

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 512/TT/2014

Coram:

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

**Date of Hearing : 03.02.2016
Date of Order : 22.02.2016**

In the matter of:

Truing up of transmission tariff of 2009-14 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 and determination of transmission tariff for 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for 220/132 kV 100 MVA ICT and associated bays at Raebareli under augmentation of 220/132 kV Transformation capacity at Raebareli by 1x100 MVA Transformer in Northern Region under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

And in the matter of:

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

.....**Petitioner**

Versus

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
Govt. of Jammu & 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 66/11 KV 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

The following were present:-

For Petitioner: Smt. Sangeeta Edwards, PGCIL
 Shri S.S. Raju, PGCIL
 Shri S.C. Taneja, PGCIL
 Shri M.M. Mondal, PGCIL
 Shri Rakesh Prasad, PGCIL

For Respondent: None

ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. (“the petitioner”), for truing up of capital expenditure under Regulation 6 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as “the 2009 Tariff Regulations”) based on actual capital expenditure for the period 1.4.2009 to 31.3.2014, and for determination of tariff under Central Electricity Regulatory Commission (Terms and Conditions of Tariff Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from 1.4.2014 to 31.3.2019 of 220/132 kV 100 MVA ICT and associated bays at Raebareli (hereinafter referred as “transmission



asset”) under augmentation of 220/132 kV Transformation capacity at Raebareli by 1x100 MVA Transformer in Northern Region.

2. The respondents are distribution licensees who are procuring transmission service from the petitioner, mainly beneficiaries of the Northern Region and or transmission licensees or centralised power procurement companies of States.

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. A combined has been filed by Ajmer Vidyut Vitran Nigam Limited, Jaipur Vidyut Vitran Nigam Limited and Jodhpur Vidyut Vitran Nigam Limited, Respondents No. 2, 3 and 4, (collectively referred to as “Rajasthan Discoms”) vide affidavit dated 23.12.2014. The concerns expressed by respondents are being addressed in the respective paras of this order. The hearing in the matter was held on 3.2.2016. The petitioner was directed to submit additional information vide letter dated 30.1.2016, the petitioner has submitted the information vide affidavit dated 15.2.2016. 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 installation of 220/132 kV Transformation capacity at Raebareli by 1x100 MVA transformer in Northern Region was accorded by Board of Directors of the petitioner company vide letter dated 26.8.2010 at an estimated cost of ₹1057 lakh, which included IDC of ₹44 lakh (based on 2nd quarter, 2011 price level).
- (b) The petitioner has developed the transmission asset in the Northern Region. The date of the commercial operation of the transmission asset is 1.10.2011 within the schedule date of commercial operation of 1.3.2012 as per investment approval.
- (c) The tariff for the 2009-14 period was allowed vide order dated 3.2.2014 in Petition No. 186/TT/2011 in accordance with the 2009 Tariff Regulations. The tariff allowed for the tariff period 2009-14 is as under:-

Particulars	(₹ in lakh)		
	2011-12 (Pro-rata)	2012-13	2013-14
Depreciation	9.82	25.14	29.76
Interest on Loan	11.95	29.11	32.27
Return on equity	9.75	24.97	29.56
Interest on Working Capital	2.31	5.14	5.60
O & M Expenses	35.14	74.30	78.55
Total	68.98	158.67	175.74

- (d) Tariff for the 2009-14 tariff period was allowed based on capital cost of ₹317.14 lakh as on 1.10.2011 vide order dated 3.2.2014 in Petition No. 186/TT/2011, has determined the. Excess initial spares of ₹17.30 lakh pertaining to sub-station was disallowed .



- (e) The additional capital expenditure of ₹109.56 lakh, ₹98.99 lakh and ₹75.93 lakh for 2011-12, 2012-13 and 2013-14 respectively was approved vide order dated 3.2.2014 in Petition No. 186/TT/2011.
- (f) The MAT rate applicable as on 2008-09 was considered to arrive at rate of return on equity for the tariff period 2009-14, which is required to be adjusted as per the actual MAT rate applicable for the respective year at the time of truing up of tariff for 2009-14 tariff period.

TRUING UP OF ANNUAL FIXED CHARGES FOR TARIFF PERIOD 2009-14

5. Clause (3) of the Regulation 6 of the 2009 Tariff Regulations provides as under:-

“(3) The generating company or the transmission licensee, as the case may be, shall submit for the purpose of truing up, details of capital expenditure and additional capital expenditure incurred for the period from 1.4.2009 to 31.3.2014, duly audited and certified by the auditors”.

6. The petitioner has submitted the information as required under the 2009 Tariff Regulations for truing up of annual fixed charges for 2009-14 tariff period. The tariff for 2009-14 tariff period has been trued up in the subsequent paragraphs.

7. Rajasthan Discoms have submitted that the revised transmission tariff claimed by the petitioner for the instant assets for 2009-14 tariff period is on higher when compared to the tariff approved vide order dated 3.2.2014 in Petition



No. 186/TT/2011. Thus, requested the Commission to thoroughly scrutinize the expenses claimed by the petitioner.

IDC and IEDC

8. As per investment approval dated 26.8.2010, the asset was to be commissioned within 18 months from the date of investment approval, i.e., by 1.3.2012. The asset was commissioned on 1.10.2011. The petitioner has completed the project within the timeline and hence, the IDC and IEDC claimed by the petitioner were considered in the capital cost as on COD.

Initial Spares

9. Regulation 8 of the 2009 Tariff Regulations provides that initial spares shall be capitalised as a percentage of the original project cost, subject to following ceiling norms:-

“Transmission line:	0.75%
Transmission sub-station	2.50%
Series compensation devices & HVDC Station:	3.50%”

10. The initial spares was allowed based on estimated capital cost upto cut-off date in the order dated 3.2.2014 in Petition No. 186/TT/2011. The Commission had held that the initial spares will be reviewed at the time of true up based on actual capital expenditure upto cut-off date.

11. The petitioner has deducted excess initial spares of ₹14.51 lakh from the capital cost as on COD. The admissible initial spares worked out and allowed in



accordance with Regulation 8 of the 2009 Tariff Regulations is shown in table below:-

₹ in lakh

Description	Capital cost as on cut-off date	Initial spares submitted	Ceiling limit	Initial spares worked out and allowed	Excess initial spares claimed
Asset	(a)	(b)	(c)	$(d)=((a-b)*c/(100\%-c\%))$	$(e)=(b)-(d)$
Sub-station	624.60	29.76	2.50%	15.25	14.51

12. The excess initial spares of ₹14.51 lakh has been reduced from the capital cost as on COD for the purpose of truing up tariff for the tariff period 2009-14.

Capital Cost

13. The petitioner has claimed adjusted capital cost of ₹320.60 lakh as on 1.10.2011 for the purpose of tariff.

14. Clause (1) of Regulation 7 of the 2009 Tariff Regulations provides that:-

“(1) Capital cost for a project shall include:

- (a) the expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan - (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, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check;
- (b) capitalised initial spares subject to the ceiling rates specified in regulation 8; and
- (c) additional capital expenditure determined under regulation 9:

Provided that the assets forming part of the project, but not in use shall be taken out of the capital cost.”



15. The petitioner has submitted the Auditor's Certificate dated 27.10.2014 certifying the capital cost and additional capitalization claimed.

16. The petitioner has claimed actual capital cost of ₹320.60 lakh as on COD as against the admitted capital cost of ₹317.14 lakh. The petitioner has submitted the Auditor Certificate in support of actual capital cost as on COD. We have considered the petitioner's submissions. The assets have been commissioned within the timeline, accordingly, the capital cost for the asset as on COD including IDC and IEDC excluding excess initial spares has been considered as ₹320.60 lakh. There is a marginal variation in actual capital cost when compared to the capital cost approved in order dated 3.2.2014 in Petition No. 186/TT/2011.

Additional Capital Expenditure

17. The petitioner has claimed additional capitalization for expenditure incurred within cut-off date against transmission line under Clause (1) (i) of Regulation 9 of the 2009 Tariff Regulations.

18. Clause 1 of Regulation 9 of the 2009 Tariff Regulations provides as follows:-

"The capital expenditure 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;"

19. Additional capitalization of ₹109.56 lakh, ₹98.99 lakh and ₹75.93 lakh during 2011-12, 2012-13 and 2013-14, respectively was allowed vide order dated 3.2.2014 in Petition No. 186/TT/2011, towards balance and retention payments



for works executed within cut-off date under Clause 1(i) of Regulation 9 of the 2009 Tariff Regulation. Against this, the petitioner has claimed additional capitalization of ₹109.58 lakh, ₹113.04 lakh and ₹66.87 lakh in 2011-12, 2012-13 and 2013-14, respectively, towards balance and retention payments for works executed within cut-off date.

20. The total capital cost of ₹610.09 lakh for the instant asset including additional capitalization claimed by the petitioner is within the overall approved apportioned cost of ₹1057.00 lakh. Hence, considering the petitioner's submissions, we have allowed additional capitalization under Clause (1)(i) of Regulation 9 of the 2009 Tariff Regulations, as shown in the table below:

(₹ in lakh)

Approved Apportioned Cost: ₹1057.00 lakh						
Particulars	Admitted capital cost as on COD	Additional Capitalization			Total additional capitalization	Total capital cost including additional capitalization
		2011-12	2012-13	2013-14		
Approved in order dated 3.2.2014	317.14	109.56	98.99	75.93	284.48	601.62
Approved in this order	320.60	109.58	113.04	66.87	289.49	610.09

Debt: Equity

21. Clause 1 of Regulation 12 of the 2009 Tariff Regulations provides that:-

“For a project declared under commercial operation on or after 1.4.2009, 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 where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff: Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.”



22. The petitioner has claimed true up Annual Fixed Charge based on debt-equity ratio of 70:30 as on 1.10.2011, as considered in order dated 3.2.2014 in Petition No. 186/TT/2011, as opening debt:equity. As regards additional capitalization, the petitioner has submitted debt:equity ratio of 70:30 for 2011-12 and 2012-13, and 75:25 for 2013-14.

23. The petitioner was directed to submit an undertaking on affidavit that actual equity infused for the additional capitalisation during 2009-14 period is not less than 30% for the given transmission asset. In this regard, the petitioner vide affidavit dated 15.2.2016 has submitted that the actual equity infused during the tariff period 2009-14 as tabulated below:-

Particulars	Cash Expenditure/ Add cap during the year (₹lakh)	Actual Debt		Actual Equity	
		Amount (₹lakh)	%	Amount (₹lakh)	%
Additional capitalisation 2011-12	109.58	76.71	70.00	32.87	30.00
Additional capitalisation 2012-13	113.04	17.87	16.00	95.17	84.00
Additional capitalisation 2013-14	66.87	50.00	75.00	16.87	25.00

24. We have considered the petitioner's submission. It is observed that the petitioner has submitted debt:equity ratio of 16:84 for additional capitalization of 2012-13. In accordance with Clause 1 of Regulation 12, normative equity of 30% is to be allowed and hence the equity deployed beyond 30% has been treated as notional debt for the purpose of working out tariff for the given transmission asset.



25. The normative debt:equity ratio of 70:30 as on 1.10.2011 has been considered as opening debt:equity ratio as on 1.10.2011 in line with the 2009 Tariff Regulations for the purpose of truing up of the approved tariff of tariff period 2009-14, as given under:-

(₹ in lakh)		
Funding	Amount	(%)
Debt	224.42	70.00
Equity	96.18	30.00
Total	320.60	100.00

26. The debt:equity for tariff period 2009-14 as on 31.3.2014 including additional capitalization is as follows:-

Particulars	Amount (in ₹ lakh)	(%)
Debt	430.25	70.52
Equity	179.84	29.48
Total	610.09	100.00

Interest on Loan (“IOL”)

27. Regulation 16 of the 2009 Tariff Regulations provides the methodology for working out weighted average rate of interest on loan.

28. The petitioner has submitted the weighted average rate of interest on loan based on its actual loan portfolio and rate of interest.

29. We have considered the submissions of the petitioner and accordingly calculated the IOL based on actual interest rate submitted by the petitioner, in accordance with Regulation 16 of the 2009 Tariff Regulations. The details of weighted average rate of interest are placed at **Annexure-I** and the IOL has been worked out and allowed as follows:-



Particulars	(₹ in lakh)		
	2011-12 (Pro-rata)	2012-13	2013-14
Approved vide order dated 3.2.2014	11.95	29.11	32.27
As claimed by the petitioner	12.06	29.75	32.80
Allowed after trued up	12.06	29.75	32.80

30. The interest on loan has increased due to increase in capital cost as on COD and actual additional capitalization during 2011-14 tariff period.

Return on Equity (“ROE”)

31. Clause (3), (4) and (5) of Regulation 15 of the 2009 Tariff Regulations provide that:-

“(3) The rate of return on equity shall be computed by grossing up the base rate with the Minimum Alternate/Corporate Income Tax Rate for the year 2008-09, as per the Income Tax Act, 1961, as applicable to the concerned generating company or the transmission licensee, as the case may be.

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

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

Where “t” is the applicable tax rate in accordance with clause (3) of this regulation.

(5) The generating company or the transmission licensee, as the case maybe, shall recover the shortfall or refund the excess Annual Fixed Charge on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax Rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission:

Provided further that Annual Fixed Charge with respect to the tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations.”

32. For truing up purpose, the computation of RoE for the tariff period 2009-14 has been done on the basis of actual MAT rate applicable during 2009-14. The petitioner has submitted the variation in the MAT rate during 2009-14 as per the



Finance Act of the relevant year for the purpose of grossing up of ROE, as below:-

Particulars	MAT Rate (t) %	Grossed up ROE (Base rate/(1-t)) %
2011-12	20.008	19.377
2012-13	20.008	19.377
2013-14	20.961	19.610

33. Accordingly, the ROE as trued up is shown in the table below:-

Particulars	(₹ in lakh)		
	2011-12 (Pro-rata)	2012-13	2013-14
Approved vide order dated 3.2.2014	9.75	24.97	29.56
As claimed by the petitioner	10.91	28.29	33.61
Allowed after trued up	10.91	28.29	33.61

34. The return on equity allowed in the instant order is more than the return on equity allowed vide order dated 3.2.2014 due to increase in equity on account of additional capitalisation and increase in the applicable MAT rate for the purpose of grossing up of base rate of return on equity.

Depreciation

35. Clause (42) of Regulation 3 of the 2009 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) Hydro generating station	35 years
(e) Transmission line	35 years”



36. Clause (4) of Regulation 17 of the 2009 Tariff Regulations provides as follows:-

"17. Depreciation:

...
(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-III 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 date of commercial operation shall be spread over the balance useful life of the assets."

37. The depreciation was worked out in accordance with Regulation 17 of the 2009 Tariff Regulations in order dated 3.2.2014 in Petition No. 186/TT/2011.

38. The weighted average useful life of the transmission asset has been considered as per Regulations 3 (42) and 17 (4) of the 2009 Tariff Regulations. For the purpose of calculation, the weighted average useful life of the asset as on COD has been considered as 25 years for the Asset. The depreciation for the tariff period 2009-14 has been worked out in accordance with Regulation 17 of the 2009 Tariff Regulations based on admitted capital expenditure as under:

Particulars	(₹ in lakh)		
	2011-12 (Pro-rata)	2012-13	2013-14
Approved vide order dated 3.2.2014	9.82	25.14	29.76
As claimed by the petitioner	9.91	25.70	30.45
Allowed after tried up	9.91	25.70	30.45

39. The variation in depreciation allowed is on account of increase in capital cost as on COD and additional capitalization.



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

40. The petitioner has computed O&M Expenses for the assets mentioned in the petition in accordance with the O&M norms for 220 kV and 132 kV & below bays specified in Regulation 19(g) of the 2009 Tariff Regulations. The petitioner has claimed O&M Expenses for 1 bay of 220 kV level and 1 bay of 132 kV & below level. Accordingly, the O&M Expenses have been worked out as given below:-

Particulars		2011-12 (Pro-rata)	2012-13	2013-14
Actual	220 kV Bays	1	1	1
	132 kV and below Bays	1	1	1
Norms as per Regulation	220 kV Bays	20.50	43.34	45.82
	132 kV and below Bays	14.64	30.96	32.73
Total (₹ in lakh)		35.14	74.30	78.55

41. The O&M Expenses claimed by the petitioner for tariff period 2009-14 are same as that approved in the tariff order dated 3.2.2014 in Petition No. 186/TT/2011. Accordingly, the O&M Expenses claimed by the petitioner, allowed and trued up are the same, and they are as follows:-

(₹ in lakh)			
Particulars	2011-12 (Pro-rata)	2012-13	2013-14
Approved vide order dated 3.2.2014	35.14	74.30	78.55
As claimed by the petitioner	35.14	74.30	78.55
Allowed after trued up	35.14	74.30	78.55

Interest on working capital (“IWC”)

42. Sub-clause (c) of clause (1) of Regulation 18 of the 2009 Tariff Regulations provides the components of the working capital for the transmission



system and clause (3) of Regulation 18 of the 2009 Tariff Regulations provides for the rate of interest of working capital.

43. The petitioner has submitted that the rate of interest on working capital has been considered as 11.75% as per clause (3) of Regulation 18 of the 2009 Tariff Regulations and the components of working capital are also considered in accordance with Sub-clause (c) of clause (1) of Regulation 18 of the 2009 Tariff Regulations.

44. As provided in accordance with Clause (3) of Regulation 18 of the 2009 Tariff Regulations, the rate of interest on working capital on normative basis, i.e., equal to State Bank of India Base Rate as applicable as on 1.4.2011 plus 350 basis points has been considered. State Bank of India Base Rate on 1.4.2011 was 8.25%. Therefore, interest rate of 11.75% (8.25% plus 350 basis points) has been considered to work out the interest on working capital in the instant case.

45. The IWC trued up is as under:-

Particulars	(₹ in lakh)		
	2011-12 (Pro-rata)	2012-13	2013-14
Maintenance Spares	5.27	11.15	11.78
O & M expenses	2.93	6.19	6.55
Receivables	11.73	27.21	30.18
Total	19.93	44.55	48.51
Rate of Interest (%)	11.75	11.75	11.75
Interest	2.34	5.23	5.70



Particulars	(₹ in lakh)		
	2011-12 (Pro-rata)	2012-13	2013-14
Approved vide order dated 3.2.2014	2.31	5.14	5.60
As claimed by the petitioner	2.34	5.23	5.70
Allowed after trued up	2.34	5.23	5.70

46. The variation in IWC is on account of increase in receivables due to variation in ROE, change in capital cost and increase in additional capitalization on account of applicable MAT rate during the 2009-14 tariff period.

ANNUAL FIXED CHARGES FOR 2009-14 TARIFF PERIOD

47. The detailed computation of the various components of the trued up annual fixed charges for the transmission asset for the tariff period 2009-14 is summarised below:-

Particulars	(₹ in lakh)		
	2011-12 (pro-rata)	2012-13	2013-14
Gross Block			
Opening Gross Block	320.60	430.18	543.22
Additional Capitalization	109.58	113.04	66.87
Closing Gross block	430.18	543.22	610.09
Average Gross block	375.39	486.70	576.66
Depreciation			
Rate of Depreciation (%)	5.280	5.280	5.280
Depreciable Value	168.93	438.03	518.99
Elapsed Life of the assets at beginning of the year	0	1	2
Weighted Balance Useful life of the assets	25	24	23
Remaining Depreciable Value	168.93	428.12	483.38
Depreciation	9.91	25.70	30.45



Particulars	2011-12 (pro-rata)	2012-13	2013-14
Interest on Loan			
Gross Normative Loan	224.42	301.13	380.26
Cumulative Repayment upto Previous Year	0.00	9.91	35.61
Net Loan-Opening	224.42	291.22	344.65
Additions	76.71	79.13	50.00
Repayment during the year	9.91	25.70	30.45
Net Loan-Closing	291.22	344.65	364.20
Average Loan	257.82	317.93	354.42
Weighted Average Rate of Interest on Loan(%)	9.3531	9.3566	9.2541
Interest	12.06	29.75	32.80
Return on Equity			
Opening Equity	96.18	129.05	162.97
Additions	32.87	33.91	16.87
Closing Equity	129.05	162.97	179.84
Average Equity	112.62	146.01	171.40
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
MAT rate for the respective year (%)	20.008	20.008	20.961
Rate of Return on Equity (Pre Tax) (%)	19.377	19.377	19.610
Return on Equity (Pre Tax)	10.91	28.29	33.61
Interest on Working Capital			
Maintenance Spares	5.27	11.15	11.78
O & M Expenses	2.93	6.19	6.55
Receivables	11.73	27.21	30.18
Total	19.93	44.55	48.51
Interest	2.34	5.23	5.70
Annual Transmission Charges			
Depreciation	9.91	25.70	30.45
Interest on Loan	12.06	29.75	32.80
Return on Equity	10.91	28.29	33.61
Interest on Working Capital	2.34	5.23	5.70



Particulars	2011-12 (pro-rata)	2012-13	2013-14
O & M Expenses	35.14	74.30	78.55
Total	70.36	163.27	181.11

DETERMINATION OF ANNUAL TRANSMISSION CHARGES FOR 2014-19

48. Rajasthan Discoms have submitted that various components of tariff such as O&M expense, interest on working capital, etc. should be checked prudently and allowed only as per the norms mentioned in the 2014 Tariff Regulation while determination of tariff for 2014-19 tariff period.

49. The petitioner has claimed the transmission charges as under:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	32.21	32.21	32.21	32.21	32.21
Interest on Loan	31.90	28.95	25.98	23.03	20.09
Return on Equity	35.26	35.26	35.26	35.26	35.26
Interest on Working Capital	6.28	6.35	6.42	6.49	6.57
O&M Expenses	72.36	74.76	77.24	79.80	82.46
Total	178.01	177.53	177.11	176.79	176.59

50. 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
Maintenance Spares	10.85	11.21	11.59	11.97	12.37
O & M expenses	6.03	6.23	6.44	6.65	6.87
Receivables	29.67	29.59	29.52	29.47	29.43
Total	46.55	47.03	47.54	48.09	48.67
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	6.28	6.35	6.42	6.49	6.57



Capital Cost

51. Clause (1) & (3) of Regulation 9 of the 2014 Tariff Regulations specify 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.”

“(3) The Capital cost of an existing project shall include the following:

- (a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014;
- (b) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and
- (c) expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 15.”

52. The petitioner has claimed capital expenditure of ₹610.09 lakh as on 31.3.2014. No additional capital expenditure has been projected during the tariff period 2014-19. The trued up capital cost of ₹610.09 lakh as on 31.3.2014 is considered to workout tariff for tariff period 2014-19.

Additional Capital Expenditure

53. The petitioner has not claimed any additional capitalization for tariff period 2014-19. Accordingly, the additional capitalization for tariff period 2014-19 has been considered as NIL.

Debt:Equity Ratio

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



“(3) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2014, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered.”

55. The petitioner has considered debt:equity ratio as 70.52:29.48 as on 31.3.2014. The debt:equity ratio of 70.52:29.48 after true-up for the tariff period ending 31.3.2014 has been considered as opening debt:equity ratio as on 1.4.2014. The details of the debt:equity as on 1.4.2014 considered for the purpose of tariff for the 2014-19 tariff period is as follows:-

Particulars	Amount (in ₹ lakh)	(%)
Debt	430.25	70.52
Equity	179.84	29.48
Total	610.09	100.00

Interest on Loan (“IOL”)

56. 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.”

57. The weighted average rate of IOL has been considered on the basis of interest rate prevailing as on 1.4.2014.



58. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. The details of weighted average rate of interest are placed at **Annexure-II** and the IOL has been worked out and allowed as follows:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	430.25	430.25	430.25	430.25	430.25
Cumulative Repayment up to DOCO/Previous Year	66.06	98.27	130.48	162.69	194.91
Net Loan-Opening	364.20	331.99	299.77	267.56	235.35
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	32.21	32.21	32.21	32.21	32.21
Net Loan-Closing	331.99	299.77	267.56	235.35	203.13
Average Loan	348.09	315.88	283.67	251.45	219.24
Rate of Interest (%)	9.1644	9.1644	9.1597	9.1572	9.1625
Interest	31.90	28.95	25.98	23.03	20.09

Return on Equity (“ROE”)

59. 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”

“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:

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

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.”

60. The petitioner has computed ROE at the rate of 19.610% 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.

61. 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.

62. 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 by the Commission is given below:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	179.84	179.84	179.84	179.84	179.84
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	179.84	179.84	179.84	179.84	179.84
Average Equity	179.84	179.84	179.84	179.84	179.84
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)	35.27	35.27	35.27	35.27	35.27

Depreciation

63. 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 up to 31.3.2014 from the gross depreciable value of the assets.”

64. The petitioner has computed depreciation considering capital expenditure of ₹610.09 lakh as on 31.3.2014 and not projected any additional capitalization for the tariff period 2014-19.

65. We have considered capital expenditure of ₹610.09 lakh as on 31.3.2014. Depreciation is allowed as provided under Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation allowed is given hereunder:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	610.09	610.09	610.09	610.09	610.09
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Gross block at the end of the year	610.09	610.09	610.09	610.09	610.09
Average Gross Block	610.09	610.09	610.09	610.09	610.09
Rate of Depreciation (%)	5.280	5.280	5.280	5.280	5.280
Depreciable Value	549.08	549.08	549.08	549.08	549.08
Elapsed Life of the assets at beginning of the year (in Years)	3	4	5	6	7
Weighted Balance Useful life of the assets(in Years)	22	21	20	19	18
Remaining Depreciable Value	483.03	450.81	418.60	386.39	354.18
Depreciation	32.21	32.21	32.21	32.21	32.21

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

66. Rajasthan Discoms have submitted that the 2014 Tariff Regulations have been framed after detailed discussion and consultation. Thus, the sanctity of the



regulations should be maintained and any request by petitioner for revision in O&M norms should not be considered. Further, the expected wage rise in future should be scrutinized in a detailed manner and any additional changes should be allowed in accordance with the law.

67. 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 have been worked out as given hereunder:-

Particulars		(₹ in lakh)				
		2014-15	2015-16	2016-17	2017-18	2018-19
Actual (No. of bays)	132 kV and below Bays	1	1	1	1	1
	220 kV Bays	1	1	1	1	1
Norms as per Regulation	132 kV and below Bays	30.15	31.15	32.18	33.25	34.36
	220 kV Bays	42.21	43.61	45.06	46.55	48.10
Total		72.36	74.76	77.24	79.80	82.46

68. The petitioner has 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.



69. 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.

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

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses Allowed	72.36	74.76	77.24	79.80	82.46

Interest on Working Capital (“IWC”)

71. 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;

(i) 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;”

72. 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%.



73. 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	10.85	11.21	11.59	11.97	12.37
O & M expenses	6.03	6.23	6.44	6.65	6.87
Receivables	29.67	29.59	29.52	29.47	29.43
Total	46.55	47.03	47.54	48.09	48.67
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	6.28	6.35	6.42	6.49	6.57

Annual Transmission Charges

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

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Block					
Opening Gross Block	610.09	610.09	610.09	610.09	610.09
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	610.09	610.09	610.09	610.09	610.09
Average Gross Block	610.09	610.09	610.09	610.09	610.09
Depreciation					
Rate of Depreciation	5.280	5.280	5.280	5.280	5.280
Depreciable Value	549.08	549.08	549.08	549.08	549.08
Elapsed Life of the assets at beginning of the year	3	4	5	6	7



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Weighted Balance Useful life of the assets	22	21	20	19	18
Remaining Depreciable Value	483.03	450.81	418.60	386.39	354.18
Depreciation	32.21	32.21	32.21	32.21	32.21
Interest on Loan					
Gross Normative Loan	430.25	430.25	430.25	430.25	430.25
Cumulative Repayment upto Previous Year	66.06	98.27	130.48	162.69	194.91
Net Loan-Opening	364.20	331.99	299.77	267.56	235.35
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	32.21	32.21	32.21	32.21	32.21
Net Loan-Closing	331.99	299.77	267.56	235.35	203.13
Average Loan	348.09	315.88	283.67	251.45	219.24
Weighted Average Rate of Interest on Loan (%)	9.1644	9.1644	9.1597	9.1572	9.1625
Interest	31.90	28.95	25.98	23.03	20.09
Return on Equity					
Opening Equity	179.84	179.84	179.84	179.84	179.84
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	179.84	179.84	179.84	179.84	179.84
Average Equity	179.84	179.84	179.84	179.84	179.84
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)	35.27	35.27	35.27	35.27	35.27
Interest on Working Capital					
Maintenance Spares	10.85	11.21	11.59	11.97	12.37
O & M expenses	6.03	6.23	6.44	6.65	6.87
Receivables	29.67	29.59	29.52	29.47	29.43
Total	46.55	47.03	47.54	48.09	48.67
Interest	6.28	6.35	6.42	6.49	6.57



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Transmission Charges					
Depreciation	32.21	32.21	32.21	32.21	32.21
Interest on Loan	31.90	28.95	25.98	23.03	20.09
Return on Equity	35.27	35.27	35.27	35.27	35.27
Interest on Working Capital	6.28	6.35	6.42	6.49	6.57
O & M Expenses	72.36	74.76	77.24	79.80	82.46
Total	178.02	177.54	177.12	176.80	176.60

75. The petitioner has sought recovery of deferred tax liability before 1.4.2009 from the beneficiaries or long term consumers/ DICs as and when materialized. However, the COD of the asset is after 2009, hence the claim of the petitioner is not maintainable.

Filing Fee and Publication Expenses

76. 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

77. 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

78. 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. In this regard, Rajasthan Discoms have submitted that this is on presumption basis and should not be allowed by the Commission. We are of the view that the petitioner's prayer is premature.

Sharing of Transmission Charges

79. 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.

80. This order disposes of Petition No. 512/TT/2014.

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

Sd/-
(A.S. Bakshi)
Member



DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO

(₹ in lakh)

Particulars	2009-14			
	Interest Rate (%)	Loan deployed as on 1.4.2009	Additions during the tariff period	Total
BOND XXXVI - ADDCAP FOR 2011-2012 Loan-1	9.35	0.00	44.58	44.58
BOND XXXVI - DOCO Funding	9.35	224.42	0.00	224.42
BOND XXXIX - ADDCAP FOR 2011-2012 Loan-2	9.40	0.00	32.13	32.13
BOND XXXIX - ADDCAP FOR 2012-2012 Loan-3	9.40	0.00	17.87	17.87
BOND XLIII - ADDCAP FOR 2013-2014 Loan-4	7.93	0.00	50.00	50.00
Total		224.42	144.58	369.00

WEIGHTED AVERAGE RATE OF INTEREST ON LOAN DURING 2009-14 TARIFF PERIOD

(₹ in lakh)

Particulars	2011-12	2012-13	2013-14
Gross Opening Loan	224.42	301.13	319.00
Cumulative Repayments of Loans up to Previous Year	0.00	0.00	0.00
Net Loans Opening	224.42	301.13	319.00
Add: Drawal(s) during the year	76.71	17.87	50.00
Less: Repayment(s) of Loan during the year	0.00	0.00	0.00
Net Closing Loan	301.13	319.00	369.00
Average Net Loan	262.78	310.07	344.00
Interest on Loan	24.58	29.01	31.83
Rate of Interest on Loan (%)	9.3531	9.3566	9.2541



DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO

(₹ in lakh)

Particulars	2014-19			
	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
BOND XXXVI - ADDCAP FOR 2011-2012 Loan-1	9.35	44.58	0.00	44.58
BOND XXXVI - DOCO Funding	9.35	224.42	0.00	224.42
BOND XXXIX - ADDCAP FOR 2011-2012 Loan-2	9.40	32.13	0.00	32.13
BOND XXXIX - ADDCAP FOR 2012-2012 Loan-3	9.40	17.87	0.00	17.87
BOND XLIII - ADDCAP FOR 2013-2014 Loan-4	7.93	50.00	0.00	50.00
Total		369.00	0.00	369.00

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

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	369.00	369.00	369.00	369.00	369.00
Cumulative Repayments of Loans up to Previous Year	0.00	0.00	0.00	17.93	40.03
Net Loans Opening	369.00	369.00	369.00	351.07	328.97
Add: Drawal(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.00	0.00	17.93	22.10	22.10
Net Closing Loan	369.00	369.00	351.07	328.97	306.87
Average Net Loan	369.00	369.00	360.04	340.02	317.92
Interest on Loan	33.82	33.82	32.98	31.14	29.13
Rate of Interest on Loan (%)	9.1644	9.1644	9.1597	9.1572	9.1625

