

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 110/TT/2012

Coram:

**Shri V.S. Verma, Member
Shri M. Deena Dayalan, Member**

**Date of Hearing: 13.08.2013
Date of Order : 31.01.2014**

In the matter of:

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Central Electricity Regulatory Commission (Terms & Conditions of tariff) Regulations, 2009 for determination of transmission tariff for (i) LILO of both Circuits of Udumalpet-Madakathara (North Trichur) 400 kV D/C Line at Chulliar (Palakkad) 400 kV Sub-station (new) and 1X63 MVAR Bus Reactors alongwith associated bays, and (ii) 2X315 MVA 400/220 kV ICTs at Chulliar (Palakkad) S/S alongwith associated Bays and 220 KV downstream system under System Strengthening-XI in Southern Regional Grid.

And In the matter of:

Power Grid Corporation of India Limited
Soudamini, Plot No 2, Sector 29
Gurgaon – 122001.

...Petitioner

Vs

1. Karnataka Power Transmission Corporation Ltd. (KPTCL),
Kaveri Bhawan, Bangalore-560 009.
2. Transmission Corporation of Andhra Pradesh Ltd. (APTRANCO),
Vidyut Soudha,
Hyderabad-500 082.
3. Kerala State Electricity Board (KSEB),
Vaidyuthi Bhavanam,



Pattom, Thiruvananthapuram-695 004.

4. Tamil Nadu Generation and Distribution Corporation Ltd.
NPKRR Maaligai, 800, Anna Salai,
Chennai-600 002.
5. Electricity Department, Government of Goa,
Vidyut Bhawan, Panaji,
Near Mandvi Hotel, Goa-403 001.
6. Electricity Department, Government of Pondicherry,
Pondicherry-605 001.
7. Eastern Power Distribution Company of Andhra Pradesh Ltd. (APEPDCL),
APEPDCL, P&T Colony,
Seethmmadhara, Vishakhapatnam,
Andhra Pradesh.
8. Southern Power Distribution Company of Andhra Pradesh Ltd.
(APSPDCL),
Srinivasasa Kalyana Mandapam Backside,
Tiruchanoor Road, Kesavayana Gunta,
Tirupati-517 501.
9. Central Power Distribution Company of Andhra Pradesh Ltd. (APCPDCL),
Corporate Office, Mint Compound,
Hyderabad-500 063.
10. Northern Power Distribution Company of Andhra Pradesh Ltd.
(APNPDCL),
Opp. NIT Petrol Pump,
Chaitanyapuri, Kazipet,
Warangal-506 004.
11. Bangalore Electricity Supply Company Ltd. (BESCOM),
Corporate Office, K. R. Circle,
Bangalore-560 001.
12. Gulbarga Electricity Supply Company Ltd. (GESCOM),
Station Main Road, Gulbarga.
Karnataka.
13. Hubli Electricity Supply Company Ltd. (HESCOM),
Navanagar, PB Road,
Hubli, Karnataka.



14. MESCOM Corporate Office,
Paradigm Plaza, AB Shetty Circle,
Mangalore-575 001.

15. Chamundeswari Electricity Supply Corporation Ltd. (CESC),
927, L J Avenue, Ground Floor,
New Kantharaj Urs Road,
Saraswatipuram, Mysore-570 009.

.....Respondents

For petitioner : Shri Prashant Sharma, PGCIL
Shri M M Mondal, PGCIL
Shri S. S. Raju, PGCIL
Ms. Sangeeta Edwards, PGCIL
Shri D. Nikaandia, PGCIL

For respondents : None

ORDER

This petition has been filed seeking determination of transmission tariff in respect of (i) LILO of both Circuits of Udumalpet- Madakathara (North Trichur) 400 kV D/C Line at Chulliar (Palakkad) 400 kV Sub-station (new) and 1X63 MVAR Bus Reactors alongwith associated bays, and (ii) 2X315 MVA 400/220 kV ICTs at Chulliar (Palakkad) Sub-station alongwith associated Bays and 220 KV downstream system under System Strengthening-XI in Sothern Regional Grid (collectively referred to hereinafter as “the transmission assets”) from the respective dates of commercial operation to 31.3.2014 based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, (hereinafter referred to as “the 2009 Tariff Regulations”).



2. Investment approval for the project was accorded by Board of Director of POWERGRID vide letter dated 16.3.2009 at an estimated cost of ₹19610 lakh including IDC of ₹1233 lakh.

3. Details of the broad scope of work under Western Region are as follows:-

Transmission Lines:

(i) LILO of both Circuits of Udumalpet- Madakathara (North Trichur) 400 kV D/C Line at Chulliar (Palakkad) 400 kV Sub-station.

Sub-stations:

(i) Establishment of new 400/220 kV Sub-station at Chulliar (Palakkad) with 2X315 MVA transformers.

(ii) 1X 63 MVAR bus reactor at new 400/220 kV Chulliar Sub-station

4. Initially the petitioner had claimed transmission tariff in respect of the above mentioned two assets with effect from their anticipated dates of commercial operation. Subsequently, the petitioner has intimated vide email dated 5.8.2013 that the said assets were commissioned in five parts. Further, petitioner vide affidavit dated 8.8.2013 submitted the actual dates of commercial operations, tariff forms and management certificates for all the assets separately. Details of the assets along with their actual dates of commissioning are as under:-

Asset	Actual date of commercial operation
(i) LILO of Circuit-II of Udumalpet- Madakathara (North Trichur) 400 kV D/C Line at Palakkad. (hereinafter referred to as Asset-1)	1.3.2012
(ii) LILO of Circuit-I of Udumalpet- Madakathara (North Trichur) 400 kV D/C Line at Palakkad. (hereinafter referred to as Asset-2)	1.9.2012
(iii) 63 MVAR Bus Reactors at Palakkad. (hereinafter referred to as Asset-3)	1.6.2012
(iv) 1X315 MVA 400/220 kV ICTs at Chulliar (Palakkad). (hereinafter referred to as Asset-4)	1.3.2012
(v) 1X315 MVA 400/220 kV ICTs at Chulliar (Palakkad). (hereinafter referred to as Asset-5)	1.4.2012

5. The details of capital cost as on the respective actual dates of commercial operation and estimated additional capital expenditure projected to be incurred, based on the audited statement of accounts up to 31.3.2013, submitted by the petitioner vide affidavit dated 8.8.2013 are summarized below:-

(₹ in lakh)

Assets	Approved cost as per Form-6 submitted vide affidavit dated 8.8.2013	Capital cost as on actual date of commercial operation*	Expenditure for 2011-2012	Expenditure for 2012-2013	Projected expenditure for 2013-2014	Total estimated completion capital cost
Asset-1	7886.00	5714.83	175.16	827.51	386.59	7104.09
Asset-2	4858.00	3747.90	-	815.10	284.00	4847.00
Asset-3	1283.00	793.11	-	139.59	269.85	1202.55
Asset-4	2993.00	2021.01	8.19	281.96	75.84	2387.00
Asset-5	2590.00	1873.92#	-	97.44	194.91	2166.27
Total	19610.00	14150.77	183.35	2161.60	1211.19	17706.91

#No initial spares have been claimed.

*Capital cost as on actual dates of commercial operation is inclusive of initial spares.



6. Details of the transmission charges claimed by the petitioner are as under:-

(₹ in lakh)

	Asset 1		
	2011-12 (Pro-rata)	2012-13	2013-14
Depreciation	23.38	301.80	326.86
Interest on Loan	30.61	386.80	397.39
Return on equity	25.36	330.59	362.42
Interest on Working Capital	2.12	27.17	28.90
O & M Expenses	11.19	142.02	150.13
Total	92.66	1188.38	1265.70

(₹ in lakh)

	Asset 2		Asset 3	
	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Depreciation	128.23	248.67	36.88	54.59
Interest on Loan	150.07	272.22	44.60	62.56
Return on equity	127.12	246.74	37.71	55.99
Interest on Working Capital	13.99	26.11	5.59	7.60
O & M Expenses	84.35	152.85	51.60	65.46
Total	503.76	946.59	176.38	246.20

(₹ in lakh)

	Asset 4			Asset 5	
	2011-12 (Pro-rata)	2012-13	2013-14	2012-13	2013-14
Depreciation	8.91	114.41	123.54	101.52	109.23
Interest on Loan	10.51	130.57	131.42	116.58	116.60
Return on equity	8.85	113.81	123.19	100.83	108.50
Interest on Working Capital	1.29	16.37	17.28	17.95	18.91
O & M Expenses	15.13	191.94	202.92	191.94	202.92
Total	44.69	567.10	598.35	528.82	556.16

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

(₹ in lakh)

	Asset 1		
	2011-12 (Pro-rata)	2012-13	2013-14
Maintenance Spares	20.14	21.30	22.52
O & M expenses	11.19	11.84	12.51
Receivables	185.32	198.06	210.95
Total	216.65	231.20	245.98
Interest	2.12	27.17	28.90
Rate of Interest	11.75%	11.75%	11.75%

(₹ in lakh)

	Asset 2		Asset 3	
	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Maintenance Spares	21.69	22.93	9.29	9.82
O & M expenses	12.05	12.74	5.16	5.46
Receivables	143.93	157.77	35.28	41.03
Total	177.67	193.44	49.73	56.31
Interest	13.99	26.11	5.59	7.60
Rate of Interest	13.50%	13.50%	13.50%	13.50%

(₹ in lakh)

	Asset 4			Asset 5	
	2011-12 (Pro-rata)	2012-13	2013-14	2012-13	2013-14
Maintenance Spares	27.23	28.79	30.44	28.79	30.44
O & M expenses	15.13	16.00	16.91	16.00	16.91
Receivables	89.38	94.52	99.73	88.14	92.69
Total	131.74	139.31	147.08	132.93	140.04
Interest	1.29	16.37	17.28	17.95	18.91
Rate of Interest	11.75%	11.75%	11.75%	13.50%	13.50%

8. 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 None of the respondents has filed reply to the petition.

9. Having heard the representatives of the parties and perused the material on records, we proceed to dispose of the petition.



Capital cost

10. As regards the capital cost, Regulation 7 (1) of the 2009 Tariff Regulations provides as under:-

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

- (a) The expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan – (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the fund deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check.
- (b) capitalised initial spares subject to the ceiling rates specified in regulation 8; and
- (c) additional capital expenditure determined under regulation 9:

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

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

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

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

Time over-run

11. As per investment approval dated 16.3.2009, the assets were scheduled to be commissioned within 28 months from the date of investment

approval. Accordingly, schedule date of commercial operation works out to be August, 2011. Thus, there was a delay of 7 to 13 months in commissioning the Assets.

12. The petitioner vide affidavit dated 4.10.2013 has submitted reasons for delay as follows:

(a) Delay due to Land Acquisition:

The land acquisition process for the Palakkad Sub-station was delayed mainly due to settlement of compensation to the land owners through negotiation process as per the advice of Kerala Government. After resolving the same, the land was handed over to executing agency in phased manner and the agency commenced the work from February, 2010. As per L2 network the land was to be handed over to the contractor progressively from July to August, 2009 and the Sub-station is to be completed by August, 2011 (24 months from handing over of the land). In actual the land was handed over to the contractor progressively from August, 2010 to October, 2010. Thus there was a delay of around 12 months on account of land acquisition which is beyond the control of the petitioner.

(b) Reasons for delay in Commissioning ICT-II, 63 MVAR Bus Reactor with respect to LILO pf clt – II and ICT – I at Palakad Sub-station

- i. Normally, production cycle of the manufacturer works are based on their capacity. Their dispatch cycle depends on their production and at times it would not be possible for them to supply both the ICTs for a station simultaneously due to various factors.
- ii. Besides, the commissioning of ICTs at site is done on different dates as the commissioning activities require special Tools & Plants (T&P) and expert from manufacturer. Normally at a site one set of T&P and team of testing specialists is available. As deployment of two simultaneous gangs and expert from manufacturer would require additional cost, commissioning of ICTs is done one after other.
- iii. Further the transformer is tested at site and at times during testing some of the parameters do not meet the specified technical requirements to set right which may require rectification for one ICT whereas in other it may not be required.

(c) Delay due to RoW issues (Court Cases):

In this connection it has been submitted that the construction LILO of Circuit-I line has also encountered serious ROW issues/court cases during construction. After resolving the same the last case was disposed of by District Magistrate Palakkad 31.7.2012 and immediately thereafter, the pending foundation, tower erection and stringing works

were completed on war footing and the second LILO line along with associated bays at Palakkad sub-station were commissioned and declared under commercial operation with effect from 1.9.2012.

13. The petitioner's submission at sub-para (a) above is applicable for all assets. The petitioner has also placed on record, the details of correspondence and proceedings of District Collector Palakkad/Kerala government vide affidavit dated 14.2.2012. Further, the issue of ROW problem encountered during construction of LILO of Circuit –I was explained during the hearing held on 13.8.2013.

14. It is noted that date of commercial operation of Asset-1 is 1.3.2012. As the land was handed over to executing agency in phased manner and the agency is stated to have commenced the work from February, 2010 and 24 months time was planned for completion of sub-station from the date of land acquisition, delay up to February, 2012, i.e. 1.3.2012 appears justified in respect of all assets. Commissioning of Asset-1 on 1.3.2012 also signifies that the land was available and since other assets were being commissioned at Palakkad, the delay in commissioning of other assets needs to be examined from 1.3.2012. Sub-para (b) is applicable for Asset-4 and Asset-5 and sub-para (c) above is applicable for Asset-2, (LILO of Circuit –I of the line) which has been commissioned on 1st September, 2012. The petitioner has submitted that LILO of circuit-I also encountered serious ROW issues / court cases. The pending foundation / tower erection and stringing works were completed after



disposal of last case by the District Magistrate, Palakkad on 31.7.2012 and the asset was commissioned on 1.9.2012. Thus there is justification for the delay in commissioning of Asset –2 as well. Petitioner's submission dated 4.10.2013, applies to delay in commissioning of ICTs (Asset-4 and 5). However, no specific reason has been given for the delay in commissioning of Asset-3 (63 MVAR Reactor), delay of 3 months (March-May, 2012). There is no justification for the delay in its commissioning. There is no delay in commissioning of Asset-4 with reference to 1.3.2012. Further 1 month delay in commissioning of Asset-5 with reference to 1.3.2012 has been explained by the petitioner in sub-para (b) above. We are satisfied with the reasons submitted by the petitioner that simultaneous commissioning, by mobilizing extra manpower and other resources, of two ICTs would have escalated the cost and would have been counterproductive. We therefore condone the, delay in the case of Assets 4 and 5.

15. Based on the above, the position regarding the condoned and disallowed periods of time over-run are as under:-

Assets	Actual date of commercial operation	Delay given as in petition	Delay Condoned	Delayed Period Disallowed
Asset-1	1.3.2012	7 Months	7 months	-
Asset-2	1.9.2012	13 Months	13 months	-
Asset-3	1.6.2012	10 Months	7 months	3 Months
Asset-4	1.3.2012	7 Months	7 months	-
Asset-5	1.4.2012	8 Months	8 months	-

Treatment of IDC and IEDC

16. In view of the time over-run in respect of Asset-3, Details of disallowed IDC and IEDC for Asset-3 has been given hereunder:-

(₹ in lakh)		
As per Management Certificate submitted vide affidavit dated 8.8.2013		
	IDC	IEDC
Expenditure Up to 31.03.2012	19.39	16.60
Expenditure from 01.04.2012-31.05.2012	20.52	40.14
Total IDC and IEDC Claimed	39.91	56.74
Details of IDC & IEDC Disallowed for 3 months		
Disallowed IDC and IEDC for 2 months (i.e. April 2012 & May 2012)	20.52	40.14
Disallowed IDC and IEDC for 1 month (Pro-rata)	0.54	0.46
Total	21.06	40.60

Treatment of Initial Spares

17. All the assets of the project have been commissioned and tariff for all the assets have been claimed in the current petition. Petitioner has claimed initial spares pertaining to Sub-station for all the assets except for Asset-5. Initial Spares for transmission lines have not been claimed. Spares pertaining to sub-station in Asset-1 and Asset-2 exceed the ceiling limit prescribed in Regulation 8 of the 2009 Tariff Regulations. Therefore, initial spares have been worked out considering the capital cost for the entire project up to cut off date. The excess initial spares have been reduced proportionately from the cost of Sub-stations of all the assets except Asset-5.

18. Initial spares will be reviewed on submission of actual capital cost incurred up to cut off date at the time of truing up.

19. Details regarding deduction towards excess initial spares has been given hereunder:-

(₹ in lakh)

Asset	Cost as on cutoff date	Capital cost as on cutoff date after deducting IDC & IEDC	Initial spares claimed	Proportion ate initial spares claimed	Ceiling limits as per clause 8 Regulation 2009	Excess spares worked out and reduced proportio nately	Excess initial spares claimed
Asset-1	3444.02	-	138.90	-	2.50%	104.09	34.81
Asset-2	982.28	-	135.17	-	2.50%	101.29	33.88
Asset-3	1202.55	1140.89	1.38	1.31	2.50%	0.98	0.33
Asset-4	2387.00	-	59.46	-	2.50%	44.56	14.90
Asset-5	2166.27	-	0.00	-	2.50%	0.00	0.00
Total	10182.12		334.91			250.91*	83.93

*Initial spares amounting to ₹250.91 lakh has been worked out considering the capital cost as on cut-off date for entire project as per ceiling limits specified in 2009 Tariff Regulations. The amount of spares worked out i.e. ₹250.91 lakh has been divided in all the assets in proportion to spares claimed.

20. Capital Cost considered for the purpose of tariff calculation after making necessary modification on account of time overrun and initial spares for all the assets are shown are as under :-

(₹ in lakh)

Assets	Capital cost as claimed by the petitioner	IDC and IEDC deducted	Initial spares deducted	Capital cost considered as for tariff calculation as on DOCO (s)
Asset -1	5714.83	-	34.81	5680.02
Asset -2	3747.90	-	33.88	3714.02
Asset-3	793.11	61.66	0.33	731.12
Asset-4	2021.01	-	14.90	2006.11
Asset-5	1873.92	-	-	1873.92

Projected Additional Capital Expenditure

21. With regard to additional capital expenditure, regulation 9(1) of the 2009 Tariff Regulations provides as under:-

“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
- (v) Change in Law.”

22. The 2009 Tariff Regulations further define cut-off date as-

“cut-off date means 31st March of the year closing after 2 years of the year of commercial operation of the project, and incase the project is declared under commercial operation in the last quarter of the year, the cut-off date shall be 31st March of the year closing after 3 years of the year of commercial operation”.

23. Based on the above, cut-off date for the above mentioned assets is 31.3.2015.

24. Petitioner has claimed actual additional capital expenditure for the year 2011-12 and 2012-2013 and projected additional capital expenditure for the year 2013-14 as per the details given overleaf:-

(₹ in lakh)

Assets	Expenditure for 2011-2012	Expenditure for 2012-2013	Projected Expenditure for 2013-2014
Asset-1	175.16	827.51	386.59
Asset-2	-	815.10	284.00
Asset-3	-	139.59	269.85
Asset-4	8.19	281.96	75.84
Asset-5	-	97.44	194.91
Total	183.35	2161.60	1211.19

25. The additional capital expenditure claimed falls within the Cut-off date.

Hence, it has been considered for the purpose of tariff calculation.

Debt- equity ratio

26. Regulation 12 of the 2009 Tariff Regulations provides 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:

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.

Explanation.- The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.

(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.”

27. The detail of Debt-Equity as on dates of commercial operation/Notional dates of commercial operation of assets are as follows:-

(₹ in lakh)		
Capital Cost as on date of commercial operation		
Particulars	Amount	%
Asset-1		
Debt	3976.01	70.00
Equity	1704.00	30.00
Total	5680.02	100.00
Asset-2		
Debt	2599.81	70.00
Equity	1114.21	30.00
Total	3714.02	100.00
Asset – 3		
Debt	511.79	70.00
Equity	219.34	30.00
Total	731.12	100.00
Asset – 4		
Debt	1404.27	70.00
Equity	601.83	30.00
Total	2006.11	100.00
Asset – 5		
Debt	1311.74	70.00
Equity	562.18	30.00
Total	1873.92	100.00

28. Details of Debt – Equity as on 31.3.2014 are as given hereunder:-

(₹ in lakh)		
Capital Cost as on 31.3.2014		
Particulars	Amount	%
Asset-1		
Debt	4948.49	70.00
Equity	2120.78	30.00
Total	7069.28	100.00

Asset-2		
Debt	3369.18	70.00
Equity	1443.94	30.00
Total	4813.12	100.00
Asset – 3		
Debt	798.62	70.00
Equity	342.27	30.00
Total	1140.89	100.00
Asset – 4		
Debt	1670.90	70.00
Equity	716.10	30.00
Total	2387.00	100.00
Asset – 5		
Debt	1516.39	70.00
Equity	649.88	30.00
Total	2166.27	100.00

Return on Equity

29. Regulation 15 of the 2009 Tariff Regulations as amended vide provides that,-

“15. (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 12.

(2) Return on equity shall be computed on pre-tax basis at the base rate of 15.5% to be grossed up as per clause (3) of this regulation:

Provided that in case of projects commissioned on or after 1st April, 2009, an additional return of 0.5% shall be allowed if such projects are completed within the timeline specified in **Appendix-II**:

Provided further that the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever.

(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 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 trued up in accordance with Regulation 6 of these regulations.”

30. Return on Equity has been computed @ 17.481% p.a on average equity.

31. Based on the above, the return on equity has been allowed in respect of the transmission assets involved in this petition are given hereunder:-

(₹ in lakh)

	Asset 1		
	2011-12 (Pro-rata)	2012-13	2013-14
Opening Equity	1704.00	1756.55	2004.81
Addition due to Additional Capitalisation	52.55	248.25	115.98
Closing Equity	1756.55	2004.81	2120.78
Average Equity	1730.28	1880.68	2062.79
Return on Equity (Base Rate)	15.50%	15.50%	15.50%
Tax rate for the year 2008-09	11.33%	11.33%	11.33%
Rate of Return on Equity (Pre Tax)	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)	25.21	328.76	360.60

(₹ in lakh)



	Asset 2		Asset 3	
	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Opening Equity	1114.21	1358.74	219.34	261.21
Addition due to Additional Capitalisation	244.53	85.20	41.88	80.96
Closing Equity	1358.74	1443.94	261.21	342.17
Average Equity	1236.47	1401.34	240.28	301.69
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09	11.33%	11.33%	11.33%	11.33%
Rate of Return on Equity (Pre Tax)	17.481%	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)	126.09	244.97	35.00	52.74

(₹ in lakh)

	Asset 4			Asset 5	
	2011-12 (Pro-rata)	2012-13	2013-14	2012-13	2013-14
Opening Equity	601.83	604.29	688.88	562.18	591.41
Addition due to Additional Capitalisation	2.46	84.59	22.75	29.23	58.47
Closing Equity	604.29	688.88	711.63	591.41	649.88
Average Equity	603.26	646.58	700.25	576.79	620.64
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09	11.33%	11.33%	11.33%	11.33%	11.33%
Rate of Return on Equity (Pre-tax)	17.481%	17.481%	17.481%	17.481%	17.481%
Return on Equity (Pre-tax)	8.79	113.03	122.41	100.83	108.49

Interest on loan

32. Regulation 16 of the 2009 Tariff Regulations provides that, -

“16. (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.”

33. In these calculations, interest on loan has been computed on the following basis:-

(a) Gross amount of loan, repayment of instalments and rate of interest and weighted average rate of interest on actual average loan have been considered as per the petition.

(b) The repayment for the tariff period 2009-14 shall be deemed to be equal to the depreciation allowed for that period.

(c) Weighted average rate of interest on actual average loan worked out as per (a) above is applied on the notional average loan during the year to arrive at the interest on loan.

34. Detailed calculations in support of the weighted average rate of Interest have been given in Annexure 1 to 5.

35. Based on the above, interests on loan has been calculated as under:-

(₹ in lakh)

	Asset 1		
	2011-12 (Pro-rata)	2012-13	2013-14
Gross Normative Loan	3976.01	4098.62	4677.88
Cumulative Repayment upto Previous Year	0.00	23.23	323.19
Net Loan-Opening	3976.01	4075.40	4354.69
Addition due to Additional Capitalisation	122.61	579.26	270.61
Repayment during the year	23.23	299.96	325.02
Net Loan-Closing	4075.40	4354.69	4300.28
Average Loan	4025.70	4215.04	4327.48
Weighted Average Rate of Interest on Loan	9.0688%	9.1262%	9.1377%
Interest	30.42	384.67	395.43

(₹ in lakh)

	Asset 2		Asset 3	
	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Gross Normative Loan	2599.81	3170.38	511.79	609.50
Cumulative Repayment upto Previous Year	0.00	127.18	0.00	34.21
Net Loan-Opening	2599.81	3043.20	511.79	575.29
Addition due to Additional Capitalisation	570.57	198.80	97.71	188.90
Repayment during the year	127.18	246.88	34.21	51.39
Net Loan-Closing	3043.20	2995.12	575.29	712.80
Average Loan	2821.51	3019.16	543.54	644.04
Weighted Average Rate of Interest on Loan	9.0435%	8.9517%	9.1384%	9.1572%
Interest	148.85	270.27	41.39	58.98

(₹ in lakh)

	Asset 4			Asset 5	
	2011-12 (Pro-rata)	2012-13	2013-14	2012-13	2013-14
Gross Normative Loan	1404.27	1410.01	1607.38	1311.74	1379.95
Cumulative Repayment upto Previous Year	0.00	8.84	122.47	0.00	101.52
Net Loan-Opening	1404.27	1401.16	1484.91	1311.74	1278.44
Addition due to Additional Capitalisation	5.73	197.37	53.09	68.21	136.44
Repayment during the year	8.84	113.63	122.76	101.52	109.23
Net Loan-Closing	1401.16	1484.91	1415.24	1278.44	1305.64
Average Loan	1402.72	1443.04	1450.08	1295.09	1292.04
Weighted Average Rate of Interest on Loan	8.9237%	8.9861%	9.0059%	9.0021%	9.0249%
Interest	10.43	129.67	130.59	116.58	116.60

Depreciation

36. Regulation 17 of the 2009 Tariff Regulations provides for computation of depreciation in the following manner, namely:

“17. (1) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.

(2) 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.

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xxxx

(3) 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.

(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.



(5) In case of the existing projects, the balance depreciable value as on 1.4.2009 shall be worked out by deducting the cumulative depreciation as admitted by the Commission up to 31.3.2009 from the gross depreciable value of the assets.

(6) 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.”

37. The transmission Assets were commissioned during 2011-2012 and 2012-2013. Accordingly these will complete 12 years beyond 2013-14. Therefore, depreciation has been calculated annually based on Straight Line Method and at rates specified in Appendix-III.

38. Details of the depreciation worked out are as given under: -

(₹ in lakh)

	Asset 1		
	2011-12 (Pro-rata)	2012-13	2013-14
Opening Gross Block	5680.02	5855.18	6682.69
Addition during 2009-14 due to Projected Additional Capitalisation	175.16	827.51	386.59
Gross Block	5855.18	6682.69	7069.28
Average Gross Block	5767.60	6268.93	6875.98
Rate of Depreciation	4.8326%	4.7849%	4.7269%
Depreciable Value	4848.91	5300.11	5846.45
Remaining Depreciable Value	4848.91	5276.88	5523.26
Depreciation	23.23	299.96	325.02

(₹ in lakh)

	Asset 2		Asset 3	
	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Opening Gross Block	3714.02	4529.12	731.12	870.71
Addition during 2009-14 due to Projected Additional Capitalisation	815.10	284.00	139.59	269.85
Gross Block	4529.12	4813.12	870.71	1140.56
Average Gross Block	4121.57	4671.12	800.92	1005.64
Rate of Depreciation	5.2899%	5.2853%	5.1254%	5.1100%
Depreciable Value	3709.41	4204.01	720.83	905.07
Remaining Depreciable Value	3709.41	4076.83	720.83	870.86
Depreciation	127.18	246.88	34.21	51.39

(₹ in lakh)

	Asset 4			Asset 5	
	2011-12 (Pro-rata)	2012-13	2013-14	2012-13	2013-14
Opening Gross Block	601.83	604.29	688.88	1873.92	1971.36
Addition during 2009-14 due to Projected Additional Capitalisation	2.46	84.59	22.75	97.44	194.91
Gross Block	604.29	688.88	711.63	1971.36	2166.27
Average Gross Block	603.06	646.58	700.25	1922.64	2068.82
Rate of Depreciation	15.50%	15.50%	15.50%	5.2800%	5.2800%
Depreciable Value	11.33%	11.33%	11.33%	1730.38	1861.93
Remaining Depreciable Value	17.481%	17.481%	17.481%	1730.38	1760.42
Depreciation	8.79	113.03	122.41	101.52	109.23

Operation & maintenance expenses

39. Clause (g) of regulation 19 of the 2009 Tariff Regulations prescribes the norms for operation and maintenance expenses based on the type of sub-station and line.

40. The following O&M expenses have been allowed in respect of the transmission assets covered in the petition:-

Asset	(₹ in lakh)		
	2011-12 (Pro-rata)	2012-13 (Pro-rata)	2013-14
Asset-I	11.195	142.017	150.127
Asset-II	00.000	82.843	150.127
Asset-III	00.000	51.600	65.460
Asset-IV	15.131	191.940	202.920
Asset-V	00.000	191.940	202.920
TOTAL	26.326	660.340	771.554

Interest on working capital

41. As per the 2009 Tariff Regulations the components of the working capital and the interest thereon are discussed overleaf:-

(i) Receivables

As per Regulation 18(1) (c) (i) of the 2009 Tariff Regulations, receivables will be equivalent to two months' of fixed cost. The petitioner has claimed the receivables on the basis of 2 months' of annual transmission charges claimed in the petition. In the tariff being allowed, receivables have been worked out on the basis of 2 months' transmission charges.

(ii) Maintenance spares

As the petitioner has not claimed any O&M charges, maintenance spares is not being provided. The value of maintenance spares has accordingly been kept NIL.

(iii) O & M expenses

Regulation 18(1) (c) (iii) of the 2009 Tariff Regulations provides for operation and maintenance expenses for one month as a component of working capital. The petitioner has claimed O&M expenses for 1 month of the respective year as claimed in the petition. This has been considered in the working capital.

(iv) Rate of interest on working capital

As per Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2011 dated 21.06.2011, for Asset-1 and Asset-4 SBI Base Rate (8.25%) Plus 350Bps i.e. 11.75% has been considered and for Asset- 2, Asset-3 and

Asset-5 SBI Base Rate (10.00%) Plus 350Bps i.e. 13.50% has been considered as the rate of interest on working capital.

42. Necessary computations in support of interest on working capital has been given hereunder:-

(₹ in lakh)

	Asset 1		
	2011-12 (Pro-rata)	2012-13	2013-14
Maintenance Spares	20.15	21.30	22.52
O & M expenses	11.20	11.83	12.51
Receivables	184.33	197.08	209.99
Total	215.67	230.22	245.02
Rate of Interest	11.75%	11.75%	11.75%
Interest	2.11	27.05	28.79

(₹ in lakh)

	Asset 2		Asset 3	
	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Maintenance Spares	21.30	22.52	9.29	9.82
O & M expenses	11.83	12.51	5.16	5.46
Receivables	142.51	156.35	33.52	39.32
Total	175.65	191.38	47.97	54.60
Rate of Interest	13.50%	13.50%	13.50%	13.50%
Interest	13.83	25.84	5.40	7.37

(₹ in lakh)

	Asset 4			Asset 5	
	2011-12 (Pro-rata)	2012-13	2013-14	2012-13	2013-14
Maintenance Spares	27.24	28.79	30.44	28.79	30.44
O & M expenses	15.13	16.00	16.91	16.00	16.91
Receivables	88.96	94.10	99.32	88.14	92.69
Total	131.32	138.88	146.67	132.92	140.04
Rate of Interest	11.75%	11.75%	11.75%	13.50%	13.50%
Interest	1.29	16.32	17.23	17.94	18.91

Transmission charges

43. The transmission charges being allowed for the transmission assets are as given hereunder:-

(₹ in lakh)

	Asset 1		
	2011-12 (Pro-rata)	2012-13	2013-14
Depreciation	23.23	299.96	325.02
Interest on Loan	30.42	384.67	395.43
Return on equity	25.21	328.76	360.60
Interest on Working Capital	2.11	27.05	28.79
O & M Expenses	11.20	142.02	150.13
Total	92.16	1182.47	1259.97

(₹ in lakh)

	Asset 2		Asset 3	
	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Depreciation	127.18	246.88	34.21	51.39
Interest on Loan	148.85	270.27	41.39	58.98
Return on equity	126.09	244.97	35.00	52.74
Interest on Working Capital	13.83	25.84	5.40	7.37
O & M Expenses	82.84	150.13	51.60	65.46
Total	498.79	938.08	167.60	235.93

(₹ in lakh)

	Asset 4			Asset 5	
	2011-12 (Pro-rata)	2012-13	2013-14	2012-13	2013-14
Depreciation	8.84	113.63	122.76	101.52	109.23
Interest on Loan	10.43	129.67	130.59	116.58	116.60
Return on equity	8.79	113.03	122.41	100.83	108.49
Interest on Working Capital	1.29	16.32	17.23	17.94	18.91
O & M Expenses	15.13	191.94	202.92	191.94	202.92
Total	44.48	564.59	595.91	528.81	556.16

Filing fee and the publication expenses

44. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. In accordance with the Commission's order dated 11.1.2010 in Petition No. 109/2009, the petitioner shall be entitled to recover the filing fee directly from the beneficiaries on *pro-rata* basis. The petitioner shall also be entitled for reimbursement of the publication expenses in connection with the present petition, directly from the beneficiaries on *pro-rata* basis.

Licence fee

45. The petitioner has submitted that in O&M norms for tariff block 2009-14 the cost associated with license fees had not been captured and the license fee may be allowed to be recovered separately from the respondents.

46. The petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 42 A (1) (b) of the 2009 Tariff Regulations

Service tax

47. The petitioner has made a prayer to be allowed to bill and recover the service tax on transmission charges separately from the respondents, if it is subjected to such service tax in future. We consider petitioner's prayer premature and accordingly this prayer is rejected.

Sharing of Transmission Charges

48. 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.

49. This order disposes of Petition No. 110/TT/2012.

sd/-

(M. Deena Dayalan)
Member

sd/-

(V. S. Verma)
Member



Annexure 1

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN				
	Details of Loan	2011-2012	2012-2013	2013-14
1	Bond XXXVIII			
	Gross loan opening	0.00	2055.99	2055.99
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	2055.99	2055.99
	Additions during the year	2055.99	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	2055.99	2055.99	2055.99
	Average Loan	1028.00	2055.99	2055.99
	Rate of Interest	9.25%	9.25%	9.25%
	Interest	95.09	190.18	190.18
	Rep Schedule	Payment as on 09.03.2027		
2	Bond XXXI			
	Gross loan opening	370.00	370.00	370.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	370.00	370.00	370.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	30.83
	Net Loan-Closing	370.00	370.00	339.17
	Average Loan	370.00	370.00	354.58
	Rate of Interest	8.90%	8.90%	8.90%
	Interest	32.93	32.93	31.56
	Rep Schedule	12 annual installments from 25.02.2014		
3	Bond XXXVII			
	Gross loan opening	160.00	160.00	160.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	160.00	160.00	160.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	160.00	160.00	160.00
	Average Loan	160.00	160.00	160.00
	Rate of Interest	9.25%	9.25%	9.25%
	Interest	14.80	14.80	14.80
	Rep Schedule	12 annual installments from 26.12.2015		
4	Bond XXXVI			
	Gross loan opening	340.00	340.00	340.00
	Cumulative Repayment upto	0.00	0.00	0.00

	DOCO/previous year			
	Net Loan-Opening	340.00	340.00	340.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	340.00	340.00	340.00
	Average Loan	340.00	340.00	340.00
	Rate of Interest	9.35%	9.35%	9.35%
	Interest	31.79	31.79	31.79
	Rep Schedule	12 annual installments from 29.08.2016		
5	Bond XXXIII			
	Gross loan opening	340.00	340.00	340.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	340.00	340.00	340.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	340.00	340.00	340.00
	Average Loan	340.00	340.00	340.00
	Rate of Interest	8.64%	8.64%	8.64%
	Interest	29.38	29.38	29.38
	Rep Schedule	12 annual installments from 08.07.2014		
6	Bond XXXIV			
	Gross loan opening	740.00	740.00	740.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	740.00	740.00	740.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	740.00	740.00	740.00
	Average Loan	740.00	740.00	740.00
	Rate of Interest	8.84%	8.84%	8.84%
	Interest	65.42	65.42	65.42
	Rep Schedule	12 annual installments from 21.10.2014		
7	Bond XXXV			
	Gross loan opening	117.00	117.00	117.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	117.00	117.00	117.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	117.00	117.00	117.00
	Average Loan	117.00	117.00	117.00
	Rate of Interest	9.64%	9.64%	9.64%
	Interest	11.28	11.28	11.28
	Rep Schedule	12 annual installments from 31.05.2015		
8	Bond XL			
	Gross loan opening	0.00	0.00	579.26
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00

Net Loan-Opening	0.00	0.00	579.26
Additions during the year	0.00	579.26	0.00
Repayment during the year	0.00	0.00	0.00
Net Loan-Closing	0.00	579.26	579.26
Average Loan	0.00	289.63	579.26
Rate of Interest	9.30%	9.30%	9.30%
Interest	0.00	26.94	53.87
Rep Schedule	12 annual installments from 28.06.2016		
Total Loan			
Gross loan opening	2067.00	4122.99	4702.25
Cumulative Repayment upto DOC0/previous year	0.00	0.00	0.00
Net Loan-Opening	2067.00	4122.99	4702.25
Additions during the year	2055.99	579.26	0.00
Repayment during the year	0.00	0.00	30.83
Net Loan-Closing	4122.99	4702.25	4671.42
Average Loan	3095.00	4412.62	4686.83
Rate of Interest	9.0688%	9.1262%	9.1377%
Interest	280.68	402.71	428.27

Annexure 2

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN			
	Details of Loan	2012-2013	2013-14
1	Bond XXXVIII		
	Gross loan opening	820.51	820.51
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	820.51	820.51
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	820.51	820.51
	Average Loan	820.51	820.51
	Rate of Interest	9.25%	9.25%
	Interest	75.90	75.90
	Rep Schedule	Payment as on 09.03.2027	
2	Bond XXXI		
	Gross loan opening	234.00	234.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	234.00	234.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	19.50
	Net Loan-Closing	234.00	214.50
	Average Loan	234.00	224.25
	Rate of Interest	8.90%	8.90%
	Interest	20.83	19.96
	Rep Schedule	12 annual installments from 25.02.2014	
3	Bond XXXVII		
	Gross loan opening	79.00	79.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	79.00	79.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	79.00	79.00
	Average Loan	79.00	79.00
	Rate of Interest	9.25%	9.25%
	Interest	7.31	7.31
	Rep Schedule	12 annual installments from 26.12.2015	
4	Bond XLI		
	Gross loan opening	0.00	347.00

	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	347.00
	Additions during the year	347.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	347.00	347.00
	Average Loan	173.50	347.00
	Rate of Interest	8.85%	8.85%
	Interest	15.35	30.71
	Rep Schedule	12 annual installments from 19.10.2016	
5	Bond XLIII		
	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	361.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	0.00	361.00
	Average Loan	0.00	180.50
	Rate of Interest	7.93%	7.93%
	Interest	0.00	14.31
	Rep Schedule	12 annual installments from 20.05.2017	
6	Bond XLII		
	Gross loan opening	0.00	350.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	350.00
	Additions during the year	350.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	350.00	350.00
	Average Loan	175.00	350.00
	Rate of Interest	8.80%	8.80%
	Interest	15.40	30.80
	Rep Schedule	Payment as on 13.03.2023	
7	Bond XXXVI		
	Gross loan opening	172.00	172.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	172.00	172.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	172.00	172.00
	Average Loan	172.00	172.00
	Rate of Interest	9.35%	9.35%
	Interest	16.08	16.08
	Rep Schedule	12 annual installments from 29.08.2016	
8	Bond XXXIII		
	Gross loan opening	218.00	218.00

	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	218.00	218.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	218.00	218.00
	Average Loan	218.00	218.00
	Rate of Interest	8.64%	8.64%
	Interest	18.84	18.84
	Rep Schedule	12 annual installments from 08.07.2014	
9	Bond XXXIV		
	Gross loan opening	470.00	470.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	470.00	470.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	470.00	470.00
	Average Loan	470.00	470.00
	Rate of Interest	8.84%	8.84%
	Interest	41.55	41.55
	Rep Schedule	12 annual installments from 21.10.2014	
10	Bond XXXV		
	Gross loan opening	54.00	54.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	54.00	54.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	54.00	54.00
	Average Loan	54.00	54.00
	Rate of Interest	9.64%	9.64%
	Interest	5.21	5.21
	Rep Schedule	12 annual installments from 31.05.2015	
11	Bond XL		
	Gross loan opening	88.59	88.59
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	88.59	88.59
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	88.59	88.59
	Average Loan	88.59	88.59
	Rate of Interest	9.30%	9.30%
	Interest	8.24	8.24
	Rep Schedule	12 annual installments from 28.06.2016	
	Total Loan		
	Gross loan opening	2136.10	2833.10

Cumulative Repayment upto DOCO/previous year	0.00	0.00
Net Loan-Opening	2136.10	2833.10
Additions during the year	697.00	361.00
Repayment during the year	0.00	19.50
Net Loan-Closing	2833.10	3174.60
Average Loan	2484.60	3003.85
Rate of Interest	9.0435%	8.9517%
Interest	224.70	268.90

Annexure 3

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN			
	Details of Loan	2012-2013	2013-14
1	Bond XXXVIII		
	Gross loan opening	250.00	250.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	250.00	250.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	250.00	250.00
	Average Loan	250.00	250.00
	Rate of Interest	9.25%	9.25%
	Interest	23.13	23.13
	Rep Schedule	Payment as on 09.03.2027	
2	Bond XXXI		
	Gross loan opening	46.00	46.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	46.00	46.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	3.83
	Net Loan-Closing	46.00	42.17
	Average Loan	46.00	44.08
	Rate of Interest	8.90%	8.90%
	Interest	4.09	3.92
	Rep Schedule	12 annual installments from 25.02.2014	
3	Bond XXXVII		
	Gross loan opening	20.00	20.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	20.00	20.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	20.00	20.00
	Average Loan	20.00	20.00
	Rate of Interest	9.25%	9.25%
	Interest	1.85	1.85
	Rep Schedule	12 annual installments from 26.12.2015	
4	Bond XXXVI		
	Gross loan opening	44.00	44.00
	Cumulative Repayment upto	0.00	0.00



	DOCO/previous year		
	Net Loan-Opening	44.00	44.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	44.00	44.00
	Average Loan	44.00	44.00
	Rate of Interest	9.35%	9.35%
	Interest	4.11	4.11
	Rep Schedule	12 annual installments from 29.08.2016	
5	Bond XXXIII		
	Gross loan opening	42.00	42.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	42.00	42.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	42.00	42.00
	Average Loan	42.00	42.00
	Rate of Interest	8.64%	8.64%
	Interest	3.63	3.63
	Rep Schedule	12 annual installments from 08.07.2014	
6	Bond XXXIV		
	Gross loan opening	90.00	90.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	90.00	90.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	90.00	90.00
	Average Loan	90.00	90.00
	Rate of Interest	8.84%	8.84%
	Interest	7.96	7.96
	Rep Schedule	12 annual installments from 21.10.2014	
7	Bond XXXV		
	Gross loan opening	15.00	15.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	15.00	15.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	15.00	15.00
	Average Loan	15.00	15.00
	Rate of Interest	9.64%	9.64%
	Interest	1.45	1.45
	Rep Schedule	12 annual installments from 31.05.2015	
8	Bond XL		
	Gross loan opening	0.00	145.89
	Cumulative Repayment upto	0.00	0.00

DOC0/previous year		
Net Loan-Opening	0.00	145.89
Additions during the year	145.89	0.00
Repayment during the year	0.00	0.00
Net Loan-Closing	145.89	145.89
Average Loan	72.95	145.89
Rate of Interest	9.30%	9.30%
Interest	6.78	13.57
Rep Schedule	12 annual installments from 28.06.2016	
Total Loan		
Gross loan opening	507.00	652.89
Cumulative Repayment upto DOC0/previous year	0.00	0.00
Net Loan-Opening	507.00	652.89
Additions during the year	145.89	0.00
Repayment during the year	0.00	3.83
Net Loan-Closing	652.89	649.06
Average Loan	579.95	650.97
Rate of Interest	9.1384%	9.1572%
Interest	53.00	59.61

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN				
	Details of Loan	2011-2012	2012-2013	2013-14
1	Bond XXXVIII			
	Gross loan opening	0.00	353.44	353.44
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	353.44	353.44
	Additions during the year	353.44	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	353.44	353.44	353.44
	Average Loan	176.72	353.44	353.44
	Rate of Interest	9.25%	9.25%	9.25%
	Interest	16.35	32.69	32.69
	Rep Schedule	Payment as on 09.03.2027		
2	Bond XXXI			
	Gross loan opening	232.00	232.00	232.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	232.00	232.00	232.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	19.33
	Net Loan-Closing	232.00	232.00	212.67
	Average Loan	232.00	232.00	222.33
	Rate of Interest	8.90%	8.90%	8.90%
	Interest	20.65	20.65	19.79
	Rep Schedule	12 annual installments from 25.02.2014		
3	Bond XXXVII			
	Gross loan opening	28.00	28.00	28.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	28.00	28.00	28.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	28.00	28.00	28.00
	Average Loan	28.00	28.00	28.00
	Rate of Interest	9.25%	9.25%	9.25%
	Interest	2.59	2.59	2.59
	Rep Schedule	12 annual installments from 26.12.2015		
4	Bond XXXVI			
	Gross loan opening	60.00	60.00	60.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00

	Net Loan-Opening	60.00	60.00	60.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	60.00	60.00	60.00
	Average Loan	60.00	60.00	60.00
	Rate of Interest	9.35%	9.35%	9.35%
	Interest	5.61	5.61	5.61
	Rep Schedule	12 annual installments from 29.08.2016		
5	Bond XXXIII			
	Gross loan opening	222.00	222.00	222.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	222.00	222.00	222.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	222.00	222.00	222.00
	Average Loan	222.00	222.00	222.00
	Rate of Interest	8.64%	8.64%	8.64%
	Interest	19.18	19.18	19.18
	Rep Schedule	12 annual installments from 08.07.2014		
6	Bond XXXIV			
	Gross loan opening	500.00	500.00	500.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	500.00	500.00	500.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	500.00	500.00	500.00
	Average Loan	500.00	500.00	500.00
	Rate of Interest	8.84%	8.84%	8.84%
	Interest	44.20	44.20	44.20
	Rep Schedule	12 annual installments from 21.10.2014		
7	Bond XXXV			
	Gross loan opening	25.00	25.00	25.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	25.00	25.00	25.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	25.00	25.00	25.00
	Average Loan	25.00	25.00	25.00
	Rate of Interest	9.64%	9.64%	9.64%
	Interest	2.41	2.41	2.41
	Rep Schedule	12 annual installments from 31.05.2015		
8	Bond XL			
	Gross loan opening	0.00	0.00	197.37
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.00	197.37

Additions during the year	0.00	197.37	0.00
Repayment during the year	0.00	0.00	0.00
Net Loan-Closing	0.00	197.37	197.37
Average Loan	0.00	98.69	197.37
Rate of Interest	9.30%	9.30%	9.30%
Interest	0.00	9.18	18.36
Rep Schedule	12 annual installments from 28.06.2016		
Total Loan			
Gross loan opening	1067.00	1420.44	1617.81
Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
Net Loan-Opening	1067.00	1420.44	1617.81
Additions during the year	353.44	197.37	0.00
Repayment during the year	0.00	0.00	19.33
Net Loan-Closing	1420.44	1617.81	1598.48
Average Loan	1243.72	1519.13	1608.14
Rate of Interest	8.9237%	8.9861%	9.0059%
Interest	110.99	136.51	144.83

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN			
	Details of Loan	2012-2013	2013-14
1	Bond XXXVIII		
	Gross loan opening	317.06	317.06
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	317.06	317.06
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	317.06	317.06
	Average Loan	317.06	317.06
	Rate of Interest	9.25%	9.25%
	Interest	29.33	29.33
	Rep Schedule	Payment as on 09.03.2027	
2	Bond XXXI		
	Gross loan opening	185.00	185.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	185.00	185.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	15.42
	Net Loan-Closing	185.00	169.58
	Average Loan	185.00	177.29
	Rate of Interest	8.90%	8.90%
	Interest	16.47	15.78
	Rep Schedule	12 annual installments from 25.02.2014	
3	Bond XXXVII		
	Gross loan opening	26.00	26.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	26.00	26.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	26.00	26.00
	Average Loan	26.00	26.00
	Rate of Interest	9.25%	9.25%
	Interest	2.41	2.41
	Rep Schedule	12 annual installments from 26.12.2015	
4	Bond XXXVI		
	Gross loan opening	56.00	56.00
	Cumulative Repayment upto	0.00	0.00

	DOC0/previous year		
	Net Loan-Opening	56.00	56.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	56.00	56.00
	Average Loan	56.00	56.00
	Rate of Interest	9.35%	9.35%
	Interest	5.24	5.24
	Rep Schedule	12 annual installments from 29.08.2016	
5	Bond XXXIII		
	Gross loan opening	178.00	178.00
	Cumulative Repayment upto DOC0/previous year	0.00	0.00
	Net Loan-Opening	178.00	178.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	178.00	178.00
	Average Loan	178.00	178.00
	Rate of Interest	8.64%	8.64%
	Interest	15.38	15.38
	Rep Schedule	12 annual installments from 08.07.2014	
6	Bond XXXIV		
	Gross loan opening	394.00	394.00
	Cumulative Repayment upto DOC0/previous year	0.00	0.00
	Net Loan-Opening	394.00	394.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	394.00	394.00
	Average Loan	394.00	394.00
	Rate of Interest	8.84%	8.84%
	Interest	34.83	34.83
	Rep Schedule	12 annual installments from 21.10.2014	
7	Bond XXXV		
	Gross loan opening	19.00	19.00
	Cumulative Repayment upto DOC0/previous year	0.00	0.00
	Net Loan-Opening	19.00	19.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	19.00	19.00
	Average Loan	19.00	19.00
	Rate of Interest	9.64%	9.64%
	Interest	1.83	1.83
	Rep Schedule	12 annual installments from 31.05.2015	
8	Bond XL		
	Gross loan opening	0.00	204.89
	Cumulative Repayment upto	0.00	0.00

DOC0/previous year		
Net Loan-Opening	0.00	204.89
Additions during the year	204.89	0.00
Repayment during the year	0.00	0.00
Net Loan-Closing	204.89	204.89
Average Loan	102.45	204.89
Rate of Interest	9.30%	9.30%
Interest	9.53	19.05
Rep Schedule	12 annual installments from 28.06.2016	
Total Loan		
Gross loan opening	1175.06	1379.95
Cumulative Repayment upto DOC0/previous year	0.00	0.00
Net Loan-Opening	1175.06	1379.95
Additions during the year	204.89	0.00
Repayment during the year	0.00	15.42
Net Loan-Closing	1379.95	1364.53
Average Loan	1277.51	1372.24
Rate of Interest	9.0021%	9.0249%
Interest	115.00	123.84