

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Coram:**

- 1. Dr. Pramod Deo, Chairperson**
- 2. Shri R.Krishnamoorthy, Member**
- 3. Shri S.Jayaraman, Member**
- 4. Shri V.S.Verma, Member**

**Petition No. 192/2009**

**In the matter of**

Determination of final transmission tariff of (i) LILO of both circuits of Madurai-Trivendrum 400 kV D/C line and 1x 63 MVAR Bus reactor, (ii) 1x 315, 400/220 kV MVA Transformer (iii) 2nd 400 kV, 63 MVAR Bus Reactor, (iv) 2nd 1x 315 MVA , 400/220 kV Auto transformer and (v) 3 no. 1x 63 MVAR Reactor along with associated bays and equipments at Tiruneveli sub-station under "transformer system associated with Kudamkulam Atomic Power Project (2X 1000 MW) in Southern Region for the period from the date of commercial operation to 31.3.2009.

**And in the matter of**

Power Grid Corporation of India Limited, Gurgaon

**..Petitioner**

Vs

1. Karnataka Power Transmission Corporation Limited, 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 Pondicherry, Pondicherry **.Respondents**

**The following were present:**

1. Shri U.K.Tyagi, PGCIL
2. Shri Prashant Sharma, PGCIL
3. Shar B.C.Pant, PGCIL
4. Shri Mohd, Mohsin, PGCIL
5. Shri R.Krishnaswami, TNEB

**ORDER**

**(DATE OF HEARING: 17.11.2009)**

This petition has been filed for approval of transmission charges for (i) LILO of both circuits of Madurai-Trivendrum 400 kV D/C line and 1x 63 MVAR Bus reactor, (ii) 1x 315, 400/220 kV MVA Transformer (iii) 2nd 400 kV, 63 MVAR Bus Reactor, (iv) 2nd 1x 315 MVA , 400/220 kV Auto transformer and (v) 3 no. 1x 63 MVAR Reactor along with associated bays and equipments at Tiruneveli sub-station (collectively referred to as the transmission assets) under "transformer system (the transmission system) associated with Kudamkulam Atomic Power Project (2X

1000 MW) in Southern Region from the date of commercial operation of the respective asset to 31.3.2009, based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004 (hereinafter referred to as “the 2004 regulations”) after accounting for additional capitalization during 2008-09. The petitioner has also prayed for reimbursement of expenditure from the beneficiaries incurred towards publishing of notices in newspapers and the petition filing fee.

2. The details of transmission assets and their dates of commercial operation as indicated by the petitioner are as under:

S. No.	Name of the assets	Date of commercial operation
1.	LILO of both circuits of Madurai-Trivendrum 400 kV D/C line and 1x 63 MVAR Bus reactor <b>(Asset-I)</b>	1.5.2008
2.	1x 315, 400/220 kV MVA Transformer <b>(Asset-II)</b>	1.5.2008
3.	2nd 400 kV, 63 MVAR Bus Reactor <b>(Asset-III)</b>	1.11.2008
4.	2nd 1x 315 MVA , 400/220 kV Auto transformer <b>(Asset-IV)</b>	1.11.2008
5.	3 no. 1x 63 MVAR Reactor along with associated bays and equipments at Tirunelveli sub-station <b>(Asset-V)</b>	1.2.2009

3. The investment approval for the transmission system was accorded by Ministry of Power vide its letter dated 25.5.2005 at an estimated cost of Rs. 177929 lakh, which includes IDC of Rs. 7141 lakh.

4. The provisional transmission charges for the transmission assets were approved by the Commission vide its order dated 16.12.2008 in Petition No. 122/2008 (for Asset-I and Asset-II) and order dated 21.4.2009 in Petition No. 55/2009 (Asset-III and Asset-IV). Asset-V has been declared under commercial operation from 1.2.2009 and petitioner has sought final tariff for Asset-V.

5. The details of the apportioned approved cost, the estimated completion cost, etc. of the transmission assets noted at para 2 above are as under:

(Rs. in lakh)

Name of the assets	Apportioned approved cost	Capital expenditure as on the date of commercial operation	Capital Expenditure from the date of commercial operation to 31.3.2009	Balance estimated Expenditure	Total estimated completion cost
Asset- I	13440.00	14515.73	569.15	129.12	15214.00
Asset-II	2247.00	2689.26	109.38	24.82	2823.46
Asset-III	938.00	957.22	34.39	15.55	1007.16
Asset-IV	1511.00	1939.61	70.59	120.26	2130.46
Asset-V	2395.00	3000.81	160.56	45.34	3206.71
<b>Total</b>	<b>20531.00</b>	<b>23102.63</b>	<b>944.07</b>	<b>335.09</b>	<b>24381.79</b>

6. The petitioner has claimed the transmission charges as under:

(Rs.in lakh)

	Asset- I	Asset-II	Asset- III	Asset-IV	Asset- V
	<b>2008-09</b> (Pro rata)	<b>2008-09</b> (Pro rata)	<b>2008-09</b> (Pro rata)	<b>2008-09</b> (Pro rata)	<b>2008-09</b> (Pro rata)
Depreciation	382.27	90.98	14.62	29.62	18.49
Interest on Loan	695.34	141.28	20.77	42.02	26.23
Return on Equity	569.72	105.61	17.03	34.56	21.57
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	57.31	14.84	2.02	4.08	2.69
O & M Expenses	202.67	150.79	13.71	27.42	21.93
<b>Total</b>	<b>1907.31</b>	<b>503.50</b>	<b>68.15</b>	<b>137.70</b>	<b>90.91</b>

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

(Rs. in lakh)

	Asset- I	Asset-II	Asset- III	Asset-IV	Asset- V
	<b>2008-09</b> (Pro rata)	<b>2008-09</b> (Pro rata)	<b>2008-09</b> (Pro rata)	<b>2008-09</b> (Pro rata)	<b>2008-09</b> (Pro rata)
Maintenance Spares	145.16	26.89	9.57	19.40	30.01
O & M expenses	18.42	13.71	2.74	5.48	10.97
Receivables	346.78	91.55	27.26	55.08	90.91
<b>Total</b>	<b>510.36</b>	<b>132.15</b>	<b>39.57</b>	<b>79.96</b>	<b>131.89</b>
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
<b>Interest</b>	<b>57.31</b>	<b>14.84</b>	<b>2.02</b>	<b>4.08</b>	<b>2.69</b>

8. The reply to the petition has been filed by Tamil Nadu Electricity Board (TNEB) under letter dated 20.11.2009, which was received on 26.11.2009. In

response to the public notices published by the petitioner in accordance with the procedure specified by the Commission, no comments have been received from the general public.

### **CAPITAL COST**

9. As per clause (1) of Regulation 52 of the 2004 regulations, subject to prudence check, the actual expenditure incurred on completion of the project shall form the basis for determination of final tariff. The final tariff shall be determined based on the admitted capital expenditure actually incurred up to the date of commercial operation of the transmission system and shall include capitalised initial spares subject to a ceiling norm as 1.5% of original project cost. The regulation is applicable in case of the transmission system declared under commercial operation on or after 1.4.2004.

10. The petitioner has claimed tariff after accounting for additional capitalization in respect of Asset-I, Asset-II, Asset-III, Asset-IV and Asset-V from the date of commercial operation up to 31.3.2009 as given in the table below para 5 above

### **ADDITIONAL CAPITALIZATION 2008-09**

11. Clause (1) of Regulation 53 of the 2004 regulations provides-

“(1) The following capital expenditure within the original scope of work actually incurred after the date of commercial operation and up to the cut off date may be admitted by the Commission, subject to prudence check:

- (i) Deferred liabilities;
- (ii) Works deferred for execution;
- (iii) Procurement of initial capital spares in the original scope of works subject to the ceiling norm specified in regulation 52;
- (iv) Liabilities to meet award of arbitration or compliance of the order or decree of a court; and
- (v) On account of change in law:

Provided that original scope of work along with estimates of expenditure shall be submitted along with the application for provisional tariff:

Provided further that a list of the deferred liabilities and works deferred for execution shall be submitted along with the application for final tariff after the date of commercial operation of the transmission system.”

12. The details submitted by the petitioner in support of its claim for additional capital expenditure for Asset-I, Asset-II, Asset-III, Asset-IV and Asset-V are given hereunder:

Asset-I			Asset-II		Asset-III		Asset-IV		Asset-V	
Year	Amount (Rs. in lakh)	Nature and details of expenditure	Amount (Rs. in lakh)	Nature and details of expenditure	Amount (Rs. in lakh)	Nature and details of expenditure	Amount (Rs. in lakh)	Nature and details of expenditure	Amount (Rs. in lakh)	Nature and details of expenditure
2008-09	Building: Rs.1.59 Transmission line: Rs. 269.32 lakh Sub-station: Rs. 298.24 lakh	Retention payments	5ub-station: Rs. 109.38 lakh	Retention payments	5ub-station: Rs. 34.39 lakh	Retention payments	5ub-station: Rs. 70.59 lakh	Retention payments	5ub-station: Rs. 160.56 lakh	Retention payments
Total	Rs 569.15 lakh		Rs. 109.38 lakh		Rs. 34.39 lakh		Rs. 70.59 lakh		Rs. 160.56 lakh	

13. The additional capital expenditure claimed is within the original scope of work. However, for reasons stated below, additional capital expenditure after date of the commercial operation is not being considered for the purpose of tariff.

### **Cost over-run**

14. As against the apportioned approved cost of Rs. 20531 lakh, the actual expenditure up to the date of commercial operation is Rs. 23102.63 lakh. The petitioner has submitted the following reasons for cost over-run:

- (a) LOA cost is higher than estimated cost;
- (b) High price variation; and
- (b) Additional cost of entry etc.

15. The petitioner has further explained that revised cost estimate of the transmission system is under approval and shall be submitted shortly. The

representative of the petitioner has stated that revised cost estimate is still to be approved and therefore, it is not in a position to submit to revised cost estimate.

16. In view of the above, the capital expenditure as on the date of commercial operation is being restricted to the apportioned approved cost. Apportioned approved cost of Rs. 20531 lakh has been considered for the purpose of tariff. Accordingly, tariff has been worked out without considering additional capital expenditure for the year 2008-09 as actual capital expenditure on the date of commercial operation exceeds apportioned approved cost. The petitioner is granted liberty to file fresh petition in accordance with law, based on actual expenditure up to the date of commercial operation and additional capital expenditure for the year 2008-09, after approval of revised cost estimate.

#### **Initial spares**

17. The value of initial spares corresponding to the expenditure up to date of commercial operation for the transmission assets taken together is within 1.50% of the expenditure.

#### **TOTAL CAPITAL COST**

18. Based on the above, Apportioned approved cost as given below has been considered for the purpose of tariff for the transmission system, without allowing additional capitalization on works as claimed by the petitioner:

Name of the Element	(Rs.in lakh)
	capital cost considered as on the date of commercial operation
Asset- I	13440.00
Asset-II	2247.00
Asset-III	938.00
Asset-IV	1511.00
Asset-V	2395.00
Total	20531.00

## .DEBT- EQUITY RATIO

19. Clause (1) of Regulation 54 of the 2004 regulations *inter alia* provides that,-

“(1) In case of the existing projects, debt–equity ratio Considered by the Commission for fixation of tariff for the period ending 31.3.2004 shall be considered for determination of tariff with effect from 01.04.2004:

Provided that in cases where the tariff for the period ending 31.3.2004 has not been determined by the Commission, debt-equity ratio shall be as may be decided by the Commission:

Provided further that in case of the existing projects where additional capitalisation has been completed on or after 1.4.2004 and admitted by the Commission under Regulation 53, equity in the additional capitalisation to be considered shall be :-

- (a) 30% of the additional capital expenditure admitted by the Commission, or
- (b) equity approved by the competent authority in the financial package, for additional capitalisation, or
- (c) actual equity employed,

whichever is the least:

Provided further that in case of additional expenditure admitted under the second proviso, the Commission may consider equity of more than 30% if the transmission licensee is able to satisfy the Commission that deployment of such equity of more than 30% was in the interest of general public.”

20. The Note 1 below Regulations 53 lays down that any expenditure on account of committed liabilities within the original scope of work is to be serviced in the normative debt-equity ratio specified in Regulation 54.

21. The petitioner has considered debt-equity ratio of 70:30, 70.01:29.99, 70.04:29.96, 70:30 and 70.:30 for transmission Asset-I, Asset-II, Asset-III, Asset-IV and Asset-V, respectively, as actually deployed on the date of commercial operation. The petitioner has further considered the amount of additional capitalization in the normative debt-equity ratio of 70:30 for transmission Asset-I, Asset-II, Asset-III, Asset-IV and Asset-V, respectively. The additional capital expenditure approved in the ratio of 70:30 has been considered

in accordance with the 2004 regulations. Due to reason given in para 18 above, proportionate equity of Rs. 4031 lakh, Rs. 673 lakh, Rs. 281.06 lakh, Rs. 453.24 lakh and Rs. 718 lakh has been considered as on the date of commercial operation for transmission Asset-I, Asset-II, Asset-III, Asset-IV and Asset-V, respectively. Further, due to reason given in para 16 above, additional capital expenditure from the date of commercial operation to 31.3.2009 is not being considered for the purpose of tariff.

### **RETURN ON EQUITY**

22. As per clause (iii) of Regulation 56 of the 2004 regulations, return on equity shall be computed on the equity base determined in accordance with regulation 54 @ 14% per annum. Equity invested in foreign currency is to be allowed a return in the same currency and the payment on this account is made in Indian Rupees based on the exchange rate prevailing on the due date of billing.

23. Equity has been considered as on the date of commercial operation as given in the table in para 21 above. Same has been considered for the purpose of tariff. Accordingly, the petitioner shall be entitled to return on equity for the year 2008-09 given as under:

(Rs.in lakh)	
Name of the Element	Return on equity
Asset- I	517.36
Asset-II	86.49
Asset-III	16.40
Asset-IV	26.44
Asset-V	16.77

### **INTEREST ON LOAN**

24. Clause (i) of regulation 56 of the 2004 regulations *inter alia* provides that,-



“(a) Interest on loan capital shall be computed loan wise on the loans arrived at in the manner indicated in regulation 54.

(b) The loan outstanding as on 1.4.2004 shall be worked out as the gross loan in accordance with Regulation 54 minus cumulative repayment as admitted by the Commission or any other authority having power to do so, up to 31.3.2004. The repayment for the period 2004-09 shall be worked out on a normative basis.

(c) The transmission licensee shall make every effort to re-finance the loan as long as it results in net benefit to the beneficiaries. The costs associated with such re-financing shall be borne by the beneficiaries.

(d) The changes to the loan terms and conditions shall be reflected from the date of such re-financing and benefit passed on to the beneficiaries.

(e) In case of dispute, any of the parties may approach the Commission with proper application. However, the beneficiaries shall not withhold any payment ordered by the Commission to the transmission licensee during pendency of any dispute relating to re-financing of loan;

(f) In case any moratorium period is availed of by the transmission licensee, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.

(g) The transmission licensee shall not make any profit on account of re-financing of loan and interest on loan;

(h) The transmission licensee may, at its discretion, swap loans having floating rate of interest with loans having fixed rate of interest, or vice versa, at its own cost and gains or losses as a result of such swapping shall accrue to the transmission licensee:

Provided that the beneficiaries shall be liable to pay interest for the loans initially contracted, whether on floating or fixed rate of interest.”

25. In our calculation, the interest on loan has been worked out as detailed below:

(a) Gross amount of loan and repayment of instalments have been taken as per the petition.

(b) On the basis of actual rate of interest on actual average loan, the weighted average rate of interest on loan has been worked out for various years. As stated above, the expenditure as on date of commercial operation has been restricted to the apportioned approved cost, therefore,

the loans corresponding to the additional capital expenditure have not been taken in to account while working out the weighted average rate of interest.

(c) Tariff has been worked out considering normative loan and normative repayment. Normative repayments are worked out by the following formula:

$$\frac{\text{Actual repayment of actual loan during the year}}{\text{Opening balance of actual loan during the year}} \times \text{Opening balance of normative loan during the year}$$

(d) In case the normative repayment of loan during the year is less than the depreciation during the year, depreciation during the year has been deemed as normative repayment of loan.

(e) Short term bridge loan from Bank of Baroda has been replaced by Bond XXVIII in case of Asset-III and Asset-IV. Therefore, for these assets rate of interest applicable to Bond XXVIII has been considered for weighted average rate of interest.

(f) ADB-III loan carry floating rates of interest. The rates of interest as per the supporting documents enclosed with the petition have been used for working out the interest on loan. This is subject to mutual settlement between the parties in case of any change/resetting of the interest rates during the tariff period.

26. Based on the above, the details of interest worked out are given hereunder:

Details	(Rs. in lakh)				
	Asset- I 2008-09	Asset-II 2008-09	Asset- III 2008-09	Asset-IV 2008-09	Asset- V 2008-09
Gross Normative Loan	9408.64	1573.08	656.94	1057.76	1676.50
Cumulative Repayment up to Previous Year/date of commercial operation	0.00	0.00	0.00	0.00	0.00
Net Loan-Opening	9408.64	1573.08	656.94	1057.76	1676.50
Addition due to Additional Capitalisation	0.00	0.00	0.00	0.00	0.00

Repayment during the year	346.44	74.51	14.07	22.67	14.37
Net Loan-Closing	9062.20	1498.57	642.87	1035.09	1662.13
Average Loan	9235.42	1535.83	649.90	1046.42	1669.32
Weighted Average Rate of Interest on Loan	7.37%	8.15%	7.31%	7.30%	7.25%
Interest (Pro rata)	<b>623.87</b>	<b>114.69</b>	<b>19.79</b>	<b>31.82</b>	<b>20.18</b>

27. The detailed calculations in support of the weighted average rate of interest are contained in Annexure-I, Annexure-II, Annexure-III, Annexure-IV and Annexure-V attached.

### **DEPRECIATION**

28. Sub-clause (a) of clause (ii) of Regulation 56 of the 2004 regulations provides for computation of depreciation in the following manner, namely:

- (i) The value base for the purpose of depreciation shall be the historical cost of the asset.
- (ii) Depreciation shall be calculated annually based on straight line method over the useful life of the asset and at the rates prescribed in Appendix II to these regulations. The residual value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the historical cost of the asset. The historical capital cost of the asset shall include additional capitalisation on account of Foreign Exchange Rate Variation up to 31.3.2004 already allowed by the Central Government/Commission.
- (iii) On repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.

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

29. Depreciation allowed has been worked out as below:

(Rs. in lakh)					
Details	Asset- I 2008-09	Asset-II 2008-09	Asset- III 2008-09	Asset-IV 2008-09	Asset- V 2008-09
Gross block as on the date of commercial operation	13440.00	2247.00	938.00	1511.00	2395.00
Additional Capitalisation during 2007-08	0.00	0.00	0.00	0.00	0.00
Gross Block at the end of the year	13440.00	2247.00	938.00	1511.00	2395.00
Rate of Depreciation	2.8120%	3.6176%	3.6000%	3.6000%	3.6000%
Depreciable Value	11945.17	2022.30	844.20	1359.90	2155.50
Balance Useful life of the asset	-	-	-	-	-
Remaining Depreciable Value	11945.17	2022.30	844.20	1359.90	2155.50
Depreciation (Pro rata)	<b>346.44</b>	<b>74.51</b>	<b>14.07</b>	<b>22.67</b>	<b>14.37</b>

### **ADVANCE AGAINST DEPRECIATION**

30. As per sub-clause (b) of clause (ii) of Regulation 56 of the 2004 regulations, in addition to allowable depreciation, the transmission licensee is entitled to Advance Against Depreciation, computed in the manner given hereunder:

AAD = Loan repayment amount as per regulation 56 (i) subject to a ceiling of 1/10th of loan amount as per regulation 54 minus depreciation as per schedule

31. It is provided that Advance Against Depreciation shall be permitted only if the cumulative repayment up to a particular year exceeds the cumulative depreciation up to that year. It is further provided that Advance Against Depreciation in a year shall be restricted to the extent of difference between cumulative repayment and cumulative depreciation up to that year.

32. The petitioner has not claimed Advance Against Depreciation and accordingly, Advance Against Depreciation has not been considered.

**OPERATION & MAINTENANCE EXPENSES**

33. In accordance with clause (iv) of Regulation 56 the 2004 regulations, the following norms are prescribed for O & M expenses

	Year				
	2004-05	2005-06	2006-07	2007-08	2008-09
O&M expenses (Rs in lakh per ckt-km)	0.227	0.236	0.246	0.255	0.266
O&M expenses (Rs in lakh per bay)	28.12	29.25	30.42	31.63	32.90

34. The petitioner has claimed O & M expenses for 150.79 ckt km and five bays for Asset-I, five bays for Asset-II, one bay for Asset-III, two bays for Asset-IV and four bays for Asset- V which have been allowed. Accordingly, the petitioner’s entitlement to O & M expenses for the 2008-09 has been worked out as given hereunder:

(Rs. in lakh)

Asset-I		Asset - II		Asset-III		Asset - IV		Asset-V	
O&M expenses for 212.744 ckt km	51.87		-		-		-		
O&M expenses for 5 bays	150.79	O&M expenses for 5 bays	150.79	O&M expenses for 1 bay	13.71	O&M expenses for 2 bays	27.42	O&M expenses for 4 bays	21.93
<b>Total</b>	<b>202.67</b>		<b>150.79</b>		<b>13.71</b>		<b>27.42</b>		<b>21.93</b>

35. The petitioner has submitted that the wage revision of its employees is due with effect from 1.1.2007. Therefore, according to the petitioner, O & M expenses should be subject to revision on account of revision of employee cost from that date. In the alternative, it has been prayed that the increase in employee cost due to wage revision be allowed as per actuals for extra cost to be incurred consequent to wage revision. We are not expressing any view, as this issue does not arise for consideration at this stage. The petitioner may

approach for a relief in this regard at an appropriate stage in accordance with law.

### **INTEREST ON WORKING CAPITAL**

36. The components of the working capital and the interest thereon are discussed hereunder:

#### **(i) Maintenance spares**

Regulation 56(v) (1) (b) of the 2004 regulations provides for maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation. In the present case, restricted element wise capital expenditure on the date of commercial operation which has been considered as the historical cost for the purpose of the present petition and maintenance spares have been worked out accordingly @ 1%. In this manner, the value of maintenance spares works out to Rs. 134.40 lakh, Rs. 22.47 lakh, Rs. 9.38 lakh, Rs. 15.11. lakh and Rs. 23.95 lakh for transmission Asset-I, Asset-II, Asset-III, Asset-IV and Asset-V, respectively as on date of commercial operation. The necessary details are given hereunder:

Transmission assets	Date of commercial operation	Capital Expenditure on the date of commercial operation (Rs. in lakh)	Restricted capital expenditure	Cost of maintenance spares as on the date of commercial operation (Rs. in lakh)
Asset- I	1.5.2008	14515.73	13440.00	134.40
Asset-II	1.5.2008	2689.26	2247.00	22.47
Asset-III	1.11.2008	957.22	938.00	9.38
Asset-IV	1.11.2008	1939.61	1511.00	15.11
Asset-V	1.2.2009	3000.81	2395.00	23.95

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

Regulation 56(v)(1)(a) of the 2004 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 as claimed in the petition. This has been considered in the working capital.

**(iii) Receivables**

As per Regulation 56(v)(1)(c) of the 2004 regulations, receivables will be equivalent to two months average billing calculated on target availability level. The petitioner has claimed the receivables on the basis 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.

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

As per Regulation 56(v) (2) of the 2004 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 1.4.2004 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 1.4.2008, which is in accordance with the 2004 regulations and has been allowed.

37. The necessary computations in support of interest on working capital are appended herein below:

(Rs. in lakh)

	Asset- I	Asset-II	Asset- III	Asset-IV	Asset- V
	2008-09	2008-09	2008-09	2008-09	2008-09

	(Pro rata)	(Pro rata)	(Pro rata)	(Pro rata)	(Pro rata)
Maintenance Spares	134.40	22.47	9.38	15.11	23.95
O & M expenses	18.42	13.71	2.74	5.48	10.97
Receivables	316.92	79.91	26.37	44.67	75.50
Total	469.75	116.09	38.50	65.27	110.41
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
Interest	<b>52.75</b>	<b>13.04</b>	<b>1.96</b>	<b>3.33</b>	<b>2.25</b>

### **TRANSMISSION CHARGES**

38. The transmission charges being allowed for the five transmission assets are summarised below:

(Rs.in lakh)					
	Asset- I	Asset-II	Asset- III	Asset-IV	Asset- V
	2008-09 (Pro rata)	2008-09 (Pro rata)	2008-09 (Pro rata)	2008-09 (Pro rata)	2008-09 (Pro rata)
Depreciation	346.44	74.51	14.07	22.67	14.37
Interest on Loan	623.87	114.69	19.79	31.82	20.18
Return on Equity	517.36	86.49	16.40	26.44	16.77
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	52.75	13.04	1.96	3.33	2.25
O & M Expenses	202.67	150.79	13.71	27.42	21.93
Total	<b>1743.09</b>	<b>439.52</b>	<b>65.93</b>	<b>111.68</b>	<b>75.50</b>

39. In addition to the transmission charges, the petitioner shall be entitled to other charges like income-tax, incentive, surcharge and other cess and taxes in accordance with the 2004 regulations.

40. The petitioner has sought approval for the reimbursement of expenditure of Rs. 2,90,772/- incurred on publication of notices in the newspapers. The petitioner shall claim reimbursement of the said expenditure directly from the respondents in one installment in the ratio applicable for sharing of transmission charges. The Commission by its separate general order dated 11.9.2008 in Petition No. 129/2005 has decided that the petitioner shall not be allowed reimbursement of the petition filing fee.

41. Transmission charges for Asset-I, Asset-III and Asset-V shall be shared by all Southern Region beneficiaries as the 2004 regulations and for Asset-II



and Asset-IV shall be borne by TNEB only in accordance with order dated 28.3.2008 in Petition No. 85/2007.

42. This order disposes of Petition No. 192/2009.

Sd/-	sd/-	sd/-	sd/-
(V.S.VERMA)	(S.JAYARAMAN)	(R.KRISHNAMOORTHY)	(DR.PRAMOD DEO)
MEMBER	MEMBER	MEMBER	CHAIRPERSON

New Delhi dated the 21st December 2009

**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN**

**Asset-I**

		(Rs. in lakh)
	<b>Details of Loan</b>	<b>2008-09</b>
<b>1</b>	<b>Bond-XIX</b>	
	Gross Loan opening	450.00
	Cumulative Repayment up to the date of commercial operation/previous year	0.00
	Net Loan-Opening	450.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	450.00
	Average Loan	450.00
	Rate of Interest	9.25%
	Interest	41.62
	Repayment Schedule	12 Annual instalments from 24.7.2010
<b>2</b>	<b>Bond-XX</b>	
	Gross Loan opening	40.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	40.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	40.00
	Average Loan	40.00
	Rate of Interest	8.93%
	Interest	3.57
	Repayment Schedule	12 Annual instalments from 7.9.2010
<b>3</b>	<b>Bond-XXI</b>	
	Gross Loan opening	3658.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	3658.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	3658.00
	Average Loan	3658.00
	Rate of Interest	8.73%
	Interest	319.34
	Repayment Schedule	12 Annual instalments from 11.10.2010
<b>4</b>	<b>Bond-XXII</b>	
	Gross Loan opening	450.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	450.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	450.00
	Average Loan	450.00
	Rate of Interest	8.68%
	Interest	39.06
	Repayment Schedule	12 Annual instalments

		from 7.12.2010
<b>5</b>	<b>Bond-XXIV</b>	
	Gross Loan opening	450.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	450.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	450.00
	Average Loan	450.00
	Rate of Interest	9.95%
	Interest	44.78
	Repayment Schedule	12 Annual instalments from 26.3.2011
<b>6</b>	<b>Bond-XXV</b>	
	Gross Loan opening	360.00
		0.00
	Net Loan-Opening	360.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	360.00
	Average Loan	360.00
	Rate of Interest	10.10%
	Interest	36.36
	Repayment Schedule	12 Annual instalments from 12.6.2011
<b>7</b>	<b>Bond-XXVI</b>	
	Gross Loan opening	258.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	258.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	258.00
	Average Loan	258.00
	Rate of Interest	9.30%
	Interest	23.99
	Repayment Schedule	12 Annual instalments from 7.3.2012
<b>8</b>	<b>ADB III</b>	
	Gross Loan opening	4495.70
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	4495.70
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	4495.70
	Average Loan	4495.70
	Rate of Interest	5.34%
	Interest	240.13
	Repayment Schedule	30 HY instalments from 15-1-2010
	<b>Total Loan</b>	
	Gross Loan opening	10161.70
	Cumulative Repayment up to the date of commercial operation	0.00
	Net Loan-Opening	10161.70

	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	10161.70
	Average Loan	10161.70
	Rate of Interest	7.37%
	<b>Interest</b>	<b>748.85</b>

## Asset-II

		(Rs. in lakh)
	Details of Loan	2008-09
<b>1</b>	<b>Bond-XIX</b>	
	Gross Loan opening	50.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	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	4.62
	Repayment Schedule	12 Annual instalments from 24.7.2010
<b>2</b>	<b>Bond-XX</b>	
	Gross Loan opening	4.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	4.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	4.00
	Average Loan	4.00
	Rate of Interest	8.93%
	Interest	0.36
	Repayment Schedule	12 Annual instalments from 7.9.2010
<b>3</b>	<b>Bond-XXI</b>	
	Gross Loan opening	1142.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	1142.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	1142.00
	Average Loan	1142.00
	Rate of Interest	8.73%
	Interest	99.70
	Repayment Schedule	12 Annual instalments from 11.10.2010
<b>4</b>	<b>Bond-XXII</b>	
	Gross Loan opening	50.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	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	8.68%
	Interest	4.34
	Repayment Schedule	12 Annual instalments from 7.12.2010
<b>5</b>	<b>Bond-XXIV</b>	

	Gross Loan opening	50.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	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	9.95%
	Interest	4.98
	Repayment Schedule	12 Annual instalments from 26.3.2011
<b>6</b>	<b>Bond-XXV</b>	
	Gross Loan opening	125.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	125.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	125.00
	Average Loan	125.00
	Rate of Interest	10.10%
	Interest	12.63
	Repayment Schedule	12 Annual instalments from 12.6.2011
<b>7</b>	<b>Bond-XXVI</b>	
	Gross Loan opening	53.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	53.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	53.00
	Average Loan	53.00
	Rate of Interest	9.30%
	Interest	4.93
	Repayment Schedule	12 Annual instalments from 7.3.2012
<b>8</b>	<b>ADB III</b>	
	Gross Loan opening	408.70
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	408.70
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	408.70
	Average Loan	408.70
	Rate of Interest	5.34%
	Interest	21.83
	Repayment Schedule	30 HY instalments from 15-1-2010
	<b>Total Loan</b>	
	Gross Loan opening	1882.70
	Cumulative Repayment up to the date of commercial operation	0.00
	Net Loan-Opening	1882.70
	Additions during the year	0.00
	Repayment during the year	0.00

	Net Loan-Closing	1882.70
	Average Loan	1882.70
	Rate of Interest	8.15%
	<b>Interest</b>	<b>153.38</b>

## Asset-III

		(Rs. In lakh)
	Details of Loan	2008-09
<b>1</b>	<b>Bond-XIX</b>	
	Gross Loan opening	3.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	3.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	3.00
	Average Loan	3.00
	Rate of Interest	9.25%
	Interest	0.28
	Repayment Schedule	12 Annual instalments from 24.7.2010
<b>2</b>	<b>Bond-XXI</b>	
	Gross Loan opening	50.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	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	8.73%
	Interest	4.37
	Repayment Schedule	12 Annual instalments from 11.10.2010
<b>3</b>	<b>Bond-XXII</b>	
	Gross Loan opening	50.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	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	8.68%
	Interest	4.34
	Repayment Schedule	12 Annual instalments from 7.12.2010
<b>4</b>	<b>Bond-XXIV</b>	
	Gross Loan opening	50.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	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	9.95%
	Interest	4.98
	Repayment Schedule	12 Annual instalments from 26.3.2011



<b>5</b>	<b>Bond-XXV</b>	
	Gross Loan opening	100.00
		0.00
	Net Loan-Opening	100.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	100.00
	Average Loan	100.00
	Rate of Interest	10.10%
	Interest	10.10
	Repayment Schedule	12 Annual instalments from 12.6.2011
<b>6</b>	<b>Bond-XXVI</b>	
	Gross Loan opening	50.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	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	9.30%
	Interest	4.65
	Repayment Schedule	12 Annual instalments from 7.3.2012
<b>7</b>	<b>ADB III</b>	
	Gross Loan opening	296.40
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	296.40
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	296.40
	Average Loan	296.40
	Rate of Interest	4.39%
	Interest	13.02
	Repayment Schedule	30 HY instalments from 15-1-2010
<b>8</b>	<b>Bond XXVIII [STBL FROM BOB 29.09.2008 to 14.12.2008 @ 12.5% Replaced by BOND XXVIII @ 9.33% from 15.12.2008 ]</b>	
	Gross Loan opening	71.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	71.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	71.00
	Average Loan	71.00
	Rate of Interest	10.25%
	Interest	7.28
	Repayment Schedule	12 Annual instalments from 15.12.2012
	<b>Total Loan</b>	
	Gross Loan opening	670.40
	Cumulative Repayment up to the date of commercial operation	0.00
	Net Loan-Opening	670.40
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	670.40

	Average Loan	670.40
	Rate of Interest	7.31%
	<b>Interest</b>	49.00

**Asset-IV**

**Annexure-IV**

		(Rs. in lakh)
	<b>Details of Loan</b>	<b>2008-09</b>
<b>1</b>	<b>Bond-XIX</b>	
	Gross Loan opening	7.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	7.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	7.00
	Average Loan	7.00
	Rate of Interest	9.25%
	Interest	0.65
	Repayment Schedule	12 Annual instalments from 24.7.2010
<b>2</b>	<b>Bond-XXI</b>	
	Gross Loan opening	100.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	100.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	100.00
	Average Loan	100.00
	Rate of Interest	8.73%
	Interest	8.73
	Repayment Schedule	12 Annual instalments from 11.10.2010
<b>3</b>	<b>Bond-XXII</b>	
	Gross Loan opening	150.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	150.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	150.00
	Average Loan	150.00
	Rate of Interest	8.68%
	Interest	13.02
	Repayment Schedule	12 Annual instalments from 7.12.2010
<b>4</b>	<b>Bond-XXIV</b>	
	Gross Loan opening	50.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	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	9.95%
	Interest	4.98
	Repayment Schedule	12 Annual instalments from 26.3.2011
<b>5</b>	<b>Bond-XXV</b>	

	Gross Loan opening	200.00
		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	10.10%
	Interest	20.20
	Repayment Schedule	12 Annual instalments from 12.6.2011
<b>6</b>	<b>Bond-XXVI</b>	
	Gross Loan opening	100.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	100.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	100.00
	Average Loan	100.00
	Rate of Interest	9.30%
	Interest	9.30
	Repayment Schedule	12 Annual instalments 7.3.2012
<b>7</b>	<b>ADB III</b>	
	Gross Loan opening	592.80
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	592.80
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	592.80
	Average Loan	592.80
	Rate of Interest	4.39%
	Interest	26.03
	Repayment Schedule	30 HY instalments from 15-1-2010
<b>8</b>	<b>Bond XXVIII [STBL FROM BOB 29.09.2008 to 14.12.2008 @ 12.5% Replaced by BOND XXVIII @ 9.33% from 15.12.2008 ]</b>	
	Gross Loan opening	158.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	158.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	158.00
	Average Loan	158.00
	Rate of Interest	10.25%
	Interest	16.20
	Repayment Schedule	12 Annual instalments from 15.12.2012
	<b>Total Loan</b>	
	Gross Loan opening	1357.80
	Cumulative Repayment up to the date of commercial operation	0.00
	Net Loan-Opening	1357.80
	Additions during the year	0.00

Repayment during the year	0.00
Net Loan-Closing	1357.80
Average Loan	1357.80
Rate of Interest	7.30%
<b>Interest</b>	<b>99.10</b>

## Annexure-V

### Asset-V

		(Rs. in lakh)
	Details of Loan	2008-09
<b>1</b>	<b>Bond-XIX</b>	
	Gross Loan opening	96.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	96.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	96.00
	Average Loan	96.00
	Rate of Interest	<b>9.25%</b>
	Interest	8.88
	Repayment Schedule	12 Annual instalments from 24.7.2010
<b>2</b>	<b>Bond-XXI</b>	
	Gross Loan opening	240.00
	Cumulative Repayment up to the date of commercial operation/previous year	0.00
	Net Loan-Opening	240.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	240.00
	Average Loan	240.00
	Rate of Interest	<b>8.73%</b>
	Interest	20.95
	Repayment Schedule	12 Annual instalments from 11.10.2010
<b>3</b>	<b>Bond-XXII</b>	
	Gross Loan opening	240.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	240.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	240.00
	Average Loan	240.00
	Rate of Interest	<b>8.68%</b>
	Interest	20.83
	Repayment Schedule	12 Annual instalments from 7.12.2010
<b>4</b>	<b>Bond-XXIV</b>	
	Gross Loan opening	80.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	80.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	80.00
	Average Loan	80.00
	Rate of Interest	<b>9.95%</b>

	Interest	7.96
	Repayment Schedule	12 Annual instalments from 26.3.2011
<b>5</b>	<b>Bond-XXV</b>	
	Gross Loan opening	400.00
		0.00
	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	10.10%
	Interest	40.40
	Repayment Schedule	12 Annual instalments from 12.6.2011
<b>6</b>	<b>Bond-XXVI</b>	
	Gross Loan opening	152.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	152.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	152.00
	Average Loan	152.00
	Rate of Interest	9.30%
	Interest	14.14
	Repayment Schedule	12 Annual instalments from 7.3. 2012
<b>7</b>	<b>ADB III</b>	
	Gross Loan opening	892.26
	Cumulative Repayment up to the date of commercial operation/previous year	0.00
	Net Loan-Opening	892.26
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	892.26
	Average Loan	892.26
	Rate of Interest	4.39%
	Interest	39.18
	Repayment Schedule	30 HY instalments from 15-1-2010
	<b>Total Loan</b>	
	Gross Loan opening	2100.26
	Cumulative Repayment up to the date of commercial operation	0.00
	Net Loan-Opening	2100.26
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	2100.26
	Average Loan	2100.26
	Rate of Interest	7.25%
	<b>Interest</b>	152.34