

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram:

1. **Shri A.K.Basu, Chairperson**
2. **Shri K.N.Sinha, Member**
3. **Shri Bhanu Bhushan, Member**
4. **Shri A.H. Jung, Member**

Petition No. 73/2005

In the matter of

Approval for tariff for Bihar Grid Strengthening Scheme in Eastern Region for the period from 1.4.2004 to 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, Calcutta
3. Grid Corporation of Orissa Limited, Bhubaneswar
4. Damodar Valley Corporation, Calcutta
5. Power Department, Govt. of Sikkim, Gangtok
6. Jharkhand State Electricity Board, Ranchi

... Respondents

The following were present:

1. Shri. R.Prasad, PGCIL
2. Shri. M.M.Mondal, PGCIL
3. Shri. P.C. Pankaj, PGCIL
4. Shri. U.K.Tyagi, PGCIL
5. Shri. C. Kannan, PGCIL
6. Shri. R.P.P. Singh, BSEB
7. Shri. V.K.Singh, BSEB

**ORDER
(DATE OF HEARING 28.3.2006)**

The petition has been filed for approval for transmission charges for 315 MVA, 400/220 kV, 3rd ICT at Biharsharif sub-station with associated bays (the transmission assets) forming part of the Bihar Grid Strengthening Scheme (the Scheme) in 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”). The petitioner has also prayed for approval of provisional tariff for other assets covered under the Scheme. The petitioner has further prayed for approval of the reimbursement from the beneficiaries of expenditure towards publishing of notices in newspapers and filing fee.

2. The approval for the cost estimate of Rs.16288 lakh, including IDC of Rs. 1627 lakh for implementation of the Scheme was accorded by the Board of Directors of the petitioner company vide its letter dated 22.8.2001.

TARIFF FOR 3rd 315 MVA, 400/220 kV ICT

3. The date of commercial operation of the transmission assets is 1.4.2004. The apportioned approved cost of the transmission assets declared under commercial operation w.e.f. 1.4.2004, is Rs.1119.87 lakh.

4. The provisional tariff for the transmission assets was approved by the Commission in its order dated 10.12.2003 in petition No. 70/2003.

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

	(Rs. in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	33.59	33.59	33.59	33.59	33.59
Interest on loan	65.70	64.16	60.47	55.25	49.75
Return on Equity	25.63	25.63	25.63	25.63	25.63
Advance against Depreciation	0.00	0.00	0.00	14.05	28.91
Interest on Working Capital	4.61	4.70	4.76	5.04	5.34
O & M Expenses	56.24	58.50	60.84	63.26	65.80
Total	185.77	186.58	185.29	196.82	209.02

6. 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
Maintenance of Spares	9.33	9.89	10.48	11.11	22.78
O&M expenses	4.69	4.88	5.07	5.27	5.48
Receivables	30.96	31.10	30.88	32.80	34.84
Total	44.98	45.86	46.44	49.19	52.10
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	4.61	4.70	4.76	5.04	5.34

7. The reply to the petition has been filed by Bihar State Electricity Board. No comments or suggestion have been received from the general public in response to the notices published by the petitioner under section 64 of the Electricity Act, 2003.

CAPITAL COST

8. As per clause (2) of Regulation 52 of the 2004 regulations in case of the projects existing up to 31.3.2004, the project cost admitted by the Commission for determination of tariff prior to 1.4.2004 shall form the basis for determination of tariff.

9. The petitioner has claimed the capital expenditure of Rs.933.08 lakh as on the date of commercial operation. The petitioner has indicated the balance estimated expenditure of Rs.154.20 lakh. As the expenditure is not yet incurred, this has not been considered for tariff. Accordingly, the gross block of Rs.933.08 lakh has been considered for the purpose of tariff.

DEBT – EQUITY RATIO

10. Regulation 54 of the 2004 regulations *inter alia* provides that,-

(1) In case of the existing project, 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.

(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;

(3) In case of the transmission system for which investment approval is accorded on or after 1.4.2004, debt-equity in the ratio of 70:30 shall be considered for the purpose of determination of tariff:

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

(4) The debt and equity amount arrived at in accordance with above sub-clause (1), (2) or (3), as the case may be, shall be used for calculation of interest

on loan, return on equity, advance against depreciation and foreign exchange rate variation.

11. The petitioner has claimed tariff based on debt-equity ratio of 80.38:19.62. Debt-equity ratio, as claimed by the petitioner has been considered in the calculation, since the equity employed is less than 30%. Based on this, Rs. 183.08 lakh as on 1.4.2004 has been considered as the equity for the purpose of determination of tariff in the present petition.

RETURN ON EQUITY

12. 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.

13. As noted at para 10 above, equity of Rs. 183.08 lakh has been considered. Based on this, the petitioner shall be entitled to claim ROE @ 25.63 lakh each during the tariff period.

INTEREST ON LOAN

14. 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 as per regulation 54 minus cumulative repayment as admitted by the Commission for the period up to 31.3.2004. The repayment for the period 2004-09 shall be worked out accordingly on normative basis.

(c) The transmission licensee shall make every effort to swap the loan as long as it results in net benefit to the long-term transmission customers. The costs associated with such swapping shall be borne by the long-term transmission customers.

(d) The changes to the loan terms and conditions shall be reflected from the date of such swapping and benefits passed on to the beneficiaries.

(e) 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.

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

(i) No existing loan during 2003-04 has been indicated by the petitioner. Gross loan opening for different loans is from 2004-05.

(ii) On the basis of actual rate of interest on actual average loan, the weighted average rate of interest on loan has been worked out by the petitioner.

(iii) Interest on loan has been worked out by the petitioner on gross loans at (i) above, by applying the weighted average rate of interest.

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

- (i) Details of net outstanding loan as on 31.3.2004, repayment schedule for the period 2004-09, rate of interest as on 1.4.2004, etc. have been taken from loan allocation statement submitted by the petitioner for working out weighted average rate of interest.
- (ii) Gross actual loan and cumulative repayment up to 31.3.2004 have been taken.
- (iii) 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 during the year, it is considered as moratorium and depreciation during the year is deemed as normative repayment of loan during the year.
- (iv) Weighted average rate of interest on actual loan worked out as per (i) above has been applied during the year to arrive at the interest on loan.
- (V) The gross loan of Rs. 750.00 lakh has been considered. Based on this, the petitioner shall be entitled to claim Rs. 64.52 lakh for the year 2004-05, Rs. 61.43 lakh for the year 2005-06, Rs. 57.49 lakh for the year 2006-07, Rs. 52.52 lakh for the year 2007-08 and 47.29 lakh for the year 2008-09 as interest on loan during the tariff period.

17. The detailed calculations on interest on loan are given below:

(Rs. in lakh)						
Details of loan	Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09
Interest on Loan						
Gross loan as per order dated 21.6.2005	750.00					
Additions due to additional capitalization	0.00					
Additions due to FERV	0.00					
Gross Normative Loan	750.00	750.00	750.00	750.00	750.00	750.00
Cumulative Repayment up to Previous Year		0.00	33.59	67.18	118.68	178.09
Net Loan-Opening		750.00	716.41	682.82	631.32	571.91
Repayment during the year		33.59	33.59	51.49	59.42	59.42
Net Loan-Closing		716.41	682.82	631.32	571.91	512.49
Average Loan		733.20	699.61	657.07	601.62	542.20
Weighted Average Rate of Interest on Loan		8.8002%	8.7803%	8.7497%	8.7307%	8.7226%
Interest		64.52	61.43	57.49	52.52	47.29

DEPRECIATION

18. 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 capitalization on account of Foreign Exchange Rate Variation up to 31.3.2004.

- (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.

19. The gross depreciable value of the asset, as per (ii) above, is 0.9 x Rs.933.08 lakh = Rs. 839.77 lakh.

20. For the period 1.4.2004 to 31.3.2009 the depreciation works out to Rs. 33.59 lakh each year, by considering rate of depreciation of 3.6% as shown below:

(Rs. in lakh)

Details of Depreciation		Up to 10.12.2003	2004-05	2005-06	2006-07	2007-08	2008-09
As per order dated 21.6.2005		933.08					
Additions during 2001-04 due to Additional Capitalisation		0.00					
Addition during 2001-04 due to FERV		0.00					
Gross Block as on 31.3.2004		933.08	933.08	933.08	933.08	933.08	933.08
Rate of Depreciation	3.6000%						
Depreciable Value	90%		839.77	839.77	839.77	839.77	839.77
Balance Useful life of the asset			-	-	-	-	-
Remaining Depreciable Value			839.77	806.18	772.59	721.10	661.68
Depreciation			33.59	33.59	33.59	33.59	33.59

ADVANCE AGAINST DEPRECIATION

21. 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.

22. 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.

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

- (i) 1/10th of gross loan is worked out from the gross notional loan admitted by the Commission order dated 10.12.2003.
- (ii) Cumulative loan as well as repayment of notional loan during the year have been considered.
- (iii) Depreciation as claimed in the petition.

24. In our calculation, the Advance Against Depreciation has been worked out as under:

- (i) 1/10th of gross loan has been worked out from the gross loan as per para 16 above.
- (ii) Repayment of loan during the year has been considered as per para 16 above.
- (iii) Depreciation as worked out as per para 19 has been taken into account.

25. The details of Advance Against Depreciation allowed for the transmission system, is given hereunder:

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
1/10th of Gross Loan(s)	75.00	75.00	75.00	75.00	75.00
Repayment of Loan	33.59	33.59	51.49	59.42	59.42
Minimum of the above	33.59	33.59	51.49	59.42	59.42
Depreciation during the year	33.59	33.59	33.59	33.59	33.59
(A) Difference	0.00	0.00	17.90	25.83	25.83
Cumulative Repayment of the Loan	33.59	67.18	118.68	178.09	237.51
Cumulative Depreciation/ Advance against Depreciation	33.59	67.18	100.77	152.27	211.68
(B) Difference	0.00	0.00	17.90	25.83	25.83
Advance Against Depreciation Minimum of (A) and (B)	0.00	0.00	17.90	25.83	25.83

OPERATION & MAINTENANCE EXPENSES

26. 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

27. The petitioner has claimed O & M expenses for Biharsharif sub-station, which has been allowed. Accordingly, the petitioner's entitlement to O & M expenses has been worked out as given hereunder:

(Rs. in lakh)

	Year				
	2004-05	2005-06	2006-07	2007-08	2008-09
O&M expenses for 2 bays	56.24	58.50	60.84	63.26	65.80
Total	56.24	58.50	60.84	63.26	65.80

28. 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

29. 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, maintenance spares have been worked out @ 1% of the historical cost of Rs. 933.08 lakh as on the date of commercial operation and escalated @ 6% per annum. In this manner, the value of maintenance spares works out to Rs. 9.33 lakh as on 1.4.2004.

(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 receivables on the basis of 2 months' transmission charges claimed in the petition. In the tariff being allowed, receivables have been worked out on the basis of 2 months' transmission charges.

(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 is in accordance with the 2004 regulations and has been allowed.

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

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance Spares	9.33	9.89	10.48	11.11	11.78
O & M expenses	4.69	4.88	5.07	5.27	5.48
Receivables	30.76	30.63	33.41	34.34	33.90
Total	44.78	45.40	48.97	50.72	51.16
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	4.59	4.65	5.02	5.20	5.24

TRANSMISSION CHARGES FOR 3rd 315 MVA, 400/220 kV ICT

31. A summary sheet showing basic details of capital cost and other related aspects is annexed to this order. The transmission charges being allowed for the transmission system are summarised below.

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	33.59	33.59	33.59	33.59	33.59
Interest on Loan	64.52	61.43	57.49	52.52	47.29
Return on Equity	25.63	25.63	25.63	25.63	25.63
Advance against Depreciation	0.00	0.00	17.90	25.83	25.83
Interest on Working Capital	4.59	4.65	5.02	5.20	5.24
O & M Expenses	56.24	58.50	60.84	63.26	65.80
Total	184.58	183.80	200.48	206.03	203.39

32. The petitioner is already billing the respondents on provisional basis in accordance with the Commission's order dated 10.12.2003 in petition No. 70/2003. The provisional billing of tariff shall be adjusted in the light of final tariff now approved by us.

PROVISIONAL TARIFF FOR OTHER ASSETS

33. The estimated completion cost of the assets other than 315 MVA, 400 kV, 3rd ICT at Biharshariff is stated to be Rs.11601 lakh against the apportioned approved cost of Rs.15768.00 lakh. The actual expenditure up to the date of commercial operation, that is, 1.11.2004 was Rs.9861.34 lakh as per the Chartered Accountant's certificate 25.7.2005 placed on record by the petitioner. The annual provisional transmission charges claimed by the petitioner are given hereunder:

Period	Annual Provisional Transmission Charges
2004-05 (pro rata)	827.46
2005-06	1998.88
2006-07	2041.72
2007-08	2339.03
2008-09	2315.19

34. The petitioner has claimed provisional transmission charges based on the capital cost of Rs.9861.34 lakh as on the date of commercial operation.

35. The Commission has considered cost of Rs.9861.34 lakh as on the date of commercial operation as the base for determining the provisional tariff. We allow annual transmission charges of Rs.1886.61 lakh for these assets on provisional basis from the date of commercial operation subject to adjustment after determination of final tariff. The provisional transmission charges allowed are 95% of the transmission charges claimed by the petitioner on capital cost of Rs.9861.34 lakh.

36. The petitioner has prayed for the reimbursement of expenditure incurred on publication of notices in the newspapers. The details of the expenditure have not been submitted. 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, subject to the petitioner filing an affidavit before the Commission as regards the actual expenses. The petitioner has also sought reimbursement of filing fee of Rs. 5.00 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.

37. 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. These transmission charges shall be included in the regional transmission tariff for Eastern Region and shall be shared by the regional beneficiaries in accordance with the 2004 regulations.

38. This order disposes of Petition No.73 /2005

Sd/-
(A.H. JUNG)
MEMBER

Sd/-
(BHANU BHUSHAN)
MEMBER

Sd/-
(K.N.SINHA)
MEMBER

Sd/-
(ASHOK BASU)
CHAIRPERSON

New Delhi dated the 9th May 2006

Summary Sheet				
Name of the Company:		PGCIL		
Name of the Element:		315 MVA,400/220 KV,3rd ICT Biharsharif Sub Station with associated bays in Eastern Region		
Actual DOCO:		1.4.2004		
Petition No.:		73/2005		
Tarrif setting Period:		2004-09		
(Rs.in lakh)				
1	Capital Cost of the Project		11987	
2	Admitted Capital Cost as on 1.4.2004 for Calculation of Debt and Equity		933.08	
3	Additional Capitalisation(works)		0.00	
4	Additional Capitalisation(FERV)		0.00	
5	Total Capital Cost as on 1.4.2004(2+3+4)		933.08	
6	Means of Finance ¹ :			
	Debt	80.38%	750.00	
	Equity	19.62%	183.08	
	Total	100.00%	933.08	
7	Gross Loan as on 1.4.2004		750.00	
8	Cumulative Repayment upto 31.3.2009 :		237.51	
	1.4.2004 to 31.3.2009		237.51	
9	Balance Loan to be repaid beyond 31.3.2009 :		512.49	
10	Depreciation recovered upto 31.3.2009 :		237.51	
		Dep	AAD	Total
	1.4.2004 to 31.3.2009	167.95	69.56	237.51
11	Balance Depreciation to be recovered beyond 31.3.2009 :		602.26	
	Capital cost for the purpose of Depreciation		933.08	
	ACE + FERV		0.00	
	Capital cost as on 1.4.2004		933.08	
	Less: Land Cost		0.00	
			933.08	
	90% of Capital Cost as above		839.77	
	Cum. Depreciation to be recovered upto 31.3.2009		237.51	
	Balance Depreciation to be recovered beyond 31.3.2009		602.26	