

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Coram:**

- 1. Shri Bhanu Bhushan, Member**
- 2. Shri R.Krishnamoorthy, Member**

**Petition No.103/2007  
Along with  
I.A.No. 37/2007**

**In the matter of**

Petition for determination of final transmission tariff of (i) 40% series compensation on Meramundali-Jeypore 400 kV S/C transmission line at Jeypore (Eastern Region scheme) (ii) 50% Fixed Series Compensation on 400 kV Jeypore-Gazuwaka D/C transmission line at Jeypore (inter-regional scheme between ER and SR ) associated with augmentation of capacity of Gazuwaka HVDC back-to-back project for the period from 1.1.2007 31.3.2009.

**And in the matter of**

Power Grid Corporation of India Limited

**....Petitioner**

Vs

1. Bihar State Electricity Board, Patna
  2. West Bengal State Electricity Board, Kolkata
  3. Orissa Power Transmission Corporation Ltd., Bhubaneswar
  4. Damodar Valley Corporation, Kolkata
  5. Power Department, Govt. of Sikkim, Gangtok
  6. Jharkhand State Electricity Board, Ranchi
  7. Karnataka Power Transmission Corporation Ltd., Bangalore
  8. Transmission Corporation of Andhra Pradesh, Hyderabad
  9. Kerala State Electricity Board, Thiruvananthapuram
  10. Tamil Nadu Electricity Board, Chennai
  11. Electricity Deptt, Government of Pondicherry, Pondicherry
- .Respondents**

**The following were present:**

1. Shri P.C.Pankaj, PGCIL
2. Shri V.V.Sharma, PGCIL
3. Shri U.K.Tyagi, PGCIL
4. Shri B.C.Pant, PGCIL
5. Shri. A.K. Nagpal, PGCIL
6. Shri M.M.Mondal, PGCIL
7. Ms. Hem Lata, PGCIL
8. Shri C.Kannan, PGCIL
9. Shri S.K.Niranjan, PGCIL
10. Shri R.B.Sharma, Advocate, BSEB

**ORDER**  
**(DATE OF HEARING: 18.10.2007)**

This petition has been filed for approval of transmission charges for (i) 40% series compensation on Meramundali-Jeypore 400 kV S/C transmission line at Jeypore (Eastern Region scheme) (Asset-I), and (ii) 50% Fixed Series Compensation on 400 kV Jeypore-Gazuwaka D/C transmission line at Jeypore (Inter-regional scheme between ER and SR ) (Asset- II) (collectively referred to as `the transmission assets`), associated with augmentation of capacity of Gazuwaka HVDC back-to-back project (hereinafter referred to as `the scheme`) for the period from 1.1.2007 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 2006-07. 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 petitioner also filed I.A. No. 37/2007 for an interim order permitting it to charge the provisional tariff on monthly basis from the date of commercial operation, pending determination of final tariff by the Commission. During the hearing, the representative of the petitioner stated that the audited expenditure upto the date of commercial operation was available and the same was furnished in the petition. Accordingly, the representative of the petitioner prayed for approval of final tariff without pursuing for provisional tariff. The beneficiaries present at the hearing expressed their no objection to allowing final tariff. Accordingly, we are considering the petitioner's claim for final tariff. In this view, IA has become infructuous.

3. The investment approval for the scheme was accorded by Ministry of Power vide letter dated 22.1.2002 at an estimated cost of Rs. 76925 lakh, which included

IDC of Rs. 9612 lakh. The date of commercial operation of the transmission assets is stated to be 1.1.2007.

4. The details of the apportioned approved cost, the estimated completion cost, etc. of the transmission assets are stated to be 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 31.3.2007	Balance Expenditure	Total estimated completion cost
Asset- I	2932 lakh	1554.60	75.77	196.94	1827.31
Asset-II	5472 lakh	2461.68	96.49	393.87	2952.04

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

(Rs.in lakh)

	Asset- I			Asset-II		
	2006-07	2007-08	2008-09	2006-07	2007-08	2008-09
Depreciation	14.02	57.44	57.44	22.59	92.09	92.09
Interest on Loan	22.03	87.08	81.93	34.65	136.36	128.28
Return on Equity	15.22	62.49	62.49	24.09	98.37	98.37
Advance against Depreciation	0.00	4.38	6.78	0.00	4.74	8.56
Interest on Working Capital	1.49	6.14	6.23	2.45	10.02	10.17
O & M Expenses	7.61	31.63	32.90	15.21	63.26	65.80
Total	<b>60.37</b>	<b>249.16</b>	<b>247.75</b>	<b>98.99</b>	<b>404.84</b>	<b>403.27</b>

6. 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		
	2006-07	2007-08	2008-09	2006-07	2007-08	2008-09
Maintenance Spares	15.55	15.78	16.73	24.62	24.99	26.49
O & M expenses	2.54	2.64	2.74	5.07	5.27	5.48
Receivables	40.25	41.53	41.29	65.99	67.47	67.21
Total	58.33	59.94	60.76	95.68	97.73	99.18
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	<b>1.49</b>	<b>6.14</b>	<b>6.23</b>	<b>2.45</b>	<b>10.02</b>	<b>10.17</b>

7. The reply to the petition has been filed by Bihar State Electricity Board (BSEB), West Bengal State Electricity Distributing Company Limited (WBSEDCL) the successor entity of West Bengal State Electricity Board and Tamil Nadu Electricity Board (TNEB) 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**

8. 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.

9. The petitioner has claimed additional capitalization of Rs. 75.77 lakh and Rs. 96.49 lakh on the works for date of the commercial operation to 31.3.2007 over the capital expenditure of Rs.. 1554.60 lakh and Rs. 2461.68 lakh for Asset-I and Asset-II, respectively as on the date of commercial operation.

### **ADDITIONAL CAPITALIZATION 2006-07**

10. 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.”

11. The details submitted by the petitioner in support of its claim for additional capital expenditure are given hereunder:

Asset-I	Asset-II
Nature of expenditure	Nature of expenditure
Sub-station = Rs. 75.77 lakh	Sub-station = Rs. 96.49 lakh

12. The additional capital expenditure claimed is within the original scope of work and is found to be in order as it was against the committed liability. Accordingly, the additional capital expenditure of Rs. 75.77 lakh and Rs. 96.49 lakh has been allowed for the transmission assets.

**Time Over-run**

13. As per the original approval, the transmission assets were scheduled to be commissioned by June 2005. The lines were declared under commercial operation on 1.1.2007. Therefore, there has been a delay of about eighteen months in the commissioning of the transmission assets. The petitioner has explained following reasons for delay:

(i) The progress of work was hampered mainly due to delay in handing over of land by District Administration to the petitioner, heavy rainfall and delay in clearance from the Inspection Directorate of CEA. Copies of the correspondence in this regard have been attached with the application;

(ii) While explaining the delay in respect of handing over of land, the petitioner has submitted that inspite of submission of the necessary documents in January 2002, the land was handed over in August 2003. Therefore, there was a delay of 20 months in handing over of land by local

administration. The petitioner has further submitted that the State of Orissa through which the transmission lines traverse, is a zone of heavy and unpredictable rainfall and due to heavy rainfall, work of electrical nature could not be carried out. This also resulted in delay. On the issue of energisation of equipments, the petitioner has submitted that the required documents like pre-commissioning test report, etc. were submitted to Inspectorate Directorate in September 2006 but approval was received in December 2006 and it resulted in further delay of three months;

(iii) The petitioner has submitted that in the above manner, delay adds up to about 24 months. However, cumulative overall delay in commissioning is of about 18 months.

14. We have considered the matter very carefully. There is satisfactory explanation from the petitioner for the entire delay in completion of the transmission line. The delay was unintentional and beyond the control of the petitioner. It needs to be pointed out that the petitioner does not gain anything by delaying the commissioning of its transmission assets. In our opinion, the petitioner cannot be blamed for the delay in any manner. Therefore, the delay in commissioning of line is condoned.

**TOTAL CAPITAL COST**

15. Based on the above, gross block as given below has been considered for the purpose of tariff for the transmission assets, after allowing additional capitalization on works as claimed by the petitioner, which is within the limits of apportioned approved cost:

	(Rs. in lakh)		
	Expenditure up on date of commercial operation	Additional expenditure up to 31.3.2007	Total capital expenditure
Asset- I	1554.60	75.77	1630.37
Asset-II	2461.68	96.49	2558.17

Total	4016.28	172.26	4188.54
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## DEBT- EQUITY RATIO

16. 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.”

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

18. The petitioner has considered debt-equity ratio of 72.75:27.25 and 72.63:27.37 for the transmission assets, as actually deployed on the date of commercial operation. The petitioner has further considered the amount of additional capitalization in the debt-equity ratio of 70:30. We have considered the actual debt-equity ratio on the date of commercial operation, in which case equity considered is less than 30% of the actual cost considered for tariff. For the additional capitalisation on works of Rs. 75.77 lakh and Rs.96.49 lakh for the transmission assets, debt-equity ratio of 70:30 as

considered by the petitioner has been considered since it is in accordance with the 2004 regulations. Accordingly, for the purpose of tariff, debt and equity considered for the transmission assets is as under:

(Rs. in lakh)

	Capital cost as on date of commercial operation	Equity on the date of commercial operation	Additional capital expenditure during 2006-07	Capital cost as on 1.4.2007	Addition of equity	Equity considered as on 1.4.2007
Asset- I	1554.60	423.60	75.77	1630.37	22.73	446.33
Asset-II	2461.68	673.68	96.49	2558.17	28.95	702.63
<b>Total</b>	<b>4016.28</b>	<b>1097.28</b>	<b>172.26</b>	<b>4188.54</b>	<b>51.68</b>	<b>1148.96</b>

### **RETURN ON EQUITY**

19. 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.

20. Equity has been considered as on the date of commercial operation and as on 1.4.2007 onwards as given in the table below para 18 above. However, tariff for the period from 1.1.2007 to 31.3.2007 has been allowed on average equity. Accordingly, the petitioner shall be entitled to return on equity as under:

(Rs. in lakh)

Name of the assets	Equity as on the date of commercial operation	Addition due to additional capitalization	Average equity	Return on equity		
				2006-07 (Pro rata)	2007-08	2008-09
Asset- I	423.60	22.73	434.97	15.22	62.49	62.49
Asset- II	673.68	28.95	688.15	24.09	98.37	98.37

### **INTEREST ON LOAN**

21. 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.”

22. The petitioner has claimed interest on loan in the following manner:

- (i) Gross loans opening has been considered from 2006-07. In case of Bond XII and Bond XIII (option-I) the repayment has commenced prior to date of commercial operation;
- (ii) On the basis of actual rate of interest on actual average loan, the weighted average rate of interest on loan is worked out for various years.
- (iii) Gross loans at (i) above has been considered and the weighted average rate of interest on loan for respective years as per above has been has

been multiplied to arrive at interest on loan, considering (depreciation + AAD) as repayment.

23. In our calculation, the interest on loan has been worked out as detailed below:
- (i) Gross amount of loan, repayment of instalments and rate of interest submitted have been used to work out weighted average rate of interest on actual loan.
  - (ii) Notional loan arising out of additional capitalization from date of commercial operation to 31.3.2007 has been added in loan amount as on date of commercial operation to arrive at total notional loan. This adjusted gross loan has been considered as normative loan for tariff calculations
  - (iii) Tariff has been worked out considering normative loan and normative repayments. Once the normative loan has been arrived at, it has been considered for all purposes in the tariff. Normative repayment has been worked out by the following formula :  
$$\frac{\text{Actual repayment of actual loan during the year}}{\text{Opening balance of actual loan during the year}} \times \text{Opening balance of normative loan during the year}$$
  - (iv) Moratorium in repayment of loan has been considered with reference to normative loan and if the normative repayment of loan during the year is less than the depreciation during the year, it has been considered as moratorium and depreciation during the year has been deemed as normative repayment of loan during the year.

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

24. Based on the above, the year-wise details of interest worked out are given hereunder:

(Rs. in lakh)

Details of loan	Asset-I			Asset-II		
	2006-07 (Pro rata)	2007-08	2008-09	2006-07 (Pro rata)	2007-08	2008-09
Opening Gross Loan	1131.00	1184.04	1184.04	1788.00	1855.54	1855.54
Cumulative Repayment	47.00	61.02	122.83	74.24	96.83	193.66
Net Loan-Opening	1084.00	1123.02	1061.21	1713.76	1758.71	1661.89
Additions due to Additional Capitalisation	53.04			67.54		
Repayment during the year	14.02	61.81	66.31	22.59	96.83	105.14
Net Loan-Closing	1123.02	1061.21	994.90	1758.71	1661.89	1556.74
Average Loan	1103.51	1092.11	1028.06	1736.24	1710.30	1609.31
Weighted Average Rate of Interest on Loan	7.98%	7.97%	7.96%	7.98%	7.97%	7.96%
<b>Interest</b>	<b>22.03</b>	<b>87.09</b>	<b>81.84</b>	<b>34.65</b>	<b>136.36</b>	<b>128.10</b>

25. The detailed calculations in support of the weighted average rate of interest are contained in Annexure-I and Annexure-II attached.

## **DEPRECIATION**

26. 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.

27. Depreciation allowed has been worked out as calculated below:

(Rs.in lakh)

Details of Depreciation	Asset-I			Asset-II		
	2006-07 (Pro rata)	2007-08	2008-09	2006-07 (Pro rata)	2007-08	2008-09
Gross block as on the date of commercial operation	1554.60*	1630.37	1630.37	2461.68	2558.17	2558.17
Additional Capitalisation during the period	75.77	-	-	96.49	-	-
Gross Block at the end of the period	1630.37*	1630.37	1630.37	2558.17	2558.17	2558.17
Rate of Depreciation	3.5210%	3.5229%	3.5229%	3.6000%	3.6000%	3.6000%
Depreciable Value (90%)	1430.90	1464.99	1464.99	2258.93	2302.35	2302.35
Balance Useful life of the asset	-	-	-	-	-	-
Remaining Depreciable Value	1430.90	1450.98	1389.16	2258.93	2279.76	2182.94
<b>Depreciation</b>	<b>14.02</b>	<b>57.44</b>	<b>57.44</b>	<b>22.59</b>	<b>92.09</b>	<b>92.09</b>

\* Includes an amount of Rs. 2.60 lakh on account of cost of land.

### **ADVANCE AGAINST DEPRECIATION**

28. 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

29. 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.

30. The petitioner has claimed Advance Against Depreciation in the following manner:

- (i) 1/10th of gross loan considered for tariff computation.
- (ii) Cumulative loan as well as repayment of notional loan considered during the year.
- (iii) Depreciation as claimed in the petition.

31. In our calculation, Advance Against Depreciation has been worked as under:

- (i) 1/10th of gross loan has been worked out from the gross notional loan as per para 24 above.
- (ii) Repayment of notional loan during the year has been considered as per para 24 above.
- (iii) Depreciation as worked out as per para 27 has been taken into account.

32. The details of Advance Against Depreciation allowed for the transmission line assets is given hereunder:

(Rs. in lakh)

Advance against Depreciation	Asset-I			Asset-II		
	2006-07 (Pro rata)	2007-08	2008-09	2006-07 (Pro rata)	2007-08	2008-09
1/10th of Gross Loan(s)	113.10	118.40	118.40	178.80	185.55	185.55
Repayment of the Loan	14.02	61.81	66.31	22.59	96.83	105.14
Minimum of the above	14.02	61.81	66.31	22.59	96.83	105.14
Depreciation during the year	14.02	57.44	57.44	22.59	92.09	92.09
(A) Difference	0.00	4.38	8.87	0.00	4.73	13.05
Cumulative Repayment of the Loan	61.02	122.83	189.14	96.83	193.66	298.80
Cumulative Depreciation/ Advance against Depreciation	14.02	71.45	133.27	22.59	114.68	211.51
(B) Difference	47.00	51.38	55.87	74.24	78.97	87.29
Advance Against Depreciation: Minimum of (A) and (B)	<b>0.00</b>	<b>4.38</b>	<b>8.87</b>	<b>0.00</b>	<b>4.73</b>	<b>13.05</b>

## **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 1 bay for the Asset-I and 2 bays of Asset - II, which has been allowed. Accordingly, the petitioner's entitlement to O & M expenses has been worked out as given hereunder:

(Rs. in lakh)

	Asset-I			Asset-II		
	2006-07 (Pro- rata)	2007-08	2007-08	2006-07 (Pro- rata)	2007-08	2008-09
O&M expenses for 1 bay	7.61	31.63	32.90	O&M expenses for 2 bays	15.21	63.26
<b>TOTAL</b>	7.61	31.63	32.90	<b>TOTAL</b>	15.21	63.26

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, 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 by escalating 1% of the historical cost @ 6% per annum. In this manner, the value of maintenance spares works out to Rs. 15.55 lakh and Rs. 24.62 lakh for Asset-I and Asset-II, respectively as on date of commercial operation. The necessary details are given hereunder:

Transmission assets	Date of Commercial Operation	Capital Expenditure (Rs. in lakh) on the date of commercial operation	Escalated spares Cost as on 1.4.2004 (Rs. in lakh)
Asset- I	1.1.2007	1554.60	15.55
Asset-II	1.1.2007	2461.68	24.62

**(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 of O&M expenses of the respective year 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 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 @ 10.25% based on SBI PLR as on 1.4.2006, 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		
	2006-07 (Pro rata)	2007-08	2008-09	2006-07 (Pro rata)	2007-08	2008-09
Maintenance Spares	15.55	15.78	16.73	24.62	24.99	26.49
O & M expenses	2.54	2.64	2.74	5.07	5.27	5.48
Receivables	40.25	41.53	41.63	65.99	67.47	67.94
Total	58.33	59.94	61.10	95.68	97.73	99.91
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	<b>1.49</b>	<b>6.14</b>	<b>6.26</b>	<b>2.45</b>	<b>10.02</b>	<b>10.24</b>

### **TRANSMISSION CHARGES**

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

(Rs. in lakh)

	Asset-I			Asset-II		
	2006-07 (Pro rata)	2007-08	2008-09	2006-07 (Pro rata)	2007-08	2008-09
Depreciation	14.02	57.44	57.44	22.59	92.09	92.09
Interest on Loan	22.03	87.09	81.84	34.65	136.36	128.10
Return on Equity	15.22	62.49	62.49	24.09	98.37	98.37
Advance against Depreciation	0.00	4.38	8.87	0.00	4.73	13.05
Interest on Working Capital	1.49	6.14	6.26	2.45	10.02	10.24
O & M Expenses	7.61	31.63	32.90	15.21	63.26	65.80
Total	<b>60.37</b>	<b>249.16</b>	<b>249.80</b>	<b>98.99</b>	<b>404.84</b>	<b>407.66</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.

#### **SHARING OF TRANSMISSION CHARGES AND TRANSMISSION LOSSES**

40. BSEB in its reply stated that the transmission charges on account of installation of series compensation at Jeypore end in both the assets should be recovered from user beneficiaries i.e. Southern Region, who actually utilize and receive power and derive benefits from such systems. Further, according to BSEB, National Electricity Policy mandates that national tariff framework implementation should be sensitive to distance, direction and related to quantum of power flow. Accordingly, it has been prayed that the transmission charges for the inter-regional assets should be borne by the beneficiaries in Southern Region, using the transmission assets for evacuation of power from Eastern Region. In this regard, it is stated that the Commission vide its order dated 28.3.2008 in Petition No. 85/2007 (*suo motu*) has revised the approach for bearing of transmission charges for inter-regional transmission assets with effect from 1.4.2008. It has been decided that the transmission charges for certain inter-regional assets should be allocated to the constituents of the importing region. Accordingly, the transmission charges for Asset-II will be borne by the beneficiaries in Southern Region exclusively with effect from 1.4.2008, and by the beneficiaries in Eastern and Southern Region in 50:50 ratio for the period upto 31.3.2008. Transmission charges in respect of Asset-I shall be borne by the beneficiaries in Eastern Region since Asset-I is an intra-regional asset in Eastern Region. As regards transmission losses, these will be compensated in kind as per the existing practice.

41. The petitioner has sought approval for the reimbursement of expenditure of Rs.3,08,444/- 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

42. This order disposes of Petition No.103/2007 along with I.A. No. 37 /2007.

sd/-  
**(R.KRISHNAMOORTHY)**  
**MEMBER**  
 New Delhi dated the 19<sup>th</sup> May 2008

sd/-  
**(BHANU BHUSHAN)**  
**MEMBER**

**Annexure-I**

40% series compensation on Meramundali-Jeypore 400 kV S/C transmission line at Jeypore

<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>				
(Rs. in Lakh)				
	<b>Details of Loan</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
<b>1</b>	<b>Bond-XII</b>			
	Gross Loan opening	37.00	37.00	37.00
	Cumulative Repayment upto DOCO/previous year	3.08	6.16	9.24
	Net Loan-Opening	33.92	30.84	27.76
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	3.08	3.08	3.08
	Net Loan-Closing	30.84	27.76	24.68
	Average Loan	32.38	29.30	26.22
	Rate of Interest	9.70%	9.70%	9.70%
	Interest	3.14	2.84	2.54
	Repayment Schedule	12 Annual instalments from 28.3.2006		
<b>2</b>	<b>Bond-XIII Option-I</b>			
	Gross Loan opening	455.00	455.00	455.00
	Cumulative Repayment upto DOCO/previous year	37.92	37.92	75.84

	Net Loan-Opening	417.08	417.08	379.16
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	37.92	37.92
	Net Loan-Closing	417.08	379.16	341.24
	Average Loan	417.08	398.12	360.20
	Rate of Interest	8.63%	8.63%	8.63%
	Interest	35.99	34.36	31.09
	Repayment Schedule	12 Annual instalments from 31.7.2006		
<b>3</b>	<b>Bond-XV</b>			
	Gross Loan opening	184.00	184.00	184.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	15.33
	Net Loan-Opening	184.00	184.00	168.67
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	15.33	15.33
	Net Loan-Closing	184.00	168.67	153.34
	Average Loan	184.00	176.34	161.01
	Rate of Interest	6.68%	6.68%	6.68%
	Interest	12.29	11.78	10.76
	Repayment Schedule	12 Annual instalments from 23-2-2008		
<b>4</b>	<b>Bond- XVI</b>			
	Gross Loan opening	23.00	23.00	23.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	23.00	23.00	23.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	2.30
	Net Loan-Closing	23.00	23.00	20.70
	Average Loan	23.00	23.00	21.85
	Rate of Interest	7.10%	7.10%	7.10%
	Interest	1.63	1.63	1.55
	Repayment Schedule	10 Annual instalments from 18-2-2009		
<b>5</b>	<b>Bond- XVII</b>			
	Gross Loan opening	213.00	213.00	213.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	213.00	213.00	213.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	213.00	213.00	213.00
	Average Loan	213.00	213.00	213.00
	Rate of Interest	7.39%	7.39%	7.39%
	Interest	15.74	15.74	15.74
	Repayment Schedule	10 Annual Instalments from 22.9.2009		
<b>6</b>	<b>Bond- XVIII</b>			
	Gross Loan opening	183.00	183.00	183.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	183.00	183.00	183.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	183.00	183.00	183.00
	Average Loan	183.00	183.00	183.00
	Rate of Interest	8.15%	8.15%	8.15%
	Interest	14.91	14.91	14.91
	Repayment Schedule	12 annual inatalments from 9-0-2010		
<b>7</b>	<b>OBC</b>			
	Gross Loan opening	36.00	36.00	36.00
	Cumulative Repayment upto DOCO/previous year	6.00	9.00	12.00
	Net Loan-Opening	30.00	27.00	24.00
	Additions during the year	0.00	0.00	0.00

Repayment during the year	3.00	3.00	3.00
Net Loan-Closing	27.00	24.00	21.00
Average Loan	28.50	25.50	22.50
Rate of Interest	9.10%	9.10%	9.10%
Interest	2.59	2.32	2.05
Repayment Schedule	12 Annual Instalments from 22.3.2005		
<b>Total Loan</b>			
Gross Loan opening	1131.00	1131.00	1131.00
Cumulative Repayment upto DOCO/previous year	47.00	53.08	112.41
Net Loan-Opening	1084.00	1077.92	1018.59
Additions during the year	0.00	0.00	0.00
Repayment during the year	6.08	59.33	61.63
Net Loan-Closing	1077.92	1018.59	956.96
Average Loan	1080.96	1048.26	987.78
Rate of Interest	7.98%	7.97%	7.96%
<b>Interest</b>	86.31	83.59	78.64

## Annexure-II

50% Fixed Series Compensation on 400 kV Jeypore-Gazuwaka D/C transmission line at Jeypore

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN				
(Rs. in Lakh)				
	Details of Loan	2006-07	2007-08	2008-09
<b>1</b>	<b>Bond-XII</b>			
	Gross Loan opening	58.00	58.00	58.00
	Cumulative Repayment upto DOCO/previous year	4.83	9.66	14.49
	Net Loan-Opening	53.17	48.34	43.51
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	4.83	4.83	4.83
	Net Loan-Closing	48.34	43.51	38.68
	Average Loan	50.76	45.93	41.10
	Rate of Interest	9.70%	9.70%	9.70%
	Interest	4.92	4.45	3.99
	Repayment Schedule	12 Annual instalments from 28.3.2006		
<b>2</b>	<b>Bond-XIII Option-I</b>			
	Gross Loan opening	721.00	721.00	721.00
	Cumulative Repayment upto DOCO/previous year	60.08	60.08	120.16
	Net Loan-Opening	660.92	660.92	600.84
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	60.08	60.08
	Net Loan-Closing	660.92	600.84	540.76
	Average Loan	660.92	630.88	570.80

	Rate of Interest	8.63%	8.63%	8.63%
	Interest	57.04	54.44	49.26
	Repayment Schedule	12 Annual instalments from 31.07.2006		
<b>3</b>	<b>Bond-XV</b>			
	Gross Loan opening	291.00	291.00	291.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	24.25
	Net Loan-Opening	291.00	291.00	266.75
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	24.25	24.25
	Net Loan-Closing	291.00	266.75	242.50
	Average Loan	291.00	278.88	254.63
	Rate of Interest	6.68%	6.68%	6.68%
	Interest	19.44	18.63	17.01
	Repayment Schedule	12 Annual instalments from 23-2-2008		
<b>4</b>	<b>Bond- XVI</b>			
	Gross Loan opening	37.00	37.00	37.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	37.00	37.00	37.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	3.70
	Net Loan-Closing	37.00	37.00	33.30
	Average Loan	37.00	37.00	35.15
	Rate of Interest	7.10%	7.10%	7.10%
	Interest	2.63	2.63	2.50
	Repayment Schedule	10 Annual instalments from 18-2-2009		
<b>5</b>	<b>Bond- XVII</b>			
	Gross Loan opening	337.00	337.00	337.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	337.00	337.00	337.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	337.00	337.00	337.00
	Average Loan	337.00	337.00	337.00
	Rate of Interest	7.39%	7.39%	7.39%
	Interest	24.90	24.90	24.90
	Repayment Schedule	10 Annual Instalments from 22.9.2009		
<b>6</b>	<b>Bond- XVIII</b>			
	Gross Loan opening	288.00	288.00	288.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	288.00	288.00	288.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	288.00	288.00	288.00
	Average Loan	288.00	288.00	288.00
	Rate of Interest	8.15%	8.15%	8.15%
	Interest	23.47	23.47	23.47
	Repayment Schedule	12 annual inatalments from 9-3-2010		
<b>7</b>	<b>OBC</b>			
	Gross Loan opening	56.00	56.00	56.00
	Cumulative Repayment upto DOCO/previous year	9.33	14.00	18.67
	Net Loan-Opening	46.67	42.00	37.33
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	4.67	4.67	4.67
	Net Loan-Closing	42.00	37.33	32.66
	Average Loan	44.34	39.67	35.00
	Rate of Interest	9.10%	9.10%	9.10%
	Interest	4.03	3.61	3.18

Repayment Schedule	12 Annual Instalments from 22.03.2005		
<b>Total Loan</b>			
Gross Loan opening	1788.00	1788.00	1788.00
Cumulative Repayment upto DOCO/previous year	74.24	83.74	177.57
Net Loan-Opening	1713.76	1704.26	1610.43
Additions during the year	0.00	0.00	0.00
Repayment during the year	9.50	93.83	97.53
Net Loan-Closing	1704.26	1610.43	1512.90
Average Loan	1709.01	1657.35	1561.67
Rate of Interest	7.98%	7.97%	7.96%
<b>Interest</b>	136.44	132.14	124.31