

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 245/TT/2014

Coram:

**Shri A.S. Bakshi, Member
Dr. M.K. Iyer, Member**

**Date of Hearing : 08.02.2016
Date of Order : 29.02.2016**

In the matter of:

Determination of transmission tariff for 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for **(A)** Nellore Pooling Station-Kurnool 765 kV D/C Line along with associated bays at 765 kV Nellore Pooling Station and Kurnool Sub-station and **(B)** 240 MVAR, 765 kV line reactor at Nellore end of one circuit and at Kurnool end both circuits of Nellore- Kurnool 765 kV line under "Common System associated with ISGS projects in Krishnapatnam area of Andhra Pradesh" in Southern Region, under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

And in the matter of:

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

.....**Petitioner**

Versus

1. Karnataka Power Transmission Corporation Ltd.
Kaveri Bhawan, Bangalore-560009
2. Transmission Corporation of Andhra Pradesh Ltd.
(APTRANSCO), Vidyut Soudha
Hyderabad-500082
3. Kerala State Electricity Board (KSEB)
Vaidyuthi Bhavanam, Pattom
Thiruvananthapuram-695004



4. Tamil Nadu Electricity Board
NPKRR Maaligai, 800, Anna Salai
Chennai- 600002
5. Electricity Department
Government of Goa
Vidyuti Bhawan, Panaji
Goa- 403001
6. Electricity Department
Government of Pondicherry
Pondicherry- 605001
7. Eastern Power Distribution Company of Andhra Pradesh Ltd. (APEPDCL), P&T Colony, Seethmmadhara, Vishakhapatnam, Andhra Pradesh
8. Southern Power Distribution Company of Andhra Pradesh (APSPDCL)
Srinivasasa Kalyana Mandapam Backside
Tiruchanoor Road, Kesavayana Gunta
Tirupati- 517 501
9. Central Power Distribution Company of Andhra Pradesh (APCPDCL), Mint Compound, Hyderabad- 500 063
10. Northern Power Distribution Company of Andhra Pradesh Limited, Chaitanyapuri, Kazipet
Warangal- 506 004
11. Bangalore Electricity Supply Company Ltd. (BESCOM)
Corporate Office, K. R. Circle
Bangalore- 560 001
12. Gulbarga Electricity Supply Company Ltd. (GESCOM), Station Main Road, Gulbarga
13. Hubli Electricity Supply Company Ltd. (HESCOM), Navanagar, P B Road
Hubli, Karnataka
14. MESCOM Corporate Office
Paradigm Plaza, AB Shetty Circle
Mangalore- 575 001



15. Chamundeswari Electricity Supply Corporation Ltd. (CESC), New Kantharaj Urs Road, Saraswatipuram, Mysore-570 009

.....**Respondents**

The following were present:

For Petitioner : Shri Rakesh Prasad, PGCIL
Shri Jasbir Singh, PGCIL
Shri Subhash C.Taneja , PGCIL
Shri S.S. Raju, PGCIL
Shri M.M. Mondal, PGCIL
Shri S.K. Venkatesan, PGCIL

For Respondent: Shri S. Vallinayagam, Advocate, TANGEDCO

ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. ("the petitioner") for determination of tariff for **(A)** Nellore Pooling Station-Kurnool 765 kV D/C Line along with associated bays at 765 kV Nellore Pooling Station and Kurnool Sub-station and **(B)** 240 MVAR, 765 kV line reactor at Nellore end of one circuit and at Kurnool end both circuits of Nellore- Kurnool 765 kV line under "Common System associated with ISGS projects in Krishnapatnam area of Andhra Pradesh" in Southern Region (hereinafter referred as "the transmission asset") under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations") for the period from 1.4.2014 to 31.3.2019.



2. The respondents are mostly distribution licensees and transmission licensees who are procuring transmission service from the petitioner, mainly beneficiaries of Southern Region.

3. The petitioner has served the petition to the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of Electricity Act, 2003 ("the Act"). No comments have been received from the public in response to the notices published by the petitioner under Section 64 of the Act. The hearing in this matter was held on 8.2.2016. Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO), Respondent No.4 has filed a reply vide affidavit dated 13.1.2015. In response, the petitioner has submitted the rejoinder vide affidavit dated 23.2.2015 to the reply filed by TANGEDCO. The petitioner has submitted additional information vide affidavit dated 9.2.2016 and 13.2.2016. The petitioner has also filed additional information vide affidavit dated 18.2.2016 and has claimed additional ROE of 0.5% for the transmission assets. The concerns expressed by respondents are being addressed in the respective paras of this order. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

4. The brief facts of the case are as follows:-

(a) The investment approval for the project was approved by Board of Directors of the petitioner company vide letter dated 4.8.2011 at an estimated cost of ₹163734 lakh including IDC of ₹10228 lakh. Subsequently, the Revised Cost Estimate (RCE) of ₹185939 lakh



including IDC of ₹15736 lakh was approved by Board of Directors vide Memorandum Ref. C/CP/RCE-ISGS dated 20.4.2015. The petitioner has developed the transmission asset under “Common System associated with ISGS projects in Krishnapatnam area of Andhra Pradesh in Southern Region”. The transmission asset was put under commercial operation w.e.f. 1.11.2014. The revised approved apportioned cost for the transmission asset is ₹136213.08 lakh.

(b) The scope of work covered under the project is as follows:-

Transmission Lines

- (i) LILO of both circuits of SEPL/MEPL-Nellore 400 kV D/C (Quad) line at Nellore Pooling Station
- (ii) Nellore Pooling Station – Kurnool 765 kV D/C line
- (iii) Kurnool – Raichur 2nd 765 kV S/C line

Sub-stations

- (i) Establishment of new 2 x 1500 MVA, 765/400 kV Sub-stations at Nellore
- (ii) Extension of Kurnool 765/400 kV Sub-station
- (iii) Extension of Raichur 765/400 kV Sub-station

Line Reactors

- (i) 1 x 240 MVAR, 765kV bus reactors at new 765/400 kV Nellore Sub-station
- (ii) 240 MVAR, 765 kV line reactors at each end of both circuits of Nellore-Kurnool 765 kV line.

(c) The petitioner initially claimed for the instant assets based on the anticipated COD of 1.10.2014. Later, vide affidavit dated 9.2.2016, has submitted that the actual DOC as 1.11.2014 and accordingly submitted the revised capital cost and tariff forms for the 2014-19 tariff period.



- (d) The transmission system was scheduled to be commissioned within 36 months from the date of investment approval dated 4.8.2011. Therefore, the scheduled date of commissioning (SCOD) of the transmission system works out to 3.8.2014 against which the transmission asset was put under commercial operation with effect from 1.11.2014. There is a time over-run of 3 months.
- (e) The AFC from anticipated COD (1.10.2014) to 31.3.2016 was allowed for the instant transmission asset vide order dated 17.12.2014 in Petition No. 245/TT/2014 under Regulation 7(7) of the 2014 Tariff Regulations for inclusion in the PoC charges.
- (f) The petitioner has submitted the trial operation certificate issued by SRLDC as per Regulation 5(2) of the 2014 Tariff Regulations vide affidavit dated 13.2.2016, to substantiate the date of commercial operation of the asset.

DETERMINATION OF ANNUAL TRANSMISSION CHARGES FOR 2014-19

5. The petitioner has claimed revised transmission charges as under:-

Particulars	(₹ in lakh)				
	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	2680.81	6753.87	6980.23	7066.89	7066.89
Interest on Loan	2975.16	7101.12	6764.64	6243.38	5613.74
Return on equity	3094.03	7796.26	8057.74	8157.41	8157.41
Interest on Working Capital	216.57	535.95	540.68	534.27	521.11
O & M Expenses	274.42	680.40	702.88	726.32	750.47
Total	9240.99	22867.60	23046.17	22728.27	22109.62



6. The details submitted by the petitioner in support of its claim for interest on working capital are given hereunder:-

(₹ in lakh)					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	98.79	102.06	105.43	108.95	112.57
O & M Expenses	54.88	56.70	58.57	60.53	62.54
Receivables	3696.39	3811.27	3841.03	3788.05	3684.94
Total	3850.06	3970.03	4005.03	3957.53	3860.05
Rate of Interest	13.50	13.50	13.50	13.50	13.50
Interest	519.76	535.95	540.68	534.27	521.11
Pro-rata Interest	216.57	535.95	540.68	534.27	521.11

Capital Cost

7. Regulations 9 and 10 of the 2014 Tariff Regulations specify as follows:-

“9. Capital Cost: (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;
- 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.

...

(6) The following shall be excluded or removed from the capital cost of the existing and new project:



- a) The assets forming part of the project, but not in use;
- b) Decapitalisation of Asset;
- c) In case of hydro generating station 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 two stage transparent process of bidding; and
- d) the proportionate cost of land which is being used for generating power from generating station based on renewable energy:
 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;

10. Prudence Check of Capital Expenditure: The following principles shall be adopted for prudence check of capital cost of the existing or new projects:

(1) In case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out taking into consideration the benchmark norms specified/to be specified by the Commission from time to time: Provided that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the capital expenditure, financing plan, interest during construction, incidental expenditure during construction for its reasonableness, use of efficient technology, cost over-run and time over-run, competitive bidding for procurement and such other matters as may be considered appropriate by the Commission for determination of tariff.”

8. The petitioner has claimed the following capital cost and additional capital expenditure for the instant assets:-

Approved apportioned cost: ₹ 136213.08 lakh						
Name of the element	Expenditure upto COD	Additional Capitalization				Total estimated completion cost
		2014-15 (Pro-rata)	2015-16	2016-17	Total Additional capitalization	
Asset	118837.30	6876.17	5328.85	3282.45	15487.47	134324.77

Cost Variation

9. The petitioner initially claimed the tariff for the instant asset based on the anticipated COD. The petitioner claimed capital cost of ₹121422 lakh as on COD, whereas the approved apportioned cost of the instant asset was ₹107914 lakh.



As the claim made by the petitioner was more than the approved apportioned cost, TANGEDCO raised the issue of increase in cost in its reply. The petitioner in its rejoinder has submitted the following reasons for the cost increase vide affidavit dated 23.2.2015:-

- a) Price Variation (PV) - It is submitted that, PV of approx. ₹17700 lakh from FR (i.e. 1st quarter of 2011) upto 2014 is due to inflationary trends prevalent at the time of bidding process of various packages. The trend of variation in indices of various major raw materials is as indicated below:

Name of Indices	Increase % from March 2011 to March 2014
Tower Steel	9.28
HG Zinc	23.7
EC Grade Al	2.58
Copper	-6.28
Insulating Oil (TOBS)	46.53
CPI	29.19
WPI for ferrous metals	11.99
WPI for HSD	50.52
WPI for Cement & Lime	6.77

- b) The price variation can be bifurcated to two parts i.e. one from FR to award of various contract and other from contract to final execution. In regard to PV from FR cost, contracts for various packages are awarded at to the lowest evaluated responsive bidder on basis of open competitive bidding. The PV from award to final execution is mainly on basis of PV based on indices.
- c) Variation in Quantities- Line length, type of various towers and foundations in FR were estimated on basis of walk-over preliminary survey. However,



during execution of projects there has been increase in cost by approx. 800 lakh due to increase in quantity of concrete volume, reinforcement, due to site conditions.

d) Land and compensation- Expenditure towards crop, tree, PTCC and forest has resulted in increase in ₹2100 lakh in cost of project due to actual compensation paid.

10. The petitioner has later submitted that the actual COD of the instant asset as 1.11.2014 and accordingly submitted the revised tariff forms and the Management Certificate. The petitioner has also submitted the RCE. The completion cost of the instant asset is within the revised approved apportioned cost. As per the RCE, the completion cost of the instant asset is within the revised approved apportioned cost.

Time Over-run

11. As per investment approval dated 4.8.2011, the asset was scheduled to be commissioned within 36 months from the date of investment approval. Therefore, the scheduled date commercial operation of the instant transmission asset works out to 3.8.2014, against which the transmission asset was put under commercial operation with effect from 1.11.2014, i.e. Thus, there is time over-run of 3 months in commissioning of the instant asset.

12. TANGEDCO, vide affidavit dated 13.1.2015, has submitted that the petitioner has completed only a part of the transmission system with a time over-run of 2 months. The petitioner, vide affidavit dated 23.2.2015, has submitted that



schedule of completion of the project is 36 months from the date of investment approval which was accorded on 4.8.2011. The schedule date of commissioning is 3.8.2014. The petitioner has further submitted that all the assets of the transmission system except the subject asset were commissioned within the schedule completion period as shown below:-

Srl. No.	Asset	Actual COD	Pet No
1	LILO of 400 kV Simhapuri and Meenakshi-Nellore D/C Quad line and associated bays and common systems at Nellore Pooling Station	1.4.2013	224/TT/2016
2	(A) Kurnool-Raichur 2nd 765 kV S/C line and extension of Kurnool 765 kV/400 kV & Raichur 765/400 kV sub-station	21.6.2014	37/TT/2014
	(B) 1500 MVA, 765/400 kV ICT#2 and 240 MVAR Reactor along with the associated bays at 765/400 kV Nellore Pooling Station	1.2.2014	
	(C) 1500 MVA, 765/400 kV ICT#3 and 240 MVAR Bus Reactor along with the associated bays at 765/400 kV Nellore Pooling Station	1.3.2014	

13. Further, the petitioner has submitted that the instant asset was put under commercial operation w.e.f 1.11.2014, i.e. within 39 months from the SCOD. The completion is within the 40 months timeline specified in the 2014 Tariff Regulations.

14. The reasons for time over-run submitted by the petitioner are as follows:-

- a) Hindrance of work due to Telangana movement.
- b) Delay in forest clearance. The petitioner submitted that about 66.04 Ha of forest is involved under the said project. Forest proposal was submitted to



the nodal officer in August, 2011. After survey and approval of proposal by State Govt. stage-I was accorded in January, 2013. After scrutiny, stage-II approval was accorded by MoEF in February, 2014 and final order was issued in April, 2014. The entire process involved about 32 months from date of submission of forest proposal. The chronology of forest clearance submitted is as follows:-

Date	Details
5.8.2011	Submission of forest proposal to PCCF, Hyderabad
5.6.2012	PCCF, Hyderabad approved the proposal and forwarded to Secretary Forest, Govt of AP
3.8.2012	State Govt forwarded the proposal to MoEF, New Delhi
27.8.2012	Proposal was handed over to IG Forest, MoEF, Gol
8.1.2013	Stage-I approval issued
10.2.2014	After meeting the compliance conditions, Stage-II proposal approved by MoEF, Delhi
28.4.2014	GO issued by Governor

- c) The petitioner has also submitted the relevant documents substantiating the delay in forest clearance.
- d) The petitioner submitted that after receipt of order from Government, forest department has taken more than a month for handing over of the site after tree cutting/lopping/pruning and clearing the site.
- e) Work affected due to 765 kV Nellore-Kurnool line at Nellore end was affected badly due to unseasonal rains.



15. The petitioner was directed to submit the Critical Path Analysis (CPA) and Project Evaluation and Review Technique (PERT) chart/L2 to substantiate the delay in commissioning of the asset which was submitted by the petitioner vide affidavit dated 9.2.2016. The petitioner was also directed on 24.8.2015 to submit the details of IDC from date of infusion of debt fund upto SCOD and from SCOD to actual COD. In response, the petitioner vide affidavit dated 9.2.2016, submitted the details as follows:

Sr No	Description	₹ in lakh
1	IDC upto SCOD	9669.14
2	IDC from SCOD to actual COD	439.74
3	Total IDC	10108.88

16. We have considered the petitioner's submissions. It is observed that the petitioner got the final forest approval after a period of 32 months. The delay in commissioning of the said asset was primarily due to delay in forest clearance and the time over-run is not attributable to the petitioner. However, the work was completed in 39 months with a delay of 3 months which is not attributable to the petitioner. Hence, the delay of 3 months is condoned. Accordingly, IEDC and IDC are allowed to be capitalized.

Initial Spares

17. Regulation 13(d) of the 2014 Tariff Regulations provides that initial spares shall be capitalised as a percentage of plant and machinery cost upto cut-off date, subject to following ceiling norms:-

“(d) Transmission line:	1.00%
Transmission sub-station	4.00%”



18. The petitioner was directed to submit whether entire amount pertaining to initial spares has been discharged as on COD. In response, the petitioner vide affidavit dated 9.2.2016, has submitted that initial spares has been discharged up to COD and submitted the following year wise details of initial spares undischarged:-

(₹ in lakh)	
Expenditure towards initial spares	Amount
Upto COD as in Management Certificate	1065.57
COD to 31.3.2015	113.5
Balance Estimated expenditure during 2015-16	70.98
Total	1250.05

19. The initial spares of ₹1068.75 lakh for transmission line and ₹181.30 lakh for sub-station claimed by the petitioner are within the specified ceiling limits and accordingly the amount claimed by the petitioner is allowed.

20. The petitioner has submitted revised capital expenditure of ₹118837.30 lakh as on COD. In addition to this, the petitioner has claimed additional capitalization of ₹6876.17 lakh, ₹5328.85 lakh and ₹3282.45 lakh during 2014-15, 2015-16 and 2016-17 respectively, in the tariff period 2014-19. The petitioner has submitted Management Certificate in support of capital cost incurred up to COD and additional capitalization projected for 2014-19 tariff period.

21. The petitioner was directed vide letter dated 24.8.2015, to submit details of undischarged liabilities as on COD corresponding to the elements and year



wise discharge of liabilities by payment and by reversal, duly certified by auditors. The petitioner vide affidavit dated 9.2.2016 submitted that there is undischarged liabilities of ₹1433.26 lakh and ₹1125.39 lakh towards accrual IDC which has been discharged during 2014-15 and 2015-16.

22. We have considered the submissions of the petitioner. The petitioner has submitted the RCE dated 20.4.2015. The revised estimated completion cost is well within the approved apportioned cost of the instant asset. Hence, there is no cost over-run in case of the instant asset. Accordingly, the capital cost of ₹118837.30 lakh as on COD is considered for the purpose of tariff computation for 2014-19 tariff period on provisional basis, which shall be reviewed at the time of truing up of tariff for 2014-19 period.

23. It is also observed that the petitioner's claims are based on the Management Certificate. Hence, the petitioner is directed to submit the Auditor's Certificate in support of the capital cost along with IDC, IEDC, initial spares on cash basis and FERV capitalized at the time of truing up.

Additional Capital Expenditure

24. The petitioner had initially claimed additional capitalization on basis of anticipated COD. The petitioner has revised the additional capitalization vide affidavit dated 9.2.2016 to ₹6876.17 lakh, ₹5328.85 lakh and ₹3282.45 lakh for 2014-15, 2015-16 and 2016-17 respectively. In view of the above, petitioner has claimed revised transmission tariff vide affidavit dated 9.2.2016.



25. TANGEDCO vide affidavit dated 13.1.2015 has submitted that the petitioner should be directed to furnish details to establish the necessity of liabilities. The petitioner has submitted that the liabilities are pertaining to retention amount of line and sub-station's civil works like control room building works, foundation works, roads, drains, etc., and payments pertaining to supply and erection of towers and other line and sub-stations materials, etc., which are to be paid only after commissioning of line as per contractual agreement.

26. We have considered the submissions of the petitioner. It is observed that the total estimated completion cost of ₹134324.77 lakh including additional capitalization is within the approved apportioned cost of ₹136213.08 lakh as mentioned in Form 5 submitted alongwith affidavit dated 9.2.2016. Hence, we have considered the capital cost of ₹118837.30 lakh as on COD and total additional capitalization of ₹15487.47 lakh during 2014-17 for tariff computation for the 2014-19 tariff period. The additional capitalization during 2014-19 will reviewed at the time of truing up of tariff of 2014-19 period. The additional capital expenditure allowed is as follows:-

(₹ in lakh)

Approved apportioned cost: ₹ 136213.08 lakh						
Name of the element	Expenditure upto COD	Additional Capitalization				Total estimated completion cost
		2014-15 (Pro-rata)	2015-16	2016-17	Total Additional capitalization	
Asset	118837.30	6876.17	5328.85	3282.45	15487.47	134324.77



Debt : Equity Ratio

27. Clause 3 of Regulation 19 of the 2014 Tariff Regulations specifies as under:-

“19. Debt-Equity Ratio: (1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. 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.”

28. The petitioner has considered debt:equity ratio as 70:30 both for capital cost as on COD and for additional capitalization during the tariff period 2014-19. The petitioner was directed to confirm that the actual equity infused for the total capital cost is not less than 30% of the total cost. The petitioner vide affidavit dated 13.2.2016 submitted as follows:-

(₹ in lakh)

Particulars	Cash expenditure/ additional capitalization for the year	Actual funding/ debt		Actual equity	
Capital Cost as on COD	121390.7	83186.11	68.50%	38204.59	31.50%
Capital Cost as on COD after deducting accrual IDC	118837.3	83186.11	70.00%	35651.19	30.00%

29. The details of the debt:equity considered for the purpose of tariff for the 2014-19 tariff period is as follows:-



Particulars	Capital cost as on COD		Estimated completion cost including additional capitalization	
	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)
Debt	83186.11	70.00	94027.35	70.00
Equity	35651.19	30.00	40297.42	30.00
Total	118837.30	100.00	134324.77	100.00

Interest on Loan (“IOL”)

30. Clause (5) & (6) of Regulation 26 of the 2014 Tariff Regulations are reproduced as under:-

“(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.

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

31. The weighted average rate of IOL has been considered on the basis of rate prevailing as on COD. The petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during 2014-19 tariff period will be adjusted at the time of truing up.

32. TANGEDCO, vide affidavit dated 13.1.2015 submitted that, interest on loan has been calculated on the basis of rate prevailing as on 1.4.2014. The petitioner should reimburse the changes in interest due to floating rate of interest along with truing up at the end of the tariff period. The petitioner vide affidavit



dated 23.2.2015 submitted that, interest on loans varies yearly, which may happen to be higher or lower than the rate at which the tariff is claimed. The petitioner also submitted that transmission tariff based on actual rate of interest can be calculated only at the end of the year and true up once in every tariff period as per the 2014 Tariff Regulations

33. We have considered the petitioner's submissions. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. Further, with regard to floating rate of interest, variation in interest rate if any shall be considered at the time of true up. The details of weighted average rate of interest are placed at **Annexure-I** and the IOL has been worked out and allowed as follows:-

	(₹ in lakh)				
Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	83186.11	87999.43	91729.63	94027.35	94027.35
Cumulative Repayment upto DOCO/previous year	0.00	2680.82	9434.67	16414.91	23481.80
Net Loan-Opening	83186.11	85318.61	82294.96	77612.44	70545.55
Additions during the year	4813.32	3730.20	2297.72	0.00	0.00
Repayment during the year	2680.82	6753.86	6980.24	7066.89	7066.89
Net Loan-Closing	85318.61	82294.96	77612.44	70545.55	63478.66
Average Loan	84252.36	83806.79	79953.70	74079.00	67012.10
Rate of Interest (%)	8.4750	8.4732	8.4607	8.4280	8.3772
Interest	2975.17	7101.09	6764.64	6243.40	5613.74

Return on Equity ("ROE")

34. Clause (1) & (2) of Regulation 24 and Clause (2) of Regulation 25 of the 2014 Tariff Regulations specify as under:-



“24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.
(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system...

Provided that:

i. in case of projects commissioned on or after 1st April, 2014, an additional return of **0.50 %** shall be allowed, if such projects are completed within the timeline specified in **Appendix-I**:

ii. the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

iii. additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:”

“25. Tax on Return on Equity:

(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.”

Additional Return on Equity

35. The instant asset was commissioned in 39 months. The petitioner has prayed for additional RoE of 0.5% for commissioning the instant assets within the timeline of 40 months specified in the 2014 tariff Regulations.

36. TANGEDCO, vide affidavit dated 13.1.2015, has submitted that the asset covered in the instant petition are anticipated to be commissioned 2 months



beyond the specified timeline, hence, petitioner is not eligible to claim additional ROE of 0.5% on ROE. The petitioner vide affidavit dated 23.2.2015 submitted that, as per Regulation 24(2)(i), Appendix-I(c), of the 2014 Tariff Regulations, timeline specified for completion of 765 kV D/C line is 40 months. Though there is a delay of 3 months as per the schedule provided in the investment approval, the subject asset was commissioned within 39 months from the date of investment approval, which is within the timeline specified in the 2014 Tariff Regulations. Further, the petitioner submitted that, the ATE in its Judgment dated 2.9.2013 in Appeal No. 46 of 2013 has ruled that the time of completion of a transmission project should not be compared with the internal schedule set up by the transmission licensee for the purpose of considering additional ROE and has to compare with schedule specified in the Regulations. The relevant Para of judgement is as follows:

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

37. We have considered the submissions made by the petitioner. The instant asset has been commissioned within the timeline of 40 months specified in Regulation 24(2) of 2014 Tariff Regulations and hence additional RoE of 0.5% is allowed.

38. The petitioner has computed ROE at the rate of 20.243% after grossing up the ROE with MAT rate as per the above Regulation. TANGEDCO vide affidavit



dated 13.1.2015 has submitted that the petitioner's request to allow recover the tax rates after truing up should be negated as the petitioner is well aware of the tax structure under which the subject assets of the petitioner is covered at the time of filing the transmission tariff. TANGEDCO also requested to direct the petitioner to refund the excess tax collected on normative basis, from the beneficiaries along with interest. The petitioner vide affidavit dated 23.2.2015, submitted that as per Regulation 25(3) of the 2014 Tariff Regulations, the grossed up ROE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis. The petitioner has further submitted that adjustment due to any additional tax demand including interest duly adjusted for any refund of the tax including interest received from IT authorities shall be recoverable/adjustable after completion of income tax assessment of the financial year.

39. Further, 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. The petitioner has submitted that MAT rate is applicable to the



petitioner's company. 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. Accordingly, the ROE allowed for the instant asset is shown in the table below:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	35651.19	37714.04	39312.69	40297.42	40297.42
Addition due to Additional Capitalisation	2062.85	1598.65	984.73	0.00	0.00
Closing Equity	37714.04	39312.69	40297.42	40297.42	40297.42
Average Equity	36682.62	38513.37	39805.06	40297.42	40297.42
Return on Equity (Base Rate) (%)	16.000	16.000	16.000	16.000	16.000
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	20.243	20.243	20.243	20.243	20.243
Return on Equity (Pre Tax)	3094.03	7796.26	8057.74	8157.41	8157.41

Depreciation

40. Clause (67) of Regulation 3 of the 2014 Tariff Regulations defines useful life as follows:-

“**useful life**’ in relation to a unit of a generating station and transmission system from the COD shall mean the following, namely:-

.....

(c) AC and DC Sub-station: 25 years

(d) Gas Insulated Sub-station: 25 years

(e) Transmission line (including HVAC & HVDC): 35 years”

41. Clause (2), (5) and (6) of Regulation 27 of the 2014 Tariff Regulations provide as follows:-

"27. Depreciation:

(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 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”

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

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

(6) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets.”

42. The petitioner in its petition has computed depreciation considering capital cost of ₹121422 lakh as on COD and additional capitalization of ₹4571 lakh, ₹4299 lakh during 2014-15, 2015-16 respectively. Subsequently, the petitioner vide affidavit dated 9.2.2016 has revised its claim of depreciation on the basis of revised capital cost of ₹118837.30 lakh as on COD and additional capitalization of ₹6876.17 lakh, ₹5328.85 lakh and ₹3282.45 lakh during 2014-15, 2015-16 and 2016-17 respectively, in the tariff period 2014-19.

43. We have considered the submission made by the petitioner with reference to depreciation. Depreciation is allowed as provided under Regulation 27 of the 2014 Tariff Regulations. As per Clause 67 of Regulation 3 of the 2014 Tariff Regulations, useful life for transmission line and sub-station is 35 years and 25 years, respectively. For the purpose of calculation, the life of PLCC has been considered as 25 years. In the present case, weighted average value of asset as



on COD has been considered to work out the weighted average life of the transmission system as 34 years.

44. The details of the depreciation claimed and allowed are given hereunder:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	118837.30	125713.47	131042.32	134324.77	134324.77
Additional Capitalization	6876.17	5328.85	3282.45	0.00	0.00
Closing Gross block	125713.47	131042.32	134324.77	134324.77	134324.77
Average Gross block	122275.39	128377.90	132683.55	134324.77	134324.77
Rate of Depreciation (%)	5.262	5.261	5.261	5.261	5.261
Depreciable Value	110047.85	115540.11	119415.19	120892.29	120892.29
Elapsed Life of the assets at beginning of the year	0	1	2	3	4
Weighted Balance Useful life of the assets	34	33	32	31	30
Remaining Depreciable Value	110047.85	115540.11	112661.33	107158.20	100091.31
Depreciation	2680.82	6753.86	6980.24	7066.89	7066.89

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

45. The petitioner has computed normative O&M Expenses as per sub-clause (a) of clause (3) of Regulation 29 of the 2014 Tariff Regulations. Accordingly, the petitioner’s entitlement to O&M expenses has been worked out as given hereunder:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
765 kV Bays (Nos.)	4	4	4	4	4
765 kV Bays (₹lakh/bay)	84.42	87.22	90.12	93.11	96.20
Total (in Rs Lakh)	274.42	680.40	702.88	726.32	750.47



46. TANGEDCO vide affidavit dated 13.1.2015 submitted that, the 2014 Tariff Regulations do not provide for revising the normative O&M Expenses based on actuals. The petitioner vide affidavit dated 23.2.2016 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 Company is due during 2014-19 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 prayed to be allowed to approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase.

47. The O&M Expenses have been worked out as per the norms of O&M Expenses specified in the 2014 Tariff Regulations. As regards impact of wage revision, any application filed by the petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.

48. The details of O&M Expenses allowed are given hereunder:-

	(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses Allowed	274.42	680.40	702.88	726.32	750.47

Interest on Working Capital (“IWC”)

49. Clause 1 (c) of Regulation 28 and Clause 5 of Regulation 3 of the 2014 Tariff Regulations specify as follows:-



“28. Interest on Working Capital

- (c)(i) Receivables equivalent to two months of fixed cost;
- (ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 29; and
- (iii) Operation and maintenance expenses for one month”

“(5)Bank Rate’ means the base rate of interest as specified by the State Bank of India from time to time or any replacement thereof for the time being in effect plus 350 basis points;”

50. The petitioner has submitted that it has computed Interest on working capital for the tariff period 2014-19 considering the SBI Base Rate as on 1.4.2014 plus 350 basis points. The rate of interest on working capital considered is 13.50%.

51. The interest on working capital is worked out in accordance with Regulation 28 of the 2014 Tariff Regulations. The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points). The interest on working capital as determined by the Commission is shown in the table below:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	41.16	102.06	105.43	108.95	112.57
O & M expenses	22.87	56.70	58.57	60.53	62.54
Receivables	1540.17	3811.26	3841.03	3788.05	3684.94
Total	1604.20	3970.02	4005.03	3957.52	3860.04
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	216.57	535.95	540.68	534.27	521.11



Annual Transmission Charges

52. The detailed computation of the various components of the annual fixed charges for the transmission asset for the tariff period 2014-19 is summarised below:-

	(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Block					
Opening Gross Block	118837.30	125713.47	131042.32	134324.77	134324.77
Additional Capitalisation	6876.17	5328.85	3282.45	0.00	0.00
Closing Gross Block	125713.47	131042.32	134324.77	134324.77	134324.77
Average Gross Block	122275.39	128377.90	132683.55	134324.77	134324.77
Depreciation					
Rate of Depreciation (%)	5.262	5.261	5.261	5.261	5.261
Depreciable Value	110047.85	115540.11	119415.19	120892.29	120892.29
Elapsed Life (Beginning of the year)	0	1	2	3	4
Weighted Balance Useful life of the assets	34	33	32	31	30
Remaining Depreciable Value	110047.85	115540.11	112661.33	107158.20	100091.31
Depreciation	2680.82	6753.86	6980.24	7066.89	7066.89
Interest on Loan					
Gross Normative Loan	83186.11	87999.43	91729.63	94027.35	94027.35
Cumulative Repayment upto Previous Year	0.00	2680.82	9434.67	16414.91	23481.80
Net Loan-Opening	83186.11	85318.61	82294.96	77612.44	70545.55
Additional Capitalisation	4813.32	3730.20	2297.72	0.00	0.00
Repayment during the year	2680.82	6753.86	6980.24	7066.89	7066.89
Net Loan-Closing	85318.61	82294.96	77612.44	70545.55	63478.66
Average Loan	84252.36	83806.79	79953.70	74079.00	67012.10
Weighted Average Rate of Interest on Loan (%)	8.4750	8.4732	8.4607	8.4280	8.3772
Interest	2975.17	7101.09	6764.64	6243.40	5613.74



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity					
Opening Equity	35651.19	37714.04	39312.69	40297.42	40297.42
Additions	2062.85	1598.65	984.73	0.00	0.00
Closing Equity	37714.04	39312.69	40297.42	40297.42	40297.42
Average Equity	36682.62	38513.37	39805.06	40297.42	40297.42
Return on Equity (Base Rate) (%)	16.000	16.000	16.000	16.000	16.000
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	20.243	20.243	20.243	20.243	20.243
Return on Equity (Pre Tax)	3094.03	7796.26	8057.74	8157.41	8157.41
Interest on Working Capital					
Maintenance Spares	41.16	102.06	105.43	108.95	112.57
O & M expenses	22.87	56.70	58.57	60.53	62.54
Receivables	1540.17	3811.26	3841.03	3788.05	3684.94
Total	1604.20	3970.02	4005.03	3957.52	3860.04
Interest	216.57	535.95	540.68	534.27	521.11
Annual Transmission Charges					
Depreciation	2680.82	6753.86	6980.24	7066.89	7066.89
Interest on Loan	2975.17	7101.09	6764.64	6243.40	5613.74
Return on Equity	3094.03	7796.26	8057.74	8157.41	8157.41
Interest on Working Capital	216.57	535.95	540.68	534.27	521.11
O & M Expenses	274.42	680.40	702.88	726.32	750.47
Total	9241.00	22867.56	23046.17	22728.28	22109.61



Filing Fee and the Publication Expenses

53. 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 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 clause (1) of Regulation 52 of the 2014 Tariff Regulations.

Licence Fee and RLDC Fees and Charges

54. The petitioner has requested to allow the petitioner to bill and recover License fee and RLDC fees and charges, separately from the respondents.

55. TANGEDCO vide affidavit dated 13.1.2015 submitted that, the petitioner should not be allowed to recover to recover licensee fee. The petitioner vide affidavit dated 23.2.2016 submitted that, as per Regulation 52 of the 2014 Tariff Regulations the application filing fee, expenses incurred on publication of notices in newspapers and licensee fee are to be recovered separately from the respondents.

56. The petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a) respectively of Regulation 52 of the 2014 Tariff Regulations.



Service Tax

57. The petitioner has sought to recover Service Tax on transmission Charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list in future. TANGEDCO, vide affidavit dated 13.1.2015, has submitted that the petitioner should not be allowed for future claims in service tax. The petitioner vide affidavit dated 23.2.2016 submitted that, as per para 9.5 of the instant petition, it is submitted that,

“Service tax on transmission has been put on negative list w.e.f 1.4.2012 and therefore the transmission charges, is exclusive of service tax and the same shall be borne and additionally paid by the respondent(s) to the petitioner and the same shall be charged, billed separately by the petitioner in case same is withdrawn from the negative list at any time as above in future.

58. We have considered the submission made by the petitioner and the respondent. We are of the view that the petitioner’s prayer is premature.

Foreign Exchange Rate Variation

59. The petitioner has sought recovery of FERV on foreign loans deployed as provided in Clause 50 of the 2014 Tariff Regulations. The petitioner is entitled to recover the FERV directly from the beneficiaries or the long term transmission customers/DICs as the case may be, in accordance with Clause 1 of Regulation 51 of the 2014 Tariff Regulations.



Sharing of Transmission Charges

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

61. This order disposes of Petition No. 245/TT/2014.

Sd/-
(Dr. M. K. Iyer)
Member

Sd/-
(A.S. Bakshi)
Member



ANNEXURE-I

DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO

(₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
Bond-XXXIV-DOCO LOAN-	8.84	1585.32	-	1585.32
Bond XXXVII - DOCO LOAN-	9.25	688.99	-	688.99
Bond XXXIX - DOCO LOAN-	9.40	2930.00	-	2930.00
SBI (21.3.2012) - DOCO LOAN-	10.25	8621.00	-	8621.00
Bond-XL - DOCO LOAN-	9.30	11415.00	-	11415.00
Bond-XLI-DOCO LOAN-	8.85	5429.10	-	5429.10
Bond-XLII-DOCO LOAN-	8.80	824.34	-	824.34
FC-BOND (17.01.2013)-doco-61.96	4.10	11564.21	-	11564.21
BOND - XLIII - DOCO LOAN-	7.93	4000.00	-	4000.00
BOND- XLIV - DOCO LOAN-	8.70	16700.00	-	16700.00
Bond-XLV - DOCO LOAN-	9.65	7542.40	-	7542.40
SBI (2014-15)-DOCO LOAN	10.25	376.20	-	376.20
BOND XLVI-DOCO LOAN-	9.30	10240.93	-	10240.93
Bond XLVII-ADDCAP FOR 2014-2015 Add cap for 2014-15-	8.93	0.00	1003.28	1003.28
Bond XLVII-ADDCAP FOR 2015-2016 Add cap for 2015-16-	8.93	0.00	784.10	784.10
Bond-XLVII - DOCO LOAN-	8.93	1268.62	-	1268.62
Bond XLVIII-ADDCAP FOR 2014-2015 Add cap for 14-15-	8.20	-	3810.04	3810.04
Total		83186.11	5597.42	88783.53



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN
FOR TARIFF PERIOD 2014-19

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	83186.11	87999.43	88783.53	88783.53	88783.53
Cumulative Repayments of Loans upto Previous Year	132.11	132.11	321.64	2698.58	6037.38
Net Loans Opening	83054.00	87867.32	88461.89	86084.95	82746.15
Add: Drawl(s) during the year	4813.32	784.10	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.00	189.53	2376.94	3338.80	9160.14
Net Closing Loan	87867.32	88461.89	86084.95	82746.15	73586.01
Average Net Loan	85460.66	88164.61	87273.42	84415.55	78166.08
Interest on Loan	7242.81	7470.34	7383.94	7114.57	6548.13
Rate of Interest on Loan (%)	8.4750	8.4732	8.4607	8.4280	8.3772

