

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 31/TT/2015

Coram:

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

**Date of Hearing : 08.02.2016
Date of Order : 30.03.2016**

In the matter of:

Truing up of transmission tariff of 2009-14 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 and determination of transmission tariff for 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 of Asset-I: Pole-I of +/- 500 kV, 2500 MW Balia – Bhiwadi HVDC bipole, Asset-II: Pole-II of +/- 500 kV, 2500 MW Balia – Bhiwadi HVDC bipole, Asset- III: LILO of Kahalgaon-Patna 400 kV D/C (Quad) line at Barh Sub-ststion and Asset-IV: 765 kV S/C Seoni-Bina Transmission Line assets under Barh transmission system in Northern, Eastern and Western 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. 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 Power Corporation Ltd.
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
 18. Madhya Pradesh Audyogik Kendra Vikas Nigam (Indore) Ltd.
3/54, Press Complex, Agra-Bombay Road
Indore-452008
 19. Chhattisgarh State Electricity Board
P.O Sunder Nagar, Dangania, Raipur
Chhatisgaarh-492013
 20. Electricity Department
Administration of Dadar Nagar Haveli,
U.T., Silvassa- 396230
 21. Electricity Department
Administration of Daman & Diu,
Daman- 396210
 22. Electricity Department
Govt. Of GOA,
Vidyut Bhawan, Panaji- 403001
 23. Gujarat Urja Vikas Nigam Ltd.
Sardar Patel Vidyut Bhawan,
Race Course Road
Vadodara- 390007
 24. Maharashtra State Electricity Distribution Co. Ltd.
Prakashgad, 4th Floor, Andheri(East), Mumbai-400052
 25. Madhya Pradesh Power Management Company Ltd.
Shakti Bhawan, Rampur
Jabalpur-482008
-**Respondents**

The following were present:-

For Petitioner: Shri S. K. Venkatesan, PGCIL
 Shri M. M. Mondal, PGCIL
 Shri Shashi Bhushan, PGCIL



Shri R.P.S Rana, PGCIL
Shri Jasbir Singh, PGCIL
Shri S.S. Raju, PGCIL
Shri Rakesh Prasad, PGCIL
Shri Subhash C. Taneja, 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 of **Asset-I:** Pole-I of +/- 500 kV, 2500 MW Balia – Bhiwadi HVDC bipole, **Asset-II:** Pole-II of +/- 500 kV, 2500 MW Balia – Bhiwadi HVDC bipole, **Asset- III:** LILO of Kahalgaon-Patna 400 kV D/C (Quad) line at Barh Sub-station and **Asset-IV:** 765 kV S/C Seoni-Bina transmission lineassets under Barh transmission system in Northern, Eastern and Western Region(hereinafter referred as “transmission asset”).

2. The respondents are mostly distribution licensees or centralised power companies or transmission licensees who are procuring transmission service from the petitioner, mainly beneficiaries of the Northern and Western 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 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 Electricity Act, 2003. The hearing in this matter was held on 8.2.2016. None of the respondents have filed their reply. The petitioner has submitted additional information vide affidavit dated 1.3.2016. 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 Government of India, Ministry of Power vide letter dated 12.12.2005 at an estimated cost of ₹377945 lakh including IDC of ₹17941 lakh.
- (b) As per investment approval, accorded on 12.12.2005, the transmission project was to be commissioned within 45 months from the date of investment approval i.e. by 1.10.2009. The Asset-I and Asset-II was put under the commercial operation on 1.9.2010 and 1.7.2012 respectively. Further Asset-III and Asset-IV was put under commercial operation on 1.11.2009 and 1.4.2010 respectively. The delay of 11 months and 6 months in the case of Asset-I and Asset-IV was condoned by the Commission. Further, the delay of 21 months out of total delay of 33 months in the case of Asset-II was disallowed vide order dated 4.2.2014 in Petition No. 96/2012 and accordingly, the IDC and IEDC for 12 months was deducted.



(c) The petitioner filed Appeal No.108/2014 against Commission's order dated 4.2.2014 in Petition No. 96/TT/2012 before Hon'ble APTEL and the same was rejected.

(d) The tariff from respective COD to 31.3.2014 was allowed in order dated 20.1.2014 in Petition No. 150/TT/2013, order dated 4.2.2014 in Petition No. 96/TT/2012, order dated 18.2.2014 in Petition No. 152/TT/2013 and order dated 8.6.2011 in Petition No. 238/TT/2010 for Asset-I, Asset-II, Asset-III and Asset-IV respectively.

(e) The tariff allowed is as under:-

(₹ in lakh)				
Particulars (Asset-I)	2010-11 (Pro-rata)	2011-12	2012-13	2013-14
Depreciation	5976.51	10628.10	11155.32	11414.35
Interest on Loan	1736.01	2922.36	2798.16	2601.27
Return on equity	6059.87	10793.09	11331.71	11600.09
Interest on Working Capital	308.77	548.10	571.04	582.82
O & M Expenses	1150.44	2085.20	2204.72	2329.82
Total	15231.61	26976.85	28060.96	28528.35

(₹ in lakh)		
Particulars (Asset-II)	2012-13 (Pro-rata)	2013-14
Depreciation	1754.12	2612.04
Interest on Loan	472.41	659.19
Return on equity	1810.07	2686.25
Interest on Working Capital	144.91	210.39
O & M Expenses	941.25	1326.25
Total	5122.76	7494.12

(₹ in lakh)					
Particulars (Asset-III)	2009-10 (pro-rata)	2010-11	2011-12	2012-13	2013-14
Depreciation	385.93	935.76	946.00	954.83	955.25
Interest on Loan	474.41	1088.06	1012.05	933.51	844.04
Return on equity	383.15	929.01	939.18	947.95	948.37
Interest on Working Capital	26.96	64.18	63.17	62.06	60.38
O & M Expenses	20.78	52.75	55.77	58.96	62.30



Particulars (Asset-III)	2009-10 (pro-rata)	2010-11	2011-12	2012-13	2013-14
Total	1291.23	3069.77	3016.17	2957.32	2870.34

Particulars (Asset-IV)	(₹ in lakh)			
	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Depreciation	2099.64	2136.22	2150.80	2160.45
Interest on Loan	997.62	1016.05	937.50	856.53
Return on equity	2084.45	2120.67	2135.16	2144.74
Interest on Working Capital	116.78	119.35	119.18	118.79
O & M Expenses	276.91	292.61	309.55	327.15
Total	5575.39	5684.90	5652.19	5607.66

- (f) The MAT rate applicable as on 2008-09 was considered to arrive at rate of return on equity for the tariff period 2009-14, which is required to be adjusted as per the actual MAT rate applicable for the respective year at the time of truing up of tariff for 2009-14 tariff period.

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

5. 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 ₹196437.64 lakh, ₹40497.53 lakh, ₹17426.92 lakh and ₹39149.94 lakh for Asset-I, Asset-II, Asset-III and Asset-IV respectively as on COD for the purpose of tariff.

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. In response to the Commission’s query regarding the substantial variation in RCE apportioned cost and completion cost including additional capitalization as on 31.3.2014, the representative of the petitioner submitted that most of the equipment involved in the project were imported and the variation is due to variation in the exchange rates.

9. The petitioner has submitted the Auditor’s Certificate certifying the capital cost and additional capitalization claimed. The issue of time over-run in case of Asset-II has been dealt by the Commission in order dated 4.2.2014 in Petition No. 96/TT/2012. The revised capital cost for the purpose of true up has been considered as on COD after deducting excess initial spares for tariff computation for Asset-I, Asset-III and Asset-IV. Further, for Asset-II the revised capital cost of has been considered as on COD after deducting proportionate IDC & IEDC disallowed for 12 months for tariff computation for Asset-II.



IDC & IEDC:

10. As held in earlier order dated 4.2.2014 by the Commission, the delay of 12 months for Asset-II was not condoned and IDC and IEDC were not allowed. Since the actual IDC and IEDC have been changed by the petitioner, the IDC and IEDC for the period of 12 months has undergone change and has been worked out for the purpose of true up. The proportionate amount of IDC and IEDC being disallowed are as given below:-

(₹ in lakh)			
Particulars	IDC	IEDC	Total
IDC and IEDC upto 1.7.2012 (COD) 78 months	3918.91	950.48	
Pro-rata IDC and IEDC disallowed for 12 months	602.91	146.23	749.14

Initial Spares

11. 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%”

12. 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;”

13. During the hearing the representative of the petitioner submitted that some additional spares is further required. In response to the Commission’s query regarding further requirement of additional spares after the completion of the project, the representative of the petitioner submitted that additional spares is

required for the procurement of transformer bushing due to frequent failure of the converter transformer bushing and the same is a part of capital expenditure. Further, the petitioner submitted that additional spares claimed are within the ceiling norm of 3.5%. It is observed that the petitioner has not adjusted excess initial spares for Asset-III and Asset-IV from the capital cost as on COD. The initial spares claimed for Sub-station portion of Asset-I is within the ceiling limit whereas for transmission line portion of Asset-I the petitioner has claimed excess initial spares. Further, the initial spares claimed for Asset-II is within the ceiling norm of 3.50%. We have computed excess initial spares shown in the table below:-

(₹ in lakh)

Description	Particulars	Capital cost as on cut off date	Initial Spares claimed	Ceiling limit as per Regulation 8 of 2009 regulations	Initial spares worked out	Excess initial spares claimed
		(a)	(b)	(c)	(d)=((a-b)*c)/(100-c)%	(e)=(b-d)
Asset-I	Transmission line	88728.62	946.29	0.75%	663.34	282.95
Asset-III	Transmission line	18067.72	173.00	0.75%	135.22	37.78
Asset-IV	Sub-station	2201.66	202.42	2.50%	51.26	151.16

14. Accordingly, the details of the capital cost as on COD considered as on the date of COD after adjustment of IDC and IEDC disallowed and excess initial spares are as follows:-

(₹ in lakh)

Particulars	Asset-I	Asset-II	Asset-III	Asset-IV
Capital cost as on COD per Auditor's Certificate	196437.64	41246.67	17426.92	39149.94
Less: Proportionate IDC & IEDC disallowed for 12 months for Asset-II	0.00	749.14	0.00	0.00



Less: Excess Initial Spares	282.95	0.00	37.78	151.16
Capital cost considered as on COD for tariff computation	196154.69	40497.53	17389.14	38998.78

Additional Capital Expenditure

15. The petitioner has claimed additional capitalization under Regulation 9(1)(i) of the 2009 Tariff Regulations for Asset-I and Asset-II. For Asset-III and Asset-IV, the petitioner has claimed additional capitalization under Regulation 9(1)(i) and 9(2)(viii) of the 2009 Tariff Regulations.

16. Clause (1)(i) 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:

....

(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.”

17. The petitioner has claimed additional capitalization towards balance and retention payment for all four assets. We have considered the submissions of the petitioner. The total capital cost of ₹215010.26 lakh including actual additional capitalisation for Asset-I is well within the revised apportioned approved cost of

₹236153 lakh. The total capital cost of ₹42856.25 lakh including actual additional capitalisation for Asset-II is within the revised apportioned approved cost of ₹61796 lakh. The total capital cost of ₹18102.28 lakh including actual additional capitalisation for Asset-III is within the revised apportioned approved cost of ₹18407 lakh. Similarly, the total capital cost of ₹40987.13 lakh including actual additional capitalisation for Asset-IV is within the revised apportioned approved cost of ₹41559.66 lakh. Hence, the additional capitalization in case of Assets I, II, III and IV are allowed under Regulation 9(1)(i) and 9(2)(viii) of the 2009 Tariff Regulations as shown in the table below:-

(₹ in lakh)

Cost as per revised Investment Approval is ₹18407 lakh								
Asset-I	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 20.1.2014	196437.64	3301.76	12133.36	8407.88	1827.27	25670.27	222107.91	
Allowed in this order	196154.69	3301.76	12133.36	1167.77	2252.68	18855.57	215010.26	

(₹ in lakh)

Cost as per revised Investment Approval is ₹61796 lakh						
Asset –II	Capital cost upto COD	Additional Capitalization			Total add cap	Total capital cost as on 31.3.2014
		2012-13	2013-14			
Approved in order dated 4.2.2014	41446.07	9148.00	1256.02	10404.02	51850.09	
Allowed in this order	40497.53	2161.32	197.40	2358.72	42856.25	

(₹ in lakh)

Cost as per revised Investment Approval is ₹ 236153 lakh									
Asset –III	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 18.2.2014	17389.14	291.43	69.22	318.52	16.00	0.00	695.17	18084.31	
Allowed in this order	17389.14	291.43	69.22	318.52	33.97	0.00	713.94	18102.28	



(₹ in lakh)

Cost as per revised Investment Approval is ₹ 18407 lakh							
Asset-IV	Capital cost upto COD	Additional Capitalization					Total capital cost as on 31.3.2014
		2010-11	2011-12	2012-13	2013-14	Total add cap	
Approved in order dated 8.6.2011	39149.94	1194.18	187.31	365.30	0.00	1746.79	40896.73
Allowed in this order	38998.78	782.81	1178.52	23.73	3.29	1988.35	40987.13

Debt: Equity

18. Clause 1 & 3 of Regulation 12 of the 2009 Tariff Regulations provides as follows:-

“(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.”

19. The petitioner has claimed true up Annual Fixed Charge based on debt-equity ratio of 70:30. The admitted debt:equity ratio of 70:30 has been considered as on COD for the purpose of true up of the approved tariff of tariff period 2009-14. With respect to additional capitalization, the petitioner has submitted the debt:equity ratio of 70:30 for Asset-I, Asset-II, Asset-III and Asset-IV. 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 1.3.2016 submitted actual debt:equity ratio for all the assets is not 70:30 and equity infusion in some of the years is more than 30%. Further submitted that it has considered debt:equity ratio as per Regulation 12(3) of the 2009 Tariff Regulations wherein equity actually deployed more than 30% of the capital cost will be considered as normative loan. The petitioner has claimed ROE only for 30% of the additional capitalization on normative basis. The overall debt:equity as on COD and as on 31.3.2014 for Asset-I, Asset-II, Asset-III and Asset-IV including additional capitalization is as under:-

(₹ in lakh)

Asset-I	As on 1.9.2010		Additional capitalization during 2009-14		As on 31.3.2014	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	137308.28	70.00	13198.90	70.00	150507.18	70.00
Equity	58846.41	30.00	5656.67	30.00	64503.08	30.00
Total	196154.69	100.00	18855.57	100.00	215010.26	100.00

(₹ in lakh)

Asset-II	As on 1.7.2012		Additional capitalization during 2009-14		As on 31.3.2014	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	28348.27	70.00	1651.10	70.00	29999.38	70.00
Equity	12149.26	30.00	707.62	30.00	12856.88	30.00
Total	40497.53	100.00	2358.72	100.00	42856.25	100.00

(₹ in lakh)

Asset-III	As on 1.11.2009		Additional capitalization during 2009-14		As on 31.3.2014	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	12172.40	70.00	499.20	70.00	12671.60	70.00
Equity	5216.74	30.00	213.94	30.00	5430.69	30.00
Total	17389.14	100.00	713.14	100.00	18102.28	100.00

(₹ in lakh)

Asset-IV	As on 1.4.2010		Additional capitalization during 2009-14		As on 31.3.2014	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	27299.15	70.00	1391.85	70.00	28690.99	70.00
Equity	11699.63	30.00	596.51	30.00	12296.14	30.00
Total	38998.78	100.00	1988.35	100.00	40987.13	100.00

Interest on Loan (“IOL”)

20. 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”.

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

22. 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-I)	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Approved vide order dated 20.1.2014	1736.01	2922.36	2798.16	2601.27
As claimed by petitioner	1776.29	2986.61	2967.11	2414.53
Allowed after true up	1773.76	2982.50	2963.14	2411.40

(₹ in lakh)		
(Asset-II)	2012-13 (pro-rata)	2013-14
Approved vide order dated 4.2.2014	472.41	659.19
As claimed by petitioner	403.48	458.07
Allowed after true up	403.48	458.07

(₹ in lakh)					
(Asset-III)	2009-10 (pro-rata)	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 18.2.2014	474.41	1088.06	1012.05	933.51	844.04
As claimed by petitioner	475.43	1090.38	1014.18	936.03	846.89
Allowed after true up	474.40	1088.05	1012.04	934.07	845.12



(₹ in lakh)

(Asset-IV)	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Approved vide order dated 8.6.2011	997.62	1016.05	937.50	856.53
As claimed by petitioner	822.10	781.07	751.25	619.17
Allowed after true up	818.96	778.16	748.50	616.91

23. The variation in Interest on loan is on account of variation in capital cost as on COD and additional capitalization for 2009-14 tariff period.

Return on Equity (“ROE”)

24. 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 may be, 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.”

25. The petitioner has submitted that MAT rate of 11.330% applicable for 2008-09 was considered in tariff order. 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

26. Accordingly, ROE allowed for Asset-I, Asset-II, Asset-III and Asset-IV is shown in the table below:-

(₹ in lakh)

(Asset-I)	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Approved vide order dated 20.1.2014	6059.87	10793.09	11331.71	11600.09
As claimed by petitioner	6710.55	11963.71	12350.30	12599.42
Allowed after true up	6700.96	11947.27	12333.87	12582.79

(₹ in lakh)

(Asset-II)	2012-13 (pro-rata)	2013-14
Approved vide order dated 4.2.2014	1810.07	2686.25
As claimed by petitioner	1812.74	2515.42
Allowed after true up	1812.74	2515.43

(₹ in lakh)

(Asset-III)	2009-10 (pro-rata)	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 18.2.2014	383.15	929.01	939.18	947.95	948.37
As claimed by petitioner	410.18	1030.96	1043.24	1053.48	1067.15
Allowed after true up	409.31	1028.79	1041.07	1051.32	1064.96

(₹ in lakh)

(Asset-IV)	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Approved vide order dated 8.6.2011	2084.45	2120.67	2135.16	2144.74
As claimed by petitioner	2296.32	2355.58	2390.53	2420.07
Allowed after true up	2287.55	2346.80	2381.74	2411.18



27. 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 and also due to variation in capital cost as on COD and additional capitalization.

Depreciation

28. 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”

29. 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.”

30. 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 29 years, 25 years for Asset-I & Asset-II respectively and 35 years for 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)

(Asset-I)	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Approved vide order dated 20.1.2014	5976.51	10628.10	11155.32	11414.35
As claimed by petitioner	5976.51	10628.10	10966.90	11053.29
Allowed after true up	5967.96	10613.44	10952.24	11038.63

(₹ in lakh)

(Asset-II)	2012-13 (pro-rata)	2013-14
Approved vide order dated 4.2.2014	1754.12	2612.04
As claimed by petitioner	1580.17	2168.47
Allowed after true up	1580.17	2168.47

(₹ in lakh)

(Asset-III)	2009-10 (pro-rata)	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 18.2.2014	385.93	935.76	946.00	954.83	955.25
As claimed by petitioner	386.77	937.76	948.00	957.30	958.20
Allowed after true up	385.93	935.76	946.00	955.31	956.20

(₹ in lakh)

(Asset-IV)	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Approved vide order dated 8.6.2011	2099.64	2136.22	2150.80	2160.45
As claimed by petitioner	2088.66	2140.55	2172.40	2173.12
Allowed after true up	2080.68	2132.57	2164.42	2165.13

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

31. 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-I)	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Approved vide order dated 20.1.2014	1150.44	2085.20	2204.72	2329.82
As claimed by petitioner	1150.44	2085.22	2204.72	2329.82
Allowed after true up	1150.44	2085.22	2204.72	2329.82



(₹ in lakh)

(Asset-II)	2012-13 (pro-rata)	2013-14
Approved vide order dated 4.2.2014	941.25	1326.25
As claimed by petitioner	941.25	1326.25
Allowed after true up	941.25	1326.25

(₹ in lakh)

(Asset-III)	2009-10 (pro-rata)	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 18.2.2014	20.78	52.75	55.77	58.96	62.30
As claimed by petitioner	20.78	52.75	55.77	58.96	62.30
Allowed after true up	20.78	52.75	55.77	58.96	62.30

(₹ in lakh)

(Asset-IV)	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Approved vide order dated 8.6.2011	276.91	292.61	309.55	327.15
As claimed by petitioner	276.91	292.61	309.55	327.15
Allowed after true up	276.91	292.61	309.55	327.15

Interest on working capital("IWC")

32. 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.

33. The petitioner has submitted that the rate of interest on working capital as 11.00%, 13.50%, 12.25% and 11.75% for Asset-I, Asset-II, Asset-III and Asset-IV 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.

34. 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 shall be equal to short-term Prime Lending Rate as applicable as on 1.4.2009 or on 1st April of the year in which the project or part thereof (as the case may be) is declared under commercial operation, whichever is later. State Bank of India short-term Prime Lending Rate on 1.4.2009 and 1.4.2010 was 12.25% and 11.75% respectively. Therefore, interest rate of 12.25% and 11.75% has been considered to work out the interest on working capital for Asset-III and Asset IV respectively. Further for Asset-I and Asset-II, in accordance with Regulation (3)(ii) of Regulation 18 of the 2009 Tariff Regulations, 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 Base Bate as on 1.7.2010 and 1.4.2012 was 7.50% and 10.00% respectively. Therefore, interest rate of 11.00% and 13.50% for Asset-I and Asset-II has been considered to work out the interest on working capital.

35. The IWC trued up is as under:-

(₹ in lakh)				
(Asset-I)	2010-11 (Pro-rata)	2011-12	2012-13	2013-14
Maintenance Spares	172.57	312.78	330.71	349.47
O & M expenses	95.87	173.77	183.73	194.15
Receivables	2652.40	4699.82	4840.50	4825.54
Total	2920.84	5186.37	5354.94	5369.17
Rate of Interest (%)	11.00%	11.00%	11.00%	11.00%
Interest	321.29	570.50	589.04	590.61

(₹ in lakh)		
(Asset-II)	2012-13 (Pro-rata)	2013-14
Maintenance Spares	141.19	198.94
O & M expenses	78.44	110.52
Receivables	812.84	1109.97



(Asset-II)	2012-13 (Pro-rata)	2013-14
Total	1032.46	1419.43
Rate of Interest (%)	13.50%	13.50%
Interest	139.38	191.62

(₹ in lakh)

(Asset-III)	2009-10 (Pro-rata)	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	3.12	7.91	8.37	8.84	9.34
O & M expenses	1.73	4.40	4.65	4.91	5.19
Receivables	219.65	528.60	520.03	510.65	498.57
Total	224.50	540.91	533.04	524.40	513.11
Rate of Interest (%)	12.25%	12.25%	12.25%	12.25%	12.25%
Interest	27.50	66.26	65.30	64.24	62.86

(₹ in lakh)

(Asset-IV)	2010-11 (Pro-rata)	2011-12	2012-13	2013-14
Maintenance Spares	41.54	43.89	46.43	49.07
O & M expenses	23.08	24.38	25.80	27.26
Receivables	930.16	944.86	954.13	939.96
Total	994.78	1013.14	1026.36	1016.30
Rate of Interest (%)	11.75%	11.75%	11.75%	11.75%
Interest	116.89	119.04	120.60	119.42

(₹ in lakh)

(Asset-I)	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Approved vide order dated 20.1.2014	308.77	548.10	571.04	582.82
As claimed by petitioner	321.68	571.16	589.70	591.25
Allowed after true up	321.29	570.50	589.04	590.61

(₹ in lakh)

(Asset-II)	2012-13 (pro-rata)	2013-14
Approved vide order dated 4.2.2014	144.91	210.39
As claimed by petitioner	139.38	191.62
Allowed after true up	139.38	191.62

(₹ in lakh)

(Asset-III)	2009-10 (pro-rata)	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 18.2.2014	26.96	64.18	63.17	62.06	60.38
As claimed by petitioner	27.56	66.40	65.43	64.37	62.98
Allowed after true up	27.50	66.26	65.30	64.24	62.86



(₹ in lakh)

(Asset-IV)	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Approved vide order dated 8.6.2011	116.78	119.35	119.18	118.79
As claimed by petitioner	117.28	119.44	120.99	119.80
Allowed after true up	116.89	119.04	120.60	119.42

36. 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

37. The detailed computation of the various components of the trued up annual fixed charges for Asset-I, Asset-II, Asset-III and Asset-IV for the tariff period 2009-14 is summarised below:-

(₹ in lakh)

(Asset-I)	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Gross Block				
Gross Opening Block	196154.69	199456.45	211589.81	212757.58
Additional Capitalisation	3301.76	12133.36	1167.77	2252.68
Gross Closing Block	199456.45	211589.81	212757.58	215010.26
Average Gross Block	197805.57	205523.13	212173.70	213883.92
Depreciation				
Rate of Depreciation (%)	5.172	5.164	5.162	5.161
Depreciable Value	176818.68	183756.43	189739.11	191275.49
Elapsed Life (Beginning of the year)	0	1	2	3
Weighted Balance Useful life of the assets	29	28	27	26
Remaining Depreciable Value	176818.68	177788.47	173157.71	163741.84
Depreciation	5967.96	10613.44	10952.24	11038.63
Interest on Loan				
Gross Normative Loan	137308.28	139619.52	148112.87	148930.31
Cumulative Repayment upto Previous Year	0.00	5967.96	16581.41	27533.65
Net Loan-Opening	137308.28	133651.56	131531.46	121396.66
Additional Capitalisation	2311.23	8493.35	817.44	1576.88



(Asset-I)	2010-11 (pro-rata)	2011-12	2012-13	2013-14
Repayment during the year	5967.96	10613.44	10952.24	11038.63
Net Loan-Closing	133651.56	131531.46	121396.66	111934.90
Average Loan	135479.92	132591.51	126464.06	116665.78
Weighted Average Rate of Interest on Loan (%)	2.2444	2.2494	2.3431	2.0669
Interest	1773.76	2982.50	2963.14	2411.40
Return on Equity				
Opening Equity	58846.41	59836.94	63476.94	63827.27
Additional Capitalisation	990.53	3640.01	350.33	675.80
Closing Equity	59836.94	63476.94	63827.27	64503.08
Average Equity	59341.67	61656.94	63652.11	64165.18
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)	6700.96	11947.27	12333.87	12582.79
Interest on Working Capital				
Maintenance Spares	172.57	312.78	330.71	349.47
O & M expenses	95.87	173.77	183.73	194.15
Receivables	2652.40	4699.82	4840.50	4825.54
Total	2920.84	5186.37	5354.94	5369.17
Interest	321.29	570.50	589.04	590.61
Annual Transmission Charges				
Depreciation	5967.96	10613.44	10952.24	11038.63
Interest on Loan	1773.76	2982.50	2963.14	2411.40
Return on Equity	6700.96	11947.27	12333.87	12582.79
Interest on Working Capital	321.29	570.50	589.04	590.61
O & M Expenses	1150.44	2085.22	2204.72	2329.82
Total	15914.42	28198.93	29043.01	28953.25

(₹ in lakh)

(Asset-II)	2012-13 (pro-rata)	2013-14
Gross Block		
Gross Opening Block	40497.53	42658.85
Additional Capitalisation	2161.32	197.40
Gross Closing Block	42658.85	42856.25
Average Gross Block	41578.19	42757.55
Depreciation		
Rate of Depreciation (%)	5.07	5.07
Depreciable Value	36196.50	37251.86



(Asset-II)	2012-13 (pro-rata)	2013-14
Elapsed Life (Beginning of the year)	0	1
Weighted Balance Useful life of the assets	25	24
Remaining Depreciable Value	36196.50	35671.69
Depreciation	1580.17	2168.47
Interest on Loan		
Gross Normative Loan	28348.27	29861.20
Cumulative Repayment upto Previous Year	0.00	1580.17
Net Loan-Opening	28348.27	28281.03
Additional Capitalisation	1512.92	138.18
Repayment during the year	1580.17	2168.47
Net Loan-Closing	28281.03	26250.73
Average Loan	28314.65	27265.88
Weighted Average Rate of Interest on Loan (%)	1.9000	1.6800
Interest	403.48	458.07
Return on Equity		
Opening Equity	12149.26	12797.66
Additional Capitalisation	648.40	59.22
Closing Equity	12797.66	12856.88
Average Equity	12473.46	12827.27
Return on Equity (Base Rate) (%)	15.50	15.50
MAT rate for the year (%)	20.008	20.961
Rate of Return on Equity (Pre Tax) (%)	19.377	19.610
Return on Equity (Pre Tax)	1812.74	2515.43
Interest on Working Capital		
Maintenance Spares	141.19	198.94
O & M expenses	78.44	110.52
Receivables	812.84	1109.97
Total	1032.46	1419.43
Interest	139.38	191.62
Annual Transmission Charges		
Depreciation	1580.17	2168.47
Interest on Loan	403.48	458.07
Return on Equity	1812.74	2515.43
Interest on Working Capital	139.38	191.62
O & M Expenses	941.25	1326.25
Total	4877.02	6659.84

(Asset-III)	2009-10 (pro-rata)	2010-11	2011-12	2012-13	2013-14
Gross Block					
Gross Opening Block	17389.14	17680.57	17749.79	18068.31	18102.28
Additional Capitalisation	291.43	69.22	318.52	33.97	0.00
Gross Closing Block	17680.57	17749.79	18068.31	18102.28	18102.28
Average Gross Block	17534.86	17715.18	17909.05	18085.30	18102.28
Depreciation					
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Depreciable Value	15781.37	15943.67	16118.15	16276.77	16292.06
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	15781.37	15557.73	14796.45	14009.07	13069.05
Depreciation	385.93	935.76	946.00	955.31	956.20
Interest on Loan					
Gross Normative Loan	12172.40	12376.40	12424.86	12647.82	12671.60
Cumulative Repayment upto Previous Year	0.00	385.93	1321.70	2267.70	3223.00
Net Loan-Opening	12172.40	11990.47	11103.16	10380.12	9448.60
Additional Capitalisation	204.00	48.45	222.96	23.78	0.00
Repayment during the year	385.93	935.76	946.00	955.31	956.20
Net Loan-Closing	11990.47	11103.16	10380.12	9448.60	8492.40
Average Loan	12081.44	11546.82	10741.64	9914.36	8970.50
Weighted Average Rate of Interest on Loan (%)	9.4241	9.4229	9.4217	9.4214	9.4211
Interest	474.40	1088.05	1012.04	934.07	845.12
Return on Equity					
Opening Equity	5216.74	5304.17	5324.94	5420.49	5430.69
Additional Capitalisation	87.43	20.77	95.56	10.19	0.00
Closing Equity	5304.17	5324.94	5420.49	5430.69	5430.69
Average Equity	5260.46	5314.56	5372.72	5425.59	5430.69
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	16.995	19.931	20.008	20.008	20.961
Rate of Return on Equity (Pre Tax) (%)	18.674	19.358	19.377	19.377	19.610
Return on Equity (Pre Tax)	409.31	1028.79	1041.07	1051.32	1064.96
Interest on Working Capital					
Maintenance Spares	3.12	7.91	8.37	8.84	9.34
O & M expenses	1.73	4.40	4.65	4.91	5.19



(Asset-III)	2009-10 (pro-rata)	2010-11	2011-12	2012-13	2013-14
Receivables	219.65	528.60	520.03	510.65	498.57
Total	224.50	540.91	533.04	524.40	513.11
Interest	27.50	66.26	65.30	64.24	62.86
Annual Transmission Charges					
Depreciation	385.93	935.76	946.00	955.31	956.20
Interest on Loan	474.40	1088.05	1012.04	934.07	845.12
Return on Equity	409.31	1028.79	1041.07	1051.32	1064.96
Interest on Working Capital	27.50	66.26	65.30	64.24	62.86
O & M Expenses	20.78	52.75	55.77	58.96	62.30
Total	1317.93	3171.61	3120.18	3063.89	2991.43

(₹ in lakh)

(Asset-IV)	2010-11	2011-12	2012-13	2013-14
Gross Block				
Gross Opening Block	38998.78	39781.59	40960.11	40983.84
Additional Capitalisation	782.81	1178.52	23.73	3.29
Gross Closing Block	39781.59	40960.11	40983.84	40987.13
Average Gross Block	39390.19	40370.85	40971.98	40985.49
Depreciation				
Rate of Depreciation (%)	5.28	5.28	5.28	5.28
Depreciable Value	35451.17	36333.77	36874.78	36886.94
Elapsed Life (Beginning of the year)	0	1	2	3
Weighted Balance Useful life of the assets	35	34	33	32
Remaining Depreciable Value	35451.17	34253.09	32661.53	30509.27
Depreciation	2080.68	2132.57	2164.42	2165.13
Interest on Loan				
Gross Normative Loan	27299.15	27847.11	28672.08	28688.69
Cumulative Repayment upto Previous Year	0.00	2080.68	4213.25	6377.67
Net Loan-Opening	27299.15	25766.43	24458.83	22311.02
Additional Capitalisation	547.97	824.96	16.61	2.30
Repayment during the year	2080.68	2132.57	2164.42	2165.13
Net Loan-Closing	25766.43	24458.83	22311.02	20148.19
Average Loan	26532.79	25112.63	23384.92	21229.61
Weighted Average Rate of Interest on Loan (%)	3.0866	3.0987	3.2008	2.9059
Interest	818.96	778.16	748.50	616.91
Return on Equity				



(Asset-IV)	2010-11	2011-12	2012-13	2013-14
Opening Equity	11699.63	11934.48	12288.03	12295.15
Additional Capitalisation	234.84	353.56	7.12	0.99
Closing Equity	11934.48	12288.03	12295.15	12296.14
Average Equity	11817.06	12111.26	12291.59	12295.65
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)	2287.55	2346.80	2381.74	2411.18
Interest on Working Capital				
Maintenance Spares	41.54	43.89	46.43	49.07
O & M expenses	23.08	24.38	25.80	27.26
Receivables	930.16	944.86	954.13	939.96
Total	994.78	1013.14	1026.36	1016.30
Interest	116.89	119.04	120.60	119.42
Annual Transmission Charges				
Depreciation	2080.68	2132.57	2164.42	2165.13
Interest on Loan	818.96	778.16	748.50	616.91
Return on Equity	2287.55	2346.80	2381.74	2411.18
Interest on Working Capital	116.89	119.04	120.60	119.42
O & M Expenses	276.91	292.61	309.55	327.15
Total	5580.99	5669.19	5724.80	5639.79

DETERMINATION OF ANNUAL TRANSMISSION CHARGES FOR 2014-19

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

	(₹ in lakh)				
(Asset-I & II)	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	13460.78	13636.08	13636.08	13636.08	13636.08
Interest on Loan	2578.05	2337.61	2053.80	1773.63	1497.38
Return on equity	15383.97	15581.02	15581.02	15581.02	15581.02
Interest on Working Capital	858.34	870.16	873.00	876.64	881.18
O & M Expenses	2444.72	2603.75	2773.46	2955.97	3153.28
Total	34725.86	35028.62	34917.36	34823.34	34748.94

	(₹ in lakh)				
(Asset-III)	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	958.20	958.20	958.20	958.20	958.20
Interest on Loan	756.57	666.27	575.97	485.66	395.36
Return on equity	1067.15	1067.15	1067.15	1067.15	1067.15
Interest on Working Capital	67.15	65.17	63.20	61.23	59.27
O & M Expenses	56.36	58.21	60.12	62.14	64.21



(Asset-III)	2014-15	2015-16	2016-17	2017-18	2018-19
Total	2905.43	2815.00	2724.64	2634.38	2544.19

(₹ in lakh)

(Asset-IV)	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	2174.56	2175.92	2175.92	2175.92	2175.92
Interest on Loan	536.80	468.03	400.01	333.37	268.27
Return on equity	2421.68	2423.19	2423.19	2423.19	2423.19
Interest on Working Capital	134.60	133.65	132.63	131.69	130.79
O & M Expenses	297.82	307.97	317.96	328.67	339.50
Total	5565.46	5508.76	5449.71	5392.84	5337.67

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

(₹ in lakh)

(Combined Asset-I & II)	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	366.71	390.56	416.02	443.40	472.99
O & M expenses	203.73	216.98	231.12	246.33	262.77
Receivables	5787.64	5838.10	5819.56	5803.89	5791.49
Total	6358.08	6445.64	6466.70	6493.62	6527.25
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	858.34	870.16	873.00	876.64	881.18

(₹ in lakh)

(Asset-III)	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	8.45	8.73	9.02	9.32	9.63
O & M expenses	4.70	4.85	5.01	5.18	5.35
Receivables	484.24	469.17	454.11	439.06	424.03
Total	497.39	482.75	468.14	453.56	439.01
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	67.15	65.17	63.20	61.23	59.27

(₹ in lakh)

(Asset-IV)	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	44.67	46.20	47.69	49.30	50.93
O & M expenses	24.82	25.66	26.50	27.39	28.29
Receivables	927.58	918.13	908.29	898.81	889.61
Total	997.07	989.99	982.48	975.50	968.83
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	134.60	133.65	132.63	131.69	130.79

Capital Cost



40. 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.”

41. The petitioner has claimed capital expenditure of ₹215293.21lakh, ₹42856.25lakh, ₹18140.06 lakh and ₹41138.30 lakh as on 31.3.2014 for Asset-I, Asset-II, Asset-III and Asset-IV respectively. We have considered trued up capital cost of ₹215010.26 lakh, ₹42856.25lakh, ₹18102.28 lakh and ₹40987.13 lakh as on 31.3.2014 for Asset-I, Asset-II, Asset-III and Asset-IV respectively to work out the tariff for tariff period 2014-19. Further, the petitioner has combined the Asset-I and Asset-II, therefore the combined capital cost of Asset-I and Asset-II as on 31.3.2014 is ₹257866.52 lakh is considered for tariff computation for 2014-19 period. The petitioner has included FERV gain and FERV loss in the capital cost as on COD as certified by the Auditor.

Additional Capital Expenditure

42. The petitioner has projected additional capitalization of ₹1958.67 lakh, ₹4740.00 lakh and ₹51.50 lakh for Asset-I, Asset-II and Asset-IV for 2014-15 towards balance and retention payments. The petitioner was directed to submit 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 1.3.2016 has submitted the contractor-wise details of balance and retention payment to be made during 2014-19 for all the three assets.

43. The total capital cost including additional capitalisation for Combined Asset-I & II and Asset-IV is less than the revised apportioned approved cost. Hence, we have allowed additional capitalization of ₹1958.67 lakh, ₹4740.00 lakh and ₹51.50 lakh for Asset-I, Asset-II and Asset-IV for 2014-15 towards balance and retention payments under Regulation 14(1)(i) and 14(3)(v) of 2014 Tariff Regulations and have considered the same for tariff computation. The additional capitalization for Combined Asset-I & II allowed is ₹6698.67 lakh. Further, the petitioner has not claimed any additional capitalization for Asset-III, accordingly we have not considered any additional capitalization for Asset-III.

(₹ in lakh)

Cost as per revised Investment Approval for combined Asset-I&II is ₹297949 lakh								
Particulars	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	257866.52	6698.67	0.00	0.00	0.00	0.00	6698.67	264565.19

(₹ in lakh)

Cost as per revised Investment Approval for Asset-III is ₹18407 lakh								
Particulars	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	18102.28	0.00	0.00	0.00	0.00	0.00	0.00	18102.28

(₹ in lakh)



Cost as per revised Investment Approval for Asset-IV is ₹ 41559.66 lakh								
Particulars	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	40987.13	51.50	0.00	0.00	0.00	0.00	51.50	41038.63

Debt:EquityRatio

44. 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.”

45. 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:-

(Combined Asset-I & II)	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	180506.56	70.00	4689.07	70.00	185195.63	70.00
Equity	77359.95	30.00	2009.60	30.00	79369.56	30.00
Total	257866.52	100.00	6698.67	100.00	264565.19	100.00

(Asset-III)	As on 1.4.2014	Additional	As on 31.3.2019
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			capitalization during 2014-15			
	Amount (in ₹ lakh)	(%)	Amount (in ₹ lakh)	(%)	Amount (in ₹ lakh)	(%)
Debt	12671.60	70.00	0.00	0.00	12671.60	70.00
Equity	5430.69	30.00	0.00	0.00	5430.69	30.00
Total	18102.28	100.00	0.00	0.00	18102.28	100.00

(Asset-IV)	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	28690.99	70.00	36.05	70.00	28727.04	70.00
Equity	12296.14	30.00	15.45	30.00	12311.59	30.00
Total	40987.13	100.00	51.50	100.00	41038.63	100.00

Interest on Loan (“IOL”)

46. 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.”

47. 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)

(Combined Asset-I & II)	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	180506.56	185195.63	185195.63	185195.63	185195.63
Cumulative Repayment upto COD/previous year	42320.92	55767.05	69388.46	83009.87	96631.28
Net Loan-Opening	138185.64	129428.58	115807.17	102185.76	88564.35
Additions during the year	4689.07	0.00	0.00	0.00	0.00
Repayment during the year	13446.12	13621.41	13621.41	13621.41	13621.41
Net Loan-Closing	129428.58	115807.17	102185.76	88564.35	74942.94
Average Loan	133807.11	122617.88	108996.47	95375.05	81753.64
Rate of Interest (%)	1.9247	1.9045	1.8824	1.8578	1.8298
Interest	2575.41	2335.31	2051.78	1771.88	1495.92

(₹ in lakh)

(Asset-III)	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	12671.60	12671.60	12671.60	12671.60	12671.60
Cumulative Repayment upto COD/previous year	4179.20	5135.41	6091.61	7047.81	8004.01
Net Loan-Opening	8492.40	7536.19	6579.99	5623.79	4667.58
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	956.20	956.20	956.20	956.20	956.20
Net Loan-Closing	7536.19	6579.99	5623.79	4667.58	3711.38
Average Loan	8014.29	7058.09	6101.89	5145.69	4189.48
Rate of Interest (%)	9.4208	9.4203	9.4197	9.4188	9.4176
Interest	755.01	664.89	574.78	484.66	394.55

(₹ in lakh)

(Asset-IV)	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	28690.99	28727.04	28727.04	28727.04	28727.04
Cumulative Repayment upto COD/previous year	8542.80	10709.38	12877.32	15045.25	17213.19
Net Loan-Opening	20148.19	18017.66	15849.73	13681.79	11513.85
Additions during the year	36.05	0.00	0.00	0.00	0.00
Repayment during the year	2166.58	2167.94	2167.94	2167.94	2167.94
Net Loan-Closing	18017.66	15849.73	13681.79	11513.85	9345.91
Average Loan	19082.93	16933.70	14765.76	12597.82	10429.88
Rate of Interest (%)	2.8026	2.7538	2.6992	2.6366	2.5628
Interest	534.83	466.32	398.55	332.15	267.29



Return on Equity("ROE")

48. 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."

49. 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.

50. 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.

51. 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 allowed for the instant assets is given below:-

(₹ in lakh)

(Combined Asset-I & II)	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	77359.95	79369.56	79369.56	79369.56	79369.56
Addition to Equity during the year	2009.60	0.00	0.00	0.00	0.00
Closing Equity	79369.56	79369.56	79369.56	79369.56	79369.56
Average Equity	78364.76	79369.56	79369.56	79369.56	79369.56
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)	15367.33	15564.37	15564.37	15564.37	15564.37

(₹ in lakh)

(Asset-III)	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	5430.69	5430.69	5430.69	5430.69	5430.69
Addition to Equity during the year	0.00	0.00	0.00	0.00	0.00
Closing Equity	5430.69	5430.69	5430.69	5430.69	5430.69
Average Equity	5430.69	5430.69	5430.69	5430.69	5430.69
Return on Equity (Base Rate)	15.50	15.50	15.50	15.50	15.50



(Asset-III)	2014-15	2015-16	2016-17	2017-18	2018-19
(%)					
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)	1064.96	1064.96	1064.96	1064.96	1064.96

(₹ in lakh)

(Asset-IV)	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	12296.14	12311.59	12311.59	12311.59	12311.59
Addition to Equity during the year	15.45	0.00	0.00	0.00	0.00
Closing Equity	12311.59	12311.59	12311.59	12311.59	12311.59
Average Equity	12303.86	12311.59	12311.59	12311.59	12311.59
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	20.96	20.96	20.96	20.96	20.96
Rate of Return on Equity (Pre Tax) (%)	19.61	19.61	19.61	19.61	19.61
Return on Equity (Pre Tax)	2412.79	2414.30	2414.30	2414.30	2414.30

Depreciation

52. 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."



53. We have computed depreciation considering capital expenditure of ₹257866.52 lakh, ₹18102.28lakh and ₹40987.13lakh as on 31.3.2014 for Combined Asset-I & II, Asset-III and Asset-IV respectively. In addition we have also considered additional capitalization of ₹6698.67 lakh and ₹51.50 lakh for Combined Asset-I & II and Asset-IV respectively for 2014-19 tariff period. We have allowed depreciation under Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation allowed for the instant assets are given hereunder:-

(₹ in lakh)					
(Combined Asset-I & II)	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	257866.52	264565.19	264565.19	264565.19	264565.19
Additional Capitalisation	6698.67	0.00	0.00	0.00	0.00
Gross block at the end of the year	264565.19	264565.19	264565.19	264565.19	264565.19
Average gross block	261215.85	264565.19	264565.19	264565.19	264565.19
Rate of Depreciation (%)	5.148	5.149	5.149	5.149	5.149
Depreciable Value	232615.00	235603.36	235603.36	235603.36	235603.36
Elapsed Life of the assets at beginning of the year	4	5	6	7	8
Weighted Balance Useful life of the assets	24	23	22	21	20
Remaining Depreciable Value	190294.08	179836.32	166214.91	152593.49	138972.08
Depreciation	13446.12	13621.41	13621.41	13621.41	13621.41

(₹ in lakh)					
(Asset-III)	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	18102.28	18102.28	18102.28	18102.28	18102.28
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Gross block at the end of the year	18102.28	18102.28	18102.28	18102.28	18102.28
Average gross block	18102.28	18102.28	18102.28	18102.28	18102.28
Rate of Depreciation (%)	5.282	5.282	5.282	5.282	5.282
Depreciable Value	16292.06	16292.06	16292.06	16292.06	16292.06
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



(Asset-III)	2014-15	2015-16	2016-17	2017-18	2018-19
Remaining Depreciable Value	12112.85	11156.65	10200.45	9244.24	8288.04
Depreciation	956.20	956.20	956.20	956.20	956.20

(₹ in lakh)

(Asset-IV)	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	40987.13	41038.63	41038.63	41038.63	41038.63
Additional Capitalisation	51.50	0.00	0.00	0.00	0.00
Gross block at the end of the year	41038.63	41038.63	41038.63	41038.63	41038.63
Average gross block	41012.88	41038.63	41038.63	41038.63	41038.63
Rate of Depreciation (%)	5.283	5.283	5.283	5.283	5.283
Depreciable Value	36911.59	36934.77	36934.77	36934.77	36934.77
Elapsed Life of the assets at beginning of the year	4	5	6	7	8
Weighted Balance Useful life of the assets	31	30	29	28	27
Remaining Depreciable Value	28368.79	26225.39	24057.45	21889.52	19721.58
Depreciation	2166.58	2167.94	2167.94	2167.94	2167.94

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:-

Element (Combined Asset-I& II)	2014-15	2015-16	2016-17	2017-18	2018-19
Norms for double ckt. (Bundled conductor with four or more Line (=L1) (₹ in lakh/km.)	1.062	1.097	1.133	1.171	1.21
Norms for single ckt. (Bundled conductor with four or more Line (=L2) (₹ in lakh/km.)	0.606	0.627	0.647	0.669	0.691
Norms for Balia-Bhiwadi HVDC bi-pole Schem (₹ in lakh/km.)	1537	1666	1805	1955	2119
HVDC Transmission Line Length-789.786 km. (O&M= L1*789.786) (₹ in lakh)	838.75	866.40	894.83	924.84	955.64
Balia-Bhiwadi HVDC bi-pole(₹ in lakh)	1537.00	1666.00	1805.00	1955.00	2119.00

Element (Combined Asset-I& II)	2014-15	2015-16	2016-17	2017-18	2018-19
37.567 km of length of Earth Electrode line of at Balia (L2*37.567) (₹ in lakh/km)	22.77	23.55	24.31	25.13	25.96
76.233 km of length of Earth Electrode line at Bhiwadi (L2*76.233) (₹ in lakh/km)	46.20	47.80	49.32	51.00	52.68
Total O&M Expenses	2444.72	2603.75	2773.46	2955.97	3153.28

(Asset-III)	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expense					
Norm (₹lakh/km)					
Double Circuit (Bundled conductor with four or more sub-conductors)	1.062	1.097	1.133	1.171	1.21
Line (km)					
LILO of 400 KV D/C Kahalgaon-Patna at Barh(D/C portion)	46.317	46.317	46.317	46.317	46.317
LILO of 400 KV D/C Kahalgaon-Patna at BarhBarh (Multi circuit portion)	3.374	3.374	3.374	3.374	3.374
LILO of 400 KV D/C Kahalgaon-Patna at Barh (Multi circuit portion)	3.374	3.374	3.374	3.374	3.374
Total O&M Expense (line) (₹ lakh)	56.36	58.21	60.12	62.14	64.21

(Asset-IV)	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expense					
Norm (₹ lakh/km)					
Single Circuit (Bundled conductor with four or more sub-conductors)	0.606	0.627	0.647	0.669	0.691
Line (km)					
765 kV S/C Seoni-Bina line	292.45	292.45	292.45	292.45	292.45
Total O&M Expense (line) (₹ lakh)	177.22	183.37	189.22	195.65	202.08
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 Expenses	120.60	124.60	128.74	133.02	137.42



(Asset-IV)	2014-15	2015-16	2016-17	2017-18	2018-19
(Bay) (₹ lakh)					
Total O&M Expense (line & Bay) (₹ lakh)	297.82	307.97	317.96	328.67	339.50

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, 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(Combined Asset-I & II)	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses Allowed	2444.72	2603.75	2773.46	2955.97	3153.28

	(₹ in lakh)				
Particulars(Asset-III)	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses Allowed	56.36	58.21	60.12	62.14	64.21



					(₹ in lakh)
Particulars(Asset-IV)	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses Allowed	297.82	307.97	317.96	328.67	339.50

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(Combined Asset-I & II)	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	366.71	390.56	416.02	443.40	472.99



Particulars(Combined Asset-I & II)	2014-15	2015-16	2016-17	2017-18	2018-19
O & M Expenses	203.73	216.98	231.12	246.33	262.77
Receivables	5781.86	5832.37	5813.88	5798.25	5785.90
Total	6352.29	6439.91	6461.02	6487.98	6521.67
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	857.56	869.39	872.24	875.88	880.42

(₹ in lakh)

Particulars(Asset-III)	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	8.45	8.73	9.02	9.32	9.63
O & M Expenses	4.70	4.85	5.01	5.18	5.35
Receivables	483.26	468.22	453.19	438.18	423.18
Total	496.41	481.80	467.22	452.68	438.16
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	67.01	65.04	63.07	61.11	59.15

(₹ in lakh)

Particulars(Asset-IV)	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	44.67	46.19	47.69	49.30	50.93
O & M Expenses	24.82	25.66	26.50	27.39	28.29
Receivables	924.36	914.96	905.16	895.72	886.57
Total	993.86	986.82	979.35	972.41	965.79
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	134.17	133.22	132.21	131.28	130.38

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)

(Combined Asset-I & II)	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Block					
Opening Gross Block	257866.52	264565.19	264565.19	264565.19	264565.19
Additional Capitalisation	6698.67	0.00	0.00	0.00	0.00
Closing Gross Block	264565.19	264565.19	264565.19	264565.19	264565.19
Average Gross Block	261215.85	264565.19	264565.19	264565.19	264565.19
Depreciation					
Rate of Depreciation (%)	5.148	5.149	5.149	5.149	5.149
Depreciable Value	232615.00	235603.36	235603.36	235603.36	235603.36
Elapsed Life (Beginning of the	4	5	6	7	8



(Combined Asset-I & II)	2014-15	2015-16	2016-17	2017-18	2018-19
year)					
Weighted Balance Useful life of the assets	24	23	22	21	20
Remaining Depreciable Value	190294.08	179836.32	166214.91	152593.49	138972.08
Depreciation	13446.12	13621.41	13621.41	13621.41	13621.41
Interest on Loan					
Gross Normative Loan	180506.56	185195.63	185195.63	185195.63	185195.63
Cumulative Repayment upto Previous Year	42320.92	55767.05	69388.46	83009.87	96631.28
Net Loan-Opening	138185.64	129428.58	115807.17	102185.76	88564.35
Additions	4689.07	0.00	0.00	0.00	0.00
Repayment during the year	13446.12	13621.41	13621.41	13621.41	13621.41
Net Loan-Closing	129428.58	115807.17	102185.76	88564.35	74942.94
Average Loan	133807.11	122617.88	108996.47	95375.05	81753.64
Weighted Average Rate of Interest on Loan (%)	1.9247	1.9045	1.8824	1.8578	1.8298
Interest	2575.41	2335.31	2051.78	1771.88	1495.92
Return on Equity					
Opening Equity	77359.95	79369.56	79369.56	79369.56	79369.56
Additions	2009.60	0.00	0.00	0.00	0.00
Closing Equity	79369.56	79369.56	79369.56	79369.56	79369.56
Average Equity	78364.76	79369.56	79369.56	79369.56	79369.56
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)	15367.33	15564.37	15564.37	15564.37	15564.37
Interest on Working Capital					
Maintenance Spares	366.71	390.56	416.02	443.40	472.99
O & M expenses	203.73	216.98	231.12	246.33	262.77
Receivables	5781.86	5832.37	5813.88	5798.25	5785.90
Total	6352.29	6439.91	6461.02	6487.98	6521.67
Interest	857.56	869.39	872.24	875.88	880.42
Annual Transmission Charges					
Depreciation	13446.12	13621.41	13621.41	13621.41	13621.41
Interest on Loan	2575.41	2335.31	2051.78	1771.88	1495.92
Return on Equity	15367.33	15564.37	15564.37	15564.37	15564.37
Interest on Working Capital	857.56	869.39	872.24	875.88	880.42
O & M Expenses	2444.72	2603.75	2773.46	2955.97	3153.28
Total	34691.14	34994.23	34883.25	34789.51	34715.41



(₹ in lakh)

(Asset-III)	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Block					
Opening Gross Block	18102.28	18102.28	18102.28	18102.28	18102.28
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	18102.28	18102.28	18102.28	18102.28	18102.28
Average Gross Block	18102.28	18102.28	18102.28	18102.28	18102.28
Depreciation					
Rate of Depreciation (%)	5.282	5.282	5.282	5.282	5.282
Depreciable Value	16292.06	16292.06	16292.06	16292.06	16292.06
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	12112.85	11156.65	10200.45	9244.24	8288.04
Depreciation	956.20	956.20	956.20	956.20	956.20
Interest on Loan					
Gross Normative Loan	12671.60	12671.60	12671.60	12671.60	12671.60
Cumulative Repayment upto Previous Year	4179.20	5135.41	6091.61	7047.81	8004.01
Net Loan-Opening	8492.40	7536.19	6579.99	5623.79	4667.58
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	956.20	956.20	956.20	956.20	956.20
Net Loan-Closing	7536.19	6579.99	5623.79	4667.58	3711.38
Average Loan	8014.29	7058.09	6101.89	5145.69	4189.48
Weighted Average Rate of Interest on Loan (%)	9.4208	9.4203	9.4197	9.4188	9.4176
Interest	755.01	664.89	574.78	484.66	394.55
Return on Equity					
Opening Equity	5430.69	5430.69	5430.69	5430.69	5430.69
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	5430.69	5430.69	5430.69	5430.69	5430.69
Average Equity	5430.69	5430.69	5430.69	5430.69	5430.69
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
Rate of Return on Equity (Pre Tax) (%)	19.61	19.61	19.61	19.61	19.61
Return on Equity (Pre Tax)	1064.96	1064.96	1064.96	1064.96	1064.96
Interest on Working Capital					
Maintenance Spares	8.45	8.73	9.02	9.32	9.63
O & M expenses	4.70	4.85	5.01	5.18	5.35



(Asset-III)	2014-15	2015-16	2016-17	2017-18	2018-19
Receivables	483.26	468.22	453.19	438.18	423.18
Total	496.41	481.80	467.22	452.68	438.16
Interest	67.01	65.04	63.07	61.11	59.15
Annual Transmission Charges					
Depreciation	956.20	956.20	956.20	956.20	956.20
Interest on Loan	755.01	664.89	574.78	484.66	394.55
Return on Equity	1064.96	1064.96	1064.96	1064.96	1064.96
Interest on Working Capital	67.01	65.04	63.07	61.11	59.15
O & M Expenses	56.36	58.21	60.12	62.14	64.21
Total	2899.54	2809.31	2719.14	2629.07	2539.07

(₹ in lakh)

(Asset-IV)	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Block					
Opening Gross Block	40987.13	41038.63	41038.63	41038.63	41038.63
Additional Capitalisation	51.50	0.00	0.00	0.00	0.00
Closing Gross Block	41038.63	41038.63	41038.63	41038.63	41038.63
Average Gross Block	41012.88	41038.63	41038.63	41038.63	41038.63
Depreciation					
Rate of Depreciation (%)	5.283	5.283	5.283	5.283	5.283
Depreciable Value	36911.59	36934.77	36934.77	36934.77	36934.77
Elapsed Life (Beginning of the year)	4	5	6	7	8
Weighted Balance Useful life of the assets	31	30	29	28	27
Remaining Depreciable Value	28368.79	26225.39	24057.45	21889.52	19721.58
Depreciation	2166.58	2167.94	2167.94	2167.94	2167.94
Interest on Loan					
Gross Normative Loan	28690.99	28727.04	28727.04	28727.04	28727.04
Cumulative Repayment upto Previous Year	8542.80	10709.38	12877.32	15045.25	17213.19
Net Loan-Opening	20148.19	18017.66	15849.73	13681.79	11513.85
Additions	36.05	0.00	0.00	0.00	0.00
Repayment during the year	2166.58	2167.94	2167.94	2167.94	2167.94
Net Loan-Closing	18017.66	15849.73	13681.79	11513.85	9345.91
Average Loan	19082.93	16933.70	14765.76	12597.82	10429.88
Weighted Average Rate of Interest on Loan (%)	2.8026	2.7538	2.6992	2.6366	2.5628
Interest	534.83	466.32	398.55	332.15	267.29
Return on Equity					



(Asset-IV)	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	12296.14	12311.59	12311.59	12311.59	12311.59
Additions	15.45	0.00	0.00	0.00	0.00
Closing Equity	12311.59	12311.59	12311.59	12311.59	12311.59
Average Equity	12303.86	12311.59	12311.59	12311.59	12311.59
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)	2412.79	2414.30	2414.30	2414.30	2414.30
Interest on Working Capital					
Maintenance Spares	44.67	46.19	47.69	49.30	50.93
O & M expenses	24.82	25.66	26.50	27.39	28.29
Receivables	924.36	914.96	905.16	895.72	886.57
Total	993.86	986.82	979.35	972.41	965.79
Interest	134.17	133.22	132.21	131.28	130.38
Annual Transmission Charges					
Depreciation	2166.58	2167.94	2167.94	2167.94	2167.94
Interest on Loan	534.83	466.32	398.55	332.15	267.29
Return on Equity	2412.79	2414.30	2414.30	2414.30	2414.30
Interest on Working Capital	134.17	133.22	132.21	131.28	130.38
O & M Expenses	297.82	307.97	317.96	328.67	339.50
Total	5546.19	5489.74	5430.96	5374.34	5319.42

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.

Foreign Exchange Rate Variation

66. The petitioner has sought recovery of FERV on foreign loans deployed as provided in Clause 50 of the 2014 Tariff Regulations. The petitioner is entitled to recover the FERV directly from the beneficiaries or the long term transmission

customers/DICs as the case may be, in accordance with Clause 1 of Regulation 51 of the 2014 Tariff Regulations.

Sharing of Transmission Charges

67. 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.

68. This order disposes of Petition No. 31/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-I)	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XIX- Loan 1-	9.25%	893.00	0.00	893.00
BOND XX- Loan 2-	8.93%	82.00	0.00	82.00
BOND XXI- Loan 3-	8.73%	405.00	0.00	405.00
BOND XXII- Loan 4-	8.68%	900.00	0.00	900.00
BOND XXIV- Loan 5-	9.95%	5037.00	0.00	5037.00
IBRD III-ADDCAP FOR 2010-2011 doco IBRD III-47.75	1.95%	0.00	1382.12	1382.12
IBRD III-ADDCAP FOR 2011-2012 add cap 11-12 IBRD III-49.26	0.00%	0.00	0.00	0.00
IBRD III-doco IBRD III-47.44	1.95%	41728.22	0.00	41728.22
BOND XXX- ADD CAP 10-11 doco XXX-	8.80%	0.00	929.11	929.11
IBRD IV-ADDCAP FOR 2011-2012 add cap 11-12 IBRD IV-50.2	0.00%	0.00	0.00	0.00
IBRD IV-ADDCAP FOR 2012-2013 add cap 12-13 IBRD IV-56.06	0.00%	0.00	0.00	0.00
IBRD IV-ADDCAP FOR 2013-2014 add cap 13-14 IBRD IV-54.52	0.00%	0.00	0.00	0.00
IBRD IV-doco IBRD IV-47.44	1.77%	88454.73	0.00	88454.73
Total		137499.95	2311.23	139811.18

(₹ in lakh)

Particulars (Asset-II)	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
IBRD IV-ADDCAP FO 2013-2014 ADD	1.90%	0.00	1512.94	1512.94
IBRD IV-Loan 1-57.07	1.90%	28346.67	0.00	28346.67
Total		28346.67	1512.94	29859.61



(₹ in lakh)

Particulars (Asset-III)	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XIX- DOCO xix	9.25%	100.00	0.00	100.00
BOND XX- DOCO XX	8.93%	51.00	0.00	51.00
BOND XXI- DOCO XXI	8.73%	100.00	0.00	100.00
BOND XXII- DOCO XXII	8.68%	234.00	0.00	234.00
BOND XXIV- DOCO XXIV	9.95%	1200.00	0.00	1200.00
BOND XXV- DOCO XXV	10.10%	1200.00	0.00	1200.00
BOND XXVI- DOCO XXVI	9.30%	9314.00	0.00	9314.00
Total		12199.00	0.00	12199.00

(₹ in lakh)

Particulars (Asset-IV)	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XIX-DOCO DRAWL ON 01-APR-	9.25%	71.00	0.00	71.00
BOND XX-DOCO DRAWL ON 01-APR-2010	8.93%	7.00	0.00	7.00
BOND XXI-DOCO DRAWL ON 01-APR-2010	8.73%	32.00	0.00	32.00
BOND XXII-DOCO DRAWL ON 01-APR-2010	8.68%	89.00	0.00	89.00
BOND XXIV-DOCO DRAWL ON 01-APR-2010	9.95%	857.00	0.00	857.00
BOND XXV-DOCO DRAWL ON 01-APR-2010	10.10%	2246.00	0.00	2246.00
BOND XXVI-DOCO	9.30%	639.00	0.00	639.00
IBRD III-ADDCAP FOR 2010-2011 Add Cap-46.08	1.89%	0.00	547.98	547.98
IBRD III-doco IBRD III-45.67	1.89%	23191.23	0.00	23191.23
IBRD IV-ADDCAP FOR 2011-2012 Add Cap-53.24	0.00%	0.00	0.00	0.00
IBRD IV-ADDCAP FOR 2012-2013 Add Cap12-13 IBRD-53.94	0.00%	0.00	0.00	0.00
BOND XXXIII-DOCO	8.64%	271.00	0.00	271.00
Total		27403.23	547.98	27951.21



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

(₹ in lakh)

Details of Loan(Asset-I)	2010-11	2011-12	2012-13	2013-14
Gross Opening Loan	137499.95	139811.18	148304.60	149122.07
Cumulative Repayment of loan upto previous year	74.42	609.75	3360.80	6205.34
Net Loan Opening	137425.53	139201.43	144943.80	142916.73
Additions during the year	2311.23	8493.42	817.47	1066.19
Repayment during the year	535.33	2751.05	2844.54	5186.50
Net Loan Closing	139201.43	144943.80	142916.73	138796.42
Average Loan	138313.48	142072.62	143930.27	140856.58
Weighted Average Rate of Interest (%)	2.2444%	2.2494%	2.3431%	2.0669%
Interest	3104.33	3195.77	3372.39	2911.41

(₹ in lakh)

Details of Loan(Asset-II)	2012-13	2013-14
Gross Opening Loan	28346.67	29859.61
Cumulative Repayment of loan upto previous year	0.00	0.00
Net Loan Opening	28346.67	29859.61
Additions during the year	1512.94	0.00
Repayment during the year	0.00	660.89
Net Loan Closing	29859.61	29198.72
Average Loan	29103.14	29529.17
Weighted Average Rate of Interest (%)	1.9000	1.6800
Interest	552.96	496.09

(₹ in lakh)

Details of Loan(Asset-III)	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Opening Loan	12199.00	12199.00	12199.00	12199.00	12199.00
Cumulative Repayment of loan upto previous year	0.00	0.00	140.41	1156.99	2173.57
Net Loan Opening	12199.00	12199.00	12058.59	11042.01	10025.43
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	0.00	140.41	1016.58	1016.58	1016.58
Net Loan Closing	12199.00	12058.59	11042.01	10025.43	9008.85
Average Loan	12199.00	12128.80	11550.30	10533.72	9517.14
Weighted Average Rate of Interest (%)	9.4241%	9.4229%	9.4217%	9.4214%	9.4211%
Interest	1149.65	1142.89	1088.23	992.42	896.62



(₹ in lakh)				
Details of Loan(Asset-IV)	2010-11	2011-12	2012-13	2013-14
Gross Opening Loan	27403.23	27951.21	28776.16	28792.77
Cumulative Repayment of loan upto previous year	0.00	88.01	1571.65	3105.73
Net Loan Opening	27403.23	27863.20	27204.51	25687.04
Additions during the year	547.98	824.95	16.61	0.00
Repayment during the year	88.01	1483.64	1534.08	1604.95
Net Loan Closing	27863.20	27204.51	25687.04	24082.09
Average Loan	27633.22	27533.86	26445.78	24884.57
Weighted Average Rate of Interest (%)	3.0866%	3.0987%	3.2008%	2.9059%
Interest	852.93	853.19	846.47	723.12



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

Particulars (Combined Asset-I & II)	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XIX-1. Loan 1-	9.25%	893.00	0.00	893.00
BOND XX-2. Loan 2-	8.93%	82.00	0.00	82.00
BOND XXI-3. Loan 3-	8.73%	405.00	0.00	405.00
BOND XXII-4. Loan 4-	8.68%	900.00	0.00	900.00
BOND XXIV-5. Loan 5-	9.95%	5037.00	0.00	5037.00
IBRD III-10.ADDCAP FOR 2011-2012 add cap 11-12 IBRD III-49.26	1.79%	892.64	0.00	892.64
IBRD III-6. doco IBRD III-47.44	1.79%	41728.22	0.00	41728.22
IBRD III-ADDCAP FOR 2010-2011 add cap 10-11 IBRD III-47.75	1.79%	1382.12	0.00	1382.12
BOND XXX- 8.ADD CAP 10-11 doco XXX-	8.80%	929.11	0.00	929.11
IBRD IV-11. ADDCAP FOR 2011-2012 add cap 11-12 IBRD IV-50.2	1.63%	7600.78	0.00	7600.78
IBRD IV-12. ADDCAP FOR 2012-2013 add cap 12-13 IBRD IV-56.06	1.63%	817.47	0.00	817.47
IBRD IV-14. Loan 1-57.07	1.63%	28346.67	0.00	28346.67
IBRD IV-15. ADDCAP FOR 2013-2014 ADD CAP 13-14 IBRD IV-55.35	1.63%	1512.94	0.00	1512.94
IBRD IV-7. doco IBRD IV-47.44	1.63%	88454.73	0.00	88454.73
IBRD IV-ADDCAP FOR 2013-2014 add cap 13-14 IBRD IV-54.52	1.63%	1066.19	0.00	1066.19
Total		180047.87	0.00	180047.87

Particulars (Asset-III)	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XIX- DOCO xix	9.25%	100.00	0.00	100.00
BOND XX- DOCO XX	8.93%	51.00	0.00	51.00
BOND XXI- DOCO XXI	8.73%	100.00	0.00	100.00
BOND XXII- DOCO XXII	8.68%	234.00	0.00	234.00
BOND XXIV- DOCO XXIV	9.95%	1200.00	0.00	1200.00



BOND XXV- DOCO XXV	10.10%	1200.00	0.00	1200.00
BOND XXVI- DOCO XXVI	9.30%	9314.00	0.00	9314.00
Total		12199.00	0.00	12199.00

Particulars (Asset-IV)	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XIX-DOCO DRAWL ON 01-APR-	9.25%	71.00	0.00	71.00
BOND XX-DOCO DRAWL ON 01-APR-2010	8.93%	7.00	0.00	7.00
BOND XXI-DOCO DRAWL ON 01-APR-2010	8.73%	32.00	0.00	32.00
BOND XXII-DOCO DRAWL ON 01-APR-2010	8.68%	89.00	0.00	89.00
BOND XXIV-DOCO DRAWL ON 01-APR-2010	9.95%	857.00	0.00	857.00
BOND XXV-DOCO DRAWL ON 01-APR-2010	10.10%	2246.00	0.00	2246.00
BOND XXVI-DOCO	9.30%	639.00	0.00	639.00
IBRD III-ADDCAP FOR 2010-2011 Add Cap-46.08	1.79%	547.98	0.00	547.98
IBRD III-doco IBRD III-45.67	1.79%	23191.23	0.00	23191.23
IBRD IV-ADDCAP FOR 2011-2012 Add Cap-53.24	1.63%	824.95	0.00	824.95
IBRD IV-ADDCAP FOR 2012-2013 Add Cap12-13 IBRD-53.94	1.63%	16.61	0.00	16.61
BOND XXXIII-DOCO	8.64%	271.00	0.00	271.00
Total		28792.77	0.00	28792.77

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

(₹ in lakh)

Details of Loan(Combined Asset-I & II)	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	180047.87	180047.87	180047.87	180047.87	180047.87
Cumulative Repayment of loan upto previous year	12052.73	21058.93	30490.23	40370.23	50720.90
Net Loan Opening	167995.1	158988.94	149557.64	139677.64	129326.97
Additions during the year	0	0	0	0	0
Repayment during the year	9006.2	9431.3	9880	10350.67	10845.47
Net Loan Closing	158988.9	149557.64	139677.64	129326.97	118481.5
Average Loan	163492	154273.29	144617.64	134502.305	123904.24
Weighted Average	1.9247%	1.9045%	1.8824%	1.8578%	1.8298%



Details of Loan(Combined Asset-I & II)	2014-15	2015-16	2016-17	2017-18	2018-19
Rate of Interest (%)					
Interest	3146.76	2938.2	2722.32	2498.78	2267.19

(₹ in lakh)

Details of Loan(Asset-III)	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	12199.00	12199.00	12199.00	12199.00	12199.00
Cumulative Repayment of loan upto previous year	3190.15	4206.73	5223.31	6239.89	7256.47
Net Loan Opening	9008.85	7992.27	6975.69	5959.11	4942.53
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	1016.58	1016.58	1016.58	1016.58	1016.58
Net Loan Closing	7992.27	6975.69	5959.11	4942.53	3925.95
Average Loan	8500.56	7483.98	6467.40	5450.82	4434.24
Weighted Average Rate of Interest (%)	9.4208%	9.4203%	9.4197%	9.4188%	9.4176%
Interest	800.82	705.01	609.21	513.40	417.60

(₹ in lakh)

Details of Loan(Asset-IV)	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	28792.77	28792.77	28792.77	28792.77	28792.77
Cumulative Repayment of loan upto previous year	4710.68	6412.95	8174.25	9997.74	11885.61
Net Loan Opening	24082.09	22379.82	20618.52	18795.03	16907.16
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	1702.27	1761.30	1823.49	1887.87	1955.01
Net Loan Closing	22379.82	20618.52	18795.03	16907.16	14952.15
Average Loan	23230.96	21499.17	19706.78	17851.10	15929.66
Weighted Average Rate of Interest (%)	2.8026%	2.7538%	2.6992%	2.6366%	2.5628%
Interest	651.08	592.04	531.92	470.66	408.24

