

**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.102/2005

In the matter of

Approval of transmission charges for LILO of 220 kV Panki-Naubasta transmission line at Kanpur sub-station in Northern 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. Rajasthan Rajya Vidyut Prasaran Nigam Ltd, 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 Vidyut Prasaran Nigam Ltd, Panchkula
8. Power Development Department, Govt. of J&K, Srinagar
9. Uttar Pradesh Power Corporation Ltd., Lucknow
10. Delhi Transco Ltd, New Delhi
11. Chandigarh Administration, Chandigarh
12. Uttranchal Power Corporation Ltd, Dehradun
13. North Central Railway, Allahabad

.....Respondents

The following were present:

1. Shri U.K. Tyagi, PGCIL
2. Shri C. Kannan, PGCIL
3. Shri Anand Mohan, PGCIL
4. Shri S.R.G.Sabal, AVVNL
5. Shri A.S.Chauhan, JVVNL
6. Shri T.P.S.Bawa, PSEB
7. Shri V.K.Gupta, Consultant, PSEB
8. Shri S.P.Srivastava, EE, UPPCL

**ORDER
(DATE OF HEARING: 7.3.2006)**

The petition has been filed for approval for transmission charges for LILO of 220 kV S/C Panki-Naubasta transmission Line (the transmission line) belonging to UPPCL at Kanpur sub-station of PGCIL in Northern 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 had also prayed that reimbursement by the beneficiaries of expenditure towards publishing of notices in Newspapers and petition filing fee be approved. No other specific relief is prayed for.

2. The revised approval for the cost estimate of Rs. 135.15 crore, including IDC of Rs. 11.93 crore for the Unchahar Transmission System was accorded by the Central Government in Ministry of Power vide letter dated 31.7.2001. The apportioned approved cost for the transmission line is Rs. 950.00 lakh. The date of commercial operation of the transmission line is 1.10.2003 with line length of 29.72 ckt-km. The annual transmission charges for the period from 1.10.2003 to 31.3.2004 were decided by the Commission in its order dated 21.6.2005 in Petition No.60/2003 at a gross block of Rs. 805.87 lakh as on the date of commercial operation.

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

(Rs. In lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	23.35	23.59	23.59	23.59	23.59
Interest on Loan	14.44	14.43	14.80	13.52	12.23
Return on Equity	88.33	88.91	88.91	88.91	88.91
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	4.70	4.84	4.97	5.08	5.19
O & M Expenses	62.99	65.51	68.15	70.84	73.71
Total	193.81	197.28	200.42	201.94	203.63

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

Maintenance Spares	8.34	8.88	9.42	9.98	10.58
O & M expenses	5.25	5.46	5.68	5.90	6.14
Receivables	32.30	32.88	33.40	33.66	33.94
Total	45.89	47.22	48.50	49.54	50.66
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	4.70	4.84	4.97	5.08	5.19

5. The replies to the petition have been filed by Punjab State Electricity Board, Jaipur Vidyut Vitran Nigam Ltd, Jodhpur Vidyut Vitran Nigam Ltd and Ajmer Vidyut Vitran Nigam Ltd. No objections have been received in response to the notices published by the petitioner in the newspapers.

CAPITAL COST

6. 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.

7. The petitioner has claimed the capital expenditure of Rs.814.04 lakh which includes Rs. 805.87 lakh as admitted by the Commission in the order dated 21.6.2005 ibid and Rs. 8.18 lakh towards capital expenditure incurred during 2004-05 after the date of commercial operation. The petitioner has not claimed additional capitalisation on account of FERV as there are no foreign loans.

8. Additional capitalisation during 2004-05 amounting to Rs. 8.18 lakh claimed by the petitioner is not being considered in the tariff calculation and the tariff for the block year 2004-09 is being worked out on the basis of gross block as on 01-04-2004, i.e. Rs. 805.87 lakh since petitioner has not yet furnished the details of loan reconciliation for the year 2004-05. The petitioner is, however at liberty to approach the commission for revision of tariff in accordance with law, based on additional capital expenditure incurred during the tariff period 2004-09.

DEBT- EQUITY RATIO

9. 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.”

10. The petitioner has claimed tariff based on debt-equity ratio of 22.21:77.79 as considered by the Commission in its order dated 21.6.2005 *ibid*. As no ACE has been considered and there is no FERV, debt-equity ration considered to finance the

capital expenditure in the tariff order dated 21-06-2005 has been considered in the calculation. Based on this, Rs. 626.87 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

11. 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.

12. The petitioner has claimed return on equity of Rs. 635.05 lakh, which includes equity amounting to Rs. 8.18 lakh, on account of capital expenditure incurred from 01-04-2004 to 31-03-2005. As ACE during 2004-05 has not been considered, equity amounting to Rs. 626.87 lakh only as considered in the order dated 21-06-2005 has been allowed by us. Accordingly, the petitioner shall be entitled to return on equity @ Rs. 87.76 lakh each year during the tariff period.

INTEREST ON LOAN

13. 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.

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

(i) Gross loans, cumulative loan repayment up to previous year as admitted by the Commission in the order dated 21.6.2005 have been taken as the Opening Balance as on 1.4.2004.

(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) Gross loans as admitted by the Commission in the order dated 21.6.2005 *ibid* has been considered as notional loan and the weighted average rate of interest on loan for respective years as per above has been multiplied to arrive at interest on loan.

15. 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 notional loan and cumulative repayment up to 31.3.2004 have been taken from the order dated 21.6.2005 *ibid*.

- (iii) Tariff is worked out considering normative loan and normative repayments. Once the normative loan is arrived at, it is considered for all purposes in the tariff. Normative repayment is worked out by the following formula:

Actual repayment of actual loan during the year

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

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

16. 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	179.00					
Additions due to additional capitalisation	0.00					
Additions due to FERV	0.00					
Gross Normative Loan	179.00	179.00	179.00	179.00	179.00	179.00
Cumulative Repayment up to Previous Year		0.00	23.10	46.21	69.31	92.41
Net Loan-Opening		179.00	155.90	132.79	109.69	86.59
Repayment during the year		23.10	23.10	23.10	23.10	23.10
Net Loan-Closing		155.90	132.79	109.69	86.59	63.49
Average Loan		167.45	144.35	121.24	98.14	75.04
Weighted Average Rate of Interest on Loan		8.6300%	8.6300%	8.6300%	8.6300%	8.6300%
Interest		14.45	12.46	10.46	8.47	6.48

DEPRECIATION

17. 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.

18. The gross depreciable value of the asset, as per (ii) above, is $0.9 \times \text{Rs.}805.87$ lakh = Rs. 725.28 lakh. Cumulative depreciation and AAD recovered in tariff up to 31.3.2004 is Rs. 11.15 lakh. Remaining depreciable value as on 1.4.2004 is thus Rs. 713.73 lakh.

19. For the period 1.4.2004 to 31.3.2009 the depreciation works out to Rs. 23.10 lakh each year, by considering rate of depreciation of 2.8668% as shown below:

(Rs. in lakh)

Details of Depreciation		Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09
As per order dated 21.6.2005		805.87					
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		805.87	805.87	805.87	805.87	805.87	805.87
Rate of Depreciation	2.8668%						
Depreciable Value	90%		725.28	725.28	725.28	725.28	725.28
Balance Useful life of the asset			-	-	-	-	-
Remaining Depreciable Value			713.73	690.63	667.53	644.42	621.32
Depreciation			23.10	23.10	23.10	23.10	23.10

ADVANCE AGAINST DEPRECIATION

20. 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

21. 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.

22. The petitioner has not claimed Advance Against Depreciation. The petitioner's entitlement to Advance Against Depreciation is, therefore, zero.

OPERATION & MAINTENANCE EXPENSES

23. 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

24. The petitioner has claimed O & M expenses for 29.72 ckt km of line length and 2 bays (at Kanpur 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 29.72 ckt. km line length	6.75	7.01	7.31	7.58	7.91
O&M expenses for 2 bays	56.24	58.50	60.84	63.26	65.80
Total	62.99	65.51	68.15	70.84	73.71

25. 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

26. 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. 805.87 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. 8.30 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.

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

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance Spares	8.30	8.80	9.33	9.89	10.48
O & M expenses	5.25	5.46	5.68	5.90	6.14
Receivables	32.17	32.27	32.39	32.52	32.68
Total	45.71	46.52	47.39	48.31	49.31
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	4.69	4.77	4.86	4.95	5.05

TRANSMISSION CHARGES

28. 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	23.10	23.10	23.10	23.10	23.10
Interest on Loan	14.45	12.46	10.46	8.47	6.48
Return on Equity	87.76	87.76	87.76	87.76	87.76
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	4.69	4.77	4.86	4.95	5.05
O & M Expenses	62.99	65.51	68.15	70.84	73.71
Total	192.99	193.60	194.34	195.13	196.10

29. The petitioner has sought approval for the reimbursement of expenditure of Rs. 1,27,814/- incurred on publication of notices in the newspapers. The petitioner shall claim reimbursement of the said expenditure directly from the respondents in one installment in the ratio applicable for sharing of transmission charges. The petitioner has also sought reimbursement of filing fee 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.

30. 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 Northern Region and shall be shared by the regional beneficiaries in accordance with the 2004 regulations.

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

32. This order disposes of Petition No.102/2005.

Sd-/ (A.H. JUNG) MEMBER	sd-/ (BHANU BHUSHAN) MEMBER	sd-/ (K.N.SINHA) MEMBER	sd-/ (ASHOK BASU) CHAIRPERSON
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New Delhi dated the 28th April 2006
SUMMARY SHEET

Name of the Company:		PGCIL	
Name of the Element:		LILO of 220 kV S/C Panki-Naubasta Line in Northern Region	
Actual DOCO:		1.10.2003	
Petition No.:		102/2005	
Tariff setting Period:		2004-09	
(Rs.in lakh)			
1	Capital Cost of the Project	950.00	
2	Admitted Capital Cost as on 1. 4.2004 for Calculation of Debt and Equity	805.87	
3	Additional Capitalisation(works)	0.00	
	2001-02	0.00	
	2002-03	0.00	
	2003-04	0.00	
	Total	0.00	
4	Additional Capitalisation(FERV)	0.00	
	2001-02	0.00	
	2002-03	0.00	
	2003-04	0.00	
	Total	0.00	
5	Total Capital Cost as on 1 4.2004(2+3+4)	805.87	
6	Means of Finance¹ :		
	Debt	22.21%	179.00
	Equity	77.79%	626.87
	Total	100.00%	805.87
7	Gross Loan as on 1. 4.2004	179.00	
8	Cumulative Repayment up to 31.3.2009 :	115.51	
	Repaid up to 31. 3.2004	0.00	
	1. 4.2001 to 31. 3.2004 (ACE & FERV)	0.00	

	1. 4.2004 to 31. 3.2009			115.51	
	Total			115.51	
9	Balance Loan to be repaid beyond 31. 3.2009 :				63.49
10	Depreciation recovered up to 31. 3.2009 :				127.06
		Dep	AAD	Total	
	Recovered up to 31. 3.2004	11.55	0.00	11.55	
	1. 4.2001 to 31. 3.2004 (ACE & FERV)	0.00	0.00	0.00	
	1. 4.2004 to 31. 3.2009	115.51	0.00	115.51	
	Total			127.06	
11	Balance Depreciation to be recovered beyond 31. 3.2009 :				598.22
	Capital cost for the purpose of Depreciation			805.87	
	ACE + FERV			0.00	
	Capital cost as 1. 4.2004			805.87	
	Less: Land Cost			0.00	
				805.87	
	90% of Capital Cost as above			725.28	
	Cum. Depreciation to be recovered up to 31. 3.2009			127.06	
	Balance Depreciation to be recovered beyond 31. 3.2009			598.22	