

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 161/TT/2015**

**Coram:**

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

**Date of Hearing : 23.11.2015**

**Date of Order : 30.12.2015**

**In the matter of:**

Determination of transmission tariff for the 2014-19 tariff period, i.e., from date of commercial operation (COD) to 31.3.2019 for (a) Kurnool- Raichur 2<sup>nd</sup> 765 kV S/C line, (b) Extension of Kurnool 765/400 kV Sub-station, and (c) Extension of Raichur 765/400 kV Sub-station 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 Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

**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.  
P&T Colony, Seethmmadhara, Vishakhapatnam  
Andhra Pradesh
  8. Southern Power Distribution Company of Andhra Pradesh  
Srinivasasa Kalyana Mandapam Backside  
Tiruchanoor Road, Kesavayana Gunta  
Tirupati- 517 501
  9. Central Power Distribution Company of Andhra Pradesh  
Mint Compound,  
Hyderabad- 500 063
  10. Northern Power Distribution Company of Andhra Pradesh  
Chaitanyapuri, Kazipet  
Warangal- 506 004
  11. Bangalore Electricity Supply Company Ltd.  
K. R. Circle  
Bangalore- 560 001
  12. Gulbarga Electricity Supply Company Ltd.  
Station Main Road, Gulbarga
  13. Hubli Electricity Supply Company Ltd.  
Navanagar, P B Road  
Hubli, Karnataka
  14. MESCOM Corporate Office  
Paradigm Plaza, AB Shetty Circle  
Mangalore- 575 001
  15. Chamundeswari Electricity Supply Corporation Ltd.
- 



New Kantharaj Urs Road, Saraswatipuram,  
Mysore-570 009

.....**Respondents**

The following were present:

For Petitioner : Shri S.K. Niranjana, PGCIL  
Shri Rakesh Prasad, PGCIL  
Shri Jasbir Singh, PGCIL  
Shri Anshul Garg, PGCIL  
Shri S.S. Raju, PGCIL  
Shri M.M. Mondal, PGCIL  
Shri S.K. Venkatesan, PGCIL

For Respondent: None

### **ORDER**

The present petition has been preferred by Power Grid Corporation of India Ltd. ("the petitioner"), a transmission licensee for determination of transmission tariff for (a) Kurnool- Raichur 2<sup>nd</sup> 765 kV S/C line, (b) Extension of Kurnool 765/400 kV Sub-station, and (c) Extension of Raichur 765/400 kV Sub-station under "Common System associated with ISGS projects in Krishnapatnam area of Andhra Pradesh in Southern Region" (hereinafter referred as "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 COD (21.6.2014) 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 newspaper in accordance with Section 64 of the 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. None of the respondents have filed any reply to the petition. The hearing in this matter was held on 23.11.2015. During the hearing, the Commission directed the petitioner to submit the clarification sought during hearing and replies to queries sought vide letter dated 18.11.2015 on affidavit with copy to respondents by 30.11.2015. The respondents were directed to file their replies by 7.12.2015 and the petitioner to file rejoinder if any, by 11.12.2015. The Commission during the hearing observed that in case no information is filed within the due date, the matter shall be considered based on the available records. 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 Memorandum Ref. C/CP/ISGS Krishnapatnam 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 built 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. 21.6.2014.

(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 transmission system was scheduled to be commissioned within 36 months from the date of investment approval. Therefore, the scheduled date of commissioning (COD) of the transmission system works out to 5.8.2014 against which the transmission asset was put under commercial operation with effect from 21.6.2014, i.e., earlier commissioning than scheduled COD.

(d) The tariff for the following assets covered under the project were approved by the Commission in the following orders:-



- Tariff from COD (1.4.2013) to 31.3.2014 for LILO of 400 kV Simhapuri and Meenakshi-Nellore D/C Quad line and associated bays and common systems at Nellore Pooling Station was allowed vide order dated 4.3.2014 in Petition No. 224/TT/2013.
  - Tariff from actual COD to 31.3.2014 for (a) 1500 MVA, 765/400 kV ICT#2 and 240 MVAR Reactor along with the associated bays at 765/400 kV Nellore Pooling Station (COD: 1.2.2014), and (b) 1500 MVA, 765/400 kV ICT#3 and 240 MVAR Bus Reactor along with the associated bays at 765/400 kV Nellore Pooling Station (COD: 1.3.2014) was allowed vide order dated 23.6.2014 in Petition No. 37/TT/2014.
  - Tariff from anticipated COD (1.10.2014) to 31.3.2016 for Nellore Pooling Station-Kurnool 765 kV D/C line along with the associated bays of 765 kV Nellore Pooling Station and Kurnool Sub-station and 240 MVAR, 765 kV line reactor at Nellore end of one circuit and at Kurnool end of both circuits of Nellore-Kurnool 765 kV line was allowed vide order dated 17.12.2014 in Petition No. 245/TT/2014.
- (e) The provisional tariff for the transmission asset from anticipated COD (1.6.2014) to 31.3.2019 was allowed vide order dated 23.6.2014 in Petition No. 37/TT/2014 in accordance with Regulation 7(7) of the 2014 Tariff Regulations. The tariff allowed for the tariff period 2014-19 is as under:-



(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Asset</b>	<b>2475.55</b>	<b>3046.97</b>	<b>3019.09</b>	<b>2949.87</b>	<b>2878.14</b>

(f) The instant petition was filed on 10.6.2015.

(g) The Commission vide letter dated 10.8.2015 and 18.11.2015 and vide ROP dated 23.11.2015 sought clarification on various issues. The petitioner has submitted the replies vide affidavit dated 16.12.2015.

(h) The petitioner also submitted the following information to substantiate the date of commercial operation of the transmission asset:

- Trail operation certificate issued by SRLDC as per Regulation 5(2) of the 2014 Tariff Regulations.
- Certificate of CEA under Regulation 43 of CEA (Measures Related to Safety and Electricity Supply) Regulations, 2010.

#### **DETERMINATION OF ANNUAL TRANSMISSION CHARGES FOR 2014-19**

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

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	736.77	980.31	998.72	998.72	998.72
Interest on Loan	718.86	896.16	838.13	758.91	676.03
Return on equity	852.15	1133.64	1154.80	1154.80	1154.80
Interest on Working Capital	63.46	83.03	83.05	81.70	80.28
O & M Expenses	187.16	248.72	256.89	265.48	274.26
<b>Total</b>	<b>2558.40</b>	<b>3341.86</b>	<b>3331.59</b>	<b>3259.61</b>	<b>3184.09</b>

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	2015-16	2016-17	2017-18	2018-19
O & M expenses	20.05	20.73	21.41	22.12	22.86
Maintenance Spares	36.1	37.31	38.53	39.82	41.14
Receivables	548.23	556.98	555.27	543.27	530.68
Total	604.38	615.02	615.21	605.21	594.68
Rate of Interest (%)	13.5	13.5	13.5	13.5	13.5
<b>Interest</b>	<b>81.59</b>	<b>83.03</b>	<b>83.05</b>	<b>81.7</b>	<b>80.28</b>
<b>Pro rata Interest on working capital</b>	<b>63.46</b>	<b>83.03</b>	<b>83.05</b>	<b>81.7</b>	<b>80.28</b>

### **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 in its petition has submitted capital expenditure of ₹18191.36 lakh as on COD. In addition to this, the petitioner has claimed additional capitalization of ₹136.85 lakh and ₹687.40 lakh during 2014-15 and 2015-16, respectively, in the tariff period 2014-19. The Commission vide letter dated 18.11.2015 sought the quarterly computation of actual IDC/IEDC discharged upto COD on cash basis. The petitioner vide its affidavit dated 16.12.2015 submitted that out of total IDC of ₹1269.47 lakh, ₹841.88 lakh has been discharged upto COD and the balance IDC of ₹418.02 lakh has been discharged from COD to 31.3.2015 and ₹9.57 lakh shall be discharged in 2015-16. Further, the petitioner has reduced un-discharged IDC, i.e., ₹427.59 lakh as on COD from the capital cost up to COD and claimed it as additional



capitalization, i.e., ₹418.02 lakh and ₹9.57 lakh during 2014-15 and 2015-16, respectively. The petitioner has also submitted Auditor's Certificate in support of capital cost incurred up to COD and additional capitalization projected for 2014-19 tariff period.

9. The Commission vide letter dated 10.8.2015 sought clarification regarding whether the entire amount pertaining to initial spares has been included in the cost of respective elements up to COD and also whether entire liability pertaining to initial spares has been discharged as on COD, and if not, then the year-wise details for discharging the same. The petitioner vide affidavit dated 16.12.2015 replied that out of total initial spares liability of ₹117.10 lakh, the petitioner has discharged ₹111.25 lakh up to COD and ₹5.86 lakh has been discharged during 2014-15.

10. As regards initial spares, it is observed that it is 0.76% of total transmission line cost (excluding IDC, IEDC, land cost and cost of civil works) which is within the norm of 1% specified in the 2014 Tariff Regulations. The petitioner has also submitted revised Auditor's Certificate showing the same.

11. The Commission has considered the submissions of the petitioner and has accordingly allowed capital cost of ₹17757.91 lakh as on COD after reducing undischarged IDC of ₹427.59 lakh and un-discharged initial spares of ₹5.86 lakh from the earlier submitted capital cost of ₹18191.36 lakh incurred upto COD. Accordingly, the Commission has considered ₹17757.91 lakh as on COD for the purpose of tariff computation for tariff period 2014-19.

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### **Additional Capital Expenditure**

12. The petitioner has initially claimed additional capitalization of ₹136.85 lakh and ₹687.4 lakh in 2014-15 and 2015-16, respectively. Further, the petitioner has revised the additional capitalization vide affidavit dated 16.12.2015 to ₹554.87 lakh and ₹696.97 lakh for 2014-15 and 2015-16, respectively, on account of inclusion of un-discharged IDC, and initial spares. In view of the above, petitioner has claimed revised transmission tariff vide affidavit dated 16.12.2015. With regard to balance and retention payment, the Commission vide letter dated 18.11.2015 has sought the following:

- Details of the contract for which payment has been retained with reasons for withholding the payment.
- Details of Retention Payment proposed to be made along with the name of Contractor under which the retention payment shall be made.
- Whether all the balance/retention payments for assets under this petition have been made or some payments are still to be made? Furnish the statement of balance and retention payments yet to be made and not included to be paid in 2014-15 and 2015-16.

13. In this regard, the petitioner has submitted the details of contract number, date, name of agency, amount of retention and payment made from COD to 31.3.2015 and 2015-16. The petitioner was directed to clarify whether the proposed additional capital expenditure is “mainly” on account of Balance and



Retention payment or entirely on account of Balance and Retention payment. The Commission also directed the petitioner to clarify whether the awards were firm price contracts or with price variation clause and the provisions regarding price variation. The petitioner, vide its affidavit dated 16.12.2015, submitted that these amounts 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. The petitioner further submitted that awards are subject to price variation clauses.

14. We have considered the submissions of the petitioner. It is observed that the total estimated completion cost of ₹19015.61 lakh including additional capitalization claimed by the petitioner for the transmission asset is within the approved apportioned cost of ₹22242 lakh. As discussed, earlier we have considered capital cost of ₹17757.91 as on COD and total additional capitalization of ₹1257.70 lakh for 2014-15 and 2015-16 for tariff computation for tariff period 2014-19.

(₹ in lakh)

<b>Approved apportioned cost : ₹22242 lakh</b>						
Name of the element	Expenditure upto COD	Additional Capitalization				Total estimated completion cost
		COD to 31.3.2015	2015-16	2016-19	Total	
Kurnool-Raichur 2 <sup>nd</sup> 765 kV S/C line, Extension of Kurnool and Raichur 765/400 kV Sub-station	17757.91	560.73	696.97	0.00	1257.70	19015.61



## **Debt:Equity Ratio**

15. 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.”

16. 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 Commission vide letter dated 18.11.2015 sought an undertaking mentioning that the actual equity infused for the total capital cost as on COD is not less than 30% of the total cost. The petitioner vide affidavit dated 16.12.2015 has confirmed that 70% loan has been deployed for expenditure upto COD and balance 30% has been funded through equity. 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 as on 31.3.2019	
	Amount (in ₹ lakh)	(%)	Amount (in ₹ lakh)	(%)
Debt	12430.54	70.00	13310.94	70.00
Equity	5327.37	30.00	5704.68	30.00
<b>Total</b>	<b>17757.91</b>	<b>100.00</b>	<b>19015.61</b>	<b>100.00</b>



### **Interest on Loan (“IOL”)**

17. 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.”

18. 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 true up.

19. 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	12430.54	12823.06	13310.94	13310.94	13310.94
Cumulative Repayment upto COD/previous year	0.00	736.93	1717.24	2715.96	3714.67
Net Loan-Opening	12430.54	12086.13	11593.69	10594.98	9596.27
Additions during the year	392.52	487.88	0.00	0.00	0.00
Repayment during the year	736.93	980.31	998.71	998.71	998.71
Net Loan-Closing	12086.13	11593.69	10594.98	9596.27	8597.56
Average Loan	12258.33	11839.91	11094.34	10095.62	9096.91
Rate of Interest (%)	7.5386	7.5689	7.5545	7.5171	7.4313
Interest	719.03	896.15	838.13	758.90	676.02

### **Return on Equity (“ROE”)**

20. 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**

21. As per the Investment Approval dated 4.8.2011, the assets covered in the "Common System Associated with ISGS Projects in Krishnapatnam Area of Andhra Pradesh" were scheduled to be commissioned within 36 months from the date of Investment Approval, i.e., by 4.8.2014. The actual date of commercial operation of the instant transmission assets was 21.6.2014 (35 months), i.e., early commissioning than scheduled COD. The petitioner submitted that early commissioning of the asset is on account of requirement of downstream evacuation in lieu of the commissioning of 765 kV S/C Raichur-Sholapur line. The petitioner further submitted that Nellore Pooling Station is interconnected by LILO of both circuits of 400 kV Simhapuri and Meenakshi-Nellore D/C Quad line. For transfer of power beyond Nellore to target beneficiaries, high capacity 765 kV AC corridor has been planned to Kurnool/Raichur. The advancement of the line was discussed in the 23<sup>rd</sup> and 24<sup>th</sup> SRPC meeting dated 26.10.2013 and 15.3.2014 respectively. The petitioner has submitted extract of Minutes of Meeting (MOM) along with the petition. In view of the above, the petitioner has requested for additional RoE of 0.5% under the 2014 Tariff Regulations.





22. The petitioner has computed ROE at the rate of 20.243% after grossing up the ROE with MAT rate as per the above Regulation. The petitioner has further submitted that 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.

23. 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.

24. Regulation 24(2)(iii) of the 2014 Tariff Regulations mandates the petitioner to submit a certificate from Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid. The petitioner has not submitted such certificate.

25. Therefore it is not evident from the submissions that the transmission asset will benefit the system operation in the Southern Region and therefore we have not considered the submissions made by the petitioner and have accordingly not allowed additional RoE of 0.5% in accordance with proviso (iii) to Regulation 24(2) of 2014 Tariff Regulations. 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 determined by the Commission is shown in the table below:-

**(₹ in lakh)**

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	5327.37	5495.59	5704.68	5704.68	5704.68
Addition due to Additional Capitalisation	168.21	209.09	0.00	0.00	0.00
Closing Equity	5495.59	5704.68	5704.68	5704.68	5704.68
Average Equity	5411.48	5600.13	5704.68	5704.68	5704.68
Return on Equity (Base Rate ) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax ) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	825.69	1098.19	1118.69	1118.69	1118.69

### **Depreciation**

26. 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”

27. 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.”

28. The petitioner in its petition has computed depreciation considering capital cost of ₹18191.36 lakh as on COD and additional capitalization of ₹136.85 lakh and ₹687.4 lakh from COD to 31.3.2015 and 2015-16, respectively.

29. Subsequently, the petitioner vide its affidavit dated 16.12.2015 revised its claim of depreciation on the basis of revised capital cost of ₹17763.77 lakh and



revised additional capitalization of ₹554.87 lakh and ₹696.97 lakh for 2014-15 and 2015-16, respectively.

30. The weighted average useful life of the asset has been worked out to 34 years considering admitted capital cost as on COD and useful life for building & other civil works, transmission line, Sub-station and PLCC in accordance with the 2014 Tariff Regulations.

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

<b>(₹ in lakh)</b>					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross block at the beginning of the year	17757.91	18318.64	19015.61	19015.61	19015.61
Addition during 2014-19 due to projected Additional Capitalisation	560.73	696.97	0	0	0
Gross block at the end of the year	18318.64	19015.61	19015.61	19015.61	19015.61
Average gross block	18038.28	18667.13	19015.61	19015.61	19015.61
Rate of Depreciation (%)	5.251	5.252	5.252	5.252	5.252
Depreciable Value	16433.82	16800.41	17114.05	17114.05	17114.05
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	16433.82	16063.48	15396.81	14398.09	13399.38
Depreciation	736.93	980.31	998.71	998.71	998.71
Cumulative Depreciation	736.93	1717.24	2715.96	3714.67	4713.38



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

32. 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
<b>O&amp;M expense for lines</b>					
<b>Norms (₹ lakh/km)</b>					
Single Circuit (Bundled conductor with four sub-conductors)	0.606	0.627	0.647	0.669	0.691
<b>Asset (km)</b>					
765 kV S/C Kurnool-Raichur Line	118.472	118.472	118.472	118.472	118.472
<b>O&amp;M Expense (line) (₹ lakh)</b>					
400 kV D/C Gooty-Raichur Line	<b>55.86</b>	<b>74.28</b>	<b>76.65</b>	<b>79.26</b>	<b>81.86</b>
<b>O&amp;M expense for Bays</b>					
<b>Norm (₹ lakh/Bay)</b>					
765 kV	84.42	87.22	90.12	93.11	96.20
Bays					
765 kV	2	2	2	2	2
<b>Total O&amp;M expense (Bays) (₹ lakh)</b>	<b>131.37</b>	<b>174.44</b>	<b>180.24</b>	<b>186.22</b>	<b>192.40</b>
<b>Total O&amp;M expense (Lines and bays) (₹ lakh)</b>	<b>187.23</b>	<b>248.72</b>	<b>256.89</b>	<b>265.48</b>	<b>274.26</b>

33. 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 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.

34. 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, we would like to clarify that any application filed by the petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.

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

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>O&amp;M Expenses Allowed</b>	<b>187.23</b>	<b>248.72</b>	<b>256.89</b>	<b>265.48</b>	<b>274.26</b>

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

36. 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;”



37. 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%.

38. 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	28.08	37.31	38.53	39.82	41.14
O & M expenses	15.60	20.73	21.41	22.12	22.86
Receivables	421.96	550.93	549.11	537.11	524.52
Total	465.65	608.97	609.05	599.05	588.52
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>62.86</b>	<b>82.21</b>	<b>82.22</b>	<b>80.87</b>	<b>79.45</b>

### **Annual Transmission Charges**

39. 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
<b>Gross Block</b>					
Opening Gross Block	17757.91	18318.64	19015.61	19015.61	19015.61
Additional Capitalisation	560.73	696.97	0.00	0.00	0.00
Closing Gross Block	18318.64	19015.61	19015.61	19015.61	19015.61
Average Gross Block	18038.28	18667.13	19015.61	19015.61	19015.61



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Depreciation</b>					
Rate of Depreciation (%)	5.251	5.252	5.252	5.252	5.252
Depreciable Value	16433.82	16800.41	17114.05	17114.05	17114.05
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	16433.82	16063.48	15396.81	14398.09	13399.38
Depreciation	736.93	980.31	998.71	998.71	998.71
<b>Interest on Loan</b>					
Gross Normative Loan	12430.54	12823.06	13310.94	13310.94	13310.94
Cumulative Repayment upto Previous Year	0.00	736.93	1717.24	2715.96	3714.67
Net Loan-Opening	12430.54	12086.13	11593.69	10594.98	9596.27
Additional Capitalisation	392.52	487.88	0.00	0.00	0.00
Repayment during the year	736.93	980.31	998.71	998.71	998.71
Net Loan-Closing	12086.13	11593.69	10594.98	9596.27	8597.56
Average Loan	12258.33	11839.91	11094.34	10095.62	9096.91
Weighted Average Rate of Interest on Loan (%)	7.5386	7.5689	7.5545	7.5171	7.4313
Interest	719.03	896.15	838.13	758.90	676.02
<b>Return on Equity</b>					
Opening Equity	5327.37	5495.59	5704.68	5704.68	5704.68
Additions	168.21	209.09	0.00	0.00	0.00
Closing Equity	5495.59	5704.68	5704.68	5704.68	5704.68
Average Equity	5411.48	5600.13	5704.68	5704.68	5704.68
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	825.69	1098.19	1118.69	1118.69	1118.69
<b>Interest on Working Capital</b>					
Maintenance Spares	28.08	37.31	38.53	39.82	41.14
O & M expenses	15.60	20.73	21.41	22.12	22.86
Receivables	421.96	550.93	549.11	537.11	524.52





Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Total	465.65	608.97	609.05	599.05	588.52
Interest	<b>62.86</b>	<b>82.21</b>	<b>82.22</b>	<b>80.87</b>	<b>79.45</b>
<b>Annual Transmission Charges</b>					
Depreciation	736.93	980.31	998.71	998.71	998.71
Interest on Loan	719.03	896.15	838.13	758.90	676.02
Return on Equity	825.69	1098.19	1118.69	1118.69	1118.69
Interest on Working Capital	62.86	82.21	82.22	80.87	79.45
O & M Expenses	187.23	248.72	256.89	265.48	274.26
Total	2531.75	3305.59	3294.64	3222.65	3147.14

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

40. 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**

41. 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 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**

42. 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. We are of the view that the petitioner's prayer is premature.

### **Foreign Exchange Rate Variation**

43. 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**

44. 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.

45. This Order disposes of Petition No. 161/TT/2015.

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

Sd/-  
**(A.S. Bakshi)**  
**Member**



**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO** (₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXXIV-doco-	8.85	50	0.00	50.00
BOND XXXVII-doco-	9.25	80.00	0.00	80.00
BOND XXXIX-doco-	9.40	360.00	0.00	360.00
SBI (21.3.2012)-dcoo-	10.25	380.00	0.00	380.00
BOND XL-doco-	9.30	1260.00	0.00	1260.00
BOND XLI-doco-	8.85	675.00	0.00	675.00
BOND XLII-doco-	8.80	660.00	0.00	660.00
FC-BOND (17.1.2013)-doco-60.71	4.10	3000.29	0.00	3000.29
BOND XLIII-doco-	7.93	3816.15	0.00	3816.15
BOND XLIV-doco-	8.70	2045.75	0.00	2045.75
BOND XLV-ADDCAP FOR 2014-15 Add Cap-IDC	9.65	0.00	292.61	292.61
BOND XLV-ADDCAP FOR 2015-16 Add Cap-IDC	9.6	0.00	0.00	0.00
BOND XLV-doco	9.65	107.45	0.00	107.45
BOND XLVI-ADDCAP FOR 2014-2015 add cap	9.3	0.00	95.80	95.80
Total		12434.64	388.41	12823.05

**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR TARIFF PERIOD 2014-19** (₹ in lakh)

Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	12434.64	12823.05	12829.75	12829.75	12829.75
Cumulative Repayment of loan upto previous year	0.00	4.17	15.01	221.65	780.19
Net Loan Opening	12434.64	12818.88	12814.74	12608.10	12049.56
Additions during the year	388.41	6.70	0.00	0.00	0.00
Repayment during the year	4.17	10.84	206.64	558.54	1240.46
Net Loan Closing	12818.88	12814.74	12608.10	12049.56	10809.10
Average Loan	12626.76	12816.81	12711.42	12328.83	11429.33
Interest	951.88	970.10	960.29	926.78	849.35
Weighted Average Rate of Interest (%)	7.5386	7.5689	7.5545	7.5171	7.4313

