

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 297/TT/2015

Coram:

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

**Date of Hearing : 03.02.2016
Date of Order : 24.02.2016**

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 **Asset-A:-** LILO of one circuit (ckt-1) of 400 kV D/C Maithon-Jamshedpur line at Mejia "B" TPS including PLCC equipment (excluding wave trap) for the transmission line **Asset-B:-** 400 kV D/C Koderma TPS- Biharsharif transmission line and 2 nos. associated line bays at Biharsharif Sub-station and **Asset C:** 400 kV D/C Maithon RB- Maithon (PG) transmission line and associated bay Extension at Maithon Sub-station under transmission system for start-up power to DVC and Maithon Right Bank Generation projects in Eastern Region under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

And in the matter of:

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

.....**Petitioner**

Versus

1. Bihar State Power (Holding) Company Ltd.
Vidyut Bhawan, Bailey Road
Patna- 800001
2. West Bengal State Electricity Distribution Company Limited
Bidyut Bhawan, Bidhan Nagar,
Salt Lake City, Kolkata-700091



3. Grid Corporation of Orissa Ltd.
Shahid Nagar,
Bhubaneswar- 751007
4. Damodar Valley Corporation
DVC Tower, Maniktala
Civic Centre, VIP Road,
Kolkata-700054
5. Power Department
Govt of Sikkim,
Gangtok-737101
6. Jharkhand State Electricity Board
Doranda, Ranchi-834002
7. NTPC Limited
NTPC Bhawan Scope Complex
7 Institutional Area,
Lodhi Road,
New Delhi-110 003
8. Haryana Power Purchase Centre
Shakti Bhawan, Sector-6
Panchkula (Haryana)- 134109
9. Delhi Transco Ltd.
Shakti Sadan, Kotla Road,
New Delhi-110002

.....**Respondents**

The following were present:-

For Petitioner: 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 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 for **Asset-A:-** LILO of one circuit (ckt-1) of 400 kV D/C Maithon-Jamshedpur line at Mejia “B” TPS including PLCC equipment (excluding wave trap) for the transmission line **Asset-B:-** 400 kV D/C Koderma TPS- Biharsharif transmission line and 2 nos. associated line bays at Biharsharif Sub-station and **Asset C:** 400 kV D/C Maithon RB- Maithon (PG) transmission line and associated bay Extension at Maithon Sub-station under transmission system for start-up power to DVC and Maithon Right Bank Generation projects in Eastern Region (hereinafter referred as “transmission asset”).

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

3. The petitioner has served the petition to the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of 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. The hearing in this matter was held on 3.2.2016. None of the respondents have filed their reply. Further in response to letter dated 30.1.2016, the petitioner has submitted its replies vide affidavit dated 12.2.2016. 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 the project was accorded by Board of Directors of the petitioner company vide letter dated 29.4.2008 at an estimated cost of ₹29049 lakh, which included IDC of ₹1633 lakh. Subsequently the revised cost estimate was accorded by Board of Directors on 23.1.2012 at an estimated cost of ₹39160 lakh, which included IDC of ₹2617 lakh. The petitioner has built the transmission asset in the Eastern Region.

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

For Mejia-B

- (a) LILO of one circuit of 400 kV D/C maithon-Jamshedpur line at Mejia
- (b) 2 nos. of 400 kV bays at Mejia #
- (c) PLCC Equipment (Excl. Wave Trap) for LILO of one circuit of 400 kV D/C Maithon-Jamshedpur line at Mejia-B TPS

For Koderma

- (a) Koderma-Biharshariff 400 kV D/C (Quad) line
- (b) 2 nos. of 400 kV bays at Biharshariff
- (c) 2 nos. of 400 kV bays at Koderma #

For Maithon-RB

- (a) Maithon-RB-Maithon 400 kV D/C line
- (b) 2 nos. of 400 kV bays at Maithon
- (c) 2 nos. of 400 kV bays at Maithon-RB #

#These 400 kV bays at generation switchyard would be under the scope of DVC

(c) As per investment approval, accorded on 29.4.2008, the transmission project was to be commissioned within 24 months from the date of investment approval i.e. by 1.5.2010. The Asset-A was put under the



commercial operation on 1.2.2010. Further Asset-B and Asset-C was put under commercial operation on 1.6.2011 and 1.10.2010 respectively after a delay of 13 months and 5 months. The delay of 13 months in the case of Asset-B was condoned by the Commission vide order dated 27.9.2011 in Petition No. 100/2011. Further the delay of 4 months out of total delay of 5 months in the case of Asset-C was not condoned by the Commission vide order dated 29.11.2011 in Petition No. 317/2010.

- (d) The tariff from 1.2.2010 to 31.3.2014 for Asset-A, 1.6.2011 to 31.3.2014 for Asset-B and from 1.10.2010 to 31.3.2014 for Asset-C was allowed after approval of revised cost estimate vide order dated 13.5.2015 in Petition No. 106/2013 in accordance with the 2009 Tariff Regulations. The tariff allowed for Asset-A, Asset-B and Asset-C for the tariff period 2009-14 is as under:-

(₹ in lakh)					
Particulars (Asset-A)	2009-10 (pro-rata)	2010-11	2011-12	2012-13	2013-14
Depreciation	46.39	312.78	331.28	337.48	338.00
Interest on Loan	54.93	353.57	346.33	323.70	293.82
Return on equity	47.44	319.88	338.85	345.21	345.74
Interest on Working Capital	3.36	22.20	22.93	22.82	22.32
O & M Expenses	5.19	32.90	34.79	36.78	38.85
Total	157.30	1041.33	1074.18	1066.00	1038.73

(₹ in lakh)			
Particulars (Asset-B)	2011-12 (pro-rata)	2012-13	2013-14
Depreciation	1052.62	1305.44	1308.18
Interest on Loan	1215.55	1403.71	1288.28
Return on equity	1044.68	1295.52	1298.15
Interest on Working Capital	75.50	91.82	90.30
O & M Expenses	194.57	246.82	260.87
Total	3582.91	4343.31	4245.77



(₹ in lakh)				
Particulars (Asset-C)	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Depreciation	125.86	276.11	293.72	299.06
Interest on Loan	147.43	306.13	301.58	280.91
Return on equity	124.64	273.52	290.95	296.19
Interest on Working Capital	10.38	22.22	23.15	23.34
O & M Expenses	65.84	139.22	147.18	155.58
Total	474.15	1017.21	1056.58	1055.09

- (e) The Commission, vide order dated 13.5.2015 in Petition No. 106/2013, has determined the tariff for Asset-A, Asset-B and Asset-C for the tariff period 2009-14 considering the capital cost of ₹4849.92 lakh, ₹23155.20 lakh and ₹4524.32 lakh as on COD. The capital cost was considered after examination of the cost variation of the individual items and prudence check.
- (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.
- (g) The instant petition was filed by the petitioner on 30.11.2015.

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

5. The truing up of tariff for 2009-14 tariff period has been determined based on actual capital cost and additional capital expenditure during 2009-14 tariff period.

Capital Cost

6. The petitioner has claimed capital cost of ₹4851.30 lakh, ₹23196.84 lakh and ₹4657.85 lakh for Asset-A, Asset-B and Asset-C respectively as on COD for the purpose of tariff. Further, it was observed that the petitioner has missed out to adjust the capital cost as on COD with disallowed IDC/IEDC of ₹125.35 lakh disallowed by the Commission in order dated 13.5.2015 in Petition No.106/2013 for Asset-C.

7. Clause (1) of Regulation 7 of the 2009 Tariff Regulations provides 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 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.”

8. The petitioner has submitted the Auditor's Certificate certifying the capital cost and additional capitalization claimed. The revised capital cost of ₹4849.92 lakhs has been considered as on COD after deducting excess initial spares of ₹1.38 lakh for tariff computation from 1.2.2010 to 31.3.2014 for Asset-A. The revised capital cost of ₹23157.08 lakhs has been considered as on COD after



deducting excess initial spares of ₹39.76 lakh for tariff computation from 1.6.2011 to 31.3.2014 for Asset-B. Further the revised capital cost of ₹4523.21lakh has been considered as on COD after deducting excess initial spares of ₹9.29 lakh and disallowed IDC/IEDC of ₹125.35 lakh for tariff computation from 1.10.2010 to 31.3.2014 for Asset-C.

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	:	2.5%
Series compensation devices& HVDC Station	:	3.5%”

10. Regulation 3(29) of the 2009 Tariff Regulations provides that:-

“(29) ‘**original project cost**’ means the capital expenditure incurred by the generating company or the transmission licensee, as the case may be, within the original scope of the project up to the cut-off date as admitted by the Commission;”

11. The petitioner has not adjusted excess initial spares and has claimed as per 2004 Tariff Regulations. However in the tariff order dated 13.5.2015 in Petition No. 106/2013 the Commission has computed excess initial spares as per 2009 Tariff Regulations for all the three assets. Since the asset has been commissioned during 2009-14 tariff period, initial spares also needs to be allowed as per 2009 Tariff Regulations. Further the petitioner has not claimed initial spares against the transmission line. Accordingly, the Commission has computed excess initial spares only for Sub-station shown in the table below:-



Assets	Sub-station cost including PLCC claimed as on 31.3.2014	Initial Spares Claimed against Sub-Station Cost including PLCC Claimed as on Cut-off date/ 31.03.2014	Sub-Station Cost including PLCC after adjustment of IEDC/IDC disallowed as on Cut-off date/ 31.03.2014	Proportionate claim of Initial Spares against the adjusted Sub-Station Cost including PLCC after cut-off date/ 31.03.2014	Ceiling Limit as per the 2009 Regulation	Initial Spares allowed	Excess Initial Spares claimed
A	72.68	3.16	72.68	3.16	2.50%	1.78	1.38
B	1164.69	67.88	1164.69	67.88	2.50%	28.12	39.76
C	519.64	22.26	507.65	21.75	2.50%	12.46	9.29

Assets	Capital Cost considered for the purpose of tariff before adjustment of IEDC/IDC & Initial Spares as on DOCO	Deduction in respect of Excess IEDC/IDC	Deduction in respect of Excess Initial Spares	Capital Cost considered for the purpose of tariff after disallowed IEDC/IDC & Initial Spares as on DOCO
A	4851.30	-	1.38	4849.92
B	23196.84	-	39.76	23157.08
C	4657.85	125.35	9.29	4523.21

Additional Capital Expenditure

12. The petitioner has claimed additional capitalization under Regulation 9(1)(i) and 9(2)(viii) of the 2009 Tariff Regulations for Asset-A. For Asset-B, petitioner has claimed additional capitalization under Regulation 9(1)(i) of the 2009 Tariff Regulations. Further for Asset-C, petitioner has claimed additional capitalization under Regulation 9(1)(i) and 9(2)(v) of the 2009 Tariff Regulations.

13. Clause (1)(i), (2)(v) and 2(viii) of Regulation 9 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:

(v) In case of transmission system any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement of switchyard equipment due to increase of fault level, emergency restoration system, insulators cleaning infrastructure, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system:

....

(viii) Any undischarged liability towards final payment/withheld payment due to contractual exigencies for works executed within the cut-off date, after prudence check of the details of such deferred liability, total estimated cost of package, reason for such withholding of payment and release of such payments etc.”

14. The petitioner has claimed additional capitalization towards balance and retention payment for Asset-A, Asset-B and Asset-C. We have considered the submissions of the petitioner. The total capital cost of ₹6421.31 lakh in case of Asset-A, excluding excess initial spares and including actual additional capitalisation is well within the revised apportioned approved cost of ₹7258.35 lakh. The total capital cost of ₹24990.88 lakh in case of Asset-B, excluding excess initial spares and including actual additional capitalisation is well within the revised apportioned approved cost of ₹25082.45 lakh. Similarly, in case of Asset-C, the total capital cost of ₹5837.83 lakh excluding excess initial spares and including actual additional capitalisation is well within the revised apportioned approved cost of ₹6819.41 lakh. Hence, the additional capitalization in case of Assets A, B and C are allowed under Regulation 9(1)(i), 9(2)(v) and 9(2)(viii) of the 2009 Tariff Regulations as shown in the table below:-



(₹ in lakh)

Cost as per revised Investment Approval is ₹ 7258.35 lakh								
Asset -A	Capital cost upto COD	Additional Capitalization					Total add cap	Total capital cost as on 31.3.2014
		2009-10	2010-11	2011-12	2012-13	2013-14		
Approved in order dated 13.5.2015	4849.92	816.95	485.51	215.38	19.57	0.00	1537.41	6387.33
Allowed in this order	4849.92	816.95	479.60	186.33	12.03	76.47	1571.38	6421.31

Cost as per revised Investment Approval is ₹ 25082.45 lakh						
Asset –B	Capital cost upto COD	Additional Capitalization			Total add cap	Total capital cost as on 31.3.2014
		2011-12	2012-13	2013-14		
Approved in order dated 13.5.2015	23155.20	1498.25	100	0.00	1598.25	24753.45
Allowed in this order	23157.08	1498.25	254.81	80.74	1833.80	24990.88

Cost as per revised Investment Approval is ₹ 6819.41 lakh							
Asset-C	Capital cost upto COD	Additional Capitalization				Total add cap	Total capital cost as on 31.3.2014
		2010-11	2011-12	2012-13	2013-14		
Approved in order dated 13.5.2015	4524.32	459.32	464.74	199.99	0.00	1124.05	5648.37
Allowed in this order	4523.21	491.29	486.28	192.95	144.10	1314.62	5837.83

Debt: Equity

15. Clause 1 & 3 of Regulation 12 of the 2009 Tariff Regulations provides 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.”

16. The petitioner has claimed trued up Annual Fixed Charge based on debt-equity ratio of 70:30 admitted as on 1.2.2010, 1.6.2011 and 1.10.2010 by the Commission in its order dated 13.5.2015 in Petition No. 106/2013 for Asset-A, Asset-B and Asset-C respectively. The admitted debt:equity ratio of 70:30 as on 1.2.2010 for Asset-A, 1.6.2011 for Asset-B and 1.10.2010 for Asset-C has been considered for the purpose of truing up of the approved tariff of tariff period 2009-14, as given under:-

Funding (Asset-A)	Amount (in ₹ lakh)	(%)
Debt	3394.95	70.00
Equity	1454.98	30.00
Total	4849.92	100.00

Funding (Asset-B)	Amount (in ₹ lakh)	(%)
Debt	16209.96	70.00
Equity	6947.13	30.00
Total	23157.08	100.00

Funding (Asset-C)	Amount (in ₹ lakh)	(%)
Debt	3166.25	70.00
Equity	1356.96	30.00
Total	4523.21	100.00

17. With respect to additional capitalization, the petitioner has submitted the debt:equity ratio of 70:30 for Asset-A, Asset-B and Asset-C. The petitioner was directed to confirm that the actual equity infused for additional capitalization during the 2009-14 tariff period is not less than 30%. In response, the petitioner vide affidavit dated 12.2.2016 submitted actual debt:equity ratio of 70:30 for all

the three assets. The overall debt equity as on 31.3.2014 for Asset-A, Asset-B and Asset-C including additional capitalization is as under:-

Funding (Asset-A)	Amount (in ₹ lakh)	(%)
Debt	4494.92	70.00
Equity	1926.39	30.00
Total	6421.31	100.00

Funding (Asset-B)	Amount (in ₹ lakh)	(%)
Debt	17493.63	70.00
Equity	7497.26	30.00
Total	24990.88	100.00

Funding (Asset-C)	Amount (in ₹ lakh)	(%)
Debt	4086.49	70.00
Equity	1751.34	30.00
Total	5837.83	100.00

Interest on Loan (“IOL”)

18. 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”.

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

20. 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)

(Asset-A)	2009-10 (pro-rata)	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 13.5.2015	54.93	353.57	346.33	323.70	293.82
As claimed by petitioner	54.94	353.48	345.16	321.51	294.18
Allowed after true up	54.96	353.38	345.08	321.43	294.10

(₹ in lakh)

(Asset-B)	2011-12 (pro-rata)	2012-13	2013-14
Approved vide order dated 13.5.2015	1215.55	1403.71	1288.28
As claimed by petitioner	1217.66	1410.67	1301.69
Allowed after true up	1215.66	1408.42	1299.62

(₹ in lakh)

(Asset-C)	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Approved vide order dated 13.5.2015	147.43	306.13	301.58	280.91
As claimed by petitioner	152.10	316.65	311.85	295.01
Allowed after true up	147.92	308.76	304.60	288.40

21. The variation in Interest on loan is on account of variation in capital cost, additional capitalisation and actual weighted average interest rate and additional capitalization for 2009-14 tariff period.

Return on Equity ("ROE")

22. 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 true up in accordance with Regulation 6 of these regulations.”

23. The petitioner has submitted that MAT rate of 11.330% applicable for 2008-09 was considered in the order dated 3.7.2014. The petitioner has also claimed additional ROE of 0.5% for Asset-A as the same was allowed by the Commission in order dated 13.5.2015 in Petition No. 106/2013. However, for true 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)) %
2009-10	16.995	18.674
2010-11	19.931	19.358
2011-12	20.008	19.377
2012-13	20.008	19.377
2013-14	20.961	19.610

24. Accordingly, ROE as allowed for Asset-A, Asset-B and Asset-C is shown in the table below:-

(Asset-A)	(₹ in lakh)				
	2009-10 (pro-rata)	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 13.5.2015	47.44	319.88	338.85	345.21	345.74
As claimed by petitioner	50.69	354.16	374.48	380.43	387.70
Allowed after true up	50.71	354.10	374.41	380.37	387.64

(₹ in lakh)			
(Asset-B)	2011-12 (pro-rata)	2012-13	2013-14
Approved vide order dated 13.5.2015	1044.68	1295.52	1298.15
As claimed by petitioner	1160.00	1442.95	1470.18
Allowed after true up	1158.10	1440.64	1467.84

(₹ in lakh)				
Particulars(Asset-C)	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Approved vide order dated 13.5.2015	124.64	273.52	290.95	296.19
As claimed by petitioner	142.37	313.43	333.17	347.10
Allowed after true up	138.47	305.63	325.37	339.20

25. The variation in return on equity is on account of variation in Capital Cost, additional capitalisation and increase in the applicable MAT rate for the purpose of grossing up of base rate of return on equity.

Depreciation

26. 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”

27. 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 yearclosing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the assets.”



28. The Commission, in its order dated 13.5.2015 in Petition No. 106/2013, has worked out the depreciation in accordance with Regulation 17 of the 2009 Tariff Regulations.

29. 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 has been considered as 35 years for Asset-A & Asset-B and 34 years for Asset-C. 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)

(Asset-A)	2009-10 (pro-rata)	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 13.5.2015	46.39	312.78	331.28	337.48	338.00
As claimed by petitioner	46.41	312.71	330.29	335.53	337.86
Allowed after true up	46.42	312.64	330.22	335.45	337.79

(₹ in lakh)

(Asset-B)	2011-12 (pro-rata)	2012-13	2013-14
Approved vide order dated 13.5.2015	1052.62	1305.44	1308.18
As claimed by petitioner	1054.45	1311.79	1320.80
Allowed after true up	1052.72	1309.68	1318.70

(₹ in lakh)

(Asset-C)	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Approved vide order dated 13.5.2015	125.86	276.11	293.72	299.06
As claimed by petitioner	129.81	285.44	303.37	312.27
Allowed after true up	126.25	278.31	296.24	305.14

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

30. The petitioner has computed O&M expenses for the assets mentioned in the petition and in accordance with the O&M norms for lines and bays specified

in Regulation 19(g) of the 2009 Tariff Regulations. Accordingly, the O&M Expenses claimed by the petitioner, allowed and trued up are as follows:-

(₹ in lakh)

(Asset-A)	2009-10 (pro-rata)	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 13.5.2015	5.19	32.90	34.79	36.78	38.85
As claimed by petitioner	5.19	32.90	34.79	36.77	38.86
Allowed after true up	5.19	32.90	34.79	36.77	38.86

(₹ in lakh)

(Asset-B)	2011-12 (pro-rata)	2012-13	2013-14
Approved vide order dated 13.5.2015	194.57	246.82	260.87
As claimed by petitioner	194.56	246.82	260.87
Allowed after true up	194.57	246.82	260.87

(₹ in lakh)

(Asset-C)	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Approved vide order dated 13.5.2015	65.84	139.22	147.18	155.58
As claimed by petitioner	65.84	139.22	147.18	155.58
Allowed after true up	65.84	139.22	147.18	155.58

Interest on working capital("IWC")

31. 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.

32. The petitioner has submitted that the rate of interest on working capital as 12.25%, 11.75% and 11.00% for Asset-A, Asset-B and Asset-C respectively 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.

33. In accordance with clause (3) of Regulation 18 of the 2009 Tariff Regulations, as amended, rate of interest on working capital shall be on

normative basis and in case of transmission assets declared under commercial operation prior to 1.4.2009, shall be equal to short-term Prime Lending Rate as applicable as on 1.4.2009. State Bank of India short-term Prime Lending Rate on 1.4.2009 was 12.25%. Therefore, interest rate of 12.25% has been considered to work out the interest on working capital for Asset-A. Further for Asset-B and Asset-C, in accordance with Clause (3)(ii) of Regulation 18 of the 2009 Tariff Regulations (Second Amendment), rate of interest on working capital shall be on normative basis and in case of transmission assets declared under commercial operation after 1.7.2010 shall be equal to SBI Base Rate plus 350 basis points as on 1st April of the year in which the transmission asset was declared under commercial operation. State Bank of India short-term Prime Lending Rate on 1.4.2009 was 12.25%. State Bank of India Base Rate as on 1.4.2011 and 1.7.2010 was 8.25% and 7.50% respectively. Therefore, interest rate of 11.75% and 11.00% for Asset-B and Asset-C has been considered to work out the interest on working capital.

34. The IWC trued up is as under:-

(₹ in lakh)					
(Asset-A)	2009-10 (Pro-rata)	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	0.78	4.94	5.22	5.52	5.83
O & M expenses	0.43	2.74	2.90	3.06	3.24
Receivables	26.79	179.32	184.69	182.91	180.26
Total	28.00	187.00	192.80	191.49	189.33
Rate of Interest (%)	12.25%	12.25%	12.25%	12.25%	12.25%
Interest	3.43	22.91	23.62	23.46	23.19

(₹ in lakh)			
(Asset-B)	2011-12 (Pro-rata)	2012-13	2013-14
Maintenance Spares	29.18	37.02	39.13
O & M expenses	16.21	20.57	21.74
Receivables	616.47	750.08	740.19



(Asset-B)	2011-12 (Pro-rata)	2012-13	2013-14
Total	661.87	807.67	801.06
Rate of Interest (%)	11.75%	11.75%	11.75%
Interest	77.77	94.90	94.12

(₹ in lakh)

(Asset-C)	2010-11 (Pro-rata)	2011-12	2012-13	2013-14
Maintenance Spares	9.88	20.88	22.08	23.34
O & M expenses	5.49	11.60	12.27	12.97
Receivables	81.52	175.81	182.88	185.45
Total	96.89	208.29	217.22	221.76
Rate of Interest (%)	11.00%	11.00%	11.00%	11.00%
Interest	10.66	22.91	23.89	24.39

(₹ in lakh)

(Asset-A)	2009-10 (pro-rata)	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 13.5.2015	3.36	22.20	22.93	22.82	22.32
As claimed by petitioner	3.43	22.91	23.62	23.46	23.20
Allowed after true up	3.43	22.91	23.62	23.46	23.19

(₹ in lakh)

(Asset-B)	2011-12 (pro-rata)	2012-13	2013-14
Approved vide order dated 13.5.2015	75.50	91.82	90.30
As claimed by petitioner	77.88	95.03	94.25
Allowed after true up	77.77	94.90	94.12

(₹ in lakh)

(Asset-C)	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Approved vide order dated 13.5.2015	10.38	22.22	23.15	23.34
As claimed by petitioner	10.88	23.34	24.31	24.80
Allowed after true up	10.66	22.91	23.89	24.39

35. The variation in IWC is on account of variation in IOL, Depreciation and ROE and further increase in ROE on account of applicable MAT rate during 2009-14 tariff period.



ANNUAL FIXED CHARGES FOR 2009-14 TARIFF PERIOD

36. The detailed computation of the various components of the trued up annual fixed charges for Asset-A, Asset-B and Asset-C for the tariff period 2009-14 is summarised below:-

(Asset-A)	(₹ in lakh)				
	2009-10 (pro-rata)	2010-11	2011-12	2012-13	2013-14
Gross Block					
Gross Opening Block	4849.92	5666.87	6146.47	6332.80	6344.83
Additional Capitalisation	816.95	479.60	186.33	12.03	76.47
Gross Closing Block	5666.87	6146.47	6332.80	6344.83	6421.30
Average Gross Block	5258.40	5906.67	6239.64	6338.82	6383.07
Depreciation					
Rate of Depreciation (%)	5.293	5.293	5.292	5.292	5.292
Depreciable Value	4732.56	5316.01	5615.67	5704.94	5744.76
Elapsed Life (Beginning of the year)	0	1	2	3	4
Weighted Balance Useful life of the assets	35	34	33	32	31
Remaining Depreciable Value	4732.56	5308.26	5295.30	5054.34	4758.72
Depreciation	46.42	312.64	330.22	335.45	337.79
Interest on Loan					
Gross Normative Loan	3394.95	3966.82	4302.54	4432.97	4441.39
Cumulative Repayment upto Previous Year	0.00	46.42	359.05	689.27	1024.72
Net Loan-Opening	3394.95	3920.40	3943.48	3743.70	3416.67
Additional Capitalisation	571.87	335.72	130.43	8.42	53.53
Repayment during the year	46.42	312.64	330.22	335.45	337.79
Net Loan-Closing	3920.40	3943.48	3743.70	3416.67	3132.41
Average Loan	3657.67	3931.94	3843.59	3580.18	3274.54
Weighted Average Rate of Interest on Loan (%)	9.0102	8.9875	8.9780	8.9781	8.9815
Interest	54.96	353.38	345.08	321.43	294.10
Return on Equity					
Opening Equity	1454.98	1700.06	1843.94	1899.84	1903.45
Additional	245.08	143.88	55.90	3.61	22.94



(Asset-A)	2009-10 (pro-rata)	2010-11	2011-12	2012-13	2013-14
Capitalisation					
Closing Equity	1700.06	1843.94	1899.84	1903.45	1926.39
Average Equity	1577.52	1772.00	1871.89	1901.64	1914.92
Return on Equity (Base Rate) (%)	16.00	16.00	16.00	16.00	16.00
MAT rate for the year (%)	16.995	19.931	20.008	20.008	20.961
Rate of Return on Equity (Pre Tax) (%)	19.276	19.983	20.002	20.002	20.243
Return on Equity (Pre Tax)	50.71	354.10	374.41	380.37	387.64
Interest on Working Capital					
Maintenance Spares	0.78	4.94	5.22	5.52	5.83
O & M expenses	0.43	2.74	2.90	3.06	3.24
Receivables	26.79	179.32	184.69	182.91	180.26
Total	28.00	187.00	192.80	191.49	189.33
Interest	3.43	22.91	23.62	23.46	23.19
Annual Transmission Charges					
Depreciation	46.42	312.64	330.22	335.45	337.79
Interest on Loan	54.96	353.38	345.08	321.43	294.10
Return on Equity	50.71	354.10	374.41	380.37	387.64
Interest on Working Capital	3.43	22.91	23.62	23.46	23.19
O & M Expenses	5.19	32.90	34.79	36.77	38.86
Total	160.71	1075.93	1108.11	1097.48	1081.58

(₹ in lakh)

(Asset-B)	2011-12 (pro-rata)	2012-13	2013-14
Gross Block			
Gross Opening Block	23157.08	24655.33	24910.14
Additional Capitalisation	1498.25	254.81	80.74
Gross Closing Block	24655.33	24910.14	24990.88
Average Gross Block	23906.21	24782.74	24950.51
Depreciation			
Rate of Depreciation (%)	5.28	5.28	5.29
Depreciable Value	21515.59	22304.46	22455.46
Elapsed Life (Beginning of the year)	0	1	2
Weighted Balance Useful life of the assets	35	34	33
Remaining Depreciable Value	21515.59	21251.75	20093.06
Depreciation	1052.72	1309.68	1318.70



(Asset-B)	2011-12 (pro-rata)	2012-13	2013-14
Interest on Loan			
Gross Normative Loan	16209.96	17258.74	17437.11
Cumulative Repayment upto Previous Year	0.00	1052.72	2362.40
Net Loan-Opening	16209.96	16206.02	15074.71
Additional Capitalisation	1048.78	178.37	56.52
Repayment during the year	1052.72	1309.68	1318.70
Net Loan-Closing	16206.02	15074.71	13812.53
Average Loan	16207.99	15640.36	14443.62
Weighted Average Rate of Interest on Loan (%)	9.0003	9.0051	8.9979
Interest	1215.66	1408.42	1299.62
Return on Equity			
Opening Equity	6947.13	7396.60	7473.04
Additional Capitalisation	449.47	76.44	24.22
Closing Equity	7396.60	7473.04	7497.26
Average Equity	7171.86	7434.82	7485.15
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
MAT rate for the 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)	1158.10	1440.64	1467.84
Interest on Working Capital			
Maintenance Spares	29.18	37.02	39.13
O & M expenses	16.21	20.57	21.74
Receivables	616.47	750.08	740.19
Total	661.87	807.67	801.06
Interest	77.77	94.90	94.12
Annual Transmission Charges			
Depreciation	1052.72	1309.68	1318.70
Interest on Loan	1215.66	1408.42	1299.62
Return on Equity	1158.10	1440.64	1467.84
Interest on Working Capital	77.77	94.90	94.12
O & M Expenses	194.57	246.82	260.87
Total	3698.81	4500.47	4441.15

(₹ in lakh)



(Asset-C)	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Gross Block				
Gross Opening Block	4523.21	5014.50	5500.78	5693.73
Additional Capitalisation	491.29	486.28	192.95	144.10
Gross Closing Block	5014.50	5500.78	5693.73	5837.83
Average Gross Block	4768.86	5257.64	5597.26	5765.78
Depreciation				
Rate of Depreciation (%)	5.29	5.29	5.29	5.29
Depreciable Value	4291.97	4731.88	5037.53	5189.20
Elapsed Life (Beginning of the year)	0	1	2	3
Weighted Balance Useful life of the assets	34	33	32	31
Remaining Depreciable Value	4291.97	4605.63	4632.98	4488.41
Depreciation	126.25	278.31	296.24	305.14
Interest on Loan				
Gross Normative Loan	3166.25	3510.15	3850.55	3985.62
Cumulative Repayment upto Previous Year	0.00	126.25	404.56	700.79
Net Loan-Opening	3166.25	3383.90	3445.99	3284.82
Additional Capitalisation	343.90	340.40	135.07	100.87
Repayment during the year	126.25	278.31	296.24	305.14
Net Loan-Closing	3383.90	3445.99	3284.82	3080.56
Average Loan	3275.07	3414.95	3365.41	3182.69
Weighted Average Rate of Interest on Loan (%)	9.0329	9.0414	9.0510	9.0615
Interest	147.92	308.76	304.60	288.40
Return on Equity				
Opening Equity	1356.96	1504.35	1650.23	1708.11
Additional Capitalisation	147.39	145.88	57.88	43.23
Closing Equity	1504.35	1650.23	1708.11	1751.34
Average Equity	1430.66	1577.29	1679.17	1729.73
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50
MAT rate for the 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)	138.47	305.63	325.37	339.20
Interest on Working Capital				
Maintenance Spares	9.88	20.88	22.08	23.34
O & M expenses	5.49	11.60	12.27	12.97
Receivables	81.52	175.81	182.88	185.45
Total	96.89	208.29	217.22	221.76
Interest	10.66	22.91	23.89	24.39



(Asset-C)	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Annual Transmission Charges				
Depreciation	126.25	278.31	296.24	305.14
Interest on Loan	147.92	308.76	304.60	288.40
Return on Equity	138.47	305.63	325.37	339.20
Interest on Working Capital	10.66	22.91	23.89	24.39
O & M Expenses	65.84	139.22	147.18	155.58
Total	489.14	1054.83	1097.29	1112.71

DETERMINATION OF ANNUAL TRANSMISSION CHARGES FOR 2014-19

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

(₹ in lakh)

(Asset-A)	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	341.62	343.35	343.35	343.35	343.35
Interest on Loan	268.37	239.69	208.82	177.92	147.03
Return on equity	392.02	394.02	394.02	394.02	394.02
Interest on Working Capital	25.00	24.49	23.85	23.21	22.57
O & M Expenses	35.09	36.28	37.47	38.71	40.00
Total	1062.10	1037.83	1007.51	977.21	946.97

(₹ in lakh)

(Asset-B)	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1324.52	1326.09	1326.09	1326.09	1326.09
Interest on Loan	1186.80	1069.55	950.25	830.92	711.60
Return on equity	1474.32	1476.08	1476.08	1476.08	1476.08
Interest on Working Capital	104.90	102.71	100.41	98.14	95.87
O & M Expenses	238.15	246.03	254.15	262.64	271.35
Total	4328.69	4220.46	4106.98	3993.87	3880.99

(₹ in lakh)

(Asset-C)	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	317.46	318.84	318.84	318.84	318.84
Interest on Loan	273.08	245.97	217.07	188.13	159.18
Return on equity	352.87	354.42	354.42	354.42	354.42
Interest on Working Capital	29.61	29.31	28.92	28.53	28.16
O & M Expenses	142.87	147.63	152.52	157.59	162.81
Total	1115.89	1096.17	1071.77	1047.51	1023.41



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

(₹ in lakh)					
(Asset-A)	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	5.26	5.44	5.62	5.81	6.00
O & M expenses	2.92	3.02	3.12	3.23	3.33
Receivables	177.02	172.97	167.92	162.87	157.83
Total	185.20	181.43	176.66	171.91	167.16
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	25.00	24.49	23.85	23.21	22.57

(₹ in lakh)					
(Asset-B)	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	35.72	36.90	38.12	39.40	40.70
O & M expenses	19.85	20.50	21.18	21.89	22.61
Receivables	721.45	703.41	684.50	665.65	646.83
Total	777.02	760.81	743.80	726.94	710.14
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	104.90	102.71	100.41	98.14	95.87

(₹ in lakh)					
(Asset-C)	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	21.43	22.14	22.88	23.64	24.42
O & M expenses	11.91	12.30	12.71	13.13	13.57
Receivables	185.98	182.70	178.63	174.59	170.57
Total	219.32	217.14	214.22	211.36	208.56
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	29.61	29.31	28.92	28.53	28.16

Capital Cost

39. 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 tried 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.”

40. The petitioner has claimed capital expenditure of ₹6422.68 lakh, ₹25030.64 lakh and ₹5972.47 lakhas on 31.3.2014 for Asset-A, Asset-B and Asset-C respectively for the tariff period 2014-19. We have considered true up capital cost of ₹6421.31lakh, ₹24990.88 lakh and ₹5837.83lakhas on 31.3.2014 for Asset-A, Asset-B and Asset-C respectively to workout the tariff for tariff period 2014-19.

Additional Capital Expenditure

41. The petitioner has projected additional capitalization of ₹65.74 lakh, ₹60.00 lakh and ₹52.40 lakh for 2014-19 tariff period towards balance and retention payments under Regulation 14(3)(v) of the 2014 Tariff Regulations. The Commission vide its letter dated 30.1.2016 sought the amount of balance and retention payment yet to be made along with the details of contract for which the payment has been retained. In response, the petitioner vide affidavit dated 12.2.2016 submitted the contractor-wise details of balance and retention payment to be made during 2014-19 for all the three assets.

42. The total Capital Cost including additional capitalisation for Asset-A, Asset-B and Asset-C is less than the revised apportioned approved cost. Hence, we have allowed additional capitalization of ₹65.74 lakh, ₹60.00 lakh and ₹52.40 lakh for 2014-19 tariff period towards balance and retention payments under



Regulation 14(3)(v) of 2014 Tariff Regulations and have considered the same for tariff computation.

(₹ in lakh)

Cost as per revised Investment Approval is ₹ 7258.35 lakh								
Particulars (Asset-A)	Admitted capital cost as on 31.3.2014	Additional capitalisation projected					Total additional capitalisation	Total capital cost including additional capitalisation as on 31.3.2019
		2014-15	2015-16	2016-17	2017-18	2018-19		
Approved	6421.31	65.74	0.00	0.00	0.00	0.00	65.74	6487.05

(₹ in lakh)

Cost as per revised Investment Approval is ₹ 25082.45 lakh								
Particulars (Asset-B)	Admitted capital cost as on 31.3.2014	Additional capitalisation projected					Total additional capitalisation	Total capital cost including additional capitalisation as on 31.3.2019
		2014-15	2015-16	2016-17	2017-18	2018-19		
Approved	24990.88	60.00	0.00	0.00	0.00	0.00	60.00	25050.88

(₹ in lakh)

Cost as per revised Investment Approval is ₹ 6819.41 lakh								
Particulars (Asset-C)	Admitted capital cost as on 31.3.2014	Additional capitalisation projected					Total additional capitalisation	Total capital cost including additional capitalisation as on 31.3.2019
		2014-15	2015-16	2016-17	2017-18	2018-19		
Approved	5837.83	52.40	0.00	0.00	0.00	0.00	52.40	5890.23

Debt:EquityRatio

43. 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.”



44. 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. Further, we have considered debt:equity ratio of 70:30 for additional capitalization during 2014-15. The details of the debt:equity considered for the purpose of tariff for 2014-19 tariff period is as follows:-

(Asset-A)	As on 1.4.2014		Additional capitalization during 2014-15		As on 31.3.2019	
	Amount (in ₹ lakh)	(%)	Amount (in ₹ lakh)	(%)	Amount (in ₹ lakh)	(%)
Debt	4494.92	70.00	46.02	70.00	4540.94	70.00
Equity	1926.39	30.00	19.72	30.00	1946.11	30.00
Total	6421.31	100.00	65.74	100.00	6487.05	100.00

(Asset-B)	As on 1.4.2014		Additional capitalization during 2014-15		As on 31.3.2019	
	Amount (in ₹ lakh)	(%)	Amount (in ₹ lakh)	(%)	Amount (in ₹ lakh)	(%)
Debt	17493.63	70.00	42.00	70.00	17535.63	70.00
Equity	7497.26	30.00	18.00	30.00	7515.26	30.00
Total	24990.88	100.00	60.00	100.00	25050.88	100.00

(Asset-C)	As on 1.4.2014		Additional capitalization during 2014-15		As on 31.3.2019	
	Amount (in ₹ lakh)	(%)	Amount (in ₹ lakh)	(%)	Amount (in ₹ lakh)	(%)
Debt	4086.49	70.00	36.68	70.00	4123.17	70.00
Equity	1751.34	30.00	15.72	30.00	1767.06	30.00
Total	5837.83	100.00	52.40	100.00	5890.23	100.00

Interest on Loan (“IOL”)

45. 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.”

46. The weighted average rate of IOL has been considered on the basis of rate prevailing as on 1.4.2014. 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)					
(Asset-A)	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	4494.92	4540.94	4540.94	4540.94	4540.94
Cumulative Repayment upto COD/previous year	1362.51	1704.06	2047.33	2390.61	2733.89
Net Loan-Opening	3132.41	2836.88	2493.61	2150.33	1807.05
Additions during the year	46.02	0.00	0.00	0.00	0.00
Repayment during the year	341.54	343.28	343.28	343.28	343.28
Net Loan-Closing	2836.88	2493.61	2150.33	1807.05	1463.77
Average Loan	2984.65	2665.25	2321.97	1978.69	1635.41
Rate of Interest (%)	8.9896	8.9907	8.9908	8.9898	8.9881
Interest	268.31	239.63	208.76	177.88	146.99

(₹ in lakh)					
(Asset-B)	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	17493.63	17535.63	17535.63	17535.63	17535.63
Cumulative Repayment upto COD/previous year	3681.10	5003.51	6327.51	7651.51	8975.51
Net Loan-Opening	13812.53	12532.11	11208.12	9884.12	8560.12
Additions during the year	42.00	0.00	0.00	0.00	0.00



(Asset-B)	2014-15	2015-16	2016-17	2017-18	2018-19
Repayment during the year	1322.41	1324.00	1324.00	1324.00	1324.00
Net Loan-Closing	12532.11	11208.12	9884.12	8560.12	7236.12
Average Loan	13172.32	11870.12	10546.12	9222.12	7898.12
Rate of Interest (%)	8.9956	8.9967	8.9962	8.9959	8.9955
Interest	1184.93	1067.91	948.75	829.61	710.48

(₹ in lakh)

(Asset-C)	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	4086.49	4123.17	4123.17	4123.17	4123.17
Cumulative Repayment upto COD/previous year	1005.93	1316.26	1627.96	1939.67	2251.38
Net Loan-Opening	3080.56	2806.91	2495.21	2183.50	1871.79
Additions during the year	36.68	0.00	0.00	0.00	0.00
Repayment during the year	310.32	311.71	311.71	311.71	311.71
Net Loan-Closing	2806.91	2495.21	2183.50	1871.79	1560.08
Average Loan	2943.74	2651.06	2339.35	2027.64	1715.94
Rate of Interest (%)	9.0737	9.0773	9.0791	9.0794	9.0791
Interest	267.11	240.65	212.39	184.10	155.79

Return on Equity("ROE")

47. 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."



48. The petitioner has computed ROE at the rate of 19.610% after grossing up the ROE of 15.50% 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.

49. 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.

50. 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)

(Asset-A)	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	1926.39	1946.11	1946.11	1946.11	1946.11
Addition to Equity during the year	19.72	0.00	0.00	0.00	0.00
Closing Equity	1946.11	1946.11	1946.11	1946.11	1946.11
Average Equity	1936.25	1946.11	1946.11	1946.11	1946.11
Return on Equity (Base Rate) (%)	16.00	16.00	16.00	16.00	16.00
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	20.243	20.243	20.243	20.243	20.243
Return on Equity (Pre Tax)	391.95	393.95	393.95	393.95	393.95

(₹ in lakh)

(Asset-B)	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	7497.26	7515.26	7515.26	7515.26	7515.26
Addition to Equity during the year	18.00	0.00	0.00	0.00	0.00
Closing Equity	7515.26	7515.26	7515.26	7515.26	7515.26
Average Equity	7506.26	7515.26	7515.26	7515.26	7515.26
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	1471.98	1473.74	1473.74	1473.74	1473.74

(₹ in lakh)

(Asset-C)	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	1751.34	1767.06	1767.06	1767.06	1767.06
Addition to Equity during the year	15.72	0.00	0.00	0.00	0.00
Closing Equity	1767.06	1767.06	1767.06	1767.06	1767.06
Average Equity	1759.20	1767.06	1767.06	1767.06	1767.06
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	344.98	346.52	346.52	346.52	346.52

Depreciation

51. 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.”

52. We have computed depreciation considering capital expenditure of ₹6421.31 lakh, ₹24990.88 lakh and ₹5837.83 lakh as on 31.3.2014 and additional capitalization of ₹65.74 lakh, ₹60.00 lakh and ₹52.40 lakh for Asset-A, Asset-B & Asset-C respectively for the 2014-19 tariff period. We have allowed depreciation under Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation allowed are given hereunder:-

	(₹ in lakh)				
(Asset-A)	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	6421.30	6487.04	6487.04	6487.04	6487.04
Additional Capitalisation	65.74	0.00	0.00	0.00	0.00
Gross block at the end of the year	6487.04	6487.04	6487.04	6487.04	6487.04
Average gross block	6454.17	6487.04	6487.04	6487.04	6487.04
Rate of Depreciation (%)	5.292%	5.292%	5.292%	5.292%	5.292%
Depreciable Value	5808.76	5838.34	5838.34	5838.34	5838.34
Elapsed Life of the assets at beginning of the year	5	6	7	8	9
Weighted Balance Useful life of the assets	30	29	28	27	26
Remaining Depreciable Value	4484.92	4172.96	3829.68	3486.40	3143.12
Depreciation	341.54	343.28	343.28	343.28	343.28



(₹ in lakh)

(Asset-B)	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	24990.88	25050.88	25050.88	25050.88	25050.88
Additional Capitalisation	60.00	0.00	0.00	0.00	0.00
Gross block at the end of the year	25050.88	25050.88	25050.88	25050.88	25050.88
Average gross block	25020.88	25050.88	25050.88	25050.88	25050.88
Rate of Depreciation (%)	5.285	5.285	5.285	5.285	5.285
Depreciable Value	22518.80	22545.80	22545.80	22545.80	22545.80
Elapsed Life of the assets at beginning of the year	3	4	5	6	7
Weighted Balance Useful life of the assets	32	31	30	29	28
Remaining Depreciable Value	18837.70	17542.28	16218.28	14894.28	13570.28
Depreciation	1322.41	1324.00	1324.00	1324.00	1324.00

(₹ in lakh)

(Asset-C)	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	5837.83	5890.23	5890.23	5890.23	5890.23
Additional Capitalisation	52.40	0.00	0.00	0.00	0.00
Gross block at the end of the year	5890.23	5890.23	5890.23	5890.23	5890.23
Average gross block	5864.03	5890.23	5890.23	5890.23	5890.23
Rate of Depreciation (%)	5.292	5.292	5.292	5.292	5.292
Depreciable Value	5277.63	5301.21	5301.21	5301.21	5301.21
Elapsed Life of the assets at beginning of the year	4	5	6	7	8
Weighted Balance Useful life of the assets	30	29	28	27	26
Remaining Depreciable Value	4271.70	3984.95	3673.25	3361.54	3049.83
Depreciation	310.32	311.71	311.71	311.71	311.71

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

54. 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:-

(₹ in lakh)

(Asset-A)	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expense					
Norm (₹lakh/km)					
Single Circuit (Twin and triple conductors)	0.404	0.418	0.432	0.446	0.461
Double Circuit (Twin and triple conductors)	0.707	0.731	0.755	0.780	0.806
Line (km)					
400 kV S/C LILO of Maithon-Jamshedpur-I at Mejia	0.297	0.297	0.297	0.297	0.297
400 kV D/C LILO of Maithon-Jamshedpur-I at Mejia	49.456	49.456	49.456	49.456	49.456
Total O&M Expense (₹lakh)	35.09	36.28	37.47	38.71	40.00

(₹ in lakh)

(Asset-B)	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expense					
Norm (₹lakh/km)					
Double Circuit (Bundled conductors with four or more sub-conductors)	1.062	1.097	1.133	1.171	1.210
Line (km)					
400 kV D/C Koderma TPS Biharshariff	110.69	110.69	110.69	110.69	110.69
Total O&M Expense (line) (₹lakh)	117.55	121.43	125.41	129.62	133.93
O&M Expense for Bay					
Norm (₹lakh/Bay)					
400 kV	60.30	62.30	64.37	66.51	68.71
Bays					
400 kV	2	2	2	2	2
Total O&M Expense (Bay) (₹lakh)	120.60	124.60	128.74	133.02	137.42
Total O&M Expense (line & Bay) (₹lakh)	238.15	246.03	254.15	262.64	271.35

(₹ in lakh)

(Asset-C)	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expense					
Norm (₹lakh/km)					
Double Circuit (Twin and triple conductors)	0.707	0.731	0.755	0.780	0.806



(Asset-C)	2014-15	2015-16	2016-17	2017-18	2018-19
Line (km)					
400 kV D/C Maithon (RB)- Maithon (PG) TL	31.500	31.500	31.500	31.500	31.500
Total O&M Expense (line) (₹lakh)	22.27	23.03	23.78	24.57	25.39
O&M Expense for Bay					
Norm (₹lakh/Bay)					
400 kV	60.30	62.30	64.37	66.51	68.71
Bays					
400 kV	2	2	2	2	2
Total O&M Expense (Bay) (₹lakh)	120.60	124.60	128.74	133.02	137.42
Total O&M Expense (line & Bay) (₹lakh)	142.87	147.63	152.52	157.59	162.81

55. The petitioner has submitted that norms for O&M Expenses for the tariff period 2014-19 have been arrived on the basis of normalized actual O&M Expenses during the period 2008-13. The petitioner has further submitted that the wage revision of the employees of the petitioner Company is due during 2014-19 and actual impact of wage hike, which will be effective at a future date, has not been factored in fixation of the normative O&M rate specified for the tariff period 2014-19. The petitioner has prayed to be allowed to approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase.

56. 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.

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



(₹ in lakh)					
Particulars(Asset-A)	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses Allowed	35.09	36.28	37.47	38.71	40.00

(₹ in lakh)					
Particulars(Asset-B)	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses Allowed	238.15	246.03	254.15	262.64	271.35

(₹ in lakh)					
Particulars(Asset-C)	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses Allowed	142.87	147.63	152.52	157.59	162.81

Interest on Working Capital (“IWC”)

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

“28. Interest on Working Capital

(c)(i) Receivables equivalent to two months of fixed cost;

(ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 29; and

(iii) Operation and maintenance expenses for one month”

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

59. 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%.

60. 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(Asset-A)	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	5.26	5.44	5.62	5.81	6.00
O & M Expenses	2.92	3.02	3.12	3.23	3.33
Receivables	176.98	172.94	167.88	162.84	157.80
Total	185.17	181.40	176.63	171.87	167.13
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	25.00	24.49	23.84	23.20	22.56

(₹ in lakh)

Particulars(Asset-B)	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	35.72	36.90	38.12	39.40	40.70
O & M Expenses	19.85	20.50	21.18	21.89	22.61
Receivables	720.37	702.38	683.49	664.67	645.89
Total	775.94	759.78	742.79	725.95	709.20
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	104.75	102.57	100.28	98.00	95.74

(₹ in lakh)

Particulars(Asset-C)	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	21.43	22.14	22.88	23.64	24.42
O & M Expenses	11.91	12.30	12.71	13.13	13.57
Receivables	182.40	179.22	175.27	171.34	167.43
Total	215.74	213.67	210.86	208.11	205.42
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	29.12	28.85	28.47	28.09	27.73

Annual Transmission Charges

61. 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)

(Asset-A)	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Block					
Opening Gross Block	6421.30	6487.04	6487.04	6487.04	6487.04
Additional Capitalisation	65.74	0.00	0.00	0.00	0.00
Closing Gross Block	6487.04	6487.04	6487.04	6487.04	6487.04



(Asset-A)	2014-15	2015-16	2016-17	2017-18	2018-19
Average Gross Block	6454.17	6487.04	6487.04	6487.04	6487.04
Depreciation					
Rate of Depreciation (%)	5.292	5.292	5.292	5.292	5.292
Depreciable Value	5808.76	5838.34	5838.34	5838.34	5838.34
Elapsed Life (Beginning of the year)	5	6	7	8	9
Weighted Balance Useful life of the assets	30	29	28	27	26
Remaining Depreciable Value	4484.92	4172.96	3829.68	3486.40	3143.12
Depreciation	341.54	343.28	343.28	343.28	343.28
Interest on Loan					
Gross Normative Loan	4494.92	4540.94	4540.94	4540.94	4540.94
Cumulative Repayment upto Previous Year	1362.51	1704.06	2047.33	2390.61	2733.89
Net Loan-Opening	3132.41	2836.88	2493.61	2150.33	1807.05
Additions	46.02	0.00	0.00	0.00	0.00
Repayment during the year	341.54	343.28	343.28	343.28	343.28
Net Loan-Closing	2836.88	2493.61	2150.33	1807.05	1463.77
Average Loan	2984.65	2665.25	2321.97	1978.69	1635.41
Weighted Average Rate of Interest on Loan (%)	8.9896	8.9907	8.9908	8.9898	8.9881
Interest	268.31	239.63	208.76	177.88	146.99
Return on Equity					
Opening Equity	1926.39	1946.11	1946.11	1946.11	1946.11
Additions	19.72	0.00	0.00	0.00	0.00
Closing Equity	1946.11	1946.11	1946.11	1946.11	1946.11
Average Equity	1936.25	1946.11	1946.11	1946.11	1946.11
Return on Equity (Base Rate) (%)	16.00	16.00	16.00	16.00	16.00
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	20.243	20.243	20.243	20.243	20.243
Return on Equity (Pre Tax)	391.95	393.95	393.95	393.95	393.95
Interest on Working Capital					
Maintenance Spares	5.26	5.44	5.62	5.81	6.00
O & M expenses	2.92	3.02	3.12	3.23	3.33
Receivables	176.98	172.94	167.88	162.84	157.80
Total	185.17	181.40	176.63	171.87	167.13
Interest	25.00	24.49	23.84	23.20	22.56
Annual Transmission Charges					



(Asset-A)	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	341.54	343.28	343.28	343.28	343.28
Interest on Loan	268.31	239.63	208.76	177.88	146.99
Return on Equity	391.95	393.95	393.95	393.95	393.95
Interest on Working Capital	25.00	24.49	23.84	23.20	22.56
O & M Expenses	35.09	36.28	37.47	38.71	40.00
Total	1061.89	1037.62	1007.31	977.02	946.78

(₹ in lakh)					
(Asset-B)	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Block					
Opening Gross Block	24990.88	25050.88	25050.88	25050.88	25050.88
Additional Capitalisation	60.00	0.00	0.00	0.00	0.00
Closing Gross Block	25050.88	25050.88	25050.88	25050.88	25050.88
Average Gross Block	25020.88	25050.88	25050.88	25050.88	25050.88
Depreciation					
Rate of Depreciation (%)	5.285	5.285	5.285	5.285	5.285
Depreciable Value	22518.80	22545.80	22545.80	22545.80	22545.80
Elapsed Life (Beginning of the year)	3	4	5	6	7
Weighted Balance Useful life of the assets	32	31	30	29	28
Remaining Depreciable Value	18837.70	17542.28	16218.28	14894.28	13570.28
Depreciation	1322.41	1324.00	1324.00	1324.00	1324.00
Interest on Loan					
Gross Normative Loan	17493.63	17535.63	17535.63	17535.63	17535.63
Cumulative Repayment upto Previous Year	3681.10	5003.51	6327.51	7651.51	8975.51
Net Loan-Opening	13812.53	12532.11	11208.12	9884.12	8560.12
Additions	42.00	0.00	0.00	0.00	0.00
Repayment during the year	1322.41	1324.00	1324.00	1324.00	1324.00
Net Loan-Closing	12532.11	11208.12	9884.12	8560.12	7236.12
Average Loan	13172.32	11870.12	10546.12	9222.12	7898.12
Weighted Average Rate of Interest on Loan (%)	8.9956	8.9967	8.9962	8.9959	8.9955
Interest	1184.93	1067.91	948.75	829.61	710.48
Return on Equity					
Opening Equity	7497.26	7515.26	7515.26	7515.26	7515.26
Additions	18.00	0.00	0.00	0.00	0.00
Closing Equity	7515.26	7515.26	7515.26	7515.26	7515.26
Average Equity	7506.26	7515.26	7515.26	7515.26	7515.26
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT Rate for the year 2013-14 (%)	20.96	20.96	20.96	20.96	20.96



(Asset-B)	2014-15	2015-16	2016-17	2017-18	2018-19
Rate of Return on Equity (Pre Tax) (%)	19.61	19.61	19.61	19.61	19.61
Return on Equity (Pre Tax)	1471.98	1473.74	1473.74	1473.74	1473.74
Interest on Working Capital					
Maintenance Spares	35.72	36.90	38.12	39.40	40.70
O & M expenses	19.85	20.50	21.18	21.89	22.61
Receivables	720.37	702.38	683.49	664.67	645.89
Total	775.94	759.78	742.79	725.95	709.20
Interest	104.75	102.57	100.28	98.00	95.74
Annual Transmission Charges					
Depreciation	1322.41	1324.00	1324.00	1324.00	1324.00
Interest on Loan	1184.93	1067.91	948.75	829.61	710.48
Return on Equity	1471.98	1473.74	1473.74	1473.74	1473.74
Interest on Working Capital	104.75	102.57	100.28	98.00	95.74
O & M Expenses	238.15	246.03	254.15	262.64	271.35
Total	4322.23	4214.25	4100.92	3987.99	3875.31

(₹ in lakh)

(Asset-C)	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Block					
Opening Gross Block	5837.83	5890.23	5890.23	5890.23	5890.23
Additional Capitalisation	52.40	0.00	0.00	0.00	0.00
Closing Gross Block	5890.23	5890.23	5890.23	5890.23	5890.23
Average Gross Block	5864.03	5890.23	5890.23	5890.23	5890.23
Depreciation					
Rate of Depreciation (%)	5.292%	5.292%	5.292%	5.292%	5.292%
Depreciable Value	5277.63	5301.21	5301.21	5301.21	5301.21
Elapsed Life (Beginning of the year)	4	5	6	7	8
Weighted Balance Useful life of the assets	30	29	28	27	26
Remaining Depreciable Value	4271.70	3984.95	3673.25	3361.54	3049.83
Depreciation	310.32	311.71	311.71	311.71	311.71
Interest on Loan					
Gross Normative Loan	4086.49	4123.17	4123.17	4123.17	4123.17
Cumulative Repayment upto Previous Year	1005.93	1316.26	1627.96	1939.67	2251.38
Net Loan-Opening	3080.56	2806.91	2495.21	2183.50	1871.79
Additions	36.68	0.00	0.00	0.00	0.00
Repayment during the year	310.32	311.71	311.71	311.71	311.71



(Asset-C)	2014-15	2015-16	2016-17	2017-18	2018-19
Net Loan-Closing	2806.91	2495.21	2183.50	1871.79	1560.08
Average Loan	2943.74	2651.06	2339.35	2027.64	1715.94
Weighted Average Rate of Interest on Loan (%)	9.0737%	9.0773%	9.0791%	9.0794%	9.0791%
Interest	267.11	240.65	212.39	184.10	155.79
Return on Equity					
Opening Equity	1751.34	1767.06	1767.06	1767.06	1767.06
Additions	15.72	0.00	0.00	0.00	0.00
Closing Equity	1767.06	1767.06	1767.06	1767.06	1767.06
Average Equity	1759.20	1767.06	1767.06	1767.06	1767.06
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)	344.98	346.52	346.52	346.52	346.52
Interest on Working Capital					
Maintenance Spares	21.43	22.14	22.88	23.64	24.42
O & M expenses	11.91	12.30	12.71	13.13	13.57
Receivables	182.40	179.22	175.27	171.34	167.43
Total	215.74	213.67	210.86	208.11	205.42
Interest	29.12	28.85	28.47	28.09	27.73
Annual Transmission Charges					
Depreciation	310.32	311.71	311.71	311.71	311.71
Interest on Loan	267.11	240.65	212.39	184.10	155.79
Return on Equity	344.98	346.52	346.52	346.52	346.52
Interest on Working Capital	29.12	28.85	28.47	28.09	27.73
O & M Expenses	142.87	147.63	152.52	157.59	162.81
Total	1094.40	1075.35	1051.61	1028.01	1004.56

Deferred Tax Liability

62. 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

63. 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

64. 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

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

Sharing of Transmission Charges

66. 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.

67. This Order disposes of Petition No. 297/TT/2015.

Sd/-

**(Dr. M. K. Iyer)
Member**

Sd/-

**(A.S. Bakshi)
Member**



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

Particulars(Asset-A)	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXVIII DOCO DRAWL ON 15	9.33%	500.00	0.00	500.00
BOND XXIX DOCO DRAWL ON 12 MAR 2009	9.20%	1200.00	0.00	1200.00
BOND XXX DOCO DRAWL ON 29 SEP 2009	8.80%	1696.00	0.00	1696.00
BOND XXXI ADDCAP FOR 2009-2010 Add Cap Funding	8.90%	0.00	571.87	571.87
BOND XXXIII ADDCAP FOR 2010-2011 Add Cap Funding	0.00%	0.00	0.00	0.00
BOND XXXVII ADDCAP FOR 2011-2012 Add Cap Funding	0.00%	0.00	0.00	0.00
SBI (21.3.2012)- ADDCAP FOR 2013-2014 Add Cap Funding	0.00%	0.00	0.00	0.00
BOND XL ADDCAP FOR 2012-2013 Add Cap Funding	0.00%	0.00	0.00	0.00
Total		3396.00	571.87	3967.87

(₹ in lakh)

Particulars(Asset-B)	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXVIII DOCO DRAWL ON 1	9.33%	2385.00	0.00	2385.00
BOND XXIX DOCO DRAWL ON 1 JUN 2011	9.20%	4330.00	0.00	4330.00
BOND XXX DOCO DRAWL ON 1 JUN 2011	8.80%	2966.00	0.00	2966.00
BOND XXXI DOCO DRAWL ON 1 JUN 2011	8.90%	1691.00	0.00	1691.00
BOND XXXIII DOCO DRAWL ON 1 JUN 2011	8.64%	1963.00	0.00	1963.00
BOND XXXIV DOCO FUNDING	8.84%	2744.00	0.00	2744.00
BOND XXXV ADDCAP FOR 2011-2012 Add Cap Funding	9.64%	0.00	68.67	68.67
BOND XXXV DOCO Funding	9.64%	158.45	0.00	158.45
BOND XXXVI ADDCAP FOR 2011-2012 Add Cap Funding	9.35%	0.00	284.00	284.00
BOND XXXVII ADDCAP FOR 2011-2012 Add Cap Funding	9.25%	0.00	89.92	89.92



Particulars(Asset-B)	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXXVIII ADDCAP FOR 2011-2012 Add Cap Funding	9.25%	0.00	606.18	606.18
BOND XL ADDCAP FOR 2012-2013 Add Cap Funding	0.00%	0.00	0.00	0.00
BOND XLI ADDCAP FOR 2012-2013 Add Cap Funding	0.00%	0.00	0.00	0.00
BOND XLII ADDCAP FOR 2012-2013 Add Cap Funding	0.00%	0.00	0.00	0.00
BOND XLII ADDCAP FOR 2013-2014 Add Cap Funding	0.00%	0.00	0.00	0.00
Total		16237.45	1048.77	17286.22

Particulars(Asset-C)	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXVIII-DOCO DRAWL ON 15	9.33%	715.00	0.00	715.00
BOND XXIX-11. DOCO DRAWL ON 1 OCT 2012	9.20%	1006.00	0.00	1006.00
BOND XXX- DOCO DRAWL ON 29 SEP 2009	8.80%	407.00	0.00	407.00
BOND XXXI- DOCO DRAWL ON 25 FEB 2010	8.90%	628.13	0.00	628.13
BOND XXXIII- ADDCAP FOR 2010-2011 Add Cap Funding	8.64%	0.00	94.64	94.64
BOND XXXIII- DOCO DRAWL ON 8 JUL 2010	8.64%	504.50	0.00	504.50
BOND XXXIV- ADDCAP FOR 2010-2011 Add Cap Funding	8.84%	0.00	154.00	154.00
BOND XXXV- ADDCAP FOR 2010-2011 Add Cap Funding	9.64%	0.00	95.26	95.26
BOND XXXVII- ADDCAP FOR 2011-2012 Add Cap Funding	0.00%	0.00	0.00	0.00
SBI (21.3.2012)-ADDCAP FOR 2013-2014 Add Cap Add Cap Funding	0.00%	0.00	0.00	0.00
BOND XL-ADDCAP FOR 2012-2013 Add Cap Funding	0.00%	0.00	0.00	0.00
BOND XLV-ADDCAP FOR 2013-2014 Add Cap Funding	0.00%	0.00	0.00	0.00
Total		3260.63	343.90	3604.53



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

(₹ in lakh)

Details of Loan(Asset-A)	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Opening Loan	3396.00	3967.87	4303.59	4434.02	4442.44
Cumulative Repayment of loan upto previous year	0.00	0.00	0.00	0.00	141.67
Net Loan Opening	3396.00	3967.87	4303.59	4434.02	4300.77
Additions during the year	571.87	335.72	130.43	8.42	53.53
Repayment during the year	0.00	0.00	0.00	141.67	330.66
Net Loan Closing	3967.87	4303.59	4434.02	4300.77	4023.64
Average Loan	3681.94	4135.73	4368.81	4367.40	4162.21
Weighted Average Rate of Interest (%)	9.0102%	8.9875%	8.9780%	8.9781%	8.9815%
Interest	331.75	371.70	392.23	392.11	373.83

(₹ in lakh)

Details of Loan(Asset-B)	2011-12	2012-13	2013-14
Gross Opening Loan	16237.45	17286.22	17464.59
Cumulative Repayment of loan upto previous year	0.00	0.00	559.58
Net Loan Opening	16237.45	17286.22	16905.01
Additions during the year	1048.77	178.37	56.52
Repayment during the year	0.00	559.58	947.67
Net Loan Closing	17286.22	16905.01	16013.86
Average Loan	16761.84	17095.62	16459.44
Weighted Average Rate of Interest (%)	9.0003%	9.0051%	8.9979%
Interest	1508.62	1539.47	1481.00

(₹ in lakh)

Details of Loan(Asset-C)	2010-11	2011-12	2012-13	2013-14
Gross Opening Loan	3260.63	3604.53	3944.93	4080.00
Cumulative Repayment of loan upto previous year	0.00	0.00	0.00	143.41
Net Loan Opening	3260.63	3604.53	3944.93	3936.59
Additions during the year	343.90	340.40	135.07	100.87
Repayment during the year	0.00	0.00	143.41	229.67
Net Loan Closing	3604.53	3944.93	3936.59	3807.79
Average Loan	3432.58	3774.73	3940.76	3872.19
Weighted Average Rate of Interest (%)	9.0329%	9.0414%	9.0510%	9.0615%
Interest	310.06	341.29	356.68	350.88



ANNEXURE-II**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO**

(₹ in lakh)

Particulars(Asset-A)	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXVIII DOCO DRAWL ON 15	9.33%	500.00	0.00	500.00
BOND XXIX DOCO DRAWL ON 12 MAR 2009	9.20%	1200.00	0.00	1200.00
BOND XXX DOCO DRAWL ON 29 SEP 2009	8.80%	1696.00	0.00	1696.00
BOND XXXI ADDCAP FOR 2009-2010 Add Cap Funding	8.90%	571.87	0.00	571.87
BOND XXXIII ADDCAP FOR 2010-2011 Add Cap Funding	8.64%	335.72	0.00	335.72
BOND XXXVII ADDCAP FOR 2011-2012 Add Cap Funding	9.25%	130.43	0.00	130.43
SBI (21.3.2012)- ADDCAP FOR 2013-2014 Add Cap Funding	10.25%	53.53	0.00	53.53
BOND XL ADDCAP FOR 2012-2013 Add Cap Funding	9.30%	8.42	0.00	8.42
Total		4495.97	0.00	4495.97

Particulars(Asset-B)	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXVIII DOCO DRAWL ON 1 JUN 2011	9.33%	2385.00	0.00	2385.00
BOND XXIX DOCO DRAWL ON 1 JUN 2011	9.20%	4330.00	0.00	4330.00
BOND XXX DOCO DRAWL ON 1 JUN 2011	8.80%	2966.00	0.00	2966.00
BOND XXXI DOCO DRAWL ON 1 JUN 2011	8.90%	1691.00	0.00	1691.00
BOND XXXIII DOCO DRAWL ON 1 JUN 2011	8.64%	1963.00	0.00	1963.00
BOND XXXIV DOCO FUNDING	8.84%	2744.00	0.00	2744.00
BOND XXXV ADDCAP FOR 2011-2012 Add Cap Funding	9.64%	68.67	0.00	68.67
BOND XXXV DOCO Funding	9.64%	158.45	0.00	158.45
BOND XXXVI ADDCAP FOR 2011-2012 Add Cap Funding	9.35%	284.00	0.00	284.00
BOND XXXVII ADDCAP FOR 2011-2012 Add Cap Funding	9.25%	89.92	0.00	89.92



Particulars(Asset-B)	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXXVIII ADDCAP FOR 2011-2012 Add Cap Funding	9.25%	606.18	0.00	606.18
BOND XL ADDCAP FOR 2012-2013 Add Cap Funding	9.30%	21.51	0.00	21.51
BOND XLI ADDCAP FOR 2012-2013 Add Cap Funding	8.85%	138.00	0.00	138.00
BOND XLII ADDCAP FOR 2012-2013 Add Cap Funding	8.80%	18.86	0.00	18.86
BOND XLII ADDCAP FOR 2013-2014 Add Cap Funding	8.80%	56.52	0.00	56.52
Total		17521.11	0.00	17521.11

Particulars(Asset-C)	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXVIII-DOCO DRAWL ON 15	9.33%	715.00	0.00	715.00
BOND XXIX-11. DOCO DRAWL ON 1 OCT 2012	9.20%	1006.00	0.00	1006.00
BOND XXX- DOCO DRAWL ON 29 SEP 2009	8.80%	407.00	0.00	407.00
BOND XXXI- DOCO DRAWL ON 25 FEB 2010	8.90%	628.13	0.00	628.13
BOND XXXIII- ADDCAP FOR 2010-2011 Add Cap Funding	8.64%	94.64	0.00	94.64
BOND XXXIII- DOCO DRAWL ON 8 JUL 2010	8.64%	504.50	0.00	504.50
BOND XXXIV- ADDCAP FOR 2010-2011 Add Cap Funding	8.84%	154.00	0.00	154.00
BOND XXXV- ADDCAP FOR 2010-2011 Add Cap Funding	9.64%	95.26	0.00	95.26
BOND XXXVII- ADDCAP FOR 2011-2012 Add Cap Funding	9.25%	340.00	0.00	340.00
SBI (21.3.2012)-ADDCAP FOR 2013-2014 Add Cap Add Cap Funding	10.25%	46.47	0.00	46.47
BOND XL-ADDCAP FOR 2012-2013 Add Cap Funding	9.30%	135.07	0.00	135.07
BOND XLV-ADDCAP FOR 2013-2014 Add Cap Funding	9.65%	54.40	0.00	54.40
Total		4180.47	0.00	4180.47



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

(₹ in lakh)

Details of Loan(Asset-A)	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	4495.97	4495.97	4495.97	4495.97	4495.97
Cumulative Repayment of loan upto previous year	472.33	830.97	1200.48	1575.56	1950.64
Net Loan Opening	4023.64	3665	3295.49	2920.41	2545.33
Additions during the year	0	0	0	0	0
Repayment during the year	358.64	369.51	375.08	375.08	375.08
Net Loan Closing	3665	3295.49	2920.41	2545.33	2170.25
Average Loan	3844.32	3480.245	3107.95	2732.87	2357.79
Weighted Average Rate of Interest (%)	8.9896%	8.9907%	8.9908%	8.9898%	8.9881%
Interest	345.59	312.9	279.43	245.68	211.92

(₹ in lakh)

Details of Loan(Asset-B)	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	17521.11	17521.11	17521.11	17521.11	17521.11
Cumulative Repayment of loan upto previous year	1507.25	2847.20	4213.50	5612.05	7010.60
Net Loan Opening	16013.86	14673.91	13307.61	11909.06	10510.51
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	1339.92	1366.30	1398.55	1398.55	1398.55
Net Loan Closing	14673.94	13307.61	11909.06	10510.51	9111.96
Average Loan	15343.90	13990.76	12608.34	11209.79	9811.24
Weighted Average Rate of Interest (%)	8.9956%	8.9967%	8.9962%	8.9959%	8.9955%
Interest	1380.28	1258.70	1134.27	1008.42	882.57

(₹ in lakh)

Details of Loan(Asset-C)	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	4180.87	4180.87	4180.87	4180.87	4180.87
Cumulative Repayment of loan upto previous year	373.08	665.51	994.25	1338.47	1687.22
Net Loan Opening	3807.79	3515.36	3186.62	2842.40	2493.65
Additions during the year	0	0	0	0	0
Repayment during the year	292.43	328.74	344.22	348.75	348.75
Net Loan Closing	3515.36	3186.62	2842.40	2493.65	2144.90
Average Loan	3661.58	3350.99	3014.51	2668.03	2319.28
Weighted Average Rate of Interest (%)	9.0737%	9.0773%	9.0791%	9.0794%	9.0791%
Interest	332.24	304.18	273.69	242.24	210.57

