IEDC in the instant petition.

30. In view of the above, TANGEDCO has requested the Commission to direct the Petitioner to furnish pro-rata expenditure statement of IEDC for the transmission asset and in the absence of the detailed expenses statement on actual basis, entire IEDC may be disallowed.

31. In response, the Petitioner has submitted as follows:

- a) Petition No. 34/TT/2019 was filed for determination of tariff of asset (2X500 MVA 400/220 kV ICTs along with associated bays at Tumkur (Pavagada) Sub-station) from anticipated COD of 28.12.2018.
- b) The transmission asset was put into commercial operation on 31.3.2019, Auditor's Certificate for the same was submitted along with the revised tariff Forms filed vide affidavit 13.11.2019. The said asset was bifurcated into two assets as ICT 2 was put into commercial operation in the 2019-24 tariff period. The revised Auditor's Certificate was submitted for the transmission asset for COD in which IEDC claimed was ₹349.14 lakh based on the actual expenditure occurred at the time of commercial operation. The same IEDC amount is claimed in the instant petition.
- c) Pro-rata expenditure statement of IEDC in respect of the transmission asset has already been submitted in Form 12A. The Commission had deducted IEDC of ₹19.80 lakh on account of time over-run not condoned. The same amount is not claimed in the subject petition and is deducted from the capital cost at the time of claiming of tariff.
- d) ₹89.96 lakh IEDC was not admitted by the Commission as it was beyond the percentage of hard cost i.e. 10.75% as indicated in abstract cost estimate.



However, the Commission had stated to reconsider the same in the light of the directions of APTEL judgment at the time of truing up.

e) In this case, IEDC has been claimed on actual basis and therefore, the restricted IEDC of ₹89.96 lakh for the transmission asset has being re-claimed.

32. In view of the above, the Petitioner has requested to allow IEDC as claimed in this petition.

33. We have considered the submissions of the Petitioner and TANGEDCO. TANGEDCO has contended that the Commission had restricted IEDC to ₹239.37, i.e. 10.75% of the hard cost and the Petitioner in the instant petition has claimed ₹349.14 lakh including the disallowed amount without giving any justification citing APTEL's order. In response, the Petitioner has submitted that IEDC has been claimed on actual basis and the restricted IEDC of ₹89.96 lakh for the transmission asset has being re-claimed in the instant petition. As per the APTEL's judgment dated 2.12.2019 in Appeal No. 95 of 2018 and Appeal No. 140 of 2018, IEDC claimed should not be restricted to the percentage of the hard cost mentioned in the Abstract Cost Estimates given along with the Investment Approval. The Petitioner has further submitted that the IEDC for the period of time over-run not condoned is not claimed and has been deducted from the capital cost. In view of the clarifications submitted by the Petitioner, the amount of IEDC, considered after adjusting the IEDC for the time over-run not condoned, for the tariff computation is as follows:

(₹ in lakh)		
IEDC claimed as per Auditor's Certificate	IEDC disallowed due to time over-run	IEDC allowed up to COD
349.14	26.68	322.46

#### **Initial Spares**

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



**“(d) Transmission system**

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

35. The Petitioner has claimed the Initial Spares for the transmission asset as follows:

(₹ in lakh)

Plant & Machinery cost up to cut-off date (excluding IDC and IEDC) (A)	Initial Spares claimed (B)	Ceiling limit (C) (in %)	Initial Spares worked out
			$D = [(A-B)*C / (100-C)]$
2987.68	136.54	6.0	181.99

36. The Petitioner vide affidavit dated 5.8.2021 has submitted that complete initial spares are discharged up to COD.

37. We have considered the submission of the Petitioner. The Initial Spares claimed by the Petitioner for the transmission asset is within the permissible limit and the same is allowed. The details of Initial Spares allowed are as follows:

(₹ in lakh)

Plant & Machinery cost up to cut-off date (excluding IDC and IEDC) (A)	Initial Spares claimed (B)	Ceiling limit (C) (%)	Initial Spares worked out	Initial Spares allowed in this order
			$D = [(A-B)*C / (100-C)]$	
2987.68	136.54	6.0	181.99	136.54

**Capital Cost allowed as on COD**

38. In view of the above, the capital cost for the transmission asset allowed (as on COD) is summarized as follows:

(₹ in lakh)

Capital Cost as per Auditor's Certificate (A)	Grant Received (B)	Un-discharged IDC (C)	IDC dis-allowed due to time over-run and computational difference (D)	Excess IEDC disallowed (E)	Capital Cost allowed as on COD (F) = (A-B-C-D-E)
2897.88	153.72	5.45	53.64	26.68	2658.40



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

39. The cut-off date for the transmission asset is 31.3.2022 as per Regulation 3(13) of the 2014 Tariff Regulations.

40. The Petitioner had not claimed any ACE during the 2014-19 tariff period in Petition No. 34/TT/2019 and, accordingly, the Commission vide order dated 14.4.2020 in Petition No. 34/TT/2019 had not allowed any ACE for the 2014-19 period. The Petitioner in the instant petition has not claimed any ACE for the 2014-19 period.

### **Capital Cost for the 2014-19 tariff period**

41. In view of the foregoing, the capital cost of the transmission asset considered for the 2014-19 tariff period is as follows:

(₹ in lakh)		
Capital Cost allowed (as on COD)	ACE during 2014-19 period	Total Capital Cost (as on 31.3.2019)
2658.40	0.00	2658.40

### **Debt-Equity Ratio**

42. Debt-Equity ratio is considered as per Regulation 19 of the 2014 Tariff Regulations and in line with relevant paragraph as mentioned 22. The debt-equity as on COD and as on 31.3.2019 considered for the transmission asset is as follows:

(₹ in lakh)				
Funding	Capital Cost (as on COD) (₹ in lakh)	(in %)	Capital Cost (as on 31.3.2019) (₹ in lakh)	(in %)
Debt	1860.88	70.00	1860.88	70.00
Equity	797.52	30.00	797.52	30.00
<b>Total</b>	<b>2658.40</b>	<b>100.00</b>	<b>2658.40</b>	<b>100.00</b>

### **Depreciation**

43. The Gross Block in respect of the transmission asset during 2018-19 period has been depreciated at Weighted Average Rate of Depreciation (WAROD). WAROD at Annexure-I has been worked out after considering the depreciation rates of assets as specified in the 2014 Tariff Regulations. The depreciation allowed for the transmission asset is as follows:





Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 1 day)
Opening Gross Block	2658.40
ACE	0.00
Closing Gross Block	2658.40
Average Gross Block	2658.40
Weighted average rate of Depreciation (WAROD) (in %)	5.54
Balance useful life of the asset beginning of the year (Year)	25
Lapsed life at the beginning of the year (Year)	0
Depreciable Value	2392.56
<b>Depreciation during the year</b>	<b>0.40</b>
Cumulative depreciation at the end of the year	0.40
Remaining Depreciable Value at the end of the year	2392.15

44. Depreciation for the transmission asset as allowed vide order dated 14.4.2020 in Petition No. 34/TT/2019, claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:

Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 1 day)
Allowed vide order dated 14.4.2020 in Petition No. 34/TT/2019	0.40
Claimed by the Petitioner in the instant petition	0.41
Approved after true-up in this order	0.40

### **Interest on Loan (“IoL”)**

45. The Petitioner has claimed Weighted Average Rate of Interest (WAROI) on loan based on its actual loan portfolio and rate of interest. Accordingly, IoL has been calculated based on actual interest rate in accordance with Regulation 26 of the 2014 Tariff Regulations. The trued-up IoL allowed for the transmission asset for the 2018-19 tariff period is as follows:

Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 1 day)
Gross Normative Loan	1860.88
Cumulative Repayments up to Previous Year	0.00
Net Loan-Opening	1860.88
Additions due to ACE	0.00
Repayment during the year	0.40
Net Loan-Closing	1860.47
Average Loan	1860.68
Weighted Average Rate of IoL (in %)	4.0902
<b>Interest on Loan</b>	<b>0.21</b>



46. IoL for the transmission asset as allowed vide order dated 14.4.2020 in Petition No. 34/TT/2019, claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:

Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 1 day)
Allowed vide order dated 14.4.2020 in Petition No. 34/TT/2019	0.20
Claimed by the Petitioner in the instant petition	0.21
Approved after true-up in this order	0.21

**Return on Equity (“RoE”)**

47. The Petitioner has claimed RoE for the transmission asset in terms of Regulation 24 and Regulation 25 of the 2014 Tariff Regulations. The Petitioner has submitted that it is liable to pay income tax at Minimum Alternate Tax (MAT) rates and has claimed following effective tax rates for 2018-19 period:

Year	Claimed effective tax (in %)	Grossed-up RoE (in %) [(Base Rate)/(1-t)]
2018-19	21.549	19.758

48. The Commission in order dated 27.4.2020 in Petition No. 274/TT/2019 had arrived at the effective tax rates for the Petitioner based on the notified MAT rates and the same is as follows:

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

49. MAT rates as allowed vide order dated 27.4.2020 in Petition No. 274/TT/2019 for the purpose of grossing up of rate of RoE for truing up of the tariff of 2018-19 period, in terms of the provisions of the 2014 Tariff Regulations, are considered in the instant case which are as follows:



Year	Notified MAT rates (in %) (inclusive of surcharge & cess)	Base rate of RoE (in %)	Grossed-up RoE (in %) [(Base Rate)/(1-t)]
2018-19	21.549	15.50	19.758

50. The Petitioner has claimed RoE for the 2014-19 period after grossing up the RoE @15.50% with Effective Tax rates (based on MAT rates) each year. RoE is trued-up on the basis of MAT rates applicable in the respective years and is approved for the transmission asset for the 2014-19 tariff period as follows:

Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 1 day)
Opening Equity (A)	797.52
Additions due to ACE (B)	0.00
Closing Equity (C) = (A+B)	797.52
Average Equity (D) = [(A+C)/2]	797.52
Return on Equity (Base Rate) (in %)	15.500
MAT Rate for respective year (in %)	21.549
Rate of Return on Equity (in %)	19.758
<b>Return on Equity</b>	<b>0.43</b>

51. RoE for the transmission asset as allowed vide order dated 14.4.2020 in Petition No. 34/TT/2019, claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:

Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 1 day)
Allowed vide order dated 14.4.2020 in Petition No. 34/TT/2019	0.42
Claimed by the Petitioner in the instant petition	0.44
Approved after true-up in this order	0.43

### **Additional RoE**

52. The Petitioner vide affidavit dated 5.8.2021 has withdrawn the prayer for grant of additional RoE for the transmission asset and accordingly it is not considered.

### **Operation & Maintenance Expenses ("O&M Expenses")**

53. O&M Expenses claimed by the Petitioner for the various elements covered in the transmission asset are as follows:



Particulars	2018-19 (Pro-rata for 1 day)
<b>400 kV: Pavagada ICT Bay</b>	
Number of bays	1.00
Norms (₹ lakh/Bay)	68.71
<b>Total O&amp;M Expenses (₹ in lakh)</b>	<b>0.19</b>
<b>220 kV: Pavagada ICT Bay</b>	
Number of bays	1.00
Norms (₹ lakh/Bay)	48.10
<b>Total O&amp;M Expenses (₹ in lakh)</b>	<b>0.13</b>

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

Particulars	2018-19
<b>Norms for sub-station Bays (₹ lakh per bay)</b>	
400 kV	
Norms (₹ lakh/Bay)	68.71
220 kV	
Norms (₹ lakh/Bay)	48.10

55. We have considered the submissions of the Petitioner. The O&M Expenses are approved for the transmission asset under the 2014 Tariff Regulations are as follows:

Particulars	2018-19 (Pro-rata for 1 day)
<b>400 kV: Pavagada ICT Bay 400</b>	
Number of bays	1.00
Norms (₹ lakh/Bay)	68.71
<b>O&amp;M Expenses (₹ in lakh)</b>	<b>0.19</b>
<b>220 kV: Pavagada ICT Bay 220</b>	
Number of bays	1.00
Norms (₹ lakh/Bay)	48.10
<b>O&amp;M Expenses (₹ in lakh)</b>	<b>0.13</b>
<b>Total O&amp;M Expenses (₹ in lakh)</b>	<b>0.32</b>

56. O&M Expenses for the transmission asset as allowed vide order dated 14.4.2020 in Petition No. 34/TT/2019, claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:

Particulars	(₹ in lakh) 2018-19 (Pro-rata for 1 day)
Allowed vide order dated 14.4.2020 in Petition No. 34/TT/2019	0.32
Claimed by the Petitioner in the instant petition	0.32
Approved after true-up in this order	0.32



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

57. IWC has been worked out as per the methodology provided in Regulation 28 of the 2014 Tariff Regulations and the trued-up IWC approved for the transmission asset are as follows:

Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 1 day)
Working Capital on O&M Expenses (O&M Expenses for one month)	9.73
Working Capital on Maintenance Spares (15% of O&M Expenses)	17.52
Working Capital on Receivables (Equivalent to two months of annual transmission charges)	85.27
<b>Total Working Capital</b>	<b>112.52</b>
Rate of Interest (in %)	12.20
<b>Interest on Working Capital</b>	<b>0.04</b>

58. IWC for the transmission asset as allowed vide order dated 14.4.2020 in Petition No. 34/TT/2019, claimed by the Petitioner in the instant petition and trued-up in this order are as follows:

Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 1 day)
Allowed vide order dated 14.4.2020 in Petition No. 34/TT/2019	0.04
Claimed by the Petitioner in the instant petition	0.04
Approved after true-up in this order	0.04

### Approved Annual Fixed Charges for 2014-19 Tariff Period

59. The trued-up Annual Fixed Charges (AFC) approved for the transmission asset for the 2018-19 tariff period are as follows:

Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 1 day)
Depreciation	0.40
Interest on Loan	0.21
Return on Equity	0.43
O&M Expenses	0.32
Interest on Working Capital	0.04
<b>Total</b>	<b>1.40</b>



60. Accordingly, AFC as allowed vide order dated 14.4.2020 in Petition No. 34/TT/2019, claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:

Particulars	(₹ in lakh)	
	2018-19 (Pro-rata for 1 day)	
Allowed vide order dated 14.4.2020 in Petition No. 34/TT/2019	1.38	
Claimed by the Petitioner in the instant petition	1.42	
Approved after true-up in this order	1.40	

### **DETERMINATION OF ANNUAL FIXED CHARGES FOR 2019-24 TARIFF PERIOD**

61. The details of the transmission charges claimed by the Petitioner for the transmission asset for the 2019-24 tariff period are as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	166.08	185.00	187.94	187.94	187.94
Interest on Loan	80.00	82.64	73.09	61.97	54.51
Return on Equity	169.02	188.32	191.16	191.16	191.16
Interest on Working Capital	16.43	17.44	17.75	17.98	18.21
O&M Expenses	233.66	242.08	250.57	259.62	268.25
<b>Total</b>	<b>665.19</b>	<b>715.48</b>	<b>720.51</b>	<b>718.67</b>	<b>720.07</b>

62. The details of IWC claimed by the Petitioner for the transmission asset for the 2019-24 tariff period are as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital on O&M Expenses	19.47	20.17	20.88	21.64	22.35
Working Capital on Maintenance Spares	35.05	36.31	37.59	38.94	40.24
Working Capital on Receivables	81.79	88.21	88.83	88.60	88.53
<b>Total Working Capital</b>	<b>136.31</b>	<b>144.69</b>	<b>147.30</b>	<b>149.18</b>	<b>151.12</b>
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
<b>Interest on Working Capital</b>	<b>16.43</b>	<b>17.44</b>	<b>17.75</b>	<b>17.98</b>	<b>18.21</b>

### **Capital Cost**

63. 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."*

64. The Petitioner has claimed the capital cost of ₹2707.62 lakh as on 1.4.2019.

The trued-up capital cost of ₹2658.40 lakh has been considered as the opening capital cost as on 1.4.2019 for determination of tariff in accordance with Regulation 19 of the 2019 Tariff Regulations.

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

65. Regulation 24 of the 2019 Tariff Regulations provides 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.”*

66. The Petitioner has claimed ACE of ₹584.31 lakh and ₹100.68 lakh for 2019-20 and 2020-21 respectively under Regulation 24(1)(a) of the 2019 Tariff Regulations on account of any un-discharged liability towards final payment/ withheld payment due to contractual exigencies for works executed within the cut-off date.

67. The Petitioner vide affidavit dated 5.8.2021 has submitted package and vendor wise details of ACE claimed during the 2019-24 period for the transmission asset as follows:

Party	Particulars	Outstanding Liability as on COD	Un-discharged Liability		
			2019-20	2020-21	Total
Bharat Heavy Electricals Limited	SS	660.55	565.75	94.80	660.55
	IT	16.95	11.07	5.88	16.95
<b>Total</b>		<b>677.50</b>	<b>576.82</b>	<b>100.68</b>	<b>677.50</b>

68. We have considered the submissions of the Petitioner. ACE is claimed on account of balance and retention payments and the same is allowed under Regulation 24(1)(a) of the 2019 Tariff Regulations. As regards, balance 50% of the grant which is yet to be received by the Petitioner, the Petitioner is directed to submit the details of



actual grant received and allocated to the transmission asset during the 2019-24 tariff period at the time of truing up.

69. In view of the above, ACE allowed for the transmission asset for the 2019-24 tariff period are as follows:

(₹ in lakh)			
Year	ACE as per Auditor's Certificate (A)	IDC Discharged (B)	ACE allowed (C)=(A)+(B)
2019-20	576.82	5.45	582.27
2020-21	100.68	0.00	100.68

70. Accordingly, the capital cost of the transmission asset as on 31.3.2024 is approved as follows:

(₹ in lakh)			
Capital Cost (as on 1.4.2019)	ACE		Capital Cost (as on 31.3.2024)
	2019-20	2020-21	
2658.40	582.27	100.68	3341.35

### **Debt-Equity Ratio**

71. 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.”

72. The debt-equity considered for the purpose of computation of tariff for the 2019-24 tariff period is as follows:

Funding	(₹ in lakh)			
	Capital Cost (as on 1.4.2019)	(in %)	Capital Cost (as on 31.3.2024)	(in %)
Debt	1860.88	70.00	2338.94	70.00
Equity	797.52	30.00	1002.40	30.00
<b>Total</b>	<b>2658.40</b>	<b>100.00</b>	<b>3341.35</b>	<b>100.00</b>

### **Depreciation**

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

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

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the



generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

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

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

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

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

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

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

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

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

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

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

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

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



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

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

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

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

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

74. The depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. WAROD at Annexure-II has been worked out as per the rates of depreciation specified in the 2019 Tariff Regulations. The depreciation approved for the transmission asset for the 2019-24 tariff period is as follows:

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block (A)	2658.40	3240.67	3341.35	3341.35	3341.35
Addition during the year 2019-24 due to projected ACE (B)	582.27	100.68	0.00	0.00	0.00
Closing Gross Block (C)=(A+B)	3240.67	3341.35	3341.35	3341.35	3341.35
Average Gross Block (D)=[(A+C)/2]	2949.53	3291.01	3341.35	3341.35	3341.35
Weighted average rate of Depreciation (WAROD) (in %)	5.54	5.53	5.54	5.54	5.54
Balance useful life at the beginning of the year (Year)	25	24	23	22	21
Lapsed Life at the beginning of the year (Year)	0	1	2	3	4
Aggregated Depreciable Value	2662.35	2970.54	3016.14	3016.14	3016.14
<b>Combined Depreciation during the year</b>	<b>163.29</b>	<b>182.15</b>	<b>185.10</b>	<b>185.10</b>	<b>185.10</b>
Aggregate Cumulative Depreciation at the end of the year	163.70	345.85	530.95	716.05	901.15





Remaining Aggregated Depreciable Value at the end of the year	2498.66	2624.69	2485.19	2300.09	2114.99
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**Interest on Loan**

75. 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.”*

76. WAROI on loan has been considered on the basis of rate prevailing as on 1.4.2019. The Petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during the 2019-24 tariff period will be adjusted.





Accordingly, the floating rate of interest, if any, shall be considered at the time of true up. Therefore, IoL has been allowed in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL approved for the transmission asset for the 2019-24 tariff period is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	1860.88	2268.47	2338.94	2338.94	2338.94
Cumulative Repayments up to Previous Year	0.40	163.70	345.85	530.95	716.05
Net Loan-Opening	1860.47	2104.77	1993.09	1807.99	1622.90
Additions due to ACE	407.59	70.48	0.00	0.00	0.00
Repayment during the year	163.29	182.15	185.10	185.10	185.10
Net Loan-Closing	2104.77	1993.09	1807.99	1622.90	1437.80
Average Loan	1982.62	2048.93	1900.54	1715.44	1530.35
Weighted Average Rate of Interest on Loan (in %)	3.9676	3.9721	3.7880	3.5585	3.5087
<b>Interest on Loan</b>	<b>78.66</b>	<b>81.38</b>	<b>71.99</b>	<b>61.04</b>	<b>53.70</b>

### **Return on Equity**

77. 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:

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

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

**Illustration-**

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

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

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



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

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

78. The Petitioner has submitted that it is liable to pay Income Tax at MAT rate specified under the Taxation laws (Amendment) Ordinance 2019. Further, RoE has been calculated @18.782% after grossing up the RoE with MAT rate of 17.472% (Base Rate 15% + Surcharge 12% + Cess 4%) based on the formula given in Regulation 31(2) of the 2019 Tariff Regulations for the 2019-24 tariff period. As per Regulation 31(3) of the 2019 Tariff Regulations, the grossed-up rate of RoE at the end of every financial year shall be trued-up 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 IT authorities pertaining to the 2019-24 tariff period on actual gross income. However, any penalty arising on account of delay in deposit or short deposit of tax amount shall not be claimed by it. Any under-recovery or over-recovery of grossed-up rate on RoE after truing up shall be recovered or refunded to beneficiaries or the long term customers on yearly basis. The Petitioner has further submitted that any adjustment due to additional tax demand including interest duly adjusted for any refund of tax including interest received from IT authorities shall be recoverable/ adjustable during the 2019-24 tariff period on yearly basis on receipt of Income Tax assessment order.



79. We have considered the submissions of the Petitioner. MAT rate applicable in 2019-20 has been considered for the purpose of RoE, which will be trued-up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. RoE allowed for the transmission asset for the 2019-24 tariff period is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	797.52	972.20	1002.40	1002.40	1002.40
Additions	174.68	30.20	0.00	0.00	0.00
Closing Equity	972.20	1002.40	1002.40	1002.40	1002.40
Average Equity	884.86	987.30	1002.40	1002.40	1002.40
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (in %)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782	18.782
<b>Return on Equity</b>	<b>166.19</b>	<b>185.44</b>	<b>188.27</b>	<b>188.27</b>	<b>188.27</b>

### **Operation & Maintenance Expenses**

80. Regulation 35(3)(a) and Regulation 35(4) of the 2019 Tariff Regulations provides 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
<b>Norms for sub-station Bays (₹ Lakh per bay)</b>					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
132 kV and below	16.08	16.64	17.23	17.83	18.46
<b>Norms for Transformers (₹ Lakh per MVA)</b>					
765 kV	0.491	0.508	0.526	0.545	0.564
400 kV	0.358	0.371	0.384	0.398	0.411
220 kV	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.245	0.254	0.263	0.272	0.282
<b>Norms for AC and HVDC lines (₹ Lakh per km)</b>					
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-conductors)	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple Conductor)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single Conductor)	0.252	0.260	0.270	0.279	0.289



<i>Double Circuit (Bundled conductor with four or more sub-conductors)</i>	1.322	1.368	1.416	1.466	1.517
<i>Double Circuit (Twin &amp; Triple Conductor)</i>	0.881	0.912	0.944	0.977	1.011
<i>Double Circuit (Single Conductor)</i>	0.377	0.391	0.404	0.419	0.433
<i>Multi Circuit (Bundled Conductor with four or more sub-conductor)</i>	2.319	2.401	2.485	2.572	2.662
<i>Multi Circuit (Twin &amp; Triple Conductor)</i>	1.544	1.598	1.654	1.713	1.773
<i>Norms for HVDC stations</i>					
<i>HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)</i>	834	864	894	925	958
<i>Gazuwaka HVDC Back-to-Back station (₹ Lakh per 500 MW)</i>	1,666	1,725	1,785	1,848	1,913
<i>500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)</i>	2,252	2,331	2,413	2,498	2,586
<i>±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)</i>	2,468	2,555	2,645	2,738	2,834
<i>±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)</i>	1,696	1,756	1,817	1,881	1,947
<i>±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)</i>	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  $\pm 800$  kV, Bishwanath-Agra HVDC bi-pole scheme; and

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

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

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

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

81. O&M Expenses claimed by the Petitioner for the various elements covered under the transmission asset for the 2019-24 period are as follows:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Sub-station</b>					
<b>400 kV</b>					
Number of bays	1	1	1	1	1
Norms (₹ lakh/Bay)	32.15	33.28	34.45	35.66	36.91
<b>O&amp;M Expenses (₹ in lakh)</b>	<b>32.15</b>	<b>33.28</b>	<b>34.45</b>	<b>35.66</b>	<b>36.91</b>
<b>220 KV</b>					
Number of bays	1	1	1	1	1
Norms (₹ lakh/Bay)	22.51	23.30	24.12	24.96	25.84
<b>O&amp;M Expenses (₹ in lakh)</b>	<b>22.51</b>	<b>23.30</b>	<b>24.12</b>	<b>24.96</b>	<b>25.84</b>
<b>400 KV ICT</b>					
Capacity (MVA)	500	500	500	500	500
Norms (₹ lakh/MVA)	0.358	0.371	0.384	0.398	0.411
<b>O&amp;M Expenses (₹ in lakh)</b>	<b>179.00</b>	<b>185.50</b>	<b>192.00</b>	<b>199.00</b>	<b>205.50</b>
<b>Total O&amp;M Expenses (₹ in lakh)</b>	<b>233.66</b>	<b>242.08</b>	<b>250.57</b>	<b>259.62</b>	<b>268.25</b>





82. O&M Expenses for the various elements covered under the transmission asset are allowed as per the norms specified in the 2019 Tariff Regulations and the same are as follows:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Sub-station</b>					
<b>400 kV</b>					
Number of bays	1	1	1	1	1
Norms (₹ lakh/Bay)	32.15	33.28	34.45	35.66	36.91
<b>O&amp;M Expenses (₹ in lakh)</b>	<b>32.15</b>	<b>33.28</b>	<b>34.45</b>	<b>35.66</b>	<b>36.91</b>
<b>220 KV</b>					
Number of bays	1	1	1	1	1
Norms (₹ lakh/Bay)	22.51	23.30	24.12	24.96	25.84
<b>O&amp;M Expenses (₹ in lakh)</b>	<b>22.51</b>	<b>23.30</b>	<b>24.12</b>	<b>24.96</b>	<b>25.84</b>
<b>400 KV ICT</b>					
Capacity (MVA)	500	500	500	500	500
Norms (₹ lakh/MVA)	0.358	0.371	0.384	0.398	0.411
<b>O&amp;M Expenses (₹ in lakh)</b>	<b>179.00</b>	<b>185.50</b>	<b>192.00</b>	<b>199.00</b>	<b>205.50</b>
<b>Total O&amp;M Expenses (₹ in lakh)</b>	<b>233.66</b>	<b>242.08</b>	<b>250.57</b>	<b>259.62</b>	<b>268.25</b>

### **Interest on Working Capital**

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

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

...

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

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

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

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

**“(4) Interest on working capital shall be payable on normative basis notwithstanding that**





*the generating company or the transmission licensee has not taken loan for working capital from any outside agency.”*

“3. Definitions...

*(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;”*

84. The Petitioner has submitted that it has computed IWC for the 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%. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The Rate of Interest considered is 12.05% (SBI 1 year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20, 11.25% (SBI 1 year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) for 2020-21 and from 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).

85. We have considered the submissions of the Petitioner. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations and the components of the working capital and interest allowed thereon for the transmission asset for the 2019-24 tariff period are as follows:

		(₹ in lakh)				
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
A	Working Capital on O&M Expenses (O&M Expenses for one month)	19.47	20.17	20.88	21.64	22.35
B	Working Capital on Maintenance Spares (15% of O&M Expenses)	35.05	36.31	37.59	38.94	40.24
C	Working Capital on Receivables (Equivalent to 45 days of annual transmission charges)	80.92	87.19	87.69	87.48	87.43
<b>D</b>	<b>Total Working Capital (A+B+C)</b>	<b>135.44</b>	<b>143.68</b>	<b>146.16</b>	<b>148.06</b>	<b>150.02</b>
E	Rate of Interest (in %)	12.05	11.25	10.50	10.50	10.50
<b>F</b>	<b>Interest on Working Capital (DxE)</b>	<b>16.32</b>	<b>16.16</b>	<b>15.35</b>	<b>15.55</b>	<b>15.75</b>

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

86. The transmission charges of the transmission asset allowed for the 2019-24 tariff period are as follows:



(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	163.29	182.15	185.10	185.10	185.10
Interest on Loan	78.66	81.38	71.99	61.04	53.70
Return on Equity	166.19	185.44	188.27	188.27	188.27
O&M Expenses	233.66	242.08	250.57	259.62	268.25
Interest on Working Capital	16.32	16.16	15.35	15.55	15.75
<b>Total</b>	<b>658.13</b>	<b>707.22</b>	<b>711.28</b>	<b>709.58</b>	<b>711.07</b>

### **Filing Fee and Publication Expenses**

87. The Petitioner has sought reimbursement of fee 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**

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

### **Goods and Services Tax**

89. 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.

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



## **Security Expenses**

91. The Petitioner has submitted that security expenses for the transmission asset are not claimed in the instant petition and it would file a separate petition for claiming the overall security expenses and the consequential IWC.

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

## **Capital Spares**

93. 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**

94. The Commission in Regulatory Approval order dated 19.8.2016 in Petition No. 36/MP/2016 with IA. No. 9/2016 observed 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."*

95. 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 drawal nodes as per methodology given in the Annexure-I. Such mechanism shall be effective only after commercial operation of the generator. Till then it shall be the responsibility of the generator to pay transmission charges.”*

96. 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 asset (1X500 MVA 400/220 kV ICT along with associated bays at Tumkur) is 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, the transmission asset has been implemented for Pavagada Solar Park Phase-II generation i.e. 1050 MW.

97. It is further observed that solar generation of 1050 MW under Phase-II of solar park achieved COD on different dates, accordingly the issue that arises for our consideration is 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 under Phase-II of the solar park, 400 MW were commissioned on 31.3.2019 and the remaining 650 MW were 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 Regulations 8(5) and 8(6) of the 2010 Sharing Regulations:



<b>COD of the transmission asset</b>	<b>Solar generation capacity (MW) commissioned within the solar park</b>	<b>Date of commissioning of solar generation capacity</b>	<b>Liability of transmission charges</b>
31.3.2019	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 31.3.2019 (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



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

99. To summarise:

- a) The trued-up AFC approved for the transmission asset for 2018-19 period are as follows:

Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 1 day)
AFC	1.40

- b) AFC allowed for the transmission asset for 2019-24 tariff period in this order are as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
AFC	658.13	707.22	711.28	709.58	711.07

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

101. This order disposes of Petition No. 656/TT/2020 in terms of above discussions and findings.

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

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

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

sd/-  
**(P. K. Pujari)**  
Chairperson





**Annexure-I**

<b>2014-19</b>	<b>Admitted Capital Cost as on 1.4.2014/COD (₹ in lakh)</b>	<b>ACE (₹ in lakh) Total</b>	<b>Admitted Capital Cost as on 31.3.2019 (₹ in lakh)</b>	<b>Rate of Depreciation as per the 2014 Tariff Regulations (in %)</b>	<b>Annual Depreciation as per the 2014 Tariff Regulations (₹ in lakh) 2018-19</b>
<b>Capital Expenditure</b>					
Sub-station	2586.25	-	2586.25	5.28	136.55
IT Equipment (Including Software)	72.15	-	72.15	15.00	10.82
<b>Total</b>	<b>2658.40</b>	<b>-</b>	<b>2658.40</b>		<b>147.38</b>
				<b>Average Gross Block (₹ in lakh)</b>	<b>2662.08</b>
				<b>Weighted Average Rate of Depreciation (in %)</b>	<b>5.54</b>



**Annexure-II**

2019-24 Capital Expenditure	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Projected ACE (₹ in lakh)			Admitted Capital Cost as on 31.3.2024 (₹ in lakh)	Rate of Depreciation as per the 2019 Tariff Regulations (in %)	Annual Depreciation as per Regulations (₹ in lakh)					
		2019-20	2020-21	Total			2019-20	2020-21	2021-22	2022-23	2023-24	
Sub-station	2586.25	571.05	94.80	665.85	3252.10	5.28	151.63	169.21	171.71	171.71	171.71	
IT Equipment (Including Software)	72.15	11.22	5.88	17.10	89.25	15.00	11.66	12.95	13.39	13.39	13.39	
<b>Total</b>	<b>2658.40</b>	<b>582.27</b>	<b>100.68</b>	<b>682.95</b>	<b>3341.35</b>		<b>163.29</b>	<b>182.15</b>	<b>185.10</b>	<b>185.10</b>	<b>185.10</b>	
							<b>Average Gross Block (₹ in lakh)</b>	<b>2949.53</b>	<b>3291.01</b>	<b>3341.35</b>	<b>3341.35</b>	<b>3341.35</b>
							<b>Weighted Average Rate of Depreciation (in %)</b>	<b>5.54</b>	<b>5.53</b>	<b>5.54</b>	<b>5.54</b>	<b>5.54</b>

