

**CENTRAL ELECTRICITY REGULATORY COMMISSION**

**NEW DELHI**

**Petition No. 242/2010**

**Coram: Shri S.Jayaraman, Member  
Shri V.S.Verma, Member  
Shri M.Deena Dayalan, Member**

**Date of Hearing: 23.12.2010**

**Date of Order: 11.4.2011**

**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 Tariff determination for 500 MW HVDC back to back station at Gazuwaka, (Asset-I), Vijayawada-Gazuwaka 400 kV D/C Line & (b) 50% FSC Jeypore-Gazuwaka 400 kV D/C T/L at Jeypore (Asset-II) and 40% FSC on Rengali-Indravati 400 kV S/C T/L & (b) 40% FSC on Meramundali-Jeypore 400 kV S/C T/L at Jeypore.( Asset-III) under "Augmentation of capacity of Gazuwaka HVDC back to back project (500 MW)" for the period from 1.4.2009 to 31.3.2014 in Southern Region and Eastern Region.

**And**

**In the matter of:**

PowerGrid 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, Panaji
5. Transmission Corporation of Andhra Pradesh Ltd. Hyderabad
6. Northern Power Distribution Company of Andhra Pradesh Ltd.,
7. Eastern Power Distribution Company of Andhra Pradesh Ltd.,  
Visakhapatnam
8. Southern Power Distribution Company of Andhra Pradesh Ltd.,  
Tirupati
9. Central Power Distribution Company of Andhra Pradesh Ltd.,  
Hyderabad
10. Karnataka Power Transmission Corporation, Ltd. Bangalore
11. Bangalore Electricity Supply Company Ltd., Bangalore
12. Gulbarga Electricity Supply Company Ltd., Gulbarga
13. Hubli Electricity Supply Company Ltd., Hubli
14. Mangalore Electricity Supply Company Ltd., Mangalore
15. Chamundeswari Electricity Supply Company Ltd., Mysore
16. Bihar State Electricity Board, Patna



17. West Bengal State Electricity Board, Calcutta
18. Grid Corporation of Orissa Ltd. Bhubaneswar
19. Damodar Valley Corporation, Calcutta
20. Power Department, Govt. of Sikkim, Gangtok
21. Jharkhand State Electricity Board, Ranchi

## **Respondents**

### **The following was present:**

1. Shri M.M. Mondal, PGCIL
2. Shri Rajeev Gupta, PGCIL
3. Shri Rakesh Prasad, PGCIL

## **ORDER**

This petition has been filed for approval of transmission tariff in respect of 500 MW HVDC back to back station at Gazuwaka (Asset-I); Vijayawada-Gazuwaka 400 kV D/C Line and 50% FSC Jeypore-Gazuwaka 400 kV D/C transmission line at Jeypore (Asset-II); and 40% FSC on Rengali-Indravati 400 kV S/C transmission line and 40% FSC on Meramundali-Jeypore 400 kV S/C transmission line at Jeypore (Asset-III) (hereinafter collectively referred to as "the transmission assets"), under "Augmentation of capacity of Gazuwaka HVDC back to back project (500 MW)" in Southern Region and Eastern Region for the period from 1.4.2009 to 31.3.2014, based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, (hereinafter referred to as "the 2009 regulations"). The petitioner has also sought the following reliefs:

- (a) Invoke the provisions of Regulation 44 of the 2009 regulations (Power to relax) so that additional capitalization incurred/ to be incurred on account of undischarged liabilities after the cut-off date is allowed and considered for tariff fixation for the tariff period 2009-14;



- (b) Allow the grossing up of base rate of return with the applicable tax rate as per the Finance Act for the relevant year and direct settlement of tax liability between the generating company/transmission licensee and the beneficiaries/long term customers on year to year basis;
- (c) Allow the petitioner to recover, in the case of assets being combined to calculate the transmission charges, full depreciation of the assets during the useful life reckoning from the date of actual date of commercial operation;
- (d) Allow the petitioner to bill and adjust impact on interest on loan due to change in interest rate on account of floating rate of interest, if any, during 2009-14;
- (e) Approve the reimbursement by the beneficiaries, of expenditure towards petition filing fee, and publishing of notices in newspapers in terms of regulation 42 of the 2009 regulations, and other expenditure (if any) in relation to the filing of petition;
- (f) Allow the petitioner to bill and recover Service Tax on Transmission charges separately from the respondents, if petitioner is subjected to such service tax;

- (g) Allow the petitioner to bill and recover licence fee separately from the respondents; and
- (h) Pass such other relief as the Commission deems fit and appropriate under the circumstances of the case and in the interest of justice.

2. The Commission vide its orders dated 17.6.2010 in Petition No. 23/2010, dated 28.8.2009 in Petition No. 104/2009 and dated 31.3.2009 in Petition No. 141/2008 approved the transmission tariff for the period up to 31.3.2009 in respect of the transmission assets.

3. The petitioner has claimed the following transmission charges:

(₹ in lakh)

Asset - I					
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	1930.04	1930.04	1930.04	1930.04	1930.04
Interest on Loan	555.09	498.07	441.24	384.75	328.87
Return on equity	1781.35	1781.35	1781.35	1781.35	1781.35
Interest on Working Capital	111.08	111.14	111.31	111.53	111.87
O & M Expenses	443.00	468.00	495.00	523.00	553.00
<b>Total</b>	<b>4820.56</b>	<b>4788.60</b>	<b>4758.94</b>	<b>4730.67</b>	<b>4705.13</b>

(₹ in lakh)

Asset -II					
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	1444.11	1445.43	1448.07	1449.39	1449.39
Interest on Loan	1188.21	1072.57	958.05	841.81	724.02
Return on equity	1290.59	1291.90	1294.52	1295.83	1295.83
Interest on Working Capital	107.36	106.47	105.74	105.01	104.28
O & M Expenses	511.77	541.10	572.08	604.77	639.23
<b>Total</b>	<b>4542.04</b>	<b>4457.47</b>	<b>4378.46</b>	<b>4296.81</b>	<b>4212.75</b>

(₹ in lakh)

Asset III					
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	170.52	173.16	177.12	178.44	178.44
Interest on Loan	147.47	136.68	126.97	114.28	100.15
Return on equity	159.44	162.06	166.00	167.31	167.31
Interest on Working Capital	15.19	15.38	15.66	15.78	15.84
O & M Expenses	104.80	110.80	117.14	123.84	130.92
<b>Total</b>	<b>597.42</b>	<b>598.08</b>	<b>602.89</b>	<b>599.65</b>	<b>592.66</b>

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

(₹ in lakh)

Asset - I					
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	66.45	70.20	74.25	78.45	82.95
O & M expenses	36.92	39.00	41.25	43.58	46.08
Receivables	803.43	798.10	793.16	788.45	784.19
<b>Total</b>	<b>906.80</b>	<b>907.30</b>	<b>908.66</b>	<b>910.48</b>	<b>913.22</b>
Interest	111.08	111.14	111.31	111.53	111.87
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%

(₹ in lakh)

Asset -II					
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	76.77	81.17	85.81	90.72	95.88
O & M expenses	42.65	45.09	47.67	50.40	53.27
Receivables	757.01	742.91	729.74	716.14	702.13
<b>Total</b>	<b>876.43</b>	<b>869.17</b>	<b>863.22</b>	<b>857.26</b>	<b>851.28</b>
Interest	107.36	106.47	105.74	105.01	104.28
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%

(₹ in lakh)

Asset - III					
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	15.72	16.62	17.57	18.58	19.64
O & M expenses	8.73	9.23	9.76	10.32	10.91
Receivables	99.57	99.68	100.48	99.94	98.78
<b>Total</b>	<b>124.02</b>	<b>125.53</b>	<b>127.81</b>	<b>128.84</b>	<b>129.33</b>
Interest	15.19	15.38	15.66	15.78	15.84
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%

5. Reply to the petition has been filed only by a Respondent No. 2 i.e. TNEB. The respondent in its reply has objected to the claim for additional capital expenditure beyond the cut-off date, reimbursement of service tax, revision of normative O&M Charges based on wage revision and reimbursement of license fee. TNEB has further pointed out that in respect of Asset – I, after the incurring of the projected additional capital expenditure amounting to ₹ 504.84 lakh, the total cost would exceed the apportioned approved cost. The respondent has also urged that the grossing up of base rate of return on account of change in income tax rates be based on the proposed amendment to the 2009 regulations. The respondent has further

contended that impact of floating rate of interest be considered at the end of the tariff period.

6. As regards the additional capital expenditure incurred after the cut-off date, the petitioner has contended in its rejoinder that the work was executed within the cut-off date and the balance payment is due to BHEL against closure of contract on compliance of contractual obligation. As regards the additional capital expenditure amounting to ₹ 504.84 lakh in respect of Asset – I, the petitioner has urged that comparison of actual cost with the approved cost is to be made with reference to the whole project and not element wise. As regards its prayer for reimbursement of Service Tax, the petitioner has stated that although transmission service has been exempted from Service Tax vide notifications dated 27.2.2010 and 20.7.2010, in case the above notifications are withdrawn, the beneficiaries shall have to share the service tax paid by the petitioner. As regards the remaining points raised by TNEB, the petitioner in its rejoinder has reiterated its submissions in the petition and has prayed that the transmission tariff as prayed therein be allowed as such.

7. Having heard the representatives of the parties and examined the material on record, we proceed to dispose of the petition.

### **CAPITAL COST**

8. As regards Capital Cost, proviso to clause (2) of Regulation 7 of the 2009 regulations, provides as under:

*“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.”*

9. The Commission vide orders dated 17.6.2010 in Petition No.23/2010, order dated 28.8.2009 in Petition No. 104/2009 and order dated 31.3.2009 in Petition No. 141/2008, has approved the total capital cost of ₹ 67455.90 lakh for the transmission assets covered under this petition for the tariff block 2004-2009 upto 31.03.2009. The details of admitted capital cost are given below:

(₹ in lakh)

S. No.	Asset	Date of Commercial operation	Admitted Capital Cost as on 1.4.2009
Asset I	500 MW HVDC back to back station at Gazuwaka.	1.3.2005	36851.61
Asset II	Vijayawada-Gazuwaka 400 kV D/C line	1.3.2005	24638.06
	50% FSC Jeypore-Gazuwaka 400 kV D/C T/L at Jeypore.	1.1.2007	2695.69
Asset III	40% FSC on Meramundali-Jeypore 400 kV S/C T/L at Jeypore.	1.1.2007	1669.72
	40% FSC on Rengali-Indravati 400 kV S/C T/L.	1.10.2005	1600.52

10. Accordingly, capital expenditure of ₹ 36851.61 lakh for Asset I, ₹ 27333.75 lakh for Asset II and ₹ 3270.24 lakh for Asset III as on 1-4-2009 has been considered for tariff determination for 2009-14 period.

### **ADDITIONAL CAPITAL EXPENDITURE**

11. Details of the projected additional capital expenditure claimed by the petitioner are given overleaf.

(₹ in lakh)

Name of the Asset	Year	Nature	Amount	Details of Expenditure
<b>Asset-I</b>				
500 MW HVDC back to back station at Gazuwaka	2010-11	Sub-station	505.84	Arbitration of ABB is pending before Delhi High Court(not being claimed in the current Petition)
<b>Asset-II</b>				
Vijayawada-Gazuwaka 400 kV D/C line	NA	NA	NA	NA
50% FSC Jeypore-Gazuwaka 400 kV D/C T/L at Jeypore.	2010-11	Sub-Station	50.00	Balance Payment
	2011-12		50.00	Balance payment
<b>Asset-III</b>				
40% FSC on Rengali-Indravati 400 kV S/C T/L.	2010-11	Sub-Station	50.00	Balance Payment
	2011-12		50.00	
40% FSC on Meramundali-Jeypore 400 kV S/C T/L at Jeypore	2010-11		50.00	Balance Payment

12. From the above, it may be seen that the petitioner has projected additional capital expenditure amounting to ₹ 50.00 lakh each for the years 2010-11 and 2011-12 for the **Asset II** and ₹ 100.00 lakh and ₹ 50.00 lakh for the years 2010-11 and 2011-12 respectively for **Asset III** during the current tariff period 2009-14.

13. Regulation 9 of the 2009 regulations provides for computation of additional capital expenditure as under:

**“9. Additional Capitalisation.** (1) *The capital expenditure incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:*

(i) *Undischarged liabilities;*

(ii) *Works deferred for execution;*

(iii) *Procurement of initial capital spares within the original scope of work, subject to the provisions of regulation 8;*





*(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and*

*(v) Change in law:*

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

*(2) The capital expenditure incurred on the following counts after the cut-off date may, in its discretion, be admitted by the Commission, subject to prudence check:*

*(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court;*

*(ii) Change in law;*

*(iii) Deferred works relating to ash pond or ash handling system in the original scope of work;*

*(iv) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) including due to geological reasons after adjusting for proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation; and*

*(v) In case of transmission system any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement of switchyard equipment due to increase of fault level, emergency restoration system, insulators cleaning infrastructure, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system:*

*Provided that in respect sub-clauses (iv) and (v) above, any expenditure on acquiring the minor items or the assets like tools and tackles, furniture, airconditioners, voltage stabilizers, refrigerators, coolers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.4.2009."*

14. The petitioner has urged that clause 9(2) (v) does not have specific provisions of additional capital expenditure of such nature of expenditure after the cut-off date. The additional capitalization incurred/projected to be incurred during the year 2010-11 and 2011-12 is on account of balance and retention payment and is within the original scope of work. In view of this the petitioner has prayed that the provision of Regulation 44 (Power to Relax) of the 2009 regulations, be invoked so that the additional capitalization incurred/ to be

incurred on account of un-discharged liabilities after the cut-off date is allowed and considered for tariff fixation for the period 2009-14 block.

15. The petitioner vide its affidavit dated 6.1.2011 has submitted the details of communication with M/s BHEL and the details of the works against which balance payment amounting to ₹ 250 lakh has been projected. It is seen from the details provided by the petitioner that the works towards which additional capital expenditure has been claimed, are within the original scope of work and were completed within the respective cut-off dates of the elements. Since it has been established that the actual dates of completion of the relevant works within the original scope are within the respective cut-off dates of the elements, we are inclined to allow the above stated additional capital expenditure amounting to Rs. 250 lakh. This view of the case is in conformity with the stand taken by the Commission in order dated 8.2.2011 in Petition No.176/2010.

16. Accordingly, the additional capital expenditure projected by the petitioner is allowed for the purpose of computation of tariff.

### **DEBT- EQUITY RATIO**

17. Clause (2) of Regulation 12 of the 2009 regulations *inter alia* provides that,-

*“(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.”*

18. Details of debt-equity of the transmission assets as on 1.4.2009 are as under:

<b>Asset I</b>	<b>Admitted as on 31.03.2009</b>	
	<b>Amount (Rs. Lakh)</b>	<b>%</b>
Debt	26661.42	72.35%
Equity	10190.19	27.65%
<b>Total</b>	<b>36851.61</b>	<b>100.00%</b>
<b>Asset II</b>	<b>Admitted as on 31.03.2009</b>	
	<b>Amount (Rs. Lakh)</b>	<b>%</b>
Debt	19950.94	72.99%
Equity	7382.81	27.01%
<b>Total</b>	<b>27333.75</b>	<b>100.00%</b>
<b>Asset III</b>	<b>Admitted as on 31.03.2009</b>	
	<b>Amount (Rs. Lakh)</b>	<b>%</b>
Debt	2358.15	72.11%
Equity	912.09	27.89%
<b>Total</b>	<b>3270.24</b>	<b>100.00%</b>

19. Above stated debt-equity ratio has been applied for the purpose of calculation of tariff in this order.

20. As regards the additional capital expenditure, debt:equity ratio of 70:30 has been applied.

### **RETURN ON EQUITY**

21. Regulation 15 of the 2009 regulations provides that,-

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

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

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

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

*(3) The rate of return on equity shall be computed by grossing up the base rate with the normal tax rate for the year 2008-09 applicable to the concerned generating company or the transmission licensee, as the case may be:*

*Provided that return on equity with respect to the actual tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective year during the tariff period shall be trued up separately for each year of the tariff period along with the tariff petition filed for the next tariff period.*

*(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.”*

22. Return on Equity has been calculated on pre- tax at 11.33% MAT in accordance with the tax rate applicable for 2008-09 and the petitioner has claimed return on equity @ 17.481%.

23. As stated in para 1 (b) above, the petitioner has also prayed that it may be allowed the grossing up of base rate of return with the applicable tax rate as per the Finance Act for the relevant year and direct settlement of tax liability with long term customers on year to year basis.

24. Petitioner's prayer in this regard amounts to invoking the provision of Regulation 44 of the 2009 regulations for relaxation of Regulation 15(3) thereof so that grossing up the base rate of ROE may be allowed considering the tax rates viz., MAT, surcharge, any other cess, charges, levies etc., as per the relevant Finance Acts. This issue has already been taken cognizance of in the Commission's order dated 3.8.2010 in Petition No. 17/2010 wherein a decision has been taken to address the issue raised by the petitioner by making appropriate amendment to the 2009 regulations.

25. Detailed calculation of the ROE in respect the transmission assets is as under:

(₹ in lakh)

Asset - I						
		2009-10	2010-11	2011-12	2012-13	2013-14
Gross Notional Equity	10190.19					
Addition due to Additional Capitalisation	0.00					
Opening Equity	10190.19	10190.19	10190.19	10190.19	10190.19	10190.19
Addition due to Additional Capitalisation		0.00	0.00	0.00	0.00	0.00
Closing Equity		10190.19	10190.19	10190.19	10190.19	10190.19
Average Equity		10190.19	10190.19	10190.19	10190.19	10190.19
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>1781.35</b>	<b>1781.35</b>	<b>1781.35</b>	<b>1781.35</b>	<b>1781.35</b>

(₹ in lakh)

Asset -II						
		2009-10	2010-11	2011-12	2012-13	2013-14
Gross Notional Equity	7382.81					
Addition due to Additional Capitalisation	0.00					
Opening Equity	7382.81	7382.81	7382.81	7397.81	7412.81	7412.81
Addition due to Additional Capitalisation		0.00	15.00	15.00	0.00	0.00
Closing Equity		7382.81	7397.81	7412.81	7412.81	7412.81
Average Equity		7382.81	7390.31	7405.31	7412.81	7412.81
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>1290.59</b>	<b>1291.90</b>	<b>1294.52</b>	<b>1295.83</b>	<b>1295.83</b>

(₹ in lakh)

Asset - III						
		2009-10	2010-11	2011-12	2012-13	2013-14
Gross Notional Equity	912.09					
Addition due to Additional Capitalisation	0.00					
Opening Equity	912.09	912.09	912.09	942.09	957.09	957.09
Addition due to Additional Capitalisation		0.00	30.00	15.00	0.00	0.00
Closing Equity		912.09	942.09	957.09	957.09	957.09
Average Equity		912.09	927.09	949.59	957.09	957.09
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>159.44</b>	<b>162.06</b>	<b>166.00</b>	<b>167.31</b>	<b>167.31</b>

## INTEREST ON LOAN

26. Regulation 16 of the 2009 regulations provides that,-

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



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

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

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

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

*Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered: Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.*

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

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

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

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

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

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

(a) Details of net outstanding loan as on 31.3.2009, cumulative repayment up to 31.3.2009, repayment schedule for the loans, rate of interest etc. have been taken from the orders dated 17.06.2010 in petition no.23/2010, order dated 28.08.2009 in

petition no. 104/2009 and order dated 31.03.2009 in petition no. 141/2008 for working out weighted average rate of interest.

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

28. Detailed calculation of weighted average rate of interest is annexed as Annexure- I to Annexure – III to this order. Details of the calculation of Interest on Loan are as under:

**(₹ in lakh)**

<b>Asset – I</b>						
		<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Gross Notional Loan	26661.42					
Addition due to Additional Capitalisation	0.00					
Gross Normative Loan	26661.42	26661.42	26661.42	26661.42	26661.42	26661.42
Cumulative Repayment upto Previous Year		8066.49	9996.53	11926.57	13856.61	15786.65
Net Loan-Opening		18594.94	16664.90	14734.86	12804.82	10874.78
Addition due to Additional Capitalisation		0.00	0.00	0.00	0.00	0.00
Repayment during the year		1930.04	1930.04	1930.04	1930.04	1930.04
Net Loan-Closing		16664.90	14734.86	12804.82	10874.78	8944.74
Average Loan		17629.92	15699.88	13769.84	11839.80	9909.76
Weighted Average Rate of Interest on Loan		3.1486%	3.1724%	3.2044%	3.2496%	3.3186%
<b>Interest</b>		<b>555.09</b>	<b>498.07</b>	<b>441.24</b>	<b>384.75</b>	<b>328.87</b>

**(₹ in lakh)**

<b>Asset – II</b>						
		<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Gross Notional Loan	19950.94					
Addition due to Additional Capitalisation	0.00					
Gross Normative Loan	19950.94	19950.94	19950.94	19985.94	20020.94	20020.94
Cumulative Repayment upto Previous Year		4485.26	5929.37	7374.79	8822.86	10272.25
Net Loan-Opening		15465.68	14021.57	12611.14	11198.07	9748.69
Addition due to Additional Capitalisation		0.00	35.00	35.00	0.00	0.00
Repayment during the year		1444.11	1445.43	1448.07	1449.39	1449.39
Net Loan-Closing		14021.57	12611.14	11198.07	9748.69	8299.30
Average Loan		14743.62	13316.35	11904.61	10473.38	9023.99
Weighted Average Rate of Interest on Loan		8.0592%	8.0545%	8.0477%	8.0376%	8.0233%
<b>Interest</b>		<b>1188.21</b>	<b>1072.57</b>	<b>958.05</b>	<b>841.81</b>	<b>724.02</b>

(₹ in lakh)

Asset – III						
		2009-10	2010-11	2011-12	2012-13	2013-14
Gross Notional Loan	2358.15					
Addition due to Additional Capitalisation	0.00					
Gross Normative Loan	2358.15	2358.15	2358.15	2428.15	2463.15	2463.15
Cumulative Repayment upto Previous Year		399.41	569.93	743.09	920.20	1098.64
Net Loan-Opening		1958.74	1788.22	1685.07	1542.95	1364.51
Addition due to Additional Capitalisation		0.00	70.00	35.00	0.00	0.00
Repayment during the year		170.52	173.16	177.12	178.44	178.44
Net Loan-Closing		1788.22	1685.07	1542.95	1364.51	1186.08
Average Loan		1873.48	1736.64	1614.01	1453.73	1275.30
Weighted Average Rate of Interest on Loan		7.8717%	7.8702%	7.8670%	7.8613%	7.8533%
<b>Interest</b>		<b>147.47</b>	<b>136.68</b>	<b>126.97</b>	<b>114.28</b>	<b>100.15</b>

## DEPRECIATION

29. Regulation 17 of the 2009 regulations provides for computation of depreciation in the following manner, namely:

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

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

xxxx  
xxxx

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

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

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

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

*(6) Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.”*

30. The transmission assets were put on commercial operation on or after 1.4.2008 only. Accordingly, they will complete 12 years beyond 2013-14 and





thus depreciation has been calculated annually based on Straight Line Method and at rates specified in Appendix-III.

31. For the period 1.4.2009 to 31.3.2014 the depreciation worked out are as under:

(₹ in lakh)

Asset – I						
		2009-10	2010-11	2011-12	2012-13	2013-14
Rate of Depreciation		5.2373%	5.2373%	5.2373%	5.2373%	5.2373%
Depreciable Value	90%	33166.45	33166.45	33166.45	33166.45	33166.45
Remaining Depreciable Value		25099.96	23169.92	21239.88	19309.84	17379.80
<b>Depreciation</b>		<b>1930.04</b>	<b>1930.04</b>	<b>1930.04</b>	<b>1930.04</b>	<b>1930.04</b>

(₹ in lakh)

Asset – II						
		2009-10	2010-11	2011-12	2012-13	2013-14
Rate of Depreciation		5.2832%	5.2832%	5.2832%	5.2832%	5.2832%
Depreciable Value	90%	24600.38	24622.88	24667.88	24690.38	24690.38
Remaining Depreciable Value		20189.36	18767.75	17367.32	15941.75	14492.36
<b>Depreciation</b>		<b>1444.11</b>	<b>1445.43</b>	<b>1448.07</b>	<b>1449.39</b>	<b>1449.39</b>

(₹ in lakh)

Asset - III						
		2009-10	2010-11	2011-12	2012-13	2013-14
Rate of Depreciation		5.2142%	5.2152%	5.2166%	5.2171%	5.2171%
Depreciable Value	90%	2940.88	2985.88	3053.38	3075.88	3075.88
Remaining Depreciable Value		2591.13	2465.61	2359.96	2205.34	2026.90
<b>Depreciation</b>		<b>170.52</b>	<b>173.16</b>	<b>177.12</b>	<b>178.44</b>	<b>178.44</b>

## **OPERATION & MAINTENANCE EXPENSES**

32. Clause (g) of Regulation 19 the 2009 regulations prescribes the following norms for operation and maintenance expenses based on the type of sub-station and line:

Name of Elements	2009-10	2010-11	2011-12	2012-13	2013-14
<b>400 kV Transmission Line:</b>					
400 kV D/C twin conductor transmission line (₹ Lakh/ bay)	0.627	0.663	0.701	0.741	0.783
500 MW HVDC back-to-back (₹ Lakh/ bay)	52.40	55.40	58.57	61.92	65.46
400 kV Sub Station Bay (₹ Lakh/ bay)	36.68	38.78	41.00	43.34	45.82

33. Based on the above norms, the petitioner has calculated the operation and maintenance expenses as under and the same are allowed as such.

(₹ Lakh)

Asset – I					
Name of Element	2009-10	2010-11	2011-12	2012-13	2013-14
500 MW HVDC back-to-back (₹ Lakh/ 500 MW)	443.00	468.00	495.00	523.00	553.00
<b>Total O&amp;M (Assets-I)</b>	<b>443.00</b>	<b>468.00</b>	<b>495.00</b>	<b>523.00</b>	<b>553.00</b>

(₹ Lakh)

Asset-II					
	2009-10	2010-11	2011-12	2012-13	2013-14
314.782 Kms, 400 kV D/C twin conductor transmission line (₹ Lakh/ bay)	197.37	208.70	220.66	233.25	246.47
6 Nos 400 Bays (₹ Lakh/ bay)	314.40	332.40	351.42	371.52	392.76
<b>Total O&amp;M (Asset-II)</b>	<b>511.77</b>	<b>541.10</b>	<b>572.08</b>	<b>604.77</b>	<b>639.23</b>

(₹ Lakh)

Asset-III					
	2009-10	2010-11	2011-12	2012-13	2013-14
2 Nos 400 Bays (₹ Lakh/ bay)	104.80	110.80	117.14	123.84	130.92
<b>Total O&amp;M (Asset-III)</b>	<b>104.80</b>	<b>110.80</b>	<b>117.14</b>	<b>123.84</b>	<b>130.92</b>

### **INTEREST ON WORKING CAPITAL**

34. 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' average billing calculated on target availability level. 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:** As per Regulation 18(3) of the 2009 regulations, rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1.4.2009 or on 1st April of the year in which the project or part thereof (as the case may be) is declared under commercial operation, whichever is later. The interest on working capital is payable on normative basis notwithstanding that the transmission licensee has not taken working capital loan from any outside agency. The petitioner has claimed interest on working capital @ 12.25% based on SBI PLR as on 1.4.2009, which is in accordance with the 2009 regulations and has been allowed.

35. Necessary computations in support of interest on working capital are appended hereinbelow:

(₹ in lakh)

Asset – I					
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	66.45	70.20	74.25	78.45	82.95
O & M expenses	36.92	39.00	41.25	43.58	46.08
Receivables	803.43	798.10	793.16	788.44	784.19
<b>Total</b>	<b>906.79</b>	<b>907.30</b>	<b>908.66</b>	<b>910.48</b>	<b>913.22</b>
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
Interest	<b>111.08</b>	<b>111.14</b>	<b>111.31</b>	<b>111.53</b>	<b>111.87</b>

(₹ in lakh)

Asset –II					
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	76.77	81.17	85.81	90.72	95.88
O & M expenses	42.65	45.09	47.67	50.40	53.27
Receivables	757.01	742.91	729.74	716.14	702.13
<b>Total</b>	<b>876.42</b>	<b>869.17</b>	<b>863.23</b>	<b>857.25</b>	<b>851.28</b>
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
Interest	<b>107.36</b>	<b>106.47</b>	<b>105.75</b>	<b>105.01</b>	<b>104.28</b>

(₹ in lakh)

Asset –III					
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	15.72	16.62	17.57	18.58	19.64
O & M expenses	8.73	9.23	9.76	10.32	10.91
Receivables	99.57	99.68	100.48	99.94	98.78
<b>Total</b>	<b>124.02</b>	<b>125.53</b>	<b>127.81</b>	<b>128.84</b>	<b>129.32</b>
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
Interest	<b>15.19</b>	<b>15.38</b>	<b>15.66</b>	<b>15.78</b>	<b>15.84</b>

## TRANSMISSION CHARGES

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

(₹ in lakh)

Asset –I					
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	1930.04	1930.04	1930.04	1930.04	1930.04
Interest on Loan	555.09	498.07	441.24	384.75	328.87
Return on equity	1781.35	1781.35	1781.35	1781.35	1781.35
Interest on Working Capital	111.08	111.14	111.31	111.53	111.87
O & M Expenses	443.00	468.00	495.00	523.00	553.00
<b>Total</b>	<b>4820.56</b>	<b>4788.60</b>	<b>4758.94</b>	<b>4730.67</b>	<b>4705.12</b>

(₹ in lakh)

Asset –II					
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	1444.11	1445.43	1448.07	1449.39	1449.39
Interest on Loan	1188.21	1072.57	958.05	841.81	724.02
Return on equity	1290.59	1291.90	1294.52	1295.83	1295.83
Interest on Working Capital	107.36	106.47	105.75	105.01	104.28
O & M Expenses	511.77	541.10	572.08	604.77	639.23
<b>Total</b>	<b>4542.04</b>	<b>4457.47</b>	<b>4378.47</b>	<b>4296.82</b>	<b>4212.75</b>

(₹ in lakh)

Asset –III					
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	170.52	173.16	177.12	178.44	178.44
Interest on Loan	147.47	136.68	126.97	114.28	100.15
Return on equity	159.44	162.06	166.00	167.31	167.31
Interest on Working Capital	15.19	15.38	15.66	15.78	15.84
O & M Expenses	104.80	110.80	117.14	123.84	130.92
<b>Total</b>	<b>597.43</b>	<b>598.08</b>	<b>602.88</b>	<b>599.65</b>	<b>592.66</b>

### **APPLICATION FEE AND THE PUBLICATION EXPENSES**

37. The petitioner has sought approval for the reimbursement of fee paid by it for filing the petition. In accordance with our decision in order dated 11.1.2010 in Petition No. 109/2009, the petitioner shall be entitled to recover the filing fee from the beneficiaries.

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

### **SERVICE TAX**

39. The petitioner has made a specific prayer to be allowed to bill and recover the Service tax on Transmission charges separately from the respondents, if the exemption provided under the notifications dated 27.2.2010 and 20.7.2010 is withdrawn and the transmission service is made taxable service. We consider this request premature. The petitioner is at



liberty to approach the Commission at the appropriate time in accordance with law.

40. The transmission charges allowed in this order shall be recovered on monthly basis in accordance with Regulation 23 and shall be shared by the respondents in accordance with Regulation 33 of the 2009 regulations.

41. This order disposes of Petition No. 242/2010.

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

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

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

**Annexure - I**

<b>Asset - I</b>						
<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>						
(₹ in lakh)						
	<b>Details of Loan</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
<b>1</b>	<b>BONDS XII</b>					
	Gross loan opening	427.00	<b>427.00</b>	<b>427.00</b>	<b>427.00</b>	<b>427.00</b>
	Cumulative Repayment upto DOCO/previous year	142.33	<b>177.92</b>	<b>213.50</b>	<b>249.08</b>	<b>284.67</b>
	Net Loan-Opening	284.67	249.08	213.50	177.92	142.33
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	35.58	35.58	35.58	35.58	35.58
	Net Loan-Closing	249.08	213.50	177.92	142.33	106.75
	Average Loan	266.88	231.29	195.71	160.13	124.54
	Rate of Interest	9.70%	9.70%	9.70%	9.70%	9.70%
	Interest	25.89	22.44	18.98	15.53	12.08
	Rep Schedule	12 Annual Installments from 28.3.2006				
<b>2</b>	<b>Bond XIII Option I</b>					
	Gross loan opening	2051.00	<b>2051.00</b>	<b>2051.00</b>	<b>2051.00</b>	<b>2051.00</b>
	Cumulative Repayment upto DOCO/previous year	512.75	<b>683.67</b>	<b>854.58</b>	<b>1025.50</b>	<b>1196.42</b>
	Net Loan-Opening	1538.25	1367.33	1196.42	1025.50	854.58
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	170.92	170.92	170.92	170.92	170.92
	Net Loan-Closing	1367.33	1196.42	1025.50	854.58	683.67
	Average Loan	1452.79	1281.88	1110.96	940.04	769.13
	Rate of Interest	8.63%	8.63%	8.63%	8.63%	8.63%
	Interest	125.38	110.63	95.88	81.13	66.38
	Rep Schedule	12 Annual Installments from 31.7.2006				
<b>3</b>	<b>Bond- XV</b>					
	Gross loan opening	2151.00	<b>2151.00</b>	<b>2151.00</b>	<b>2151.00</b>	<b>2151.00</b>
	Cumulative Repayment upto DOCO/previous year	358.50	<b>537.75</b>	<b>717.00</b>	<b>896.25</b>	<b>1075.50</b>
	Net Loan-Opening	1792.50	1613.25	1434.00	1254.75	1075.50
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	179.25	179.25	179.25	179.25	179.25
	Net Loan-Closing	1613.25	1434.00	1254.75	1075.50	896.25
	Average Loan	1702.88	1523.63	1344.38	1165.13	985.88
	Rate of Interest	6.68%	6.68%	6.68%	6.68%	6.68%
	Interest	113.75	101.78	89.80	77.83	65.86
	Rep Schedule	12 Annual Installments from 23.2.2008				
<b>4</b>	<b>Bond- XVI</b>					
	Gross loan opening	1132.00	<b>1132.00</b>	<b>1132.00</b>	<b>1132.00</b>	<b>1132.00</b>
	Cumulative Repayment upto DOCO/previous year	113.20	<b>226.40</b>	<b>339.60</b>	<b>452.80</b>	<b>566.00</b>
	Net Loan-Opening	1018.80	905.60	792.40	679.20	566.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	113.20	113.20	113.20	113.20	113.20
	Net Loan-Closing	905.60	792.40	679.20	566.00	452.80

	Average Loan	962.20	849.00	735.80	622.60	509.40
	Rate of Interest	7.10%	7.10%	7.10%	7.10%	7.10%
	Interest	68.32	60.28	52.24	44.20	36.17
	Rep Schedule	10 Annual Installments from 18.2.2009				
<b>5</b>	<b>Bond- XVII</b>					
	Gross loan opening	327.38	<b>327.38</b>	<b>327.38</b>	<b>327.38</b>	<b>327.38</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>32.74</b>	<b>65.48</b>	<b>98.21</b>	<b>130.95</b>
	Net Loan-Opening	327.38	294.64	261.90	229.17	196.43
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	32.74	32.74	32.74	32.74	32.74
	Net Loan-Closing	294.64	261.90	229.17	196.43	163.69
	Average Loan	311.01	278.27	245.54	212.80	180.06
	Rate of Interest	7.39%	7.39%	7.39%	7.39%	7.39%
	Interest	22.98	20.56	18.15	15.73	13.31
	Rep Schedule	10 Annual Installments from 22.9.2009				
<b>6</b>	<b>Bond- XXVII</b>					
	Gross loan opening	4.60	<b>4.60</b>	<b>4.60</b>	<b>4.60</b>	<b>4.60</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>0.38</b>	<b>0.77</b>
	Net Loan-Opening	4.60	4.60	4.60	4.22	3.83
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.38	0.38	0.38
	Net Loan-Closing	4.60	4.60	4.22	3.83	3.45
	Average Loan	4.60	4.60	4.41	4.03	3.64
	Rate of Interest	9.47%	9.47%	9.47%	9.47%	9.47%
	Interest	0.44	0.44	0.42	0.38	0.34
	Rep Schedule	12 Annual Installments from 31.3.2012				
<b>7</b>	<b>OBC</b>					
	Gross loan opening	417.00	<b>417.00</b>	<b>417.00</b>	<b>417.00</b>	<b>417.00</b>
	Cumulative Repayment upto DOCO/previous year	173.75	<b>208.50</b>	<b>243.25</b>	<b>278.00</b>	<b>312.75</b>
	Net Loan-Opening	243.25	208.50	173.75	139.00	104.25
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	34.75	34.75	34.75	34.75	34.75
	Net Loan-Closing	208.50	173.75	139.00	104.25	69.50
	Average Loan	225.88	191.13	156.38	121.63	86.88
	Rate of Interest	9.60%	9.60%	9.60%	9.60%	9.60%
	Interest	21.68	18.35	15.01	11.68	8.34
	Rep Schedule	12 Annual Installments from 22. 3.2005				
<b>8</b>	<b>SEB (Foreign Currency Loan)- Tranche 13 to 29</b>					
	Gross loan opening	17030.03	<b>17030.03</b>	<b>17030.03</b>	<b>17030.03</b>	<b>17030.03</b>
	Cumulative Repayment upto DOCO/previous year	5676.68	<b>7095.85</b>	<b>8515.02</b>	<b>9934.19</b>	<b>11353.35</b>
	Net Loan-Opening	11353.35	9934.19	8515.02	7095.85	5676.68
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	1419.17	1419.17	1419.17	1419.17	1419.17
	Net Loan-Closing	9934.19	8515.02	7095.85	5676.68	4257.51





	Average Loan	10643.77	9224.60	7805.43	6386.26	4967.09
	Rate of Interest	1.38%	1.38%	1.38%	1.38%	1.38%
	Interest	146.35	126.84	107.32	87.81	68.30
	Rep Schedule	24 Equal Half yearly installments from 1.9.2005				
<b>9</b>	<b>SEB (Foreign Currency Loan)- Tranche 30</b>					
	Gross loan opening	179.55	<b>179.55</b>	<b>179.55</b>	<b>179.55</b>	<b>179.55</b>
	Cumulative Repayment upto DOCO/previous year	59.85	<b>74.81</b>	<b>89.78</b>	<b>104.74</b>	<b>119.70</b>
	Net Loan-Opening	119.70	104.74	89.78	74.81	59.85
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	14.96	14.96	14.96	14.96	14.96
	Net Loan-Closing	104.74	89.78	74.81	59.85	44.89
	Average Loan	112.22	97.26	82.30	67.33	52.37
	Rate of Interest	1.38%	1.38%	1.38%	1.38%	1.38%
	Interest	1.54	1.34	1.13	0.93	0.72
	Rep Schedule	24 Equal Half yearly installments from 1.9.2005				
<b>10</b>	<b>SEB (Foreign Currency Loan)- Tranche 31</b>					
	Gross loan opening	155.24	<b>155.24</b>	<b>155.24</b>	<b>155.24</b>	<b>155.24</b>
	Cumulative Repayment upto DOCO/previous year	51.75	<b>64.68</b>	<b>77.62</b>	<b>90.56</b>	<b>103.49</b>
	Net Loan-Opening	103.49	90.56	77.62	64.68	51.75
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	12.94	12.94	12.94	12.94	12.94
	Net Loan-Closing	90.56	77.62	64.68	51.75	38.81
	Average Loan	97.03	84.09	71.15	58.22	45.28
	Rate of Interest	1.38%	1.38%	1.38%	1.38%	1.38%
	Interest	1.33	1.16	0.98	0.80	0.62
	Rep Schedule	24 Equal Half yearly installments from 1.9.2005				
<b>11</b>	<b>SEB (Foreign Currency Loan)- Tranche 32</b>					
	Gross loan opening	350.20	<b>350.20</b>	<b>350.20</b>	<b>350.20</b>	<b>350.20</b>
	Cumulative Repayment upto DOCO/previous year	116.73	<b>145.92</b>	<b>175.10</b>	<b>204.28</b>	<b>233.47</b>
	Net Loan-Opening	233.47	204.28	175.10	145.92	116.73
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	29.18	29.18	29.18	29.18	29.18
	Net Loan-Closing	204.28	175.10	145.92	116.73	87.55
	Average Loan	218.88	189.69	160.51	131.33	102.14
	Rate of Interest	1.38%	1.38%	1.38%	1.38%	1.38%
	Interest	3.01	2.61	2.21	1.81	1.40
	Rep Schedule	24 Equal Half yearly installments from 1.9.2005				
<b>12</b>	<b>SEB (Foreign Currency Loan)- Tranche 33</b>					
	Gross loan opening	620.89	<b>620.89</b>	<b>620.89</b>	<b>620.89</b>	<b>620.89</b>
	Cumulative Repayment upto DOCO/previous year	206.96	<b>258.70</b>	<b>310.44</b>	<b>362.18</b>	<b>413.92</b>
	Net Loan-Opening	413.92	362.18	310.44	258.70	206.96
	Additions during the year	0.00	0.00	0.00	0.00	0.00



	Repayment during the year	51.74	51.74	51.74	51.74	51.74
	Net Loan-Closing	362.18	310.44	258.70	206.96	155.22
	Average Loan	388.05	336.31	284.57	232.83	181.09
	Rate of Interest	1.38%	1.38%	1.38%	1.38%	1.38%
	Interest	5.34	4.62	3.91	3.20	2.49
	Rep Schedule	24 Equal Half yearly installments from 1.9.2005				
<b>13</b>	<b>SEB (Foreign Currency Loan)- Date of Drawl 26.04.05 to 23.09.05</b>					
	Gross loan opening	1811.45	<b>1811.45</b>	<b>1811.45</b>	<b>1811.45</b>	<b>1811.45</b>
	Cumulative Repayment upto DOCO/previous year	603.82	<b>754.77</b>	<b>905.73</b>	<b>1056.68</b>	<b>1207.63</b>
	Net Loan-Opening	1207.63	1056.68	905.73	754.77	603.82
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	150.95	150.95	150.95	150.95	150.95
	Net Loan-Closing	1056.68	905.73	754.77	603.82	452.86
	Average Loan	1132.16	981.20	830.25	679.29	528.34
	Rate of Interest	1.375%	1.38%	1.38%	1.38%	1.38%
	Interest	15.57	13.49	11.42	9.34	7.26
	Rep Schedule	24 Equal Half yearly installments from 15.9.2005				
	<b>Total Loan</b>					
	Gross loan opening	26657.34	26657.34	26657.34	26657.34	26657.34
	Cumulative Repayment upto DOCO/previous year	8016.32	10261.71	12507.09	14752.86	16998.63
	Net Loan-Opening	18641.02	16395.64	14150.25	11904.48	9658.72
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	2245.38	2245.38	2245.77	2245.77	2245.77
	Net Loan-Closing	16395.64	14150.25	11904.48	9658.72	7412.95
	Average Loan	17518.33	15272.94	13027.37	10781.60	8535.83
	Rate of Interest	3.1486%	3.1724%	3.2044%	3.2496%	3.3186%
	<b>Interest</b>	551.58	484.52	417.45	350.36	283.27

**Annexure - II**

<b>Asset - II</b>						
<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>						
<b>(₹ in lakh)</b>						
<b>Details of Loan</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>	
<b>1 Bond XII</b>						
Gross loan opening	637.00	<b>637.00</b>	<b>637.00</b>	<b>637.00</b>	<b>637.00</b>	<b>637.00</b>
Cumulative Repayment upto DOCO/previous year	212.33	<b>265.42</b>	<b>318.50</b>	<b>371.58</b>	<b>424.67</b>	
Net Loan-Opening	424.67	371.58	318.50	265.42	212.33	
Additions during the year	0.00	0.00	0.00	0.00	0.00	
Repayment during the year	53.08	53.08	53.08	53.08	53.08	
Net Loan-Closing	371.58	318.50	265.42	212.33	159.25	
Average Loan	398.13	345.04	291.96	238.88	185.79	
Rate of Interest	9.70%	9.70%	9.70%	9.70%	9.70%	
Interest	38.62	33.47	28.32	23.17	18.02	
Rep Schedule	12 Annual Installments from 28.3.2006					
<b>2 Bond XIII Option I</b>						
Gross loan opening	11217.00	<b>11217.00</b>	<b>11217.00</b>	<b>11217.00</b>	<b>11217.00</b>	<b>11217.00</b>
Cumulative Repayment upto DOCO/previous year	2804.25	<b>3739.00</b>	<b>4673.75</b>	<b>5608.50</b>	<b>6543.25</b>	
Net Loan-Opening	8412.75	7478.00	6543.25	5608.50	4673.75	
Additions during the year	0.00	0.00	0.00	0.00	0.00	
Repayment during the year	934.75	934.75	934.75	934.75	934.75	
Net Loan-Closing	7478.00	6543.25	5608.50	4673.75	3739.00	
Average Loan	7945.38	7010.63	6075.88	5141.13	4206.38	
Rate of Interest	8.63%	8.63%	8.63%	8.63%	8.63%	
Interest	685.69	605.02	524.35	443.68	363.01	
Rep Schedule	12 Annual Installments from 31.7.2006					
<b>3 Bond XV</b>						
Gross loan opening	3203.00	<b>3203.00</b>	<b>3203.00</b>	<b>3203.00</b>	<b>3203.00</b>	<b>3203.00</b>
Cumulative Repayment upto DOCO/previous year	533.83	<b>800.75</b>	<b>1067.67</b>	<b>1334.58</b>	<b>1601.50</b>	
Net Loan-Opening	2669.17	2402.25	2135.33	1868.42	1601.50	
Additions during the year	0.00	0.00	0.00	0.00	0.00	
Repayment during the year	266.92	266.92	266.92	266.92	266.92	
Net Loan-Closing	2402.25	2135.33	1868.42	1601.50	1334.58	
Average Loan	2535.71	2268.79	2001.88	1734.96	1468.04	
Rate of Interest	6.68%	6.68%	6.68%	6.68%	6.68%	
Interest	169.39	151.56	133.73	115.90	98.07	
Rep Schedule	12 Annual Installments from 23.2.2008					

<b>4</b>	<b>Bond XVI</b>					
	Gross loan opening	1570.00	<b>1570.00</b>	<b>1570.00</b>	<b>1570.00</b>	<b>1570.00</b>
	Cumulative Repayment upto DOCO/previous year	157.00	<b>314.00</b>	<b>471.00</b>	<b>628.00</b>	<b>785.00</b>
	Net Loan-Opening	1413.00	1256.00	1099.00	942.00	785.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	157.00	157.00	157.00	157.00	157.00
	Net Loan-Closing	1256.00	1099.00	942.00	785.00	628.00
	Average Loan	1334.50	1177.50	1020.50	863.50	706.50
	Rate of Interest	7.10%	7.10%	7.10%	7.10%	7.10%
	Interest	94.75	83.60	72.46	61.31	50.16
	Rep Schedule	10 Annual Installments from 18.2.2009				

<b>5</b>	<b>Bond XVII</b>					
	Gross loan opening	1842.89	<b>1842.89</b>	<b>1842.89</b>	<b>1842.89</b>	<b>1842.89</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>184.29</b>	<b>368.58</b>	<b>552.87</b>	<b>737.16</b>
	Net Loan-Opening	1842.89	1658.60	1474.31	1290.02	1105.73
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	184.29	184.29	184.29	184.29	184.29
	Net Loan-Closing	1658.60	1474.31	1290.02	1105.73	921.45
	Average Loan	1750.75	1566.46	1382.17	1197.88	1013.59
	Rate of Interest	7.39%	7.39%	7.39%	7.39%	7.39%
	Interest	129.38	115.76	102.14	88.52	74.90
	Rep Schedule	10 annual installments from 22-09-2009				

<b>6</b>	<b>Bond XVIII</b>					
	Gross loan opening	288.00	<b>288.00</b>	<b>288.00</b>	<b>288.00</b>	<b>288.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>24.00</b>	<b>48.00</b>	<b>72.00</b>	<b>96.00</b>
	Net Loan-Opening	288.00	264.00	240.00	216.00	192.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	24.00	24.00	24.00	24.00	24.00
	Net Loan-Closing	264.00	240.00	216.00	192.00	168.00
	Average Loan	276.00	252.00	228.00	204.00	180.00
	Rate of Interest	8.15%	8.15%	8.15%	8.15%	8.15%
	Interest	22.49	20.54	18.58	16.63	14.67
	Rep Schedule	12 Annual Installments from 09.03.2010				

<b>7</b>	<b>OBC</b>					
	Gross loan opening	621.00	<b>621.00</b>	<b>621.00</b>	<b>621.00</b>	<b>621.00</b>
	Cumulative Repayment upto DOCO/previous year	258.75	<b>310.50</b>	<b>362.25</b>	<b>414.00</b>	<b>465.75</b>
	Net Loan-Opening	362.25	310.50	258.75	207.00	155.25
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	51.75	51.75	51.75	51.75	51.75
	Net Loan-Closing	310.50	258.75	207.00	155.25	103.50
	Average Loan	336.38	284.63	232.88	181.13	129.38
	Rate of Interest	9.60%	9.60%	9.60%	9.60%	9.60%



Interest	32.29	27.32	22.36	17.39	12.42
Rep Schedule	12 Annual Installments from 22.3.2005				

<b>8 Bond XXVII</b>					
Gross loan opening	153.54	<b>153.54</b>	<b>153.54</b>	<b>153.54</b>	<b>153.54</b>
Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>12.80</b>	<b>25.59</b>
Net Loan-Opening	153.54	153.54	153.54	140.75	127.95
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	0.00	0.00	12.80	12.80	12.80
Net Loan-Closing	153.54	153.54	140.75	127.95	115.16
Average Loan	153.54	153.54	147.14	134.35	121.55
Rate of Interest	9.47%	9.47%	9.47%	9.47%	9.47%
Interest	14.54	14.54	13.93	12.72	11.51
Rep Schedule	12 Annual Installments from 31.3.2012				

<b>Total</b>					
Gross loan opening	19532.43	19532.43	19532.43	19532.43	19532.43
Cumulative Repayment upto DOCO/previous year	3966.17	5637.96	7309.74	8994.33	10678.91
Net Loan-Opening	15566.26	13894.47	12222.69	10538.10	8853.52
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	1671.79	1671.79	1684.58	1684.58	1684.58
Net Loan-Closing	13894.47	12222.69	10538.10	8853.52	7168.93
Average Loan	14730.37	13058.58	11380.39	9695.81	8011.23
Rate of Interest	8.06%	8.05%	8.05%	8.04%	8.02%
Interest	1187.15	1051.81	915.86	779.31	642.76

**Annexure - III**

<b>Asset - III</b>						
<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>						
<b>(₹ in lakh)</b>						
	<b>Details of Loan</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
<b>1</b>	<b>Bond XII</b>					
	Gross loan opening	69.00	<b>69.00</b>	<b>69.00</b>	<b>69.00</b>	<b>69.00</b>
	Cumulative Repayment upto DOCO/previous year	23.00	<b>28.75</b>	<b>34.50</b>	<b>40.25</b>	<b>46.00</b>
	Net Loan-Opening	46.00	40.25	34.50	28.75	23.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	5.75	5.75	5.75	5.75	5.75
	Net Loan-Closing	40.25	34.50	28.75	23.00	17.25
	Average Loan	43.13	37.38	31.63	25.88	20.13
	Rate of Interest	9.70%	9.70%	9.70%	9.70%	9.70%
	Interest	4.18	3.63	3.07	2.51	1.95
	Rep Schedule	12 Annual Instalments from 28.3.2006				
<b>2</b>	<b>Bond XIII Option I</b>					
	Gross loan opening	857.00	<b>857.00</b>	<b>857.00</b>	<b>857.00</b>	<b>857.00</b>
	Cumulative Repayment upto DOCO/previous year	214.25	<b>285.67</b>	<b>357.08</b>	<b>428.50</b>	<b>499.92</b>
	Net Loan-Opening	642.75	571.33	499.92	428.50	357.08
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	71.42	71.42	71.42	71.42	71.42
	Net Loan-Closing	571.33	499.92	428.50	357.08	285.67
	Average Loan	607.04	535.63	464.21	392.79	321.38
	Rate of Interest	8.63%	8.63%	8.63%	8.63%	8.63%
	Interest	52.39	46.22	40.06	33.90	27.73
	Rep Schedule	12 Annual Instalments from 31.7.2006				
<b>3</b>	<b>Bond XV</b>					
	Gross loan opening	346.00	<b>346.00</b>	<b>346.00</b>	<b>346.00</b>	<b>346.00</b>
	Cumulative Repayment upto DOCO/previous year	57.67	<b>86.50</b>	<b>115.33</b>	<b>144.17</b>	<b>173.00</b>
	Net Loan-Opening	288.33	259.50	230.67	201.83	173.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	28.83	28.83	28.83	28.83	28.83
	Net Loan-Closing	259.50	230.67	201.83	173.00	144.17
	Average Loan	273.92	245.08	216.25	187.42	158.58
	Rate of Interest	6.68%	6.68%	6.68%	6.68%	6.68%
	Interest	18.30	16.37	14.45	12.52	10.59
	Rep Schedule	12 Annual Instalments from 23.2.2008				
<b>4</b>	<b>Bond XVI</b>					
	Gross loan opening	298.00	<b>298.00</b>	<b>298.00</b>	<b>298.00</b>	<b>298.00</b>
	Cumulative Repayment upto DOCO/previous year	29.80	<b>59.60</b>	<b>89.40</b>	<b>119.20</b>	<b>149.00</b>
	Net Loan-Opening	268.20	238.40	208.60	178.80	149.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	29.80	29.80	29.80	29.80	29.80



Net Loan-Closing	238.40	208.60	178.80	149.00	119.20
Average Loan	253.30	223.50	193.70	163.90	134.10
Rate of Interest	7.10%	7.10%	7.10%	7.10%	7.10%
Interest	17.98	15.87	13.75	11.64	9.52
Rep Schedule	10 Annual Installments from 18.2.2009				

<b>5 Bond XVII</b>					
Gross loan opening	427.39	<b>427.39</b>	<b>427.39</b>	<b>427.39</b>	<b>427.39</b>
Cumulative Repayment upto DOCO/previous year	0.00	<b>42.74</b>	<b>85.48</b>	<b>128.22</b>	<b>170.96</b>
Net Loan-Opening	427.39	384.65	341.91	299.17	256.43
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	42.74	42.74	42.74	42.74	42.74
Net Loan-Closing	384.65	341.91	299.17	256.43	213.70
Average Loan	406.02	363.28	320.54	277.80	235.06
Rate of Interest	7.39%	7.39%	7.39%	7.39%	7.39%
Interest	30.00	26.85	23.69	20.53	17.37
Rep Schedule	10 annual installments from 22-9-2009				

<b>6 Bond XVIII</b>					
Gross loan opening	260.00	<b>260.00</b>	<b>260.00</b>	<b>260.00</b>	<b>260.00</b>
Cumulative Repayment upto DOCO/previous year	0.00	<b>21.67</b>	<b>43.33</b>	<b>65.00</b>	<b>86.67</b>
Net Loan-Opening	260.00	238.33	216.67	195.00	173.33
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	21.67	21.67	21.67	21.67	21.67
Net Loan-Closing	238.33	216.67	195.00	173.33	151.67
Average Loan	249.17	227.50	205.83	184.17	162.50
Rate of Interest	8.15%	8.15%	8.15%	8.15%	8.15%
Interest	20.31	18.54	16.78	15.01	13.24
Rep Schedule	12 Annual Installments from 9.3.2010				

<b>7 OBC</b>					
Gross loan opening	68.00	<b>68.00</b>	<b>68.00</b>	<b>68.00</b>	<b>68.00</b>
Cumulative Repayment upto DOCO/previous year	28.33	<b>34.00</b>	<b>39.67</b>	<b>45.33</b>	<b>51.00</b>
Net Loan-Opening	39.67	34.00	28.33	22.67	17.00
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	5.67	5.67	5.67	5.67	5.67
Net Loan-Closing	34.00	28.33	22.67	17.00	11.33
Average Loan	36.83	31.17	25.50	19.83	14.17
Rate of Interest	9.60%	9.60%	9.60%	9.60%	9.60%
Interest	3.54	2.99	2.45	1.90	1.36
Rep Schedule	12 Annual Installments from 22.3.2005				

<b>8 Bond XXVII</b>					
Gross loan opening	28.35	<b>28.35</b>	<b>28.35</b>	<b>28.35</b>	<b>28.35</b>
Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>2.36</b>	<b>4.73</b>
Net Loan-Opening	28.35	28.35	28.35	25.99	23.63
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	0.00	0.00	2.36	2.36	2.36



Net Loan-Closing	28.35	28.35	25.99	23.63	21.26
Average Loan	28.35	28.35	27.17	24.81	22.44
Rate of Interest	9.47%	9.47%	9.47%	9.47%	9.47%
Interest	2.68	2.68	2.57	2.35	2.13
Rep Schedule	12 Annual Installments from 31.3.2012				
<b>Total</b>					
Gross loan opening	2353.74	2353.74	2353.74	2353.74	2353.74
Cumulative Repayment upto DOCO/previous year	353.05	558.92	764.79	973.03	1181.26
Net Loan-Opening	2000.69	1794.82	1588.95	1380.71	1172.48
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	205.87	205.87	208.23	208.23	208.23
Net Loan-Closing	1794.82	1588.95	1380.71	1172.48	964.24
Average Loan	1897.75	1691.88	1484.83	1276.59	1068.36
Rate of Interest	7.87%	7.87%	7.87%	7.86%	7.85%
Interest	149.39	133.15	116.81	100.36	83.90