

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Coram:**

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

**Petition No. 83/2006**

**In the matter of**

Determination of transmission tariff for ATS of Loktak HEP in North Eastern Region for the period from 1.4.2004 to 31.3.2009.

**And in the matter of**

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

1. Assam State Electricity Board, Guwahati
2. Meghalaya State Electricity Board, Shillong
3. Government of Arunachal Pradesh, Secretary and Commissioner (Power) Itanagar
4. Power and Electricity Department, Govt. of Mizoram, Aizawl
5. Principal Secretary (Power), Electricity Dept., Govt. of Manipur, Imphal
6. Department of Power, Govt. of Nagaland, Kohima
7. Tripura State Electricity Corporation Ltd., Agartala      **.Respondents**

**The following were present:**

1. Shri P.C.Pankaj, PGCIL
2. Shri U.K. Tyagi, PGCIL
3. Shri T.C.Sharma, PGCIL
4. Shri M.M.Mondal, PGCIL
5. Shri C.Kannan, PGCIL
6. Shri S.S.Raju, PGCIL
7. Shri Umesh Chandra, PGCIL
8. Shri Harmeet Singh, PGCIL
9. Shri B.P.Singh, PGCIL
10. Shri W.Rehman, PGCIL
11. Shri A.K.Das, PGCIL
12. Shri Utpal Sharma, PGCIL
13. Shri Mithilesh Kumar, PGCIL
14. Shri Anup Gan Choudhery, TSECL
15. Shri M.Debberma, TSECL
16. Shri L.Priyokumar, Electricity Deptt., Govt. of Manipur
17. Ms. Seema Sharma, Advocate, Consumer
18. Shri Hemanta Sharma, Consumer
19. Shri Rakesh, BSEB
20. Shri K.N. War, MeSEB
21. Shri S.S.Kharmih, MeSEB
22. Shri P.K.Hazarika, ASEB
23. Shri K.Goswami, ASEB
24. Shri H.C.Phukan, ASEB

**ORDER**  
**(DATE OF HEARING: 1.8.2007)**

The petition has been filed for approval of tariff for ATS of Loktak HEP Transmission System (the transmission system) in North Eastern Region for the period from 1.4.2004 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 of Rs.12.60 lakh on works during 1992-2004 and de-capitalization of Rs. 0.51 lakh during 2004-05. The petitioner has also prayed for the reimbursement of expenditure from the beneficiaries incurred towards publishing notices in the newspapers and the petition filing fee.

2. The transmission system declared under commercial operation by National Hydroelectric Power Corporation (NHPC) prior to 1.4.1992 was taken over by the petitioner from NHPC. The petitioner has not placed on record various documents relating to the transmission system. It has been stated that since the required documents are quite old it seems that these are not traceable by NHPC.

3. The petitioner has claimed the transmission charges as under based on capital expenditure up to 31.3.2005:

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	18.93	18.93	18.93	18.93	18.93
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	59.56	59.55	59.55	59.55	59.55
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	5.14	5.33	5.53	5.73	5.95
O & M Expenses	77.47	80.57	83.79	87.14	90.63
<b>Total</b>	<b>161.10</b>	<b>164.37</b>	<b>167.79</b>	<b>171.34</b>	<b>175.05</b>

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

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
O & M expenses	6.46	6.71	6.98	7.26	7.55
Maintenance Spares	16.87	17.89	18.96	20.10	21.30
Receivables	20.85	27.39	27.96	28.56	29.17
Total	50.18	51.99	53.91	55.92	58.03
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
<b>Interest</b>	<b>5.14</b>	<b>5.33</b>	<b>5.53</b>	<b>5.73</b>	<b>5.95</b>

5. The reply to the petition has been filed by Tripura State Electricity Corporation Limited and Assam State Electricity Board. Ms. Mallika Sharma Bazbaruah, the consumer has filed her response to the public notice published by the petitioner under Section 64 of the Electricity Act, 2003. TSECL in its reply has requested to determine the capital cost, depreciation, return on equity, O&M expenses and additional capitalization after prudent check as per the 2004 regulations.

6. The tariff is being determined from 1.4.2007 for the reasons recorded in the order dated 16.1.2008 in Petition No. 85/2006.

### **CAPITAL COST**

7. 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.

8. The petitioner has considered the capital expenditure of Rs.850.65 lakh after accounting for additional capitalization of Rs. 12.60 lakh and decapitalization of Rs. 0.51 lakh on works for the period from 1.4.1992 to 31.3.2004 and 1.4.2004 to 31.3.2005 respectively over the gross block of Rs. 838.56 lakh as on 1.4.1992. The petitioner has not claimed additional capitalization on account of FERV as there are no foreign loans.

**Additional capitalization**

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

Year	Amount (Rs. in lakh)	Head of expenditure
1992-93	(-)1.08	Sub station = Rs. 1.08 lakh ( Office equipments written off)
2002-03	13.68	Transmission line = Rs. 14.35 lakh (Balance payments of compensatory afforestation) Sub-station = Rs. (-) 0.67 lakh (Office/Guest house equipment written off)
Total	12.60	
2004 -05	(-)0.51	Sub-station = Rs. (-) 0.51 lakh (Vehicle scrapped)
<b>Grand total</b>	<b>12.09</b>	

10. The claim of additional capitalization of Rs. 12.60 lakh for the period from 1.4.1992 to 31.3.2004 is within the original scope of work and is found to be in order. Also, de-capitalization of Rs. 0.51 lakh during 2004-05 is found to be in order.

**TOTAL CAPITAL COST**

11. Against the above background, gross block of Rs. 850.65 lakh as on 1.4.2005 as claimed by the petitioner has been worked out and has been considered for the purpose of tariff as on 1.4.2007 after accounting for additional capitalisation of Rs. 12.60 lakh for the period 1.4.1992 to 31.3.2004 and decapitalization of Rs. 0.51 lakh for the period 1.4.2004 to 31.3.2005.

## **DEBT- EQUITY RATIO**

12. 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 considered 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.”

13. 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.

14. The petitioner has considered debt-equity ratio of 50:50 as on 1.4.1992. The petitioner has further claimed tariff after accounting for the additional capital expenditure of Rs. 12.60 lakh for the period 1992 to 2004 towards equity. We have considered the debt-equity ratio of 50:50 as on 1.4.1992. The additional capitalisation of Rs. 12.60 lakh for the period 1992-2004 has been segregated into debt and equity in the ratio of 50:50. The amount of Rs. 0.51 lakh de-capitalised

during 2004-05 has been segregated into debt and equity in the normative ratio of 70:30, as provided in Note 1 below Regulations 53. All this leads to over all debt-equity ratio of 49.99:50.01. Accordingly, for the purpose of tariff, an amount of Rs. 425.43 lakh has been considered as equity as on 1.4.2005 and consequently as on 1.4.2007.

### **RETURN ON EQUITY**

15. 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.

16. The petitioner has claimed return on equity of Rs. 425.45 lakh as on 1.4.2005 after accounting for equity corresponding to Rs. 12.60 lakh on account of additional capitalization on works for the period 1.4.1992 to 31.3.2004 and decapitalization of Rs. 0.51 lakh for the period 2004-05. For the reasons recorded in para 14 above equity of Rs. 425.43 lakh has been considered for the period 2007-09. Accordingly, the petitioner shall be entitled to return on equity of Rs. 59.56 lakh each year during the tariff period.

### **INTEREST ON LOAN**

17. 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.”

18. The petitioner has not claimed interest on loan, since according to it entire loan was re-paid prior to 1.4.2004.

19. Accordingly, in our calculation, the interest on loan has not been considered.

### **DEPRECIATION**

20. 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.

21. Since the entire loan has been re-paid prior to 1.4.2007, the remaining depreciable value has been spread over the balance useful life of the transmission system.

22. For the period 1.4.2007 to 31.3.2009 the depreciation works out to Rs. 18.93 lakh each year by applying rate of depreciation of 2.556%.

		(Rs. in lakh)	
<b>Details of Depreciation</b>		<b>2007-08</b>	<b>2008-09</b>
Recovered up to 31.3.2007	457.39		
Gross Block as on 1.4.2007		850.65	850.65
Rate of Depreciation	2.556%		
Depreciable Value		760.22	760.22
Balance Useful life of the asset		16	15
Remaining Depreciable Value		302.83	283.90
<b>Depreciation</b>		<b>18.93</b>	<b>18.93</b>



### **ADVANCE AGAINST DEPRECIATION**

23. Advance Against Depreciation is permissible only if loan repayment in a year exceeds the depreciation, and the cumulative repayment up to a particular year exceeds the cumulative depreciation up to that year. Since there is no loan repayment during the period, no Advance Against Depreciation is admissible.

### **OPERATION & MAINTENANCE EXPENSES**

24. 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

25. The petitioner in its affidavit dated 17.9.2007 has submitted that the transmission voltage in all the Regions except NER is 400 kV and 220 kV and very few lines are of 132 kV voltage level, and keeping this in view, while working out total number of bays and the unit O&M rates for NER, the outgoing line feeders of voltage level up to 132 kV only were considered. It may be mentioned that in NER generally the main transmission lines are of 132 kV level and outgoing feeders are of 33 kV level with 132/33 kV ICTs. Due to omission of 33 kV voltage level outgoing line bays, the total number of bays considered for calculation purpose were less. Further, inadvertently, a few 132 kV voltage level outgoing feeders were also not considered in the calculations submitted in the petition. Accordingly, the petitioner has revised the statement for the total number of bays under operation in NER. The statement has been prepared considering the following bays which are in line with the methodology considered.

- (i) Line bay up to voltage level of 132 kV;
- (ii) Outgoing line bays up to voltage level of 33 kV (distribution bays);

- (iii) Bus reactor line bays up to voltage level of 33 kV; and
- (iv) HV and LV bays with all the ICTs

26. The petitioner has submitted a detailed statement of bays under operation as on 31.3.2005 in NER. The petitioner has prayed that for computation of O & M expenses, Form-2 filed with petition may be taken in to consideration and O & M expenses may be allowed accordingly.

27. Against the petitioner's claim based on per bay rates of Rs 39,84,930 and Rs. 41,44,330 for the years 2007-08 and 2008-09, per bay rates of Rs. 31,63,000 and Rs. 32,90,000 respectively have been applied for O & M expenses as per the 2004 regulations. Similarly, against the petitioner's claim based on per ckt. kilometre rate of Rs. 39,760 and Rs. 41,350 for the years 2007-08 and 2008-09, per kilometre rates of Rs. 25,500 and Rs. 26,600 respectively have been applied as laid down under the 2004 regulations.

28. The petitioner's entitlement to O & M expenses for 118.94 ckt km and 1 (one) bay has been worked out as given hereunder:

(Rs. in lakh)		
	<b>2007-08</b>	<b>2008-09</b>
O&M expenses for 118.94 ckt kms line length	30.33	31.64
O&M expenses for 1 bays	31.63	32.90
<b>Total</b>	<b>61.96</b>	<b>64.54</b>

29. The petitioner has submitted that the wage revision of its employees is due with effect from 1.1.2007. Therefore, 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**

30. 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, the capital expenditure as on 1.4.1992 is Rs. 779.37 lakh and cumulative depreciation is 59.19 lakh so the gross block as on 1.4.1992 is Rs. 838.56 lakh, 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.20.10 lakh as on 1.4.2007.

### **(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 1.4.2004, which has been considered in the calculation.

31. The necessary computations in support of interest on working capital are appended hereinbelow:

	(Rs. in lakh)	
	<b>2007-08</b>	<b>2008-09</b>
Maintenance Spares	20.10	21.30
O & M expenses	5.16	5.38
Receivables	24.25	24.72
Total	49.51	51.40
Rate of Interest	10.25%	10.25%
<b>Interest</b>	<b>5.08</b>	<b>5.27</b>

**TRANSMISSION CHARGES**

32. The transmission charges being allowed for the transmission system are summarised below:

(Rs. in lakh)		
	<b>2007-08</b>	<b>2008-09</b>
Depreciation	18.93	18.93
Interest on Loan	0.00	0.00
Return on Equity	59.56	59.56
Advance against Depreciation	0.00	0.00
Interest on Working Capital	5.08	5.27
O & M Expenses	61.96	64.54
<b>Total</b>	<b>145.52</b>	<b>148.29</b>

33. 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. .

34. The petitioner has sought approval for the reimbursement of expenditure of Rs. 1,19,759/- incurred on publication of notices in the newspapers. The petitioner shall claim reimbursement of the said expenditure directly from the respondent in one installment. The petitioner has also sought reimbursement of filing fee of Rs.5 lakh paid. A final view on reimbursement of filing fee is yet to be taken by the Commission for which views of the stakeholder have been called for. The view taken on consideration of the comments received shall apply in the present case as regards reimbursement of filing fee.

35. The petitioner is already billing the respondents on provisional basis in accordance with the Commission's order dated 27.4.2007. The provisional billing of tariff shall be adjusted in the light of final tariff now approved by us.

36. This order disposes of Petition No. 83/2006.

Sd/-  
**(R.KRISHNAMOORTHY)**  
**MEMBER**  
**New Delhi dated the 10<sup>th</sup> March 2008**

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