

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 40/TT/2017

Coram:

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

Date of Order: 07.09.2017

In the matter of:

Truing up of transmission tariff for 2009-14 tariff period and determination of transmission tariff for 2014-19 tariff period for **Asset-I:** Extension of 765/400 kV Bilaspur Pooling Station (near Sipat) alongwith LILO of Sipat-Seoni Ckt 2 with 240 MVAR Line reactor and **Asset II:** Installation of 765/400 kV, 1500MVA ICT-3 at Bilaspur Pooling Station under WRSS XI Scheme in Western Region, under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

And in the matter of:

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

.....**Petitioner**

Vs

1. Madhya Pradesh Power Management Company Limited,
Shakti Bhawan, Rampur
Jabalpur-482 008
2. Maharashtra State Electricity Distribution Company Limited,
Prakashgad, 4th floor,
Andheri (East), Mumbai-400 052
3. Gujarat Urja Vikas Nigam Limited,
Sardar Patel Vidyut Bhawan,
Race Course Road, Vadodara-390 007
4. Electricity Department,



Government of Goa,
Vidyut Bhawan, Panaji,
Near Mandvi Hotel, Goa-403 001

5. Electricity Department,
Administration of Daman and Diu,
Daman-396 210
6. Electricity Department,
Administration of Dadra Nagar Haveli,
U.T., Silvassa-396 230
7. Chhattisgarh State Electricity Board,
P.O. Sunder Nagar, Dangania, Raipur
Chhattisgarh-492 013
8. Madhya Pradesh Audyogik Kendra Vikas Nigam (Indore) Limited,
3/54, Press Complex, Agra-Bombay Road,
Indore-452 008

.....**Respondents**

For Petitioner : Shri S.K. Venkatesan, PGCIL
Shri Rakesh P.D., PGCIL
Shri Jasbir Singh, PGCIL

For Respondents : None

ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. (“the petitioner”) for truing up of capital expenditure of 2009-14 tariff period for Asset-I: Extension of 765/400 kV Bilaspur Pooling Station (near Sipat) along with LILO of Sipat-Seoni Ckt. 2 with 240 MVAR Line reactor and Asset-II: Installation of 765/400 kV 1500 MVAR ICT-3 at Bilaspur Pooling Station (hereinafter referred to as “transmission assets”) under WRSS XI Scheme in Western Region, under Regulation 6 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as “the 2009 Tariff



Regulations”) based on actual capital expenditure for the period from COD (i.e. 1.4.2012 and 1.8.2012 for Asset I and Asset II, respectively) to 31.3.2014, and for determination of tariff for the period from 1.4.2014 to 31.3.2019 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”).

2. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act, 2003 (“the Act”). The petitioner has served the petition on the respondents. M.P. Power Management Company Limited (MPPMCL), Respondent No. 1, has filed reply vide affidavit dated 1.5.2017. MPPMCL has raised issues of capital cost, time over-run and additional capitalisation. The petitioner has filed rejoinder dated 22.5.2017 to the reply of MPPMCL. The issues raised by the respondent and the clarifications given by the petitioner are dealt in the respective para of this order.

3. The hearing in the matter was held on 4.5.2017. Having heard the representatives of the petitioner, respondents 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 Scheme was accorded by Board of Directors of the petitioner company vide Memorandum dated 16.2.2009 at an estimated cost of ₹40950 lakh, including Interest During Construction (IDC) of ₹3125 lakh (based on 4th Quarter, 2008 price level). The Assets-I and II were put under commercial operation w.e.f. 1.4.2012 and 1.8.2012 respectively.



b) There was time over run of 1 month and 5 months in case of Asset-I and Asset-II respectively. The Commission vide order dated 23.12.2013 had condoned the delay of Asset-I. However, delay of 5 months in case of Asset-II was not condoned. Subsequently, the petitioner filed Review Petition No. 08/RP/2014 and submitted the detailed reasons for delay of 5 months in commissioning of Asset-II and prayed to condone the delay. The Commission vide order dated 8.12.2014 had disallowed the delay of 35 days out of total delay of 5 months. Hence, the delay of 35 days was not condoned for Asset-II.

c) The annual transmission charges for the instant transmission assets were determined vide order dated 23.12.2013 in Petition No. 62/TT/2012 by considering the capital cost of ₹10092.56 lakh and ₹7288.77 lakh for Assets-I and II respectively. Subsequently, the allowed capital cost, as on 31.3.2014, for Asset-II was revised to ₹7377.52 lakh, vide order dated 21.1.2016 in Petition No. 62/TT/2012, as per details as under:-

Particulars	Approved apportioned cost (FR)	Expenditure incurred upto COD	Additional Capital Expenditure		Total Cost as on 31.3.2014
			2012-13	2013-14	
Asset-I	26788.40	8559.43	1533.13	-	10092.56
Asset-II	14161.10	4742.33	2420.26	214.93	7377.52
Total	40949.50	13301.76	3953.39	214.93	17470.08

d) The Annual Fixed Charges allowed vide order dated 23.12.2013 and order dated 21.1.2016 for Asset-I and Asset-II respectively are as follows:-



(₹ in lakh)

Particulars	Asset-I		Asset-II	
	2012-13	2013-14	2012-13 (pro-rata)	2013-14
Depreciation	481.79	519.71	205.43	373.09
Interest on Loan	589.68	593.12	258.15	447.58
Return on Equity	489.08	529.28	208.11	381.26
Interest on Working Capital	50.56	53.28	20.93	36.34
O & M Expenses	265.05	280.21	99.07	157.10
Total	1876.17	1975.60	791.69	1395.38

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

f) The instant petition was filed on 19.12.2016.

Truing-up of Annual Fixed Charges of 2009-14 period

5. The tariff of 2009-14 has been trued up as discussed below.

Capital Cost

6. Regulation 6 of the 2009 Tariff Regulations provides as under:-

“6. Truing up of Capital Expenditure and Tariff.

(1) The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2014, as admitted by the Commission after prudence check at the time of truing up.

Provided that the generating company or the transmission licensee, as the case may be, may in its discretion make an application before the Commission one more time prior to 2013- 14 for revision of tariff.

(2) The generating company or the transmission licensee, as the case may be, shall make an application, as per Appendix I to these regulations, for carrying out truing up exercise in respect of the generating station a unit or block thereof or the transmission system or the transmission lines or sub-stations thereof by 31.10.2014;



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

(4) Where after the truing up, the tariff recovered exceeds the tariff approved by the Commission under these regulations, the generating company or the transmission licensee, as the case may be, shall refund to the beneficiaries or the transmission customers, as the case may be, the excess amount so recovered along with simple interest at the rates specified in the proviso to this regulation.

(5) Where after the truing up, the tariff recovered is less than the tariff approved by the Commission under these regulations, the generating company or the transmission licensee, as the case may be, shall recover from the beneficiaries or the transmission customers, as the case may be, the under-recovered amount along with simple interest at the rates specified in the proviso to this regulation.

(6) The amount under-recovered or over-recovered, along with simple interest at the rates specified in the proviso to this regulation, shall be recovered or refunded by the generating company or the transmission licensee, as the case may be, in six equal monthly installments starting within three months from Page 3 of 6 the date of the tariff order issued by the Commission after the truing up exercise.

Provided that the rate of interest, for clauses (4), (5) and (6) of this regulation, for calculation of simple interest shall be considered as under:

(i) SBI short-term Prime Lending Rate as on 01.04.2009 for the year 2009-10.

(ii) SBI Base Rate as on 01.07.2010 plus 350 basis points for the year 2010-11.

(iii) Monthly average SBI Base Rate from 01.07.2010 to 31.3.2011 plus 350 basis points for the year 2011-12.

(iv) Monthly average SBI Base Rate during previous year plus 350 basis points for the year 2012-13 & 2013-14.”

7. The details of the capital cost and additional capital expenditure now claimed as per Auditors' certificate dated 21.11.2016 are summarized below:-

Particulars	Approved apportioned cost (FR)	Expenditure incurred upto COD	Additional Capital Expenditure		Total Cost as on 31.3.2014
			(₹ in lakh)		
			2012-13	2013-14	
Asset-I	26788.40	8559.43	726.76	228.57	9514.76
Asset-II	14161.10	4851.11	2798.26	354.23	8003.60
Total	40949.50	13410.54	3525.02	582.80	17518.36



Treatment of IDC and IEDC

8. The petitioner, vide auditor's certificates dated 21.11.2016, has claimed the IDC on cash and accrual basis. In case of Asset-II, the IDC claimed is not reconciled with the IDC computation submitted by the petitioner. Hence, IDC for the disallowed time over-run period of 35 days in case of Asset-II has been worked out on pro-rata basis. The details of IDC claimed and allowed are as under:-

(₹ in lakh)

Particulars	IDC Claimed as per Auditors' Certificate	IDC for time over-run not considered	IDC un-discharged as on COD	IDC allowed as on COD
	1	2	3	4=1-(2+3)
Asset-I	470.01	-	287.47	182.54
Asset-II	332.24	46.54	30.05	255.65

9. Similarly, IEDC has been worked out considering the information submitted by the petitioner. The IEDC limit is being considered as 5.00% of Hard Cost as submitted in the Abstract Cost Estimate. The IEDC amount claimed is lower than 5.00% of Hard Cost and has been allowed, for the purpose of tariff in this order. However, time over-run for Asset-II has been disallowed for a period of 35 days. Therefore, IEDC in case of Asset-II has been disallowed for a time over-run period of 35 days, on a pro-rata basis. The details of allowable IEDC are as under:-

(₹ In lakh)

Particulars	IEDC		
	Claimed	Disallowed	Allowed
Asset-I	-51.01	-	-51.01
Asset-II	16.82	0.47	16.35

Treatment of initial spares

10. The petitioner has claimed initial spares pertaining to sub-station, amounting to ₹126.30 lakh and ₹197.83 lakh for Assets-I and II respectively. The amounts



claimed for initial spares are within specified limits and therefore have been allowed.

11. The details of capital cost as on COD, considered for the purpose of computation of tariff after adjustment of IDC on cash basis, undischarged liability and initial spares are as under:-

(₹ in lakh)			
Particulars	Asset-I	Asset-II	Total
Capital Cost claimed as on COD	8559.43	4851.11	13410.54
IDC for time over-run not considered	-	46.54	46.54
Undischarged IDC as on COD	287.47	30.05	317.52
IEDC disallowed as on COD	-	0.47	0.47
Initial Spares disallowed as on COD	-	-	-
Capital Cost considered as on COD	8271.96	4774.05	13046.01

Additional Capital Expenditure

12. Regulation 9 (1) of the 2009 Tariff Regulations specifies as under:-

“9. 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;
- (ii) Works deferred for execution;
- (iii) Procurement of initial capital spares within the original scope of work, subject to the provisions of regulation 8;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and
- (i) Change in law:

Provided that the details of works included in the original scope of work along with estimates of expenditure, undischarged liabilities and the works deferred for execution shall be submitted along with the application for determination of tariff.”

13. The cut-off date for Assets-I and II is 31.3.2014. The un-discharged liability on account of IDC as on COD amounting to ₹287.47 lakh and ₹30.05 lakh for the instant assets has been allowed as additional capitalization during the year in



which it has been actually discharged based on the information submitted for the purpose of truing-up. The Additional Capital Expenditure allowed during the tariff period 2009-14 is as follows:-

(₹ in lakh)

Particulars	Asset-I			
	Claimed Add Cap as per Auditors' Certificate		Allowed Add Cap (including discharge of liability for IDC)	
	2012-13	2013-14	2012-13	2013-14
Freehold Land	-	-	-	-
Leasehold Land	-	-	-	-
Building & Other Civil Works	135.26	-	150.91	-
Transmission Line	158.10	52.86	193.20	52.86
Sub-Station Equipments	420.70	175.71	654.31	175.71
PLCC	12.70	-	15.80	-
Total	726.76	228.57	1014.23	228.57

(₹ in lakh)

Particulars	Asset-II			
	Claimed Add Cap as per Auditors' Certificate		Allowed Add Cap (including discharge of liability for IDC)	
	2012-13	2013-14	2012-13	2013-14
Freehold Land	-	-	-	-
Leasehold Land	-	-	-	-
Building & Other Civil Works	279.84	47.26	280.52	47.26
Transmission Line	-	-	-	-
Sub-Station Equipments	2518.42	306.97	2547.79	306.97
PLCC	-	-	-	-
Total	2798.26	354.23	2828.31	354.23

Capital cost considered for tariff for the period from COD to 31.3.2014

14. The capital cost as on COD and the additional capital expenditure considered for Tariff computation for instant assets are as under:-

(₹ in lakh)

Particulars	Asset- I			
	Capital cost considered as on COD after adjusting IDC and IEDC	Additional capitalization		Admitted Cost as 31.3.2014
		2012-13	2013-14	
Freehold Land	0.00	0.00	0.00	0.00
Leasehold Land	0.00	0.00	0.00	0.00



Building & Other Civil Works	450.40	150.91	0.00	601.31
Transmission Line	1010.16	193.20	52.86	1256.22
Sub-Station Equipments	6722.33	654.31	175.71	7552.35
PLCC	89.08	15.80	0.00	104.88
Total	8271.97	1014.23	228.57	9514.77

(₹ in lakh)

Particulars	Asset-II			
	Capital cost considered as on DOCO after adjusting IDC and IEDC	Additional capitalization		Admitted Cost as 31.3.2014
		2012-13	2013-14	
Freehold Land	-	-	-	-
Leasehold Land	-	-	-	-
Building & Other Civil Works	108.18	280.52	47.26	435.96
Transmission Line	-	-	-	-
Sub-Station Equipments	4665.87	2547.79	318.95	7532.61
PLCC	-	-	-	-
Total	4774.05	2828.31	366.21	7968.57

Debt: Equity Ratio

15. Clause (1) and (2) of Regulation 12 of the 2009 Tariff Regulations provide that:-

“12. Debt-Equity Ratio. (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:

(2) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2009, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2009 shall be considered.

(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 debt: equity ratio of 70:30, as admitted vide orders dated 23.12.2013 and 21.1.2016 in Petition No. 62/TT/2012 has been considered as on COD of instant assets, as provided in Regulation 12(1) of the 2009 Tariff Regulations. The



opening debt: equity ratio considered for the purpose of truing up of the approved tariff for tariff period 2009-14 is as under:-

Particulars	Asset-I			
	As on COD		As on 31.3.2014	
	Amount (₹ in lakh)	%	Amount (₹ in lakh)	%
Debt	5790.39	70.00	6660.35	70.00
Equity	2481.58	30.00	2854.41	30.00
Total	8271.97	100.00	9514.77	100.00

Particulars	Asset- II			
	As on COD		As on 31.3.2014	
	Amount (₹ in lakh)	%	Amount (₹ in lakh)	%
Debt	3341.84	70.00	5578.00	70.00
Equity	1432.22	30.00	2390.57	30.00
Total	4774.05	100.00	7968.57	100.00

Return on Equity (ROE)

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

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

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

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

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

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

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



18. The petitioner has submitted the MAT rate applicable during the various years. Return on equity has been worked out by considering year wise MAT rate submitted by the petitioner in accordance with Regulation 15 of the 2009 Tariff Regulations. The variation in the tax rate during the 2009-14 tariff period applicable to the petitioner as per the Finance Act, 1961 of the relevant year for the purpose of grossing up of ROE is as under:-

Year	MAT Rate (in %)	Grossed up ROE (Base rate/(1-t) (in %))
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

19. The trued up ROE allowed for the instant transmission assets is given below:-

(₹ in lakh)

Particulars	Asset-I	
	2012-13	2013-14
Opening Equity	2481.58	2785.84
Addition due to Additional Capitalization	304.27	68.57
Closing Equity	2785.84	2854.41
Average Equity	2633.71	2820.13
Return on Equity (Base Rate)	15.50%	15.50%
Tax rate for the year (MAT)	20.008%	20.961%
Rate of Return on Equity (Pre Tax)	19.377%	19.610%
Return on Equity (Pre Tax)	510.33	553.06

(₹ in lakh)

Particulars	Asset-II	
	2012-13 (pro-rata)	2013-14
Opening Equity	1432.22	2280.71
Addition due to Additional Capitalization	848.49	109.86
Closing Equity	2280.71	2390.57
Average Equity	1856.46	2335.64
Return on Equity (Base Rate)	15.50%	15.50%
Tax rate for the year (MAT)	20.008%	20.961%
Rate of Return on Equity (Pre Tax)	19.377%	19.610%



Return on Equity (Pre Tax)	239.82	458.04
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Interest on Loan (“IOL”)

20. Regulation 16 of the 2009 Tariff regulations provides that,-

“16. Interest on loan capital

(1) The loans arrived at in the manner indicated in regulation 12 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2009 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2009 from the gross normative loan.

(3) The repayment for the year of the tariff period 2009-14 shall be deemed to be equal to the depreciation allowed for that year:

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

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project:

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.

(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute:



Provided that the beneficiary or the transmission customers shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan.”

21. The petitioner has claimed the IOL based on actual interest rates for each year during the 2009-14 tariff period. We have considered the submissions of the petitioner and accordingly calculated the IOL based on gross amount of loan and repayment of instalments and rate of interest submitted by the petitioner, in accordance with Regulation 16 of the 2009 Tariff Regulations. The details of weighted average rate of interest are given in Annexure-I to Annexure-II and the IOL has been worked out and allowed as provided under Regulation 16 of the 2009 Tariff Regulations as under:-

(₹ in lakh)

Particulars	Asset-I	
	2012-13	2013-14
Gross Normative Loan	5790.39	6500.35
Cumulative Repayment upto Previous Year	-	454.35
Net Loan-Opening	5790.39	6046.00
Addition due to Additional capitalisation	709.96	160.00
Repayment during the year	454.35	485.78
Net Loan-Closing	6046.00	5720.22
Average Loan	5918.20	5883.11
Weighted Average Rate of Interest on Loan	9.3714%	9.3832%
Interest	554.62	552.02

Particulars	Asset-II	
	2012-13 (pro-rata)	2013-14
Gross Normative Loan	3341.84	5321.65
Cumulative Repayment upto Previous Year	-	214.61
Net Loan-Opening	3341.84	5107.04
Addition due to Additional capitalisation	1979.82	256.35
Repayment during the year	214.61	403.07
Net Loan-Closing	5107.04	4960.32
Average Loan	4224.44	5033.68
Weighted Average Rate of Interest on Loan	9.4331%	9.3733%
Interest	265.66	471.82

Depreciation



22. Clause (42) of Regulation 3 of the 2009 Tariff Regulations defines useful life as under:-

“**useful life**’ in relation to a unit of a generating station and transmission system from the COD shall mean the following, namely:-

(a) Coal/Lignite based thermal generating station	25 years
(b) Gas/Liquid fuel based thermal generating station	25 years
(c) AC and DC sub-station	25 years
(d) Hydro generating station	35 years
(e) Transmission line	35 years”

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

“(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.”

24. The instant assets have been put under commercial operation on 1.4.2012 and 1.8.2012 for Asset-I and II, respectively and would complete 12 years beyond tariff period 2009-14. Accordingly, remaining depreciable value of the asset shall be spread over in the balance useful life of the asset after 2009-14. The depreciation for the tariff period 2009-14 has been trued up in accordance with Regulation 17 of the 2009 Tariff Regulations based on admitted capital expenditure as under:-

Particulars	(₹ in lakh)	
	Asset-I	
	2012-13	2013-14
Opening Gross Block	8271.97	9286.20
Addition during 2009-14 due to Projected Additional Capitalisation	1014.23	228.57
Closing Gross Block	9286.20	9514.77
Average Gross Block	8779.08	9400.48



Rate of Depreciation	5.1754%	5.1676%
Depreciable Value	7901.17	8460.43
Remaining Depreciable Value	7901.17	8006.08
Depreciation	454.35	485.78

Particulars	(₹ in lakh)	
	Asset-II	
	2012-13 (pro-rata)	2013-14
Opening Gross Block	4774.05	7602.36
Addition during 2009-14 due to Projected Additional Capitalisation	2828.31	366.21
Closing Gross Block	7602.36	7968.57
Average Gross Block	6188.21	7785.47
Rate of Depreciation	5.2021%	5.1772%
Depreciable Value	5569.39	7006.92
Remaining Depreciable Value	5569.39	679.312
Depreciation	214.61	403.07

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

25. The petitioner has claimed the same O&M Expenses that was approved in order dated 23.12.2013 and 21.1.2016 in Petition No.62/TT/2012 for the 2009-14 tariff period. Accordingly, the O&M Expenses claimed by the petitioner, allowed and true up are the same, and are as follows:-

Particulars	(₹ in lakh)			
	Asset-I		Asset-II	
	2012-13	2013-14	2012-13 (pro-rata)	2013-14
Approved vide order dated 23.12.2013/21.1.2016	265.05	280.21	99.07	157.10
As claimed by petitioner	265.05	280.21	99.07	157.10
Allowed after true up	265.05	280.21	99.07	157.10

Interest on working capital

26. 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.



27. The petitioner has submitted that the rate of interest on working capital has been considered as 13.20% as per clause (3) of Regulation 18 of the 2009 Tariff Regulations and the components of working capital are also considered in accordance with Sub-clause (c) of clause (1) of Regulation 18 of the 2009 Tariff Regulations.

28. In accordance with Clause (3) 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 Rate as on 1.4.2012 was 9.70%. Therefore, interest rate of 13.20% has been considered to work out the interest on working capital in the instant case.

29. The IWC trued up is as under:-

Particulars	(₹ in lakh)			
	Asset-I		Asset-II	
	2012-13	2013-14	2012-13 (pro-rata)	2013-14
Maintenance Spares	39.76	42.03	22.29	23.57
O & M expenses	22.09	23.35	12.38	13.09
Receivables	305.66	320.53	210.30	254.90
Total	367.51	385.91	244.98	291.56
Interest	49.61	52.10	22.05	39.36

Annual Transmission charges

30. In view of above, the annual transmission charges after truing up for the 2009-14 tariff period is as under:-



(₹ in lakh)

Particulars	Asset-I		Asset-II	
	2012-13	2013-14	2012-13 (pro-rata)	2013-14
Depreciation	454.35	485.78	214.61	403.07
Interest on Loan	554.62	552.02	265.66	471.82
Return on Equity	510.33	553.06	239.82	458.04
Interest on Working Capital	49.61	52.10	22.05	39.36
O & M Expenses	265.05	280.21	99.07	157.10
Total	1833.97	1923.17	841.21	1529.40

Determination of Annual Transmission Charges for 2014-19

31. The true-up tariff for the instant transmission system up to 2009-14 tariff period has been granted based on the actual COD of individual elements irrespective of the fact that the project as whole is completed or not. This leads to granting of multiple tariffs for the assets covered under the single project/transmission system. The Commission, vide Regulation 6 of the 2014 Tariff Regulations has brought in the concept of a single consolidated petition to be submitted by a petitioner which provide that in case all the elements of a transmission system have been declared under commercial operation prior to 1.4.2014, then a single tariff can be granted for all the assets covered under such a single project/transmission system. However, to determine a single transmission tariff for different assets after combining them, as per the 2014 Tariff Regulations, the concept of effective date of commercial operation and weighted average life has also been introduced in Regulation 27 (Depreciation) of the 2014 Tariff Regulations. The relevant portions of Regulation 6 and Regulation 27 of the 2014 Tariff Regulations are as follows:-

“6. Tariff determination

(1) Tariff in respect of a generating station may be determined for the whole of the generating station or stage or generating unit or block thereof, and tariff in respect of a



transmission system may be determined for the whole of the transmission system or transmission line or sub-station or communication system forming part of transmission system:

Provided that:

(i) where all the generating units of a stage of a generating station or all elements of a transmission system have been declared under commercial operation prior to 1.4.2014, the generating company or the transmission licensee, as the case may be, shall file consolidated petition in respect of the entire generating station or transmissions system for the purpose of determination of tariff for the period 2014-15 to 2018-19:

Xxx

Xxx”

“27. Depreciation:

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

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

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

Xxx

Xxx”

(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.

Xxx

Xxx”



32. The instant petition relates to the transmission system associated with WRSS XI Scheme in Western Region. The final tariff of each of the assets was approved separately vide orders dated 23.12.2013 and 21.1.2016 in Petition No. 62/TT/2012. Hence, the tariff for Assets-I and II for period 2009-14 has been trued-up separately in the preceding paras. The scope of WRSS XI includes two assets and these two assets are combined into a single asset and single tariff for the project as a whole has to be worked out for the 2014-19 tariff period. Thus, both the assets in the instant petition have been combined into a single asset for the purpose of single tariff for 2014-19 period. For the purpose of calculation of single tariff, the Effective COD and Weighted Average life of the project as a whole has been computed as discussed in the following paragraphs.

Effective Date of Commercial Operation (E-COD)

33. The Effective Date of Commercial Operation (E-COD) for the project as a whole has been worked out based on the admitted capital cost of individual assets as on 31.3.2014 and the actual COD of individual assets. Accordingly, the Effective Date of Commercial Operation (E-COD) for the instant project as a whole has been worked out as 26.5.2012 as follows:-

(₹ in lakh)

Project Name	Asset No.	Actual COD	Admitted capital cost as on 31.3.2014	Weight of the cost	No. of days from last COD	Weighted days	Effective COD (Latest COD-Weighted days)
WRSS XI Scheme in Western Region	I	1.4.1202	9514.77	54.42%	122	66.39	26.5.2012
	II	1.8.2012	7968.57	45.58%	-	-	
TOTAL			17483.34	100.00%		66.39	



Thus, the E-COD has been used to determine the lapsed life of the project as whole, which works out as 1 year as on 1.4.2014. (i.e. the number of completed years as on 1.4.2014 from E-COD).

Weighted Average Life (WAL)

34. The project as a whole has multiple elements (i.e. Land, Building, Transmission line, Substation and PLCC) and each element may have different span of life. Therefore, in the 2014 Tariff Regulations, the concept of Weighted Average Life (WAL) has been introduced which has been used as the useful life of the project as whole. The Weighted Average Life (WAL) has been determined based on the admitted capital cost of individual elements as on 31.3.2014 and their respective life as stipulated in the 2014 Tariff Regulations. The element wise life as it was defined in Tariff Regulations prevailing at the time of actual COD of individual assets has been ignored for this purpose. The life as defined in the 2014 Tariff Regulations has been considered for determination of WAL. Accordingly, the Weighted Average Life of the project as whole has been worked out as 26 years as follows:-

(₹ in lakh)

Determination of Weighted Average Life					
Particulars	Admitted Capital Cost as on 31.3.2014		Capital Cost of Project as whole (a)	Life as per the 2014 Tariff Regulations (b)	Weight (a) x (b)
	Asset-I	Asset-II			
Freehold Land	-	-	-	-	-
Leasehold Land	-	-	-	25	-
Building & Other Civil Works	601.31	435.96	1037.28	25	25931.90
Transmission Line	1256.22	-	1256.22	35	43967.87
Sub-Station Equipments	7552.35	7532.61	15084.96	25	377124.02
PLCC	104.88	-	104.88	15	1573.14
Total	9514.77	7968.57	17483.34	26	448596.93
Weighted average life=Total weight/capital cost of project			26 Years		



35. Further, it is assumed that, the Weighted average life of the project as whole as on 1.4.2014 as determined above is applicable prospectively (i.e. for 2014-19 tariff period onwards) and no retrospective adjustment of depreciation in previous tariff period is required. Accordingly, the WAL has been used to determine the remaining useful life as on 31.3.2014 as 25 years.

36. The petitioner has claimed AFC for both the assets, which have been combined together as under:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	911.49	920.01	922.13	923.18	923.18
Interest on Loan	968.14	893.46	810.07	724.60	637.88
Return on Equity	1036.98	1047.31	1050.37	1051.53	1051.53
Interest on Working Capital	89.38	88.84	87.80	86.67	85.49
O&M Expenses	402.76	416.12	429.95	444.23	458.96
Total	3408.75	3365.74	3300.32	3230.21	3157.04

37. Similarly, the petitioner has submitted details in support of its claim for interest on working capital for both the assets, which have been combined together as follows:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	60.41	62.42	64.49	66.63	68.84
O & M Expenses	33.56	34.68	35.83	37.02	38.25
Receivables	568.13	560.96	550.05	538.37	526.17
Total	662.10	658.06	650.37	642.02	633.26
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	89.38	88.84	87.80	86.67	85.49

Capital Cost

38. Clause (1) and (3) of Regulation 9 of the 2014 Tariff Regulations provides as follows:-



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

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

(a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;

(b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;

(c) Increase in cost in contract packages as approved by the Commission;

(d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;

(e) capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;

(f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;

(g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and

(h) adjustment of any revenue earned by the transmission licensee by using the assets before COD.

“(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.”

39. The element wise capital cost (Land, Building, Transmission line, Sub-station and PLCC) as admitted on 31.3.2014 for Asset-I and Asset-II are clubbed together and the combined cost has been considered as capital cost of the project as a



whole as on 1.4.2014. Thus, ₹17483.34 lakh has been considered as the admitted capital cost of the project as on 1.4.2014 as per details as follows:-

Particulars	Capital cost as on 31.3.2014 as determined in true up of 2009-14		Combined cost for the project as a whole as on 1.4.2014
	Asset-I	Asset-II	
Freehold Land	-	-	-
Leasehold Land	-	-	-
Building & Other Civil Works	601.31	435.96	1037.28
Transmission Line	1256.22	-	1256.22
Sub-Station Equipments	7552.35	7532.61	15084.96
PLCC	104.88	-	104.88
Total	9514.77	7968.57	17483.34

Additional Capital Expenditure

40. Sub-clause (i) of Clause 1 and sub-clause (ix) of Clause 3 of Regulation 14 of the 2014 Tariff Regulations provides as follows:-

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

(i) Undischarged liabilities recognized to be payable at a future date;”

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

(ix) 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 due to obsolescence of technology, replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system;”

41. The detail of additional capital expenditure for Asset I and II claimed and allowed for 2014-19 tariff period is as under:-



(₹ in lakh)

Particulars	Claimed ACE			Allowed ACE		
	2014-15	2015-16	2016-17	2014-15	2015-16	2016-17
Asset-I	248.89	41.38	39.58	248.89	41.38	39.58
Asset-II	37.82	23.17	-	37.82	23.17	-
Total	286.71	64.55	39.58	286.71	64.55	39.58

42. Accordingly, the capital cost as on 1.4.2014 and the additional capital expenditure considered for Tariff computation for the project as whole is as under:-

(₹ in lakh)

Particulars	Combined Admitted Capital Cost as on 31.3.2014	Projected Additional capitalization			Admitted Cost as 31.3.2019
		2014-15	2015-16	2016-17	
Freehold Land	-	-	-	-	-
Leasehold Land	-	-	-	-	-
Building & Other Civil Works	1037.28	16.70	63.10	-	1117.08
Transmission Line	1256.22	111.18	-	39.58	1406.98
Sub-Station Equipments	15084.96	158.83	1.45	-	15245.24
PLCC	104.88	-	-	-	104.88
Total	17483.34	286.71	64.55	39.58	17874.18

Debt: Equity Ratio

43. Clause 3 of Regulation 19 of the 2014 Tariff Regulations specifies as follows:-

“(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 debt: equity ratio of 70: 30 was admitted after true-up for the tariff period ending 31.3.2014 for Asset-I and Asset-II respectively. The debt: equity ratio of combined asset has been worked out as 70: 30 based on combined normative equity and combined normative loan as on 1.4.2014. The details of the debt: equity as on 1.4.2014 considered for the purpose of tariff for the 2014-19 tariff period are as under:-



Particulars	Details as on 31.3.2014, as determined during true-up of 2009-14 tariff		Considered for single tariff for Project as whole as on 1.4.2014
	Asset-I	Asset-II	
	Admitted Capital Cost	9514.77	7968.57
Gross Normative Loan	6660.35	5578.00	12238.35
Gross Normative Equity	2854.41	2390.57	5244.98
Debt Equity Ratio	70: 30	70: 30	70: 30

45. As additional capital expenditure as claimed by the petitioner has been allowed, the debt: equity ratio of the project as a whole shall remain same as on 31.3.2019, i.e. 70: 30, which is subject to true-up, as under:-

Particulars	Combined Asset As on 31.3.2019	
	Amount (₹ in lakh)	%
	Debt	12511.94
Equity	5362.24	30.00
Total	17874.18	100.00

Return on Equity (“ROE”)

46. Clause (1) and (2) of Regulation 24 and Clause (1) and (2) of Regulation 25 of the 2014 Tariff Regulations specify as follows:-

“ **24. Return on Equity:** (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

Provided that:

(i) in case of projects commissioned on or after 1st April, 2014, an additional return of **0.50 %** shall be allowed, if such projects are completed within the timeline specified in **Appendix-I:**

(ii) the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

(iii) additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power



Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:

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

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

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

“25. Tax on Return on Equity:

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

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

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

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

47. The petitioner has computed ROE at the rate of 19.610% after grossing up the ROE with MAT rate of 20.961% as per the above Regulations. The petitioner has 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 trueing up shall be recovered or refunded to the beneficiaries on year to year basis.

48. 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.

49. The Gross Normative Equity as on 31.3.2014 of individual assets as admitted has been added together and the total amount has been considered as Gross Normative Equity of Project/Combined Asset as on 1.4.2014. Additional ROE has not been allowed for any of the individual assets. Hence, the Gross Normative Equity of the Project has been considered as the basis for Return on Equity. The details are as under:-

Particulars	Details as on 31.3.2014 as determined during true-up of 2009-14 tariff		Gross normative equity for the project as a whole as on 1.4.2014
	Asset-I	Asset-II	
Gross equity	2854.41	2390.57	5244.98

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 is as given under:-

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	5244.99	5331.00	5350.36	5362.24	5362.24
Addition due to Additional Capitalisation	86.01	19.37	11.87	0.00	0.00
Closing Equity	5331.00	5350.36	5362.24	5362.24	5362.24
Average Equity	5287.99	5340.68	5356.30	5362.24	5362.24
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) (%)	19.610%	19.610%	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	1036.98	1047.31	1050.37	1051.53	1051.53

Interest on Loan (“IOL”)

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

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

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

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

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



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

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

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

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

52. The actual loans as on 31.3.2014 in respect of Asset-I and Asset-II have been combined and have been considered as actual loan portfolio of the combined asset as on 1.4.2014. Accordingly, weighted average rate of interest has been worked out on the basis of the actual loan portfolio of the combined asset, which is subject to truing-up.

53. The details of weighted average rate of interest are placed at Annexure-III and the IOL has been worked out as follows:-

	(₹ in lakh)				
Combined Assets	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	12238.35	12439.05	12484.23	12511.94	12511.94
Cumulative Repayment upto previous year	1557.82	2469.32	3389.33	4311.47	5234.66
Net Loan-Opening	10680.53	9969.72	9094.90	8200.47	7277.28
Additions during the year	200.70	45.19	27.71	0.00	0.00
Repayment during the year	911.51	920.00	922.14	923.19	923.19
Net Loan-Closing	9969.72	9094.90	8200.47	7277.28	6354.10
Average Loan	10325.13	9532.31	8647.69	7738.88	6815.69
Rate of Interest (%)	9.377%	9.374%	9.368%	9.364%	9.360%
Interest	968.21	893.53	810.13	724.66	637.95

54. The petitioner has prayed that it be allowed to bill and adjust impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period, if any, from the respondents. The



interest on loans has been calculated on the basis of rate prevailing as on the date of commercial operation. Any change in rate of interest subsequent to the date of commercial operation will be considered at the time of truing-up.

Depreciation

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

"27. Depreciation:

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

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

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

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

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

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

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



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

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

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

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

56. The capital cost, effective date of commercial operation and Weighted Average Life (WAL) for the project as a whole as determined in preceding paragraphs have been considered for determination of depreciation during the tariff period 2014-19. Accordingly, 12 years from the effective date of commercial operation is completed beyond the 2014-19 tariff period. Hence, the depreciation for entire tariff period (i.e. 2014-19) has been worked out based on Straight Line Method and at rates specified in Appendix-II to the 2014 Tariff Regulations. The cumulative depreciation for the project as whole has been computed as under:-

(₹ in lakh)

Particulars	Details as on 31.3.2014 as determined during true-up of 2009-14 tariff		Considered for single tariff for the project as a whole as on 1.4.2014
	Asset-I	Asset-II	
Cumulative depreciation	940.13	617.69	1557.82

57. We have considered the submission made by the petitioner with reference to depreciation. Depreciation is allowed as provided under Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation allowed are given hereunder:-



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	17483.34	17770.05	17834.60	17874.18	17874.18
Additions during the year due to projected additional capitalization	286.71	64.55	39.58	-	-
Closing Gross block	17770.05	17834.60	17874.18	17874.18	17874.18
Average gross block	17626.69	17802.32	17854.39	17874.18	17874.18
Rate of Depreciation (%)	5.17%	5.17%	5.16%	5.16%	5.16%
Depreciable Value	15864.02	16022.09	16068.95	16086.76	16086.76
Remaining Depreciable Value	14306.20	13552.77	12679.62	11775.29	10852.10
Depreciation	911.51	920.00	922.14	923.19	923.19

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

58. Regulation 29 (4) (a) of the 2014 Tariff Regulations specifies the norms for operation and maintenance expenses for the transmission system based on the type of sub-station and the transmission line. Norms specified in respect of the elements covered in the instant petition are as under:-

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
400 kV bay (₹ lakh/bay)	60.30	62.30	64.37	66.51	68.71
765 kV bay (₹ lakh/bay)	84.42	87.22	90.12	93.11	96.20
AC and HVDC lines (₹ lakh/km)	0.606	0.627	0.647	0.669	0.691

59. The petitioner has computed normative O&M Expenses as per sub-clause (a) of clause (3) of Regulation 29 of the 2014 Tariff Regulations. Accordingly, the petitioner’s entitlement to O&M Expenses has been worked out for combined asset and considered as O&M Expenses of project as a whole for the purpose of tariff. The details are as follows:-

(₹ in lakh)

Particulars	Combined Asset				
	2014-15	2015-16	2016-17	2017-18	2018-19
1 no. 400 kV bays	60.30	62.30	64.37	66.51	68.71
4 nos. 765 kV bays	337.68	348.88	360.48	372.44	384.80
7.886 km Line Length	4.778	4.944	5.102	5.275	5.449
Total	402.758	416.124	429.952	444.225	458.959



60. The petitioner has submitted that 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.

61. 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.

Interest on Working Capital (“IWC”)

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

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

(a)-----

(c) Hydro generating station including pumped storage hydro electric generating station and transmission system including communication system:

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

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

(iii) Operation and maintenance expenses for one month”

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



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

63. 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 is as under:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	60.41	62.42	64.49	66.63	68.84
O & M expenses	33.56	34.68	35.83	37.02	38.25
Receivables	568.14	560.97	550.07	538.38	526.19
Total	662.12	658.06	650.39	642.03	633.28
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	89.39	88.84	87.80	86.67	85.49

Annual Transmission Charges

64. The Annual Transmission Charges allowed for the combined transmission asset are as under:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	911.51	920.00	922.14	923.19	923.19
Interest on Loan	968.21	893.53	810.13	724.66	637.95
Return on Equity	1036.98	1047.31	1050.37	1051.53	1051.53
Interest on Working Capital	89.39	88.84	87.80	86.67	85.49
O&M Expenses	402.76	416.12	429.95	444.23	458.96
Total	3408.84	3365.80	3300.40	3230.28	3157.12

65. The petitioner has submitted that the claim for transmission charges and other charges is exclusive of incentive, late payment surcharge, FERV, any statutory taxes, levies, duties, cess filing fees, license fee RLDC fees and charges or any other kind of impositions etc. The same if imposed shall be borne and additionally paid by the respondents. We have considered the



submissions of the petitioner and the respondent. The petitioner can make claims as per the prevailing regulations. We would like to clarify that we have allowed transmission tariff as per the 2014 Tariff Regulations.

Filing Fee and Publication Expenses

66. 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

67. 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.

Sharing of Transmission Charges

68. 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.



69. This order disposes of Petition No. 40/TT/2017.

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

sd/-
(A.S. Bakshi)
Member

sd/-
(A.K. Singhal)
Member

sd/-
(Gireesh B. Pradhan)
Chairperson



Annexure-I

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN			
	Details of Loan	2012-13	2013-14
1	Bond XXXII		
	Gross loan opening	300.00	300.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	300.00	300.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	25.00
	Net Loan-Closing	300.00	275.00
	Average Loan	300.00	287.50
	Rate of Interest	8.84%	8.84%
	Interest	26.52	25.42
		Rep Schedule	12 annual instalments from 29.3.2014
2	Bond XXXIII		
	Gross loan opening	700.00	700.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	700.00	700.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	700.00	700.00
	Average Loan	700.00	700.00
	Rate of Interest	8.64%	8.64%
	Interest	60.48	60.48
		Rep Schedule	12 Equal Annual Instalments from 8.7.2014
3	BOND-XXXIV		
	Gross loan opening	780.00	780.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	780.00	780.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	780.00	780.00
	Average Loan	780.00	780.00
	Rate of Interest	8.84%	8.84%
	Interest	68.95	68.95
		Rep Schedule	12 Equal Annual Instalments from 21.10.2014
4	Bond XXXV		
	Gross loan opening	4010.38	4010.38
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	4010.38	4010.38



	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	4010.38	4010.38
	Average Loan	4010.38	4010.38
	Rate of Interest	9.640%	9.640%
	Interest	386.60	386.60
	Rep Schedule	12 Equal Annual Instalments from 31.5.2015	
5	Bond XXXV ADD CAP		
	Gross loan opening	0.00	201.23
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	201.23
	Additions during the year	201.23	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	201.23	201.23
	Average Loan	100.62	201.23
	Rate of Interest	9.640%	9.640%
	Interest	9.70	19.40
	Rep Schedule	12 Equal Annual Instalments from 31.5.2015	
6	SBI (21.3.2012) ADD CAP		
	Gross loan opening	0.00	0.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	0.00
	Additions during the year	0.00	150.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	0.00	150.00
	Average Loan	0.00	75.00
	Rate of Interest	10.29%	10.29%
	Interest	0.00	7.72
	Rep Schedule	Not available	
7	Bond XL ADD CAP		
	Gross loan opening	0.00	508.73
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	508.73
	Additions during the year	508.73	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	508.73	508.73
	Average Loan	254.37	508.73
	Rate of Interest	9.30%	9.30%
	Interest	23.66	47.31
	Rep Schedule	12 Equal Annual Instalments from 28.06.2016	



8	Bond- XLIII ADD CAP		
	Gross loan opening	0.00	0.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	0.00
	Additions during the year	0.00	10.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	0.00	10.00
	Average Loan	0.00	5.00
	Rate of Interest	7.93%	7.93%
	Interest	0.00	0.40
	Rep Schedule	12 Equal Annual Instalments from 20.05.2017	
	Total Loan		
	Gross loan opening	5790.38	6500.34
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	5790.38	6500.34
	Additions during the year	709.96	160.00
	Repayment during the year	0.00	25.00
	Net Loan-Closing	6500.34	6635.34
	Average Loan	6145.36	6567.84
	Rate of Interest	9.3714%	9.3832%
	Interest	575.91	616.27



Annexure-II

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN		
Details of Loan	2012-13	2013-14
Bond XXXII		
Gross loan opening	100.00	100.00
Cumulative Repayment upto DOCO/previous year	0.00	0.00
Net Loan-Opening	100.00	100.00
Additions during the year	0.00	0.00
Repayment during the year	0.00	8.33
Net Loan-Closing	100.00	91.67
Average Loan	100.00	95.83
Rate of Interest	8.84%	8.84%
Interest	8.84	8.47
Rep Schedule	12 annual instalments from 29.3.2014	
Bond XXXIII		
Gross loan opening	100.00	100.00
Cumulative Repayment upto DOCO/previous year	0.00	0.00
Net Loan-Opening	100.00	100.00
Additions during the year	0.00	0.00
Repayment during the year	0.00	0.00
Net Loan-Closing	100.00	100.00
Average Loan	100.00	100.00
Rate of Interest	8.64%	8.64%
Interest	8.64	8.64
Rep Schedule	12 Equal Annual Instalments from 8.7.2014	
BOND-XXXIV		
Gross loan opening	192.00	192.00
Cumulative Repayment upto DOCO/previous year	0.00	0.00
Net Loan-Opening	192.00	192.00
Additions during the year	0.00	0.00
Repayment during the year	0.00	0.00
Net Loan-Closing	192.00	192.00
Average Loan	192.00	192.00
Rate of Interest	8.84%	8.84%
Interest	16.97	16.97
Rep Schedule	12 Equal Annual Instalments from 21.10.2014	
Bond XXXV		
Gross loan opening	2588.40	2588.40
Cumulative Repayment upto DOCO/previous year	0.00	0.00
Net Loan-Opening	2588.40	2588.40



Additions during the year	0.00	0.00
Repayment during the year	0.00	0.00
Net Loan-Closing	2588.40	2588.40
Average Loan	2588.40	2588.40
Rate of Interest	9.640%	9.640%
Interest	249.52	249.52
Rep Schedule	12 Equal Annual Instalments from 31.5.2015	
Bond XXXVI		
Gross loan opening	369.82	1150.89
Cumulative Repayment upto DOCO/previous year	0.00	0.00
Net Loan-Opening	369.82	1150.89
Additions during the year	781.07	0.00
Repayment during the year	0.00	0.00
Net Loan-Closing	1150.89	1150.89
Average Loan	760.36	1150.89
Rate of Interest	9.35%	9.35%
Interest	71.09	107.61
SBI (21.03.2012) ADD CAP		
Gross loan opening	0.00	0.00
Cumulative Repayment upto DOCO/previous year	0.00	0.00
Net Loan-Opening	0.00	0.00
Additions during the year	0.00	93.15
Repayment during the year	0.00	0.00
Net Loan-Closing	0.00	93.15
Average Loan	0.00	46.58
Rate of Interest	10.290%	10.29%
Interest	0.00	4.79
Rep Schedule	Not available	
BOND XL ADD CAP		
Gross loan opening	0.00	638.75
Cumulative Repayment upto DOCO/previous year	0.00	0.00
Net Loan-Opening	0.00	638.75
Additions during the year	638.75	0.00
Repayment during the year	0.00	0.00
Net Loan-Closing	638.75	638.75
Average Loan	319.38	638.75
Rate of Interest	9.30%	9.30%
Interest	29.70	59.40
Rep Schedule	12 Equal Annual Instalments from 28.06.2016	
Bond- XLII ADD CAP		
Gross loan opening	0.00	560.00
Cumulative Repayment upto DOCO/previous year	0.00	0.00



Net Loan-Opening	0.00	560.00
Additions during the year	560.00	0.00
Repayment during the year	0.00	0.00
Net Loan-Closing	560.00	560.00
Average Loan	280.00	560.00
Rate of Interest	8.8%	8.8%
Interest	24.64	49.28
Rep Schedule	Redeemable at par on 13.03.2023	
Bond XLIII ADD CAP		
Gross loan opening	0.00	0.00
Cumulative Repayment upto DOCO/previous year	0.00	0.00
Net Loan-Opening	0.00	0.00
Additions during the year	0.00	154.81
Repayment during the year	0.00	0.00
Net Loan-Closing	0.00	154.81
Average Loan	0.00	77.41
Rate of Interest	7.93%	7.93%
Interest	0.00	6.14
Rep Schedule	12 annual instalments from 20.05.2017	
Total Loan		
Gross loan opening	3350.22	5330.04
Cumulative Repayment upto DOCO/previous year	0.00	0.00
Net Loan-Opening	3350.22	5330.04
Additions during the year	1979.82	247.96
Repayment during the year	0.00	8.33
Net Loan-Closing	5330.04	5569.67
Average Loan	4340.13	5449.85
Rate of Interest	9.4331%	9.3733%
Interest	409.41	510.83



Annexure-III

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN						
	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	Bond XXXIII					
	Gross loan opening	800.00	800.00	800.00	800.00	800.00
	Cumulative Repayment upto DOCO/previous year	0.00	66.67	133.34	200.01	266.68
	Net Loan-Opening	800.00	733.33	666.66	599.99	533.32
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	66.67	66.67	66.67	66.67	66.67
	Net Loan-Closing	733.33	666.66	599.99	533.32	466.65
	Average Loan	766.67	700.00	633.33	566.66	499.99
	Rate of Interest	8.64%	8.64%	8.64%	8.64%	8.64%
	Interest	66.24	60.48	54.72	48.96	43.20
	Rep Schedule	12 Equal Annual Instalments from 8.7.2014				
2	Bond XXXII					
	Gross loan opening	400.00	400.00	400.00	400.00	400.00
	Cumulative Repayment upto DOCO/previous year	33.33	66.66	99.99	133.32	166.65
	Net Loan-Opening	366.67	333.34	300.01	266.68	233.35
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	33.33	33.33	33.33	33.33	33.33
	Net Loan-Closing	333.34	300.01	266.68	233.35	200.02
	Average Loan	350.01	316.68	283.35	250.02	216.69
	Rate of Interest	8.84%	8.84%	8.84%	8.84%	8.84%
	Interest	30.94	27.99	25.05	22.10	19.15
	Rep Schedule	12 annual instalments from 29.3.2014				
3	Bond XXXIV					
	Gross loan opening	972.00	972.00	972.00	972.00	972.00
	Cumulative Repayment upto DOCO/previous year	0.00	81.00	162.00	243.00	324.00
	Net Loan-Opening	972.00	891.00	810.00	729.00	648.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00



	Repayment during the year	81.00	81.00	81.00	81.00	81.00
	Net Loan-Closing	891.00	810.00	729.00	648.00	567.00
	Average Loan	931.50	850.50	769.50	688.50	607.50
	Rate of Interest	8.84%	8.84%	8.84%	8.84%	8.84%
	Interest	82.34	75.18	68.02	60.86	53.70
	Rep Schedule	12 Equal Annual Instalments from 21.10.2014				
4	XXXVI					
	Gross loan opening	1150.89	1150.89	1150.89	1150.89	1150.89
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	76.73	153.46
	Net Loan-Opening	1150.89	1150.89	1150.89	1074.16	997.43
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	76.73	76.73	76.73
	Net Loan-Closing	1150.89	1150.89	1074.16	997.43	920.70
	Average Loan	1150.89	1150.89	1112.53	1035.80	959.07
	Rate of Interest	9.35%	9.35%	9.35%	9.35%	9.35%
	Interest	107.61	107.61	104.02	96.85	89.67
	Rep Schedule	12 Equal Annual Instalments from 29.08.2016				
5	Bond XXXV					
	Gross loan opening	6800.01	6800.01	6800.01	6800.01	6800.01
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	566.67	1133.34	1700.01
	Net Loan-Opening	6800.01	6800.01	6233.34	5666.67	5100.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	566.67	566.67	566.67	566.67
	Net Loan-Closing	6800.01	6233.34	5666.67	5100.00	4533.33
	Average Loan	6800.01	6516.68	5950.01	5383.34	4816.67
	Rate of Interest	9.64%	9.64%	9.64%	9.64%	9.64%
	Interest	655.52	628.21	573.58	518.95	464.33
	Rep Schedule	12 Equal Annual Instalments from 31.5.2015				
6	SBI (21.03.2012)					
	Gross loan opening	243.15	243.15	243.15	243.15	243.15
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	22.10	44.20
	Net Loan-Opening	243.15	243.15	243.15	221.05	198.95
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	22.10	22.10	22.10
	Net Loan-Closing	243.15	243.15	221.05	198.95	176.85
	Average Loan	243.15	243.15	232.10	210.00	187.90
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	24.92	24.92	23.79	21.53	19.26
	Rep Schedule					
7	BOND XL					
	Gross loan opening	1147.48	1147.48	1147.48	1147.48	1147.48
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	95.62	191.24
	Net Loan-Opening	1147.48	1147.48	1147.48	1051.86	956.24
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	95.62	95.62	95.62



	Net Loan-Closing	1147.48	1147.48	1051.86	956.24	860.62
	Average Loan	1147.48	1147.48	1099.67	1004.05	908.43
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	106.72	106.72	102.27	93.38	84.48
	Rep Schedule	12 Equal Annual Instalments from 28.06.2016				
8	Bond XLII					
	Gross loan opening	560.00	560.00	560.00	560.00	560.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	560.00	560.00	560.00	560.00	560.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	560.00	560.00	560.00	560.00	560.00
	Average Loan	560.00	560.00	560.00	560.00	560.00
	Rate of Interest	8.80%	8.80%	8.80%	8.80%	8.80%
	Interest	49.28	49.28	49.28	49.28	49.28
	Rep Schedule	Redeemable at par on 13.03.2023				
9	Bond XLIII					
	Gross loan opening	164.81	224.00	224.00	224.00	224.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	18.66
	Net Loan-Opening	164.81	224.00	224.00	224.00	205.34
	Additions during the year	59.19	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	18.66	18.66
	Net Loan-Closing	224.00	224.00	224.00	205.34	186.68
	Average Loan	194.41	224.00	224.00	214.67	196.01
	Rate of Interest	7.93%	7.93%	7.93%	7.93%	7.93%
	Interest	15.42	17.76	17.76	17.02	15.54
	Rep Schedule	12 annual instalments from 20.05.2017				
10	Bond XLV					
	Gross loan opening	0.00	26.47	42.69	42.69	42.69
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	3.56
	Net Loan-Opening	0.00	26.47	42.69	42.69	39.13
	Additions during the year	26.47	16.22	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	3.56	3.56
	Net Loan-Closing	26.47	42.69	42.69	39.13	35.57
	Average Loan	13.24	34.58	42.69	40.91	37.35
	Rate of Interest	9.65%	9.65%	9.65%	9.65%	9.65%
	Interest	1.28	3.34	4.12	3.95	3.60
	Rep Schedule	12 annual instalments from 28.02.2018				
11	Bond XLVI					
	Gross loan opening	0.00	80.00	80.00	80.00	80.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	80.00	80.00	80.00	80.00
	Additions during the year	80.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	80.00	80.00	80.00	80.00	80.00



	Average Loan	40.00	80.00	80.00	80.00	80.00
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	3.72	7.44	7.44	7.44	7.44
	Rep Schedule	12 annual instalments from 04.09.2019				
12	Bond XLIX					
	Gross loan opening	0.00	35.03	55.00	55.00	55.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	35.03	55.00	55.00	55.00
	Additions during the year	35.03	19.97	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	35.03	55.00	55.00	55.00	55.00
	Average Loan	17.52	45.02	55.00	55.00	55.00
	Rate of Interest	8.15%	8.15%	8.15%	8.15%	8.15%
	Interest	1.43	3.67	4.48	4.48	4.48
	Rep Schedule	3 equal instalments from 09.03.2020				
13	Bond LI ADD CAP					
	Gross loan opening	0.00	0.00	9.00	9.00	9.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.00	9.00	9.00	9.00
	Additions during the year	0.00	9.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	0.00	9.00	9.00	9.00	9.00
	Average Loan	0.00	4.50	9.00	9.00	9.00
	Rate of Interest	8.40%	8.40%	8.40%	8.40%	8.40%
	Interest	0.00	0.38	0.76	0.76	0.76
	Rep Schedule	redeemable in 12 equal instalments w.e.f. 14.09.2019				
	Total Loan					
	Gross loan opening	12238.34	12439.03	12484.22	12484.22	12484.22
	Cumulative Repayment upto DOCO/previous year	33.33	214.33	962.00	1904.12	2868.46
	Net Loan-Opening	12205.01	12224.70	11522.22	10580.10	9615.76
	Additions during the year	200.69	45.19	0.00	0.00	0.00
	Repayment during the year	181.00	747.67	942.12	964.34	964.34
	Net Loan-Closing	12224.70	11522.22	10580.10	9615.76	8651.42
	Average Loan	12214.86	11873.46	11051.16	10097.93	9133.59
	Rate of Interest	9.3772%	9.3737%	9.3682%	9.3639%	9.3600%
	Interest	1145.41	1112.98	1035.29	945.56	854.91

