

**CENTRAL ELECTRICITY REGULATORY COMMISSION**

**NEW DELHI**

**Petition No. 340/2010**

**Coram: Dr. Pramod Deo, Chairman  
Shri S. Jayaraman, Member  
Shri M. Deena Dayalan, Member**

**Date of Hearing: 12.7.2011**

**Date of Order: 29.2.2012**

**In the matter of:**

Approval under Regulation 86 of CERC (Conduct of Business) Regulations 1999 and CERC (Terms and Conditions of Tariff) Regulations 2009 for determination of transmission tariff for Combined Element-1 (i) 400 kV D/C RAPP - Kankroli transmission line along with associated bays (ii) 50 MVAR Bus Reactor along with associated bays at Kankroli Sub-station and (iii) 400 kV S/C RAPP- Kota line along with 80 MVAR Bus Reactor and Combined Element -2 (i) 400/220 kV 315 MVA ICT -II along with associated bays & two no. 220kV line bays at Kankroli Sub-station (ii) 400/220 kV 315 MVA ICT-I along with associated bays & 2 no 220 kV line bays at Kankroli Sub-station and (iii) 400/220 kV 315 MVA ICT -I and ICT-II at Kota Sub-station and ICT-III at Kankroli Sub-station along with associated bays at Kota and Kankroli Sub-stations under Transmission System associated with RAPP 5&6 in Northern Region for tariff block 2009-14

**And**

**In the matter of:**

Power Grid Corporation of India Ltd., Gurgaon

**Petitioner**

**Vs**

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited, Jaipur
  2. Ajmer Vidyut Vitran Nigam Limited, Jaipur
  3. Jaipur Vidyut Vitran Nigam Limited, Jaipur
  4. Jodhpur Vidyut Vitran Nigam Limited, Jaipur
  5. Himachal Pradesh State Electricity Board, Shimla
  6. Punjab State Electricity Board, Patiala
  7. Haryana Power Purchase Centre, Panchkula
  8. Power Development Department, Jammu
  9. Uttar Pradesh Power Corporation Ltd., Lucknow
- ...Respondents**



10. Delhi Transco Ltd., New Delhi
11. BSES Yamuna Power Ltd., New Delhi
12. BSES Rajdhani Power Ltd., New Delhi
13. North Delhi Power Ltd., New Delhi
14. Chandigarh Administration, Chandigarh
15. Uttarakhand Power Corporation Ltd., Dehradun
16. North Central Railway, Allahabad
17. New Delhi Municipal Council, New Delhi

**The following were present:**

1. Shri S.S Raju, PGCIL
2. Shri M.M. Mondal, PGCIL
3. Shri Rajeev Gupta, PGCIL
4. Shri T.P.S. Bawa, PSPCL

**ORDER**

This petition has been filed seeking approval for determination for transmission tariff for Combined Element-1 (i) 400 kV D/C RAPP - Kankroli transmission line along with associated bays (ii) 50 MVAR Bus Reactor along with associated bays at Kankroli Sub-station and (iii) 400 kV S/C RAPP- Kota line along with 80 MVAR Bus Reactor and Combined Element -2 (i) 400/220 kV 315 MVA ICT -II along with associated bays & two no. 220 kV line bays at Kankroli Sub-station (ii) 400/220 kV 315 MVA ICT-I along with associated bays & 2 no 220 kV line bays at Kankroli Sub-station, and (iii) 400/220 kV 315 MVA ICT -I and ICT-II at Kota Sub-station and ICT-III at Kankroli Sub-station along with associated bays at Kota and Kankroli Sub-stations under Transmission System associated with RAPP 5&6 (hereinafter referred to as "transmission assets") in Northern Region, based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2009 (hereinafter referred to as "the 2009 regulations").



2. The administrative approval and expenditure sanction to the transmission project was accorded by the Government of India vide Ministry of Power letter No. 12/22/2033-PG dated 3.6.2005 for ₹ 49945 lakh including an IDC of ₹ 2238 lakh based on 4th quarter, 2004 price level. Subsequently, Investment Approval for Revised Cost Estimate (RCE) for transmission system associated with the project was approved by the Board of Directors of PGCIL, vide their letter No. C/CP/RCE RAPP-5&6 dated 29.12.2008 at an estimated cost of ₹ 62665 lakh including IDC of ₹ 4088 lakh (based on 1st quarter, 2008 price level).

3. The details of the assets covered under the present petition and their respective dates of commercial operation are as under:-

<b>DETAILS OF THE ASSETS</b>				
Sl. No.	Particulars		Date of commercial operation	Details of tariff orders
<b>Combined Element-1</b>				
1	Asset-I	400 kV D/C RAPP - Kankroli T/L along with associated bays	1.4.2008	Final tariff approved vide order dated 5.8.2010 in Petition No. 43/2010 for 2004-09
2	Asset-II	50 MVAR Bus Reactor along with associated bays at Kankroli Sub-station	1.1.2009	Final tariff approved vide order dated 25.1.2010 in Petition No. 169/2009 for 2004-09
3	Asset-III	400 kV S/C RAPP- Kota line along with 80 MVAR Bus Reactor	1.4.2009	Final tariff approved vide order dated 17.3.2011 for 2009-14 in Petition No. 89/2010
<b>Combined Element-2</b>				
4	Asset-I	400/220 kV 315 MVA ICT -II along with associated bays and two no. 220 kV line bays at Kankroli Sub-station	1.4.2008	Final tariff approved vide order dated 25.1.2010 in Petition No. 169/2009 for 2004-09
5	Asset-II	400/220 kV 315 MVA ICT-I along with associated bays and 2 no 220 kV line bays at Kankroli Sub-station	1.8.2008	Final tariff approved vide order dated 5.8.2010 in Petition No. 43/2010 for 2004-09
6	Asset-III	400/220 kV 315 MVA ICT -I and ICT-II at Kota Sub-station and ICT-III at Kankroli Sub-station along with associated bays at Kota and Kankroli Sub-stations	1.4.2009	Final tariff approved vide order dated 17.3.2011 for 2009-14 in Petition No. 89/2010



4. As stated in para No. 3 above, the final tariff for the tariff block 2004-09 has already been approved by the Commission vide order dated 5.8.2010 in Petition No. 43/2010 for 400 kV D/C RAPP - Kankroli T/L along with associated bays, and 400/220 kV 315 MVA ICT -II along with associated bays and two no. 220 kV line bays at Kankroli Sub-station. Likewise, final tariff for the tariff block 2004-09 has also been approved by the Commission vide order dated 25.1.2010 in Petition No. 169/2010 for 50 MVAR Bus Reactor along with associated bays at Kankroli Sub-station, and 400/220 kV 315 MVA ICT-I along with associated bays & 2 no 220 kV line bays at Kankroli Sub-station. After this petition was filed, final tariff for the tariff block 2009-14 has also been approved by the Commission vide order dated 17.3.2011 in Petition No. 89/2010 for 400 kV S/C RAPP- Kota line along with 80 MVAR Bus Reactor, and 400/220 kV 315 MVA ICT -I and ICT-II at Kota Sub-station and ICT-III at Kankroli Sub-station along with associated bays at Kota and Kankroli Sub-stations.

5. In line with procedure prescribed in Commission's letter No. C-7/189(204)/2009-CERC dated 23.10.2009, assets (i) 400 kV D/C RAPP - Kankroli T/L along with associated bays (DOCO: 1.4.2008) (ii) 50 MVAR Bus Reactor along with associated bays at Kankroli Sub-station (DOCO: 1.1.2009) and (iii) 400 kV S/C RAPP- Kota line along with 80 MVAR Bus Reactor (DOCO: 1.4.2009) under transmission system associated with RAPP 5 & 6 in Northern Region have been clubbed (hereinafter referred to as "Combined Element-1") for the purpose of determination of transmission charges with notional date of commercial operation as 1.4.2009. Likewise, assets (i) 400/220 kV 315 MVA ICT -II along with associated bays & two no. 220 kV line



bays at Kankroli Sub-station (DOCO: 1.4.2008), (ii) 400/220 kV 315 MVA ICT-I along with associated bays & 2 no 220 kV line bays at Kankroli Sub-station (DOCO: 1.8.2008) and (iii) 400/220 kV 315 MVA ICT -I and ICT-II at Kota Sub-station and ICT-III at Kankroli Sub-station along with associated bays at Kota and Kankroli Sub-stations (DOCO: 1.4.2009) have been clubbed (hereinafter referred to as "Combined Element-2") for the purpose of determination of transmission charges with notional date of commercial operation as 1.4.2009.

6. The petitioner has claimed the following transmission charges:-

(₹ in lakh)

<b>Combined Element-1</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Depreciation	2122.43	2170.56	2178.10	2178.10	2178.10
Interest on Loan	2479.00	2344.28	2154.16	1951.66	1749.17
Return on equity	2129.10	2180.79	2189.49	2189.49	2189.49
Interest on Working Capital	160.52	160.95	158.55	155.63	152.77
O & M Expenses	404.63	427.79	452.30	478.15	505.41
<b>Total</b>	<b>7295.68</b>	<b>7284.37</b>	<b>7132.60</b>	<b>6953.03</b>	<b>6774.94</b>

<b>Combined Element-2</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Depreciation	793.57	848.40	885.88	885.88	885.88
Interest on Loan	1015.98	1031.26	1017.04	934.71	852.38
Return on equity	860.18	933.82	986.88	986.88	986.88
Interest on Working Capital	92.60	97.71	101.54	102.18	102.96
O & M Expenses	738.84	781.14	825.85	873.02	922.96
<b>Total</b>	<b>3501.17</b>	<b>3692.33</b>	<b>3817.19</b>	<b>3782.67</b>	<b>3751.06</b>

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

(₹ in lakh)

<b>Combined Element-1</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Maintenance Spares	60.69	64.17	67.84	71.72	75.81
O & M expenses	33.72	35.65	37.69	39.85	42.12
Receivables	1215.95	1214.06	1188.77	1158.84	1129.16
<b>Total</b>	<b>1310.36</b>	<b>1313.88</b>	<b>1294.30</b>	<b>1270.41</b>	<b>1247.09</b>
Interest	160.52	160.95	158.55	155.63	152.77
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%

(₹ in lakh)

<b>Combined Element-2</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Maintenance Spares	110.83	117.17	123.88	130.95	138.44
O & M expenses	61.57	65.10	68.82	72.75	76.91
Receivables	583.53	615.39	636.20	630.45	625.18
<b>Total</b>	<b>755.93</b>	<b>797.66</b>	<b>828.90</b>	<b>834.15</b>	<b>840.53</b>
Interest	92.60	97.71	101.54	102.18	102.96
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%

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 by Punjab State Power Corporation Ltd. (PSPCL), Respondent No. 6, and Uttar Pradesh Power Corporation Ltd. (UPPCL), Respondent No. 9. PGCIL has filed rejoinder to the reply of PSPCL.

9. PSPCL, vide its affidavit dated 2.5.2011, sought information/clarification regarding length of line on multi circuit towers. It has also been submitted that as per Government of India's approval vide letter dated 3.6.2005, RAPP-Kota 400 kV single circuit line of 62 km includes 28 km on multiple circuit towers, whereas as per Form-2 of the petition RAPP-Kota line single circuit is 50.5 km and length of line on multiple circuit towers has not been indicated. The Respondent sought confirmation regarding number of circuits to be constructed on the multiple circuit towers in addition to RAPP-Kota line (single circuit), whether the total cost of multi circuit towers has been apportioned to RAPP-Kota line, and if part of the cost of multi circuit has been apportioned to RAPP-Kota single circuit line, the apportionment details. The respondent has sought the actual additional capital expenditure during 2009-



10 and 2010-11 and also requested to allow O&M expenses only as per the 2009 regulations.

10. The petitioner, vide its rejoinder dated 28.9.2011, submitted the following clarifications to the issues raised by PSPCL in its reply:-

(a) The RAPP-Kota single circuit transmission line has been constructed with length of 50.5 Km (as claimed in the petition) and this includes a length of 9.998 Km on Multi Ckt Towers;

(b) Three circuits are to be constructed in the given Multi Ckt Towers: One ckt is utilized for 400 kV single circuit RAPP 5 & 6- Kota transmission line associated with RAPP 5 & 6 transmission system, and two circuits shall be utilized in future for 400 kV D/C RAPP 7 & 8-Bassi transmission line under RAPP 7 & 8 transmission system. The entire cost of Multi Ckt. towers portion has been apportioned to RAPP-Kota S/C transmission line and the entire cost has been booked in RAPP-Kota transmission line.

11. UPPCL, in its reply vide affidavit dated 5.7.2011 has raised objections regarding payment of licence fee, service tax, return on equity, tax holiday, etc. These issues are dealt in relevant paragraphs of this order. As regards the issue of tax holiday raised by UPPCL, it is clarified that the Commission has considered the issue and passed a reasoned order on 8.4.2011 in Petition No. 225/2010.



12. Having heard the representatives of the parties and perused the material on records, we proceed to dispose of the petition. The submissions of the respondents are addressed in the following relevant paragraphs.

### **CAPITAL COST**

13. As regards capital cost, Regulation 7(1) (a) 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.”*

14. The details of expenditure and additional capital expenditure projected to be incurred for the transmission system are given hereunder:-

(₹ in lakh)

	Assets	Apportioned Approved cost (RCE)	Capital Cost upto DOCO / admitted on 31.03.2009	ADD CAP for 2009-10	ADD CAP for 2010-11	Total cost	Remarks
Combined Element-1	Asset-I	27634.53	26441.89	267.06	156.77	26865.72	Capital cost upto 31.03.2009 admitted by CERC vide order dated 5.8.2010 in Petition No. 43/2010 for 2004-09 block
	Asset-II	1432.39	1311.03	69.78	49.34	1430.15	Capital cost upto 31.03.2009 admitted by CERC vide order dated 25.1.2010 in Petition No. 169/2009 for 2004-09 block
	Asset-III	13936.80	12027.81	1302.24	125.90	13455.95	As per Auditor's Certificates
	<b>SUB-TOTAL</b>	<b>43003.72</b>	<b>39780.73</b>	<b>1639.08</b>	<b>332.01</b>	<b>41751.82</b>	





Combined Element-2	Asset-I	3312.36	2552.03	76.32	140.23	2768.58	Capital cost upto 31.03.2009 admitted by CERC vide order dated 05.08.2010 in petition no. 43/2010 for 2004-09 block
	Asset-II	3312.36	2862.58	76.32	268.23	3207.13	Capital cost upto 31.03.2009 admitted by CERC vide order dated 25.01.2010 in petition no. 169/2009 for 2004-09 block
	Asset-III	13036.42	10593.59	631.97	1615.22	12840.78	As per Auditor's Certificates
	<b>SUB-TOTAL</b>	<b>19661.14</b>	<b>16008.20</b>	<b>784.61</b>	<b>2023.68</b>	<b>18816.49</b>	
	<b>TOTAL</b>	<b>62664.86</b>				<b>60568.31</b>	

### TREATMENT OF INITIAL SPARES

15. Initial spares calculated as per Regulation 8 of 2009 regulations is given hereunder:-

(₹ in lakh)					
Particulars	Rate as per Regulation 8 of 2009 regulations	Expenditure pertaining to Sub-station upto cut off date	Amount claimed by the petitioner	Initial spares calculated as per Regulation	Excess amount claimed
Sub-station (Including PLCC)	2.50%	2969.48	74.89	74.22	0.67

Initial spares claimed by the petitioner for Sub-station (including PLCC) in Asset-III of Combined Element-1 exceeds the ceiling limit specified in the 2009 regulations, i.e. 2.5% as on cut-off date, by ₹ 0.67 lakh which has already been deducted from Sub-station as on the date of commercial operation. In case of transmission line, the initial spares claimed for both the Combined Elements is within the specified ceiling limit and hence no adjustment of initial spares is being done.



16. The following expenditure as on the date of commercial operation has been considered for calculating tariff:-

( ₹ in lakh)

Sl. No.	Name of Asset	Expenditure on DOCO considered for tariff
1	Combined Element-1: (i) 400 kV D/C RAPP-Kankroli T/L along with associated bays, (ii) 50 MVAR Bus Reactor along with associated bays at Kankroli S/S and (iii) 400 kV S/C RAPP-Kota Line along with 80MVAR Bus Reactor	<b>39780.06</b>
2	Combined Element-2: (i) 400/220 kv 315 MVA ICT-II along with associated bays & two no. 220 kv line bays at Kankroli S/S, (ii) 400/220 kv 315 MVA ICT-I along with associated bays & two no 220 kv line bays at Kankroli S/S and (iii)400/220 kv 315 MVA ICT-I and ICT-II at Kota S/S and ICT-III at Kankroli S/S along with associated bays at Kota and Kankroli Substations	<b>16008.20</b>

### **ADDITIONAL CAPITAL EXPENDITURE**

17. As regards additional capital expenditure, Regulation 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) XXX
- (iii) XXX
- (iv) XXX
- (v) XXX”

18. Further, the 2009 regulations defines cut-off date as-

*“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 in case 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”.*

Based on the above definition, cut-off date for the above mentioned assets is

31.3.2012.



19. The petitioner, vide affidavit dated 14.12.2011, has submitted details of actual expenditure of ₹ 699.76 lakh and ₹ 187.88 lakh respectively for the period 2009-10 and 2010-11 for Combined Element- 1 and ₹ 397.96 lakh and ₹ 294.81 lakh respectively for the period 2009-10 and 2010-11 for Combined Element-2. The same has been considered for calculating the tariff, as per details given hereunder:-

(₹ in lakh)

<b>Combined Element- 1</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Opening Gross Block	39780.06	40479.82	40667.70	40667.70	40667.70
Addition during 2009-14 due to Additional Capital Expenditure	699.76	187.88	0.00	0.00	0.00
Closing Gross Block	40479.82	40667.70	40667.70	40667.70	40667.70
<b>Combined Element- 2</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Opening Gross Block	16008.20	16406.16	16700.97	16700.97	16700.97
Addition during 2009-14 due to Additional Capital Expenditure	397.96	294.81	0.00	0.00	0.00
Closing Gross Block	16406.16	16700.97	16700.97	16700.97	16700.97

### **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.*

*(2) XXX.”*



21. Details of debt- equity ratio as on the date of commercial operation, i.e., 1.4.2009 are given below:-

Combined Element-1	Admitted capital cost as on date of commercial operation (after restricting initial spares)	
	(₹ in lakh)	%
Debt	27873.59	70.07
Equity	11906.47	29.93
<b>Total</b>	<b>39780.06</b>	<b>100.00</b>
Combined Element-2	Admitted capital cost as on date of commercial operation	
	(₹ in lakh)	%
Debt	11205.74	70.00
Equity	4802.46	30.00
<b>Total</b>	<b>16008.20</b>	<b>100.00</b>

22. Details of debt-equity ratio for normative additional capital expenditure (referred to as "Normative Add-Cap" below) for Combined Element-1 are given hereunder:-

Combined Element-1	Normative Add-Cap	
	(₹ in lakh)	%
<b>2009-10</b>		
Debt	489.83	70.00
Equity	209.93	30.00
<b>Total</b>	<b>699.76</b>	<b>100.00</b>
2010-11	Normative Add-Cap	
	(₹ in lakh)	%
Debt	131.52	70.00
Equity	56.36	30.00
<b>Total</b>	<b>187.88</b>	<b>100.00</b>

23. Details of debt- equity ratio for normative additional capital expenditure for Combined Element-2 are given below:-

Combined Element-2	Normative Add-Cap	
	(₹ in lakh)	%
<b>2009-10</b>		
Debt	278.57	70.00
Equity	119.39	30.00
<b>Total</b>	<b>397.96</b>	<b>100.00</b>
<b>2010-11</b>		
Debt	206.37	70.00
Equity	88.44	30.00
<b>Total</b>	<b>294.81</b>	<b>100.00</b>



24. Debt-equity ratio as on 31.3.2014 is as per details given below:

Combined Element-1	Cost as on 31.3.2014	
	(₹ in lakh)	%
Debt	28494.94	70.07
Equity	12172.76	29.93
<b>Total</b>	<b>40667.70</b>	<b>100.00</b>
Combined Element-2	Cost as on 31.3.2014	
	(₹ in lakh)	%
Debt	11690.68	70.00
Equity	5010.29	30.00
<b>Total</b>	<b>16700.97</b>	<b>100.00</b>

### RETURN ON EQUITY

25. Regulation 15 of the 2009 regulations provides as under:-

"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."



26. The petitioner has computed return on equity on pre-tax basis on 11.335% MAT in accordance with the tax rate applicable for 2008-09 and has claimed return on equity at 17.481%. UPPCL in its reply has submitted that the opening equity in Combined Element-1 in 2009-10 should be ₹ 11858.64 lakh instead of ₹ 11933.67 lakh and the actual debt-equity ratio of 70.19:29.81 should be maintained. In case of Combined Element-2 the debt equity ratio in 2009-10 should be 70:30 instead of 69.70:30.30. Accordingly, the opening equity of 2009-10 should be ₹ 4802.46 lakh instead of ₹ 4802.96 lakh. The return on equity for Combined Element-1 works out to ₹ 2099.72 lakh for 2009-10, ₹ 2122.99 lakh for 2010-11 and ₹ 2127.92 lakh from 2011-12 to 2013-14 and return on equity for Combined Element-2 works out to ₹ 849.95 lakh for 2009-10, ₹ 868.12 lakh for 2010-11 and ₹ 875.85 lakh from 2011-12 to 2013-14.

27. Petitioner has prayed for grossing up of base rate of return based on the tax rates viz., MAT, surcharge, any other cess, charges, levies etc., as per the relevant Finance Act. UPPCL has submitted that section 80-IA of Income Tax Act provides 100% deduction in respect of profits for 10 consecutive Assessment Years and the assessee may opt for any 10 years out of 15 years beginning with the year in which the undertaking starts the eligible activity and for an undertaking which starts transmission or distribution by laying a network of new transmission or distribution lines during 1.4.1999 to 31.3.2011. In the instant case the date of commercial operation of Combined Element-1 and Combined Element-2 is 1.4.2009, and hence no income tax should be leviable on these assets. UPPCL has further submitted that the grossing up of base rate of return on equity with MAT rates is not at all



justified. The claim of the petitioner shall be settled in accordance with the provisions of Regulation 15 of 2009 regulations as amended by Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2011.

28. Details of return on equity calculated are given hereunder:-

(₹ in lakh)

Combined Element-1					
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Equity	11906.47	12116.40	12172.76	12172.76	12172.76
Addition due to Additional Capital Expenditure	209.93	56.36	0.00	0.00	0.00
Closing Equity	12116.40	12172.76	12172.76	12172.76	12172.76
Average Equity	12011.43	12144.58	12172.76	12172.76	12172.76
Return on Equity (Base Rate )	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	11.330%	11.330%	11.330%	11.330%	11.330%
Rate of Return on Equity (Pre Tax )	17.481%	17.481%	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)	2099.72	2122.99	2127.92	2127.92	2127.92

Combined Element-2					
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Equity	4802.46	4921.85	5010.29	5010.29	5010.29
Addition due to Additional Capital Expenditure	119.39	88.44	0.00	0.00	0.00
Closing Equity	4921.85	5010.29	5010.29	5010.29	5010.29
Average Equity	4862.15	4966.07	5010.29	5010.29	5010.29
Return on Equity (Base Rate )	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	11.330%	11.330%	11.330%	11.330%	11.330%
Rate of Return on Equity (Pre Tax )	17.481%	17.481%	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)	849.95	868.12	875.85	875.85	875.85

## **INTEREST ON LOAN**

29. Regulation 16 of the 2009 regulations provides as under:-

*“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.”*

30. Interest on loan has been worked out as per Regulation 16 of 2009 regulations as under:-

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

(ii) Tariff is worked out considering normative loan and normative repayments. Depreciation allowed has been taken as normative repayment for the tariff period 2009-14.





(iii) For Asset-I and Asset-II in Combined Elements- 1 and 2 Gross amount of loan, repayment of instalments and rate of interest on actual loan have been considered as per Petition Nos. 43/2010 and 169/2010 respectively.

(iv) Weighted average rate of interest on actual loan worked out as above has been applied on the notional average loan during the year to arrive at the interest on loan.

31. Detailed calculations of the weighted average rate of interest has been given in Annexure I and II to this order.

32. Details of the calculation of interest on loan are given hereunder:-

(₹ in lakh)

Combined Element-1					
	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Normative Loan	27873.59	28363.42	28494.94	28494.94	28494.94
Cumulative Repayment upto Previous Year	692.47	2792.52	4915.04	7041.78	9168.52
Net Loan-Opening	27181.12	25570.90	23579.90	21453.16	19326.42
Addition due to additional capital expenditure	489.83	131.52	0.00	0.00	0.00
Repayment during the year	2100.05	2122.52	2126.74	2126.74	2126.74
Net Loan-Closing	25570.90	23579.90	21453.16	19326.42	17199.68
Average Loan	26376.01	24575.40	22516.53	20389.79	18263.05
Weighted Average Rate of Interest on Loan	9.2961%	9.2989%	9.3043%	9.3050%	9.3060%
<b>Interest</b>	<b>2451.95</b>	<b>2285.23</b>	<b>2095.01</b>	<b>1897.28</b>	<b>1699.56</b>

Combined Element-2					
	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Normative Loan	11205.74	11484.31	11690.68	11690.68	11690.68
Cumulative Repayment upto Previous Year	152.03	937.92	1737.50	2541.14	3344.78
Net Loan-Opening	11053.71	10546.40	9953.18	9149.54	8345.90
Addition due to additional capital expenditure	278.57	206.37	0.00	0.00	0.00
Repayment during the year	785.89	799.59	803.64	803.64	803.64
Net Loan-Closing	10546.40	9953.18	9149.54	8345.90	7542.27
Average Loan	10800.05	10249.79	9551.36	8747.72	7944.08
Weighted Average Rate of Interest on Loan	9.2944%	9.2965%	9.3016%	9.3023%	9.3031%
<b>Interest</b>	<b>1003.80</b>	<b>952.87</b>	<b>888.43</b>	<b>813.74</b>	<b>739.05</b>



## DEPRECIATION

33. Petitioner has claimed actual depreciation as a component of Annual Fixed Charges. However, Regulation 17 (4) of the 2009 regulations provides as under:-

*"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 asset".*

34. In these calculations, depreciation has been worked out on the basis of capital expenditure as on date of commercial operation as under:-

(₹ in lakh)

Combined Element-1					
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Gross Block	39780.06	40479.82	40667.70	40667.70	40667.70
Addition during 2009-14 due to Additional Capital Expenditure	699.76	187.88	0.00	0.00	0.00
Closing Gross Block	40479.82	40667.70	40667.70	40667.70	40667.70
Average Gross Block	40129.94	40573.76	40667.70	40667.70	40667.70
Rate of Depreciation	5.2331%	5.2313%	5.2296%	5.2296%	5.2296%
Depreciable Value	35794.43	36189.03	36268.73	36268.73	36268.73
Remaining Depreciable Value	35101.96	33396.51	31353.69	29226.95	27100.21
<b>Depreciation</b>	<b>2100.05</b>	<b>2122.52</b>	<b>2126.74</b>	<b>2126.74</b>	<b>2126.74</b>
Combined Element-2					
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Gross Block	16008.20	16406.16	16700.97	16700.97	16700.97
Addition during 2009-14 due to Additional Capital Expenditure	397.96	294.81	0.00	0.00	0.00
Closing Gross Block	16406.16	16700.97	16700.97	16700.97	16700.97
Average Gross Block	16207.18	16553.57	16700.97	16700.97	16700.97
Rate of Depreciation	4.8490%	4.8303%	4.8119%	4.8119%	4.8119%
Depreciable Value	13594.47	13877.16	13980.76	13980.76	13980.76
Remaining Depreciable Value	13442.44	12939.24	12243.26	11439.62	10635.99
<b>Depreciation</b>	<b>785.89</b>	<b>799.59</b>	<b>803.64</b>	<b>803.64</b>	<b>803.64</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 given hereunder:-

Element	2009-10	2010-11	2011-12	2012-13	2013-14
400 kV D/C twin conductor T/L (₹ lakh/km)	0.627	0.663	0.701	0.741	0.783
400 kV S/C twin conductor T/L (₹ lakh/km)	0.358	0.378	0.400	0.423	0.447
400 kV Bays (₹ lakh/bay)	52.40	55.40	58.57	61.92	65.46
220 kV Bays (₹ lakh/bay)	36.68	38.78	41.00	43.34	45.82

36. As per the existing norms the allowable O&M expenses for the assets covered in the instant petition are as under:-

(₹ in lakh)					
Combined Element-1	2009-10	2010-11	2011-12	2012-13	2013-14
198.64 kms 400 kV D/C twin conductor T/L	124.55	131.70	139.25	147.19	155.54
50.5 kms 400 kV S/C twin conductor T/L	18.08	19.09	20.20	21.36	22.57
5 Nos. 400 kV bays	262.00	277.00	292.85	309.60	327.30
<b>Total</b>	<b>404.63</b>	<b>427.79</b>	<b>452.30</b>	<b>478.15</b>	<b>505.41</b>
Combined Element-2	2009-10	2010-11	2011-12	2012-13	2013-14
5 Nos. 400 kV bays	262.00	277.00	292.85	309.60	327.30
13 Nos. 220 kV bays	476.84	504.14	533.00	563.42	595.66
<b>Total</b>	<b>738.84</b>	<b>781.14</b>	<b>825.85</b>	<b>873.02</b>	<b>922.96</b>

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 submitted that it would approach the Commission for



suitable revision in the norms for O&M expenditure in case the impact of wage hike w.e.f 1.1.2007 is more than 50%.

38. The petitioner has further 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.

39. UPPCL has submitted that the request of petitioner regarding increased O&M expenses due to revision in employees pay scale should not be accepted for the reason that once the normative parameters have been defined, the question of considering actual does not arise, and also that in case actual are to be considered, the whole tariff needs to be based on actuals. It is clarified that , if any application for revision in the norms of O&M expenditure is filed in future, it will be dealt with in accordance with law.

### **INTEREST ON WORKING CAPITAL**

40. 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 of 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, the SBI PLR as on 1.4.2009 (i.e. 12.25%) is considered as the rate of interest on working capital.

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

(₹ in lakh)

<b>Combined Element-1</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Maintenance spares	60.69	64.17	67.85	71.72	75.81
O & M expenses	33.72	35.65	37.69	39.85	42.12
Receivables	1202.54	1186.01	1159.49	1130.37	1101.50
<b>Total</b>	<b>1,296.95</b>	<b>1,285.83</b>	<b>1,265.03</b>	<b>1,241.94</b>	<b>1,219.43</b>
Rate of Interest	12.25	12.25	12.25	12.25	12.25
<b>Interest</b>	<b>158.88</b>	<b>157.51</b>	<b>154.97</b>	<b>152.14</b>	<b>149.38</b>

(₹ in lakh)

<b>Combined Element-2</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Maintenance spares	110.83	117.17	123.88	130.95	138.44
O & M expenses	61.57	65.10	68.82	72.75	76.91
Receivables	578.41	582.57	581.43	576.98	573.01
<b>Total</b>	<b>750.81</b>	<b>764.83</b>	<b>774.13</b>	<b>780.68</b>	<b>788.37</b>
Rate of Interest	12.25	12.25	12.25	12.25	12.25
<b>Interest</b>	<b>91.97</b>	<b>93.69</b>	<b>94.83</b>	<b>95.63</b>	<b>96.58</b>

## **TRANSMISSION CHARGES**

42. The transmission charges being allowed for the transmission lines are summarized hereunder:-

(₹ in lakh)

<b>Combined Element-1</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Depreciation	2100.05	2122.52	2126.74	2126.74	2126.74
Interest on loan	2451.95	2285.23	2095.01	1897.28	1699.56
Return on equity	2099.72	2122.99	2127.92	2127.92	2127.92
Interest on working capital	158.88	157.51	154.97	152.14	149.38
O & M Expenses	404.63	427.79	452.30	478.15	505.41
<b>Total</b>	<b>7215.22</b>	<b>7116.05</b>	<b>6956.94</b>	<b>6782.23</b>	<b>6609.02</b>

  

<b>Combined Element-2</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Depreciation	785.89	799.59	803.64	803.64	803.64
Interest on Loan	1003.80	952.87	888.43	813.74	739.05
Return on equity	849.95	868.12	875.85	875.85	875.85
Interest on Working Capital	91.97	93.69	94.83	95.63	96.58
O & M Expenses	738.84	781.14	825.85	873.02	922.96
<b>Total</b>	<b>3470.46</b>	<b>3495.41</b>	<b>3488.59</b>	<b>3461.88</b>	<b>3438.07</b>

## **FILING FEE AND THE PUBLICATION EXPENSES**

43. The respondent, UPPCL has submitted that the filing fee will be governed by the Commission's orders. It is clarified that the Commission has allowed reimbursement of filing fee in its order dated 11.1.2010 in Petition No. 109/2009, pertaining to tariff period 2009-14. Accordingly, the petitioner shall be entitled to recover the filing fee and publication expenses from the beneficiaries.

## **LICENCE FEE**

44. The petitioner has requested for recovering the licence fee separately from the respondents. The respondent, UPPCL, has submitted that as per CERC (Payment of Fees) Regulations, 2008 the deemed licensee is required to pay license fee. This being so, the payment of license fee is the onus of the petitioner. It is clarified that reimbursement of licence fee shall be dealt with in

accordance with our order dated 25.10.2011 in Petition No.21/2011 and 22/2011.

### **SERVICE TAX**

45. 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. The respondent, UPPCL, has objected to levying of service tax on the beneficiaries as the issue of service tax is pending before the Hon'ble Supreme Court. Respondent has submitted that it is premature for the petitioner to request for recovery of service tax when the matter is pending before the Hon'ble Supreme Court. We consider the prayer pre-mature and accordingly the same is rejected.

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 as amended.

47. This order disposes of Petition No.340/2010.

**(M. Deena Dayalan)**  
Member

**(S. Jayaraman)**  
Member

**(Dr. Pramod Deo)**  
Chairperson



Combined Element-1						
CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN						
					(₹ in lakh)	
	Details of Loan	2009-10	2010-11	2011-12	2012-13	2013-14
<b>1</b>	<b>Bond- XIX</b>					
	Gross loan opening	640.00	<b>640.00</b>	<b>640.00</b>	<b>640.00</b>	<b>640.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>53.33</b>	<b>106.67</b>	<b>160.00</b>
	Net Loan-Opening	640.00	640.00	586.67	533.33	480.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	53.33	53.33	53.33	53.33
	Net Loan-Closing	640.00	586.67	533.33	480.00	426.67
	Average Loan	640.00	613.33	560.00	506.67	453.33
	Rate of Interest	9.25%	9.25%	9.25%	9.25%	9.25%
	Interest	59.20	56.73	51.80	46.87	41.93
	Rep Schedule	12 Annual Instalments from 24.07.2010				
<b>2</b>	<b>Bond-XX</b>					
	Gross loan opening	3750.00	<b>3750.00</b>	<b>3750.00</b>	<b>3750.00</b>	<b>3750.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>312.50</b>	<b>625.00</b>	<b>937.50</b>
	Net Loan-Opening	3750.00	3750.00	3437.50	3125.00	2812.50
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	312.50	312.50	312.50	312.50
	Net Loan-Closing	3750.00	3437.50	3125.00	2812.50	2500.00
	Average Loan	3750.00	3593.75	3281.25	2968.75	2656.25
	Rate of Interest	8.93%	8.93%	8.93%	8.93%	8.93%
	Interest	334.88	320.92	293.02	265.11	237.20
	Rep Schedule	12 Annual instalments from 07.09.2010				
<b>3</b>	<b>Bond- XXI</b>					
	Gross loan opening	2290.00	<b>2290.00</b>	<b>2290.00</b>	<b>2290.00</b>	<b>2290.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>190.83</b>	<b>381.67</b>	<b>572.50</b>
	Net Loan-Opening	2290.00	2290.00	2099.17	1908.33	1717.50
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	190.83	190.83	190.83	190.83
	Net Loan-Closing	2290.00	2099.17	1908.33	1717.50	1526.67
	Average Loan	2290.00	2194.58	2003.75	1812.92	1622.08
	Rate of Interest	8.73%	8.73%	8.73%	8.73%	8.73%
	Interest	199.92	191.59	174.93	158.27	141.61
	Rep Schedule	12 Annual Instalments from 11.10.2010				
<b>4</b>	<b>Bond- XXII</b>					
	Gross loan opening	5208.00	<b>5208.00</b>	<b>5208.00</b>	<b>5208.00</b>	<b>5208.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>434.00</b>	<b>868.00</b>	<b>1302.00</b>
	Net Loan-Opening	5208.00	5208.00	4774.00	4340.00	3906.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	434.00	434.00	434.00	434.00
	Net Loan-Closing	5208.00	4774.00	4340.00	3906.00	3472.00
	Average Loan	5208.00	4991.00	4557.00	4123.00	3689.00
	Rate of Interest	8.68%	8.68%	8.68%	8.68%	8.68%





	Interest	452.05	433.22	395.55	357.88	320.21
	Rep Schedule	10 Annual Instalments from 07.12.2010				
<b>5</b>	<b>Bond- XXIV</b>					
	Gross loan opening	4159.00	<b>4159.00</b>	<b>4159.00</b>	<b>4159.00</b>	<b>4159.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>346.58</b>	<b>693.17</b>	<b>1039.75</b>
	Net Loan-Opening	4159.00	4159.00	3812.42	3465.83	3119.25
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	346.58	346.58	346.58	346.58
	Net Loan-Closing	4159.00	3812.42	3465.83	3119.25	2772.67
	Average Loan	4159.00	3985.71	3639.13	3292.54	2945.96
	Rate of Interest	9.95%	9.95%	9.95%	9.95%	9.95%
	Interest	413.82	396.58	362.09	327.61	293.12
	Rep Schedule	12 annual Instalments from 26.03.2011				
<b>6</b>	<b>Bond- XXV</b>					
	Gross loan opening	3887.00	<b>3887.00</b>	<b>3887.00</b>	<b>3887.00</b>	<b>3887.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>323.92</b>	<b>647.83</b>
	Net Loan-Opening	3887.00	3887.00	3887.00	3563.08	3239.17
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	323.92	323.92	323.92
	Net Loan-Closing	3887.00	3887.00	3563.08	3239.17	2915.25
	Average Loan	3887.00	3887.00	3725.04	3401.13	3077.21
	Rate of Interest	10.10%	10.10%	10.10%	10.10%	10.10%
	Interest	392.59	392.59	376.23	343.51	310.80
	Rep Schedule	12 annual Instalments from 12.06.2011				
<b>7</b>	<b>Bond- XXVI</b>					
	Gross loan opening	4682.00	<b>4682.00</b>	<b>4682.00</b>	<b>4682.00</b>	<b>4682.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>390.17</b>	<b>780.33</b>
	Net Loan-Opening	4682.00	4682.00	4682.00	4291.83	3901.67
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	390.17	390.17	390.17
	Net Loan-Closing	4682.00	4682.00	4291.83	3901.67	3511.50
	Average Loan	4682.00	4682.00	4486.92	4096.75	3706.58
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	435.43	435.43	417.28	381.00	344.71
	Rep Schedule	12 annual Instalments from 07.03.2012				
<b>8</b>	<b>Bond- XXVIII</b>					
	Gross loan opening	3068.39	<b>3068.39</b>	<b>3068.39</b>	<b>3068.39</b>	<b>3068.39</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>255.70</b>
	Net Loan-Opening	3068.39	3068.39	3068.39	3068.39	2812.69
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	255.70	255.70
	Net Loan-Closing	3068.39	3068.39	3068.39	2812.69	2556.99



	Average Loan	3068.39	3068.39	3068.39	2940.54	2684.84
	Rate of Interest	9.33%	9.33%	9.33%	9.33%	9.33%
	Interest	286.28	286.28	286.28	274.35	250.50
	Rep Schedule	12 annual Instalments from 15.12.2012				
<b>9</b>	<b>Bond-XXX</b>					
	Gross loan opening	0.00	<b>235.85</b>	<b>235.85</b>	<b>235.85</b>	<b>235.85</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	235.85	235.85	235.85	235.85
	Additions during the year	235.85	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	19.65
	Net Loan-Closing	235.85	235.85	235.85	235.85	216.20
	Average Loan	117.93	235.85	235.85	235.85	226.02
	Rate of Interest	8.80%	8.80%	8.80%	8.80%	8.80%
	Interest	10.38	20.75	20.75	20.75	19.89
	Rep Schedule	12 annual Instalments from 29.09.2013				
	<b>Total Loan</b>					
	Gross Loan opening	27684.39	27920.24	27920.24	27920.24	27920.24
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	1337.25	3388.58	5695.62
	Net Loan-Opening	27684.39	27920.24	26582.99	24531.66	22224.62
	Additions during the year	235.85	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	1337.25	2051.33	2307.03	2326.69
	Net Loan-Closing	27920.24	26582.99	24531.66	22224.62	19897.94
	Average Loan	27802.32	27251.62	25557.32	23378.14	21061.28
	Rate of Interest	9.2961%	9.2989%	9.3043%	9.3050%	9.3060%
	<b>Interest</b>	2584.54	2534.09	2377.93	2175.35	1959.968



Combined Element-2						
CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN						
(₹ in Lakh)						
	Details of Loan	2009-10	2010-11	2011-12	2012-13	2013-14
<b>1</b>	<b>Bond- XIX</b>					
	Gross loan opening	360.00	<b>360.00</b>	<b>360.00</b>	<b>360.00</b>	<b>360.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>30.00</b>	<b>60.00</b>	<b>90.00</b>
	Net Loan-Opening	360.00	360.00	330.00	300.00	270.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	30.00	30.00	30.00	30.00
	Net Loan-Closing	360.00	330.00	300.00	270.00	240.00
	Average Loan	360.00	345.00	315.00	285.00	255.00
	Rate of Interest	9.25%	9.25%	9.25%	9.25%	9.25%
	Interest	33.30	31.91	29.14	26.36	23.59
	Rep Schedule	12 Annual Instalments from 24.07.2010				
<b>2</b>	<b>Bond-XX</b>					
	Gross loan opening	1250.00	<b>1250.00</b>	<b>1250.00</b>	<b>1250.00</b>	<b>1250.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>104.17</b>	<b>208.33</b>	<b>312.50</b>
	Net Loan-Opening	1250.00	1250.00	1145.83	1041.67	937.50
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	104.17	104.17	104.17	104.17
	Net Loan-Closing	1250.00	1145.83	1041.67	937.50	833.33
	Average Loan	1250.00	1197.92	1093.75	989.58	885.42
	Rate of Interest	8.93%	8.93%	8.93%	8.93%	8.93%
	Interest	111.63	106.97	97.67	88.37	79.07
	Rep Schedule	12 Annual instalments from 07.09.2010				
<b>3</b>	<b>Bond- XXI</b>					
	Gross loan opening	750.00	<b>750.00</b>	<b>750.00</b>	<b>750.00</b>	<b>750.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>62.50</b>	<b>125.00</b>	<b>187.50</b>
	Net Loan-Opening	750.00	750.00	687.50	625.00	562.50
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	62.50	62.50	62.50	62.50
	Net Loan-Closing	750.00	687.50	625.00	562.50	500.00
	Average Loan	750.00	718.75	656.25	593.75	531.25
	Rate of Interest	8.73%	8.73%	8.73%	8.73%	8.73%
	Interest	65.48	62.75	57.29	51.83	46.38
	Rep Schedule	12 Annual Instalments from 11.10.2010				
<b>4</b>	<b>Bond- XXII</b>					
	Gross loan opening	1900.00	<b>1900.00</b>	<b>1900.00</b>	<b>1900.00</b>	<b>1900.00</b>



	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>158.33</b>	<b>316.67</b>	<b>475.00</b>
	Net Loan-Opening	1900.00	1900.00	1741.67	1583.33	1425.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	158.33	158.33	158.33	158.33
	Net Loan-Closing	1900.00	1741.67	1583.33	1425.00	1266.67
	Average Loan	1900.00	1820.83	1662.50	1504.17	1345.83
	Rate of Interest	8.68%	8.68%	8.68%	8.68%	8.68%
	Interest	164.92	158.05	144.31	130.56	116.82
	Rep Schedule	10 Annual Instalments from 07.12.2010				
<b>5</b>	<b>Bond- XXIV</b>					
	Gross loan opening	1350.00	<b>1350.00</b>	<b>1350.00</b>	<b>1350.00</b>	<b>1350.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>112.50</b>	<b>225.00</b>	<b>337.50</b>
	Net Loan-Opening	1350.00	1350.00	1237.50	1125.00	1012.50
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	112.50	112.50	112.50	112.50
	Net Loan-Closing	1350.00	1237.50	1125.00	1012.50	900.00
	Average Loan	1350.00	1293.75	1181.25	1068.75	956.25
	Rate of Interest	9.95%	9.95%	9.95%	9.95%	9.95%
	Interest	134.33	128.73	117.53	106.34	95.15
	Rep Schedule	12 annual Instalments from 26.03.2011				
<b>6</b>	<b>Bond- XXV</b>					
	Gross loan opening	1390.00	<b>1390.00</b>	<b>1390.00</b>	<b>1390.00</b>	<b>1390.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>115.83</b>	<b>231.67</b>
	Net Loan-Opening	1390.00	1390.00	1390.00	1274.17	1158.33
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	115.83	115.83	115.83
	Net Loan-Closing	1390.00	1390.00	1274.17	1158.33	1042.50
	Average Loan	1390.00	1390.00	1332.08	1216.25	1100.42
	Rate of Interest	10.10%	10.10%	10.10%	10.10%	10.10%
	Interest	140.39	140.39	134.54	122.84	111.14
	Rep Schedule	12 annual Instalments from 12.06.2011				
<b>7</b>	<b>Bond- XXVI</b>					
	Gross loan opening	2009.00	<b>2009.00</b>	<b>2009.00</b>	<b>2009.00</b>	<b>2009.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>167.42</b>	<b>334.83</b>
	Net Loan-Opening	2009.00	2009.00	2009.00	1841.58	1674.17
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	167.42	167.42	167.42
	Net Loan-Closing	2009.00	2009.00	1841.58	1674.17	1506.75
	Average Loan	2009.00	2009.00	1925.29	1757.88	1590.46
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%



	Interest	186.84	186.84	179.05	163.48	147.91
	Rep Schedule	12 annual Instalments from 07.03.2012				
<b>8</b>	<b>Bond- XXVIII</b>					
	Gross loan opening	2042.61	<b>2042.61</b>	<b>2042.61</b>	<b>2042.61</b>	<b>2042.61</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>170.22</b>
	Net Loan-Opening	2042.61	2042.61	2042.61	2042.61	1872.39
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	170.22	170.22
	Net Loan-Closing	2042.61	2042.61	2042.61	1872.39	1702.18
	Average Loan	2042.61	2042.61	2042.61	1957.50	1787.28
	Rate of Interest	9.33%	9.33%	9.33%	9.33%	9.33%
	Interest	190.58	190.58	190.58	182.63	166.75
	Rep Schedule	12 annual Instalments from 15.12.2012				
<b>9</b>	<b>Bond-XXX</b>					
	Gross loan opening	0.00	<b>106.80</b>	<b>106.80</b>	<b>106.80</b>	<b>106.80</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	106.80	106.80	106.80	106.80
	Additions during the year	106.80	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	8.90
	Net Loan-Closing	106.80	106.80	106.80	106.80	97.90
	Average Loan	53.40	106.80	106.80	106.80	102.35
	Rate of Interest	8.80%	8.80%	8.80%	8.80%	8.80%
	Interest	4.70	9.40	9.40	9.40	9.01
	Rep Schedule	12 annual Instalments from 29.09.2013				
	<b>Total Loan</b>					
	Gross Loan opening	11051.61	11158.41	11158.41	11158.41	11158.41
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	467.50	1218.25	2139.22
	Net Loan-Opening	11051.61	11158.41	10690.91	9940.16	9019.19
	Additions during the year	106.80	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	467.50	750.75	920.97	929.87
	Net Loan-Closing	11158.41	10690.91	9940.16	9019.19	8089.33
	Average Loan	11105.01	10924.66	10315.54	9479.68	8554.26
	Rate of Interest	9.2944%	9.2965%	9.3016%	9.3023%	9.3031%
	<b>Interest</b>	<b>1032.15</b>	<b>1015.61</b>	<b>959.51</b>	<b>881.83</b>	<b>795.81</b>

