

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram:

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

Petition No. 134/2007

In the matter of

Determination of final transmission tariff along with additional capitalization for 400 kV D/C Kanpur-Auraiya transmission line with bay at Auraiya under the System Strengthening Scheme-I in Northern Region for the tariff period 2004-09.

And in the matter of

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

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited, Jaipur
2. Ajmer Vidyut Vitaran Nigam Ltd., Ajmer
3. Jaipur Vidyut Vitaran Nigam Ltd, Jaipur
4. Jodhpur Vidyut Vitaran Nigam Ltd, Jodhpur
5. Himachal Pradesh State Electricity Board, Shimla
6. Punjab State Electricity Board, Patiala
7. Haryana Power Generation Corporation Ltd, Panchkula
8. Power Development Department, Govt. of J&K, Jammu
9. Uttar Pradesh Power Corporation Ltd, Lucknow
10. Delhi Transco Ltd, New Delhi
11. BSES Yamuna Power Ltd., New Delhi
12. BSES Rajdhani Power Ltd., New Delhi
13. North Delhi Power Ltd., New Delhi
14. Chief Engineer, Chandigarh Administration, Chandigarh
15. Uttaranchal Power Corporation Ltd, Dehradun
16. North Central Railway, Allahabad **.... Respondents**

The following were present:

1. Shri U.K. Tyagi, PGCIL
2. Shri V.V.Sharma, PGCIL
3. Shri C.Kannan, PGCIL
4. Shri B.C.Pant, PGCIL
5. Ms. Sangeeta Edwards, PGCIL
6. Shri M.M.Mondal, PGCIL
7. Shri A.K.Nagpal, PGCIL
8. Shri S.S.Raju, PGCIL
9. Shri S.N.Singh, UPPCL
10. Shri T.P.S.Bawa, PSEB

**ORDER
(DATE OF HEARING: 17.1.2008)**

The application has been made for approval of tariff for 400 kV Kanpur-Auraiya D/C transmission line (the transmission line) with bay at Auraiya

under the System Strengthening Scheme-I (the transmission scheme) in Northern Region from 1.10.2006 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.595.63 lakh during 2006-07. 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 investment approval for the transmission scheme was accorded by Board of Directors of the petitioner company vide Memorandum dated 25.2.2004 at an estimated cost of Rs. 27180 lakh, which included IDC of Rs. 1421 lakh. The transmission line is part of the transmission scheme, the apportioned approved cost of which is stated to be Rs. 6065.51 lakh.

3. The provisional transmission charges for the transmission line, declared under commercial operation on 1.10.2006, were approved by the Commission in its order dated 21.5.2007 in Petition No. 35/2007. The present petition is for approval of final tariff.

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

(Rs. in lakh)

	2006-07(Pro rata)	2007-08	2008-09
Depreciation	101.35	212.33	212.33
Interest on Loan	224.98	455.44	436.74
Return on Equity	153.71	319.92	319.92
Advance against Depreciation	0.00	0.00	0.00
Interest on Working Capital	13.44	28.01	28.28
O & M Expenses	48.36	100.45	104.60
Total	541.85	1116.15	1101.87

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

(Rs. in lakh)

	2006-07(Pro rata)	2007-08	2008-09
Maintenance Spares	73.66	78.85	83.58
O & M expenses	8.06	8.37	8.72
Receivables	180.62	186.02	183.64
Total	262.34	273.24	275.94
Rate of Interest	10.25%	10.25%	10.25%
Interest	13.44	28.01	28.28

6. The reply to the petition has been filed by Uttar Pradesh Power Corporation Ltd. 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. 595.63 lakh on works for the period from 1.10.2006 to 31.3.2007 over the capital expenditure of Rs. 7068.46 lakh as on the date of commercial operation.

ADDITIONAL CAPITALIZATION 2006-07

9. 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.”

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

Year	Nature of expenditure		
2006-07	Sub-station	=	Rs. 363.65 lakh
	Transmission line	=	Rs. 226.06 lakh
	PLCC	=	Rs. 5.92 lakh
	Total	=	Rs. 595.63 lakh

11. Since the additional expenditure is within the approved scope of work, it has been found to be in order.

COST OVER-RUN

12. As against the apportioned approved cost of Rs.6065.51 lakh, the actual expenditure as on date of commercial operation is Rs. 7068.46 lakh as already noted. The petitioner has submitted that the issue of construction of LILO of 400 kV Kanpur-Agra S/C transmission line at Auraiya was deliberated in 16th Standing Committee Meeting of Northern Region held on 24.3.2004 wherein it was decided that the work could be deferred for construction in future keeping in view the fact that 400 kV Kanpur-Auraiya D/C transmission line would be in place. Therefore, the above element of the approved scope of work together with extension of switchyard at Auraiya for termination of the 400 kV Kanpur-Agra S/C transmission line at Auraiya was not implemented. It is further stated that as per the prevalent practice, for reliability, security and safety reasons the transmission lines are

being terminated in separate dia. Earlier, it was planned to terminate one circuit of Kanpur-Auraiya transmission line with one circuit of LILO of Kanpur-Agra transmission line in one dia and second circuit of Kanpur-Auraiya transmission line with the other circuit of LILO of Kanpur-Agra transmission line in second dia. Keeping in view the deletion from the scope of work of construction of LILO of Kanpur-Agra S/C transmission line, the extra equipment which were earlier envisaged were insufficient. Therefore, additional equipment was procured so as to terminate 400 kV Kanpur-Auraiya D/C transmission line at Auraiya. The revised cost estimate of the project after taking into account the above changes is stated to be under preparation by the petitioner.

13. The respondent UPPCL has raised objections to admissibility of the increases in cost in tariff.

14. Since the actual expenditure on the date of commercial operation exceeds the apportioned approved cost of Rs 6065.51 lakh, for the purpose of tariff, gross block as on the date of commercial operation has been restricted to apportioned approved cost. For similar reason, additional capitalization of Rs. 595.63 lakh, otherwise found to be order, has not been considered for tariff. The petitioner shall, however, be at liberty to file a fresh petition for revision of tariff after the RCE is approved by the competent authority.

TOTAL CAPITAL COST

15. Against the above background, gross block as on date of commercial operation has been restricted to Rs.6065.51 lakh for the purpose of tariff. The reduction of Rs. 1002.95 lakh against the actual capital expenditure of Rs. 7068.46 lakh as on the date of commercial operation has been undertaken on pro rata basis under the heads "transmission line" and "sub-station". The details of capital cost of Rs. 6065.51 lakh considered under different heads are,-

- (i) Transmission line = Rs. 5146.09 lakh,
- (ii) Sub-station = Rs. 902.67 lakh, and
- (iii) PLCC = Rs. 16.75 lakh.

DEBT- EQUITY RATIO

16. 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.”

17. 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.

18. The petitioner has considered debt-equity ratio of 70.20:29.80 as actually deployed on the date of commercial operation. We have considered the debt-equity ratio on the date of commercial operation as considered by the petitioner against the capital cost of Rs. 6065.51 lakh. Accordingly, for the purpose of tariff, an amount of Rs. 1807.57 lakh has been considered as equity and the balance amount of Rs. 4257.94 lakh as loan on the date of commercial operation.

RETURN ON EQUITY

19. As per clause (iii) of Regulation 56 of the 2004 regulations, return on equity shall be computed on the equity base determined in accordance with regulation 54 @ 14% per annum. Equity invested in foreign currency is to be allowed a return in the same currency and the payment on this account is made in Indian Rupees based on the exchange rate prevailing on the due date of billing.

20. For the reasons recorded in para 18 above, as on 1.10.2006 and onwards, equity of Rs. 1807.57 lakh has been considered each year. Accordingly, the petitioner shall be entitled to return on equity of Rs. 126.53 lakh during 2006-07 on pro rata basis and Rs. 253.06 lakh each year during 2007-08 and 2008-09.

INTEREST ON LOAN

21. Clause (i) of regulation 56 of the 2004 regulations *inter alia* provides that,-

“(a) Interest on loan capital shall be computed loan wise on the loans arrived at in the manner indicated in regulation 54.

(b) The loan outstanding as on 1.4.2004 shall be worked out as the gross loan in accordance with Regulation 54 minus cumulative repayment as admitted by the Commission or any other authority having power to do so, up to 31.3.2004. The repayment for the period 2004-09 shall be worked out on a normative basis.

(c) The transmission licensee shall make every effort to re-finance the loan as long as it results in net benefit to the beneficiaries. The costs associated with such re-financing shall be borne by the beneficiaries.

(d) The changes to the loan terms and conditions shall be reflected from the date of such re-financing and benefit passed on to the beneficiaries.

(e) In case of dispute, any of the parties may approach the Commission with proper application. However, the beneficiaries shall not withhold any payment ordered by the Commission to the transmission licensee during pendency of any dispute relating to re-financing of loan;

(f) In case any moratorium period is availed of by the transmission licensee, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.

(g) The transmission licensee shall not make any profit on account of re-financing of loan and interest on loan;

(h) The transmission licensee may, at its discretion, swap loans having floating rate of interest with loans having fixed rate of interest, or vice versa, at its own cost and gains or losses as a result of such swapping shall accrue to the transmission licensee:

Provided that the beneficiaries shall be liable to pay interest for the loans initially contracted, whether on floating or fixed rate of interest.”

22. The petitioner has claimed interest on loan in the following manner:
- (i) Gross loan opening has been considered from 2006-07.
 - (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) Bond XXIII has been utilised from 9.2.2007, that is, after date of commercial operation for additional capitalization purpose.
 - (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 years as per above has been has been multiplied to arrive at interest on loan considering Deprecation + Advance against Deprecation as repayment.
23. In our calculation, the interest on loan has been worked out as detailed below:
- (i) Gross amount of loan, repayment of instalments and rate of interest submitted is used to work out weighted average rate of interest on actual loan.
 - (ii) 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 :

Actual repayment of actual loan during the year	----- X	Opening balance of normative loan during the year
Opening balance of actual loan during the year		

- (iii) Moratorium in repayment of loan has been considered with reference to normative loan and if the normative repayment of loan during the year is less than the depreciation during the year, it has been considered as moratorium and depreciation during the year has been deemed as normative repayment of loan during the year.
- (iv) 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.
- (vi) As additional capital expenditure has not been considered, the loan amount corresponding to additional capitalization has not been taken into account

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

(Rs. in lakh)			
Details of loan	2006-07(Pro rata)	2007-08	2008-09
Opening Gross Loan	4257.94	4257.94	4257.94
Cumulative Repayment up to date of commercial operation/previous year	0.00	82.88	248.63
Net Loan-Opening	4257.94	4175.06	4009.30
Additions due to Additional Capitalisation	0.00		
Repayment during the year	82.88	165.76	165.76
Net Loan-Closing	4175.06	4009.30	3843.55
Average Loan	4216.50	4092.18	3926.43
Weighted Average Rate of Interest on Loan	8.77%	8.77%	8.77%
Interest	184.88	358.86	344.33

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

DEPRECIATION

26. Sub-clause (a) of clause (ii) of Regulation 56 of the 2004 regulations provides for computation of depreciation in the following manner, namely:

- (i) The value base for the purpose of depreciation shall be the historical cost of the asset.
- (ii) Depreciation shall be calculated annually based on straight line method over the useful life of the asset and at the rates prescribed in Appendix II to these regulations. The residual value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the historical cost of the asset. The historical capital cost of the asset shall include additional capitalisation on account of Foreign Exchange Rate Variation up to 31.3.2004 already allowed by the Central Government/Commission.
- (iii) On repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.
- (iv) Depreciation shall be chargeable from the first year of operation. In case of operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

27. The petitioner has claimed the depreciation on the gross block of Rs. 7664.09 lakh.

28. The gross depreciable value of the transmission line is $0.9 \times \text{Rs. } 6065.51 \text{ lakh} = \text{Rs } 5458.96 \text{ lakh}$.

29. Depreciation works out to Rs. 82.88 lakh for the period 1.10.2006 to 31.3.2007 and Rs. 165.76 lakh each year during 2007-08 and 2008-09 on gross block of Rs. 6065.51 lakh by applying rates of depreciation of 2.7328% during thereafter as shown below:

(Rs. in lakh)			
Details of Depreciation	2006-07 (Pro rata)	2007-08	2008-09
Gross block at the beginning of the period	6065.51	6065.51	6065.51
Additional Capitalisation during the period	0.00		
Gross Block at the end of the period	6065.51	6065.51	6065.51
Rate of Depreciation	2.7328%	2.7328%	2.7328%
Depreciable Value (90%)	5458.96	5458.96	5458.96
Balance Useful life of the asset	-	-	-
Remaining Depreciable Value	5458.96	5376.08	5210.33
Depreciation	82.88	165.76	165.76

ADVANCE AGAINST DEPRECIATION

30. 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

31. 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.

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

OPERATION & MAINTENANCE EXPENSES

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

	Year				
	2004-05	2005-06	2006-07	2007-08	2008-09
O&M expenses (Rs. in lakh per ckt-km)	0.227	0.236	0.246	0.255	0.266
O&M expenses (Rs in lakh per bay)	28.12	29.25	30.42	31.63	32.90

34. The petitioner has claimed O & M expenses for 145.849 ckt km and 2 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		
	2006-07(Pro rata)	2007-08	2008-09
O&M expenses for 145.849 ckt kms line length	17.94	37.19	38.80
O&M expenses for 2 bays	30.42	63.26	65.80
Total	48.36	100.45	104.60

35. 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

36. The components of the working capital and the interest thereon are discussed hereunder:

(i) Maintenance spares

Regulation 56(v)(1)(b) of the 2004 regulations provides for maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation. In the present case, the capital expenditure on the date of commercial operation is Rs. 6065.51 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. 60.66 lakh as on 1.10.2006.

(ii) O & M expenses

Regulation 56(v)(1)(a) of the 2004 regulations provides for operation and maintenance expenses for one month as a component of working capital. The petitioner has claimed O & M expenses for 1 month of O&M expenses of the respective year as claimed in the petition. This has been considered in the working capital.

(iii) Receivables

As per Regulation 56(v)(1)(c) of the 2004 regulations, receivables will be equivalent to two months average billing calculated on target availability level. The petitioner has claimed the receivables on the basis 2 months' transmission charges claimed in the petition. In the tariff being allowed, receivables have been worked out on the basis 2 months' transmission charges.

(iv) Rate of interest on working capital

As per Regulation 56(v)(2) of the 2004 regulations, rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1.4.2004 or on

1st April of the year in which the project or part thereof (as the case may be) is declared under commercial operation, whichever is later. The interest on working capital is payable on normative basis notwithstanding that the transmission licensee has not taken working capital loan from any outside agency. The petitioner has claimed interest on working capital @ 10.25% based on SBI PLR as on 1.4.2006, which is in accordance with the 2004 regulations and has been allowed.

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

(Rs. in lakh)

	2006-07(Pro rata)	2007-08	2008-09
Maintenance Spares	60.66	62.47	66.22
O & M expenses	8.06	8.37	8.72
Receivables	151.31	150.13	148.44
Total	220.02	220.98	223.38
Rate of Interest	10.25%	10.25%	10.25%
Interest	11.28	22.65	22.90

TRANSMISSION CHARGES

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

(Rs. in lakh)

	2006-07(Pro rata)	2007-08	2008-09
Depreciation	82.88	165.76	165.76
Interest on Loan	184.88	358.86	344.33
Return on Equity	126.53	253.06	253.06
Advance against Depreciation	0.00	0.00	0.00
Interest on Working Capital	11.28	22.65	22.90
O & M Expenses	48.36	100.45	104.60
Total	453.93	900.78	890.64

39. In addition to the transmission charges, the petitioner shall be entitled to other charges like income-tax, incentive, surcharge and other cess and taxes in accordance with the 2004 regulations. .

40. The petitioner has sought approval for the reimbursement of expenditure of Rs.1,87,904/- 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.

41. The petitioner is already billing the respondents on provisional basis in accordance with the Commission's order dated 21.5.2007 in Petition No. 35/2007. The provisional billing of tariff shall be adjusted in the light of final tariff now approved by us.

WORDS OF CAUTION

42. The transmission scheme was scheduled to be commissioned July, 2007, i.e. within 27 months from the date of letter of award for tower package.

43. In this context it is noted that the requirement of any transmission system is envisaged only after proper studies and planning. The scheduled date of commercial operation should not be left open-ended. It should be based on planned target date for delivery of power / benefit. The petitioner is, therefore, advised to arrive at the date of the commercial operation of a transmission asset either in accordance with the agreements with the beneficiaries in keeping with their requirement or based on the decision taken in the Standing Committee of CEA.

44. This petition stands disposed of in above terms.

Sd/-

sd/-

Annexure

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN			
	(Rs. in lakh)		
Details of Loan	2006-07	2007-08	2008-09
Bond- XVII			
Gross Loan opening	1282.00	1282.00	1282.00
Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
Net Loan-Opening	1282.00	1282.00	1282.00
Additions during the year	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00
Net Loan-Closing	1282.00	1282.00	1282.00
Average Loan	1282.00	1282.00	1282.00

Rate of Interest	7.39%	7.39%	7.39%
Interest	94.74	94.74	94.74
Repayment Schedule	10 Annual Instalments from 22.9.2009		
Bond- XIX			
Gross Loan opening	3680.00	3680.00	3680.00
Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
Net Loan-Opening	3680.00	3680.00	3680.00
Additions during the year	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00
Net Loan-Closing	3680.00	3680.00	3680.00
Average Loan	3680.00	3680.00	3680.00
Rate of Interest	9.25%	9.25%	9.25%
Interest	340.40	340.40	340.40
Repayment Schedule	12 annual inatalments from 24-7-2010		
Total Loan			
Gross Loan opening	4962.00	4962.00	4962.00
Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
Net Loan-Opening	4962.00	4962.00	4962.00
Additions during the year	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00
Net Loan-Closing	4962.00	4962.00	4962.00
Average Loan	4962.00	4962.00	4962.00
Rate of Interest	8.77%	8.77%	8.77%
Interest	435.14	435.14	435.14