

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 189/TT/2015

Coram:

**Shri Gireesh B. Pradhan, Chairperson
Shri A.K. Singhal, Member
Shri A.S. Bakshi, Member
Dr. M.K Iyer, Member**

**Date of Hearing: 22.03.2016
Date of Order : 10.08.2016**

In the matter of

Approval of transmission tariff for Central Sector Portion of Establishment of Fibre Optic Communication System in Northern Region (1030.426 km) for tariff block 2014-19 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.

PETITIONER

And in the matter of

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

.....Petitioner

Vs

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited, Vidyut Bhawan, Vidyut Marg, Jaipur- 302 005
2. Ajmer Vidyut Vitran Nigam Limited, 400 kV GSS Building (Ground Floor), Ajmer Road, Heerapura, Jaipur
3. Jaipur Vidyut Vitran Nigam Limited, 400 kV GSS Building (Ground Floor), Ajmer Road,



Heerapura, Jaipur

4. Jodhpur Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor), Ajmer
Road, Heerapura, Jaipur
5. Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House Complex Building
II, Shimla-171 004
6. Punjab State Electricity Board,
Thermal Shed TIA, Near 22 Phatak,
Patiala-147 001
7. Haryana Power Purchase
Centre, Shakti Bhawan, Sector-6,
Panchkula (Haryana)-134 109
8. Power Development Department,
Government of Jammu and Kashmir
Mini Secretariat, Jammu
9. Uttar Pradesh Power Corporation Limited,
(Formerly Uttar Pradesh State Electricity
Board) Shakti Bhawan, 14, Ashok Marg,
Lucknow-226 001
10. Delhi Transco Limited,
Shakti Sadan, Kotla Road,
New Delhi-110 002
11. BSES Yamuna Power Limited,
BSES Bhawan, Nehru Place,
New Delhi
12. BSES Rajdhani Power
Limited, BSES Bhawan, Nehru
Place, New Delhi
13. North Delhi Power Limited,
Power Trading & Load Dispatch Group,
Cennet Building, Adjacent to 66/11kV Pitampura-3,
Grid Building, Near PP Jewellers,
Pitampura, New Delhi-110 034



14. Chandigarh Administration,
Sector-9, Chandigarh
15. Uttarakhand Power Corporation Limited,
Urja Bhawan, Kanwali Road,
Dehradun
16. North Central Railway,
Allahabad
17. New Delhi Municipal Council,
Palika Kendra, Sansad Marg,
New Delhi-110 002

.....**Respondents**

For petitioner : Shri S. S. Raju, PGCIL
Shri Jasbir Singh, PGCIL
Shri Anshul Garg, PGCIL
Shri Rakesh Prasad, PGCIL
Smt. Sangeeta Edwards, PGCIL

For respondents : None

ORDER

The petition has been filed by Power Grid Corporation of India Limited (PGCIL) under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “2014 Tariff Regulations”) for determination of annual transmission charges for 1030.426 km Portion of Establishment of Fibre Optic Communication system (hereinafter referred to as “transmission asset”) in Northern Region for the period 2014-19.

2. The Investment Approval for the establishment of Fibre Optic Communication System in Northern Region was accorded by Board of Directors of the petitioner



company vide letter dated 26.3.2012 at an estimated cost of ₹19863 lakh, including IDC of ₹1219 lakh (based on 4th Quarter, 2011 price level). The scheduled completion time of the project was 30 months from the date of investment approval i.e. 27.9.2014.

3. The broad scope of work covered under the project is as follows:-

“(i) Installation of OPGW fibre optic cable on the existing EHV transmission line of POWERGRID and constituents, the estimated length of such cable is approximately 4488 kms.

(ii) Installation of approximately 18 kms underground fibre optic to provide last mile connectivity to the control room where transmission line connectivity is not available. It is also envisaged that portion of the network which involves installation of the underground cable would be provided with radio based communication which operates in free band to back up the underground cable link of the network. Three number of radio links are proposed. Further, in some portions of the proposed network around 14 kms of Aerial cable is also required.

(iii) The terminal equipment for communication based upon Synchronous Digital Hierarchy (SDH) technology shall be installed in the substations of constituents and POWERGRID. The project would also involve installation of primary multiplexers at the new wide band nodes. To monitor the Network, Network Management System (NMS) would also be required.”

4. The details of the asset covered in the instant petition are as under:-

S. No.	Details of the Asset	Scheduled COD	Actual COD
1	1030.426 km of Fibre Optic Communication System	27.9.2014	1.8.2014

5. This order has been issued after considering petitioner’s affidavits dated 18.3.2016, 11.5.2016 and 26.5.2016.

6. The Annual Fixed Charges for the instant asset was allowed under Regulation 7(7) of the 2014 Tariff Regulations vide order dated 21.9.2015 subject to adjustment as provided in the said Regulation.



7. As per the directives of Government of India vide order dated 4.7.2008, Power System Operation Corporation Ltd. (POSOCO), a wholly owned subsidiary of Power Grid Corporation of India Ltd. was created and POSOCO is responsible for system operation of National Load Despatch Centre (NLDC) and Regional Load Despatch Centres (RLDCs). Pursuant to Satnam Singh Committee's report, the assets pertaining to system operations have been transferred to POSOCO for which separate tariff orders was issued by the Commission.

8. Government of India had also constituted a Task Force to look into the financial aspects for augmentation and up-gradation of the State Load Despatch Centres and issues related to emoluments for the personnel engaged in the system operation. The Task Force made certain recommendations with regard to the ownership of the assets. The petitioner constituted committees at the regional level, subsequent to the Task Force's report, to identify the assets to be transferred to POSOCO. The recommendations of the committees for asset transfer were as under:-

(A) Assets to be transferred to POSOCO:

- (i) EMS/SCADA system (computer system, hardware and software)
- (ii) Auxiliary power supply system comprising of uninterrupted power supply, diesel generating set etc.
- (iii) Building and civil works.

(B) Assets which will remain with petitioner:

I. Central Portion:

- (i) Fibre Optic Cables (overhead and underground)
- (ii) Fibre Optic Communication Equipment
- (iii) Digital Microwave Communication System (Tower, Antenna, Equipment etc.)



- (iv) PABX
- (v) Power Line Carrier Communication System;
- (vi) Auxiliary power supply system.

II. State Portion: Entire state portion which consists of the following equipment will remain with the petitioner:

- (i) EMS/SCADA system
- (ii) Fibre Optic System
- (iii) Digital Microwave Communication System (Tower, Antenna, Equipment etc.)
- (iv) PABX
- (v) Power Line Carrier Communication System
- (vi) Auxiliary power supply system (part)

9. Thereafter the petitioner filed a Miscellaneous Petition No. 68/2010 under sub-section (4) of Section 28 of Electricity Act, 2003 and Regulations 44 "Power to Relax" of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2009 for fixation of tariff norms for recovery of cost for the assets ("Communication system" and "Sub-Load Dispatch Centre system") to be retained/to be installed by the petitioner after formation of POSOCO for the period 2009-14 block.

10. The Commission in Petition No. 68/2010 vide order dated 8.12.2011, had observed as under:-

“9.....Since the communication system and SLDC system form part of the assets of the CTU, there is a requirement to specify regulations for determination of tariff of these assets. We direct the staff of the Commission to undertake the exercise separately and include these assets of CTU in the tariff regulations applicable for the next tariff period i.e.2014-19. As regards the tariff of these assets for the period 2009-14, we are not inclined to determine the tariff of these assets by exercising our power to relaxation under Regulation 44 of the 2009 regulations since there is no provision for determination of tariff for the assets covered under the communication system and ULDC system. We are of the view that the tariff of these assets shall be determined under our general power of determination of tariff for inter-State transmission system under section 79(1)(d) of the Act.....”



“.....It clearly emerges from the above judgment that the Central Commission can specify the terms and conditions of tariff even in the absence of the regulations. Since no regulation was specified for determination of tariff of the communication system and the ULDC system, the Commission determined the tariff of these assets during the period 2004-09 on levelised basis by adopting some of the parameters of 2004 tariff regulations. We have decided to continue with the levelised tariff for the existing assets in the absence of any provision in 2009 regulations regarding determination of tariff of communication system and ULDC system of the petitioner. For the new assets, the tariff will be decided as per the regulations for communication systems to be framed. Accordingly we direct the staff of the Commission to take necessary action to prepare draft regulations for determination of tariff for the communication system and ULDC system of the petitioner.”

“21. We have considered the submission of the petitioner and the respondents. We are of the view that replacement of microwave links with fibre optic links should be implemented as agreed by the beneficiaries to ensure safe and reliable operation of the power system. Moreover, the petitioner has submitted that surrender of the microwave frequencies would save substantial cost and the fibre optic system would be beneficial in the long run as the fibre optic communication network is required for implementation of new technologies like Wide Area Measurement System (WAMS), Special Protection Schemes (SPS) etc. in view of fast development and complexity of the power system in the country. As regards the regulatory approval, we are of the view that since the project has been agreed to be implemented by the constituents of each of the regions, regulatory approval is not considered necessary. The petitioner is granted liberty to approach the Commission for determination of tariff for the fibre optic network being installed in lieu of microwave links for each of the region separately. As regards the submission of UPPTCL, it is clarified that if the state portion is not being implemented by it separately as proposed earlier, the same shall be implemented by the petitioner and UPPTCL would be required to share the tariff in proportion to the assets being utilised by it. It is however made clear that the timeline for replacement of the digital microwave by optical fibre should be strictly complied with.”

11. However, the provision for determining tariff of communication system and ULDC system of the petitioner have now been specified in the 2014 Tariff Regulations as an element of a transmission system. Accordingly, the annual transmission charges of the optic fibre have been determined as per the provisions of the 2014 Tariff Regulations in this order.

12. The annual transmission charges claimed by the petitioner based on the actual date of commercial operation (1.8.2014) are as hereunder:-



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	110.47	184.44	186.08	186.08	186.08
Interest on Loan	111.25	172.45	156.68	139.11	121.61
Return on Equity	102.67	172.25	173.77	173.77	173.77
Interest on Working Capital	7.47	12.18	18.58	21.85	21.79
O & M Expenses	0.00	0.00	121.04	187.58	193.81
Total	331.86	541.32	656.15	708.39	697.06

13. The details submitted by the petitioner in support of its claim for interest on working capital are as follows:-

(₹ in lakh)

Particulars	Central portion				
	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	18.16	28.14	29.07
O & M expenses	0.00	0.00	10.09	15.63	16.15
Receivables	82.97	90.22	109.36	118.07	116.18
Total	82.97	90.22	137.61	161.84	161.40
Interest Rate	7.47	12.18	18.58	21.85	21.79
Interest	13.50%	13.50%	13.50%	13.50%	13.50%

14. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act, 2003. None of the respondents have filed any reply. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

Date of Commercial operation

15. The petitioner has claimed the date of commercial operation of the instant transmission assets as 1.8.2014. The petitioner vide letter dated 31.7.2014 and



1.8.2014 submitted the self declaration certificate of COD. The petitioner vide affidavit dated 16.7.2015 has submitted the RLDC certificate issued by NRLDC dated 29.1.2015. As the petitioner has fulfilled the requirements of Regulation 5(2) of the 2014 Tariff Regulations, the COD of the assets is approved as 1.8.2014.

Capital cost

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

“(1) The Capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new projects.”

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

- (a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;
- (b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;
- (c) Increase in cost in contract packages as approved by the Commission;
- (d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;
- (e) capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;
- (f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;”
- (g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the DOCO as specified under Regulation 18 of these regulations; and
- (h) adjustment of any revenue earned by the transmission licensee by using the assets before DOCO.”



17. The petitioner vide affidavit dated 18.3.2016 has submitted the Auditor Certificate dated 2.3.2015 and also submitted the details of actual expenditure incurred as on the date of commercial operation and additional capital expenditure incurred/projected to be incurred corresponding to Central portion. The summary of capital cost claimed by the petitioner is given below:-

(₹ in lakh)

Apportioned approved cost	Cost as on DOCO	Estimated additional capital expenditure-		Total estimated completion cost
		2014-15	2015-16	
3050.70	2420.70	498.39	20.50	2939.59

Cost over-run

18. The total estimated completion cost of the instant asset is ₹2939.59 lakh against the apportioned approved cost of ₹3050.70 lakh. Thus, there is no cost over-run in the case of instant asset.

Time over-run

19. As per the investment approval dated 27.3.2012, the instant asset was to be commissioned within 30 months from the date of Investment Approval by 27.9.2014. The instant asset has been commissioned on 1.8.2014. Thus, there is no time over-run in the case of instant asset.

Treatment of Interest during Construction (IDC)

20. The petitioner vide affidavit dated 18.3.2016 has submitted the IDC discharged up to COD and the IDC discharged after COD i.e. in 2014-15 and 2015-16.



21. The IDC on cash basis up to COD has been worked out based on the available information, i.e. loan details in Form-9C, as per the tariff forms submitted vide the affidavit dated 18.3.2016. The IDC for the asset has been worked out considering no time over-run in the instant asset. The details submitted by the petitioner and allowable/worked out IDC as on COD on cash basis is as follows:-

(₹ in lakh)

Interest During Construction (IDC)						
Claimed as on COD as per the Auditor's Certificates	Discharged up to COD (as per claim)	Allowed/ Worked out on cash basis as on COD	Balance accrued IDC discharged during 2014-15 (as per claim)	Balance accrued IDC discharged during 2014-15 for calculation purpose	Balance accrued IDC discharged during 2015-16 (as per claim)	Balance accrued IDC discharged during 2015-16 for calculation purpose
202.75	129.69	129.69	41.88	41.88	31.18	8.51

22. The petitioner has also submitted vide affidavit dated 18.3.2016, that the balance accrued IDC as on COD was discharged in 2014-15 and 2015-16. The total allowable IDC as on COD is ₹180.08 lakh on accrual basis. Therefore, the same IDC is being discharged as ₹129.69 lakh as on COD and the balance accrued IDC is being discharged as ₹41.88 lakh and ₹8.51 lakh in 2014-15 and 2015-16 respectively, over and above the claimed additional capitalization. The IDC allowed shall be verified at the time of truing up, subject to submission of Audited capital expenditure, certified by the Auditor and its updated tariff forms.

23. The petitioner vide affidavit dated 18.3.2016 has claimed Gross Loan as on COD (as per Form-9C) as ₹1643.34 lakh, whereas while claiming the IDC, it has



considered total loan for the IDC calculation as ₹1694.49 lakh. We have considered, Gross loan given in Form-9C for IDC calculation which is ₹1643.34 lakh, as the actual loan deployed in the instant petition is ₹1643.34 lakh only. Therefore, the petitioner is directed to reconcile the Gross Loan for the calculation of weighted average Rate of Interest and for the calculation of IDC, which would be reviewed at the time of trueing-up.

Treatment of Incidental Expenditure During Construction (IEDC)

24. The petitioner, vide affidavit dated 26.5.2016, has submitted the information related to IEDC where it has given the year wise details of the IEDC incurred. It has also mentioned that the entire IEDC has been paid as on COD of the asset.

25. In other transmission tariff petitions, we have considered 10.75% of the hard cost as IEDC limit as per the abstract cost estimate. If the IEDC claimed as on COD is higher than 10.75% of the hard cost, it is being restricted to the allowable limit of 10.75% for the purpose of tariff calculation. The petitioner has claimed ₹299.45 however, the allowable IEDC works out to ₹206.24. The IEDC allowable would be reviewed at the time of true-up.

Initial Spares

26. The petitioner has not claimed initial spares in the instant petition.



27. The capital cost considered for the purpose of calculation of annual transmission charges, after adjusting the disallowed amount of IDC and IEDC, is as follows:-

(₹ in lakh)

Total capital cost as on COD as per Auditor's Certificate dated 2.3.2015	IDC & IEDC claimed	IDC on cash basis allowed	IEDC allowed	Capital cost considered for tariff calculation as on DOCO
1	2	3	4	5= 1-2+(3+4)
2420.70	502.20	129.69	206.24	2254.43

Projected additional capital expenditure

28. Clause (1) of Regulation 14 of the 2014 Tariff Regulations provides as under:-

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

- (i) Undischarged liabilities recognised to be payable at a future date;
- (ii) Works deferred for execution;
- (iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and
- (v) Change in Law or compliance of any existing law:

Provided that the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff.”



29. Clause (13) of Regulation 3 of the 2014 Tariff Regulations defines "cut-off" date as under:

"cut-off date" means 31st March of the year closing after two years of the year of commercial operation of whole or part of the project, and in case the whole or part of the project is declared under commercial operation in the last quarter of the year, the cut-off date shall be 31st March of the year closing after three years of the year of commercial operation".

Provided that the cut-off date may be extended by the Commission if it is proved on the basis of documentary evidence that the capitalisation could not be made within the cut-off date for reasons beyond the control of the project developer,"

30. The "cut-off" date in the case of instant asset is 31.3.2017.

31. The petitioner has claimed additional capital expenditure of ₹498.39 lakh and ₹20.50 lakh for 2014-15 and 2015-16 respectively for Central portion. The additional capital expenditure claimed is for balance and retention payment. Since, the additional capital expenditure claimed is for balance and retention payment and it is within the "cut off" date, the same is allowed under Regulation 14(1)(i). However, the petitioner is directed to submit the detailed breakup of the amount claimed under add-cap during truing-up.

Capital cost considered for the purpose of Tariff

32. Capital cost of ₹2254.43 lakh as on COD is allowed and considered for the purpose of tariff computation. Capital cost allowed for the purpose of tariff during 2014-19 is as under:-



(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	2254.43	2794.70	2823.71	2823.71	2823.71
Projected Add-Cap allowed	498.39	20.50	0.00	0.00	0.00
Balance accrued IDC allowed over and above after COD	41.88	8.51	0.00	0.00	0.00
Closing capital cost	2794.70	2823.71	2823.71	2823.71	2823.71

Debt-equity ratio

33. Clause 1 and 5 of Regulation 19 of the 2014 Tariff Regulations specifies as follows:-

“(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 DOCO. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

- i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
- ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
- iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio.

Explanation.-The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.”

“(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”



31. The capital cost on the date of commercial operation and additional capital expenditure allowed have been considered in the normative debt-equity ratio of 70:30. Details of debt-equity as on date of commercial operation and 31.3.2019 considered on normative basis are as under:-

(₹ in lakh)

Particulars	As on COD		As on 31.3.2019	
	Amount	%	Amount	%
Loan/Debt	1578.10	70.00	1976.60	70.00
Equity	676.33	30.00	847.11	30.00
Total	2254.43	100.00	2823.71	100.00

Additional capital expenditure is also considered in the debt-equity ratio of 70:30

Return on Equity (RoE)

32. Clause (1) and (2) of Regulation 24 and Clause (1) and (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 and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

Provided that:

(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:



(iv) the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:

(v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:

(vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometers.”

“25. Tax on Return on Equity:

(1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax income on other income stream (i.e., income of non generation or non transmission business, as the case may be) shall not be considered for the calculation of “effective tax rate”.

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

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

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

33. The petitioner has submitted that RoE has been calculated at the rate of 19.610% after grossing up the RoE with MAT rate of 20.961% based on the rate prescribed as per illustration under Regulation 25(2)(i) of the 2014 Tariff Regulations. 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.

34. 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.

35. We have considered the submissions made by the petitioner. 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 is as given under:-



Particulars	(₹ in lakh)				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	676.33	838.41	847.11	847.11	847.11
Addition due to Additional Capitalization	162.08	8.70	0.00	0.00	0.00
Closing Equity	838.41	847.11	847.11	847.11	847.11
Average Equity	757.37	842.76	847.11	847.11	847.11
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	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)	98.88	165.27	166.12	166.12	166.12

Interest on loan

36. Regulation 26 of the 2014 Tariff Regulations with regard to Interest on Loan specifies as under:-

“(1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of decapitalisation of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of decapitalisation of such asset.

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.

5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.



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

37. In keeping with the provisions of Regulation 26 of the 2014 Tariff Regulations, the petitioner’s entitlement to interest on loan has been calculated on the following basis:-

(a) Gross amount of loan, repayment of instalments and rate of interest and weighted average rate of interest on actual average loan have been considered as per the petition;

(b) The repayment for the tariff period 2014-19 has been considered to be equal to the depreciation allowed for that period;

(c) Weighted average rate of interest on actual average loan worked out as per (a) above is applied on the notional average loan during the year to arrive at the interest on loan.

38. The petitioner has submitted that the interest on loan has been considered on the basis of rate prevailing as on COD i.e. 1.8.2014 and the change in interest due to floating rate of interest applicable, if any, for the project needs to be claimed/ adjusted over the tariff block 2014-19 directly from the beneficiaries. The interest on loan has been calculated on the basis of rate prevailing as on the date of commercial operation. Any change in rate of interest subsequent to the date of commercial operation will be considered at the time of truing-up. The petitioner is directed to



reconcile the total Gross Loan for the calculation of weighted average Rate of Interest and for the calculation of IDC, which would be reviewed at the time of truing-up.

39. Detailed calculations in support of interest on loan have been given at Annexure-1 to Annexure-2 of this order.

40. The details of Interest on Loan calculated are as under:-

(₹ in lakh)					
Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	1578.10	1956.29	1976.60	1976.60	1976.60
Cumulative Repayment upto Previous Year	0.00	106.39	284.21	462.95	641.69
Net Loan-Opening	1578.10	1849.90	1692.38	1513.64	1334.90
Addition due to Additional Capitalisation	378.19	20.31	0.00	0.00	0.00
Repayment during the year	106.39	177.82	178.74	178.74	178.74
Net Loan-Closing	1849.90	1692.38	1513.64	1334.90	1156.16
Average Loan	1714.00	1771.14	1603.01	1424.27	1245.53
Weighted Average Rate of Interest on Loan	9.3892%	9.3878%	9.3812%	9.3704%	9.3616%
Interest on Loan	107.14	166.27	150.38	133.46	116.60

Depreciation

41. Regulation 27 of the 2014 Tariff Regulations with regard to depreciation specifies as follows:-

"27. Depreciation:

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



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

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

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

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

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

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

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

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in **Appendix-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 has claimed actual depreciation. In our calculations, depreciation has been calculated in accordance with Regulation 27 of the 2014 Tariff Regulations extracted above.



43. The instant asset was put under commercial operation during 2014-15. Accordingly, it will complete 12 years after the 2014-19 tariff period. As such, depreciation has been calculated annually based on Straight Line Method at the rates specified in Appendix-II to the 2014 Tariff Regulations.

44. The details of the depreciation worked out are as under:-

Particulars	(₹ in lakh)				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Block as on DOCO	2254.43	2794.70	2823.71	2823.71	2823.71
Addition during 2014-19 due to Projected Additional Capitalisation	540.27	29.01	0.00	0.00	0.00
Gross Block as on 31 st March	2794.70	2823.71	2823.71	2823.71	2823.71
Average Gross Block	2524.56	2809.20	2823.71	2823.71	2823.71
Rate of Depreciation	6.3300%	6.3300%	6.3300%	6.3300%	6.3300%
Depreciable Value	2272.11	2528.28	2541.34	2541.34	2541.34
Remaining Depreciable Value	2272.11	2421.89	2257.12	2078.38	1899.64
Depreciation	106.39	177.82	178.74	178.74	178.74

Operation & Maintenance Expenses (O&M Expenses)

45. Regulation 29(4)(c) of the 2014 Tariff Regulations provides as follows:-

“The operation and maintenance expenses of communication system forming part of inter-state transmission system shall be derived on the basis of the actual O&M expenses for the period of 2008-09 to 2012-13 based on audited accounts excluding abnormal variations if any after prudence check by the Commission. The normalised O&M expenses after prudence check, for the years 2008-09 to 2012-13 shall be escalated at the rate of 3.02% for computing base year expenses for FY 2012-13 and 2013-14 and at the rate of 3.32% for escalation from 2014-15 onwards.”

46. The petitioner has claimed the following O&M Expenses for the instant assets:-

(₹ in lakh)		
2016-17	2017-18	2018-19
121.04	187.58	193.81



47. The petitioner has submitted that O&M Expenses for the period 2016-19 has been calculated @7.5% of the capital cost in line with order in Petition No.139/2005 for NRULDC (communication portion) with escalation of 3.32% per annum in line with 2014 Tariff Regulations.

48. The O&M Expenses for 2016-17, 2017-18 and 2018-19 is not allowed in the absence of actual O&M Expenses. The petitioner's claim will be considered at the time of truing up and accordingly the petitioner is directed to submit actual O&M Expenses for the said period at the time of truing up.

49. The petitioner has further submitted that the wage revision of the employees is due during 2014-19 and actual impact of wage hike effective from a future date has not been factored in fixation of the normative O&M rates specified for the tariff block 2014-19. The petitioner has submitted that it would approach the Commission for suitable revision in norms for O&M Expenses for claiming the impact of wage hike during 2014-19, if any. Any application filed by the petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.

Interest on working capital

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

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

(a)-----

(c) Hydro generating station including pumped storage hydro electric generating



station and transmission system including communication system:

- (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”

“(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later”

“(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;”

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 as on 1.4.2014 i.e. 10% plus 350 basis points). The interest on working capital for the instant asset covered in the petition has been worked out accordingly.

52. The interest on working capital allowed in the table given below:-

Particulars	(₹ in lakh)				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00	0.00	0.00
Receivables	80.01	86.85	84.44	81.55	78.68
Total	80.01	86.85	84.44	81.55	78.68
Interest Rate	7.19	11.72	11.40	11.01	10.62
Interest	0.00	0.00	0.00	0.00	0.00



Annual Transmission charges

53. The details of the transmission charges allowed for the instant transmission assets are as under:-

(₹ in lakh)					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	106.39	177.82	178.74	178.74	178.74
Interest on loan	107.14	166.27	150.38	133.46	116.60
Return on Equity	98.88	165.27	166.12	166.12	166.12
Interest on Working Capital	7.19	11.72	11.40	11.01	10.62
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Total	319.60	521.08	506.64	489.33	472.08

Filing Fee and the Publication Expenses

54. 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

55. 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

56. The petitioner has made a prayer to be allowed to bill and recover the service tax on transmission charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list at any time in future. The petitioner has further prayed that if any taxes and duties including cess etc. are imposed by any statutory/Government/municipal authorities, it shall be allowed to be recovered from the beneficiaries. We consider petitioner's prayer pre-mature and accordingly this prayer is rejected.

Sharing of Annual Transmission Charges

57. The tariff allowable for the instant assets shall be shared as per Regulation 43 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014. These charges shall be recovered on monthly basis and the billing collection and disbursement of Transmission Charges shall be governed by provisions of Central Electricity Regulatory Commission (Sharing of interstate transmission Charges and Losses) regulations, 2010 as amended from time to time.

58. This order disposes of Petition No. 189/TT/2015.

sd/-

(M.K. Iyer)
Member

sd/-

(A.S. Bakshi)
Member

sd/-

(A.K. Singhal)
Member

sd/-

(Gireesh B. Pradhan)
Chairperson



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	Bond XXXVII					
	Gross loan opening	10.92	10.92	10.92	10.92	10.92
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.91	1.82	2.73
	Net Loan-Opening	10.92	10.92	10.01	9.10	8.19
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.91	0.91	0.91	0.91
	Net Loan-Closing	10.92	10.01	9.10	8.19	7.28
	Average Loan	10.92	10.47	9.56	8.65	7.74
	Rate of Interest	9.25%	9.25%	9.25%	9.25%	9.25%
	Interest	1.01	0.97	0.88	0.80	0.72
	Rep Schedule	12 annual installments from 26.12.2015				
2	Bond XL					
	Gross loan opening	38.19	38.19	38.19	38.19	38.19
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	3.18	6.37
	Net Loan-Opening	38.19	38.19	38.19	35.01	31.83
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	3.18	3.18	3.18
	Net Loan-Closing	38.19	38.19	35.01	31.83	28.64
	Average Loan	38.19	38.19	36.60	33.42	30.23
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	3.55	3.55	3.40	3.11	2.81
	Rep Schedule	12 annual installments from 28.06.2016				
3	Bond XLV					
	Gross loan opening	645.34	645.34	645.34	645.34	645.34
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	53.78
	Net Loan-Opening	645.34	645.34	645.34	645.34	591.56
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	53.78	53.78
	Net Loan-Closing	645.34	645.34	645.34	591.56	537.78
	Average Loan	645.34	645.34	645.34	618.45	564.67
	Rate of Interest	9.65%	9.65%	9.65%	9.65%	9.65%
	Interest	62.28	62.28	62.28	59.68	54.49



	Rep Schedule	12 annual installments from 28.02.2018				
4	SBI (21.03.2012)					
	Gross loan opening	314.34	314.34	314.34	314.34	314.34
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	28.54	57.08
	Net Loan-Opening	314.34	314.34	314.34	285.80	257.26
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	28.54	28.54	28.54
	Net Loan-Closing	314.34	314.34	285.80	257.26	228.71
	Average Loan	314.34	314.34	300.07	271.53	242.98
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	32.22	32.22	30.76	27.83	24.91
	Rep Schedule	22 half yearly installment from 31.08.2016				
5	Bond XXXVIII					
	Gross loan opening	292.32	292.32	292.32	292.32	292.32
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	292.32	292.32	292.32	292.32	292.32
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	292.32	292.32	292.32	292.32	292.32
	Average Loan	292.32	292.32	292.32	292.32	292.32
	Rate of Interest	9.25%	9.25%	9.25%	9.25%	9.25%
	Interest	27.04	27.04	27.04	27.04	27.04
	Rep Schedule	9.3.2027 Bullet Payment				
6	Bond XLII					
	Gross loan opening	125.45	125.45	125.45	125.45	125.45
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	125.45	125.45	125.45	125.45	125.45
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	125.45	125.45	125.45	125.45	125.45
	Average Loan	125.45	125.45	125.45	125.45	125.45
	Rate of Interest	8.80%	8.80%	8.80%	8.80%	8.80%
	Interest	11.04	11.04	11.04	11.04	11.04
	Rep Schedule	13.3.2023 Bullet Payment				
7	Bond XLIII					
	Gross loan opening	216.78	216.78	216.78	216.78	216.78



	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	18.07
	Net Loan-Opening	216.78	216.78	216.78	216.78	198.72
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	18.07	18.07
	Net Loan-Closing	216.78	216.78	216.78	198.72	180.65
	Average Loan	216.78	216.78	216.78	207.75	189.68
	Rate of Interest	7.93%	7.93%	7.93%	7.93%	7.93%
	Interest	17.19	17.19	17.19	16.47	15.04
	Rep Schedule	12 annual installments from 20.5.2017				
8	SBI (21.03.2012) - AddCap for 2014-15					
	Gross loan opening	0.00	29.32	29.32	29.32	29.32
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	2.66	5.32
	Net Loan-Opening	0.00	29.32	29.32	26.66	24.00
	Additions during the year	29.32	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	2.66	2.66	2.66
	Net Loan-Closing	29.32	29.32	26.66	24.00	21.33
	Average Loan	14.66	29.32	27.99	25.33	22.66
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	1.50	3.01	2.87	2.60	2.32
	Rep Schedule	22 half yearly installment from 31.08.2016				
9	Bond XLVI - AddCap for 2014-15					
	Gross loan opening	0.00	348.87	348.87	348.87	348.87
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	348.87	348.87	348.87	348.87
	Additions during the year	348.87	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	348.87	348.87	348.87	348.87	348.87
	Average Loan	174.44	348.87	348.87	348.87	348.87
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	16.22	32.44	32.44	32.44	32.44
	Rep Schedule	Redeemable at par in 3 equal installments on 04.09.2019, 04.09.2024 & 04.09.2029				
	Total Loan					
	Gross loan opening	1643.34	2021.53	2021.53	2021.53	2021.53
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.91	36.21	143.35



Net Loan-Opening	1643.34	2021.53	2020.62	1985.32	1878.18
Additions during the year	378.19	0.00	0.00	0.00	0.00
Repayment during the year	0.00	0.91	35.30	107.14	107.14
Net Loan-Closing	2021.53	2020.62	1985.32	1878.18	1771.04
Average Loan	1832.44	2021.08	2002.97	1931.75	1824.61
Rate of Interest	9.3892%	9.3878%	9.3812%	9.3704%	9.3616%
Interest	172.05	189.73	187.90	181.01	170.81

