

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram:

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

Petition No. 133/2008

In the matter of

Petition for approval of final transmission tariff of 400/220 kV, 315 MVA ICT-II at Muzaffarpur sub-station associated with Tala HEP, East-North Inter-connector and Northern Region Transmission system from 1.6.2007 to 31.3.2009.

And in the matter of

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

Vs

1. Bihar State Electricity Board, Patna
2. West Bengal State Electricity Board, Calcutta
3. Grid Corporation of Orissa Ltd., 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 U.K.Tyagi, PGCIL
2. Shri V.V.Sharma, PGCIL
3. Shri A.K.Nagpal, PGCIL
4. Shri B.C.Pant, PGCIL
5. Shri Harmeet Singh, PGCIL
6. Shri Mohd. Mohsin, PGCIL
7. Shri R.B.Sharma, Advocate, BSEB

ORDER

(DATE OF HEARING: 19.2.2009)

The application has been made for approval of tariff for 400/220 kV, 315 MVA ICT-II at Muzaffarpur sub-station (the transmission asset) associated with Tala HEP, East-North Inter-connector and Northern Region Transmission System (the transmission system) from the date of commercial operation to 31.3.2009, based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004 (hereinafter referred to as "the 2004 regulations") after accounting for additional capitalization during 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 administrative approval and expenditure sanction for the transmission system was accorded by the Central Government in Ministry of Power vide letter dated 2.7.2003 at an estimated cost of Rs. 198070 lakh (2nd quarter, 2000 price level), which included IDC of Rs. 21792 lakh. Subsequently, revised cost estimate for the transmission system was approved by Ministry of Power vide its letter dated 29.9.2005 at an estimated cost of Rs. 248388 lakh which included an IDC of Rs.14744 lakh with debt-equity ratio of 70:30. The transmission system was to be implemented by the petitioner and a JV Company (Powerlinks Transmission Ltd.) with following details of approved cost:

- (i) Petitioner's portion: Rs. 87210 lakh which includes IDC of Rs. 2574 lakh;
- (ii) JV portion: Rs. 161178 lakh which includes IDC of Rs. 12170 lakh.

3. The transmission asset was declared under commercial operation on 1.6.2007. The provisional transmission charges for transmission asset were approved by the Commission in its order dated 16.1.2008 in Petition No.141/2007 based on an audited capital cost of Rs. 1260.23 lakh as on 31.3.2007. The apportioned approved cost and other details of cost submitted by the petitioner are as under:

(Rs. in lakh)					
Apportioned approved cost (as per revised cost estimate)	Expenditure up to date of commercial operation	Expenditure from 1.6.2007 to 31.3.2008	Expenditure up to 31.3.2008	Balance estimated expenditure	Estimated Completion Cost
1810.00	1453.26	236.21	1689.47	105.00	1794.47

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

(Rs. in lakh)

	2007-08 (Pro rata)	2008-09
Depreciation	45.19	58.48
Interest on Loan	58.45	72.19
Return on Equity	54.98	70.94
Advance against Depreciation	0.00	0.00
Interest on Working Capital	6.47	8.17
O & M Expenses	52.72	65.80
Total	217.81	275.57

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

(Rs. in lakh)

	2007-08 (Pro rata)	2008-09
Maintenance Spares	14.53	15.26
O & M expenses	5.27	5.48
Receivables	43.56	45.93
Total	63.37	66.67
Rate of Interest	12.25%	12.25%
Interest	6.47	8.17

6. The reply to the petition has been filed by Bihar State Electricity Board (BSEB). No comments or suggestions 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

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 claimed additional capitalization of Rs. 236.21 lakh on works for the period from 1.6.2007 to 31.3.2008 over the capital expenditure of Rs. 1453.26 lakh as on the date of commercial operation.

TIME OVER-RUN

9. As per the original approval, the entire scheme was scheduled to be commissioned by June 2006. However, the transmission asset was declared under commercial operation on 1.6.2007, with a delay of 11 months in the commissioning. The petitioner has explained following reasons for delay in commissioning:

(i) Due to failure of transformer at Baripada sub-station there were system constraints in Eastern Region. So, it was felt necessary to put a new transformer in place of the failed transformer on urgent basis. Therefore, in the over all interest of the system, the available transformer for the sub-station was diverted to Baripada sub-station from the works itself.

(ii) Due to urgency, 315 MVA ICT-II of BHEL make for Muzaffarpur sub-station was diverted to Narendra sub-station of SRTS-II.

(iii) Anticipating delay in supply of alternate transformer of similar make and rating, 315 MVA transformer of CGL make was diverted from Rajgarh sub-station in WRTS to Muzaffarpur sub-station. Transformer foundation made for BHEL transformer had to be modified to match for CGL make transformer and foundation modification was completed in August 2006.

(iv) During transportation, trailer carrying transformer met with an accident on 11.9.2006 and the transformer was toppled from the trailer upside down near Tamkui (border of Bihar and UP) about 200 km away from Muzaffarpur. The transformer required major repair and thorough internal inspection and the same was sent back to CGL works.

(v) In view of delay due to repair and thorough inspection it was decided to divert BHEL make transformer from Bhatapara sub-station of WRTS to Muzaffarpur sub-station. Since the foundation was made for CGL make transformer, it required re-modification for BHEL make transformer and the modification work was completed in January 2007. BHEL make transformer was received at site in January 2007 and was placed on the plinth in the same month. The accessories for transformer were received in February, 2007 and full quantity of transformer oil was received by end of March, 2007. On inspection of accessories, it was observed that one number 245 kV bushing was damaged. Due to delay in supply of busing from BHEL works, one number 245 kV bushing was diverted from its sub-station at Pussauli.

(vi) The transformer was erected in April, 2007 and commissioning completed in May, 2007 and the transmission asset was declared under commercial operation with effect from 1.6.2007. Copies of correspondence in this regard have been attached with the petition.

(vii) Progress of work was affected on above said reasons for 11 months and the reasons mentioned above, were beyond the control of the petitioner.

10. In view of above, it has been submitted that delay in completion of the project was beyond the control of the petitioner.

11. The respondent BSEB has submitted that while the delay in commissioning of the transmission asset may not intentional, yet the respondents cannot be held responsible for increase in the IEDC and IDC for the delay. Thus, any increase in the IEDC and IDC on account of delay in the commissioning as well as any other amount included by the petitioner on account of the accident may be taken out of the actual expenditure and the same should be borne by the petitioner or by the insurers.

12. We have considered the matter. There is satisfactory explanation from the petitioner for the delay in completion of the transmission asset. Therefore, the delay in commissioning of the transmission asset is considered to be beyond the control of the petitioner and is condoned.

Additional Capitalization 2007-08

13. 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.”

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

Year 2007-08	Nature of expenditure	Justification
1.6.2007 to 31.3.2008	Sub-station = Rs. 236.21 lakh	Balance payments.
	Total = Rs. 236.21 lakh	

15. Since the additional expenditure is within the approved scope of work, it has been found to be in order. Therefore, audited capital expenditure of Rs. 236.21 lakh from the date of commercial operation to 31.3.2008 has been considered for the purpose of tariff. The balance estimated capital expenditure of Rs. 105.00 lakh claimed by the petitioner has not been considered for the tariff purpose since the claim is not based on audited expenditure.

TOTAL CAPITAL COST

16. Against the above background, gross block of Rs. 1689.47 lakh as on 31.3.2008 has been worked out for the purpose of tariff over the gross block of Rs. 1453.26 lakh as on the date of commercial operation, after accounting for additional capitalisation of Rs. 236.21 lakh for the year 2007.08.

DEBT- EQUITY RATIO

17. 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 are likely to be declared under commercial operation during the period 1.4.2004 to 31.3.2009, debt and equity in the ratio of 70:30 shall be considered:

Provided that where equity actually employed to finance the project is less than 30%, the actual debt and equity shall be considered for determination of tariff:

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

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

19. The petitioner has considered debt-equity ratio of 70.01:29.99 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 on the actual basis. In our calculations, debt-equity ratio as claimed has been considered. Accordingly, for the purpose of tariff, an amount of Rs. 435.85 lakh has been considered as equity as on 1.6.2007 and Rs. 506.69 lakh as on 1.4.2008.

RETURN ON EQUITY

20. 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.

21. For the reasons recorded in para 20 above, equity of Rs. 435.85 lakh has been considered as on 1.6.2007 and from 1.4.2008 to 31.3.2009, equity of Rs.

506.69 lakh has been considered. However, tariff for the period 1.6.2007 to 31.3.2008 has been allowed on average equity of Rs. 471.26 lakh. Accordingly, the petitioner shall be entitled to return on equity of Rs. 54.98 lakh during 2007-08 on *pro rata* basis and Rs.70.94 lakh during 2008-09.

INTEREST ON LOAN

22. 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.”

23. The petitioner has claimed interest on loan in the following manner:
- (i) Gross loan opening has been considered from 2007-08.
 - (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) Entire loan has been raised as foreign loan from IBRD-II, repayable at 30 half yearly instalment and repayment started from 15.12.2006. The effect rate of interest on loan was 6.64%.
 - (iv) Gross loan at (i) above have been considered along with the loan utilised after date of commercial operation and weighted average rate of interest on loan for respective year as per above has been multiplied to arrive at interest on loan considering Deprecation as repayment.

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

- (i) Gross amount of loan, repayment of instalments as per the petition and loan reconciliation statement of 2007-08 submitted have been used to work out weighted average rate of interest on actual loan.
- (ii) Notional loan arising out of additional capitalisation from date of commercial operation to 31.3.2008 has been added to 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 including AAD 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.

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

Details of loan	(Rs. in lakh)	
	2007-08 (Pro rata)	2008-09
Opening Gross Loan	1017.43	1182.78
Cumulative Repayment up to date of commercial operation/previous year	21.21	66.40
Net Loan-Opening	996.22	1116.38
Additions due to Additional Capitalisation	165.35	0.00
Repayment during the year	45.19	58.48
Net Loan-Closing	1116.38	1057.89
Average Loan	1056.30	1087.14
Weighted Average Rate of Interest on Loan	6.64%	6.64%
Interest	58.45	72.19

26. The detailed calculations in support of the weighted average rate of interest are contained in Annexure attached.

DEPRECIATION

27. 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.

28. Deprecation allowed has been worked out as shown below:

(Rs. in lakh)

Details of Depreciation	2007-08(Pro rata)	2008-09
Gross block at the beginning of the period	1453.26	1689.47
Additional Capitalisation during the period	236.21	0.00
Gross Block at the end of the period	1453.26	1689.47
Rate of Depreciation	3.4511%	3.4615%
Depreciable Value (90%)	1411.00	1517.29
Balance Useful life of the asset	-	-
Remaining Depreciable Value	1411.00	1472.10
Depreciation	45.19	58.48

ADVANCE AGAINST DEPRECIATION

29. 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

30. 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.

31. The petitioner has not claimed Advance Against Depreciation and, thereafter, Advance Against Depreciation has not been considered.

OPERATION & MAINTENANCE EXPENSES

32. 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

33. The petitioner has claimed O & M expenses for two bays which have been allowed. Accordingly, the petitioner's entitlement to O & M expenses has been worked out as given hereunder:

	(Rs. in lakh)	
	Year	
	2007-08 (Pro rata)	2008-09
O&M expenses for 2 bays	52.72	85.80
Total	52.72	85.80

34. 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

35. 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 on the date of commercial operation is Rs. 18664.24 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 14.53.lakh as on 1.6.2007.

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

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

(Rs. in lakh)		
	2007-08 (Pro rata)	2008-09
Maintenance Spares	14.53	15.26
O & M expenses	5.27	5.48
Receivables	43.56	45.93
Total	63.37	66.67
Rate of Interest	12.25%	12.25%
Interest	6.47	8.17

TRANSMISSION CHARGES

37. The transmission charges being allowed for the transmission asset are summarised below:

(Rs. in lakh)		
	2007-08 (Pro rata)	2008-09
Depreciation	45.19	58.48
Interest on Loan	58.45	72.19
Return on Equity	54.98	70.94
Advance against Depreciation	0.00	0.00
Interest on Working Capital	6.47	8.17
O & M Expenses	52.72	65.80
Total	217.81	275.57

38. 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. .

39. The petitioner has sought approval for the reimbursement of expenditure of Rs. 1,72,549/- 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. 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.

40. The petitioner is already billing the respondents on provisional basis in accordance with the Commission's order dated 16.1.2008 in Petition No.141/2007. The provisional billing of tariff shall be adjusted in the light of final tariff now approved by us.

41. The petition stands disposed of in above terms.

Sd/-
(S.JAYARAMAN)
MEMBER

sd/-
(R.KRISHNAMOORTHY)
MEMBER

sd/-
(DR.PRAMOD DEO)
CHAIRPERSON

New Delhi dated the 8th April 2009

Annexure

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(Rs. in lakh)

Details of Loan	2007-08	2008-09
1 IBRD-II		
Gross Loan opening	1017.43	1017.43
Cumulative Repayment upto DOCO/previous year	21.21	64.77
Net Loan-Opening	996.22	952.66
Additions during the year	0.00	0.00
Repayment during the year	43.56	46.37
Net Loan-Closing	952.66	906.29
Average Loan	974.44	929.48
Rate of Interest	6.64%	6.64%
Interest	64.70	61.72
Repayment Schedule	30 Half Yearly instalments from 15.12.2006	
Total Loan		
Gross Loan opening	1017.43	1017.43
Cumulative Repayment upto DOCO	21.21	64.77
Net Loan-Opening	996.22	952.66
Additions during the year	0.00	0.00
Repayment during the year	43.56	46.37
Net Loan-Closing	952.66	906.29
Average Loan	974.44	929.48
Rate of Interest	6.64%	6.64%
Interest	64.70	61.72