## **CENTRAL ELECTRICITY REGULATORY COMMISSION**

NEW DELHI <u>Petition No. 253/TT/2018</u> Coram: Shri P.K.Pujari, Chairperson Dr M. K. Iyer, Member Shri I.S.Jha, Member

Date of Order: 25.6.2019

## In the matter of:

Approval under regulation-86 of CERC (Conduct of Business) Regulations'1999 and CERC (Terms and Conditions of Tariff) Regulations '2014 for determination of Transmission Tariff from DOCO to 31.03.2019 for Approval under regulation-86 of CERC (Conduct of Business) Regulations'1999 and CERC (Terms and Conditions of Tariff) Regulations'2014 for determination of Transmission Tariff from anticipated DOCO to 31-03-2019 for ASSET-I: 01x500MVA, 400/220kV/33 ICT and associated bays each at Warangal S/S, Khammam S/S, Gooty S/S and Kadapa S/S under System strengthening-XX in Southern Region under "System strengthening-XX" in Southern region.

#### And in the matter of:

Power Grid Corporation of India Limited "Saudamini", Plot No.2, Sector-29, Gurgaon -122 001

.....Petitioner

Vs

- Karnataka Power Transmission Corporation Limited (KPTCL), Kaveri Bhawan, Bangalore – 560009
- 2. Transmission Corporation of Andhra Pradesh Limited, (APTRANSCO), Vidyut Soudha, Hyderabad- 500082
- Kerala State Electricity Board (KSEB), Vaidyuthi Bhavanam, Pattom, Thiruvananthapurarn - 695 004
- 4. Tamil Nadu Generation and Distribution Corporation Limited, NPKRR Maaligai, 800, Anna Salai, Chennai 600 002



- 5. Electricity Department Government of Goa, Vidyuti Bhawan, 3rd Floor, Panaji, Goa-403001.
- 6. Electricity Department, Government of Pondicherry, Pondicherry - 605001
- Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL), P&T Colony, Seethmmadhara, Vishakhapatnam, Andhra Pradesh
- 8. Southern Power Distribution Company of Andhra Pradesh Limited, (APSPDCL), Srinivasasa Kalyana Mandapam Backside, Tiruchanoor Road, Kesavayana Gunta, Tirupati-517 501, Chitoor District, Andhra Pradesh
- Central Power Distribution Company of Andhra Pradesh Limited, (APCPDCL), Corporate Office, Mint Compound, Hyderabad - 500 063, Andhra Pradesh
- Northern Power Distribution Company of Andhra Pradesh Limited, (APNPDCL), Opp. NIT Petrol Pump, Chaitanyapuri, Kazipet, Warangal - 506 004, Andhra Pradesh
- 11. Bangalore Electricity Supply Company Ltd. (BESCOM), Corporate Office, KR.Circle Bangalore - 560001, Karnataka
- 12. Gulbarga Electricity Supply Company Ltd (GESCOM) Station Main Road, Gulburga, Karnataka
- 13. Hubli Electricity Supply Company Ltd, (HESCOM) Navanagar, PB Road, Hubli, Karnataka
- 14. MESCOM Corporate Office, Paradigm Plaza, AB Shetty Circle, Mangalore 575001, Karnataka
- 15. Chamundeswari Electricity Supply Corporation Ltd., (CESC),
  # 927,L J Avenue, Ground Floor, New Kantharaj Urs Road, Saraswatipuram,
  Mysore 570 009, Karnataka
- 16. Transmission Corporation of Telangana Limited, Vidhyut Sudha, Khairatabad, Hyderabad, 500082

.....Respondents



#### Parties present:

For Petitioner:	Shri S.S. Raju, PGCIL
	Shri S.K. Venkatesan, PGCIL
	Shri B.Dash, PGCIL
	Smt Anshul Garg, PGCIL
	Shri Zafrul Hasan, PGCIL

For Respondent: Shri S. Vallinayagam, Advocate, TANGEDCO Ms. Amali, Advocate, TANGEDCO Shri R. Kathiravan, TANGEDCO

## <u>ORDER</u>

The present petition has been filed by the petitioner, Power Grid Corporation of India Ltd. ("PGCIL") seeking approval of transmission tariff for ASSET-I: 01x500MVA, 400/220kV/33 ICT and associated bays each at Warangal S/S, Khammam S/S, Gooty S/S and Kadapa S/S under "System strengthening-XX" in Southern region (hereinafter referred to as "transmission system") for 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"). The petitioner vide affidavit dated 4.12.2018 has split the asset into three parts viz. **Asset-I (a):** 1 No. 400/220 kV 500 MVA ICT-3 along with associated bays and equipment at Warrangal S/S , **Asset-I (b):** 01x500MVA, 400/220/33 kV ICT and associated bays at Gooty S/S and **Asset-I (c):** 01x500MVA, 400/220/33/ kV ICT and associated bays and equipments at 400/220 kV Kadapa S/S.

- 2. The petitioner has made the following prayers:
  - i. Approve the Transmission Tariff for the tariff block 2014-19 block for the assets covered under this petition.
  - ii. Admit the capital cost as claimed in the petition and approve the additional capitalisation incurred/projected to be incurred.

- iii. Tariff may be allowed on estimated completion cost. The completed cost of the asset under instant petition is within the overall project cost.
- iv. Allow the Petitioner to approach Hon'ble Commission for suitable revision in the norms for O&M expenditure for claiming the impact of wage hike, if any, during period 2014-19.
- v. 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 under clause 25 of the Tariff regulations 2014.
- vi. Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 52 Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014, and other expenditure ( if any) in relation to the filing of petition.
- vii. Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 52 Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.
- viii. 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 2014-19 period, if any, from the respondents.
- ix. Allow the petitioner to bill and recover GST on Transmission charges separately from the respondents, if GST on Transmission of electricity is withdrawn from the exempted (negative) list at any time in future. Further any taxes and duties including cess, etc. imposed by any Statutory/Govt./Municipal Authorities shall be allowed to be recovered from the beneficiaries.
- Allow tariff up to 90% of the Annual Fixed Charges in accordance with clause 7 (i) of Regulation 7 Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for purpose of inclusion in the PoC charges.
- xi. Allow the petitioner to bill Tariff from actual DOCO and also the petitioner may be allowed to submit revised Certificate and tariff Forms (as per the Relevant Regulation) based on actual DOCO.

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. The Investment Approval for implementation of "System strengthening-XX in Southern regional Grid" was accorded by the Board of Directors of the petitioner in 304<sup>th</sup> meeting held on 4.8.2014 for ₹ 28849 lakh including IDC of ₹ 1733 lakh based on June, 2014 price level vide Memorandum No. C/CP/SRSS-XX dated 8.8.2014. Revised Cost Estimate (RCE) of the project was approved by Board of Directors of the petitioner vide the Memorandum No. C/CP/PA1617-01-0R-RCE006 dated 13.1.2017 with an estimated cost of ₹ 37609 lakh including IDC of ₹ 1896 lakh based on April, 2016 price level.

- 4. The scope of the scheme was discussed and agreed in the 33rd & 34th SCM of Southern Region Constituents held on 20.10.2011 & 16.04.2012 respectively, which further was ratified by SRPC in the 18<sup>th</sup> & 19<sup>th</sup> SRPC meetings held on 23.12.2011 & 01.06.2012.
- The scope of work covered under the transmission system as per Investment approval and RCE is as follows:-

## Sub Station

- 1. Extension of 400/220kV Substation at Hyderabad (Ghanapur)
  - i. 1x 500MVA, 400/220/33kV ICT
  - ii. 1 number 400kV transformer bay for 1x 500MVA transformer
  - iii. 1 number 220kV transformer bay for 1x 500MVA transformer

## 2. Extension of 400/220kV Substation at Warangal

- i. 1x 500MVA, 400/220/33kV ICT
- ii. 1 number 400kV transformer bay for 1x 500MVA transformer
- iii. 1 number 220kV transformer bay for 1x 500MVA transformer

## 3. Extension of 400/220kV Substation at Khammam

- i. 1x 500MVA, 400/220/33kV ICT
- ii. 1 number 400kV transformer bay for 1x 500MVA transformer
- iii. 1 number 220kV transformer bay for 1x 500MVA transformer

## 4. Extension of 400/220kV Substation at Vijayawada

- i. 1x 500MVA, 400/220/33kV ICT
- ii. 1 number 400kV transformer bay for 1x 500MVA transformer
- iii. 1 number 220kV transformer bay for 1x 500MVA transformer
- iv. 2x125MVAR, 400kV Bus reactors
- v. 2 numbers 400kV Bus reactor bays

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## 5. Extension of 400/220kV Substation at Gooty

- i. 1x 500MVA, 400/220/33kV ICT
- ii. 1 number 400kV transformer bay for 1x 500MVA transformer
- iii. 1 number 220kV transformer bay for 1x 500MVA transformer

#### 6. Extension of 400/220kV Substation at Cuddapah

- i. 1x 500MVA, 400/220/33kV ICT
- ii. 1 number 400kV transformer bay for 1x 500MVA transformer
- iii. 1 number 220kV transformer bay for 1x 500MVA transformer

## 7. Extension of 400/230kV Substation at Malekuttaiyur (Kalivanthapattu)

- i. 1x 500MVA, 400/220/33kV ICT
- ii. 1 number 400kV transformer bay for 1x 500MVA transformer
- iii. 1 number 230kV transformer bay for 1x 500MVA transformer

#### 8. Extension of 400/220kV Substation at Somanahall

- i. 1x 500MVA, 400/220/33kV ICT
- ii. 1 number 400kV transformer bay for 1x 500MVA transformer
- iii. 1 number 220kV transformer bay for 1x 500MVA transformer

#### 9. Extension of 400/220kV Substation at Mysore

- i. 1x 500MVA, 400/220/33kV ICT
- ii. 1 number 400kV transformer bay for 1x 500MVA transformer
- iii. 1 number 220kV transformer bay for 1x 500MVA transformer

#### 10. Extension of 400/230kV Substation at Pugalur

- i. 1x 500MVA, 400/220/33kV ICT
- ii. 1 number 400kV transformer bay for 1x 500MVA transformer
- iii. 1 number 230kV transformer bay for 1x 500MVA transformer

#### 11. Extension of 400/230kV Substation at Trichy

- i. 1x 500MVA, 400/220/33kV ICT
- ii. 1 number 400kV transformer bay for 1x 500MVA transformer
- iii. 1 number 230kV transformer bay for 1x 500MVA transformer

#### 12. Extension of 400/220kV Substation at Narendra

i. Replacement of existing 2x315MVA 400/220kV transformers with 2x 500MVA transformers and utilize the replaced 2x315MVA transformers as regional spare; location to keep the spare shall be decided later

#### 13. Extension of 400/220kV Substation at Trissur

i. Conversion of 50MVAR line reactors at Madakathara end on both circuits of Ellapally (palakkad) – Madakathara (North Trissur) 400kV D/C line into switchable reactors by providing necessary switching arrangement.

#### Reactive Compensation (already covered above)

#### Bus Reactor (400kV)

i. Conversion of 50MVAR line reactors at Madakathara end on both circuits of Ellapally (palakkad) – Madakathara (North Trissur) 400kV D/C line into switchable reactors by providing necessary switching arrangement.



# ii. 2x125MVAR Bus reactors at Vijayawada 400kV substation

6. The details of assets filed by petitioner in various petition and in the instant petition are as

under:

SI. No.	Name of Asset	SCOD	Actual COD	Covered in Petition No.
1	1x500MVA, 400/220kV ICT at Malekuttaiayur Substation along with associated bays and equipments.		Mar'16	
2	1x500MVA, 400/220kV ICT at Somanahalli Substation along with associated bays and equipments.		Aug'16	23/TT/2016
3	1x500MVA,400/220kV ICT at Mysore Substation along with associated bays and equipments		Sept'16	
4	01x125MVAr 400kV Bus Reactor-3 along with associated bays and equipment at Vijayawada S/S, 01x500MVA 400/220kV ICT-3 along with associated bays and equipment each at Hyderabad (Ghanapur) and Vijayawada S/S: Asset-I		27.03.2017 (Actual)	
5	01x125MVAr 400kV Bus Reactor-4 along with associated bays at Vijayawada S/S: <b>Asset-II</b>		02.04.2017 (Actual)	
6	1x500MVA,400/220kV ICT along with associated bays and equipments at Pugalur S/S: Asset-III		31.03.2017 (Actual)	
7	Conversion of 50MVAR line reactors at Madakathara end on both circuits of Ellapally (Palakkad)–Madakathara(North Trissur) 400KV D/c line into switchable reactors by providing necessary switching arrangement: <b>Asset-IV</b>	04.02.2017	28.03.2017 (Actual)	176/TT/2017
8	1x500MVA,400/220kV ICT along with associated bays and equipments at Trichy S/S: <b>Asset-V</b>		10.06.2017 (Actual)	
9	Replacement of existing 1x315MVA 400/220KV transformer with 1x 500MVA transformer and utilize the replaced 1x315MVA transformer as regional spare at Narendra S/S: <b>Asset-VI (A)</b>		14.12.2017 (Actual)	
10	Replacement of existing 1x315MVA 400/220KV transformer with 1x 500MVA transformer and utilize the replaced 1x315MVA transformer as regional spare at Narendra S/S: <b>Asset-VI (B)</b>		16.04.2018 (Actual)	
11	Asset-I (a) 1 No. 400/220 kV 500 MVA ICT-3 along with associated bays and equipment at Khammam S/S and 1 No. 400/220 kV 500 MVA ICT-3 along with associated bays and equipment at Warrangal S/S		28.06.2018 (Actual)	Current
12	Asset-I (b) 01x500MVA, 400/220/33 kV ICT and associated bays at Gooty S/S		01.07.2018 (Actual)	petition
13	Asset-I (c) 01x500MVA, 400/220/33/ kV ICT and associated bays and equipments at 400/220 kV Kadapa S/S		01.10.2018 (Actual)	

7. Annual Fixed Cost was allowed for the instant transmission asset vide order dated 9.1.2019 under the proviso (i) to Regulation 7(7) of the 2014 Tariff Regulations for inclusion in the PoC charges.

			(t in lakh)
Particulars	Asset-I(a)	Asset-I(b)	Asset-I(c)
	2018-19	2018-19	2018-19
	(pro-rata)	(pro-rata)	(pro-rata)
Depreciation	186.61	99.14	72.02
Interest on Loan	193.61	97.74	76.60
Return on Equity	207.93	110.46	80.24
Interest on Working Capital	21.03	10.74	7.66
O&M Expenses	177.16	87.61	58.41
Total	786.34	405.69	294.93

8. The details of the Annual Fixed Cost claimed by the petitioner are as under:-

9. The details of the interest on working capital claimed by the Petitioner are as under:-

Particulars	Asset-I(a)	Asset-I(b)	Asset-I(c)
	2018-19	2018-19	2018-19
	(pro-rata)	(pro-rata)	(pro-rata)
Maintenance Spares	35.04	17.52	17.52
O & M expenses	19.47	9.74	9.74
Receivables	172.82	90.15	98.31
Total	227.33	117.41	125.57
Rate of Interest	12.20%	12.20%	12.20%
Interest	27.73	14.32	15.32
Pro-rata interest	21.03	10.74	7.66

#### (₹ in lakh)

10. The petitioner has served the petition on the respondents and notice of this application 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 notices published by the petitioner under Section 64 of the Electricity Act, 2003. The Respondent, TANGEDCO has submitted reply dated 4.10.2018. Having heard the representatives of the petitioner present at the hearing and perused the material on record, we proceed to dispose of the petition.

11. This order has been issued after considering the main petition and petitioner's affidavit dated 4.12.2018, 10.12.2018, 25.1.2019, 14.2.2019 and 18.03.2019 TANGEDCO reply dated 4.10.2018 and petitioner's rejoinder to the reply to TANGEDCO dated 10.12.2018.

## Date of commercial operation (COD)

12. The petitioner had initially claimed the COD of the assets "1x500MVA, 400/220kV/33 ICT and associated bays each at Warangal S/S, Khammam S/S, Gooty S/S and Kadapa S/S" on anticipated basis as 15.7.2018. The petitioner vide affidavit dated 4.12.2018 has split the asset into three parts i.e. Asset-I (a), Asset-I (b) and Asset-I (c) and claimed the actual COD of the Assets as under:-

Asset No.	Asset Name	Actual COD
Asset-I (a)	1 No. 400/220 kV 500 MVA ICT-3 along with associated bays and equipment at Khammam S/S and 1 No. 400/220 kV 500 MVA ICT-3 along with associated bays and equipment at Warrangal S/S	28.06.2018 (Actual)
Asset-I (b)	01x500MVA, 400/220/33 kV ICT and associated bays at Gooty S/S	01.07.2018 (Actual)
Asset-I (c)	01x500MVA, 400/220/33/ kV ICT and associated bays and equipments at 400/220 kV Kadapa S/S	01.10.2018 (Actual)

13. In support of the actual COD of the assets the petitioner has submitted CEA Energisation Certificates dated 28.6.2018, 14.5.2018, 21.6.2018, 27.9.2018, RLDC charging certificates dated 5.7.2018, 25.6.2018, 5.7.2018, 9.10.2018 and CMD certificate as required under Grid Code. Taking into considering the CEA Energisation Certificate, RLDC charging Certificate and CMD Certificate, the COD of the Asset-I (a), Asset-I (b) and Asset-I (c) has been approved as 28.6.2018, 1.7.2018 and 1.10.2018 respectively. The tariff has been worked out from COD to 31.3.2019.

## **Capital Cost**

14. Clause (1) and (2) of Regulation 9 of the 2014 Tariff Regulations provide as follows:-

"(1) The Capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of 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) Increase in cost in contract packages as approved by the Commission;

(d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;

(e) Capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;

(f) Expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations; 39

(g) Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and

(h) Adjustment of any revenue earned by the transmission licensee by using the assets before COD."

15. The petitioner, vide affidavit(s) dated 10.12.2018 and 15.2.2019, has submitted the Auditor Certificates dated 08.08.2018, 26.9.2018 and 31.12.2018 along with revised tariff forms for the subject assets based on actual COD. The details of approved apportioned cost, capital cost as on the date of commercial operation and estimated additional capital expenditure incurred or projected to be incurred during 2018-19 and 2019-20 are given under:-

(₹ in lakh)

Asset	ApportionedApportionedApprovedApproved		Cost as on	<ul> <li>Projected additional</li> <li>capital Expenditure</li> </ul>		Estimated Completion
	Cost (FR)	Cost (RCE)	COD	2018-19	2019-20	Cost
Asset-I(a)	4358.31	5724.16	4403.64	564.15	303.77	5271.56
Asset-I(b)	2321.16	3195.94	2302.22	429.15	183.92	2915.29
Asset-I(c)	2321.16	3139.44	2714.67	31.88	230.30	2976.85
Total	9000.63	12059.54	9420.53	1025.18	717.99	11163.70

16. The capital cost certified by the Auditor is as per the audited books of account of Power grid, SRTS-I for the period up to 31.03.2018 and from 01.04.2018 to till COD of the respective assets as per books of accounts of SRTS-I. The auditor further certified that the entire Additional capital expenditure for all the assets are in accordance with the statement furnished by the Management of the company.

17. It is difficult to reconcile the capital cost between the auditor certificate and the cost mentioned in Form- 4A and Form- 7 as the liability amount is not mentioned in auditor certificate. Therefore liability amount mentioned in tariff form 4A is relied upon to determine the allowable cost. The petitioner is directed to submit the Auditor certificate by clearly mentioning the liability amount and whether the certified cost is inclusive of liability or exclusive of liability at the time of true up for 2014-19 period.

#### **Cost Variation**

18. The petitioner filed the petition based on anticipated COD and claimed completion cost of ₹ 11089 lakh. The petitioner had submitted the details of cost variation in form 5 based on the estimated cost as per anticipated COD for the asset. The petitioner has subsequently split the asset in to three separate assets but not provided the Form 5 for the Asset 1(a), Asset 1(b) and Asset 1(c) based on the actual cost as per actual COD. The petitioner vide affidavit

dated 14.02.2019 has submitted the asset wise apportioned approved as per Investment approval and RCE as shown above. As compared with apportioned approved cost (FR cost), the estimated completion cost based on actual COD is beyond the approved cost.

19. The petitioner has submitted that the variation w.r.t FR in cost is mainly due to change in price levels of awarded packages through competitive bidding on combined basis. The petitioner has submitted that the reasons for item wise cost variation between approved costs (FR), approved cost (RCE) are mainly due to increase of around ₹ 220 lakh in the cost of foundation for structures based on actual site conditions, Increase of around ₹ 200 lakh in the cost of Switchgear Equipments as per actual awarded rates received, Increase in the cost of Transformers by ₹ 830 lakh due to increase in the awarded rates as compared to rates considered in FR, Increase in the cost of Bus Bars/ conductors/Insulators by ₹ 740 lakh due to increase in the awarded rates as in the cost by ₹600 lakh on account of work done under MOU's with TRANSCO for interconnection between 220 kV Gantry of existing Gooty, Kadappah and Khammam substations of POWERGRID with adjacent 220kV buses in respective existing TSTRANSCO & APTRANSCO 220 kV switchyards. These 220kV Bays were not quantified during preparation of FR and Increase in the spares cost by ₹ 170 lakh as per actual site requirement.

20. The petitioner further submitted that a well laid down procurement policy has been followed which ensures both transparency and competitiveness in the bidding process. Route of Domestic Competitive Bidding (DCB) process has been followed to award this project. Through this process, lowest possible market prices for required product/services/as per detailed designing is obtained and contracts are awarded on the basis of lowest evaluated eligible bidder. The best competitive bid prices against tenders may vary as compared to the cost estimate depending upon prevailing market conditions, design and site requirements. Whereas, the estimates are prepared by the petitioner as per well-defined procedures for cost

estimate. The FR cost estimate is broad indicative cost worked out generally on the basis of average unit rates of recently awarded contracts/general practice.

21. The respondent, TANGEDCO has submitted that the delay in execution of work warranted the increase in the estimated amount and the Petitioner has given unacceptable reasons for delay in execution such as delay in supply of ICTs and delay in getting clearance from substations. Hence the Commission may dismiss the increase in estimate cost arbitrarily adopted by the Petitioner.

22. We have considered the submissions of the petitioner and respondent with regard to cost variation. It is observed that the petitioner has revised the apportioned approved cost as ₹ 5724.16 Lakh, ₹ 3195.94 Lakh, and ₹ 3139.44 Lakh (as per RCE) against which the petitioner has claimed estimated completion cost of ₹ 5271.56 Lakh, ₹ 2915.29 Lakhs, and ₹2976.85 Lakhs for asset 1(a), Asset 1(b) and Asset 1(c) respectively. Therefore, as compared with revised apportioned approved cost (RCE cost) of the individual assets, the estimated completion cost based on actual COD is within apportioned approved cost. Accordingly, the cost variation is allowed. However, the petitioner is directed to submit the Form 5 based on the actual Cost at the time of true up. The cost overrun for the individual asset shall be reviewed at the time of true up.

#### Time over-run:-

23. As per the investment approval, the assets under subject project were scheduled to be commissioned within 30 months from the date of investment approval. Accordingly, the scheduled date of commercial operation works out to 3.2.2017 against which, instant Assets were put under commercial operation on 28.6.2018, 1.7.2018 and 1.10.2018. Hence there is time overrun of 16 months 25 days (510 days), 16 months 28 days (513 days) and 19 months 28 days (605 days) in commissioning of the subject assets.

24. The reasons given by the petitioner for the time over-run are as under:-

- (a) The Award for Procurement of instant ICTs was placed to M/s GE as early as 11.9.2014, immediately 1 month after Investment Approval (IA). However, M/s GE failed to supply the ICTs as per schedule because of manufacturing issues. This had severely affected the petitioners' critical projects commissioning and thus petitioner took a proactive decision of allowing the M/s GE for outsourcing the supply of ICTs to POWERGRID Approved Vendors without any additional burden in the cost. This had led to inordinate delay of around 18 months in the commissioning of the instant ICTs.
- (b) The addition/Augmentation has been carried out in the existing substations. These substations are at major load centers and are carrying sizable portion of load flow. Thus, there were shutdown issues, required for integration/commissioning of the new assets which has resulted in unavoidable time over run.

25. The respondent, TANGEDCO has submitted that the delay in supply of ICTs is a bilateral issue between the Petitioner and the supplier which has no binding on the Respondents. The Petitioner should have recovered Liquidated damages from the supplier and the increase in the estimate cost should not be passed on to the respondents. The respondent, TANGEDCO also submitted that the Petitioner's claim of shut down issues have not been supported by any documentary evidences.

26. The petitioner vide affidavit dated 25.1.2019 has submitted the time overrun details in the prescribed format and the same is as follows:

Asset-I (a) - 01x500MVA, 400/220kV/33 ICT and associated bays each at Warangal S/S and Khammam S/S

## **ICT** at Warangal

SI. No	Activity	As per Schedule		As per Actual		ctual
		From	То	From	То	
1	LOA	11.09.2014	11.09.2014	CC-CS/286	-SR1/SS-	2520/3/G6/ CA-
				II/5035 & 5036 Dated 07.10.2014		07.10.2014
2	Supplies	26.06.2015	26.10.2016	01.	09.2015	24.04.2018
3	Erection	14.04.2015	26.12.2016	01.	01.2016	30.06.2018
4	Testing and commissioning	26.12.2016	02.02.2017	04.	06.2018	25.06.2018

## **ICT** at Khammam

SI. No	Activity	As per Schedule		A	s per Actual
		From	То	From	То
1	LOA	11.09.2014	11.09.2014	I/5035 Date	SS-2520/3/G6/CA-
2	Supplies	26.06.2015	26.10.2016	07.04.2015	14.03.2018
3	Erection	14.04.2015	26.12.2016	01.09.2015	20.05.2018
4	Testing and commissioning	26.12.2016	02.02.2017	20.04.2018	26.05.2018

# Asset-I (b) – ICT at Gooty

SI. No	Activity	As per Schedule		As per Actual	
		From	То	From	То
1	LOA	11.09.2014	11.09.2014	CC-CS/28	6-SR1/SS-2520/3/G6/CA-
				II/5035 8	& 5036 Dated 07.10.2014
2	Supplies	26.06.2015	26.10.2016	01.06.2015	16.05.2018
3	Erection	14.04.2015	26.12.2016	01.07.2015	24.06.2018
4	Testing and	26.12.2016	02.02.2017	01.03.2018	28.06.2018
	commissioning				

# Asset-I (c) – ICT at Cuddapah

SI. No	Activity	As per Schedule		A	s per Actual
		From	То	From	То
1	LOA	11.09.2014	11.09.2014	I/5035 Date	SR1/SS-2520/3/G6/CA- ed 07/10/14 & CC- I/SS-2520/3/G6/CA- d 07/10/14
2	Supplies	26.06.2015	26.10.2016	15.06.2015	14.08.2018
3	Erection	14.04.2015	26.12.2016	01.09.2015	21.09.2018
4	Testing and	26.12.2016	02.02.2017	22.09.2018	28.09.2018



	commissioning				
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27. We have considered the submissions of the petitioner and respondent. The petitioner has attributed the time overrun to the supplier i.e. M/s GE who failed to supply the ICTs as per schedule. This had severely affected the commissioning of other critical projects of the petitioner thus petitioner took a proactive decision of allowing M/s GE for outsourcing the supply of ICTs to Approved Vendors of petitioner without any additional burden in the cost. The delay for subject assets is in line with the clause 12(1) i.e. "controllable factors" of 2014 Tariff Regulations.

28. Regulation 12 of CERC Regulations, 2014 is read as under:

(1) The "controllable factors" shall include but shall not be limited to the following:
(a) Variations in capital expenditure on account of time and/or cost over-runs on account of land acquisition issues;
(b) Efficiency in the implementation of the project not involving approved change in scope of such project, change in statutory levies or force majeure events; and
(c) Delay in execution of the project on account of contractor, supplier or agency of the generating company or transmission licensee.

29. Accordingly, petitioner's prayer for condonation of delay is not acceptable. Thus, the time overrun of 510 days, 513 days and 605 days in respect of Asset-I (a), Asset-I(b) and Asset-I(c) are not condoned.

#### Interest during Construction (IDC)

30. The petitioner has claimed IDC of ₹ 271.86 lakh for Asset I(a), ₹151.13 lakh for Asset I(b) and ₹183.83 lakh for Asset I(c) and has submitted the Auditor's certificate in support of the same. The petitioner has submitted IDC computation statement which shows the discharge details of IDC given below:-

				(₹ in lakh)
Asset	IDC As per Auditor certificate	IDC Discharged upto COD	IDC Discharged in 2018-19	IDC Discharged in2019-20
Asset-I (a)	271.86	222.64	48.44	0.78
Asset-I (b)	151.13	127.03	21.79	2.31
Asset-I (c)	183.84	181.14		2.70

31. The statement showing IDC consist of the name of the loan, drawl date, loan amount, interest rate and Interest claimed. While going through the IDC statement we have observed that the petitioner has not specified the interest rate for SBI loan instead mentioned as floating rate. The documents submitted for interest rate are not providing how the drawal wise interest rate has been arrived in the computation. Thus for the purpose of determination of allowable IDC, the interest rate as mentioned in Form 9C against the SBI loan has been considered.

32. Further the loan portfolio as mentioned in IDC statement for all the instant assets are higher than the loan amount as on COD as shown in Form 9C and Form 6., which leads to consideration of higher loan amount for IDC and lesser loan amount to determine the debt-Equity Ratio. Hence, for the purpose of determination of allowable IDC, the loan amount as mentioned in Form 9C has been considered for all the assets.

33. The petitioner is directed to submit the detailed IDC statement by rectifying the above mentioned deviation, at the time of true up of 2014-19. Based on the available information, IDC is being worked out and allowed after considering the time over run period which was not condoned. The IDC claimed and allowed are shown below:-

				(₹ in lakh	)
Asset	IDC claimed as per Auditor certificate dated 09.08.2018	IDC Disallowed due to time overrun and computational difference	IDC Allowed on accrual basis	IDC Allowed on cash basis as on COD	Un-discharged IDC liability as on COD
	1	2	3=(1-2)	4	5=(3-4)
Asset-I (a)	271.86	185.90	85.96	85.96	0.00
Asset-I (b)	151.13	113.03	38.10	38.10	0.00
Asset-I (c)	183.84	105.17	78.67	78.67	0.00

#### Incidental Expenditure During Construction (IEDC)

34. In the instant project, 10.75% of hard cost is indicated as IEDC in the abstract cost estimate. The claimed IEDC as on COD is within the percentage on hard cost as indicated in



the abstract cost estimate for all the assets.

35. IEDC for the disallowed time over run period of the concerned asset has been disallowed. Accordingly, IEDC claimed and allowed for determination of tariff in respect of instant assets is tabulated below:-

				(₹ in lakh)
	IEDC claimed	IEDC due	disallowed to time	IEDC allowed as on COD
		overru	IN	
Asset-1(a)	294.48		105.47	189.01
Asset-1(b)	142.80		51.34	91.46
Asset-1(c)	227.41		90.57	136.84

#### Initial spares

36. This has been dealt in line with Regulation 13 of the 2014 Tariff Regulations. The petitioner has claimed initial spares as per Auditor certificate for the instant assets as shown below:-

		(₹ in Lakh)
	Plant & Machinery Cost	Initial Spares Claimed
Asset-I(a)	4705.22	193.41
Asset-I (b)	2621.36	92.60
Asset-I (c)	2565.61	92.60

37. The Auditor certificate does not clarifies, when the capitalization of initial spare has been made in the books of account. Commission vide Rop dated 19.02.2019 has directed the petitioner to submit the year wise capitalization and discharge details of initial spare for all the assets. Petitioner vide affidavit dated 18.03.2019 has submitted the following information as year wise capitalization and discharge of initial spare but has not details of the initial spares which is tabulated below:-

			(₹ i	n Lakh)
	COD	Up to COD	2018-19	Total
Asset-I (a)	28.6.2018	186.58	6.83	193.43
Asset-I (b)	1.7.2018	79.45	13.15	92.60
Asset-I (c)	1.10.2018	34.78	57.82	92.60

38. The above table shows that the total amount of initial spare mentioned in Auditor certificate has been partly shown for the period up to COD and the remaining amount against the year 2018-19. However, the petitioner in form 7 has not claimed any amount under Regulation 14(1) (iii) towards initial spare for the year 2018-19. Therefore it is not clear

whether the initial spare shown for the year 2018-19 is claimed as discharge of liability or claimed as fresh capitalization by addition into gross block. The petitioner is directed to clarify the same at the time of true up. The substations of all the assets are brown field substation and the initial spare claimed are within the ceiling limit of the 2014 Tariff Regulations. Thus, no initial spares have been reduced from the capital cost as on COD.

## Capital cost as on COD

39. Based on the above, the capital cost allowed as on COD under Regulation 9(2) of the 2014 Tariff Regulations is summarized as under:-

Asset	Capital Cost claimed as on COD (A)	IDC Dis- Allowed due to time overrun not condoned (B)	Un- discharged IDC liability (C)	IEDC disallowed due to time overrun (D)	Capital Cost as on COD considered for tariff calculation (E)=A-B-C-D
Asset-I(a)	4403.64	185.90	0.00	105.47	4112.28
Asset-I(b)	2302.22	113.03	0.00	51.34	2137.85
Asset-I(c)	2714.67	105.17	0.00	90.57	2518.94

#### (₹ in Lakh)

## Additional Capital Expenditure (ACE)

40. The cut-off date for the instant assets is 31.3.2021 as per Clause (13) of Regulation 3 of the 2014 Tariff Regulations. The claim of additional capital expenditure has been dealt in accordance with Regulation 14. The ACE claimed as per Auditor certificate during 2018-19 is ₹ 564.15 lakh for Asset-I (a), ₹ 429.15 lakh for Asset-I (b) and ₹ 31.88 lakh for Asset-I (c) on projected basis. However, for the purpose of tariff the petitioner in Form 7 has claimed the ACE as ₹ 612.59 lakh for Asset-I (a), ₹ 450.94 lakh for Asset-I (b) and ₹ 31.88 lakh for Asset-I (c) against balance and retention payment and IDC liability. The petitioner in form 7 has not claimed any amount towards initials spare.

41. The entitled un-discharged IDC liability as on COD for all the assets are nil. Therefore the amount claimed towards discharge of IDC liability are not been allowed. The amount claimed towards balance and retention payments are allowed as discharge of liability under Regulation 14(1) (i). The allowed Additional Capital expenditure are summarized below which is subject to true up.

				(₹ in lak	(h
Allowed Add-cap	Regulation	Asset-1(a)	Asset-1(b)	Asset-1(c)	
Allowed Add-cap	Regulation	2018-19	2018-19	2018-19	
Discharge of Liability on Hard Cost	14(1)(i)	564.15	429.15	31.88	
Add cap to the extent of unexecuted work	14(1)(ii)	0.00	0.00	0.00	
Discharge of un discharge liabilities-IDC.	14(1)(i)	0.00	0.00	0.00	
Total allowed add-cap	564.15	429.15	31.88		

## Capital cost as on 31.3.2019

42. The capital cost considered for the purpose of computation of tariff is as follows:-

			(₹ in lakh)
	Capital Cost Allowed as on COD	ACE allowed for 2018-19	Total Estimate Completion Cost as on 31.3.2019
Asset-I (a)	4112.28	564.15	4676.43
Asset-I (b)	2137.85	429.15	2567.00
Asset-I (c)	2518.94	31.88	2550.82

## Debt-Equity Ratio

43. Debt: Equity Ratio is considered as per Regulation 19 of the 2014 tariff Regulations. The financial package up to COD as submitted in form 6 has been considered to determine the debt equity Ratio. The capital cost allowed as on the date of commercial operation arrived at as above and additional capitalization allowed have been considered in the debt-equity ratio of 70:30. The debt-equity as on dates of commercial operation and 31.3.2019 considered on normative basis are as under:

Asset-I (a)					
Particular	Particular Capital cost as on COD Capital cost as on 31.3.2019				
	Amount	%	Amount	%	
Debt	2878.60	70.00	3273.50	70.00	
Equity	1233.68	30.00	1402.92	30.00	
Total	4112.28	100.00	4676.43	100.00	





#### (₹ in lakh)

Asset-I (b)								
Particular	Capital cost as on COD Capital cost as on 31.3.2019					Capital cost as on COD		as on 31.3.2019
	Amount	%	Amount	%				
Debt	1496.50	70.00	1796.91	70.00				
Equity	641.35	30.00	770.09	30.00				
Total	2137.85	100.00	2567.00	100.00				

## (₹ in lakh)

Asset-I (c)								
Particular	Capital cost as on COD Capital cost as on 31.3.2019					Capital cost as on COD		as on 31.3.2019
	Amount	%	Amount	%				
Debt	1763.26	70.00	1785.57	70.00				
Equity	755.68	30.00	765.24	30.00				
Total	2518.94	100.00	2550.82	100.00				

#### Return on Equity

44. The petitioner has submitted that RoE has been calculated at the rate of 19.610% after grossing up the RoE with MAT rate of 20.961% as per the above Regulations. The petitioner has further submitted that the grossed up RoE is subject to truing up based on the effective tax rate of respective financial year applicable to the petitioner company.

45. We have considered the submissions made by the petitioner and Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations.

46. Accordingly, the RoE allowed is as follows:-

		(₹ in la	kh)
Particulars	Asset-I(a)	Asset-I(b)	Asset-I(c)
	0010 10	0010.10	0010 10
	2018-19	2018-19	2018-19
Opening Equity	1233.68	641.35	755.68
Addition due to Additional Capitalisation	169.24	128.74	9.56
Closing Equity	1402.92	770.09	765.24
Average Equity	1318.30	705.72	760.46
Return on Equity (Base Rate )	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax )	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	196.19	103.89	74.36

## Interest on Ioan (IOL)

47. The IoL has been calculated as per the provisions of Regulation 26 of the 2014 Tariff Regulations as detailed below:-

- a) The Gross Normative loan has been considered as per the Loan amount determined based on the debt equity ratio applied on the allowed capital cost.
- b) The depreciation of every year has been considered as Normative repayment of loan of concerned year;
- c) The weighted average rate of interest on actual loan portfolio has been worked out by considering the Gross amount of loan, repayment & rate of interest as mentioned in the petition, which has been applied on the normative average loan during the year to arrive at the interest on loan.

48. The petitioner has submitted that the IoL has been claimed on the basis of rate prevailing as on COD and the change in interest due to floating rate of interest applicable, if any, needs to be claimed/ adjusted over the tariff block 2014-19. We have calculated IoL on the basis of rate prevailing as on the date of commercial operation. Any change in rate of interest subsequent to the date of commercial operation will be considered at the time of truing-up.

49. Based on above, details of IOL calculated are as follows:-

	(₹ in lakh)			
Particulars	Asset-I(a)	Asset-I(b)	Asset-I(c)	
	2018-19 (pro-rata)	2018-19 (pro-rata)	2018-19 (pro-rata)	
Gross Normative Loan	2878.60	1496.50	1763.26	
Cumulative Repayment up to previous Year	0.00	0.00	0.00	
Net Loan-Opening	2878.60	1496.50	1763.26	
Addition due to Additional Capitalization	394.91	300.41	22.32	
Repayment during the year	176.08	93.24	66.74	
Net Loan-Closing	3097.42	1703.67	1718.84	
Average Loan	2988.01	1600.09	1741.05	
Weighted Average Rate of Interest on Loan	8.0561%	7.6525%	8.1769%	
Interest on Loan	182.68	91.92	70.99	

## **Depreciation**

50. Depreciation has been dealt with in line of Regulation 27 of 2014 Tariff Regulations. The instant transmission Asset was put under commercial operation during 2018-19. Accordingly, it will complete 12 years after 2018-19. As such, depreciation has been calculated annually based on Straight Line Method at the rates specified in Appendix-II to the 2014 Tariff Regulations. Details of the depreciation allowed are as under:-

(₹	in	lakh)
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Particulars	Asset-I (a)	Asset-I (b)	Asset-I (c)
	2018-19	2018-19	2018-19
	(pro-rata)	(pro-rata)	(pro-rata)
Opening Gross Block	4112.28	2137.85	2518.94
Additional Capital Expenditure	564.15	429.15	31.88
Closing Gross Block	4676.43	2567.00	2550.82
Average Gross Block	4394.35	2352.43	2534.88
Rate of Depreciation	5.2800%	5.2800%	5.2800%
Depreciable Value	3954.92	2117.19	2281.39
Remaining Depreciable Value	3954.92	2117.19	2281.39
Depreciation	176.08	93.24	66.74

## **Operation and Maintenance Expenses (O&M Expenses):-**

51. The petitioner has claimed O&M expense of ₹ 177.16 lakh for Asset-I (a), ₹ 87.61 lakh for Asset-I (b) and ₹ 58.41 lakh for Asset-I (c) for the year 2018-19. The petitioner has submitted that norms for O&M Expenses for the tariff period 2014-19 have been arrived on the basis of



normalized actual O&M Expenses during the period 2008-13. The petitioner has further submitted that the wage revision of the employees of the petitioner is due during the 2014-19 tariff period and actual impact of wage hike, which will be effective at a future date, has not been factored in fixation of the normative O&M rate specified for the tariff period 2014-19. The petitioner has submitted that it would approach the Commission for suitable revision in norms for O&M Expenses for claiming the impact of wage hike during 2014-19, if any.

52. Norms for O&M expenditure for Transmission System have been specified under section 29 (4) of Tariff Regulation are as follows:-

## (₹ in lakh)

Element	2018-19	
400 kV Bay	68.71	
220 kV Bay	48.10	

53. We have considered the submissions made by the petitioner. The O&M Expenses have been worked out as per the norms of O&M Expenses specified in the 2014 Tariff Regulations. Accordingly, the allowed O&M Expenses for the year 2018-19 is given below:-

(₹ in lakh)		
Details		2018-19 (pro-rata)
Asset-I(a) (COD: 28.06.2018)		
2 No 400 kV Bay		104.16
2 No 220 kV bay		73.00
	Total	177.16
Asset-I(b) (COD: 1.07.2018)		
1 No 400 kV Bay		51.51
1 No 220 kV bay		36.10
	Total	87.61
Asset-I(c) (COD: 1.10.2018)		
1 No 400 kV Bay		34.26
1 No 220 kV bay		23.98
	Total	58.24

## Interest on Working Capital (IWC)

54. As per the 2014 Tariff Regulations the components of the working capital and the interest

thereon are discussed hereinafter:-



#### a) Maintenance spares:

Maintenance spares @ 15 % of Operation and Maintenance expenses specified in Regulation 28.

#### b) O & M expenses:

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

#### c) Receivables:

The receivables have been worked out on the basis of 2 months' of annual fixed cost as worked out above.

#### d) Rate of interest on working capital:

As per Clause 28 (3) of the 2014 Tariff Regulations, SBI Base Rate (8.70%) as on 01.04.2018 Plus 350 Bps i.e. 12.20% have been considered as the rate of interest on working capital for the asset.

55. Accordingly, the interest on working capital is summarized as under:-

(₹	in	lakh)
()		anij

Particulars	Asset-I(a)	Asset-I(b)	Asset-I(c)
	2018-19	2018-19	2018-19
	(pro-rata)	(pro-rata)	(pro-rata)
Maintenance Spares	35.02	17.51	17.52
O & M expenses	19.45	9.73	9.73
Receivables	165.25	85.93	92.80
Total	219.72	113.16	120.05
Rate of Interest	12.20%	12.20%	12.20%
Interest	20.34	10.36	7.30

## Annual Fixed Cost

56. In view of the above, the annual transmission charges being allowed for the instant asset is summarized hereunder:-

(₹ in	lakh)
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		•	•
Particulars	Asset-I(a)	Asset-I(b)	Asset-I(c)
	2018-19	2018-19	2018-19
	(pro-rata)	(pro-rata)	(pro-rata)
Depreciation	176.08	93.24	66.74
Interest on Loan	182.68	91.92	70.99
Return on Equity	196.19	103.89	74.36
Interest on Working Capital	20.34	10.36	7.30
O&M Expenses	177.16	87.61	58.24
Total	752.46	387.02	277.63

## Filing Fee and Publication Expenses

57. The petitioner has sought reimbursement of fee paid by it for filing the petition and



publication expenses, in terms of Regulation 52 of the 2014 Tariff Regulations. The petitioner is 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 clause (1) of Regulation 52 of the 2014 Tariff Regulations.

## License Fee and RLDC Fees and Charges

58. The petitioner has requested to allow the petitioner to bill and recover License fee and RLDC fees and charges, separately from the respondents. The petitioner shall be entitled for reimbursement of license fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a), respectively, of Regulation 52 of the 2014 Tariff Regulations.

## **Goods and Services Tax**

59. The petitioner has prayed for reimbursement of tax, if any, on account of proposed implementation of GST. GST is not levied on transmission service at present and we are of the view that petitioner's prayer is premature.

## Sharing of Transmission Charges

60. The transmission charges shall be recovered on monthly basis in accordance with Regulation 43 of the 2014 Tariff Regulations and shall be shared by the beneficiaries and long term transmission customers in Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) Regulations, 2010 as amended from time to time.

61. This order disposes of Petition No. 253/TT/2018.

Sd/-Sd/-Sd/-(I.S.Jha)(Dr. M. K. Iyer)(P. K. Pujari)MemberMemberChairperson

