

**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. 2/2009**

**In the matter of**

Determination of final transmission tariff for (i) 765 kV Sipat-Seoni transmission line, Ckt-I along with associated bays, 765/400 KV ICT-I at Seoni and LILO of 400 kV Bhilai-Satpura line along with bay equipment at Seoni, (ii) 400/220 kV ICT-I along with two 220 kV line bays at Seoni (New sub-station), (iii) Ckt II of 400 kV D/C Nagda- Dehgam line and (iv) Ckt I of 400 kV D/C Nagda-Dehgam line ( DOCO: 01.02.2008) under Sipat-I Transmission System in Western Region from date of commercial operation to 31.3.2009 and approval of additional capitalization up to 31.3.2008.

**And in the matter of**

Power Grid Corporation of India Limited, Gurgaon **..Petitioner**  
Vs

1. Madhya Pradesh Power Trading Company Ltd., Jabalpur
2. Maharashtra State Electricity Distribution Co. Ltd., Mumbai
3. Gujarat Urja Vikas Nigam Ltd., Vadodara
4. Electricity Deptt., Govt., of Goa, Panaji
5. Electricity Department, Administration of Daman and Diu, Daman
6. Electricity Department, Administration of Dadra Nagar Haveli, Silvassa
7. Chhattisgarh State Electricity Board, Raipur
8. Madhya Pradesh Audyogik Kandra, Indore **.....Respondents**

**The following were present:**

1. Shri U.K.Tyagi, PGCIL
2. Shri V.V.Sharma, PGCIL
3. Shri Prashant Sharma, PGCIL
4. Shri M.M.Mondal, PGCIL

**ORDER  
(DATE OF HEARING: 23.4.2009)**

This petition has been filed for approval of transmission charges for 765 kV Sipat-Seoni transmission line, Ckt-I along with associated bays (Asset-I), 400/220 kV ICT-I along with two 220 kV transmission line bays at Seoni (New sub-station) (Asset-II), Ckt II of 400 kV D/C Nagda- Dehgam transmission line (Asset-III), and Ckt-I of 400 kV D/C Nagda-Dehgam transmission line (Asset-IV) (collectively referred to "as the transmission assets") under

Sipat-I Transmission System (the transmission system) in Western 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 from date of commercial operation to 31.3.2008. The petitioner has also prayed for reimbursement from the beneficiaries of expenditure incurred towards publishing of notices in newspapers and the petition filing fee.

2. The investment approval for the transmission system was accorded by the Central Government in Ministry of Power vide letter dated 10.12.2003 at an estimated completion cost of Rs. 167298 lakh, including IDC of Rs. 12323 lakh at 4<sup>th</sup> quarter of 2002 price level. Subsequently, the approval for the revised cost estimate was accorded vide letter dated 5.3.2008 for Rs. 233114 lakh including IDC of Rs. 16072 lakh at 4<sup>th</sup> quarter of 2006 price level.

3. The provisional transmission charges for the transmission assets were awarded vide order dated 30.4.2008 in Petition No.23/2008 for Asset-I and Asset-II and vide order dated 11.09.2008 in Petition No. 70/2008 for Asset-III and Asset-IV.

4. The date of commercial operation of the transmission assets, details of their apportioned approved cost, the estimated completion cost, etc. are as under:

(Rs in lakh)

S.No.	Name of the Asset	Date of commercial operation	Apportioned approved cost (RCE)	Expenditure up to date of commercial operation	Expenditure from date of commercial operation 31.3.2008 to	Expenditure up to 31.3.2008	Balance estimated Expenditure	Estimated completion Cost
1.	Asset-I	1.11.2007	56770.79	50559.03	260.45	50819.48	3108.78	53928.26
2.	Asset-II	1.12.2007	2477.64	1905.80	246.39	2152.19	290.00	2442.19
3.	Asset-III	1.1.2008	30099.48	27042.53	617.02	27659.55	1678.35	29337.90
4.	Asset-IV	1.2.2008	9908.10	8947.76	70.46	9018.22	715.66	9733.88

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

(Rs. in lakh)

	Asset I		Asset II		Asset III		Asset IV	
	2007-08 ( Pro rata)	2008-09	2007-08 ( Pro rata)	2008-09	2007-08 ( Pro rata)	2008-09	2007-08 ( Pro rata)	2008-09
Depreciation	597.35	1437.43	24.35	77.02	180.82	731.34	41.15	247.88
Interest on Loan	1016.06	2376.05	46.38	142.72	398.60	1574.30	96.99	570.83
Return on Equity	887.11	2134.52	28.41	90.40	287.18	1161.67	62.89	378.83
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	81.69	196.86	4.18	13.01	27.67	111.40	6.82	41.07
O & M Expenses	103.47	258.57	42.17	131.60	36.94	153.96	24.63	153.96
<b>Total</b>	<b>2685.68</b>	<b>6403.43</b>	<b>145.49</b>	<b>454.75</b>	<b>931.21</b>	<b>3732.67</b>	<b>232.48</b>	<b>1392.57</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		Asset III		Asset IV	
	2007-08 ( Pro rata)	2008-09	2007-08 ( Pro rata)	2008-09	2007-08 ( Pro rata)	2008-09	2007-08 ( Pro rata)	2008-09
Maintenance Spares	505.59	518.23	19.06	19.44	270.43	274.48	89.48	90.37
O & M expenses	20.69	21.55	10.54	10.97	12.31	12.83	12.32	12.83
Receivables	1074.27	1067.24	72.75	75.79	620.81	622.11	232.48	232.10
<b>Total</b>	<b>1600.55</b>	<b>1607.02</b>	<b>102.35</b>	<b>106.20</b>	<b>903.55</b>	<b>909.42</b>	<b>334.28</b>	<b>335.30</b>
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%	12.25%	12.25%	12.25%
<b>Interest</b>	<b>81.69</b>	<b>196.86</b>	<b>4.18</b>	<b>13.01</b>	<b>27.67</b>	<b>111.40</b>	<b>6.82</b>	<b>41.07</b>

7. Reply to the petition has been filed by Madhya Pradesh Power Trading Corporation Ltd.(MPPTCL). 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 tariff after accounting for additional capitalization in respect of the transmission assets from the date of commercial operation of respective asset, up to 31.3.2008 as given in the table below para 4 above.

#### **ADDITIONAL CAPITALIZATION 2007-08**

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 for the transmission assets are given hereunder:

(Rs. in lakh)			
Sl. No.	Assets	Amount of additional capital expenditure from date of commercial operation to 31.3.2008	Justification
1	Asset-I	Building = RS. 52.59 lakh Transmission Line = Rs. 87.56 lakh Sub-station = Rs. 118.33 lakh PLCC = Rs. 1.96 lakh	Price variation, works completed but not billed etc.
	Total	<b>= Rs. 260.44 lakh</b>	
2	Asset-II	Building = Rs. 64.30 lakh Sub-station = Rs. 171.32 lakh PLCC = Rs. 10.77 lakh	Price variation, works completed but not billed etc.
	Total	<b>= Rs. 246.39 lakh</b>	
3.	Asset-III	Transmission Line = Rs. 588.06 lakh Sub-station = Rs. 28.96 lakh	Price variation, works completed but not billed etc.
	Total	<b>= Rs. 617.02 lakh</b>	
4.	Asset-IV	Transmission Line = Rs. 51.27 lakh Sub-station = Rs. 19.19 lakh	Price variation, works completed but not billed etc.
	Total	<b>= Rs. 70.46 lakh</b>	

12. It is seen that the certified additional capital expenditure incurred by the petitioner is within the original approved cost and within the cut-off date. The expenditure on balance payments is admissible as per clause (1) of regulation 53 of the 2004 regulations. Accordingly, we allow the additional capital expenditures claimed by the petitioner claimed.

### **Cost over-run**

13. MPPTCL in its reply has pointed out that the percentage variation of the cost of various items under Asset-I is very high ranging from 25% for insulators to 513% for bus bar conductor and insulator. Similarly, the enhancement of several items in the other three assets is considerably high, it has been contended. This objection is being examined. We do not find any force in the objection. The petitioner has claimed tariff based on the revised cost estimate approved vide letter dated 5.3.2008 and in that context there is no cost over-run.

### **Time Over-run**

14. As regards the delay ranging from 8 to 11 months in commissioning of the transmission assets with respect to scheduled commissioning (i.e. 1.3.2007) as per original

investment approval, the representative of the petitioner explained the reasons for the delay during the hearing. The reasons given by the representative of petitioner as recorded in the Commission's record of proceedings dated 23.4.2009 sufficiently absolve the petitioner of its responsibility in delay in commissioning.

15. In addition to the above, it has been brought to our notice that during execution, certain portions of Sipat-Seoni transmission line were found in forest land which in the initial forest clearance proposals was non-forest land. Hence, based on advice of Forest Department, the proposal had to be corrected. The forest clearance was finally accorded by the competent authority on 12.2.2007 for Asset-I. Due to above, the construction activities considerably slowed. It has been further explained that as per, original scheme, 400 kV D/C Nagda–Dehgam transmission line (Asset-III) was envisaged to be executed through IPTC route. However, in view of difficulty in execution of the same through IPTC , as per the provision kept in the original approval for non–materialization of execution through IPTC, after lot of deliberations this transmission line was taken up for execution by the petitioner. In this process the contract for the transmission line packages could only be awarded after two years of the investment approval causing delay in the execution of the project. In the revised cost estimate, it was confirmed that 400 kV Nagda-Dehgam D/C transmission line could not be executed through IPTC route and the same was being executed by the petitioner. However, there was no time over-run as per revised approval (RCE), as the revised implementation schedule was March, 2008.

### **Cost Variation**

16. It is noticed that there was considerable variation of cost between feasibility report (FR) and the cost as on the date of commercial operation. The petitioner has attributed 33% of cost variation to price variation. There was considerable variation of price between that considered in the feasibility study and the commissioning of the project for various input items such as tower steel which was 101.59 % , Zinc 326% , WPI 24% , WPI for iron and

steel 76% , CPI 21% etc. Accordingly, the petitioner was directed to furnish the following information/clarification:

(a) Price variation formula being used, giving details of raw materials/commodities used in WPI & CPI computation, basis of price escalation in the EPC contracts of different packages of transmission lines and sub-stations against the scope of work involved in different packages, and

(b) Comparison of price variation formula with the formula developed by the other organizations such as Nuclear Power Corporation.

17. The petitioner vide its affidavit dated 12.5.2009 has filed the price variation formula and the applicable indices being used by it. As regards comparison with the formula developed by Nuclear Power Corporation, the petitioner has submitted that it does not have access to the formula used by Nuclear Power Corporation. The petitioner has also added that the price variation formula being used by it takes into account the composition of the transmission system equipment (both lines and sub-stations) as well as the typicality of erection work. The petitioner has further submitted that it found that the price variation formulae had served the purpose well for the transmission system construction based on their experience. However, the petitioner is taking into account the suggestion of industry/organization representing the industry to take care of changing realities in the price variation formulae. The price variation formulae submitted by the petitioner have been found reasonable and the explanation given by the petitioner has been found generally in order.

18. In view of the above, we accept the cost variation as on date of commercial operation as compared to feasibility report cost.

## **TOTAL CAPITAL COST**

19. 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)

Name of assets	Capital expenditure up to date of commercial operation	Additional capital expenditure up to 31.3.2008	Total capital expenditure up to 31.3.2008
<b>Asset-I</b>			
Land	166.90	-	166.90
Building & Civil Works	772.67	52.59	825.26
Sub-station	12997.03	118.33	13115.36
Transmission line	36422.59	87.56	36510.15
PLCC	199.84	1.96	201.80
<b>Total</b>	<b>50559.03</b>	<b>260.44</b>	<b>50819.47</b>
<b>Asset-II</b>			
Land	-	-	-
Building & Civil Works	-	64.30	64.30
Sub-station	1887.26	171.32	2058.58
Transmission line	-	-	-
PLCC	18.54	10.77	29.31
<b>Total</b>	<b>1905.80</b>	<b>246.39</b>	<b>2152.19</b>
<b>Asset-III</b>			
Land	-	-	-
Building & Civil Works	28.28	-	28.28
Sub-station	1878.25	28.96	1907.21
Transmission line	25105.01	588.06	25693.07
PLCC	30.99	-	30.99
<b>Total</b>	<b>27042.53</b>	<b>617.02</b>	<b>27659.55</b>
<b>Asset-IV</b>			
Land	-	-	-
Building & Civil Works	-	-	-
Sub-station	1477.52	19.19	1496.71
Transmission line	7449.96	51.27	7501.23
PLCC	20.28	-	20.28
<b>Total</b>	<b>8947.76</b>	<b>70.46</b>	<b>9018.22</b>

20. In the above calculations, balance estimated expenditure after 31.3.2008 has not been considered for tariff purpose.

## **DEBT- EQUITY RATIO**

21. Clause (2) of Regulation 54 of the 2004 regulations *inter alia* provides that,-

“2) In case of the transmission system for which investment approval was accorded prior to 1.4.2004 and which is likely to be declared under commercial operation during the period 1.4.2004 to 31.3.2009, debt-equity in the ratio of 70:30 shall be considered:



Provided that where deployment of equity is less than 30%, the actual equity deployed shall be considered for the purpose of determination of tariff.

Provided further that the Commission may in appropriate case consider equity higher than 30% for the purpose of determination of tariff, where the transmission licensee is able to establish to the satisfaction of the Commission that deployment of equity more than 30% was in the interest of general public;"

22. 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.

23. The petitioner has considered debt-equity ratio of 70:30 for Asset-I, Asset-II, Asset-III and Asset-IV respectively, 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 for each transmission asset. In our calculations, debt-equity ratio of 70:30 has been considered as on the date of commercial operation and for also the additional capital expenditure approved in accordance with the 2004 regulations. Accordingly, for the purpose of tariff, equity considered for the transmission assets is as under:

(Rs. in lakh)

Asset	Equity on the date of commercial operation	Notional additional equity due to additional capital expenditure for the period 2007-08	Average equity for the year 2007-08	Equity as on 1.4.2008
Asset-I	15168.47	78.13	15207.54	15246.60
Asset-II	571.80	73.92	608.76	645.72
Asset-III	8112.53	185.11	8205.08	8297.64
Asset-IV	2684.33	21.14	2694.90	2705.47

### **RETURN ON EQUITY**

24. 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.

25. Equity has been considered as on the date of commercial operation and as on 1.4.2007 onwards as given in the table in para 23 above. However, tariff for the period from date of commercial operation to 31.3.2008 has been allowed on average equity. Accordingly, the petitioner shall be entitled to return on equity as under:

(Rs. in lakh)

Name of the asset	Return on equity	
	2007-08 ( Pro rata)	2008-09
Asset-I	887.11	2134.52
Asset-II	28.41	90.40
Asset-III	287.18	1161.67
Asset-IV	62.88	378.77

### **INTEREST ON LOAN**

26. 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.”

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

(a) Gross amount of loan, Gross amount of loan, repayment of installments and rate of interest as per the petition is used to work out weighted average rate of interest on actual loan.

(b) Notional loan arising out of additional capitalisation for 2007-08 has been added in loan amount as on date of commercial operation to arrive at total Notional loan. This adjusted Gross loan is considered as normative loan for tariff calculations.

(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) Moratorium in repayment of loan is considered with reference to normative loan and if the normative repayment of loan during the year is less than the depreciation including Advance Against Depreciation during the year, then depreciation including Advance Against Depreciation during the year is deemed as normative repayment of loan during the year.

(e) Weighted average rate of interest on actual loan worked out as per (a) above is applied on the notional average loan during the year to arrive at the interest on loan.

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

(Rs. in lakh)

	Asset I		Asset II		Asset III		Asset IV	
	2007-08 (Pro rata)	2008-09	2007-08 (Pro rata)	2008-09	2007-08 (Pro rata)	2008-09	2007-08 (Pro rata)	2008-09
Opening Gross Loan	35390.56	35572.87	1334.00	1506.47	18930.00	19361.91	6263.43	6312.75
Cumulative Repayment up to date of commercial operation/Previous Year	1141.30	1738.65	9.17	33.52	0.00	180.82	0.00	41.15
Net Loan-Opening	34249.26	33834.22	1324.83	1472.96	18930.00	19181.10	6263.43	6271.61
Additions including additions due to Additional Capital expenditure	182.31	-	172.47	-	431.91	-	49.32	-
Repayment during the year	597.35	1437.43	24.35	77.02	180.82	731.34	41.15	247.88
Net Loan-Closing	33834.22	32396.79	1472.96	1395.93	19181.10	18449.76	6271.61	6023.73
Average Loan	34041.74	33115.51	1398.89	1434.44	19055.55	18815.43	6267.52	6147.67
Weighted Average Rate of Interest on Loan	7.16%	7.18%	9.95%	9.95%	8.37%	8.37%	9.29%	9.29%
Interest	<b>1016.06</b>	<b>2376.05</b>	<b>46.38</b>	<b>142.72</b>	<b>398.60</b>	<b>1574.30</b>	<b>97.00</b>	<b>570.87</b>

29. The detailed calculations in support of the weighted average rate of interest are contained in Annexure-I to IV attached.

### **DEPRECIATION**

30. 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.

31. Depreciation allowed has been worked out as below:

(Rs. in lakh)

	Asset I		Asset II		Asset III		Asset IV	
	2007-08 ( Pro rata)	2008-09	2007-08 ( Pro rata)	2008-09	2007-08 ( Pro rata)	2008-09	2007-08 ( Pro rata)	2008-09
Gross block as on the date of commercial operation	50559.03	50819.47	1905.80	2152.19	2704.53	27659.55	8947.76	9018.22
Additional Capitalization during 2007-08	260.44	-	246.39	-	617.02	-	70.46	-
Gross Block at the end of the year	50819.47	50819.47	2152.19	2152.19	27659.55	27659.55	9018.22	9018.22
Rate of Depreciation	2.8283%	2.8285%	3.5998%	3.5789%	2.6444%	2.6441%	2.7483%	2.7487%
Depreciable Value	45470.11	45587.31	1826.10	1936.97	24615.94	24893.60	8084.69	8116.40
Balance Useful life of the asset	-	-	-	-	-	-	-	-
Remaining Depreciable Value	45470.11	44989.96	1826.10	1912.62	24615.94	24712.78	8084.69	8075.25
Depreciation	<b>597.35</b>	<b>1437.43</b>	<b>24.35</b>	<b>77.02</b>	<b>180.82</b>	<b>731.34</b>	<b>41.15</b>	<b>247.88</b>

### **ADVANCE AGAINST DEPRECIATION**

32. 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.

33. 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.

34. The petitioner has not claimed Advance Against Depreciation and therefore, Advance Against Depreciation has not been considered.

## **OPERATION & MAINTENANCE EXPENSES**

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

	2007-08	2008-09
O&M expenses (Rs. In lakh per ckt-km)	0.255	0.266
O&M expenses (Rs. In lakh per bay)	31.63	32.9

36. The petitioner has claimed O & M expenses for 353.634 ckt km line length and 5 bays for Asset-I, 4 bays for Asset-II, 331.442 ckt line length and 2 bays for Asset-III and 331.442 ckt km line length and 2 bays for Asset-IV, which have been allowed. Accordingly, the petitioner's entitlement to O & M expenses has been worked out as given hereunder:

	(Rs. in lakh)	
	2007-08 (Pro rata)	2008-09
<b>Asset-I</b>		
Allowable O&M for 353.634 ckt km line length	37.57	94.07
Allowable O&M for 5 Nos bays	65.90	164.50
Total	<b>103.47</b>	<b>258.57</b>
<b>Asset-II</b>		
Allowable O&M for 0 ckt km line length	0	0
Allowable O&M for 4 Nos bays	42.17	131.60
Total	<b>42.17</b>	<b>131.60</b>
<b>Asset-III</b>		
Allowable O&M for 331.442 ckt km line length	21.13	88.16
Allowable O&M for 2 Nos bays	15.81	65.80
Total	<b>36.94</b>	<b>153.96</b>
<b>Asset-IV</b>		
Allowable O&M for 331.442 ckt km line length	14.09	88.16
Allowable O&M for 2 Nos bays	10.54	65.80
Total	<b>24.63</b>	<b>153.96</b>

37. 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**

38. 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. Value of maintenance spares has been worked out in this manner for all the assets. In this manner, the value of maintenance spares works out to Rs. 505.59 lakh and Rs. 19.06 lakh, Rs. 270.43 lakh and Rs. 89.48 lakh for Asset-I, Asset-II Asset-III and Asset-IV respectively as on date of commercial operation. The necessary details are given hereunder:

Transmission assets	Date of the commercial operation	Capital Expenditure (Rs. in lakh) on the date of commercial operation	Cost of maintenance spares as on 1.4.2008 the date of commercial operation (Rs. in lakh)
Asset- I	1.11.2007	50559.03	505.59
Asset-II	1.12.2007	1905.80	19.06
Asset-III	1.1.2008	27042.53	270.43
Asset-IV	1.2.2008	8947.76	89.48

### **(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 @ 12.25% based on SBI PLR as on 1.4.2007, which is in accordance with the 2004 regulation and has been allowed.

39. 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	
	2007-08 ( Pro rata)	2008-09	2007-08 ( Pro rata)	2008-09	2007-08 ( Pro rata)	2008-09	2007-08 ( Pro rata)	2008-09
Maintenance Spares	505.59	518.23	19.06	19.44	270.43	274.48	89.48	90.37
O & M expenses	20.69	21.55	10.54	10.97	12.31	12.83	12.31	12.83
Receivables	1074.27	1067.24	72.75	75.79	620.80	622.11	232.48	232.09
Total	1600.56	1607.02	102.35	106.20	903.54	909.42	334.27	335.29
Rate of interest	12.25%	12.25%	12.25%	12.25%	12.25%	12.25%	12.25%	12.25%
Interest	<b>81.70</b>	<b>196.86</b>	<b>4.18</b>	<b>13.01</b>	<b>27.67</b>	<b>111.40</b>	<b>6.82</b>	<b>41.07</b>



## **TRANSMISSION CHARGES**

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

(Rs. in lakh)

	Asset I		Asset II		Asset III		Asset IV	
	2007-08 ( Pro rata)	2008-09	2007-08 ( Pro rata)	2008-09	2007-08 ( Pro rata)	2008-09	2007-08 ( Pro rata)	2008-09
Depreciation	597.35	1437.43	24.35	77.02	180.82	731.34	41.15	247.88
Interest on Loan	1016.06	2376.05	46.38	142.72	398.60	1574.30	97.00	570.87
Return on Equity	887.11	2134.52	28.41	90.40	287.18	1161.67	62.88	378.77
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	81.70	196.86	4.18	13.01	27.67	111.40	6.82	41.07
O & M Expenses	103.47	258.57	42.17	131.60	36.94	153.96	24.63	153.96
<b>Total</b>	<b>2685.68</b>	<b>6403.43</b>	<b>145.49</b>	<b>454.75</b>	<b>931.20</b>	<b>3732.67</b>	<b>232.48</b>	<b>1392.55</b>

41. The petitioner is already being paid the transmission charges for the transmission assets on provisional basis in terms of orders dated 30.4.2008 and 11.9.2008. The transmission charges already recovered shall be adjusted against the final transmission charges approved now.

42. 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.

43. The petitioner has sought approval for the reimbursement of expenditure of Rs. 1,97,100/= 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 (suo-motu) has decided that the petitioner shall not be allowed reimbursement of the petition filing fee.

44. This order disposes of Petition No. 2/2009.

**Sd/-**  
**(V.S.VERMA)**  
**MEMBER**

**sd/-**  
**(S.JAYARAMAN)**  
**MEMBER**

**sd/-**  
**(R.KRISHNAMOORTHY)**  
**MEMBER**

**sd/-**  
**(DR.PRAMOD DEO)**  
**CHAIRPERSON**

**New Delhi dated the 22<sup>nd</sup> July 2009**

**Annexure-I**  
**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN**

<b>ASSET- I</b>			
			(Rs. in lakh)
	<b>Details of Loan</b>	<b>2007-08</b>	<b>2008-09</b>
<b>1</b>	<b>Bond-XIII- Option-I</b>		
	Gross Loan opening	95.00	95.00
	Cumulative Repayment up to date of commercial operation/previous year	15.83	15.83
	Net Loan-Opening	79.17	79.17
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	7.92
	Net Loan-Closing	79.17	71.25
	Average Loan	79.17	75.21
	Rate of Interest	8.63%	8.63%
	Interest	6.83	6.49
	Repayment Schedule	12 Annual installments from 31.7.2006	
<b>2</b>	<b>Bond-XXII</b>		
	Gross Loan opening	300.00	300.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	300.00	300.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	300.00	300.00
	Average Loan	300.00	300.00
	Rate of Interest	8.68%	8.68%
	Interest	26.04	26.04
	Repayment Schedule	12 Annual installments from 7.12.2010	
<b>3</b>	<b>Bond-XXIII</b>		
	Gross Loan opening	600.00	600.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	600.00	600.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	600.00	600.00
	Average Loan	600.00	600.00
	Rate of Interest	9.25%	9.25%
	Interest	55.50	55.50
	Repayment Schedule	12 Annual installments from 9.2.2011	
<b>4</b>	<b>Bond-XXIV</b>		
	Gross Loan opening	1500.00	1500.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	1500.00	1500.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00

	Net Loan-Closing	1500.00	1500.00
	Average Loan	1500.00	1500.00
	Rate of Interest	9.95%	9.95%
	Interest	149.25	149.25
	Repayment Schedule	12 Annual installments from 26.3.2011	
<b>5</b>	<b>Bond- XXV</b>		
	Gross Loan opening	2536.00	2536.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	2536.00	2536.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	2536.00	2536.00
	Average Loan	2536.00	2536.00
	Rate of Interest	10.10%	10.10%
	Interest	256.14	256.14
	Repayment Schedule	12 Annual installments from 12.6.2011	
<b>6</b>	<b>ADB-II LB (USD 765.11 LAKH @ Rs. 39.68/USD)</b>		
	Gross Loan opening	30359.56	30359.56
	Cumulative Repayment up to date of commercial operation /previous year	1125.47	1659.51
	Net Loan-Opening	29234.09	28700.05
	Additions during the year	0.00	0.00
	Repayment during the year	534.04	1150.95
	Net Loan-Closing	28700.05	27549.10
	Average Loan	28967.07	28124.58
	Rate of Interest	6.69909%	6.69909%
	Interest	1940.53	1884.09
	Repayment Schedule	Repaid Semi annually from 15.6.2006	
	<b>Total Loan</b>		
	Gross Loan opening	35390.56	35390.56
	Cumulative Repayment up to date of commercial operation	1141.30	1675.34
	Net Loan-Opening	34249.26	33715.22
	Additions during the year	0.00	0.00
	Repayment during the year	534.04	1158.87
	Net Loan-Closing	33715.22	32556.35
	Average Loan	33982.24	33135.79
	Rate of Interest	7.16%	7.18%
	<b>Interest</b>	2434.29	2377.51

## Annexure II

<b>ASSET- II</b>			
		(Rs. in lakh)	
	<b>Details of Loan</b>	<b>2007-08</b>	<b>2008-09</b>
<b>1</b>	<b>Bond-XIII</b>		
	Gross Loan opening	55.00	55.00
	Cumulative Repayment up to date of commercial operation /previous year	9.17	9.17
	Net Loan-Opening	45.83	45.83
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	4.58
	Net Loan-Closing	45.83	41.25
	Average Loan	45.83	43.54
	Rate of Interest	8.63%	8.63%
	Interest	3.96	3.76
	Repayment Schedule	12 Annual installments from 31.7.2006	
<b>2</b>	<b>Bond-XXIV</b>		
	Gross Loan opening	900.00	900.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	900.00	900.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	900.00	900.00
	Average Loan	900.00	900.00
	Rate of Interest	9.95%	9.95%
	Interest	89.55	89.55
	Repayment Schedule	12 Annual installments from 26.3.2011	
<b>3</b>	<b>Bond- XXV</b>		
	Gross Loan opening	379.00	379.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	379.00	379.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	379.00	379.00
	Average Loan	379.00	379.00
	Rate of Interest	10.10%	10.10%
	Interest	38.28	38.28
	Repayment Schedule	12 Annual installments from 12.6.2011	
	<b>Total Loan</b>		
	Gross Loan opening	1334.00	1334.00
	Cumulative Repayment up to date of commercial operation	9.17	9.17
	Net Loan-Opening	1324.83	1324.83
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	4.58
	Net Loan-Closing	1324.83	1320.25
	Average Loan	1324.83	1322.54
	Rate of Interest	9.95%	9.95%
	<b>Interest</b>	<b>131.78</b>	<b>131.59</b>

<b>ASSET- III</b>			
		(Rs. in lakh)	
	<b>Details of Loan</b>	<b>2007-08</b>	<b>2008-09</b>
<b>1</b>	<b>Bond-XVII</b>		
	Gross Loan opening	8300.00	8300.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	8300.00	8300.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	8300.00	8300.00
	Average Loan	8300.00	8300.00
	Rate of Interest	7.39%	7.39%
	Interest	613.37	613.37
	Repayment Schedule	10 Annual installments from 22.9.2009	
<b>2</b>	<b>Bond-XVIII</b>		
	Gross Loan opening	3800.00	3800.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	3800.00	3800.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	3800.00	3800.00
	Average Loan	3800.00	3800.00
	Rate of Interest	8.15%	8.15%
	Interest	309.70	309.70
	Repayment Schedule	12 Annual installments from 09.3.2010	
<b>3</b>	<b>Bond-XIX</b>		
	Gross Loan opening	1000.00	1000.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	1000.00	1000.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	1000.00	1000.00
	Average Loan	1000.00	1000.00
	Rate of Interest	9.25%	9.25%
	Interest	92.50	92.50
	Repayment Schedule	12 Annual installments from 24.7.2010	
<b>4</b>	<b>Bond-XX</b>		
	Gross Loan opening	1000.00	1000.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	1000.00	1000.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	1000.00	1000.00
	Average Loan	1000.00	1000.00

	Rate of Interest	8.93%	8.93%
	Interest	89.30	89.30
	Repayment Schedule	12 Annual installments from 7.9.2010	
<b>5</b>	<b>Bond-XXI</b>		
	Gross Loan opening	100.00	100.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	100.00	100.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	100.00	100.00
	Average Loan	100.00	100.00
	Rate of Interest	8.73%	8.73%
	Interest	8.73	8.73
	Repayment Schedule	12 Annual installments from 11.10.2010	
<b>6</b>	<b>Bond-XXII</b>		
	Gross Loan opening	100.00	100.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	100.00	100.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	100.00	100.00
	Average Loan	100.00	100.00
	Rate of Interest	8.68%	8.68%
	Interest	8.68	8.68
	Repayment Schedule	12 Annual installments from 7.12.2010	
<b>7</b>	<b>Bond-XXIII</b>		
	Gross Loan opening	700.00	700.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	700.00	700.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	700.00	700.00
	Average Loan	700.00	700.00
	Rate of Interest	9.25%	9.25%
	Interest	64.75	64.75
	Repayment Schedule	12 Annual installments from 9.2.2011	
<b>8</b>	<b>Bond-XXIV</b>		
	Gross Loan opening	52.00	52.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	52.00	52.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	52.00	52.00
	Average Loan	52.00	52.00
	Rate of Interest	9.95%	9.95%
	Interest	5.17	5.17
	Repayment Schedule	12 Annual installments from 26.3.2011	

<b>9</b>	<b>Bond-XXV</b>		
	Gross Loan opening	3878.00	3878.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	3878.00	3878.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	3878.00	3878.00
	Average Loan	3878.00	3878.00
	Rate of Interest	10.10%	10.10%
	Interest	391.68	391.68
	Repayment Schedule	12 Annual installments from 12.6.2011	
	<b>Total Loan</b>		
	Gross Loan opening	18930.00	18930.00
	Cumulative Repayment	0.00	0.00
	Net Loan-Opening	18930.00	18930.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	18930.00	18930.00
	Average Loan	18930.00	18930.00
	Rate of Interest	8.37%	8.37%
	<b>Interest</b>	1583.88	1583.88

<b>ASSET- IV</b>			
(Rs. in lakh)			
	<b>Details of Loan</b>	<b>2007-08</b>	<b>2008-09</b>
<b>1</b>	<b>Bond-XIX</b>		
	Gross Loan opening	150.00	150.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	150.00	150.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	150.00	150.00
	Average Loan	150.00	150.00
	Rate of Interest	9.25%	9.25%
	Interest	13.88	13.88
	Repayment Schedule	12 Annual installments from 24.7.2010	
<b>2</b>	<b>Bond-XX</b>		
	Gross Loan opening	330.00	330.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	330.00	330.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	330.00	330.00
	Average Loan	330.00	330.00
	Rate of Interest	8.93%	8.93%
	Interest	29.47	29.47
	Repayment Schedule	12 Annual installments from 7.9.2010	
<b>3</b>	<b>Bond-XXI</b>		
	Gross Loan opening	2000.00	2000.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	2000.00	2000.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	2000.00	2000.00
	Average Loan	2000.00	2000.00
	Rate of Interest	8.73%	8.73%
	Interest	174.60	174.60
	Repayment Schedule	12 Annual installments from 11.10.2010	
<b>4</b>	<b>Bond-XXII</b>		
	Gross Loan opening	1000.00	1000.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	1000.00	1000.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	1000.00	1000.00
	Average Loan	1000.00	1000.00
	Rate of Interest	8.68%	8.68%
	Interest	86.80	86.80



	Repayment Schedule	12 Annual installments from 7.12.2010	
<b>5</b>	<b>Bond-XXIII</b>		
	Gross Loan opening	500.00	500.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	500.00	500.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	500.00	500.00
	Average Loan	500.00	500.00
	Rate of Interest	9.25%	9.25%
	Interest	46.25	46.25
	Repayment Schedule	12 Annual installments from 9.2.2011	
<b>6</b>	<b>Bond-XXV</b>		
	Gross Loan opening	2283.00	2283.00
	Cumulative Repayment up to date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	2283.00	2283.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	2283.00	2283.00
	Average Loan	2283.00	2283.00
	Rate of Interest	10.10%	10.10%
	Interest	230.58	230.58
	Repayment Schedule	12 Annual installments from 12.6.2011	
	<b>Total Loan</b>		
	Gross Loan opening	6263.00	6263.00
	Cumulative Repayment up to date of commercial operation	0.00	0.00
	Net Loan-Opening	6263.00	6263.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	6263.00	6263.00
	Average Loan	6263.00	6263.00
	Rate of Interest	9.2859%	9.2859%
	<b>Interest</b>	<b>581.58</b>	<b>581.58</b>