

**CENTRAL ELECTRICITY REGULATORY COMMISSION**

**NEW DELHI**

**Petition No.282/2010**

**Coram: Dr. Pramod Deo, Chairperson  
Shri V.S.Verma, Member  
Shri M Deena Dayalan, Member**

**Date of Hearing: 19.5.2011**

**Date of Order: 28..7.2011**

**In the matter of:**

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations 1999, and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2009, for determination of transmission tariff for (a) Line Reactors at Trichy & Madurai, (b) Bus Reactor at Hossur & Salem, (c) Bus Reactor at Sriperumbudur, (d) Bus Reactor at Kolar, Hyderabad & Munirabad, (e) Bus Reactor at Hiriyyur, (f) Line Reactor at Udumalpet, (g) Line Reactor at Trivandrum along with associated bays under System Strengthening-VIII of SR Grid in Southern Region from their respective dates of commercial operation to 31.3. 2014.

**And**

**In the matter of:**

Power Grid Corporation of India Limited, Gurgaon

.....**Petitioner**

**Vs**

1. Karnataka Power Transmission Corporation Ltd., Bangalore
2. Transmission Corporation of Andhra Pradesh Ltd., Hyderabad
3. Kerala State Electricity Board, Thiruvananthapuram
4. Tamil Nadu Electricity Board, Chennai
5. Electricity Department, Govt. of Goa, Panaji
6. Electricity Department, Govt. of Pondicherry, Pondicherry
7. Eastern Power Distribution Company of Andhra Pradesh Ltd., Visakhapatnam
8. Southern Power Distribution Company of Andhra Pradesh Ltd., Tirupati
9. Central Power Distribution Company of Andhra Pradesh Ltd., Hyderabad
10. Northern Power Distribution Company of Andhra Pradesh Ltd., Warangal
11. Bangalore Electricity Supply Company Ltd., Bangalore
12. Gulbarga Electricity Supply Company Ltd., Gulbarga
13. Hubli Electricity Supply Company Ltd., Hubli
14. MESCOM Corporate Office, Mangalore
15. Chamundeswari Electricity Supply Company Ltd., Mysore

..... **Respondents**



**The following were present:**

1. Shri S S Raju, PGCIL
2. Shri Rajeev Gupta, PGCIL
3. Shri Y K Sehgal, PGCIL
4. Shri Y K Tyagi, PGCIL
5. Shri S Balaguru, TANGEDCO
6. Ms. Geetha, TANGEDCO

**ORDER**

This petition has been filed seeking approval for determination of transmission tariff for (a) Line Reactors at Trichy & Madurai, (b) Bus Reactor at Hossur & Salem, (c) Bus Reactor at Sriperumbudur, (d) Bus Reactor at Kolar, Hyderabad & Munirabad, (e) Bus Reactor at Hiriyyur, (f) Line Reactor at Udumalpet, (g) Line Reactor at Trivandrum. along with associated bays (hereinafter collectively referred to as “transmission assets”) under System Strengthening-VIII of SR Grid in Southern Region from their 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 regulations”). The petitioner has also sought the following reliefs:-

(a) Invoke the provisions of regulation 44 of the 2009 regulations for relaxation of regulation 15(3) thereof to allow grossing up the base rate of return with the applicable tax rate as per the relevant Finance Act and direct settlement of tax liability with the long term transmission customers on year to year basis;

(b) Invoke the provisions of regulation 15 for allowing an additional return of 0.5% of equity for project completion within the time line stipulated in Appendix – II of the 2009 regulations;



(c) Allow, in respect of the assets being combined to calculate the transmission charges, to recover full depreciation (90% of the Gross Block) of the assets during their useful life (25 years for S/S and 35 years for Transmission Line) reckoning from their actual dates of commercial operation and also permit the petitioner to treat the recovery of depreciation after achieving the useful life by an asset (to be reckoned from the actual date of commercial operation);

(d) Approve the reimbursement, of expenditure, by the beneficiaries towards petition filing fee, and publishing of notices in newspapers in terms of Regulation 42 of the 2009 regulations, and other expenditure (if any) in relation to the filing of petition; and

(e) Allow the petitioner to bill and recover license fee separately from the respondents.

2. The Administrative approval and expenditure sanction for the transmission project was accorded by the Board of Directors of PGCIL vide Memorandum ref C/CP/SR-VIII dated 26.2.2008 at estimated cost of ₹ 105.84 crore including IDC of ₹ 7.84 crore based on 3rd quarter, 2007 price level.

3. The work comprises the following bus reactors and line reactors

(a) Bus Reactors at the following Powergrid Sub-Stations

- (i) 400 kV, 63 MVAR Bus Reactor at Hossur,
- (ii) 400 kV, 63 MVAR Bus Reactor at Salem,
- (iii) 400 kV, 63 MVAR Bus Reactor at Sriperumbudur,
- (iv) 400 kV, 63 MVAR Bus Reactor at Kolar,
- (v) 400 kV, 63 MVAR Bus Reactor at Hyderabad,



(vi) 400 kV, 63 MVAR Bus Reactor at Munirabad,

(vii) 400 kV, 63 MVAR Bus Reactor at Hiriyyur,

(b) Line Reactors at the followings Powergrid Sub-Station

(i) 400 kV, 63 MVAR Line Reactor at Trichy,

(ii) 400 kV, 63 MVAR Line Reactor at Madurai,

(iii) 400 kV, 63 MVAR Line Reactor at Udumalpet,

(iv) 400 kV, 63 MVAR Line Reactor at Trivandrum,

4. The details of the elements forming part of the project, their respective dates of commercial operation and the manner of combining them for the purpose of determination of tariff are as under:-

S No.	Name of the asset being combined for tariff Calculation	Name of the asset after Clubbing	Actual/ Notional DOCO
1	400 kV, 63 MVAR Line Reactors at Trichy & Madurai Sub-stations	Asset-1	1.12.2009
2	400 kV, 63 MVAR Line Reactors at Trichy & Madurai Sub-station 400 kV, 63 MVAR Bus Reactors at Hossur & Salem Sub-stations	Asset-2	1.3.2010
3	400 kV, 63 MVAR Line Reactors at Trichy & Madurai Sub-stations 400 kV and 400 kV, 63 MVAR Bus Reactors at Hossur & Salem Sub-stations, 400 kV, 63 MVAR Bus Reactor at Sriperumbudur Sub-station	Asset-3	1.4.2010
4	400 kV, 63 MVAR Line Reactors at Trichy & Madurai Sub-stations 400 kV, 63 MVAR Bus Reactors at Hossur & Salem Sub-stations 400 kV, 63 MVAR Bus Reactor at Sriperumbudur Sub-station 400 kV, 63 MVAR Bus Reactor at Kolar, Hyderabad & Munirabad Sub-stations	Asset-4	1.5.2010
5	400 kV, 63 MVAR Line Reactors at Trichy & Madurai Sub-stations 400 kV, 63 MVAR Bus Reactors at Hossur & Salem Sub-stations 400 kV, 63 MVAR Bus Reactor at Sriperumbudur Sub-station 400 kV, 63 MVAR Bus Reactor at Kolar, Hyderabad &	Asset-5	1.6.2010



	Munirabad Sub-stations 400 kV, 63 MVAR Bus Reactor at Hiriyyur		
6	400 kV, 63 MVAR Line Reactors at Trichy & Madurai Sub-stations 400 kV, 63 MVAR Bus Reactors at Hossur & Salem Sub-stations 400 kV, 63 MVAR Bus Reactor at Sriperumbudur Sub-station 400 kV, 63 MVAR Bus Reactor at Kolar, Hyderabad & Munirabad Sub-stations 400 kV, 63 MVAR Bus Reactor at Hiriyyur, 400 kV, 63 MVAR Line Reactor at Udumalpet Sub-station	Asset-6	1.7.2010
7	400 kV, 63 MVAR Line Reactors at Trichy & Madurai Sub-stations 400 kV, 63 MVAR Bus Reactors at Hossur & Salem Sub-stations 400 kV, 63 MVAR Bus Reactor at Sriperumbudur Sub-station 400 kV, 63 MVAR Bus Reactor at Kolar, Hyderabad & Munirabad Sub-stations 400 kV, 63 MVAR Bus Reactor at Hiriyyur, 400 kV, 63 MVAR Line Reactor at Udumalpet Sub-station 400 kV, 63 MVAR Line Reactors at Trivandrum Sub-station	Asset-7	(Notional) 1.9.2010 <b>(anticipated)</b> 1.10.2010 <b>(actual)</b>

5. The petitioner has submitted the petition on the basis of anticipated date of commissioning of Asset 7 as 1.9.2010. Accordingly, the capital cost and the tariff forms have been filed considering the anticipated date of commercial operation i.e. 1.9.2010 whereas in the prayer the petitioner has submitted that the actual date of commercial operation is 1.10.2010. As the Petition filing date, 29.10.2010 was subsequent to the date of actual commercial operation i.e. 1.10.2010, the Petitioner was directed to confirm whether there is any additional capital cost within the period of one month i.e. from 1.9.2010 to 1.10.2010, if any. In the reply, the Petitioner vide affidavit dated 8.6.2011 has submitted that *“the variation of actual expenditure vis-a-vis projected expenditure is expected to be reasonable and may not vary significantly. Moreover, the tariff variation, if any shall also be required to be trued up with interest. At the time of truing up, the audited actual expenditure incurred w.r.t. actual date of commercial operation and additional capital expenditure incurred after commercial operation in*

subsequent years shall be submitted in line with relevant clauses of the 2009 regulations for re-determination of tariff for 2009-14 period. In view of the above, it is prayed that tariff may be allowed as claimed in the petition.” Accordingly, capital cost as on 1.9.2010 has been taken as on 1.10.2010 (actual date of commercial operation) for the purpose of tariff calculation assuming that there is no expenditure during the month of September, 2010.

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

(₹ in lakh)

	2009-10 Pro rata: From actual/notional date of commercial operation to the end of the financial year		2010-11 Pro rata: From notional date of commercial operation to the end of the financial year			
	Asset 1	Asset 2	Asset 3	Asset 4	Asset 5	Asset 6
Depreciation	17.11	9.92	173.35	269.87	295.13	287.71
Interest on Loan	19.89	11.53	194.14	303.18	331.70	322.69
Return on equity	17.54	10.17	176.58	272.08	296.80	289.06
Interest on Working Capital	1.14	1.10	18.84	31.49	33.94	31.91
O & M Expenses	0.00	8.73	166.20	304.70	323.17	290.85
<b>Total</b>	<b>55.68</b>	<b>41.45</b>	<b>729.11</b>	<b>1181.32</b>	<b>1280.74</b>	<b>1222.22</b>

(₹ in lakh)

	Asset 7			
	2010-11 (Pro rata)	2011-12	2012-13	2013-14
Depreciation	243.28	471.16	475.12	476.17
Interest on Loan	270.99	496.39	459.06	418.06
Return on equity	244.21	472.79	476.72	477.77
Interest on Working Capital	26.00	48.43	48.96	49.37
O & M Expenses	226.22	409.99	433.44	458.22
<b>Total</b>	<b>1010.70</b>	<b>1898.76</b>	<b>1893.30</b>	<b>1879.59</b>

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

(₹ in lakh)

	2009-10 Pro rata: From actual/notional date of commercial operation to the end of the financial year		2010-11 Pro rata: From notional date of commercial operation to the end of the financial year			
	Asset 1	Asset 2	Asset 3	Asset 4	Asset 5	Asset 6
Maintenance Spares	0.00	15.71	24.93	49.86	58.17	58.17
O & M expenses	0.00	8.73	13.85	27.70	32.32	32.32
Receivables	27.84	82.90	121.52	214.79	256.15	271.60
<b>Total</b>	<b>27.84</b>	<b>107.34</b>	<b>160.30</b>	<b>292.35</b>	<b>346.64</b>	<b>362.09</b>
Rate of Interest	12.25%	12.25%	11.75%	11.75%	11.75%	11.75%
<b>Interest</b>	<b>1.14</b>	<b>1.10</b>	<b>18.84</b>	<b>31.49</b>	<b>33.94</b>	<b>31.91</b>

(₹ in lakh)

Asset 7				
	2010-11 (Pro rata)	2011-12	2012-13	2013-14
Maintenance Spares	58.17	61.50	65.02	68.73
O & M expenses	32.32	34.17	36.12	38.19
Receivables	288.77	316.46	315.55	313.27
<b>Total</b>	<b>379.26</b>	<b>412.13</b>	<b>416.69</b>	<b>420.19</b>
Rate of Interest	11.75%	11.75%	11.75%	11.75%
<b>Interest</b>	<b>26.00</b>	<b>48.43</b>	<b>48.96</b>	<b>49.37</b>

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, 2003. Reply to the petition has been filed only by the Tamil Nadu Generation and Distribution Corporation Ltd. (TANGEDCO), successor of the fourth respondent, viz. Tamil Nadu Electricity Board. TANGEDCO has raised the following objections:-

- (a) The petitioner's claim for additional equity of 0.5% in respect of the line reactors at Madurai and Trichy and Bus reactors at Hosur and Salem for commissioning within the specified time line may be negated as the time limit of 24 months specified in Appendix II of the 2009 regulations is applicable only for establishing a new 400 kV AC sub-station in plain area and not for addition of a reactor to an existing sub-station;



- (b) The estimated completion cost of ₹ 1307.72 lakh of the reactor at Hiriyr above the apportioned approved cost of ₹ 1200 lakh needs to be explained by the petitioner;
- (c) That the petitioner's prayer for recovery of service tax from the beneficiaries should be rejected in the light of the order of the Commission in Petition No. 62/2009;
- (d) Prayer for grossing up of the rate of return based on the tax rate of the relevant Finance Act should be linked with the proposed amendment of the regulation by the Commission;
- (e) That all the assets except reactor at Hiriyr has been commissioned before the approved time period of 33 months and hence the IDC in respect of the assets commissioned before the approved time period should be reduced. That the IDC as per the administrative approval is ₹ 784 lakh whereas the actual is only ₹ 182 lakh and the petitioner should explain this gap;
- (f) The petitioner's claim for reimbursement of licence fee should be negated as the same is not covered under the regulations; and
- (g) That there is vast variation in the value of initial spares from one sub-station to another and the same be restricted after due prudence check.

9. The petitioner has filed its rejoinder, under affidavit dated 31.1.2011, clarifying its position on the points raised by TANGEDCO as under:-

- (a) As regards claim for additional 0.5% equity, the petitioner has pointed out that the benefit is admissible for completion in time of both the new sub-stations as well as existing sub-stations. The petitioner has also pointed out that the respondents enjoy a two fold benefit due to expeditious completion of



the work, viz., firstly by the early availability of the utility and secondly by the reduction in the cost by way of decreased IDC. It has been submitted that two elements covered in the instant petition, viz., the Line Reactors at Trichy & Madurai and the Bus Reactors at Hosur & Salem have been completed in 21 & 24 months respectively, from the date of investment approval and are qualified for additional equity of 0.5%, as they have been completed within the stipulated norm of 24 months.

- (b) As regards the cost over-run, the petitioner has submitted that the estimated completion cost of the commissioned elements is ₹ 9018.40 lakh as against apportioned approved cost of ₹ 10584 lakh and there is no cost over-run. In the case of Hiriya reactor, the existing Bus had to be extended and accordingly the lattice structure, civil works, Erection H/W along with a complete DIA were constructed, which were not included in the original FR, as per the site requirements and hence the cost of the reactor increased slightly. Comparison of actual cost with the approved cost of the project needs to be seen for the whole project and not separately for each element.
- (c) As regards service tax, it has been submitted that the beneficiaries have to share the service tax paid by the petitioner if the notification regarding the granting of exemption to transmission service from service tax is withdrawn.
- (d) As regards the MAT rate, it shall be addressed once the CERC (Terms and Conditions of Tariff) Regulations, 2009 are amended.
- (e) As regards the submission of the respondent regarding reduced IDC on account of speedy commissioning of the assets, the petitioner has pointed out that IDC will have to be worked out on completion of the project as a whole and not at every stage.

- (f) As regards the reimbursement of licence fee, it has been submitted that the O&M have been worked out based on the past five years actual O&M expenses and licence fee is not represented in those actual O&M expenses. It is an extra cost on the petitioner and therefore it needs to be reimbursed.
- (g) As regards the value of initial spares, the petitioner has submitted that the same may be considered for the project as a whole and not element wise.

10. Having heard the representatives of the parties and examined the material on records, we proceed to dispose of the petition. While doing so, we also take care of the submissions of the respondent in its reply and address them in the relevant paragraphs.

### **CAPITAL COST**

11. As regards the capital cost, Regulation 7 (1) of the 2009 regulations provides as under:-

*“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.”*

12. Details of the expenditure incurred up to the date of commercial operation, projected additional capital expenditure and the cost of initial spares included therein, in respect of the assets are given overleaf:-

(` in lakh)

Assets	Cost as on date of commercial operation	Projected additional capital expenditure				Expenditure up to Cut-Off Date	Initial Spares Claimed
		2009-10	2010-11	2011-12	2012-13		
63 MVAR Line Reactor at Madurai-Trichy	907.90	128.60	132.01	-	-	1,168.51	22.54
63 MVAR Bus Reactor at Hosur-Salem	1,242.75	78.58	363.21	-	-	1,684.54	52.78
63 MVAR Reactor at Seperumbudur	592.04	-	171.23	-	-	763.27	24.54
63 MVAR Line Reactor at Kolar, Hyderabad	1,925.26		735.03	110.00	40.00	2,810.29	109.99
63 MVAR Line Reactor at Hiriyur	955.36	-	352.36	-	-	1,307.72	49.60
63 MVAR Line Reactor at Udumalpet	497.75	-	120.30	-	-	618.05	12.02
63 MVAR Line Reactor at Trivandrum	600.98	-	65.04	-	-	666.02	12.02
<b>Total</b>						<b>9,018.40</b>	<b>283.49</b>

13. It is noticed that the above stated ₹ 283.49 lakh towards cost of initial spares included in the capital cost as on the date of commercial operation, is in excess of the ceiling limit defined in clause 8 of the 2009 regulations by ₹ 59.52 lakh as explained below:-

Particulars	Cost as on Cut off Date	Apportioned Initial Spares Claimed	Ceiling Limits as per Clause 8 Regulation 2009	Initial Spares worked out	Excess Initial Spares claimed
	(a)	(b)	(c)	(d)= ((a-b)*c) / (100-c)%	(e)= (b)- (d)
Sub-Station	9018.4	283.49	2.50%	223.97	<b>59.52</b>

14. The excess cost of initial spares amounting to ₹ 59.52 lakh has been reduced from the capital cost of Asset 7. Thereupon, the capital cost considered for the purpose of tariff calculation and the period for which tariff has been calculated in respect of the seven assets are as under:-

Asset	Tariff applicable for the period	Capital Cost (₹ in Lakh)
Asset-1 (Single Asset)	Dec2009 – Feb 2010	907.90
Asset-2 (Combined Assets 1&2)	Mar 2010	2150.65
Asset-3 (Combined Assets 1 to 3)	Apr 2010	2949.87
Asset-4 (Combined Assets 1 to 4)	May 2010	4875.13
Asset-5 (Combined Assets 1 to 5)	Jun ,2010	5830.49
Asset-6 (Combined Assets 1 to 6)	July 2010 – Sep 2010	6328.24
Asset-7 (Combined Assets 1 to 7)	Oct 2010 to Mar 2014	6869.70

15. Details of year wise break up of additional capital expenditure are not available asset wise. Therefore the capital cost of the respective assets as on the date of commercial operation has been clubbed with that of the next asset for the purpose of tariff calculation. This will be duly reviewed at the time of truing up.

### **ADDITIONAL CAPITAL EXPENDITURE**

16. With regard to additional capital expenditure, clause 9(1) of the 2009 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;

*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.”*

17. The 2009 regulations further defines cut-off date as under:-

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

18. As per the definition, cut-off date in respect of the assets whose transmission tariff is being approved vide this order is 31.3.2013.

19. The following additional capital expenditure claimed by the petitioner is allowed as the same is in accordance with the 2009 regulations:-

(₹ in lakh)

Year	Work/Equipment proposed to be added after COD upto cut-off date/beyond cut-off date	Amount capitalized and proposed to be capitalized	Justification as per purpose
2009-10	Sub-Station	207.18	Progressive payments and part final retention payment
2010-11	Sub-Station	1939.18	Progressive payments and part final retention payment
2011-12	Sub-Station	110.00	Progressive payments and part final retention payment
2012-13	Sub-Station	40.00	Progressive payments and part final retention payment

### **DEBT- EQUITY RATIO**

20. Regulation 12 of the 2009 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.”

21. In addition, the petitioner has also claimed additional equity amounting to 0.5% for speedy completion of the asset as provided in Appendix – II of the 2009 regulations. This has been objected to by TANGEDCO. We have considered the matter and observe that as per Appendix, the qualifying time for the scheme as whole has to be considered. Appendix II does not prescribe any time span for the individual reactors. Accordingly we do not allow the claim for additional equity of 0.5%.

22. Consequent to the above, details of debt-equity in respect of the transmission assets as on the date of commercial operation are as follows:

Capital Cost as on date of commercial operation		
Particulars	(₹ in lakh)	%
<b>Asset-1</b>		
Debt	635.53	70.000
Equity	272.37	30.000
<b>Total</b>	<b>907.90</b>	<b>100.00</b>

<b>Asset-2</b>		
Debt	1505.53	70.003
Equity	645.12	29.997
<b>Total</b>	<b>2150.65</b>	<b>100.00</b>

<b>Asset-3</b>		
Debt	2064.99	70.003
Equity	884.88	29.997
<b>Total</b>	<b>2949.87</b>	<b>100.00</b>

<b>Asset-4</b>		
Debt	3412.68	70.002
Equity	1462.45	29.998
<b>Total</b>	<b>4875.13</b>	<b>100.00</b>

<b>Asset-5</b>		
Debt	4081.44	70.002
Equity	1749.05	29.998
<b>Total</b>	<b>5830.49</b>	<b>100.00</b>

<b>Asset-6</b>		
Debt	4429.86	70.001
Equity	1898.38	29.999
<b>Total</b>	<b>6328.24</b>	<b>100.00</b>

<b>Asset-7</b>		
Debt	4808.90	70.002
Equity	2060.80	29.998
<b>Total</b>	<b>6869.70</b>	<b>100.00</b>

23. As regards the additional capital expenditure, (referred to as “Add Cap”) in the tables below, the debt-equity details are as under:-

<b>Normative</b>		
	<b>₹ Lakh</b>	<b>%</b>
<b>Asset-1</b>		
<b>Additional Capital Expenditure for 2009-10</b>		
Debt	90.02	70.00
Equity	38.58	30.00
<b>Total</b>	<b>128.60</b>	<b>100.00</b>

<b>Assets- 2</b>		
<b>Additional Capital Expenditure for 2009-10</b>		
Debt	145.03	70.00
Equity	62.15	30.00
<b>Total</b>	<b>207.18</b>	<b>100.00</b>

<b>Assets- 3</b>		
<b>Additional Capital Expenditure for 2010-11</b>		
Debt	466.52	70.00
Equity	199.94	30.00
<b>Total</b>	<b>666.45</b>	<b>100.00</b>

<b>Asset- 4</b>		
<b>Additional Capital Expenditure for 2010-11</b>		
Debt	981.04	70.00
Equity	420.44	30.00
<b>Total</b>	<b>1401.48</b>	<b>100.00</b>

<b>Assets- 5</b>		
<b>Additional Capital Expenditure for 2010-11</b>		
Debt	1227.69	70.00
Equity	526.15	30.00
<b>Total</b>	<b>1753.84</b>	<b>100.00</b>

<b>Assets- 6</b>		
<b>Additional Capital Expenditure for 2010-11</b>		
Debt	1311.90	70.00
Equity	562.24	30.00
<b>Total</b>	<b>1874.14</b>	<b>100.00</b>

<b>Assets- 7</b>		
<b>Additional Capital Expenditure for 2010-11</b>		
Debt	1357.43	70.00
Equity	581.75	30.00
<b>Total</b>	<b>1939.18</b>	<b>100.00</b>
<b>Additional Capital Expenditure for 2011-12</b>		
Debt	77.00	70.00
Equity	33.00	30.00
<b>Total</b>	<b>110.00</b>	<b>100.00</b>
<b>Additional Capital Expenditure for 2012-13</b>		
Debt	28.00	70.00
Equity	12.00	30.00
<b>Total</b>	<b>40.00</b>	<b>100.00</b>





## RETURN ON EQUITY

24. Regulation 15 of the 2009 regulations 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:*

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

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

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

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

25. In this order, Return on Equity has been calculated as per Regulation 15 of the 2009 regulations with pre-tax ROE of 17.481%.

26. Petitioner’s prayer to allow grossing up the base rate of ROE based on the tax rates viz., MAT, surcharge, any other cess, charges, levies etc., as per the relevant Finance Act, has already been taken care of through the 2<sup>nd</sup> amendment to the 2009 regulations notified in June 2011, which *inter alia* provides as under:-

“(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 financial year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations”

27. Details of return on equity calculated are as under:-

(₹ in lakh)

Particulars	2009-10 Pro rata: From actual/notional date of commercial operation to the end of the financial year		2010-11 Pro rata: From notional date of commercial operation to the end of the financial year			
	Asset 1	Asset 2	Asset 3	Asset 4	Asset 5	Asset 6
Opening Equity	272.37	645.12	884.88	1462.45	1749.05	1898.38
Addition due to Additional Capitalisation	38.58	62.15	199.94	420.44	526.15	562.24
Closing Equity	310.95	707.27	1084.81	1882.89	2275.21	2460.62
Average Equity	291.66	676.20	984.85	1672.67	2012.13	2179.50
Return on Equity (Base Rate )	15.50%	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 <b>(MAT)</b>	11.33%	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%	17.481%
Return on Equity (Pre Tax)	<b>17.00</b>	<b>9.85</b>	<b>172.16</b>	<b>268.03</b>	<b>293.12</b>	<b>285.75</b>
Return on equity allowed on proportionate basis	12.75	9.85	14.35	24.37	29.31	95.25

(₹ in lakh)

Asset 7				
Particulars	2010-11 (Pro rata)	2011-12	2012-13	2013-14
Opening Equity	2060.80	2642.56	2675.56	2687.56
Addition due to Additional Capitalisation	581.75	33.00	12.00	0.00
Closing Equity	2642.56	2675.56	2687.56	2687.56
Average Equity	2351.68	2659.06	2681.56	2687.56
Return on Equity (Base Rate )	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 <b>(MAT)</b>	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)	<b>205.55</b>	<b>464.83</b>	<b>468.76</b>	<b>469.81</b>



## INTEREST ON LOAN

28. Regulation 16 of the 2009 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.”*

29. In these calculations, interest on loan has been worked out as detailed below:-

(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 has been deemed to be equal to the depreciation allowed for that period.
- (c) As regards the moratorium period availed by the transmission licensee, the repayment of the loan is being considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.
- (d) Weighted average rate of interest on actual average loan worked out as per (a) above has been applied on the notional average loan during the year to arrive at the interest on loan.
- (e) The methodology followed for the calculation of weighted average Rate of Interest in case of floating interest loans in Petition 132/2010, has been adopted in the instant petition. Accordingly, the interest on Loan has been calculated on the basis of rate prevailing as on date of commercial operation. Any change in rate of Interest subsequent to 1.4.2009/DOC0 will be considered at the time of truing up.

30. Detailed calculation of the weighted average rate of interest has been given in Annexure 1 to 7 to this order.

31. Details of the interest on loan worked on the above basis is as under:-

**(₹ in lakh)**

Particulars	2009-10 Pro rata: From actual/notional date of commercial operation to the end of the financial year		2010-11 Pro rata: From notional date of commercial operation to the end of the financial year			
	Asset 1	Asset 2	Asset 3	Asset 4	Asset 5	Asset 6
Gross Normative Loan	635.53	1505.53	2064.99	3412.68	4081.44	4429.86
Cumulative Repayment upto Previous Year	0.00	12.83	22.75	37.20	61.73	91.24
Net Loan-Opening	635.53	1492.70	2042.24	3375.49	4019.70	4338.62
Addition due to Additional Capitalisation	90.02	145.03	466.52	981.04	1227.69	1311.90

Repayment during the year	17.11	9.92	173.35	269.87	295.13	287.71
Net Loan-Closing	708.44	1627.80	2335.41	4086.65	4952.27	5362.81
Average Loan	671.98	1560.25	2188.82	3731.07	4485.99	4850.71
Weighted Average Rate of Interest on Loan	8.8783%	8.8674%	8.8701%	8.8647%	8.8733%	8.8701%
<b>Interest</b>	<b>19.89</b>	<b>11.53</b>	<b>194.15</b>	<b>303.19</b>	<b>331.71</b>	<b>322.70</b>
Interest on loan allowed on proportionate basis	14.92	11.53	16.18	27.56	33.17	107.57

(₹ in lakh)

Asset 7				
Particulars	2010-11 (Pro rata)	2011-12	2012-13	2013-14
Gross Normative Loan	4808.90	6166.32	6243.32	6271.32
Cumulative Repayment upto Previous Year	187.15	394.10	862.12	1334.09
Net Loan-Opening	4621.75	5772.22	5381.21	4937.23
Addition due to Additional Capitalisation	1357.43	77.00	28.00	0.00
Repayment during the year	206.96	468.01	471.97	473.03
Net Loan-Closing	5772.22	5381.21	4937.23	4464.21
Average Loan	5196.99	5576.71	5159.22	4700.72
Weighted Average Rate of Interest on Loan	8.8445%	8.8445%	8.8422%	8.8397%
<b>Interest</b>	<b>229.82</b>	<b>493.24</b>	<b>456.19</b>	<b>415.53</b>

## DEPRECIATION

32. Regulation 17 of the 2009 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.*

xxxx  
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.”

33. The transmission assets were put under commercial operation on 1.2.2010. Accordingly, they will complete 12 years beyond 2013-14 and thus depreciation has been calculated annually based on Straight Line Method and at rates specified in Appendix-III of the 2009 regulations.

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

(₹ in lakh)

Particulars	2009-10 Pro rata: From actual/notional date of commercial operation to the end of the financial year		2010-11 Pro rata: From notional date of commercial operation to the end of the financial year			
	Asset 1	Asset 2	Asset 3	Asset 4	Asset 5	Asset 6
Opening Gross Block	907.90	2150.65	2949.87	4875.13	5830.49	6328.24
Addition due to projected additional capitalisation	128.60	207.18	666.45	1401.48	1753.84	1874.14
Closing Gross Block	1036.50	2357.83	3616.32	6276.61	7584.33	8202.38
Average Gross Block	972.20	2254.24	3283.10	5575.87	6704.41	7265.31
Rate of Depreciation	5.2800%	5.2800%	5.2800%	5.2800%	5.2800%	5.2800%
Depreciable Value	874.98	2028.82	2954.79	5018.28	6036.67	6538.78
Remaining Depreciable Value	874.98	2015.98	2932.03	4981.09	5974.94	6447.54
<b>Depreciation</b>	<b>17.11</b>	<b>9.92</b>	<b>173.35</b>	<b>269.87</b>	<b>295.13</b>	<b>287.71</b>
Depreciation allowed on proportionate basis	12.83	9.92	14.45	24.53	29.51	95.90

(₹ in lakh)

Asset 7				
	2010-11 (Pro rata)	2011-12	2012-13	2013-14
Opening Gross Block	6869.70	8808.88	8918.88	8958.88
Addition due to projected additional capitalization	1939.18	110.00	40.00	0.00
Closing Gross Block	8808.88	8918.88	8958.88	8958.88
Average Gross Block	7839.29	8863.88	8938.88	8958.88
Rate of Depreciation	5.2800%	5.2800%	5.2800%	5.2800%
Depreciable Value	7055.36	7977.49	8044.99	8062.99
Remaining Depreciable Value	6868.22	7583.39	7182.88	6728.90
<b>Depreciation</b>	<b>206.96</b>	<b>468.01</b>	<b>471.97</b>	<b>473.03</b>

## **OPERATION & MAINTENANCE EXPENSES**

35. Clause (g) of regulation 19 of the 2009 regulations prescribes the norms for operation and maintenance expenses based on the type of sub-station and line. Norms prescribed in respect of the elements covered in the instant petition are as under:-

<b>Name of Elements</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
400 kV bays (₹ lakh/ k.m bay)	52.40	55.40	58.57	61.92	65.46

36. Based on the above norms, the following operation and maintenance expenses have been allowed for the assets covered in the petition:-

(₹ in lakh)

	<b>Asset 1</b>	<b>Asset 2</b>	<b>Asset 3</b>	<b>Asset 4</b>	<b>Asset 5</b>	<b>Asset 6</b>
Number of bays	0	2	3	6	7	7
Duration	Dec 2009- Feb 2010	Mar 2010	Apr 2010	May 2010	Jun 2010	(Jul 2010 to Sep 2010)
O&M Expenses allowed	0.00	8.73	13.85	27.70	32.32	96.95

<b>Asset 7</b>				
<b>Name of bays</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
7 Nos. 400 kV bays	193.90	409.99	433.44	458.22

37. The petitioner has submitted that O & M expenditure for the year 2009-14 had been arrived at on the basis of normalized actual O & M expenses during the period 2003-04 to 2007-08. The wage hike of 50% on account of pay revision of the employees of public sector undertaking has also been considered while calculating the O & M charges for the tariff period 2009-14. The petitioner has further submitted that it reserves the right to approach the Commission for suitable revision in the norms for O &

M expenditure in case the impact of wage hike with effect from 1.1.2007 is more than 50%. The petitioner has further submitted that in O & M norms for the period 2009-14, the cost associated with license fees had not been captured and therefore licence fee be allowed to be recovered separately from the respondents.

38. We observe that these issues have been raised by the petitioner in other petitions also. A view is yet to be taken by the Commission on reimbursement of the cost of wage hike and reimbursement of licence fees. The decision as and when taken will be applicable to the present case also.

### **INTEREST ON WORKING CAPITAL**

39. As per the 2009 regulations the components of the working capital and the interest thereon are discussed hereunder:-

**(i) Receivables** As per Regulation 18(1) (c) (i) of the 2009 regulations, receivables will be equivalent to two months' fixed cost. The petitioner has claimed the receivables on the basis of 2 months' 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** Regulation 18(1)(c)(ii) of the 2009 regulations provides for maintenance spares @ 15% per annum of the O & M expenses from 1.4.2009. The value of maintenance spares has accordingly been worked out.

**(iii) O & M expenses** Regulation 18(1) (c) (iii) of the 2009 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** In these calculations, in respect of the assets commissioned on or before 30.6.2010, the SBI PLR as on 1<sup>st</sup> April of the year in which the asset was commissioned has been considered for the purpose of tariff calculation in accordance with clause 18 (3) (i) of the 2009 regulations as amended vide the second amendment notified in June 2011. Accordingly, SBI PLR of 12.25% as on 1.4.2009 has been considered for Asset 1 and Asset 2. SBI PLR of 11.75% as on 1.4.2010 has been considered in respect of Asset 3, 4 and 5. As regards assets 6 and 7 which were put on commercial operation on 1.7.2010 and 1.10.2010 respectively, interest rate of 11.00% (SBI Base Rate 7.50% as on 1.7.2010 plus 350 bps) has been considered for calculating interest on working capital in accordance with clause 18(3)(ii) of the 2009 regulations as amended vide the second amendment regulations notified in June 2011.

40. Necessary computations in support of interest on working capital are appended herein below:-

	(₹ in lakh)					
	Asset 1	Asset 2	Asset 3	Asset 4	Asset 5	Asset 6
	Dec 2009- Feb 2010	Mar 2010	Apr 2010	May 2010	Jun 2010	(Jul 2010 to Sep 2010)
Maintenance Spares	0.00	15.71	2.08	4.53	5.82	19.39
O & M expenses	0.00	8.73	1.15	2.52	3.23	10.77
Receivables	20.67	82.24	10.06	19.46	25.54	90.13
Total	20.67	106.68	13.30	26.51	34.59	120.29
Rate of interest	12.25%	12.25%	11.75%	11.75%	11.75%	11.00%
<b>Interest</b>	<b>0.84</b>	<b>1.09</b>	<b>1.56</b>	<b>2.86</b>	<b>3.39</b>	<b>9.92</b>

(₹ in lakh)

Asset 7				
	2010-11 (Pro rata)	2011-12	2012-13	2013-14
Maintenance Spares	58.17	61.50	65.02	68.73
O & M expenses	32.32	34.17	36.12	38.19
Receivables	285.64	313.51	312.65	310.42
Total	376.13	409.18	413.78	417.33
Rate of interest	11.00%	11.00%	11.00%	11.00%
Interest	<b>20.69</b>	<b>45.01</b>	<b>45.52</b>	<b>45.91</b>

## TRANSMISSION CHARGES

41. The transmission charges being allowed for the transmission assets are summarized below:-

(₹ in lakh)

	Asset 1	Asset 2	Asset 3	Asset 4	Asset 5	Asset 6
Tariff applicable for the period	Dec 2009- Feb 2010	Mar 2010	Apr 2010	May 2010	Jun 2010	Jul - Sep 2010
Depreciation	12.83	9.92	14.45	24.53	29.51	95.90
Interest on Loan	14.92	11.53	16.18	27.56	33.17	107.57
Return on equity	12.75	9.85	14.35	24.37	29.31	95.25
Interest on Working Capital	0.84	1.09	1.56	2.86	3.39	9.92
O & M Expenses	0.00	8.73	13.85	27.70	32.32	96.95
<b>Total</b>	<b>41.34</b>	<b>41.12</b>	<b>60.38</b>	<b>107.02</b>	<b>127.70</b>	<b>405.59</b>

(₹ in lakh)

Asset 7				
	2010-11 (Pro rata)	2011-12	2012-13	2013-14
Depreciation	206.96	468.01	471.97	473.03
Interest on Loan	229.82	493.24	456.19	415.53
Return on equity	205.55	464.83	468.76	469.81
Interest on Working Capital	20.69	45.01	45.52	45.91
O & M Expenses	193.90	409.99	433.44	458.22
<b>Total</b>	<b>856.92</b>	<b>1881.08</b>	<b>1875.88</b>	<b>1862.50</b>

## OTHER ISSUES

42. The petitioner has sought approval for the reimbursement of fee paid by it for filing the petition. In accordance with the Commission's decision in order dated



11.1.2010 in Petition No. 109/2009, the petitioner shall be entitled to recover the filing fee from the beneficiaries.

43. Accordingly, expenses incurred by the petitioner on petition filing fees and publication of notices in connection with the present petition shall be directly recovered from the beneficiary on pro-rata basis.

44. The petitioner has made a specific prayer to be allowed to bill and recover the Service tax on Transmission charges separately from the respondents if the exemption granted to it is withdrawn and transmission of power is made a taxable service. We consider the prayer pre-mature. The petitioner is at liberty to approach the Commission for any relief at the appropriate as per law.

45. As regards the prayer for reimbursement of licence fee, it is clarified that the matter is under consideration of the Commission and any decision taken will apply to this case as well.

46. The transmission charges allowed shall be recovered on monthly basis in accordance with Regulation 23 and shared by the beneficiaries in accordance with Regulation 33 of the 2009 regulations upto 30.6.2011. With effect from 1.7.2011, the billing, collection and disbursement of the transmission charges shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010 and the Removal of Difficulties orders issued thereunder.

33. This order disposes of Petition No. 282/2010.

**Sd/-**  
**(M Deena Dayalan)**  
**Member**

**Sd/-**  
**(V.S.Verma)**  
**Member**

**Sd/-**  
**(Dr. Pramod Deo)**  
**Chairperson**



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST		(₹ in lakh)
Details of Loan	2009-10	
<b>1 Bond XXX</b>		
Gross loan opening		<b>517.50</b>
Cumulative Repayment upto DOCO/previous year		<b>0.00</b>
Net Loan-Opening		517.50
Additions during the year		0.00
Repayment during the year		0.00
Net Loan-Closing		517.50
Average Loan		517.50
Rate of Interest		8.80%
Interest		45.54
Rep Schedule	12 Annual instalments from 29.9.2013	
<b>2 Bond XXVIII</b>		
Gross loan opening		<b>38.00</b>
Cumulative Repayment upto DOCO/previous year		<b>0.00</b>
Net Loan-Opening		38.00
Additions during the year		0.00
Repayment during the year		0.00
Net Loan-Closing		38.00
Average Loan		38.00
Rate of Interest		9.33%
Interest		3.55
Rep Schedule	12 Annual instalments from 15.12.2012	
<b>3 Bond XXIX</b>		
Gross loan opening		<b>80.00</b>
Cumulative Repayment upto DOCO/previous year		<b>0.00</b>
Net Loan-Opening		80.00
Additions during the year		0.00
Repayment during the year		0.00
Net Loan-Closing		80.00
Average Loan		80.00
Rate of Interest		9.20%
Interest		7.36
Rep Schedule	12 Annual instalments from 12.3.2013	

<b>4</b>	<b>Bond XXX (AddCap for 2009-10 Drwal on 31.03.2010)</b>	
	Gross loan opening	<b>0.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	0.00
	Additions during the year	60.90
	Repayment during the year	0.00
	Net Loan-Closing	60.90
	Average Loan	30.45
	Rate of Interest	8.80%
	Interest	2.68
	Rep Schedule	12 Annual instalments from 29.9.2013
	<b>Total Loan</b>	
	Gross loan opening	<b>635.50</b>
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	635.50
	Additions during the year	60.90
	Repayment during the year	0.00
	Net Loan-Closing	696.40
	Average Loan	665.95
	Rate of Interest	<b>8.8783%</b>
	<b>Interest</b>	59.13



<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST</b>	
(₹ in lakh)	
<b>Details of Loan</b>	<b>2009-10</b>
<b>1 Bond XXX</b>	
Gross loan opening	<b>1270.50</b>
Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
Net Loan-Opening	1270.50
Additions during the year	0.00
Repayment during the year	0.00
Net Loan-Closing	1270.50
Average Loan	1270.50
Rate of Interest	8.80%
Interest	111.80
Rep Schedule	12 Annual instalments from 29.9.2013
<b>2 Bond XXVIII</b>	
Gross loan opening	<b>88.00</b>
Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
Net Loan-Opening	88.00
Additions during the year	0.00
Repayment during the year	0.00
Net Loan-Closing	88.00
Average Loan	88.00
Rate of Interest	9.33%
Interest	8.21
Rep Schedule	12 Annual instalments from 15.12.2012
<b>3 Bond XXIX</b>	
Gross loan opening	<b>147.00</b>
Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
Net Loan-Opening	147.00
Additions during the year	0.00
Repayment during the year	0.00
Net Loan-Closing	147.00
Average Loan	147.00
Rate of Interest	9.20%
Interest	13.52
Rep Schedule	12 Annual instalments from 12.3.2013

<b>4</b>	<b>Bond XXX (AddCap for 2009-10 Drwal on 31.03.2010)</b>	
	Gross loan opening	<b>0.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	0.00
	Additions during the year	115.90
	Repayment during the year	0.00
	Net Loan-Closing	115.90
	Average Loan	57.95
	Rate of Interest	8.800%
	Interest	5.10
	Rep Schedule	12 Annual instalments from 29.9.2013
	<b>Total Loan</b>	
	Gross loan opening	<b>1505.50</b>
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	1505.50
	Additions during the year	115.90
	Repayment during the year	0.00
	Net Loan-Closing	1621.40
	Average Loan	1563.45
	Rate of Interest	<b>8.8674%</b>
	<b>Interest</b>	138.64



<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST</b>		
(₹ in lakh)		
	<b>Details of Loan</b>	<b>2010-11</b>
<b>1</b>	<b>Bond XXX</b>	
	Gross loan opening	<b>1570.50</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	1570.50
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	1570.50
	Average Loan	1570.50
	Rate of Interest	8.80%
	Interest	138.20
	Rep Schedule	12 Annual instalments from 29.9.2013
<b>2</b>	<b>Bond XXVIII</b>	
	Gross loan opening	<b>113.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	113.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	113.00
	Average Loan	113.00
	Rate of Interest	9.33%
	Interest	10.54
	Rep Schedule	12 Annual instalments from 15.12.2012
<b>3</b>	<b>Bond XXIX</b>	
	Gross loan opening	<b>197.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	197.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	197.00
	Average Loan	197.00
	Rate of Interest	9.20%
	Interest	18.12
	Rep Schedule	12 Annual instalments from 12.3.2013

<b>4</b>	<b>Bond XXX (AddCap for 2009-10 Drwal on 31.03.2010)</b>	
	Gross loan opening	<b>115.90</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	115.90
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	115.90
	Average Loan	115.90
	Rate of Interest	8.800%
	Interest	10.20
	Rep Schedule	12 Annual instalments from 29.9.2013
<b>5</b>	<b>Bond XXXI</b>	
	Gross loan opening	<b>39.40</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	39.40
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	39.40
	Average Loan	39.40
	Rate of Interest	8.90%
	Interest	3.51
	Rep Schedule	12 Annual instalments from 25.02.2014
	<b>Total Loan</b>	
	Gross loan opening	<b>2035.80</b>
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	2035.80
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	2035.80
	Average Loan	2035.80
	Rate of Interest	<b>8.8701%</b>
	<b>Interest</b>	<b>180.58</b>

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST		
(₹ in lakh)		
	Details of Loan	2010-11
<b>1</b>	<b>Bond XXX</b>	
	Gross loan opening	<b>2520.50</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	2520.50
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	2520.50
	Average Loan	2520.50
	Rate of Interest	8.80%
	Interest	221.80
	Rep Schedule	12 Annual instalments from 29.9.2013
<b>2</b>	<b>Bond XXVIII</b>	
	Gross loan opening	<b>163.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	163.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	163.00
	Average Loan	163.00
	Rate of Interest	9.33%
	Interest	15.21
	Rep Schedule	12 Annual instalments from 15.12.2012
<b>3</b>	<b>Bond XXIX</b>	
	Gross loan opening	<b>247.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	247.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	247.00
	Average Loan	247.00
	Rate of Interest	9.20%
	Interest	22.72
	Rep Schedule	12 Annual instalments from 12.3.2013

<b>4</b>	<b>Bond XXX (AddCap for 2009-10 Drwal on 31.03.2010)</b>	
	Gross loan opening	<b>115.90</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	115.90
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	115.90
	Average Loan	115.90
	Rate of Interest	8.800%
	Interest	10.20
	Rep Schedule	12 Annual instalments from 29.9.2013
<b>5</b>	<b>Bond XXXI</b>	
	Gross loan opening	<b>337.10</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	337.10
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	337.10
	Average Loan	337.10
	Rate of Interest	8.90%
	Interest	30.00
	Rep Schedule	12 Annual instalments from 25.02.2014
	<b>Total Loan</b>	
	Gross loan opening	<b>3383.50</b>
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	3383.50
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	3383.50
	Average Loan	3383.50
	Rate of Interest	<b>8.8647%</b>
	<b>Interest</b>	299.94

<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST</b>		
(₹ in lakh)		
	<b>Details of Loan</b>	<b>2010-11</b>
<b>1</b>	<b>Bond XXX</b>	
	Gross loan opening	<b>2736.10</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	2736.10
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	2736.10
	Average Loan	2736.10
	Rate of Interest	8.80%
	Interest	240.78
	Rep Schedule	12 Annual instalments from 29.9.2013
<b>2</b>	<b>Bond XXVIII</b>	
	Gross loan opening	<b>193.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	193.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	193.00
	Average Loan	193.00
	Rate of Interest	9.33%
	Interest	18.01
	Rep Schedule	12 Annual instalments from 15.12.2012
<b>3</b>	<b>Bond XXIX</b>	
	Gross loan opening	<b>422.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	422.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	422.00
	Average Loan	422.00
	Rate of Interest	9.20%
	Interest	38.82
	Rep Schedule	12 Annual instalments from 12.3.2013

<b>4</b>	<b>Bond XXX (AddCap for 2009-10 Drwal on 31.03.2010)</b>	
	Gross loan opening	<b>115.90</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	115.90
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	115.90
	Average Loan	115.90
	Rate of Interest	8.800%
	Interest	10.20
	Rep Schedule	12 Annual instalments from 29.9.2013
<b>5</b>	<b>Bond XXXI</b>	
	Gross loan opening	<b>357.10</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	357.10
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	357.10
	Average Loan	357.10
	Rate of Interest	8.90%
	Interest	31.78
	Rep Schedule	12 Annual instalments from 25.02.2014
<b>6</b>	<b>Bond XXXIII</b>	
	Gross loan opening	<b>0.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	0.00
	Additions during the year	228.15
	Repayment during the year	0.00
	Net Loan-Closing	228.15
	Average Loan	114.08
	Rate of Interest	8.64%
	Interest	9.86
	Rep Schedule	12 Annual Instalments from 08.07.2014
	<b>Total Loan</b>	
	Gross loan opening	<b>3824.10</b>
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	3824.10
	Additions during the year	228.15
	Repayment during the year	0.00
	Net Loan-Closing	4052.25
	Average Loan	3938.18
	Rate of Interest	<b>8.8733%</b>
	<b>Interest</b>	349.44

<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST</b>		
		(₹ in lakh)
	<b>Details of Loan</b>	<b>2010-11</b>
<b>1</b>	<b>Bond XXX</b>	
	Gross loan opening	<b>2849.10</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	2849.10
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	2849.10
	Average Loan	2849.10
	Rate of Interest	8.80%
	Interest	250.72
	Rep Schedule	12 Annual instalments from 29.9.2013
<b>2</b>	<b>Bond XXVIII</b>	
	Gross loan opening	<b>203.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	203.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	203.00
	Average Loan	203.00
	Rate of Interest	9.33%
	Interest	18.94
	Rep Schedule	12 Annual instalments from 15.12.2012
<b>3</b>	<b>Bond XXIX</b>	
	Gross loan opening	<b>447.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	447.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	447.00
	Average Loan	447.00
	Rate of Interest	9.20%
	Interest	41.12
	Rep Schedule	12 Annual instalments from 12.3.2013

<b>4</b>	<b>Bond XXX (AddCap for 2009-10 Drwal on 31.03.2010)</b>	
	Gross loan opening	<b>115.90</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	115.90
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	115.90
	Average Loan	115.90
	Rate of Interest	8.800%
	Interest	10.20
	Rep Schedule	12 Annual instalments from 29.9.2013
<b>5</b>	<b>Bond XXXI</b>	
	Gross loan opening	<b>397.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	397.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	397.00
	Average Loan	397.00
	Rate of Interest	8.90%
	Interest	35.33
	Rep Schedule	12 Annual instalments from 25.02.2014
<b>6</b>	<b>Bond XXXIII</b>	
	Gross loan opening	<b>0.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	0.00
	Additions during the year	388.68
	Repayment during the year	0.00
	Net Loan-Closing	388.68
	Average Loan	194.34
	Rate of Interest	8.64%
	Interest	16.79
	Rep Schedule	12 Annual Instalments from 08.07.2014
	<b>Total Loan</b>	
	Gross loan opening	<b>4012.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	4012.00
	Additions during the year	388.68
	Repayment during the year	0.00
	Net Loan-Closing	4400.68
	Average Loan	4206.34
	Rate of Interest	<b>8.8701%</b>
	<b>Interest</b>	<b>373.11</b>



<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST</b>					
(₹ in lakh)					
	<b>Details of Loan</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
<b>1</b>	<b>Bond XXX</b>				
	Gross loan opening	<b>2869.10</b>	<b>2869.10</b>	<b>2869.10</b>	<b>2869.10</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	2869.10	2869.10	2869.10	2869.10
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	239.09
	Net Loan-Closing	2869.10	2869.10	2869.10	2630.01
	Average Loan	2869.10	2869.10	2869.10	2749.55
	Rate of Interest	8.80%	8.80%	8.80%	8.80%
	Interest	252.48	252.48	252.48	241.96
	Rep Schedule	12 Annual instalments from 29.9.2013			
<b>2</b>	<b>Bond XXVIII</b>				
	Gross loan opening	<b>215.00</b>	<b>215.00</b>	<b>215.00</b>	<b>215.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>17.92</b>
	Net Loan-Opening	215.00	215.00	215.00	197.08
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	17.92	17.92
	Net Loan-Closing	215.00	215.00	197.08	179.17
	Average Loan	215.00	215.00	206.04	188.13
	Rate of Interest	9.33%	9.33%	9.33%	9.33%
	Interest	20.06	20.06	19.22	17.55
	Rep Schedule	12 Annual instalments from 15.12.2012			
<b>3</b>	<b>Bond XXIX</b>				
	Gross loan opening	<b>459.00</b>	<b>459.00</b>	<b>459.00</b>	<b>459.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>38.25</b>
	Net Loan-Opening	459.00	459.00	459.00	420.75
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	38.25	38.25
	Net Loan-Closing	459.00	459.00	420.75	382.50
	Average Loan	459.00	459.00	439.88	401.63
	Rate of Interest	9.20%	9.20%	9.20%	9.20%
	Interest	42.23	42.23	40.47	36.95
	Rep Schedule	12 Annual instalments from 12.3.2013			

<b>4</b>	<b>Bond XXX (AddCap for 2009-10 Drwal on 31.03.2010)</b>				
	Gross loan opening	<b>115.90</b>	<b>115.90</b>	<b>115.90</b>	<b>115.90</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	115.90	115.90	115.90	115.90
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	9.66
	Net Loan-Closing	115.90	115.90	115.90	106.24
	Average Loan	115.90	115.90	115.90	111.07
	Rate of Interest	8.800%	8.800%	8.800%	8.800%
	Interest	10.20	10.20	10.20	9.77
	Rep Schedule	12 Annual instalments from 29.9.2013			
<b>5</b>	<b>Bond XXXI</b>				
	Gross loan opening	<b>397.00</b>	<b>397.00</b>	<b>397.00</b>	<b>397.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	397.00	397.00	397.00	397.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	33.08
	Net Loan-Closing	397.00	397.00	397.00	363.92
	Average Loan	397.00	397.00	397.00	380.46
	Rate of Interest	8.90%	8.90%	8.90%	8.90%
	Interest	35.33	35.33	35.33	33.86
	Rep Schedule	12 Annual instalments from 25.02.2014			
<b>6</b>	<b>Bond XXXIII</b>				
	Gross loan opening	<b>765.38</b>	<b>765.38</b>	<b>765.38</b>	<b>765.38</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	765.38	765.38	765.38	765.38
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	63.78
	Net Loan-Closing	765.38	765.38	765.38	701.60
	Average Loan	765.38	765.38	765.38	733.49
	Rate of Interest	8.64%	8.64%	8.64%	8.64%
	Interest	66.13	66.13	66.13	63.37
	Rep Schedule	12 Annual Instalments from 08.07.2014			
	<b>Total Loan</b>				
	Gross loan opening	<b>4821.38</b>	<b>4821.38</b>	<b>4821.38</b>	<b>4821.38</b>
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	56.17
	Net Loan-Opening	4821.38	4821.38	4821.38	4765.21
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	56.17	401.78
	Net Loan-Closing	4821.38	4821.38	4765.21	4363.43
	Average Loan	4821.38	4821.38	4793.30	4564.32
	Rate of Interest	<b>8.8445%</b>	<b>8.8445%</b>	<b>8.8422%</b>	<b>8.8397%</b>
	<b>Interest</b>	426.43	426.43	423.83	403.47

