

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 5/TT/2015

Coram:

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

**Date of Hearing : 20.01.2016
Date of Order : 29.03.2016**

In the matter of:

Truing up of transmission tariff for 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 transmission assets under "Northern Region System Strengthening Scheme- XXIII", under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

And in the matter of:

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

.....**Petitioner**

Versus

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



4. Jodhpur Vidyut Vitran Nigam Ltd.
400 kV GSS Building (Ground Floor), Ajmer Road
Heerapura, Jaipur
5. Himachal Pradesh State Electricity Board,
Vidyut Bhawan,
Kumar House Complex Building II
Shimla-171004
6. Punjab State Electricity Board
Thermal Shed T1 A, Near 22 Phatak
Patiala-147001
7. Haryana Power Purchase Centre
Shakti Bhawan, Sector-6
Panchkula (Haryana) 134 109
8. Power Development Deptt.
Govt. of Jammu & Kashmir
Mini Secretariat, Jammu
9. Uttar Pradesh Power Corporation Ltd.
Shakti Bhawan, 14, Ashok Marg
Lucknow- 226001
10. Delhi Transco Ltd.
Shakti Sadan, Kotla Road
New Delhi- 110002
11. BSES Yamuna Power Ltd.
BSES Bhawan, Nehru Place
New Delhi
12. BSES Rajdhani Power Ltd.
BSES Bhawan, Nehru Place
New Delhi
13. North Delhi Power Ltd.
Power Trading & Load Dispatch Group
Cennet Building
Pitampura, New Delhi-110034
14. Chandigarh Administration
Sector-9, Chandigarh



15. Uttarakhand Power Corporation Ltd.
Urja Bhawan, Kanwali Road
Dehradun

16. North Central Railway
Allahabad

17. New Delhi Municipal Council
Palika Kendra, Sansad Marg
New Delhi-110002

....Respondents

The following were present:

For Petitioner: Shri M. M. Mondal, PGCIL
Shri S. K. Venkatesan, PGCIL
Smt. Sangeeta Edwards, PGCIL
Shri S. C. Taneja, PGCIL
Shri Y. K. Sehgal, PGCIL
Shri Nitish Kumar, PGCIL
Shri G. C. Dhal, PGCIL
Shri Rakesh Prasad, PGCIL
Shri S. S. Raju, PGCIL
Shri Jasbir Singh, PGCIL
Shri Anshul Garg, PGCIL

For Respondent: Shri Pradeep, Advocate, Rajasthan Discoms

ORDER

The present petition has been preferred by Power Grid Corporation of India Ltd. ("the petitioner"), for truing up of capital expenditure of transmission assets under "Northern Region System Strengthening Scheme- XXIII" (hereinafter referred as "transmission asset") 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 from COD 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.

2. The respondents are mostly distribution licensees, transmission licensees and central power purchase entities of States, who are procuring transmission service from the petitioner, mainly beneficiaries of the Northern Region ,

3. The petitioner has served the petition on the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of Electricity Act, 2003 (“the Act”). No comments have been received from the public in response to the notices published by the petitioner under Section 64 of the Act. None of the respondents have filed any reply to the petition. The hearing in this matter was held on 20.1.2016. 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 the transmission scheme was accorded vide memorandum dated 10.12.2009 by the Board of Directors of PGCIL. The estimated cost of the project is ₹10972 lakh, including IDC of ₹641 lakh, based on 2nd quarter of 2009 price level. The details of the assets along with COD and approved apportioned cost are as under:-



Assets name	Date of commercial operation	Approved apporportioned cost (₹ in lakh)
500 MVA 400/220 kV ICT-III along with associated bay at Maharaniabagh Sub-station (referred as "Asset-I")	1.12.2010	3124.59
500 MVA 400/220 kV ICT-IV along with associated bay at Maharaniabagh Sub-station (referred as "Asset-II")	1.12.2010	3052.62
500 MVA 400/220 kV ICT-II along with associated bays at Lucknow Sub-station (referred as "Asset-III")	1.2.2012	2417.45
500 MVA 400/220 kV ICT along with associated bays at Bahadurgarh Sub-station (referred as "Asset-IV")	1.11.2011	2377.78
Total		10972.44

(b) The tariff from respective COD to 31.3.2014 was determined vide order dated 16.5.2012 in Petition No. 3/TT/2011 for Combined Asset-I&II, order dated 9.7.2012 in Petition No. 146/TT/2011 for Asset-III and order dated 8.2.2013 in Petition No. 189/TT/2011 for Asset-IV in accordance with the 2009 Tariff Regulations. The tariff allowed for the tariff period 2009-14 is as under:-

(₹ in lakh)

Particulars	Combined Asset-I&II			
	2010-11 (Pro-rata)	2011-12	2012-13	2013-14
Depreciation	82.29	304.79	304.79	304.79
Interest on Loan	93.82	331.91	305.45	278.95
Return on Equity	81.99	304.02	304.02	304.02
Interest on Working Capital	7.63	26.49	26.51	26.56
O & M Expenses	62.79	199.14	210.52	222.56
Total	328.53	1166.36	1151.29	1136.87



(₹ in lakh)

Particulars	Asset-III			Asset-IV		
	2011-12 (Pro-rata)	2012-13	2013-14	2011-12 (Pro-rata)	2012-13	2013-14
Depreciation	17.15	114.58	121.58	30.30	105.10	115.01
Interest on Loan	20.65	131.73	129.49	36.17	118.87	120.78
Return on Equity	17.56	116.95	123.90	30.03	104.22	114.04
Interest on Working Capital	3.21	20.61	21.61	5.55	15.76	16.72
O & M Expenses	43.93	278.62	294.56	75.65	191.94	202.92
Total	102.50	662.50	691.15	177.70	535.88	569.46

- (c) The capital cost of ₹3583.52 lakh for Combined Asset-I&II was considered as on COD of 1.12.2010 for determination of tariff in order dated 16.5.2012 in Petition No. 3/TT/2011.
- (d) The capital cost of ₹1920.85 lakh for Asset-III and ₹898.47 lakh for Asset-IV was considered as on COD for determination of tariff in order dated 9.7.2012 in Petition No. 146/TT/2011 and order dated 8.2.2013 in Petition No. 189/TT/2011, respectively.
- (e) 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. The truing up of tariff for the 2009-14 tariff period has been determined as discussed below.



Capital Cost

6. In the instant petition, the petitioner has claimed actual capital cost (including initial spares, before deducting excess spares) of ₹ 2343.40 lakh for Asset-I, ₹1630.08 lakh for Asset-II and ₹1945.84 lakh for Asset-III, as on COD, as admitted by the Commission in order dated 16.5.2012 in Petition No. 3/TT/2011 for Asset-I&II and order dated 9.7.2012 in Petition No. 146/TT/2011 for Asset-III, for the purpose of tariff and has submitted the Auditor's Certificates dated 15.10.2014 in support of the capital expenditure.

7. The petitioner has further claimed actual capital cost (including initial spares, before deducting excess spares) of ₹ 960.29 lakh for Asset-IV, as on COD, and has submitted the Auditor's Certificates dated 11.8.2014 in support of the capital expenditure incurred.

8. Regulation 7 of the 2009 Tariff Regulations specifies as follows:-

“(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 fund 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.



(2) The capital cost admitted by the Commission after prudence check shall form the basis for determination of tariff:

Provided that in case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out based on the benchmark norms to be specified by the Commission from time to time:

Provided further that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the reasonableness of the capital expenditure, financing plan, interest during construction, use of efficient technology, cost over-run and time over-run, and such other matters as may be considered appropriate by the Commission for determination of tariff.”

9. The petitioner has submitted the Auditor’s Certificate certifying the capital cost as on COD and additional capitalization claimed thereafter. Thus, the capital cost (including excess initial spares) has been considered as ₹2343.40 lakh for Asset-I, ₹1630.08 lakh for Asset-II, ₹1945.84 lakh for Asset-III and ₹960.29 lakh for Asset-IV, respectively, as on COD, as the same is within the approved apportioned cost.

Initial Spares

10. The petitioner has claimed initial spares of ₹266.61 lakh, ₹266.61 lakh, ₹79.98 lakh and ₹113.16 lakh pertaining to the sub-station for Asset-I, Asset-II, Asset-III and Asset-IV, respectively. In instant petition, the excess initial spares of ₹150.37, ₹149.96, ₹20.81 and ₹60.97 lakh for Asset-I, II, III and IV, respectively, pertaining to the sub-station has been deducted from the capital cost as on COD. Accordingly, claimed capital cost as on COD (after deducting excess initial spares) is ₹2193.03 lakh, ₹1480.12 lakh, ₹1925.03 lakh and ₹899.32 lakh for Asset-I, Asset-II, Asset-III and Asset-IV, respectively.



11. In order dated 16.5.2012 in Petition No. 3/TT/2011, 9.7.2012 in Petition No. 146/TT/2011 and 8.2.2013 in Petition No. 189/TT/2011, the Commission had disallowed the excess initial spares of ₹190.44 lakh, ₹199.52 lakh , ₹24.99 lakh and ₹57.55 lakh for Asset-I, II, III and IV, respectively, pertaining to the sub-station considering the capital cost as on COD and additional capital expenditure upto the end of the tariff period 31.3.2014 and the initial spares was to be reviewed at the time of truing up considering the additional capital expenditure during the 2014-19 period.

12. The petitioner has submitted actual capital expenditure for true up of tariff during 2009-14 tariff period as per the 2009 Tariff Regulations and also submitted the estimated capital expenditure for determination of tariff during 2014-19 tariff period in accordance with the 2014 Tariff Regulations. The initial spares have been worked out by considering the additional capital expenditure upto cut-off date beyond 31.3.2014. The petitioner has claimed the additional capitalization for 2014-19 tariff period in the instant petition and as the cut-off date falls beyond the 31.3.2014, we have considered the additional capitalization as considered to work out the capital cost upto cut-off date.

13. 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:

- (i) Transmission system
 - (a) Transmission line - 0.75%
 - (b) Transmission Sub-station - 2.5%
 - (c) Series Compensation devices and HVDC Station - 3.5%”



14. We have worked out the initial spares pertaining to sub-station as per ceiling norms specified in Regulation 8 of the 2009 Tariff Regulations. The details of initial spares for sub-station claimed by the petitioner and allowed are shown in Table below:-

(₹ in lakh)

Description	Cut-off date	Capital cost as on cut-off date	Initial Spares claimed	Ceiling limit as per Regulation 8 of 2009 Tariff Regulations	Initial spares worked out and allowed	Excess initial spares claimed
		(a)	(b)	(c)	(d)=((a-b)*c)/(100-c)%	(e)=(b)-(d)
Asset-I	31.3.2013	3281.84*	266.61	3.50%	109.36	157.25
Asset-II	31.3.2013	3212.39*	266.61	3.50%	106.84	159.77
Asset-III	31.3.2015	2387.59	79.98	2.50%	59.17	20.81
Asset-IV	31.3.2014	2027.29	113.16	2.50%	49.08	64.08

(*Additional capitalization restricted in absence of RCE)

15. Accordingly, the capital cost as on COD has been worked out after adjusting initial spares for the Asset-I to IV as under:-

(₹ in lakh)

Particulars	Apportioned approved cost	Capital cost claimed as on COD	Excess initial spares	Capital cost of individual assets considered as on COD after deducting excess initial spares
Asset-I	3124.59	2343.40	157.25	2186.15
Asset-II	3052.62	1630.08	159.77	1470.31
Asset-III	2417.45	1945.84	20.81	1925.03
Asset-IV	2377.78	960.29	64.08	896.21

Additional Capital Expenditure

16. The petitioner has claimed additional capitalization for the assets towards balance & retention payment incurred in transmission line within cut-off date



under Regulation 9(1)(i) of the 2009 Tariff Regulations. Further, the petitioner has claimed additional capitalization for Asset-I and Asset-II for 2013-14 towards balance & retention payment incurred in transmission line after cut-off date under Regulation 9(2)(ii) of the 2009 Tariff Regulations.

17. Regulation 9(1)(i) and Regulation 9(2)(ii) of the 2009 Tariff Regulations provides that:-

“Additional Capitalisation. (1) 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...;

...

...

(2) The capital expenditure incurred on the following counts after the cut-off date may, in its discretion, be admitted by the Commission, subject to prudence check:

(iii) Deferred works relating to ash pond or ash handling system in the original scope of work;”

18. The petitioner has claimed additional capitalization of ₹1061.11 lakh, ₹1785.83 lakh, ₹441.75 lakh and ₹1067.00 lakh during tariff period 2009-14 for Asset-I, II, III and IV, respectively, towards balance and retention payment for works executed within cut-off date under Regulation 9(1)(i) of the 2009 Tariff Regulations. Further, the petitioner has claimed additional capitalization of ₹67.00 lakh and ₹67.00 lakh of Asset-I and Asset-II, respectively, for 2013-14 towards balance & retention payment incurred in transmission line after cut-off date under Regulation 9(2)(ii) of the 2009 Tariff Regulations.



19. The approved apportioned cost as per investment approval is as ₹3124.59 lakh, ₹3052.62 lakh, ₹2417.45 lakh and ₹2377.78 lakh in case of Asset-I, II, III and IV, respectively. The total capital cost as on 31.3.2014 in case of Asset-III and Asset-IV is within the approved apportioned cost. However, the total capital cost as on 31.3.2012 of Asset-I and Asset-II exceed the approved apportioned cost. In this regard, the petitioner was directed to submit the revised RCE for the transmission assets, if any. The petitioner, vide affidavit dated 4.2.2016, has requested for revision in tariff after approval of RCE. The petitioner is yet to submit the RCE for Asset-I and II. Therefore, we have restricted the capital cost including additional capitalisation to approved apportioned cost of ₹3124.59 lakh and ₹3052.62 lakh of Asset-I and Asset-II, respectively, after deducting excess initial spares from actual cost as on COD.

(₹ in lakh)

Asset	Particulars	Approved Apportioned Cost	Capital cost as on COD	Additional Capital Expenditure (2009-14)				Total Add cap	Capital Cost as on 31.3.2014
				2010-11	2011-12	2012-13	2013-14		
Combined Asset-I&II	Approved in order dated 16.5.2012	6177.21	3583.52	2213.58	0.00	0.00	0.00	2213.58	5797.10
	Approved in this order	6177.21 (=3124.59 +3052.62)	3656.46 (=2186.15 +1470.31)	1703.50 (=483.74+ 1219.76)	817.25 (=454.70 +362.55)	0.00	0.00	2520.75	6177.21
Asset-III	Approved in order dated 9.7.2012	2417.45	1920.85	-	176.60	265.14	0.00	441.74	2362.59
	Approved in this order	1925.03	1925.03	-	176.60	93.55	171.60	441.75	2366.78
Asset-IV	Approved in order dated 8.2.2013	2377.78	898.47	-	951.42	274.67	100.00	1326.09	2224.55
	Approved in this order	2377.78	896.21	-	951.42	35.14	80.44	1067.00	1963.21



Debt: Equity

20. Clause 1 & 3 of Regulation 12 of the 2009 Tariff Regulations provide that:-

“(1) 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.

.....

(3) Any expenditure incurred or projected to be incurred on or after 1.4.2009 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.”

21. The petitioner has claimed true up Annual Fixed Charge based on normative debt-equity ratio of 70:30 considered by the Commission in its order dated 16.5.2012 in Petition No. 3/TT/2011 for Combined Asset-I&II, order dated 9.7.2012 in Petition No. 146/TT/2011 for Asset-III and order dated 8.2.2013 in Petition No. 189/TT/2011 for Asset-IV. The debt:equity ratio of 70:30 as on COD for the instant assets is in line with Regulation 12 of the 2009 Tariff Regulations and hence, same has been considered for the purpose of trueing up of the approved tariff of 2009-14 tariff period, as given under:-

(₹ in lakh)

Funding as on COD	Combined Asset-I&II		Asset-III		Asset-IV	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	2559.52	70.00	1347.50	70.00	627.35	70.00
Equity	1096.94	30.00	577.53	30.00	268.86	30.00
Total	3656.46	100.00	1925.03	100.00	896.21	100.00



22. With respect to additional capitalization, the petitioner has submitted the debt:equity ratio of 70:30 for 2009-14 for the assets . 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. The petitioner, vide its affidavit dated 4.2.2016, has submitted that the actual equity infused during the tariff period 2009-14. The details are as given below:-

(₹ in lakh)

Particulars	Cash Expenditure/ Addcap during the year	Actual Debt		Actual Equity	
		Amount	%	Amount	%
Combined Asset-I&II					
2010-11	1703.50	1168.89	68.61	534.61	31.39
2011-12	1127.06	788.95	70.00	338.11	30.00
2012-13	16.38	11.46	70.00	4.92	30.00
2013-14	134.00	93.80	70.00	40.20	30.00
Asset-III					
2011-12	176.60	0.00	0.00	176.60	100.00
2012-13	93.55	65.49	70.00	28.06	30.00
2013-14	171.60	120.12	70.00	51.48	30.00
Asset-IV					
2011-12	951.42	640.22	67.30	311.20	32.70
2012-13	35.14	24.60	70.00	10.54	30.00
2013-14	80.44	56.31	70.00	24.13	30.00

23. The petitioner has further submitted that as per Regulation 12(3) of the 2009 Tariff Regulations, excess equity over 30% shall be deemed loan. Accordingly, normative equity of 30% is considered for Combined Asset-I&II in



2010-11, and Asset-III and Asset-IV in 2011-12. The balance amount is considered as deemed loan as given in Form-13A. In the remaining years of the assets, the actual loan deployed is 70% and the equity infused is 30% in accordance with Regulation 12(1) of the 2009 Tariff Regulations.

24. The overall debt equity ratio as on 31.3.2014 for the instant asset including additional capitalization is as under:-

(₹ in lakh)						
Funding	Combined Asset-I&II		Asset-III		Asset-IV	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	4324.05	70.00	1656.73	70.00	1374.25	70.00
Equity	1853.16	30.00	710.05	30.00	588.96	30.00
Total	6177.21	100.00	2366.78	100.00	1963.21	100.00

Interest on Loan (“IOL”)

25. Regulation 16 of the 2009 Tariff Regulations provides the methodology for working out weighted average rate of interest on loan. The Commission in its earlier order dated 8.6.2011 in Petition No. 238/2010 has held that:-

“...in case of floating rate of interest, any change in the rates of interest during the tariff period will be considered at the time of true up”.

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



(₹ in lakh)

Particulars	Combined Asset-I&II			
	2010-11 (Pro-rata)	2011-12	2012-13	2013-14
Approved vide order dated 16.5.2012	93.82	331.91	305.45	278.95
As claimed by the petitioner	90.82	345.68	354.80	328.85
Allowed after trued up	90.48	335.51	335.60	306.73

(₹ in lakh)

Particulars	Asset-III			Asset-IV		
	2011-12 (Pro-rata)	2012-13	2013-14	2011-12 (Pro-rata)	2012-13	2013-14
Approved vide order dated 9.7.2012 and 8.2.2013	20.65	131.73	129.49	36.17	118.87	120.78
As claimed by the petitioner	20.67	126.75	124.84	36.95	115.20	109.11
Allowed after trued up	20.67	126.75	124.84	36.88	115.03	108.94

27. There is variation in interest on loan due to variation in capital cost as on COD and variation in actual additional capitalization during 2011-14 tariff period.

Return on Equity (“ROE”)

28. Clause (3), (4) and (5) of Regulation 15 of the 2009 Tariff Regulations provides 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.”

29. The petitioner has submitted that MAT rate of 11.330% applicable for 2008-09 was considered in the order dated 2.12.2014 in Petition No. 69/TT/2012. However, 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 relevant financial year of 2009-14 tariff period. The petitioner has submitted the variation in the MAT rate during tariff period 2000-14 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)) %
2010-11	19.931	19.358
2011-12	20.008	19.377
2012-13	20.008	19.377
2013-14	20.961	19.610

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

Particulars	Combined Asset-I&II (₹ in lakh)			
	2010-11 (Pro-rata)	2011-12	2012-13	2013-14
Approved vide order dated 16.5.2012	81.99	304.02	304.02	304.02
As claimed by the petitioner	87.59	345.29	378.52	387.50
Allowed after trued up	87.27	335.33	359.09	363.41



(₹ in lakh)

Particulars	Asset-III			Asset-IV		
	2011-12 (Pro-rata)	2012-13	2013-14	2011-12 (Pro-rata)	2012-13	2013-14
Approved vide order dated 9.7.2012 and 8.2.2013	17.56	116.95	123.90	30.03	104.22	114.04
As claimed by the petitioner	19.51	124.89	134.19	33.30	108.60	113.31
Allowed after trued up	19.51	124.89	134.19	33.23	108.43	113.13

31. The variation in return on equity is on account of increase in the applicable MAT rate for the purpose of grossing up of base rate of return on equity, variation in capital cost and actual additional capitalization.

Depreciation

32. 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”

33. 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.”



34. The depreciation for the subject assets was allowed in accordance with Regulation 17 of the 2009 Tariff Regulations.

35. 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 Combined Asset-I&II, Asset-III and Asset-IV. 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.

(₹ in lakh)

Particulars	Combined Asset-I&II			
	2010-11 (Pro-rata)	2011-12	2012-13	2013-14
Approved vide order dated 16.5.2012	82.29	304.79	304.79	304.79
As claimed by the petitioner	79.20	312.35	342.53	346.50
Allowed after trued up	78.91	303.29	324.86	324.86

(₹ in lakh)

Particulars	Asset-III			Asset-IV		
	2011-12 (Pro-rata)	2012-13	2013-14	2011-12 (Pro-rata)	2012-13	2013-14
Approved vide order dated 9.7.2012 and 8.2.2013	17.15	114.58	121.58	30.30	105.10	115.01
As claimed by the petitioner	17.19	110.28	117.28	30.32	98.82	101.88
Allowed after trued up	17.19	110.27	117.27	30.25	98.65	101.71

The variation in depreciation is on account of variation in capital cost as on COD and variation in additional capitalization vis-à-vis that approved in the order.



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

36. The petitioner has computed O&M Expenses for the instant assets in accordance with the O&M norms for lines and bays specified in Regulation 19(g) of the 2009 Tariff Regulations. The O&M Expenses claimed by the petitioner for 2009-14 tariff period are same as that approved in the tariff order dated 16.5.2012 in Petition No. 3/TT/2011 for Combined Asset-I&II, 9.7.2012 in Petition No. 146/TT/2011 for Asset-III and 8.2.2013 in Petition No. 189/TT/2011 for Asset-IV. Accordingly, the O&M Expenses claimed by the petitioner, allowed and trued up are the same, and are as follows:-

(₹ in lakh)

Particulars	Combined Asset-I&II			
	2010-11 (Pro-rata)	2011-12	2012-13	2013-14
Approved vide order dated 16.5.2012	62.79	199.14	210.52	222.56
As claimed by the petitioner	62.79	199.14	210.52	222.56
Allowed after trued up	62.79	199.14	210.52	222.56

(₹ in lakh)

Particulars	Asset-III			Asset-IV		
	2011-12 (Pro-rata)	2012-13	2013-14	2011-12 (Pro-rata)	2012-13	2013-14
Approved vide order dated 9.7.2012 and 8.2.2013	43.93	278.62	294.56	75.65	191.94	202.92
As claimed by the petitioner	43.93	278.62	294.56	75.65	191.94	202.92
Allowed after trued up	43.93	278.62	294.56	75.65	191.94	202.92



Interest on working capital (“IWC”)

37. 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.

38. The petitioner has submitted the rate of interest on working capital as 11.00%, 11.75% and 11.75% for Asset-1, 2 and 3, respectively, for the period COD [1.12.2010 for Combined Asset-I&II, 1.2.2012 for Asset-III and 1.11.2011 for Asset-IV] to 31.3.2014 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.

39. In accordance with Clause (3) of Regulation 18 of the 2009 Tariff Regulations, the following rate of interest on normative basis is considered to workout the interest on working capital:-

a. equal to State Bank of India Base Rate as applicable as on 1.7.2010 plus 350 basis points (=7.50% plus 350 basis points = 13.50%) for Combined Asset-I&II for the period 2010-11 to 2013-14;

b. equal to State Bank of India Base Rate as applicable as on 1.4.2011 plus 350 basis points (=8.25% plus 350 basis points = 11.75%) for Asset-III and Asset-IV for the period 2011-12 to 2013-14.



40. Therefore, interest rate has been considered as 11.00% for Combined Asset-I&II for the period 2010-11 to 2013-14 and 11.75% for Asset-III and Asset-IV for the period 2011-12 to 2013-14, to work out the interest on working capital in the instant case.

41. The IWC trued up is as under:-

(₹ in lakh)

Particulars	Combined Asset-I&II			
	2010-11 (Pro-rata)	2011-12	2012-13	2013-14
Maintenance Spares	9.42	29.87	31.58	33.38
O & M expenses	5.23	16.60	17.54	18.55
Receivables	54.51	200.06	209.76	207.68
Total	69.16	246.53	258.88	259.62
Rate of Interest (%)	11.00	11.00	11.00	11.00
Interest	7.61	27.12	28.48	28.56

(₹ in lakh)

Particulars	Asset-III			Asset-IV		
	2011-12 (Pro-rata)	2012-13	2013-14	2011-12 (Pro-rata)	2012-13	2013-14
Maintenance Spares	6.59	41.79	44.18	11.35	28.79	30.44
O & M expenses	3.66	23.22	24.55	6.30	16.00	16.91
Receivables	17.42	110.19	115.42	30.27	88.28	90.48
Total	27.67	175.20	184.15	47.93	133.07	137.83
Rate of Interest (%)	11.75	11.75	11.75	11.75	11.75	11.75
Interest	3.25	20.59	21.64	5.63	15.64	16.20

42. The IWC approved, claimed and trued up in this order is as given below:-

(₹ in lakh)

Particulars	Combined Asset-I&II			
	2010-11 (Pro-rata)	2011-12	2012-13	2013-14
Approved vide order dated 16.5.2012	7.63	26.49	26.51	26.56
As claimed by the petitioner	7.63	27.66	29.53	29.82
Allowed after trued up	7.61	27.12	28.48	28.56



(₹ in lakh)

Particulars	Asset-III			Asset-IV		
	2011-12 (Pro-rata)	2012-13	2013-14	2011-12 (Pro-rata)	2012-13	2013-14
Approved vide orders dated 9.7.2012 and 8.2.2013	3.21	20.61	21.61	5.55	15.76	16.72
As claimed by the petitioner	3.25	20.59	21.64	5.63	15.65	16.21
Allowed after trued up	3.25	20.59	21.64	5.63	15.64	16.20

The variation in IWC is on account of variation in IOL, depreciation and ROE due to variation in capital cost, actual additional capitalization and further increase in ROE on account of applicable MAT rate during 2009-14 tariff period.

ANNUAL FIXED CHARGES FOR 2009-14 TARIFF PERIOD

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

(₹ in lakh)

Particulars	Combined Asset-I&II			
	2010-11 (Pro-rata)	2011-12	2012-13	2013-14
Gross Block				
Opening Gross Block	3656.46	5359.96	6177.21	6177.21
Additional Capitalization	1703.50	817.25	0.00	0.00
Closing Gross block	5359.96	6177.21	6177.21	6177.21
Average Gross block	4508.21	5768.59	6177.21	6177.21
Average Gross block excluding freehold land	4508.21	5768.59	6177.21	6177.21
Depreciation				
Rate of Depreciation (%)	5.251	5.258	5.259	5.259
Depreciable Value	4057.39	5191.73	5559.49	5559.49



Particulars	Combined Asset-I&II			
	2010-11 (Pro-rata)	2011-12	2012-13	2013-14
Elapsed Life of the assets at beginning of the year	0	1	0	1
Weighted Balance Useful life of the assets	25	24	24	23
Remaining Depreciable Value	4057.39	5112.81	5177.29	4852.43
Depreciation	78.91	303.29	324.86	324.86
Interest on Loan				
Gross Normative Loan	2559.52	3751.97	4324.05	4324.05
Cumulative Repayment upto Previous Year	0.00	78.91	382.20	707.06
Net Loan-Opening	2559.52	3673.06	3941.85	3616.99
Additions	1192.45	572.07	0.00	0.00
Repayment during the year	78.91	303.29	324.86	324.86
Net Loan-Closing	3673.06	3941.85	3616.99	3292.12
Average Loan	3116.29	3807.45	3779.42	3454.56
Weighted Average Rate of Interest on Loan (%)	8.7107	8.8119	8.8796	8.8789
Interest	90.48	335.51	335.60	306.73
Return on Equity				
Opening Equity	1096.94	1607.99	1853.16	1853.16
Additions	511.05	245.17	0.00	0.00
Closing Equity	1607.99	1853.16	1853.16	1853.16
Average Equity	1352.46	1730.58	1853.16	1853.16
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50
MAT rate for the respective year (%)	19.931	20.008	20.008	20.961
Rate of Return on Equity (Pre Tax) (%)	19.358	19.377	19.377	19.610
Return on Equity (Pre Tax)	87.27	335.33	359.09	363.41
Interest on Working Capital				
Maintenance Spares	9.42	29.87	31.58	33.38
O & M Expenses	5.23	16.60	17.54	18.55
Receivables	54.51	200.06	209.76	207.68



Particulars	Combined Asset-I&II			
	2010-11 (Pro-rata)	2011-12	2012-13	2013-14
Total	69.16	246.53	258.88	259.62
Interest	7.61	27.12	28.48	28.56
Annual Transmission Charges				
Depreciation	78.91	303.29	324.86	324.86
Interest on Loan	90.48	335.51	335.60	306.73
Return on Equity	87.27	335.33	359.09	363.41
Interest on Working Capital	7.61	27.12	28.48	28.56
O & M Expenses	62.79	199.14	210.52	222.56
Total	327.06	1200.39	1258.54	1246.11

(₹ in lakh)

Particulars	Asset-III			Asset-IV		
	2011-12 (Pro-rata)	2012-13	2013-14	2011-12 (Pro-rata)	2012-13	2013-14
Gross Block						
Opening Gross Block	1925.03	2101.63	2195.18	896.21	1847.63	1882.77
Additional Capitalization	176.60	93.55	171.60	951.42	35.14	80.44
Closing Gross block	2101.63	2195.18	2366.78	1847.63	1882.77	1963.21
Average Gross block	2013.33	2148.40	2280.98	1371.92	1865.20	1922.99
Average Gross block excluding freehold land	2013.33	2148.40	2280.98	1371.92	1865.20	1922.99
Depreciation						
Rate of Depreciation (%)	5.123	5.133	5.141	5.292	5.289	5.289
Depreciable Value	1812.00	1933.56	2052.88	1234.73	1678.68	1730.69
Elapsed Life of the assets at beginning of the year	0	1	2	0	1	2
Weighted Balance Useful life of the assets	25	24	23	25	24	23
Remaining Depreciable Value	1812.00	1916.37	1925.42	1234.73	1648.43	1601.79
Depreciation	17.19	110.27	117.27	30.25	98.65	101.71



Particulars	Asset-III			Asset-IV		
	2011-12 (Pro-rata)	2012-13	2013-14	2011-12 (Pro-rata)	2012-13	2013-14
Interest on Loan						
Gross Normative Loan	1347.50	1471.12	1536.61	627.35	1293.34	1317.94
Cumulative Repayment upto Previous Year	0.00	17.19	127.46	0.00	30.25	128.91
Net Loan-Opening	1347.50	1453.93	1409.15	627.35	1263.09	1189.03
Additions	123.62	65.49	120.12	665.99	24.60	56.31
Repayment during the year	17.19	110.27	117.27	30.25	98.65	101.71
Net Loan-Closing	1453.93	1409.15	1411.99	1263.09	1189.03	1143.63
Average Loan	1400.71	1431.54	1410.57	945.22	1226.06	1166.33
Weighted Average Rate of Interest on Loan (%)	8.8551	8.8538	8.8505	9.3643	9.3822	9.3402
Interest	20.67	126.75	124.84	36.88	115.03	108.94
Return on Equity						
Opening Equity	577.53	630.51	658.57	268.86	554.29	564.83
Additions	52.98	28.06	51.48	285.43	10.54	24.13
Closing Equity	630.51	658.57	710.05	554.29	564.83	588.96
Average Equity	604.02	644.54	684.31	411.58	559.56	576.90
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50	15.50
MAT rate for the respective year (%)	20.008	20.008	20.961	20.008	20.008	20.961
Rate of Return on Equity (Pre Tax) (%)	19.377	19.377	19.610	19.377	19.377	19.610
Return on Equity (Pre Tax)	19.51	124.89	134.19	33.23	108.43	113.13
Interest on Working Capital						
Maintenance Spares	6.59	41.79	44.18	11.35	28.79	30.44
O & M Expenses	3.66	23.22	24.55	6.30	16.00	16.91
Receivables	17.42	110.19	115.42	30.27	88.28	90.48
Total	27.67	175.20	184.15	47.93	133.07	137.83



Particulars	Asset-III			Asset-IV		
	2011-12 (Pro-rata)	2012-13	2013-14	2011-12 (Pro-rata)	2012-13	2013-14
Interest	3.25	20.59	21.64	5.63	15.64	16.20
Annual Transmission Charges						
Depreciation	17.19	110.27	117.27	30.25	98.65	101.71
Interest on Loan	20.67	126.75	124.84	36.88	115.03	108.94
Return on Equity	19.51	124.89	134.19	33.23	108.43	113.13
Interest on Working Capital	3.25	20.59	21.64	5.63	15.64	16.20
O & M Expenses	43.93	278.62	294.56	75.65	191.94	202.92
Total	104.55	661.12	692.51	181.65	529.69	542.90

DETERMINATION OF ANNUAL TRANSMISSION CHARGES FOR 2014-19

44. The petitioner has claimed the transmission charges for Combined Asset-I, II, III and IV as under:-

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	579.06	582.26	582.26	582.26	582.26
Interest on Loan	527.50	479.71	427.62	375.48	323.34
Return on Equity	649.93	653.50	653.50	653.50	653.50
Interest on Working Capital	76.11	76.34	76.37	76.43	76.54
O & M Expenses	645.78	667.20	689.38	712.20	735.88
Total	2478.38	2459.01	2429.13	2399.87	2371.52

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

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	96.87	100.08	103.41	106.83	110.38
O & M expenses	53.82	55.60	57.45	59.35	61.32
Receivables	413.06	409.84	404.86	399.98	395.25
Total	563.75	565.52	565.72	566.16	566.95



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	76.11	76.34	76.37	76.43	76.54

Capital Cost

46. 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.”

47. The petitioner has claimed capital cost of ₹6654.09 lakh, ₹2366.78 lakh and ₹1966.32 lakh as on 1.4.2014 for Combined Asset-I&II, Asset-III and Asset-IV, respectively, totalling to ₹10987.19 lakh for Combined Asset-I, II, III & IV.

48. The trued up capital cost of ₹ 6177.21 lakh, ₹ 2366.78 lakh and ₹1963.21 as on 31.3.2014 for Combined Asset-I&II, Asset-III and Asset-IV, respectively, totalling to ₹10507.20 lakh for Combined Asset-I, II, III & IV is considered for the purpose of tariff for period 2014-19. Thus, for Combined Asset-I, II, III and IV, the true up capital cost of ₹10507.20 lakh as on 1.4.2014 is considered as opening capital cost for the purpose of tariff for tariff period 2014-19.



Additional Capital Expenditure

49. The petitioner has projected additional capital expenditure of ₹121.31 lakh for Asset-IV in 2014-15 towards balance and retention payments under Clause 3(v) of Regulation 14 of the 2014 Tariff Regulations.

50. Clause 3, sub-clause (v) of Regulation 14 of the 2014 Tariff Regulations provides as follows:-

“(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:

....

(v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such undischarged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.;;”

51. The petitioner was directed to submit the details of balance and retention payment yet to be made along with the details of the contract for which payment has been retained along with the amount retained. In response, the petitioner vide its affidavit dated 4.2.2016, has submitted that the projected expenditure of ₹121.31 lakh for Asset-IV in 2014-15 is on account of contract closing and final settlement of bill against the contractor. The actual expenditure for tariff period 2014-19 shall be submitted at the time of truing up.

52. The total capital cost of the transmission asset (including additional capitalization incurred during the 2014-19 tariff period) works out to ₹6177.21 lakh, ₹2366.78 lakh and ₹2084.52 lakh as on 31.3.2019 for Combined Asset-I&II, Asset-III and Asset-IV, respectively, totalling to ₹10628.51 lakh for Combined Asset. As the total capital cost as on 31.3.2019 is within the



apportioned approved cost of ₹6177.21 lakh, ₹2417.45 lakh and ₹2377.78 lakh for Combined Asset-I&II, Asset-III and Asset-IV, respectively. Accordingly, the additional capital expenditure claimed by the petitioner for Asset-IV is allowed in accordance with Clause 3(v) of Regulation 14 of the 2014 Tariff Regulations. The additional capitalisation for tariff period 2014-19 shall be finally approved after the detailed scrutiny of additional capitalisation while carrying out the truing up tariff of 2014-19 tariff period.

53. The capital cost of the combined transmission assets including additional capitalization projected to be incurred during 2014-19 is shown below:-

(₹ in lakh)

Particulars	Approved Apportioned Cost	Capital cost as on 1.4.2014	Additional capitalization		Total additional capitalization	Total capital cost including additional capitalization
			2014-15	2015-16 to 2018-19		
Combined Asset-I&II	6177.21	6177.21	0.00	0.00	0.00	6177.21
Asset-III	2417.45	2366.78	0.00	0.00	0.00	2366.78
Asset-IV	2377.78	1963.21	121.31	0.00	121.31	2084.52
Combined Asset	10972.44	10507.20	121.31	0.00	121.31	10628.51

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 70:30 as on 31.3.2014. The admitted debt:equity ratio of 70:30 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:-

(₹ in lakh)		
Particulars	Amount	(%)
Debt	7355.02	70.00
Equity	3152.18	30.00
Total	10507.20	100.00

56. For additional capital expenditure, the petitioner has proposed normative debt:equity ratio of 70:30 and the same has been considered. The details of the debt:equity including additional capitalization as on 31.3.2019 is as follows:-

(₹ in lakh)		
Particulars	Amount	(%)
Debt	7439.94	70.00
Equity	3188.57	30.00
Total	10628.51	100.00

Interest on Loan (“IOL”)

57. 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.”

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

59. It is observed that the debt funding in the instant case is through bonds, which bear a fixed interest rate. 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	7355.02	7439.94	7439.94	7439.94	7439.94
Cumulative Repayment upto previous year	1507.28	2061.63	2619.81	3178.00	3736.19
Net Loan-Opening	5847.75	5378.32	4820.13	4261.94	3703.75
Additions during the year	84.92	0.00	0.00	0.00	0.00
Repayment during the year	554.35	558.19	558.19	558.19	558.19
Net Loan-Closing	5378.32	4820.13	4261.94	3703.75	3145.56
Average Loan	5613.03	5099.22	4541.03	3982.85	3424.66
Rate of Interest (%)	8.9593	8.9673	8.9700	8.9722	8.9748
Interest	502.89	457.26	407.33	357.35	307.36

Return on Equity (“ROE”)

60. 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:

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.”

61. 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.

62. 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.



63. 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. The ROE allowed for the Combined Asset is given below:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	3152.18	3188.57	3188.57	3188.57	3188.57
Additional Capitalization	36.39	0.00	0.00	0.00	0.00
Closing Equity	3188.57	3188.57	3188.57	3188.57	3188.57
Average Equity	3170.37	3188.57	3188.57	3188.57	3188.57
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	621.71	625.28	625.28	625.28	625.28

Depreciation

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

"27. Depreciation:



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

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

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

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

65. The petitioner has computed depreciation considering capital expenditure of ₹ 10987.19 lakh as on 31.3.2014 with additional capitalization of ₹121.31 lakh during 2014-15 for the 2014-19 tariff period. The effective date of commercial operation (June, 2011) has been considered in accordance to Regulation 26 of the 2014 Tariff Regulations considering actual COD and capital cost of all the elements of the transmission system for working out the depreciation of for Combined Asset. Accordingly, for the purpose of calculation, the weighted average useful life of the asset as on COD has been considered as 25 years for Combined Asset.

66. We have considered the submissions of the petitioner. Depreciation Is allowed considering capital expenditure of ₹10507.20 lakh as on 31.3.2014 under Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation allowed are given hereunder:-



(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	10507.20	10628.51	10628.51	10628.51	10628.51
Additional Capitalisation	121.31	0.00	0.00	0.00	0.00
Gross block at the end of year	10628.51	10628.51	10628.51	10628.51	10628.51
Average gross block	10567.85	10628.51	10628.51	10628.51	10628.51
Rate of Depreciation (%)	5.246	5.252	5.252	5.252	5.252
Depreciable Value	9511.07	9565.66	9565.66	9565.66	9565.66
Elapsed Life of the assets at beginning of the year	3	4	5	6	7
Weighted Balance Useful life of the assets	22	21	20	19	18
Remaining Depreciable Value	8003.79	7504.03	6945.85	6387.66	5829.47
Depreciation	554.35	558.19	558.19	558.19	558.19

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

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 has been worked out as given hereunder:-

Particulars		(₹ in lakh)				
		2009-10	2010-11	2011-12	2012-13	2013-14
Actual (No. of bays)	400 kV Bays	2	2	2	2	2
	220 kV Bays	10	10	10	10	10
	GIS 400 kV Bays	2	2	2	2	2
Norms as per Regulation	Double Circuit (Twin & Triple Conductor)	60.30	62.30	64.37	66.51	68.71
	400 kV Bays (₹ lakh/bay)	42.21	43.61	45.06	46.55	48.10
	220 kV Bays (₹ lakh/bay)	51.54	53.25	55.02	56.84	58.73
Total		645.78	667.2	689.38	712.2	735.88



68. The petitioner has submitted that norms for O&M Expenses for the tariff period 2014-19 have been arrived on the basis of normalized actual O&M Expenses during the period 2008-13. The petitioner has further submitted that the wage revision of the employees of the petitioner is due during the 2014-19 tariff period and actual impact of wage hike, which will be effective at a future date, has not been factored in fixation of the normative O&M rate specified for the tariff period 2014-19. The petitioner has 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, 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 for Combined Asset-I, II and III and IV are given hereunder:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses Allowed	645.78	667.2	689.38	712.2	735.88

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
(1)....



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

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

72. The petitioner has submitted interest on working capital for the tariff period 2014-19 has been considered as 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 allowed is shown in the table below:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	96.87	100.08	103.41	106.83	110.38
O & M Expenses	53.82	55.60	57.45	59.35	61.32
Receivables	399.84	397.09	392.48	387.97	383.61
Total	550.52	552.77	553.34	554.15	555.32
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	74.32	74.62	74.70	74.81	74.97

Annual Transmission Charges

74. The detailed computation of the various components of the annual fixed charges for the Combined Asset-I, II, III and IV for the tariff period 2014-19 is summarised below:-

(₹ in lakh)	
Particulars	Combined Asset-I, II, III & IV



	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Block					
Opening Gross Block	10507.20	10628.51	10628.51	10628.51	10628.51
Additional Capitalisation	121.31	0.00	0.00	0.00	0.00
Closing Gross Block	10628.51	10628.51	10628.51	10628.51	10628.51
Average Gross Block	10567.85	10628.51	10628.51	10628.51	10628.51
Depreciation					
Rate of Depreciation	5.246	5.252	5.252	5.252	5.252
Depreciable Value	9511.07	9565.66	9565.66	9565.66	9565.66
Elapsed Life of the assets at beginning of the year	3	4	5	6	7
Weighted Balance Useful life of the assets	22	21	20	19	18
Remaining Depreciable Value	8003.79	7504.03	6945.85	6387.66	5829.47
Depreciation	554.35	558.19	558.19	558.19	558.19
Interest on Loan					
Gross Normative Loan	7355.02	7439.94	7439.94	7439.94	7439.94
Cumulative Repayment upto Previous Year	1507.28	2061.63	2619.81	3178.00	3736.19
Net Loan-Opening	5847.75	5378.32	4820.13	4261.94	3703.75
Additions	84.92	0.00	0.00	0.00	0.00
Repayment during the year	554.35	558.19	558.19	558.19	558.19
Net Loan-Closing	5378.32	4820.13	4261.94	3703.75	3145.56
Average Loan	5613.03	5099.22	4541.03	3982.85	3424.66
Weighted Average Rate of Interest on Loan (%)	8.9593	8.9673	8.9700	8.9722	8.9748
Interest	502.89	457.26	407.33	357.35	307.36
Return on Equity					
Opening Equity	3152.18	3188.57	3188.57	3188.57	3188.57
Additions	36.39	0.00	0.00	0.00	0.00
Closing Equity	3188.57	3188.57	3188.57	3188.57	3188.57
Average Equity	3170.37	3188.57	3188.57	3188.57	3188.57
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500



Particulars	Combined Asset-I, II, III & IV				
	2014-15	2015-16	2016-17	2017-18	2018-19
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)	621.71	625.28	625.28	625.28	625.28
Interest on Working Capital					
Maintenance Spares	96.87	100.08	103.41	106.83	110.38
O & M expenses	53.82	55.60	57.45	59.35	61.32
Receivables	399.84	397.09	392.48	387.97	383.61
Total	550.52	552.77	553.34	554.15	555.32
Interest	74.32	74.62	74.70	74.81	74.97
Annual Transmission Charges					
Depreciation	554.35	558.19	558.19	558.19	558.19
Interest on Loan	502.89	457.26	407.33	357.35	307.36
Return on Equity	621.71	625.28	625.28	625.28	625.28
Interest on Working Capital	74.32	74.62	74.70	74.81	74.97
O & M Expenses	645.78	667.20	689.38	712.20	735.88
Total	2399.05	2382.55	2354.88	2327.82	2301.67

Filing Fee and Publication Expenses

75. 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

76. 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

77. The petitioner has sought to recover Service Tax on Transmission Charges separately from the Respondents, if at any time service tax on transmission is withdrawn from negative list in future. We have considered the submissions made by the petitioner and are of the view that the petitioner's prayer of Service Tax is premature.

Sharing of Transmission Charges

78. 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.

79. This order disposes of Petition No. 5/TT/2015.

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

Sd/-
(A.S. Bakshi)
Member



ANNEXURE-I**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO 2009-14****(₹ in lakh)**

2009-14	Combined Asset-I&II			
Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXXIII-3.DOCO	8.64	2021.30	0.00	2021.30
BOND XXXIII-4.Addcap for 2010-11 Addcap	8.64	0.00	126.76	126.76
BOND XXXII-1.DOCO DRAWL ON 01-Nov-2010-	8.84	200.00	0.00	200.00
BOND XXXII-2.DOCO drawl on 01-Dec-2010	8.84	350.00	0.00	350.00
BOND XXXIV-5. Addcap for 2010-11 Addcap	8.84	0.00	1020.13	1020.13
BOND-XXXV-6.Addcap for 2010-11 Addcap-	9.64	0.00	22.00	22.00
BOND-XXXV-7.Addcap for 2011-12 Addcap-	9.64	0.00	675.60	675.60
BOND-XXXVI-8.Addcap for 2011-12 Addcap-	9.35	0.00	48.00	48.00
BOND-XXXVII-9.Addcap for 2011-12 Addcap-	9.25	0.00	65.35	65.35
BOND- XLII-10. Addcap for 2012-13 Addcap	8.80	0.00	11.46	11.46
BOND XLII-11.Addcap for 2013-14 Addcap-	8.80	0.00	93.80	93.80
Total		2571.30	2063.10	4634.40

(₹ in lakh)

2009-14	Asset-III			
Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXXII-20.DOCO Drawl on 01-Feb-2012	8.84	150.00	0.00	150.00
BOND XXXIV-23. DOCO	8.84	1172.00	0.00	1172.00
BOND-XXXV-24.DOCO	9.64	25.50	0.00	25.50
BOND XLII-21.Addcap for 2013-14 Addcap-	8.80	0.00	120.12	120.12
BOND XLII-22.Addcap for 2012-13 Addcap-	8.80	0.00	65.49	65.49
Total		1347.50	185.61	1533.11



(₹ in lakh)

2009-14 Particulars	Asset-IV			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
Bond XXXIII-12. DOCO Drawl on 01-Nov-2011	8.64	49.64	0.00	49.64
BOND XXXIV-13.DOCO DRAWL ON 01-Nov-2011-	8.84	196.00	0.00	196.00
BOND-XXXV-14.DOCO	9.64	383.90	0.00	383.90
BOND-XXXVII-16.Addcap for 2011-12 Addcap-	9.25	0.00	241.65	241.65
BOND XXXVIII-15.Addcap for 2011-12 Addcap-	9.25	0.00	298.77	298.77
SBI (21.3.2012)- 17. Addcap for 2011-12 Addcap	8.64	0.00	100.00	100.00
BOND XLII-18.Addcap for 2012-13 Addcap-	8.80	0.00	24.60	24.60
BOND XLII-19.Addcap for 2013-14 Addcap-	8.80	0.00	56.31	56.31
Total		629.54	721.33	1350.87

**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN
FOR TARIFF PERIOD 2009-14**

(₹ in lakh)

2009-14 Particulars	Combined Asset-I&II			
	2010-11	2011-12	2012-13	2013-14
Gross Opening Loan	2571.30	3740.19	4529.14	4540.60
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	0.00
Net Loans Opening	2571.30	3740.19	4529.14	4540.60
Add: Drawl(s) during the year	1168.89	788.95	11.46	93.80
Less: Repayment(s) of Loan during the year	0.00	0.00	0.00	45.84
Net Closing Loan	3740.19	4529.14	4540.60	4588.56
Average Net Loan	3155.75	4134.67	4534.87	4564.58
Interest on Loan	274.89	364.34	402.68	405.28
Rate of Interest on Loan (%)	8.7107	8.8119	8.8796	8.8789



(₹ in lakh)

2009-14	Asset-III			Asset-IV		
	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14
Gross Opening Loan	1347.50	1347.50	1412.99	629.54	1269.96	1294.56
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	0.00	0.00	0.00
Net Loans Opening	1347.50	1347.50	1412.99	629.54	1269.96	1294.56
Add: Drawl(s) during the year	0.00	65.49	120.12	640.42	24.60	56.31
Less: Repayment(s) of Loan during the year	0.00	0.00	12.50	0.00	0.00	0.00
Net Closing Loan	1347.50	1412.99	1520.61	1269.96	1294.56	1350.87
Average Net Loan	1347.50	1380.25	1466.80	949.75	1282.26	1322.72
Interest on Loan	119.32	122.20	129.82	88.94	120.30	123.54
Rate of Interest on Loan (%)	8.8551	8.8538	8.8505	9.3643	9.3822	9.3402



ANNEXURE-II**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO (2014-19)****(₹ in lakh)**

2014-19	Combined Asset-I, II, III & IV			
Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
Bond XXXIII-12. DOCO Drawl on 01-Nov-2011	8.64	49.64	0.00	49.64
BOND XXXIII-3.DOCO	8.64	2021.30	0.00	2021.30
BOND XXXIII-4.Addcap for 2010-11 Addcap	8.64	126.76	0.00	126.76
BOND XXXII-1.DOCO DRAWL ON 01-Nov-2010-	8.84	200.00	0.00	200.00
BOND XXXII-2.DOCO drawl on 01-Dec-2010	8.84	350.00	0.00	350.00
BOND XXXII-20.DOCO Drawl on 01-Feb-2012	8.84	150.00	0.00	150.00
BOND XXXIV-13.DOCO DRAWL ON 01-Nov-2011-	8.84	196.00	0.00	196.00
BOND XXXIV-23. DOCO	8.84	1172.00	0.00	1172.00
BOND XXXIV-5. Addcap for 2010-11 Addcap	8.84	1020.13	0.00	1020.13
BOND-XXXV-14.DOCO	9.64	383.90	0.00	383.90
BOND-XXXV-24.DOCO	9.64	25.50	0.00	25.50
BOND-XXXV-6.Addcap for 2010-11 Addcap-	9.64	22.00	0.00	22.00
BOND-XXXV-7.Addcap for 2011-12 Addcap-	9.64	675.60	0.00	675.60
BOND-XXXVI-8.Addcap for 2011-12 Addcap-	9.35	48.00	0.00	48.00
BOND-XXXVII-16.Addcap for 2011-12 Addcap-	9.25	241.65	0.00	241.65
BOND-XXXVII-9.Addcap for 2011-12 Addcap-	9.25	65.35	0.00	65.35
BOND XXXVIII-15.Addcap for 2011-12 Addcap-	9.25	298.77	0.00	298.77
SBI (21.3.2012)- 17. Addcap for 2011-12 Addcap	10.25	100.00	0.00	100.00
BOND- XLII-10. Addcap for 2012-13 Addcap	8.80	11.46	0.00	11.46
BOND XLII-11.Addcap for 2013-14 Addcap-	8.80	93.80	0.00	93.80
BOND XLII-18.Addcap for 2012-13 Addcap-	8.80	24.60	0.00	24.60
BOND XLII-19.Addcap for 2013-14	8.80	56.31	0.00	56.31



2014-19	Combined Asset-I, II, III & IV			
Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
Addcap-				
BOND XLII-21.Addcap for 2013-14 Addcap-	8.80	120.12	0.00	120.12
BOND XLII-22.Addcap for 2012-13 Addcap-	8.80	65.49	0.00	65.49
Total		7518.38	0.00	7518.38

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

(₹ in lakh)

2014-19	Combined Asset-I, II, III & IV				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	7518.38	7518.38	7518.38	7518.38	7518.38
Cumulative Repayments of Loans upto Previous Year	58.34	498.83	1057.16	1627.78	2198.40
Net Loans Opening	7460.04	7019.55	6461.22	5890.60	5319.98
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	440.49	558.33	570.62	570.62	570.62
Net Closing Loan	7019.55	6461.22	5890.60	5319.98	4749.36
Average Net Loan	7239.80	6740.39	6175.91	5605.29	5034.67
Interest on Loan	648.63	604.43	553.98	502.92	451.85
Rate of Interest on Loan (%)	8.9593	8.9673	8.9700	8.9722	8.9748

