

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 188/TT/2011**

**Coram:-**

**Shri S. Jayaraman, Member**

**Shri M. Deena Dayalan, Member**

**Date of Hearing: 15.5.2012**

**Date of Order : 12.3.2013**

**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) Combined elements of Talcher and Kolar (HVDC-portion), and (b) Combined elements of Talcher and Kolar (AC portion) for tariff block 2009-14 in Southern Region

**And**

**In the matter of:**

Power Grid Corporation of India Ltd., Gurgaon .....**Petitioner**

**Vs**

1. Kerala State Electricity Board, Thiruvananthapuram
2. Tamil Nadu Electricity Board, Chennai
3. Electricity Department, Govt. of Pondicherry, Pondicherry
4. Electricity Department, Govt. of Goa, Goa
5. Transmission Corporation of Andhra Pradesh Ltd., Hyderabad
6. Northern Power Distribution Company of Andhra Pradesh Ltd., Warangal
7. Eastern Power Distribution Company of Andhra Pradesh Ltd, Vishakhapatnam
8. Southern Power Distribution Company of Andhra Pradesh Ltd, Tirupati
9. Central Power Distribution Company of Andhra Pradesh Ltd., Hyderabad
10. Karnataka Power Transmission Corporation Ltd., Bangalore
11. Bangalore Electricity Supply Company Limited, Bangalore
12. Gulbarga Electricity Supply Company Limited, Gulbarga
13. Hubli Electricity Supply Company Limited, 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 M.M. Mondal, PGCIL

**ORDER**

This petition has been filed by Power Grid Corporation of India Limited (PGCIL) for determination of transmission tariff for (a) Combined elements of Talcher and Kolar (HVDC-Portion), and (b) Combined elements of Talcher and Kolar (AC portion) for tariff block 2009-14 period in Southern Region under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as "the 2009 Tariff Regulations").

2. The transmission assets covered under the instant petition were progressively commissioned during 1.12.2002 to 1.6.2003. The annual transmission charges including additional capital expenditure for the various elements in Talcher-Kolar Transmission System, for the tariff block 2004-2009 were determined by the Commission as per details given overleaf:-

(₹ In lakh)

Sl. No.	Name of the Assets	DOCO	Details of Petitions/ CERC Orders admitting capital cost	Admitted cost
1.	500 kV HVDC line along with HVDC terminal stations (Pole-I) at Talcher and Kolar	1.12.2002	29.6.2011 Petition No 58/2010	194040.31
2.	400 kV Hossur-Salem S/C line and 1x315 MVA Auto Transformer-I at Hossur along with the associated bay at Hossur and bay extension at Salem	1.12.2002		7989.42
3.	1x315 MVA Auto transformer-II at Hossur along with associated 400 kV bays and complete 220kv bays/yard at Hossur	1.2.2003	9.5.2006 in Petition No. 84/2005	723.50
4.	400 kV AC Kolar-Arakkonam-Madras line along with bays at Kolar and Sriperumbudur (Madras) and LILO of 400 kV Cuddapah-Bangalore S/C line along with associated bays at Kolar	1.12.2002	29.6.2011 in Petition No. 58/2010	11863.31
5.	400 kV Kolar-Hoody D/C line along with associated bays extensions (Kolar-I and Kolar-II) at Hoody substation, Hoody-I and Hoody-II bays at Kolar substation and 4x167 MVA Auto transformer along with associated bays on 400 & 220 kV side and complete 220 kV substation at Kolar	1.2.2003		8296.05
6.	HVDC terminal station at Talcher and Kolar with Pole- II	1.3.2003	1.6.2011 in Petition No. 49/2010	66965.82
7.	400 KV D/C Kolar-Hossur line along with associated bays at Kolar and Hossur	1.4.2003	26.4.2007 in IA No. 72/2006 in Petition No. 127/2005	5317.28
8.	400 KV S/C Salem-Udumalpet line along with associated bay extensions at Salem and Udumalpet	1.6.2003	9.5.2006 in Petition No. 127/2005	5589.55

3. The above assets have been clubbed by the petitioner as per the procedure prescribed by the Commission for the purpose of tariff determination as per details given hereunder :-

(a) Two HVDC elements at Sl. Nos.1. and 6. above, namely 500 kV HVDC line along with HVDC terminal stations (Pole-I) at Talcher and Kolar (date of commercial operation: 1.12.2002), and HVDC terminal station at Talcher and

Kolar with Pole-II (date of commercial operation: 1.3.2003) along with associated bays and equipment under Talcher-II Transmission System in Southern Region (hereinafter collectively referred to as Combined Asset-I) with 1.3.2003 as notional date of commercial operation;

- (b) Six AC elements at Sl. Nos. 2, 3, 4, 5, 7 and 8, namely (ii) 400 kV Hossur-Salem S/C line and 1x315 MVA Auto Transformer-I at Hossur along with the associated bay at Hossur and bay extension at Salem (date of commercial operation 1.12.2002), (iii) 1x315 MVA Auto transformer-II at Hossur along with associated 400 kV bays and complete 220 kV bays/yard at Hossur (date of commercial operation 1.2.2003), (iv) 400 kV AC Kolar-Arakkonam-Madras line along with bays at Kolar and Sriperumbudur (Madras) and LILO of 400 kV Cuddapah-Bangalore S/C line along with associated bays at Kolar (date of commercial operation 1.12.2002), (v) 400 kV Kolar-Hoody D/C line along with associated bays extensions (Kolar-I and Kolar-II) at Hoody sub-station, Hoody-I and Hoody-II bays at Kolar sub-station and 4x167 MVA auto transformer along with associated bays on 400 & 220 kV side and complete 220 kV substation at Kolar (date of commercial operation 1.2.2003), (vi) 400 KV D/C Kolar-Hossur line along with associated bays at Kolar and Hossur (date of commercial operation 1.4.2003), and (viii) 400 KV D/C Kolar-Hossur line along with associated bays at Kolar and Hossur (date of commercial operation 1.4.2003), 400 KV S/C Salem-Udumalpet line along with associated bay extensions at Salem and Udumalpet (date of commercial operation 1.6.2003) (hereinafter collectively referred to as Combined Asset-II), with 1.6.2003 as notional date of commercial operation.

4. The petitioner has filed the instant petition for determination of transmission tariff of Combined Assets I & II for the period of 2009-14 as per the 2009 Tariff Regulations. The petitioner has claimed additional capital expenditure as well as de-capitalisation during 2009-10 in case of Combined Asset-I. As regards Combined Asset-II, no additional capital expenditure/de-capitalisation has been claimed for the period 2009-14. The Commission, vide its order dated 29.9.2011, allowed provisional tariff in respect of the above mentioned assets, subject to adjustment as per proviso to Clause (3) of Regulation 5 of the 2009 Tariff Regulations.

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

(₹ in lakh)

<b>Combined Asset-I</b>					
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Depreciation	13744.53	13740.92	13740.92	13740.92	13740.92
Interest on Loan	8075.56	7143.57	6244.61	5413.78	4597.10
Return on equity	8793.59	8790.00	8790.00	8790.00	8790.00
Interest on Working Capital	789.17	778.25	768.67	761.03	754.14
O & M Expenses	3020.97	3193.93	3377.05	3570.48	3773.08
<b>Total</b>	<b>34423.82</b>	<b>33646.67</b>	<b>32921.25</b>	<b>32276.21</b>	<b>31655.24</b>

(₹ in lakh)

<b>Combined Asset-II</b>					
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Depreciation	2064.79	2064.79	2064.79	2064.79	2064.79
Interest on Loan	1808.59	1602.98	1396.78	1189.53	985.42
Return on equity	1460.88	1460.88	1460.88	1460.88	1460.88
Interest on Working Capital	189.48	189.67	190.12	190.80	191.83
O & M Expenses	1565.43	1654.84	1749.73	1849.79	1955.43
<b>Total</b>	<b>7089.17</b>	<b>6973.16</b>	<b>6862.30</b>	<b>6755.79</b>	<b>6658.35</b>

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

(₹ in lakh)

<b>Combined Asset-I</b>					
<b>Particulars</b>	<b>2019-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Maintenance Spares	453.15	479.09	506.56	535.57	565.96
O & M expenses	251.75	266.16	281.42	297.54	314.42
Receivables	5737.30	5607.78	5486.88	5379.37	5275.87
<b>Total</b>	<b>6442.20</b>	<b>6353.03</b>	<b>6274.86</b>	<b>6212.48</b>	<b>6156.25</b>
Interest	789.17	778.25	768.67	761.03	754.14
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%

(₹ in lakh)

<b>Combined Asset-II</b>					
<b>Particulars</b>	<b>2019-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Maintenance Spares	234.81	248.23	262.46	277.47	293.31
O & M expenses	130.45	137.90	145.81	154.15	162.95
Receivables	1181.53	1162.19	1143.72	1125.97	1109.73
<b>Total</b>	<b>1546.79</b>	<b>1548.32</b>	<b>1551.99</b>	<b>1557.59</b>	<b>1565.99</b>
Interest	189.48	189.67	190.12	190.80	191.83
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%

7. 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. None of the respondents have filed reply.

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

### **Capital cost :-**

9. As regards capital cost, Regulation 7(2) of the 2009 Tariff Regulations provides that:-

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

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

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

Provided also that the Commission may issue guidelines for vetting of capital cost of hydro-electric projects by independent agency or expert and in that event the capital cost as vetted by such agency or expert may be considered by the Commission while determining the tariff for the hydro generating station:

Provided also that the Commission may issue guidelines for scrutiny and approval of commissioning schedule of the hydro-electric projects of a developer, not being a State controlled or owned company as envisaged in the tariff policy as amended vide Government of India Resolution No 23/2/2005-R&R (Vol. IV) dated 31st March 2008:

Provided also that in case the site of a hydro generating station is awarded to a developer (not being a State controlled or owned company), by a State Government by following a two stage transparent process of bidding, any expenditure incurred or committed to be incurred by the project developer for getting the project site allotted shall not be included in the capital cost:

Provided also that the capital cost in case of such hydro generating station shall include:

- (a) cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and
- (b) cost of the developer's 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) project in the affected area:

Provided also that where the power purchase agreement entered into between the generating company and the beneficiaries or the implementation agreement and the transmission service agreement entered into between the transmission licensee and the long-term transmission customer, as the case may be, provide for ceiling of actual expenditure, the capital expenditure admitted by the Commission shall take into consideration such ceiling for determination of tariff:

Provided also that in case of the existing projects, the capital cost admitted by the Commission prior to 1.4.2009 and the additional capital expenditure projected to be incurred for the respective year of the tariff period 2009-14, as may be admitted by the Commission, shall form the basis for determination of tariff.

10. The petitioner has claimed the capital expenditure of ₹261006.13 lakh for Combined Asset-I and ₹39779.11 lakh for Combined Asset-II. The same has been considered for the purpose of calculation of tariff.

**Projected additional capitalization and de-capitalization:-**

11. In terms of Regulation 9(2)(v) and 9(2)(viii) of the 2009 Tariff Regulations, the petitioner has claimed additional capital expenditure and decapitalization for 2009-10 for Combined Asset-I as per details given hereunder:-

(₹ in lakh)			
Year	Work /Equipment proposed to be added after date of commercial operation upto cut-off date	Amount capitalized / proposed to be capitalized	Justification/Purpose
<b>Additional capitalization</b>			
2009-10	Sub Station	12.25	Balance & retention payment
<b>De-capitalization</b>			
2009-10	Sub Station	-84.75	Excise duty refund as deemed export benefits during 2009-10
	Transmission Line	-64.34	
	Total	149.06	
<b>Net Total</b>		<b>-136.84</b>	

12. The Petitioner, vide its affidavit dated 22.9.2011, has submitted that an amount of ₹12.25 lakh was withheld from the final payment due to M/s Hyundai in compliance with order of the High Court of Madras dated 7.6.2005 in a dispute between M/S Hyundai and its sub-contractor. The same was released to M/S Hyundai in October 2009 on receipt of the settlement order, Ref: C.S. No. 337 of 2004, of the High Court of Madras by the petitioner.



13. The petitioner, vide its affidavit dated 14.5.2012, has submitted the auditor's certificate indicating the amount of additional capital expenditure and de-capitalisation for the year 2010-11, as against the claim for the year 2009-10 in main petition. The petitioner, vide its affidavit dated 18.10.2012, has clarified that the additional capital expenditure and de-capitalisation pertains to 2009-10 period. The additional capital expenditure of ₹12.25 lakh and de-capitalization of ₹149.09 lakh falls within Regulation 9(2) (viii) of the 2009 Tariff Regulations and the same has been considered for the purpose of calculation of tariff.

### **Debt- equity ratio**

14. Regulation 12 of the 2009 Tariff Regulations provides as under:-

“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 modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”

15. Details of the debt-equity in respect of transmission assets as on 31.3.2009 are as follows:-

(₹ in lakh)

Particulars	As admitted on 31.3.2009	
Combined Asset-I	Amount	%
Debt	210681.94	80.72
Equity	50324.19	19.28
Total	261006.13	100.00
Particulars	As admitted on 31.3.2009	
Combined Asset-II	Amount	%
Debt	31422.14	78.99
Equity	8356.97	21.01
Total	39779.11	100.00

16. Debt-Equity ratio as on 31.3.2009 for Combined Asset-I was 80.72:19.28. The petitioner has claimed the capitalization/de-capitalization in debt-equity ratio of 70:30 in accordance with 2009 Tariff Regulations. Accordingly, net additional capital expenditure/de-capitalisation has been considered as under:-

(₹ in lakh)

Combined Asset-I	2009-10	
Particulars	Amount	%
Debt	-95.79	70.00
Equity	-41.05	30.00
Total	-136.84	100.00

17. The details of debt-equity ratio for the transmission system as on 31.3.2014 are given below:-

(₹ in lakh)

Combined Asset-I	Cost as on 31.3.2014	
Particulars	Amount	%
Debt	210586.16	80.72
Equity	50283.14	19.28
Total	260869.29	100.00
Combined Asset-II	Cost as on 31.3.2014	
Debt	31422.14	78.99
Equity	8356.97	21.04
Total	39779.11	100.00

## **Return on equity**

18. Regulation 15 of the 2009 Tariff 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% for thermal generating stations, transmission system and run of the river generating station, and 16.5% for the storage type generating stations including pumped storage hydro generating stations and run of river generating station with pondage and shall 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"

19. The following amount of equity has been considered for calculation of return of equity:-

(₹ in lakh)

Description	Equity on date of 1.4.2009	Notional equity due to ACE for the period 2009-10	Total equity considered for tariff calculation for the period 2009-10*	Notional equity due to ACE for the period 2010-14	Total equity considered for tariff calculations for the period 2010-14*
<b>Combined Asset-I</b>	50324.19	(41.05)	50303.66	0.00	50283.14
<b>Combined Asset-II</b>	8356.97	0.00	8356.97	0.00	8356.97

\*Average equity corresponding to ACE has been considered for working out return of equity during the period.

20. The following amount of equity has been allowed for calculation of return on equity:-

(₹ in lakh)

<b>Combined Asset-I</b>					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Opening equity	50324.19	50283.14	50283.14	50283.14	50283.14
Addition due to additional capital expenditure	-41.05	0.00	0.00	0.00	0.00
Closing equity	50283.14	50283.14	50283.14	50283.14	50283.14
Average equity	50303.66	50283.14	50283.14	50283.14	50283.14
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%
<b>Return on equity (Pre Tax)</b>	<b>8793.58</b>	<b>8789.99</b>	<b>8789.99</b>	<b>8789.99</b>	<b>8789.99</b>

(₹ in lakh)

<b>Combined Asset-II</b>					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Opening equity	8356.97	8356.97	8356.97	8356.97	8356.97
Addition due to additional capital expenditure	0.00	0.00	0.00	0.00	0.00
Closing equity	8356.97	8356.97	8356.97	8356.97	8356.97
Average equity	8356.97	8356.97	8356.97	8356.97	8356.97
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%
<b>Return on equity (Pre Tax)</b>	<b>1460.88</b>	<b>1460.88</b>	<b>1460.88</b>	<b>1460.88</b>	<b>1460.88</b>

## **Interest on loan**

21. Regulation 16 of the 2009 Tariff 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.”

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

- (i) Gross amount of loan, repayment of instalments, rate of interest and weighted average rate of interest on actual loan have been considered as per the petition;
- (ii) The repayment for the tariff period 2009-14 shall be deemed to be equal to the depreciation allowed for that period;
- (iii) Notwithstanding moratorium period availed by the transmission licensee, the repayment of the loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed;
- (iv) Weighted average rate of interest on actual loan worked out as per (i) above has been applied on the notional average loan during the year to arrive at the interest on loan.

23. The petitioner has requested to bill and adjust impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2009-14 period, if any, from the respondents. The interest on loan has been calculated on the basis of prevailing rate as on 1.4.2009. Any change in interest rate on account of floating rate of interest subsequent to 1.4.2009 will be considered at the time of truing up.

24. Detailed calculations of the weighted revised average rate of interest are given in Annexure-I and II to this order.

25. Details of the interest on loan worked on the above basis are given hereunder:-

(₹ in lakh)

<b>Combined Asset-I</b>					
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Gross Normative Loan	210681.94	210586.16	210586.16	210586.16	210586.16
Cumulative Repayment upto Previous Year	99210.19	112954.72	126695.64	140436.55	154177.47
Net Loan-Opening	111471.76	97631.44	83890.52	70149.60	56408.68
Addition due to Additional capital expenditure	-95.79	0.00	0.00	0.00	0.00
Repayment during the year	13744.53	13740.92	13740.92	13740.92	13740.92
Net Loan-Closing	97631.44	83890.52	70149.60	56408.68	42667.77
Average Loan	104551.60	90760.98	77020.06	63279.14	49538.23
Weighted Average Rate of Interest on Loan	7.7240%	7.8708%	8.1078%	8.5554%	9.2799%
Interest	<b>8075.56</b>	<b>7143.58</b>	<b>6244.61</b>	<b>5413.78</b>	<b>4597.09</b>

(₹ in lakh)

<b>Combined Asset-II</b>					
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Gross Normative Loan	31422.14	31422.14	31422.14	31422.14	31422.14
Cumulative Repayment upto Previous Year	11724.62	13789.41	15854.20	17918.99	19983.78
Net Loan-Opening	19697.52	17632.73	15567.94	13503.15	11438.36
Addition due to Additional capital expenditure	0.00	0.00	0.00	0.00	0.00
Repayment during the year	2064.79	2064.79	2064.79	2064.79	2064.79
Net Loan-Closing	17632.73	15567.94	13503.15	11438.36	9373.57
Average Loan	18665.13	16600.34	14535.55	12470.76	10405.97
Weighted Average Rate of Interest on Loan	9.6897%	9.6563%	9.6094%	9.5385%	9.4697%
Interest	<b>1808.59</b>	<b>1602.98</b>	<b>1396.78</b>	<b>1189.53</b>	<b>985.42</b>

### **Depreciation**

26. Regulation 17 (4) of the 2009 Tariff 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 31th 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".

27. In this petition, the notional dates of commercial operation of Combined Assets I and II are 1.3.2003 and 1.6.2003 respectively. Accordingly, all the transmission assets covered in the instant petition shall 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 to the 2009 Tariff Regulations.

28. It is observed that in case of de-capitalisation on account of excise duty refund, there is no actual physical removal of any asset, but a mere cost reduction in book value of the assets. As the excise duty was actually deployed and serviced in the tariff until it was actually refunded in 2009-10, the same should not be removed from the cumulative depreciation as this will lead to excess claim of depreciation by the petitioner and the depreciation claim would exceed the maximum of 90% as permissible in the 2009 Tariff Regulations. As such the amount of refund of excise duty has been removed from the original cost of the asset in 2009-10 and cumulative depreciation amount pertaining to the custom duty refund has not been removed.

29. Details of the depreciation worked out are given below:-

(₹ in lakh)

<b>Combined Asset-I</b>					
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Opening Gross Block	261006.13	260869.29	260869.29	260869.29	260869.29
Addition during 2009-14 due to projected additional Capital expenditure	-136.84	0.00	0.00	0.00	0.00
Closing Gross Block	260869.29	260869.29	260869.29	260869.29	260869.29
Average Gross Block	260937.71	260869.29	260869.29	260869.29	260869.29
Rate of Depreciation	5.2674%	5.2674%	5.2674%	5.2674%	5.2674%
Depreciable value of combined assets	234436.41	234374.83	234374.83	234374.83	234374.83
Remaining Depreciable Value	135226.22	121420.11	107679.20	93938.28	80197.36
Depreciation	13744.53	13740.92	13740.92	13740.92	13740.92



(₹ in lakh)

Combined Asset-II					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Gross Block	39779.11	39779.11	39779.11	39779.11	39779.11
Addition during 2009-14 due to projected additional Capital expenditure	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	39779.11	39779.11	39779.11	39779.11	39779.11
Average Gross Block	39779.11	39779.11	39779.11	39779.11	39779.11
Rate of Depreciation	5.1906%	5.1906%	5.1906%	5.1906%	5.1906%
Depreciable Value	35356.92	35356.92	35356.92	35356.92	35356.92
Remaining Depreciable Value	23632.30	21567.51	19502.72	17437.93	15373.14
Depreciation	<b>2064.79</b>	<b>2064.79</b>	<b>2064.79</b>	<b>2064.79</b>	<b>2064.79</b>

### **Operation & maintenance expenses**

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

(₹ in lakh)

Elements	2009-10	2010-11	2011-12	2012-13	2013-14
Talcher- Kolar HVDC bi-pole scheme (₹ lakh/ kms)	1699	1796	1899	2008	2122
400 kV D/C bundled conductor, T/Line (₹ lakh/ kms)	0.940	0.994	1.051	1.111	1.174
400 kV D/C twin conductor, T/Line (₹ lakh/ kms)	0.627	0.663	0.701	0.741	0.783
400 kV S/C twin conductor, T/Line (₹ lakh/ kms)	0.358	0.378	0.400	0.423	0.447
66 kV S/C (Quad conductors) (₹ lakh/ kms)	0.537	0.568	0.600	0.635	0.671
400 kV Bays (₹ lakh/ bay)	52.40	55.40	58.57	61.92	65.46
400 kV Bays (₹ lakh/ bay)	36.68	38.78	41.00	43.34	45.82

31. As per the existing norms of 2009 Tariff Regulations, allowable O&M expenses for the assets covered in this petition are as follows:-

(₹ in lakh)

<b>Combined Asset-I</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
1369.16 km, $\pm$ 500 kV Quad conductor, Talcher- Kolar HVDC line	1287.01	1360.95	1438.99	1521.14	1607.39
65.11 (33.5+31.61) km, 66 kV S/C bundled conductor Earth Electrode Line(Talcher & Kolar ends)	34.96	36.98	39.07	41.34	43.69
Talcher- Kolar HVDC Bipole Scheme	1699	1796	1899	2008	2122
<b>O&amp;M (Combined Asset-I)</b>	<b>3020.97</b>	<b>3193.93</b>	<b>3377.05</b>	<b>3570.48</b>	<b>3773.08</b>
<b>Combined Asset: II</b>					
476.36 (127.06+211.39+137.91) km, 400 kV S/C twin conductor, T/L	170.54	180.06	190.54	201.50	212.93
83.91 (14.91+69.00)km, 400 kV D/C twin conductor T/L	52.61	55.63	58.82	62.18	65.70
51.067 km, 400 kV D/C quad conductor T/L	48.00	50.76	53.67	56.74	59.95
17 nos. 400 kV bays	890.80	941.80	995.69	1052.64	1112.82
11 nos., 220 kV bays	403.48	426.58	451.00	476.74	504.02
<b>Total O&amp;M (Combined Asset-II)</b>	<b>1565.43</b>	<b>1654.84</b>	<b>1749.73</b>	<b>1849.79</b>	<b>1955.43</b>
<b>O&amp;M (Combined Asset I+II)</b>	<b>4586.40</b>	<b>4848.77</b>	<b>5126.78</b>	<b>5420.27</b>	<b>5728.51</b>

32. The petitioner has submitted that the O&M expenses for 2009-14 tariff block was arrived on the basis of normalized actual O&M expenses of the petitioner during the years 2003-04 to 2007-08. The wage hike of 50% on account of pay revision of the employees of public sector undertaking was also considered while calculating the O&M expenses for tariff period 2009-14. The petitioner has also submitted that it would approach Commission for suitable revision in the norms for O&M expenses in case the impact of wage hike with effect from 1.1.2007 is more than 50%. We would like to clarify that the O&M expenses have been allowed as per norms of the 2009 Tariff Regulations. If any application is filed by the petitioner for revision of O&M norms on account of impact of pay revision, it will be dealt in accordance with law.

### **Interest on working capital**

33. As per the 2009 Tariff Regulations, the components of the working capital and the interest thereon are discussed as per details given below:-

(i) Receivables:-

As per Regulation 18 (1) (c) (i) of the 2009 Tariff Regulations, receivables will be equivalent to two months of fixed cost. The petitioner has claimed the receivables on the basis of 2 months transmission charges 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 Tariff 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 Tariff Regulations provides for operation and maintenance expenses for one month as a component of working capital. The petitioner has claimed O&M expenses for 1 month of the respective year as claimed in the petition. This has been considered in the working capital.

(v) Rate of interest on working capital:

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

34. Necessary computations in support of interest on working capital are given hereunder:-

(₹ in lakh)

<b>Combined Asset-I</b>					
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Maintenance Spares	453.15	479.09	506.56	535.57	565.96
O & M expenses	251.75	266.16	281.42	297.54	314.42
Receivables	5737.30	5607.78	5486.87	5379.37	5275.87
Total	6442.20	6353.03	6274.85	6212.48	6156.26
Interest	<b>789.17</b>	<b>778.25</b>	<b>768.67</b>	<b>761.03</b>	<b>754.14</b>

(₹ in lakh)

<b>Combined Asset-II</b>					
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Maintenance Spares	234.81	248.23	262.46	277.47	293.31
O & M expenses	130.45	137.90	145.81	154.15	162.95
Receivables	1181.53	1162.19	1143.72	1125.97	1109.73
Total	1546.80	1548.32	1551.99	1557.58	1565.99
Interest	<b>189.48</b>	<b>189.67</b>	<b>190.12</b>	<b>190.80</b>	<b>191.83</b>

### **Transmission charges**

35. The transmission charges being allowed for the transmission lines are given hereunder:-

(₹ in lakh)

<b>Combined Assets-I</b>					
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Depreciation	13744.53	13740.92	13740.92	13740.92	13740.92
Interest on Loan	8075.56	7143.58	6244.61	5413.78	4597.09
Return on Equity	8793.58	8789.99	8789.99	8789.99	8789.99
Interest on Working Capital	789.17	778.25	768.67	761.03	754.14
O & M Expenses	3020.97	3193.93	3377.05	3570.48	3773.08
<b>Total</b>	<b>34423.81</b>	<b>33646.66</b>	<b>32921.24</b>	<b>32276.20</b>	<b>31655.22</b>

(₹ in lakh)

Combined Assets-II					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	2064.79	2064.79	2064.79	2064.79	2064.79
Interest on Loan	1808.59	1602.98	1396.78	1189.53	985.42
Return on Equity	1460.88	1460.88	1460.88	1460.88	1460.88
Interest on working capital	189.48	189.67	190.12	190.80	191.83
O & M Expenses	1565.43	1654.84	1749.73	1849.79	1955.43
<b>Total</b>	<b>7089.17</b>	<b>6973.16</b>	<b>6862.30</b>	<b>6755.79</b>	<b>6658.35</b>

### **Filing fee and the publication expenses**

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

### **Licence fee**

37. The petitioner has submitted that in O&M norms for tariff block 2009-14, the cost associated with license fees had not been captured and the license fee may be allowed to be recovered separately from the respondents. We have considered the submissions of the petitioner. The petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 42 A (1) (b) of the 2009 Tariff Regulations.

### **Service tax**

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

### **Sharing of transmission charges**

39. The transmission charges allowed shall be recovered on monthly basis in accordance with Regulation 23 of the 2009 Tariff Regulations and shared by the beneficiaries in accordance with Regulation 33 of the 2009 Tariff Regulations upto 30.6.2011. With effect from 1.7.2011, the billing, collection & 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.

40. The petitioner is already billing respondents on provisional basis in accordance with the Commission's order dated 29.9.2011. The provisional transmission charges allowed shall be adjusted as per proviso to clause (3) of Regulation 5 of the 2009 Tariff Regulations.

41. This order disposes of Petition No. 188/TT/2011.

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

Sd/-  
**(S. Jayaraman)**  
**Member**



**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN OF COMBINED ASSET-I**

		(₹ in lakh)				
	Details of Loan	2009-10	2010-11	2011-12	2012-13	2013-14
<b>1</b>	<b>Bond-IX</b>					
	Gross loan opening	17043.00	17043.00	17043.00	17043.00	17043.00
	Cumulative Repayment upto DOCO/previous year	10225.80	11930.10	13634.40	15338.70	17043.00
	Net Loan-Opening	6817.20	5112.90	3408.60	1704.30	0.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	1704.30	1704.30	1704.30	1704.30	0.00
	Net Loan-Closing	5112.90	3408.60	1704.30	0.00	0.00
	Average Loan	5965.05	4260.75	2556.45	852.15	0.00
	Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
	Interest	730.72	521.94	313.17	104.39	0.00
	Rep Schedule	10 Annual instalments from 22.08.2003				
<b>2</b>	<b>Bond-X</b>					
	Gross loan opening	34425.00	34425.00	34425.00	34425.00	34425.00
	Cumulative Repayment upto DOCO/previous year	14343.75	17212.50	20081.25	22950.00	25818.75
	Net Loan-Opening	20081.25	17212.50	14343.75	11475.00	8606.25
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	2868.75	2868.75	2868.75	2868.75	2868.75
	Net Loan-Closing	17212.50	14343.75	11475.00	8606.25	5737.50
	Average Loan	18646.88	15778.13	12909.38	10040.63	7171.88
	Rate of Interest	10.90%	10.90%	10.90%	10.90%	10.90%
	Interest	2032.51	1719.82	1407.12	1094.43	781.73
	Rep Schedule	12 Annual instalments from 21.6.2004				
<b>3</b>	<b>Bond- XI Option 1</b>					
	Gross loan opening	23673.00	23673.00	23673.00	23673.00	23673.00
	Cumulative Repayment upto DOCO/previous year	7891.00	9863.75	11836.50	13809.25	15782.00
	Net Loan-Opening	15782.00	13809.25	11836.50	9863.75	7891.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	1972.75	1972.75	1972.75	1972.75	1972.75
	Net Loan-Closing	13809.25	11836.50	9863.75	7891.00	5918.25
	Average Loan	14795.63	12822.88	10850.13	8877.38	6904.63
	Rate of Interest	9.80%	9.80%	9.80%	9.80%	9.80%
	Interest	1449.97	1256.64	1063.31	869.98	676.65
	Rep Schedule	12 Annual instalments from 07.12.2005				

<b>4</b>	<b>Bond- XII</b>					
	Gross loan opening	<b>1912.00</b>	<b>1912.00</b>	<b>1912.00</b>	<b>1912.00</b>	<b>1912.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>637.33</b>	<b>796.67</b>	<b>956.00</b>	<b>1115.33</b>	<b>1274.67</b>
	Net Loan-Opening	1274.67	1115.33	956.00	796.67	637.33
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	159.33	159.33	159.33	159.33	159.33
	Net Loan-Closing	1115.33	956.00	796.67	637.33	478.00
	Average Loan	1195.00	1035.67	876.33	717.00	557.67
	Rate of Interest	9.70%	9.70%	9.70%	9.70%	9.70%
	Interest	<b>115.92</b>	<b>100.46</b>	<b>85.00</b>	<b>69.55</b>	<b>54.09</b>
	Rep Schedule	12 Annual Instalments from 28.03.2006				
<b>5</b>	<b>Bond- XIII Option I</b>					
	Gross loan opening	<b>13015.00</b>	<b>13015.00</b>	<b>13015.00</b>	<b>13015.00</b>	<b>13015.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>3253.75</b>	<b>4338.33</b>	<b>5422.92</b>	<b>6507.50</b>	<b>7592.08</b>
	Net Loan-Opening	9761.25	8676.67	7592.08	6507.50	5422.92
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	1084.58	1084.58	1084.58	1084.58	1084.58
	Net Loan-Closing	8676.67	7592.08	6507.50	5422.92	4338.33
	Average Loan	9218.96	8134.38	7049.79	5965.21	4880.63
	Rate of Interest	8.63%	8.63%	8.63%	8.63%	8.63%
	Interest	<b>795.60</b>	<b>702.00</b>	<b>608.40</b>	<b>514.80</b>	<b>421.20</b>
	Rep Schedule	12 Annual Instalments from 31.7.2006				
<b>6</b>	<b>OBC</b>					
	Gross loan opening	<b>10899.00</b>	<b>10899.00</b>	<b>10899.00</b>	<b>10899.00</b>	<b>10899.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>4541.25</b>	<b>5449.50</b>	<b>6357.75</b>	<b>7266.00</b>	<b>8174.25</b>
	Net Loan-Opening	6357.75	5449.50	4541.25	3633.00	2724.75
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	908.25	908.25	908.25	908.25	908.25
	Net Loan-Closing	5449.50	4541.25	3633.00	2724.75	1816.50
	Average Loan	5903.63	4995.38	4087.13	3178.88	2270.63
	Rate of Interest	9.60%	9.60%	9.60%	9.60%	9.60%
	Interest	<b>566.75</b>	<b>479.56</b>	<b>392.36</b>	<b>305.17</b>	<b>217.98</b>
	Rep Schedule	12 Annual Instalments from 22.03.2005				
<b>7</b>	<b>PNB-II</b>					
	Gross loan opening	<b>12169.00</b>	<b>12169.00</b>	<b>12169.00</b>	<b>12169.00</b>	<b>12169.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>5070.42</b>	<b>6084.50</b>	<b>7098.58</b>	<b>8112.67</b>	<b>9126.75</b>



	Net Loan-Opening	7098.58	6084.50	5070.42	4056.33	3042.25
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	1014.08	1014.08	1014.08	1014.08	1014.08
	Net Loan-Closing	6084.50	5070.42	4056.33	3042.25	2028.17
	Average Loan	6591.54	5577.46	4563.38	3549.29	2535.21
	Rate of Interest	9.35%	9.35%	9.35%	9.35%	9.35%
	Interest	616.31	521.49	426.68	331.86	237.04
	Rep Schedule	12 Annual Instalments from 08.3.2005				
<b>8</b>	<b>KFW ECA- Hermes (Fixed)</b>					
	Gross loan opening	65579.96	65579.96	65579.96	65579.96	65579.96
	Cumulative Repayment upto DOCO/previous year	36069.02	42627.02	49185.02	55743.01	62301.01
	Net Loan-Opening	29510.94	22952.94	16394.94	9836.95	3278.95
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	6558.00	6558.00	6558.00	6558.00	3278.96
	Net Loan-Closing	22952.94	16394.94	9836.95	3278.95	-0.01
	Average Loan	26231.94	19673.94	13115.95	6557.95	1639.47
	Rate of Interest	3.8405%	3.84%	3.84%	3.84%	3.84%
	Interest	1007.44	755.58	503.72	251.86	62.96
	Rep Schedule	Half yearly Instalments for 10 years from 31.03.2004				
<b>9</b>	<b>KFW Hermes (Floating)</b>					
	Gross loan opening	10935.21	10935.21	10935.21	10935.21	10935.21
	Cumulative Repayment upto DOCO/previous year	176.92	1238.35	2299.77	3361.19	4422.62
	Net Loan-Opening	4776.56	3715.14	2653.72	1592.29	530.87
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	1061.42	1061.42	1061.42	1061.42	530.87
	Net Loan-Closing	3715.14	2653.72	1592.29	530.87	0.00
	Average Loan	4245.85	3184.43	2123.00	1061.58	265.43
	Rate of Interest	0.9225%	0.9225%	0.9225%	0.9225%	0.9225%
	Interest	39.17	29.38	19.58	9.79	2.45
	Rep Schedule	Half yearly Instalments for 10 years from 31.03.2004				
<b>10</b>	<b>KFW Commercial (Fixed)</b>					
	Gross loan opening	12575.11	12575.11	12575.11	12575.11	12575.11
	Cumulative Repayment upto DOCO/previous year	6929.51	8184.06	9438.62	10693.17	11947.73
	Net Loan-Opening	5645.60	4391.04	3136.49	1881.93	627.38
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	1254.55	1254.55	1254.55	1254.55	627.28
	Net Loan-Closing	4391.04	3136.49	1881.93	627.38	0.10
	Average Loan	5018.32	3763.76	2509.21	1254.66	313.74
	Rate of Interest	5.54029%	5.54029%	5.54029%	5.54029%	5.54029%
	Interest	278.03	208.52	139.02	69.51	17.38
	Rep Schedule	Half yearly Instalments for 10 years from 31.03.2004				
<b>11</b>	<b>KFW Commercial (Floating)</b>					

	Gross loan opening	3348.00	3348.00	3348.00	3348.00	3348.00
	Cumulative Repayment upto DOCO/previous year	1854.95	2186.76	2518.57	2850.38	3182.19
	Net Loan-Opening	1493.06	1161.25	829.44	497.63	165.82
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	331.81	331.81	331.81	331.81	165.82
	Net Loan-Closing	1161.25	829.44	497.63	165.82	0.00
	Average Loan	1327.15	995.34	663.53	331.72	82.91
	Rate of Interest	1.7625%	1.7625%	1.7625%	1.7625%	1.7625%
	Interest	23.39	17.54	11.69	5.85	1.46
	Rep Schedule	Half yearly Instalments for 10 years from 31.03.2004				
<b>12</b>	<b>Bond XVIII</b>					
	Gross loan opening	317.00	317.00	317.00	317.00	317.00
	Cumulative Repayment upto DOCO/previous year	0.00	26.42	52.83	79.25	105.67
	Net Loan-Opening	317.00	290.58	264.17	237.75	211.33
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	26.42	26.42	26.42	26.42	26.42
	Net Loan-Closing	290.58	264.17	237.75	211.33	184.92
	Average Loan	303.79	277.38	250.96	224.54	198.13
	Rate of Interest	8.15%	8.15%	8.15%	8.15%	8.15%
	Interest	24.76	22.61	20.45	18.30	16.15
	Rep Schedule	12 annual installments from 09.03.2010				
<b>13</b>	<b>Bond XXII</b>					
	Gross loan opening	50.00	50.00	50.00	50.00	50.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	4.17	8.33	12.50
	Net Loan-Opening	50.00	50.00	45.83	41.67	37.50
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	4.17	4.17	4.17	4.17
	Net Loan-Closing	50.00	45.83	41.67	37.50	33.33
	Average Loan	50.00	47.92	43.75	39.58	35.42
	Rate of Interest	8.68%	8.68%	8.68%	8.68%	8.68%
	Interest	4.34	4.16	3.80	3.44	3.07
	Rep Schedule	12 annual installments from 07.12.2010				
<b>14</b>	<b>Bond XIII- Option II</b>					
	Gross loan opening	50.00	50.00	50.00	50.00	50.00
	Cumulative Repayment upto DOCO/previous year	50.00	50.00	50.00	50.00	50.00
	Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
	Average Loan	0.00	0.00	0.00	0.00	0.00
	Rate of Interest	0.00%	0.00%	0.00%	0.00%	0.00%
	Interest	0.00	0.00	0.00	0.00	0.00
	Rep Schedule	6 Annual Instalments from 31.7.2003				

	<b>Total Loan</b>					
	Gross loan opening	205991.28	205991.28	205991.28	205991.28	205991.28
	Cumulative Repayment upto DOCO/previous year	91043.70	109987.95	128936.37	147884.79	166833.21
	Net Loan-Opening	108965.85	90021.60	71073.18	52124.77	33176.35
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	18944.25	18948.42	18948.42	18948.42	12641.27
	Net Loan-Closing	90021.60	71073.18	52124.77	33176.35	20535.08
	Average Loan	99493.73	80547.39	61598.98	42650.56	26855.72
	<b>Weighted Average Rate of Interest</b>	<b>7.7240%</b>	<b>7.8708%</b>	<b>8.1078%</b>	<b>8.5554%</b>	<b>9.2799%</b>
	<b>Interest</b>	7684.89	6339.69	4994.31	3648.92	2492.18

**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN OF  
COMBINED ASSET-II**

(₹ in lakh)

	Details of Loan	2009-10	2010-11	2011-12	2012-13	2013-14
<b>1</b>	<b>Bond-IX</b>					
	Gross loan opening	2711.00	2711.00	2711.00	2711.00	2711.00
	Cumulative Repayment upto DOCO/previous year	1626.60	1897.70	2168.80	2439.90	2711.00
	Net Loan-Opening	1084.40	813.30	542.20	271.10	0.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	271.10	271.10	271.10	271.10	0.00
	Net Loan-Closing	813.30	542.20	271.10	0.00	0.00
	Average Loan	948.85	677.75	406.65	135.55	0.00
	Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
	Interest	116.23	83.02	49.81	16.60	0.00
	Rep Schedule	10 Annual instalments from 22.08.2003				
<b>2</b>	<b>Bond-X</b>					
	Gross loan opening	5156.00	5156.00	5156.00	5156.00	5156.00
	Cumulative Repayment upto DOCO/previous year	2148.36	2578.03	3007.69	3437.36	3867.03
	Net Loan-Opening	3007.64	2577.97	2148.31	1718.64	1288.97
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	429.67	429.67	429.67	429.67	429.67
	Net Loan-Closing	2577.97	2148.31	1718.64	1288.97	859.31
	Average Loan	2792.81	2363.14	1933.47	1503.81	1074.14
	Rate of Interest	10.90%	10.90%	10.90%	10.90%	10.90%
	Interest	304.42	257.58	210.75	163.91	117.08
	Rep Schedule	12 Annual instalments from 21.6.2004				
<b>3</b>	<b>Bond- XI Option 1</b>					
	Gross loan opening	3765.00	3765.00	3765.00	3765.00	3765.00
	Cumulative Repayment upto DOCO/previous year	1255.01	1568.76	1882.51	2196.26	2510.01
	Net Loan-Opening	2509.99	2196.24	1882.49	1568.74	1254.99
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	313.75	313.75	313.75	313.75	313.75
	Net Loan-Closing	2196.24	1882.49	1568.74	1254.99	941.24
	Average Loan	2353.11	2039.36	1725.61	1411.86	1098.11
	Rate of Interest	9.80%	9.80%	9.80%	9.80%	9.80%
	Interest	230.60	199.86	169.11	138.36	107.61
	Rep Schedule	12 Annual instalments from 07.12.2005				

<b>4</b>	<b>Bond- XII</b>					
	Gross loan opening	<b>4919.00</b>	<b>4919.00</b>	<b>4919.00</b>	<b>4919.00</b>	<b>4919.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>1639.66</b>	<b>2049.58</b>	<b>2459.50</b>	<b>2869.41</b>	<b>3279.33</b>
	Net Loan-Opening	3279.34	2869.42	2459.50	2049.59	1639.67
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	409.92	409.92	409.92	409.92	409.92
	Net Loan-Closing	2869.42	2459.50	2049.59	1639.67	1229.75
	Average Loan	3074.38	2664.46	2254.55	1844.63	1434.71
	Rate of Interest	9.70%	9.70%	9.70%	9.70%	9.70%
	Interest	<b>298.21</b>	<b>258.45</b>	<b>218.69</b>	<b>178.93</b>	<b>139.17</b>
	Rep Schedule	12 Annual instalments from 12.06.2011				
<b>5</b>	<b>Bond- XIII Option I</b>					
	Gross loan opening	<b>6985.00</b>	<b>6985.00</b>	<b>6985.00</b>	<b>6985.00</b>	<b>6985.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>1746.26</b>	<b>2328.34</b>	<b>2910.43</b>	<b>3492.51</b>	<b>4074.59</b>
	Net Loan-Opening	5238.74	4656.66	4074.57	3492.49	2910.41
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	582.08	582.08	582.08	582.08	582.08
	Net Loan-Closing	4656.66	4074.57	3492.49	2910.41	2328.32
	Average Loan	4947.70	4365.62	3783.53	3201.45	2619.37
	Rate of Interest	8.63%	8.63%	8.63%	8.63%	8.63%
	Interest	<b>426.99</b>	<b>376.75</b>	<b>326.52</b>	<b>276.28</b>	<b>226.05</b>
	Rep Schedule	12 Annual Instalments from 31.7.2006				
<b>6</b>	<b>OBC</b>					
	Gross loan opening	<b>2565.00</b>	<b>2565.00</b>	<b>2565.00</b>	<b>2565.00</b>	<b>2565.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>1068.78</b>	<b>1282.53</b>	<b>1496.28</b>	<b>1710.03</b>	<b>1923.78</b>
	Net Loan-Opening	1496.22	1282.47	1068.72	854.97	641.22
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	213.75	213.75	213.75	213.75	213.75
	Net Loan-Closing	1282.47	1068.72	854.97	641.22	427.47
	Average Loan	1389.35	1175.60	961.85	748.10	534.35
	Rate of Interest	9.60%	9.60%	9.60%	9.60%	9.60%
	Interest	133.38	112.86	92.34	71.82	51.30
	Rep Schedule	12 Annual Instalments from 22.03.2005				
<b>7</b>	<b>PNB-II</b>					
	Gross loan opening	<b>3988.00</b>	<b>3988.00</b>	<b>3988.00</b>	<b>3988.00</b>	<b>3988.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>1661.68</b>	<b>1994.01</b>	<b>2326.35</b>	<b>2658.68</b>	<b>2991.01</b>
	Net Loan-Opening	2326.32	1993.99	1661.65	1329.32	996.99

Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	332.33	332.33	332.33	332.33	332.33
Net Loan-Closing	1993.99	1661.65	1329.32	996.99	664.65
Average Loan	2160.15	1827.82	1495.49	1163.15	830.82
Rate of Interest	9.35%	9.35%	9.35%	9.35%	9.35%
Interest	201.97	170.90	139.83	108.75	77.68
Rep Schedule	12 Annual Instalments from 08.3.2005				
<b>Total Loan</b>					
Gross loan opening	30089.00	30089.00	30089.00	30089.00	30089.00
Cumulative Repayment upto DOCO/previous year	11146.36	13698.96	16251.56	18804.16	21356.76
Net Loan-Opening	18942.64	16390.04	13837.44	11284.84	8732.24
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	2552.60	2552.60	2552.60	2552.60	2281.50
Net Loan-Closing	16390.04	13837.44	11284.84	8732.24	6450.74
Average Loan	17666.34	15113.74	12561.14	10008.54	7591.49
<b>Weighted Average Rate of Interest</b>	<b>9.6897%</b>	<b>9.6563%</b>	<b>9.6094%</b>	<b>9.5385%</b>	<b>9.4697%</b>
<b>Interest</b>	<b>1711.81</b>	<b>1459.43</b>	<b>1207.05</b>	<b>954.67</b>	<b>718.89</b>