

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 136/2010**

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

**Date of Hearing: 28.10.2010**

**Date of Order: 11 .1.2012**

**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) LILO of Ramagundam - Khammam T/L at Warangal Sub-station (b) 2x315 MVA Auto Transformer & 400/220 kV Bays Equipment at Warangal Sub-station (c) Combined assets of LILO of Ramagundam – Khammam TL and Neyveli - Pugalur –Madurai 400 kV DC TL and (d) 2x315 MVA Auto Transformer & 400/220 kV Bays Equipment at Pugalur under Transmission System associated with Neyveli Lignite Corporation –II (NLC-II) Expansion Project in Southern Region for tariff block 2009-14 period.

**And**

**In the matter of:**

Power Grid Corporation of India Limited, Gurgaon

.....**Petitioner**

**Vs**

1. Karnataka Power Transmission Corporation, Ltd.,  
Bangalore
2. Transmission Corporation of Andhra Pradesh Ltd.,  
Hyderabad
3. Kerala State Electricity Board, Thiruvananthapuram
4. Tamil Nadu Electricity Board, Chennai
5. Electricity Department, Govt. of Goa, Panaji
6. Electricity Department, Govt. of Pondicherry, Pondicherry



7. Eastern Power Distribution Company of Andhra Pradesh Ltd., Visakhapatnam
8. Southern Power Distribution Company of Andhra Pradesh Ltd., Tirupati
9. Central Power Distribution Company of Andhra Pradesh Ltd., Hyderabad
10. Northern Power Distribution Company of Andhra Pradesh Ltd., Warangal
11. Bangalore Electricity Supply Company Ltd., Bangalore
12. Gulbarga Electricity Supply Company Ltd., Gulbarga
13. Hubli Electricity Supply Company Ltd., Hubli
14. MESCOM Corporate office, Mangalore
15. Chamundeswari Electricity Supply Corporation Ltd., Mysore

...Respondents

The following were present:

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

### **ORDER**

This petition has been filed for determination of transmission tariff for the subject transmission assets under Transmission System associated with Neyveli Lignite Corporation – II (NLC-II) Expansion Project in Southern 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”).

2. The administrative approval and expenditure sanction to the transmission project was accorded by Government of India at an estimated cost of ₹ 69183 lakh including IDC of ₹ 4135 lakh (based on 2<sup>nd</sup> quarter, 2004 price level). RCE of the project has been approved by the Board of Directors of the petitioner vide memorandum dated 22.3.2010 for a total cost of ₹ 96239 lakh including IDC of ₹ 10732 lakh (based on 3<sup>rd</sup> quarter 2009 price level).



3. Following elements are included in the transmission system:-

**Transmission Lines:**

- (a) Neyveli TS-II Expansion switchyard (NLC) –Neyveli TS –II Existing Switchyard (NLC)400 kV 2\*S/C line,
- (b) Neyveli TS –II (NLC)-Pugalur (POWERGRID) 400 kV D/C line,
- (c) Pugalur (POWERGRID)-Madurai (POWERGRID) 400 kV D/C line,
- (d) Udumalpet (POWERGRID)-Arasur (POWERGRID) 400 kV D/C line,
- (e) LILO of Neyveli (POWERGRID)-Sriperumbudur(POWERGRID) 400 kV D/C line at Pondicherry (POWERGRID),
- (f) LILO of Ramagundam (POWERGRID) Khammam (POWERGRID) 400 kV D/C line at Warangal (POWERGRID).

**Sub-stations:-**

- (a) 400/220 kV Pugalur (POWERGRID) Sub-station (New),
- (b) 400/220 kV Warangal (POWERGRID) Sub-station (New),
- (c) 400/220 kV Arasur (POWERGRID) Sub-station (New),
- (d) 400/220 kV Pondicherry (POWERGRID) Sub-station (New),
- (e) 400/220 kV Madurai (POWERGRID) Sub-station (New),
- (f) 400/220 kV Udumalpet (POWERGRID) Sub-station (New)

4. In line with the procedure defined in the Commission's Letter No. C-7/189(204)/2009-CERC dated 23.10.2009, the petitioner has combined the assets as given hereunder:-

S No.	Name of the asset being combined for tariff calculation	Name of the asset after clubbing	Actual date of commercial operation
1	LILO of Ramagundam- Khammam T/L at Warangal Sub-station	Asset-1	1.8.2009
2	2x315 MVA Auto Transformer & 400/220 kV Bays Equipment at Warangal Sub-station	Asset-2	1.8.2009
3	Combined assets of LILO of Ramagundam-Khammam T/L and Neyveli- Pugalur-Madurai 400 kV DC T/L	Asset-3	1.9.2009
4	2x315 MVA Auto Transformer & 400/220 kV Bays Equipment at Pugalur Sub-station	Asset-4	1.9.2009

5. The duration for which tariff has been determined in this order is as under:-

(a) Tariff for Asset-1 (Single Asset) has been computed for the year 2009-10 (pro-rata) which will be applicable for the month of August 2009.

(b) Tariff for Combined Assets-1&3 with notional date of commercial operation as 1.9.2009, has been computed for the 2009-14. This will be applicable for the period from 1.9.2009 to 31.03.2014.

(c) Tariff for Asset-2 and Asset-4 has been computed for the 2009-14 period and the same will be applicable from their respective dates of commercial operation to 31.3.2014.

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

(₹ in lakh)

Asset 1	
	2009-10 (Pro- rata)
Depreciation	134.18
Interest on Loan	83.28
Return on equity	141.91
Interest on Working Capital	10.80
O & M Expenses	75.69
<b>Total</b>	<b>445.86</b>

(₹ in lakh)

Asset 2					
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	155.64	237.48	239.55	239.98	239.98
Interest on Loan	94.80	135.73	124.69	112.35	99.86
Return on equity	157.70	241.96	245.08	245.75	245.75
Interest on Working Capital	17.99	30.00	30.86	31.67	32.51
O & M Expenses	216.59	343.48	363.14	383.88	405.84
<b>Total</b>	<b>642.72</b>	<b>988.65</b>	<b>1003.32</b>	<b>1013.63</b>	<b>1023.94</b>
Combined Asset 1 & 3					
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	1506.57	2655.77	2674.87	2678.89	2678.89
Interest on Loan	911.00	1517.66	1398.44	1258.16	1118.01
Return on equity	1509.03	2662.91	2683.89	2688.48	2688.48
Interest on Working Capital	97.35	175.82	176.07	175.34	174.55
O & M Expenses	367.63	666.33	704.48	744.75	787.20
<b>Total</b>	<b>4391.58</b>	<b>7678.49</b>	<b>7637.75</b>	<b>7545.62</b>	<b>7447.13</b>
Asset 4					
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	134.64	239.40	241.98	242.36	242.36
Interest on Loan	90.90	153.19	142.03	127.56	113.15
Return on equity	133.64	237.62	240.17	240.54	240.54
Interest on Working Capital	15.48	30.32	31.17	31.92	32.72
O & M Expenses	189.51	343.48	363.14	383.88	405.84
<b>Total</b>	<b>564.17</b>	<b>1004.01</b>	<b>1018.49</b>	<b>1026.26</b>	<b>1034.61</b>

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

(₹ in lakh)

Asset 1	
	2009-10 (Pro-rata)
Maintenance Spares	11.35
O & M expenses	9.46
Receivables	111.47
<b>Total</b>	<b>132.28</b>
Rate of Interest	12.25%
<b>Interest</b>	<b>10.80</b>

(₹ in lakh)

Asset 2					
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	32.49	51.52	54.47	57.58	60.88
O & M expenses	27.07	28.62	30.26	31.99	33.82
Receivables	160.68	164.78	167.22	168.94	170.66
<b>Total</b>	<b>220.24</b>	<b>244.92</b>	<b>251.95</b>	<b>258.51</b>	<b>265.36</b>
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
<b>Interest</b>	<b>17.99</b>	<b>30.00</b>	<b>30.86</b>	<b>31.67</b>	<b>32.51</b>
Combined Asset 1 & 3					
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	55.14	99.95	105.67	111.71	118.08
O & M expenses	52.52	55.53	58.71	62.06	65.60
Receivables	1254.74	1279.75	1272.96	1257.60	1241.19
<b>Total</b>	<b>1362.40</b>	<b>1435.23</b>	<b>1437.34</b>	<b>1431.37</b>	<b>1424.87</b>
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
<b>Interest</b>	<b>97.35</b>	<b>175.82</b>	<b>176.07</b>	<b>175.34</b>	<b>174.55</b>
Asset 4					
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	28.43	51.52	54.47	57.58	60.88
O & M expenses	27.07	28.62	30.26	31.99	33.82
Receivables	161.19	167.34	169.75	171.04	172.44
<b>Total</b>	<b>216.69</b>	<b>247.48</b>	<b>254.48</b>	<b>260.61</b>	<b>267.14</b>
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
<b>Interest</b>	<b>15.48</b>	<b>30.32</b>	<b>31.17</b>	<b>31.92</b>	<b>32.72</b>

8. Tamil Nadu Electricity Board (TNEB), respondent No. 4, in its reply vide affidavit dated 4.8.2010 has raised the following issues:-

(a) There is a huge cost over-run, the main reason for which has been stated to be delay in the commissioning of NLC II generating station. The details of indemnification agreement between PGCIL and NLC for making good the loss in event of delay by the parties



should be filed before the Commission for consideration. Moreover, as the beneficiaries are not responsible for the delay in commissioning of the power house or the transmission line, they should not be burdened with higher transmission charges.

(b) The revised cost estimates includes FERV revaluation amount of ₹ 3718 lakh, the detailed working should be furnished by the petitioner.

(c) The auditor's certificate enclosed to the petition contains expenditure towards FERV as per AS 11. The FERV should not be capitalised and should go to profit & loss account as per the amended AS 11 effective from 1.4.2011. Therefore, the petitioner should be asked to provide the basis on which FERV has been capitalised.

(d) Presently, 2009 regulations allows for collection of ROE including grossing up tax on monthly basis. Since, the actual payment of advance income tax is on quarterly basis to be adjusted on year end based on self assessment, there is upfront payment by the beneficiaries to this extent. The Commission can consider payment of grossed up income tax on ROE on quarterly basis instead of including the same in ROE and collecting every month.

(e) The Government of India, vide its notification dated 27.2.2010 has exempted transmission services from the purview of service tax and hence the petitioner claims in this regard may be negated.

(f) The petitioner has claimed interest on loan on the basis of the rate of interest prevailing on 1.4.2009 and the changes in interest, if

any, due to floating rate of interest is to be claimed /adjusted over the tariff block of five years directly from the beneficiaries. The Commission may consider to order reimbursement of interest, if any, at the time of truing up exercise at the end of the tariff period without any interest liabilities to the petitioner.

(g) Since O&M expenses are based on normative basis without any provision to revise the same based on the actuals, the Commission may consider not to allow the expenses claimed by the petitioner towards wage revision.

(h) The expenditure on filing fee and publication of tariff application may be directed to be absorbed by the petitioner from the savings from normative O&M expenses.

(i) The initial spares capitalised in respect of the assets of combined lines is 1.13%, which is more than the prescribed limit of 0.75% applicable to the transmission lines. The expenses of initial spares may be restricted in accordance with the provisions of the 2009 regulations.

9. The petitioner vide its rejoinder filed under affidavit dated 8.9.2010 has reiterated its submissions in the petition and has offered clarifications as under: -

(a) The main reasons for increase of completion cost visa-vis the approved FR cost are price variation, variation in quantities of approved items and FERV. The feasibility report for the project was prepared at June 2004 price level whereas LOAs of various



packages were placed progressively from October 2005 to March 2006. The cost over-run has occurred due to market forces prevailing at the time of bidding process of various packages awarded and the inflationary trend prevailing during the execution of the project. Moreover, due to inflationary trend during the period June 2004 (FR price level) to March 2008 (when major supplies were made), the indices of various input items for the project have increased enormously.

(b) The project has been funded through domestic and foreign currency loans from ADB for the project as a whole as part of the project specific foreign loan tied up for a basket of projects. Since drawal of foreign currency loan is not element wise, FERV amount of ₹ 3718 lakh included in the RCE is for the entire project while the present petition covers only a few elements of the project.

(c) The petitioner has placed on record the proof of foreign exchange rates as on the date of commercial operation. The petitioner has submitted that as per the 2009 regulations, the capital cost of the project shall include any gain or loss on account of foreign exchange rate variation during construction. Accordingly, FERV up to the date of commercial operation has been included as part of the capital cost. The portion of FERV charged to P&L as per AS11 and AS16 has also been included in the capital cost and adequate disclosure has been made in the auditor's certificate.

(d) The issue of change in MAT rate shall get addressed once the 2009 regulations are amended suitably as per order of the Commission in petition No. 38/2010;

(e) The change in interest rate may increase or decrease and accordingly the petitioner has prayed to be allowed to make annual adjustment of difference in annual rates of interest as was the practice during 2004-09 period.

(f) The Commission has considered certain percentage (about 50%) in the wage hike while stipulating the norms. In 2009 regulations the wage revision for the Executive levels has already been done. However, for the non-executive levels, the wage revision shall be done shortly, and as a result the total impact of wage hike would be more as compared to the compensation provided in the O&M rates. Accordingly, the petitioner shall approach the Commission with actual additional manpower cost on account of wage revision during the tariff block 2009-14 for claiming in the tariff;

(g) The petitioner has prayed that for the balance period of the current tariff block, grossing up may be allowed as per the tax rate prescribed under the relevant Finance Acts and differential impact, if any, may be allowed to be directly adjusted with the beneficiaries annually;

(h) The 2009 regulations provide for reimbursement of O&M expenses during the operation phase of the project. Rates for O&M have been worked out based on the last 5 years actual O&M expenses. Since the payment towards filing fee, publication of

notices in newspapers and licence fee is not reflected in the actual O&M expenses, the extra burden during O&M phase needs to be reimbursed; and

(i) Restriction of spares is not element wise but is applicable for the total project cost whereas the present petition covers only a few elements of the project. Final view in the matter may be taken on completion of total project;

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

### **CAPITAL COST**

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

*“ (1) Capital cost for a project shall include*

*(a) The expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan – (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the fund deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check”*

12. Details of apportioned approved cost, cost as on date of commercial operation and estimated additional capitalization projected to be incurred for the assets covered in the petition are given overleaf:-

(₹ in lakh)

Name of the asset	RCE	Apportioned approved cost	Actual Cost incurred as on date of commercial operation 1.8.2009/ 1.9.2009	Proposed Expenditure from date of commercial operation to 31.3.2010	Proposed Expenditure 2010-11	Proposed Expenditure 2011-12	Total Estimated Completion Cost
Asset-1	6160.00	3961.29	3900.21	315.09	223.99	70.30	4509.59
Asset-2	4711.00	2852.63	4453.91	112.85	93.40	25.50	4685.66
Combined Assets- 1&3	55129.00	40916.30	48193.01	2273.04	625.16	175.10	51266.31
Asset-4	4708.00	2730.04	4246.81	241.85	83.33	14.15	4586.14

13. TNEB has pointed out that cost of initial spares is more than the norms prescribed in the 2009 regulations. In this regard, it is observed that capital cost (claimed by the petitioner) as on date of commercial operation is inclusive of initial spares amounting to ₹ 47.92 lakh (Sub-station), ₹ 107.29 lakh (Sub-station), ₹ 579.35 lakh (₹ 332.79 for Transmission Line and ₹ 246.56 lakh for Sub-station) and ₹ 79.46 lakh for Asset-1, Asset-2, Combined Asset-1&3 and Asset-4 respectively. Further, tariff for other assets falling within the same project scope has been claimed by the petitioner in Petition No. 332/2010. Admissibility of the initial spares within ceiling limit specified in Regulation 8 of the 2009 regulations will be kept in view while deciding the tariff in Petition No. 332/2010.

14. As regards the cost overrun, it is observed that the project was due for commissioning in January 2008 i.e. 35 months from date of Investment Approval dated 11.1.2005. Against this, Asset 1 and Asset 2 were commissioned on 1.8.2009 and Asset 3 and Asset 4 were commissioned on 1.9.2009. Accordingly, there is a delay of 20 months for Asset-1 and Asset-2 and 21 months for Asset-3 and Asset-4. The petitioner has submitted that



during the coordination meeting with NLC in December 2006, the NLC had indicated the revised schedule of the commissioning of the first unit of the generation project as February 2009 as against March 2008, as indicated earlier. Accordingly, the petitioner rescheduled its implementation activities so as to commission its transmission lines matching with the commissioning of the generation project in February 2009. The petitioner has signed an Indemnification Agreement with NLC with Zero date as February 2009. Subsequently, a modification to the Indemnification Agreement was signed with NLC specifying that in case of delay, the actual date of the commissioning of generating unit or associated transmission system whichever is commissioned earlier after the original zero date shall be considered as the revised zero date. For the period from January 2008 till February 2009, the delay cannot be attributable to the petitioner as the date of commissioning was extended till February 2009 after consultation with NLC to match with the commissioning of the generating station. The petitioner was expected to commission the assets by zero date i.e. February 2009. However, Asset 1 and 2 were commissioned on 1.8.2009 and Asset 3 and 4 were commissioned on 1.9.2009. There has been a delay of 6 months in the case of Asset 1 and 2 and 7 months in the case of Asset 3 and 4. Accordingly, IDC and IEDC for 6 months in case of Assets 1 and 2 and 7 months in case of Assets 3 and 4 are not allowed. The petitioner is at liberty to claim the loss on account of disallowance of IDC and IEDC from NLC in accordance with the Indemnification Agreement.

15. Based on the above, IDC and IEDC have been deducted for six months upto 31.7.2009 for Asset-1 and Asset-2 and upto 31.8.2009 for Asset-3 and Asset-4. As per Investment approval dated 11.1.2005, project ought to have been completed within 35 months. As noted above, there is a delay of 20 months for Asset-1 and Asset-2 and 21 months for Asset-3 and Asset-4. Thus total Construction period for Asset-1 and Asset-2 is 55 months i.e. (35+20) months and for Asset-3 and Asset-4 it is 56 months i.e. (35+21) months.

16. Details of the disallowed IDC and IEDC are as under:-

(₹ n lakh)

Detail of IDC and IEDC as per CA Certificate dated 02.11.2009								
Particular	Asset-1		Asset-2		Asset-3		Asset-4	
	IDC	IEDC	IDC	IEDC	IDC	IEDC	IDC	IEDC
up to 31.03.2009	358.58	255.62	389.38	297.53	4197.67	3151.16	418.81	308.18
From April'09 to July'09/Aug'09	38.07	49.52	45.31	20.53	686.97	308.68	80.43	51.10
<b>Total IDC and IEDC Claimed</b>	<b>396.65</b>	<b>305.14</b>	<b>434.69</b>	<b>318.06</b>	<b>4884.64</b>	<b>3459.84</b>	<b>499.24</b>	<b>359.28</b>
Detail of IDC and IEDC <u>Disallowed</u> for 6/7 months								
From Feb'09-March'09	<b>14.06</b>	<b>10.02</b>	<b>15.27</b>	<b>11.67</b>	<b>164.61</b>	<b>123.58</b>	<b>16.42</b>	<b>12.09</b>
From April'09 to July'09/Aug'09 (for 4/5 months)	<b>38.07</b>	<b>49.52</b>	<b>45.31</b>	<b>20.53</b>	<b>686.97</b>	<b>308.68</b>	<b>80.43</b>	<b>51.10</b>
<b>Total Disallowed IDC and IEDC (for 12 months)</b>	<b>52.13</b>	<b>59.54</b>	<b>60.58</b>	<b>32.20</b>	<b>851.58</b>	<b>432.26</b>	<b>96.85</b>	<b>63.19</b>

17. Disallowed IDC and IEDC have been deducted proportionately from the capital cost of the elements (excluding land) of the respective assets as on date of commercial operation. Consequently, capital cost of ₹ 3788.53 lakh, ₹ 4361.13 lakh, ₹ 46797.49 lakh (₹ 3788.53 lakh for asset 1 and ₹ 43008.96 lakh for asset-3) and ₹ 4246.81 lakh for Asset-1, Asset 2 , combined Asset-1 & 3, and Asset-4 respectively, as on date of commercial operation has been considered for the purpose of calculation after deducting IDC and IEDC.

18. Actual dates of commercial operation of the Assets clubbed in the instant petition i.e. individual Asset-1 and individual Asset-3 are 1.8.2009 and 1.9.2009 respectively. Both the assets have been clubbed for the purpose of tariff determination as on 1.9.2009 (notional date of commercial operation) as per Commission letter Ref. No. C-7/189(204)/2009-CERC dated 31.10.2009. The petitioner has claimed projected additional capital expenditure for 2009-10 and details of breakup of additional capital expenditure for August 2009 is not available, capital cost as on date of commercial operation of both the assets has been clubbed for the purpose of tariff calculation. However, capital cost will be reviewed at the time of truing up.

### **ADDITIONAL CAPITAL EXPENDITURE**

19. As regards Additional Capital Expenditure clause 9(1) of the 2009 regulations provides as under:-

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

- (i) Undischarged liabilities;
- (ii) XXX
- (iii) XXX
- (iv) XXX
- (v) XXX”

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

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

Based on the above definition, cut-off date for the above mentioned assets is 31.03.2012.

21. Details of the additional capital expenditure claimed by the petitioner are given as under:-

Sl. No.	Year	Work/Equipment proposed to be added after commissioning	Amount capitalized/ Proposed to be capitalised	Purpose
<b>Asset-1: LILO of Ramagundam-Khammam T/L at Warangal S/S</b>				
1	2009-10	Building & Civil Works	198.00	Balance& Retention Payments
		Transmission Line	43.14	
		Sub Station	65.02	
		PLCC	5.00	
		Freehold Land	3.93	Stamp duty charges
		<b>Total</b>	<b>315.09</b>	
2	2010-11	Building & Civil Works	126.60	Balance& Retention Payments
		Transmission Line	32.10	
		Sub Station	53.24	
		PLCC	12.05	
				<b>Total</b>
3	2011-12	Building & Civil Works	65.30	Balance& Retention Payments
		PLCC	5.00	
				<b>Total</b>
<b>Asset-2: 2x315 MVA Auto Transformer &amp; 400/220 kV Bays Equipment at Warangal S/S</b>				
1	2009-10	Building & Civil Works	60.53	Balance& Retention Payments
		Sub Station	48.19	
		PLCC	2.45	
		Freehold Land	1.68	Stamp duty charges
				<b>Total</b>



2	2010-11	Building & Civil Works	87.40	Balance& Retention Payments
		PLCC	6.00	Stamp duty charges
		<b>Total</b>	<b>93.40</b>	
3	2011-12	Building & Civil Works	25.50	Balance& Retention Payments
		<b>Total</b>	<b>25.50</b>	
<b>Combined Asset-1&amp;3: Combined assets of LILO of Ramagundam –Khammam TL and Neyveli-Pugalur –Madurai 400 kV DC TL</b>				
1	2009-10	Building & Civil Works	198.00	Balance& Retention Payments
		Transmission Line	1386.70	
		Sub Station	679.41	
		PLCC	5.00	
		Freehold Land	3.93	Stamp duty charges
		<b>Total</b>	<b>2273.04</b>	
2	2010-11	Building & Civil Works	163.20	Balance & Retention Payment
		Transmission Line	204.60	
		Sub Station	227.02	
		PLCC	30.34	
		<b>Total</b>	<b>625.16</b>	
3	2011-12	Sub Station	35.92	Balance & Retention Payment
		TR Line	68.88	
		Building & Civil Works	65.30	
		PLCC	5.00	
		<b>Total</b>	<b>175.10</b>	

<b>Asset-4: 2x315 MVA Auto Transformer &amp; 400/220 kV Bays Equipment at Pugalur s/s</b>				
1	2009-10	Sub Station	241.85	Balance & Retention Payment
2	2010-11	Sub Station	81.82	
		PLCC	1.51	
		<b>Total</b>	<b>83.33</b>	
3	2011-12	Sub Station	14.15	

22. The above claim of the petitioner has been allowed as the same is in accordance with the provisions of the 2009 regulations.

## DEBT-EQUITY RATIO

23. Regulation 12 of the 2009 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 modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”*

24. Details of debt-equity in respect of the assets comprising the transmission assets as on date of commercial operation are given as under:-

Capital Cost as on date of commercial operation		
<b>Asset-1</b>		
Particulars	Amount (₹ in lakh)	%
Debt	2651.97	70.0000
Equity	1136.56	30.0000
<b>Total</b>	<b>3788.53</b>	<b>100.0000</b>
<b>Asset-2</b>		
Debt	3052.79	70.0000
Equity	1308.34	30.0000
<b>Total</b>	<b>4361.13</b>	<b>100.0000</b>
<b>Combined Asset- 1 &amp; 3</b>		
Debt	32759.01	70.0016
Equity	14038.48	29.9984
<b>Total</b>	<b>46797.49</b>	<b>100.0000</b>
<b>Asset-4</b>		
Debt	2860.74	70.0000
Equity	1226.03	30.0000
<b>Total</b>	<b>4086.77</b>	<b>100.0000</b>

25. Details of projected additional capital expenditure (referred to as “Add cap” in the tables herein below) and their debt equity ratio are given hereunder:-

Normative		
	₹ in lakh	%
<b>Asset-1</b>		
<b>Add Cap for 2009-10</b>		
Debt	220.56	70.00
Equity	94.53	30.00
<b>Total</b>	<b>315.09</b>	<b>100.00</b>
<b>Add Cap for 2010-11</b>		
Debt	156.79	70.00
Equity	67.20	30.00
<b>Total</b>	<b>223.99</b>	<b>100.00</b>
<b>Add Cap for 2011-12</b>		
Debt	49.21	70.00
Equity	21.09	30.00
<b>Total</b>	<b>70.30</b>	<b>100.00</b>

Asset-2		
<b>Add Cap for 2009-10</b>		
Debt	78.99	70.00
Equity	33.85	30.00
<b>Total</b>	<b>112.84</b>	<b>100.00</b>

<b>Add Cap for 2010-11</b>		
Debt	65.38	70.00
Equity	28.02	30.00
<b>Total</b>	<b>93.40</b>	<b>100.00</b>

<b>Add Cap for 2011-12</b>		
Debt	17.85	70.00
Equity	7.65	30.00
<b>Total</b>	<b>25.50</b>	<b>100.00</b>

Normative		
	₹ in lakh	%
<b>Combined Asset-1&amp;3</b>		
<b>Add Cap for 2009-10</b>		
Debt	1591.13	70.00
Equity	681.91	30.00
<b>Total</b>	<b>2273.04</b>	<b>100.00</b>

<b>Add Cap for 2010-11</b>		
Debt	437.61	70.00
Equity	187.55	30.00
<b>Total</b>	<b>625.16</b>	<b>100.00</b>

<b>Add Cap for 2011-12</b>		
Debt	122.57	70.00
Equity	52.53	30.00
<b>Total</b>	<b>175.10</b>	<b>100.00</b>

<b>Asset-4</b>		
<b>Add Cap for 2009-10</b>		
Debt	169.30	70.00
Equity	72.55	30.00
<b>Total</b>	<b>241.85</b>	<b>100.00</b>
<b>Add Cap for 2010-11</b>		
Debt	58.33	70.00
Equity	25.00	30.00
<b>Total</b>	<b>83.33</b>	<b>100.00</b>
<b>Add Cap for 2011-12</b>		
Debt	9.91	70.00
Equity	4.25	30.00
<b>Total</b>	<b>14.15</b>	<b>100.00</b>

## RETURN ON EQUITY

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

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

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

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

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

*(3) The rate of return on equity shall be computed by grossing up the base rate with the Minimum Alternate/Corporate Income Tax Rate for the year 2008-09, as per the Income Tax Act, 1961, as applicable to the concerned generating company or the transmission licensee, as the case may be.*

*(4) Rate of return on equity shall be rounded off to three decimal points and be computed as per the formula given below:*

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

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

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

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

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

28. Petitioner's prayer to allow grossing up the base rate of ROE based on the tax rates viz., MAT, surcharge, any other cess, charges, levies etc., as per the relevant Finance Act, shall be settled in accordance with the provisions of Regulation 15 of 2009 regulations as amended by Central Electricity

Regulatory Commission (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2011.

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

(₹ in lakh)

Asset 1	
	2009-10 (Pro-rata)
Opening Equity	1136.56
Addition due to additional capital expenditure	94.53
Closing Equity	1231.09
Average Equity	1183.82
Return on Equity (Base Rate )	15.50%
Tax rate for the year 2008-09 (MAT)	11.33%
Rate of Return on Equity (Pre Tax )	17.481%
Return on Equity (Pre Tax)	<b>137.96</b>

(₹ in lakh)

Asset 2					
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Equity	1308.34	1342.19	1370.21	1377.86	1377.86
Addition due to additional capital expenditure	33.86	28.02	7.65	0.00	0.00
Closing Equity	1342.19	1370.21	1377.86	1377.86	1377.86
Average Equity	1325.27	1356.20	1374.04	1377.86	1377.86
Return on Equity (Base Rate )	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	11.330%	11.330%	11.330%	11.330%	11.330%
Rate of Return on Equity (Pre Tax )	17.481%	17.481%	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)	<b>154.45</b>	<b>237.08</b>	<b>240.20</b>	<b>240.86</b>	<b>240.86</b>

(₹ in lakh)

Combined Asset 1 & 3					
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Equity	14038.48	14720.39	14907.94	14960.47	14960.47
Addition due to additional capital expenditure	681.91	187.55	52.53	0.00	0.00
Closing Equity	14720.39	14907.94	14960.47	14960.47	14960.47
Average Equity	14379.44	14814.17	14934.21	14960.47	14960.47
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%	11.33%
Rate of Return on Equity (Pre Tax )	17.481%	17.481%	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)	<b>1466.31</b>	<b>2589.66</b>	<b>2610.65</b>	<b>2615.24</b>	<b>2615.24</b>

(₹ in lakh)

Asset 4					
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Equity	1226.03	1298.59	1323.59	1327.83	1327.83
Addition due to additional capital expenditure	72.56	25.00	4.25	0.00	0.00
Closing Equity	1298.59	1323.59	1327.83	1327.83	1327.83
Average Equity	1262.31	1311.09	1325.71	1327.83	1327.83
Return on Equity (Base Rate )	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	11.330%	11.330%	11.330%	11.330%	11.330%
Rate of Return on Equity (Pre Tax )	17.481%	17.481%	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)	<b>128.72</b>	<b>229.19</b>	<b>231.75</b>	<b>232.12</b>	<b>232.12</b>

## **INTEREST ON LOAN**

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

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

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

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

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

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

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

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

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



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

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

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

31. In these calculations, interest on loan has been worked out as under:-
- (a) Gross amount of loan, repayment of instalments and rate of interest and weighted average rate of interest on actual average loan have been considered as per the petition.
  - (b) The repayment for the tariff period 2009-14 has been deemed to be equal to the depreciation allowed for that period.
  - (c) As regards the moratorium period availed by the transmission licensee, the repayment of the loan has been considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.
  - (d) Weighted average rate of interest on actual average loan worked out as per (a) above is applied on the notional average loan during the year to arrive at the interest on loan.
32. Detailed calculation of the weighted average rate of interest has been given in Annexure 1 to 4 to this order.



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

(₹ in lakh)

<b>Asset 1</b>	
	<b>2009-10 (Pro- rata)</b>
Gross Normative Loan	2651.97
Cumulative Repayment upto Previous Year	0.00
Net Loan-Opening	2651.97
Addition due to additional capital expenditure	220.56
Repayment during the year	130.37
Net Loan-Closing	2742.17
Average Loan	2697.07
Weighted Average Rate of Interest on Loan	4.5047%
<b>Interest</b>	<b>81.00</b>

<b>Asset 2</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Gross Normative Loan	3052.79	3131.79	3197.17	3215.02	3215.02
Cumulative Repayment upto Previous Year	0.00	152.40	385.02	619.71	854.83
Net Loan-Opening	3052.79	2979.38	2812.15	2595.30	2360.19
Addition due to additional capital expenditure	79.00	65.38	17.85	0.00	0.00
Repayment during the year	152.40	232.62	234.69	235.12	235.12
Net Loan-Closing	2979.38	2812.15	2595.30	2360.19	2125.07
Average Loan	3016.09	2895.76	2703.72	2477.74	2242.63
Weighted Average Rate of Interest on Loan	4.6179%	4.5934%	4.5211%	4.4455%	4.3660%
<b>Interest</b>	<b>92.85</b>	<b>133.02</b>	<b>122.24</b>	<b>110.15</b>	<b>97.91</b>

<b>Combined Asset 1 &amp; 3</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Gross Normative Loan	32759.01	34350.14	34787.75	34910.32	34910.32
Cumulative Repayment upto Previous Year	16.30	1480.11	4062.58	6664.15	9269.73
Net Loan-Opening	32742.71	32870.03	30725.17	28246.18	25640.59
Addition due to additional capital expenditure	1591.13	437.61	122.57	0.00	0.00
Repayment during the year	1463.81	2582.47	2601.57	2605.58	2605.58
Net Loan-Closing	32870.03	30725.17	28246.18	25640.59	23035.01
Average Loan	32806.37	31797.60	29485.67	26943.38	24337.80
Weighted Average Rate of Interest on Loan	4.6247%	4.6408%	4.6126%	4.5416%	4.4676%
<b>Interest</b>	<b>885.02</b>	<b>1475.66</b>	<b>1360.05</b>	<b>1223.65</b>	<b>1087.31</b>

<b>Asset-4</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Gross Normative Loan	2860.74	3030.03	3088.37	3098.27	3098.27
Cumulative Repayment upto Previous Year	0.00	129.70	360.65	594.17	828.07
Net Loan-Opening	2860.74	2900.33	2727.72	2504.10	2270.20
Addition due to Additional Capital expenditure	169.30	58.33	9.91	0.00	0.00
Repayment during the year	129.70	230.94	233.52	233.90	233.90
Net Loan-Closing	2900.33	2727.72	2504.10	2270.20	2036.30
Average Loan	2880.53	2814.02	2615.91	2387.15	2153.25
Weighted Average Rate of Interest on Loan	5.2119%	5.2521%	5.2408%	5.1584%	5.0728%
<b>Interest</b>	<b>87.58</b>	<b>147.79</b>	<b>137.09</b>	<b>123.14</b>	<b>109.23</b>

## **DEPRECIATION**

34. 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.”*

35. Asset-1 and Asset 2 were put on commercial operation on 1.8.2009 and Combined Assets1&3 & Asset-4 were put on commercial operation on 1.9.2009 (Notional/Actual). Accordingly, these assets will complete 12 years beyond 2013-14 and thus depreciation has been calculated annually based on Straight Line Method and at rates specified in Appendix-III of the 2009 regulations.

36. Further, depreciation of Asset-1 for the month of August 2009 has been considered as cumulative depreciation for the Combined Asset 1&3.

37. Details of the depreciation worked out are given hereunder:-

(₹ in lakh)

<b>Asset-1</b>	
	<b>2009-10 (Pro-rata)</b>
Opening Gross Block	3788.53
Addition during 2009-14	315.09
Closing Gross Block	4103.62
Average Gross Block	3946.08
Rate of Depreciation	4.9555%
Depreciable Value	3464.09
Remaining Depreciable Value	3464.09
Depreciation	<b>130.37</b>

(₹ in lakh)

<b>Asset 2</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Opening Gross Block	4361.13	4473.98	4567.38	4592.88	4592.88
Addition during 2009-14	112.85	93.40	25.50	0.00	0.00
Closing Gross Block	4473.98	4567.38	4592.88	4592.88	4592.88
Average Gross Block	4417.56	4520.68	4580.13	4592.88	4592.88
Rate of Depreciation	5.1750%	5.1456%	5.1241%	5.1192%	5.1192%
Depreciable Value	3938.35	4030.41	4083.91	4095.39	4095.39
Remaining Depreciable Value	3938.35	3878.00	3698.89	3475.68	3240.56
Depreciation	<b>152.40</b>	<b>232.62</b>	<b>234.69</b>	<b>235.12</b>	<b>235.12</b>

(₹ in lakh)

Combined Asset 1 & 3					
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Gross Block	46797.49	49070.53	49695.69	49870.79	49870.79
Addition during 2009-14	2273.04	625.16	175.10	0.00	0.00
Closing Gross Block	49070.53	49695.69	49870.79	49870.79	49870.79
Average Gross Block	47934.01	49383.11	49783.24	49870.79	49870.79
Rate of Depreciation	5.2351%	5.2295%	5.2258%	5.2247%	5.2247%
Depreciable Value of Combined Assets	43022.00	44324.42	44684.54	44763.33	44763.33
Remaining Depreciable Value	43005.70	42844.31	40621.96	38099.18	35493.60
Depreciation	<b>1463.81</b>	<b>2582.47</b>	<b>2601.57</b>	<b>2605.58</b>	<b>2605.58</b>

(₹ in lakh)

Asset 4					
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Gross Block	4086.77	4328.62	4411.95	4426.10	4426.10
Addition during 2009-14	241.85	83.33	14.15	0.00	0.00
Closing Gross Block	4328.62	4411.95	4426.10	4426.10	4426.10
Average Gross Block	4207.70	4370.29	4419.03	4426.10	4426.10
Rate of Depreciation	5.2844%	5.2844%	5.2845%	5.2845%	5.2845%
Depreciable Value	3786.93	3933.26	3977.12	3983.49	3983.49
Remaining Depreciable Value	3786.93	3803.55	3616.48	3389.32	3155.42
Depreciation	<b>129.70</b>	<b>230.94</b>	<b>233.52</b>	<b>233.90</b>	<b>233.90</b>

### **OPERATION & MAINTENANCE EXPENSES**

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

Norms for AC and HVDC lines (₹ lakh/k.m)					
400 kV Single Circuit (Twin Conductor)	0.358	0.378	0.400	0.42	0.447
400 kV Double Circuit (Twin Conductor)	0.627	0.663	0.701	0.74	0.783
Norms for sub-station (₹ lakh per bay)					
400 kV bays	52.40	55.40	58.57	61.92	65.46
220 kV bays	36.68	38.78	41.00	43.34	45.82

39. Based on the above norms, the petitioner has calculated the following operation and maintenance expenses which is allowed:-

(₹ in lakh)

<b>Asset 1</b>					
<b>Name of Elements</b>	<b>2009-10 (Pro-rata for 7 months)</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
0.558 km, 400 kV S/C twin conductor line LILO of Ramagundam- Khammam	0.13	0.21	0.22	0.24	0.25
13.619 km, 400 kV D/C twin conductor line LILO of Ramagundam-Khammam	5.69	9.03	9.55	10.09	10.66
2 Nos. 400 kV bays at Warangal	69.87	110.80	117.14	123.84	130.92
<b>Total</b>	<b>75.69</b>	<b>120.04</b>	<b>126.91</b>	<b>134.17</b>	<b>141.83</b>
<b>Asset 2</b>					
<b>Name of Elements</b>	<b>2009-10 (Pro-rata for 8 months)</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
2 Nos. 400 kV bays at Warangal	69.87	110.80	117.14	123.84	130.92
6 Nos. 220 kV Bays at Warangal sub-station	146.72	232.68	246.00	260.04	274.92
<b>Total</b>	<b>216.59</b>	<b>343.48</b>	<b>363.14</b>	<b>383.88</b>	<b>405.84</b>
<b>Combined Assets 1&amp;3</b>					
<b>Name of Elements</b>	<b>2009-10 (Pro rata for 7 months)</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
335.309 k.m (123.643+198.047+13.619), km, 400 kV D/C twin conductor line	122.64	222.31	235.05	248.46	262.55
2.182 km (1.624+0.558) 400 kV S/C twin conductor line	0.46	0.82	0.87	0.92	0.98
8 Nos. 400 kV bays	244.53	443.20	468.56	495.36	523.68
<b>Total</b>	<b>367.63</b>	<b>666.33</b>	<b>704.48</b>	<b>744.75</b>	<b>787.20</b>
<b>Asset 4</b>					
<b>Name of Elements</b>	<b>2009-10 (pro rata for 7 months)</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
2 Nos. 400 kV bays	61.13	110.80	117.14	123.84	130.92
6 Nos. 220 kV bays	128.38	232.68	246.00	260.04	274.92
<b>Total</b>	<b>189.51</b>	<b>343.48</b>	<b>363.14</b>	<b>383.88</b>	<b>405.84</b>

40. The petitioner has submitted that O & M expenditure for the period 2009-14 had been arrived at on the basis of normalized actual O & M expenses during the period 2003-04 to 2007-08. The wage hike of 50% on account of pay revision of the employees of public sector undertaking has also been considered while calculating the O & M charges for the tariff period 2009-14. The petitioner has further submitted that it reserves the right to approach the Commission for suitable revision in the norms for O & M expenditure in case the impact of wage hike with effect from 1.1.2007 is more than 50%. The petitioner has further submitted that in O & M norms for the period 2009-14, the cost associated with license fees had not been captured and therefore licence fee be allowed to be recovered separately from the respondents. The respondent, TNEB has requested to negate the petitioner's prayer for revision of the normative O&M expenses considering the impact of wage revision as the regulations do not provide for any revision.

41. In this order, we have allowed O&M expenses as per the existing norms only. We observe that the issue of enhanced O&M expense is being raised by the petitioner in other petitions also. A view is yet to be taken by the Commission on reimbursement of the cost of wage hike and reimbursement of licence fees. The decision as and when taken will be applicable to the present case also.

## **INTEREST ON WORKING CAPITAL**

42. As per the 2009 regulations the components of the working capital and the interest thereon are discussed as under:-

### **(i) Receivables**

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

### **(ii) Maintenance spares**

Regulation 18(1)(c)(ii) of the 2009 regulations provides for maintenance spares @ 15% per annum of the O & M expenses from 1.4.2009. The value of maintenance spares has accordingly been worked out.

### **(iii) O & M expenses**

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

### **(iv) Rate of interest on working capital**

In these calculations, SBI PLR as on 1.4.2009 (i.e. 12.25%) has been considered in accordance with the 2009 regulations as amended vide

the second amendment regulations notified in June 2011 has been considered for calculating interest on working capital.

43. Necessary computations in support of interest on working capital are appended as under:-

(₹ in lakh)

Asset-1		
	2009-10 (Pro-rata)	August 2009
Maintenance Spares	17.03	2.13
O & M expenses	9.46	1.18
Receivables	109.02	13.63
Total	135.51	16.94
<b>Interest</b>	<b>11.07</b>	<b>1.38</b>

(₹ in lakh)

Asset 2					
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	48.73	51.52	54.47	57.58	60.88
O & M expenses	27.07	28.62	30.26	31.99	33.82
Receivables	158.86	162.66	165.15	166.90	168.67
Total	234.67	242.80	249.88	256.48	263.36
<b>Interest</b>	<b>19.16</b>	<b>29.74</b>	<b>30.61</b>	<b>31.42</b>	<b>32.26</b>

(₹ in lakh)

Combined Asset 1 & 3					
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	94.53	99.95	105.67	111.71	118.08
O & M expenses	52.52	55.53	58.71	62.06	65.60
Receivables	1223.05	1247.67	1241.50	1226.80	1211.03
Total	1,370.10	1,403.15	1,405.87	1,400.57	1,394.71
<b>Interest</b>	<b>97.91</b>	<b>171.89</b>	<b>172.22</b>	<b>171.57</b>	<b>170.85</b>

(₹ in lakh)

Asset 4					
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	48.73	51.52	54.47	57.58	60.88
O & M expenses	27.07	28.62	30.26	31.99	33.82
Receivables	157.77	163.54	166.04	167.42	168.90
Total	233.58	243.69	250.77	256.99	263.59
<b>Interest</b>	<b>16.69</b>	<b>29.85</b>	<b>30.72</b>	<b>31.48</b>	<b>32.29</b>



## TRANSMISSION CHARGES

44. The transmission charges being allowed for the transmission assets are summarized as under:-

(₹ in lakh)

Asset 1		
	2009-10 (Pro- rata)	2009-10 (August 2009)
Depreciation	130.37	16.30
Interest on Loan	81.00	10.12
Return on equity	137.96	17.25
Interest on Working Capital	11.07	1.38
O & M Expenses	75.69	9.46
<b>Total</b>	<b>436.08</b>	<b>54.51</b>

(₹ in lakh)

Asset 2					
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	152.40	232.62	234.69	235.12	235.12
Interest on Loan	92.85	133.02	122.24	110.15	97.91
Return on equity	154.45	237.08	240.20	240.86	240.86
Interest on Working Capital	19.16	29.74	30.61	31.42	32.26
O & M Expenses	216.59	343.48	363.14	383.88	405.84
<b>Total</b>	<b>635.46</b>	<b>975.93</b>	<b>990.88</b>	<b>1001.43</b>	<b>1012.00</b>

(₹ in lakh)

Combined Asset 1 & 3					
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	1463.81	2582.47	2601.57	2605.58	2605.58
Interest on Loan	885.02	1475.66	1360.05	223.65	1087.31
Return on equity	1466.31	2589.66	2610.65	2615.24	2615.24
Interest on Working Capital	97.91	171.89	172.22	171.57	170.85
O & M Expenses	367.63	666.33	704.48	744.75	787.20
<b>Total</b>	<b>4280.67</b>	<b>7486.01</b>	<b>7448.97</b>	<b>7360.79</b>	<b>7266.18</b>

(₹ in lakh)

Asset 4					
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	129.70	230.94	233.52	233.90	233.90
Interest on Loan	87.58	147.79	137.09	123.14	109.23
Return on equity	128.72	229.19	231.75	232.12	232.12
Interest on Working Capital	16.69	29.85	30.72	31.48	32.29
O & M Expenses	189.51	343.48	363.14	383.88	405.84
<b>Total</b>	<b>552.20</b>	<b>981.26</b>	<b>996.22</b>	<b>1004.52</b>	<b>1013.38</b>

## **OTHER ISSUES**

45. The petitioner has sought approval for the reimbursement of fee paid by it for filing the petition. The respondent, TNEB submitted that both filing fee and publication of tariff application be absorbed by the petitioner from the savings from normative O&M expenses. In accordance with the Commission's decision in order dated 11.1.2010 in Petition No. 109/2009, the petitioner shall be entitled to recover the filing fee from the beneficiaries. Accordingly, expenses incurred by the petitioner on petition filing fees and publication of notices in connection with the present petition shall be directly recovered from the beneficiary on pro-rata basis.

46. The petitioner has made a specific prayer to be allowed to bill and recover the service tax on transmission charges separately from the respondents if the exemption granted to it is withdrawn and transmission of power is made a taxable service. The respondent, TNEB submitted that the Government of India has exempted the transmission services from the purview of the service tax and hence the petitioner's prayer be negated. We consider the petitioner's prayer pre-mature. The petitioner is at liberty to approach the Commission for any relief at the appropriate as per law.

47. As regards the prayer for reimbursement of licence fee, it is clarified that the same shall be dealt with in accordance with our order dated 25.10.2011 in Petition No.21/2011 and 22/2011.

48. As regards the sharing of the transmission charges, we direct that prior to 1.7.2011, the transmission charges shall be shared by the respondent in accordance with Regulation 33 of the 2009 regulations. From 1.7.2011 onwards, the charges shall be shared in accordance with Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses, Regulations, 2010).

49. This order disposes of Petition No. 136/2011.

**(M. Deena Dayalan)**  
Member

**(S. Jayaraman)**  
Member



## Annexure 1

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN		
Asset-1		
	Details of Loan	2009-10
<b>1</b>	<b>ABD III (Exchange Rate @ 48.77)</b>	
	Gross loan opening	1950.80
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	1950.80
	Additions during the year	0.00
	Repayment during the year	29.46
	Net Loan-Closing	1921.34
	Average Loan	1936.07
	Rate of Interest	2.715%
	Interest	<b>52.56</b>
	Rep Schedule	30 Half Yearly Installments from 15.01.2010
<b>2</b>	<b>Bond XXII</b>	
	Gross loan opening	200.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	200.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	200.00
	Average Loan	200.00
	Rate of Interest	8.68%
	Interest	<b>17.36</b>
	Rep Schedule	12 annual Instalments from 07.12.2010
<b>3</b>	<b>Bond XXI</b>	
	Gross loan opening	<b>400.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	400.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	400.00
	Average Loan	400.00
	Rate of Interest	8.73%
	Interest	<b>34.92</b>
	Rep Schedule	12 annual Instalments from 11.10.2010



<b>4</b>	<b>Bond XIX</b>	
	Gross loan opening	<b>50.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	50.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	50.00
	Average Loan	50.00
	Rate of Interest	9.25%
	Interest	<b>4.63</b>
	Rep Schedule	12 annual Instalments from 24.07.2010
<b>5</b>	<b>Bond XXIV</b>	
	Gross loan opening	<b>129.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>
	Net Loan-Opening	129.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	129.00
	Average Loan	129.00
	Rate of Interest	9.95%
	Interest	12.84
	Rep Schedule	12 annual Instalments from 26.03.2011
	<b>Total Loan</b>	
	Gross loan opening	2729.80
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	2729.80
	Additions during the year	0.00
	Repayment during the year	29.46
	Net Loan-Closing	2700.34
	Average Loan	2715.07
	Rate of Interest	<b>4.5047%</b>
	<b>Interest</b>	122.30

## Annexure 2

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN						
Asset-2						
	Details of Loan	2009-10	2010-11	2011-12	2012-13	2013-14
<b>1</b>	<b>ADB - III</b>					
	Gross loan opening	2194.65	<b>2194.65</b>	<b>2194.65</b>	<b>2194.65</b>	<b>2194.65</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>33.14</b>	<b>104.25</b>	<b>182.59</b>	<b>269.06</b>
	Net Loan-Opening	2194.65	2161.51	2090.40	2012.06	1925.59
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	33.14	71.11	78.35	86.47	95.25
	Net Loan-Closing	2161.51	2090.40	2012.06	1925.59	1830.34
	Average Loan	2178.08	2125.96	2051.23	1968.82	1877.96
	Rate of Interest	2.715%	2.715%	2.715%	2.715%	2.715%
	Interest	59.13	57.72	55.69	53.45	50.99
	Rep Schedule	30 Half Yearly Installments from 15.01.2010				
<b>2</b>	<b>Bond XXII</b>					
	Gross loan opening	200.00	<b>200.00</b>	<b>200.00</b>	<b>200.00</b>	<b>200.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>16.67</b>	<b>33.33</b>	<b>50.00</b>
	Net Loan-Opening	200.00	200.00	183.33	166.67	150.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	16.67	16.67	16.67	16.67
	Net Loan-Closing	200.00	183.33	166.67	150.00	133.33
	Average Loan	200.00	191.67	175.00	158.33	141.67
	Rate of Interest	8.68%	8.68%	8.68%	8.68%	8.68%
	Interest	17.36	16.64	15.19	13.74	12.30
	Rep Schedule	12 Annual Installments from 07.12.2010				
<b>3</b>	<b>Bond XXI</b>					
	Gross loan opening	400.00	<b>400.00</b>	<b>400.00</b>	<b>400.00</b>	<b>400.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>33.33</b>	<b>66.67</b>	<b>100.00</b>
	Net Loan-Opening	400.00	400.00	366.67	333.33	300.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	33.33	33.33	33.33	33.33
	Net Loan-Closing	400.00	366.67	333.33	300.00	266.67
	Average Loan	400.00	383.33	350.00	316.67	283.33
	Rate of Interest	8.73%	8.73%	8.73%	8.73%	8.73%
	Interest	34.92	33.47	30.56	27.65	24.74
	Rep Schedule	12 annual Instalments from 11.10.2010				

<b>4</b>	<b>Bond-XIX</b>					
	Gross loan opening	50.00	<b>50.00</b>	<b>50.00</b>	<b>50.00</b>	<b>50.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>4.17</b>	<b>8.33</b>	<b>12.50</b>
	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	9.25%	9.25%	9.25%	9.25%	9.25%
	Interest	4.63	4.43	4.05	3.66	3.28
	Rep Schedule	12 Annual Installments from 24.07.2010				
<b>5</b>	<b>Bond XXIV</b>					
	Gross loan opening	273.00	<b>273.00</b>	<b>273.00</b>	<b>273.00</b>	<b>273.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>22.75</b>	<b>45.50</b>	<b>68.25</b>
	Net Loan-Opening	273.00	273.00	250.25	227.50	204.75
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	22.75	22.75	22.75	22.75
	Net Loan-Closing	273.00	250.25	227.50	204.75	182.00
	Average Loan	273.00	261.63	238.88	216.13	193.38
	Rate of Interest	9.95%	9.95%	9.95%	9.95%	9.95%
	Interest	27.16	26.03	23.77	21.50	19.24
	Rep Schedule	12 annual Instalments from 26.03.2011				
	<b>Total Loan</b>					
	Gross loan opening	3117.65	3117.65	3117.65	3117.65	3117.65
	Cumulative Repayment upto DOCO/previous year	0.00	33.14	181.16	336.43	499.81
	Net Loan-Opening	3117.65	3084.51	2936.49	2781.22	2617.84
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	33.14	148.02	155.27	163.39	172.16
	Net Loan-Closing	3084.51	2936.49	2781.22	2617.84	2445.67
	Average Loan	3101.08	3010.50	2858.85	2699.53	2531.75
	Rate of Interest	4.6179%	4.5934%	4.5211%	4.4455%	4.3660%
	<b>Interest</b>	143.20	138.29	129.25	120.01	110.54

(₹ in lakh)

<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>						
<b>Combined Asset 1 &amp; 3</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>ABD III (Exchange Rate @ 48.77)</b>					
	Gross loan opening	<b>1950.80</b>	<b>1950.80</b>	<b>1950.80</b>	<b>1950.80</b>	<b>1950.80</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>29.46</b>	<b>92.66</b>	<b>162.31</b>	<b>239.17</b>
	Net Loan-Opening	1950.80	1921.34	1858.14	1788.49	1711.63
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	29.46	63.21	69.64	76.86	84.66
	Net Loan-Closing	1921.34	1858.14	1788.49	1711.63	1626.97
	Average Loan	1936.07	1889.74	1823.32	1750.06	1669.30
	Rate of Interest	2.715%	2.715%	2.715%	2.715%	2.715%
	Interest	52.56	51.31	49.50	47.51	45.32
	Rep Schedule	30 Half Yearly Installments from 15.01.2010				
<b>2</b>	<b>ABD III (Exchange Rate @ 49.29)</b>					
	Gross loan opening	22426.95	<b>22426.95</b>	<b>22426.95</b>	<b>22426.95</b>	<b>22426.95</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>338.65</b>	<b>1065.28</b>	<b>1865.92</b>	<b>2749.54</b>
	Net Loan-Opening	22426.95	22088.30	21361.67	20561.03	19677.41
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	338.65	726.63	800.64	883.62	973.33
	Net Loan-Closing	22088.30	21361.67	20561.03	19677.41	18704.08
	Average Loan	22257.63	21724.99	20961.35	20119.22	19190.74
	Rate of Interest	2.715%	2.715%	2.715%	2.715%	2.715%
	Interest	604.29	589.83	569.10	546.24	521.03
	Rep Schedule	30 Half Yearly Installments from 15.01.2010				
<b>3</b>	<b>Bond XXII</b>					
	Gross loan opening	1400.00	<b>1400.00</b>	<b>1400.00</b>	<b>1400.00</b>	<b>1400.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>116.67</b>	<b>233.33</b>	<b>350.00</b>
	Net Loan-Opening	1400.00	1400.00	1283.33	1166.67	1050.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	116.67	116.67	116.67	116.67
	Net Loan-Closing	1400.00	1283.33	1166.67	1050.00	933.33
	Average Loan	1400.00	1341.67	1225.00	1108.33	991.67
	Rate of Interest	8.68%	8.68%	8.68%	8.68%	8.68%
	Interest	121.52	116.46	106.33	96.20	86.08
	Rep Schedule	12 annual Instalments from 07.12.2010				



<b>4</b>	<b>Bond XXVI</b>					
	Gross loan opening	2200.00	<b>2200.00</b>	<b>2200.00</b>	<b>2200.00</b>	<b>2200.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>183.33</b>	<b>366.67</b>
	Net Loan-Opening	2200.00	2200.00	2200.00	2016.67	1833.33
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	183.33	183.33	183.33
	Net Loan-Closing	2200.00	2200.00	2016.67	1833.33	1650.00
	Average Loan	2200.00	2200.00	2108.33	1925.00	1741.67
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	204.60	204.60	196.08	179.03	161.98
	Rep Schedule	12 annual Instalments from 07.03.2012				
<b>5</b>	<b>Bond XXI</b>					
	Gross loan opening	500.00	<b>500.00</b>	<b>500.00</b>	<b>500.00</b>	<b>500.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>41.67</b>	<b>83.33</b>	<b>125.00</b>
	Net Loan-Opening	500.00	500.00	458.33	416.67	375.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	41.67	41.67	41.67	41.67
	Net Loan-Closing	500.00	458.33	416.67	375.00	333.33
	Average Loan	500.00	479.17	437.50	395.83	354.17
	Rate of Interest	8.73%	8.73%	8.73%	8.73%	8.73%
	Interest	43.65	41.83	38.19	34.56	30.92
	Rep Schedule	12 annual Instalments from 11.10.2010				
<b>6</b>	<b>Bond XXV</b>					
	Gross loan opening	4000.00	<b>4000.00</b>	<b>4000.00</b>	<b>4000.00</b>	<b>4000.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>333.33</b>	<b>666.67</b>
	Net Loan-Opening	4000.00	4000.00	4000.00	3666.67	3333.33
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	333.33	333.33	333.33
	Net Loan-Closing	4000.00	4000.00	3666.67	3333.33	3000.00
	Average Loan	4000.00	4000.00	3833.33	3500.00	3166.67
	Rate of Interest	10.10%	10.10%	10.10%	10.10%	10.10%
	Interest	404.00	404.00	387.17	353.50	319.83
	Rep Schedule	12 annual Instalments from 12.06.2011				

<b>7</b>	<b>Bond XXVIII</b>					
	Gross loan opening	37.00	<b>37.00</b>	<b>37.00</b>	<b>37.00</b>	<b>37.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>3.08</b>
	Net Loan-Opening	37.00	37.00	37.00	37.00	33.92
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	3.08	3.08
	Net Loan-Closing	37.00	37.00	37.00	33.92	30.83
	Average Loan	37.00	37.00	37.00	35.46	32.38
	Rate of Interest	9.33%	9.33%	9.33%	9.33%	9.33%
	Interest	3.45	3.45	3.45	3.31	3.02
	Rep Schedule	12 equal installments w.e.f. 15.12.2012				
<b>8</b>	<b>Bond XIX</b>					
	Gross loan opening	400.00	<b>400.00</b>	<b>400.00</b>	<b>400.00</b>	<b>400.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>33.33</b>	<b>66.67</b>	<b>100.00</b>
	Net Loan-Opening	400.00	400.00	366.67	333.33	300.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	33.33	33.33	33.33	33.33
	Net Loan-Closing	400.00	366.67	333.33	300.00	266.67
	Average Loan	400.00	383.33	350.00	316.67	283.33
	Rate of Interest	9.25%	9.25%	9.25%	9.25%	9.25%
	Interest	37.00	35.46	32.38	29.29	26.21
	Rep Schedule	12 annual Instalments from 24.07.2010				
<b>9</b>	<b>Bond XXIV</b>					
	Gross loan opening	800.00	<b>800.00</b>	<b>800.00</b>	<b>800.00</b>	<b>800.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>66.67</b>	<b>133.33</b>	<b>200.00</b>
	Net Loan-Opening	800.00	800.00	733.33	666.67	600.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	66.67	66.67	66.67	66.67
	Net Loan-Closing	800.00	733.33	666.67	600.00	533.33
	Average Loan	800.00	766.67	700.00	633.33	566.67
	Rate of Interest	9.95%	9.95%	9.95%	9.95%	9.95%
	Interest	79.60	76.28	69.65	63.02	56.38
	Rep Schedule	12 annual Instalments from 26.03.2011				
	<b>Total Loan</b>					
	Gross loan opening	33714.75	33714.75	33714.75	33714.75	33714.75
	Cumulative Repayment upto DOCO/previous year	0.00	368.10	1416.28	3061.56	4800.13
	Net Loan-Opening	33714.75	33346.65	32298.47	30653.19	28914.62
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	368.10	1048.17	1645.29	1738.57	1836.08
	Net Loan-Closing	33346.65	32298.47	30653.19	28914.62	27078.54
	Average Loan	33530.70	32822.56	31475.83	29783.90	27996.58
	Rate of Interest	<b>4.6247%</b>	<b>4.6408%</b>	<b>4.6126%</b>	<b>4.5416%</b>	<b>4.4676%</b>
	<b>Interest</b>	1550.68	1523.22	1451.85	1352.65	1250.77

## Annexure 4

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN					
Asset-4					
<b>1</b>	<b>ADB - III</b>				
	Gross loan opening	1972.59	<b>1972.59</b>	<b>1972.59</b>	<b>1972.59</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>29.79</b>	<b>93.70</b>	<b>164.12</b>
	Net Loan-Opening	1972.59	1942.80	1878.89	1808.47
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	29.79	63.91	70.42	77.72
	Net Loan-Closing	1942.80	1878.89	1808.47	1730.75
	Average Loan	1957.69	1910.84	1843.68	1769.61
	Rate of Interest	2.715%	2.715%	2.715%	2.715%
	Interest	53.15	51.88	50.06	48.04
	Rep Schedule	30 Half Yearly Installments from 15.01.2010			
<b>2</b>	<b>Bond XXV</b>				
	Gross loan opening	1000.00	<b>1000.00</b>	<b>1000.00</b>	<b>1000.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>83.33</b>
	Net Loan-Opening	1000.00	1000.00	1000.00	916.67
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	83.33	83.33
	Net Loan-Closing	1000.00	1000.00	916.67	833.33
	Average Loan	1000.00	1000.00	958.33	875.00
	Rate of Interest	10.10%	10.10%	10.10%	10.10%
	Interest	101.00	101.00	96.79	88.38
	Rep Schedule	12 annual Installments w.e.f. 12.06.2011			
	<b>Total Loan</b>				
	Gross loan opening	2972.59	2972.59	2972.59	2972.59
	Cumulative Repayment upto DOCO/previous year	0.00	29.79	93.70	247.45
	Net Loan-Opening	2972.59	2942.80	2878.89	2725.13
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	29.79	63.91	153.75	161.05
	Net Loan-Closing	2942.80	2878.89	2725.13	2564.08
	Average Loan	2957.69	2910.84	2802.01	2644.61
	Rate of Interest	5.2119%	5.2521%	5.2408%	5.1584%
	<b>Interest</b>	154.15	152.88	146.85	136.42