

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram

1. Ashok Basu, Chairman
2. Shri K.N. Sinha, Member

Petition No. 89/2000

In the matter of

Approval under Regulation 86 for Transmission Tariff for Panki-Mainpuri LILO and Associated bays at Kanpur sub-station in Northern Region, for the period upto 31.3.2001.

And in the matter of

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

Vs

1. Rajasthan Rajya Vidyut Prasaran Nigam Ltd
 2. Himachal Pradesh State Electricity Board\
 3. Punjab State Electricity oard
 4. Haryana Vidyut Prasaran Nigam Ltd
 5. Power Development Dept., Jammu
 6. Uttar Pradesh Power Corporation Ltd
 7. Delhi Vidyut Board
 8. Chandigarh Administration
 9. Uttaranchal Power Corporation Ltd
- **Respondents**

The following were present:

1. Shri U.K. Tyagi, GM, PGCIL
2. Shri P.C. Pankaj, AGM, PGCIL
3. Shri P.N. Prayas, PGCIL
4. Shri A.K. Behl, CM, PGCIL
5. Shri C. Kannan, CM, PGCIL
6. Shri D. Sen, PGCIL
7. Shri D.D. Dhayasee, DGM (F), PGCIL
8. Shri K.K. Mittal, XEN (ISP), RVPN
9. Shri J.S. Bhargava, AEM (ISP), RVPN
10. Shri R.K. Arora, XEN, HVPN
11. Shri T.P.S. Bawa, SE, PSEB
12. Shri J.K. Gupta, Consultant, PSEB
13. Shri A.K. Tandon, UPPCL
14. Shri Mahesh Chandra, UPCL
15. Shri A.K. Vaidya, HPSEB

**ORDER
(DATE OF HEARING 17.9.2003)**

The petitioner has filed the present petition to seek approval for transmission charges in respect of Panki-Mainpuri LILO and associated bays at Kanpur sub-station in Northern Region for the period from 1.10.2000 to 31.3.2002 based on the norms and terms and conditions contained in Ministry of Power notification dated 16.12.1997, valid up to 31.3.2002. However, the terms and conditions of tariff notified by the Commission under section 28 of the Electricity Regulatory Commissions Act, 1998 came into effect on 1.4.2001. Therefore, in the present petition the tariff for the period ending 31.3.2001 is being considered and for the period thereafter, the tariff is to be regulated in terms of the Terms and Conditions of tariff notified by the Commission.

2. The petitioner was entrusted with the implementation of Unchahar Stage II transmission system for evacuation of central sector power in Northern Region, associated with 2 x 210 MW Feroz Gandhi Unchahar Stage II Power Project. Initially, the scheme was approved by Ministry of Power at an estimated cost of Rs.16831 lakh, including IDC of Rs.2937 lakh vide its letter dated 3.4.1996. Subsequently, the scope of the project was revised. The revised cost estimates were approved by Ministry of Power vide its letter dated 31.7.2001 for an amount of Rs.13515 lakh, including IDC of Rs.1193 lakh based on 1st quarter 2000 price level. The final scope of the work as per the Ministry of Power letter dated 31.7.2001 is as under:

TRANSMISSION LINE

- i) 220 kV D/C Unchahar (NTPC)-Kanpur – Line I
- ii) 220 kV D/C Unchahar (NTPC)-Kanpur- Line II
- iii) LILO of one ckt of 220 kV D/C Panki-Mainpuri line
- iv) LILO of one ckt of 220 kV D/C Panki-Naubasta line

SUB-STATION

- i) Extension of 400/220 kV sub-station at Kanpur (existing) with 2x315 MVA Transformers along with associated 400 kV and 220 kV bays.

3. In the present petition we are concerned with LILO of one circuit of 220 kV D/C Panki-Mainpuri line. For other components of Unchahar Stage II Transmission System, the petitioner had filed separate petitions. According to the petitioner, it has built and commenced commercial operation of LILO of one circuit of 220 kV D/C Panki-Mainpuri line with bays on 1.12.2000 at the final completion cost of Rs.664.10 lakh against the apportioned approved cost of Rs.670.00 lakh for this line. Accordingly, the petitioner has claimed transmission tariff of Rs. 37.57 lakh in respect of LILO of Panki-Mainpuri with associated bays, for the period from 1.12.2000 to 31.3.2001 as per the following details:

(Rs in lakh)	
Interest on Loan	13.12
Depreciation	13.47
Operation & Maintenance Expenses	3.21
Return on Equity	6.72
Interest on Working Capital	1.04
Total	37.56

4. The details of the working capital furnished by the petitioner in support of its claim thereon are as under:

(Rs in lakh)	
Operation & Maintenance Expenses	0.80
Maintenance Spares	6.42
Receivables	18.78
Total Working Capital	26.00
Rate of interest	12%
Interest on Working Capital	1.04

5. In addition, the petitioner has prayed for other charges like foreign exchange rate variation, income tax, incentive, other cess and taxes and surcharge as payable as per the notification dated 16.12.1997 issued by Ministry of Power.

6. Replies to the petition have been filed on behalf of Rajasthan Rajya Vidyut Prasaran Nigam Ltd. (Respondent No.1) and Haryana Vidyut Prasaran Nigam Ltd. (Respondent No.4).

7. A preliminary objection was raised that final transmission tariff could not be approved till disposal of FAO No.253/2001 filed by the petitioner against the Commission's order dated 14.12.2001 in IA No.48/2001 in the present petition. The Commission took notice of the fact that the High Court in FAO No. 253/2001 filed by the petitioner had not stayed the proceedings before the Commission. The Commission felt that it was in the interest of the petitioner as well as the respondents that the final tariff was determined so that there was no uncertainty in regard to payment of transmission charges for the assets forming subject matter of the present petition and being used by the respondents. Therefore, The Commission proceeded to consider the issues on merits. The petition was disposed of vide order dated 24.6.2002. The petitioner, however, filed the review petition (No 119/2002), seeking review of the capital cost considered for tariff in the order of 24.6.2002. Review was allowed vide order dated 9.4.2003. Consequently, the petition was re-heard and is being disposed of afresh through this order.

CAPITAL COST

8. The petitioner has claimed tariff based on completion cost of Rs.664.10 lakh, which includes Rs. 400.06 lakh on construction of the transmission line measuring

about 10 Km. It has been pointed out by the respondents that the completion cost works out to Rs.40.006 lakh per Km, which is abnormally high as compared to estimated cost of Rs.24.75 lakh per Km in respect of 220 kV D/C Palli-Chakrapur line conveyed by the petitioner to the respondents. It has been prayed that the completion cost should be considered by taking cost of Rs.24.75 lakh per Km.

9. The petitioner has clarified that as per the approved revised cost estimates, the cost per Km works out to Rs.36.93 lakh against the average cost of about Rs.25.0 lakh. It has been admitted by the petitioner that actual cost of about Rs.40 lakh per Km is higher than cost per Km of Rs.36.93 lakh considered in revised cost estimates but is based on actual expenditure incurred in execution of work. The reasons for higher cost in the present case, as explained by the petitioner are as under:

QUOTE

The route length of the transmission line is quite small and being a LILO line, traversing through Kanpur city posed serious ROW problems which has necessitated higher number of towers, most of which are tension towers. The average number of towers in this case is 5 against 3 in normal conditions. Further, in this case, the number of tension towers is much higher compared to normal case (the lines in plain terrain). This has resulted in substantial increase in quantity of Tower steel, Insulators, Hardware fittings and accessories, excavation, concreting and reinforcement steel and hence increase in cost of line. On account of higher number of towers per Km and civil works, the effect on cost on this account alone works out to Rs.7.9 lakhs per Km. (additional towers Rs.4.97 lakhs per Km and civil works Rs.2.92 lakhs per Km). The difference in the balance cost is attributable to higher quantity of steel, civil works, Insulators, hardware fittings in angle towers compared to normal suspension towers.

UNQUOTE

10. The petitioner has submitted detailed justification for higher cost, which is on account of higher number of tension towers and the angle towers as compared to any other transmission line . It has justified the higher cost to the extent of Rs. 15.54 lakh per km. The respondents have not questioned the quantities of different materials

used in the construction of the transmission line. The towers and conductor constitute 80% of the cost of the line. The higher cost of construction is, thus, attributable to higher cost of tower steel. Considering the fact that the petitioner was required to construct higher number of towers, both the tension towers and the angle towers in view of the peculiar circumstances and, we are satisfied that the capital expenditure incurred by the petitioner is justified location of the transmission line. Therefore, we direct that for the purpose of tariff, a total cost of Rs.664.10 lakh as per the following details shall be considered:

Description	Gross Block (Rs. in lakh)
Land	Nil
Building and other Civil works	17.72
Sub-station	229.66
Transmission Line	400.06
PLCC	16.66
Total	664.10

DEBT-EQUITY RATIO

11. It is pointed out on behalf of the respondents that the petitioner has employed debt and equity in the ratio of 78:22 though appropriately debt-equity should be in the ratio of 80:20. It has been explained on behalf of the petitioner that for the purpose of investment approval, debt-equity ratio of 80:20 was considered. However, actual debt-equity mix is based on the phasing of investments done during the construction period. It is further stated that equity injection for new projects is primarily from the internal resources as budgetary support is not forthcoming from the Central Government and that year-to-year availability of cash internal resources fluctuates due to reasons such as debt redemption and poor realisation of dues from SEBs. The

submissions made by the parties on this issue have been considered. The respondents' contention is that deployment of equity in excess of 20% has the effect of increasing ROE. Ministry of Power notification dated 16.12.1997, provides that ROE is to be computed on the paid up and subscribed capital relating to the transmission system and thus actual equity employed by the petitioner is to be considered for the purpose of ROE. We also note that the petitioner has filed an affidavit in petition No.7/1999 stating that it will attempt to maintain the debt-equity ratio of 70:30 on overall basis at corporate level and debt-equity in the present case is within the ceiling of 70:30. On consideration of these facts, we allow the actual debt and equity employed for the purpose of computation of tariff. On consideration of these facts, we allow the actual debt and equity employed for the purpose of computation of tariff. The details of debt and equity considered for the purpose of tariff are extracted below.

	(Rs in lakh)
Loan	516.37
Equity	147.73
Total	664.10

INTEREST ON LOAN

12. In accordance with Ministry of Power notification dated 16.12.1997, interest on loan capital is to be computed on the outstanding loans, including the schedule of repayment, as per the financial package approved by CEA. The methodology prescribed under the Ministry of Power notification dated 16.12.1997 has been adopted for computation of interest on loan.

13. It is observed that the interest rates considered in different petitions for the same loan are different. During the hearing it was explained on behalf of the petitioner that these loans are carrying floating rate of interest and the interest prevailing on the date of commercial operation has been considered in the tariff petition. Any resetting of the interest rates during the tariff period shall have to be settled mutually between the parties. However, in the event of their inability to settle the matter, either party may approach the Commission for a decision. Based on the above, the petitioner shall be entitled to an amount of Rs.13.12 lakh on account of interest on loan. The necessary details in support of computation of interest on loan are appended herein below:

Loan 1- ADB	(Rs in lakh)
Opening Balance	516.37
Addition	0.00
Repayment-1 st December,2000	7.30
Closing Balance	509.07
Rate of Interest	7.73%
Interest	13.12
Total	
Opening Balance	516.37
Addition	0.00
Repayment	7.30
Closing Balance	509.07
Interest	13.12

RETURN ON EQUITY

14. The petitioner is entitled to return @ 16% of the equity employed. The petitioner's claim on account of return on equity for Rs. 6.72 lakh has been admitted, on the average equity of Rs 126.07 lakh as shown below:

	(Rs in lakh)
Opening Balance on the date of commercial operation	104.41
Addition during the year	43.32
Closing Balance	147.73
Average Equity	126.07
Rate of Return	16%
Return on Equity	6.72

DEPRECIATION

15. As laid down in Ministry of Power notification dated 16.12.1997, the petitioner is entitled to claim depreciation in tariff at the rates notified by the Central Government from time to time. The petitioner has claimed depreciation in accordance with these provisions. It has been contended by the respondents that in earlier tariff notifications issued by Ministry of Power, depreciation used to be charged from the year following the financial year in which assets had been put under commercial operations. Therefore, the same principle should be followed in the present proceedings. The petitioner in its rejoinders has stated that depreciation has been worked out in accordance with Ministry of Power notification dated 16.12.1997. We have considered the rival submissions. In accordance with the notification dated 16.12.1997 issued by Ministry of Power, the transmission charges which include interest on loan, depreciation, O&M expenses, tax on income and return on equity are recoverable from the date of commercial operation of the project, though the transmission charges for the first financial year from the date of commercial operation are applied on *pro rata* basis for completed months of use. In view of these provisions of the notification dated 16.12.1997, we are satisfied that the depreciation has been correctly charged. For the purpose of tariff, the weighted average depreciation rate corresponding to the capital cost arrived at by us has been considered. The petitioner becomes entitled to depreciation of Rs. 13.47 lakh, as claimed, based on capital expenditure of Rs. 664.10 lakh by applying the weighted average depreciation rate of 6.29%, the calculations in support of which are given below:

(Rs in lakh)

Capital Expenditure	Depreciation Rate	Expenditure on the date of commercial operation	Expenditure from 1.12.2000 to 31.3.2001	Total Expenditure	Depreciation
Land	0%	0.00	0.00	0.00	0.00
Building & Other Civil Works	3.02%	15.00	2.72	17.72	0.54
Sub-Station Equipments	7.84%	218.31	11.35	229.66	18.01
Transmission Line	5.27%	383.97	16.09	400.06	21.08
PLCC	12.77%	3.50	13.16	16.66	2.13
Total		620.78	43.32	664.10	41.76
Weighted Average Rate of Depreciation					6.29%

O&M EXPENSES

16. In accordance with Ministry of Power notification dated 16.12.1997, O&M expenses, including insurance, if any, for the first full year after commissioning of the transmission utility is to be calculated at the rate of 1.5% of the capital expenditure. In accordance with this methodology, the petitioner is entitled to Rs. 3.21 lakh on account of O & M expenses for the period from 1.12.2000 to 31.3.2001, as shown below:

(Rs in lakh)

On Assets at the date of commercial operation	9.31
On Assets added during Year	0.32
O & M Expenses for the full year	9.63
Proportionate O & M Expenses for the Year	3.21

INTEREST ON WORKING CAPITAL

17. The Ministry of Power notification dated 16.12.1997 lays down that the working capital covers the following:

- (i) Operation and maintenance expenses (cash) for one month,
- (ii) Maintenance spares at a normative rate of 1% of the capital cost, and

- (iii) Receivables equivalent to two months' average billing calculated at normative availability level.

18. The above components have been considered in the working capital. Interest on working capital has been worked out on the basis of annual average PLR of the State Bank of India. In order to have uniformity of approach, the Commission has adopted the annual average prime lending rate of SBI for the respective years as the rate of interest for computing interest on working capital. Accordingly, the rate of interest on working capital for the year 2000-2001 allowed in tariff is 11.5% against the interest of 12% considered by the petitioner. The necessary computations are given hereunder.

(Rs in lakh)		
Operation & Maintenance Expenses	1 Months of O&M expenses	0.80
Maintenance Spares	1% Of capital cost	6.43
Receivables	2 Months' on average billing	18.76
Total Working Capital		25.99
	Rate of interest	11.5%
Interest on Working Capital		1.00

TRANSMISSION CHARGES

19. We approve Rs.37.52 lakh as the transmission charges in respect of Panki-Mainpuri LILO and associated bays for the period from 1.12.2000 to 31.3.2001. The approval of transmission charges from 1.4.2001 to 31.3.2004 shall be considered in

the separate petition filed by the petitioner. The tariff ordered by us is summarised hereunder:

Transmission Charges

(Rs. in lakh)	
Interest on Loan	13.12
Depreciation	13.47
Operation & Maintenance Expenses	3.21
Return on Equity	6.72
Interest on Working Capital	1.00
Total	37.52

20. In addition to the transmission charges, the petitioner shall be entitled to other charges like foreign exchange rate variation, income tax, incentive, surcharge and other cess and taxes in accordance with the notifications issued by Ministry of Power from time to time and in force up to 31.3.2001.

21. The transmission charges approved by us shall be included in the regional transmission tariff of Northern Region and shall be shared by the regional beneficiaries in accordance with para 7 of notification dated 16.12.1997.

22. High Court of Delhi in its order dated 28.5.2001 in FAO No. 253/2001 had directed that the respondents would pay 90% of the tariff claimed by the appellant (the present petitioner) on provisional basis, subject to adjustment of tariff as may be finally determined by the Commission, though the appellant was given liberty to raise the bill for the full amount calculated and claimed by it, from the date it started transmitting energy in connection with the present project. In view of the final determination of tariff

by us, the provisional tariff earlier allowed by the High Court shall be adjusted against the final tariff now approved by us.

23. The petitioner has charged tariff for the period up to 31.3.2001 based on the Commission's order dated 24.6.2002. The tariff finally approved by us in this order shall be adjusted against the tariff already paid.

24. We find that the auditors' certificate furnished along with the petition certifies the transmission tariff calculations but does not disclose whether the capital expenditure, equity, loan, rate of interest, repayment schedule, O&M charges, etc. are as per the audited accounts of the petitioner company. **The petitioner is directed to file an affidavit within four weeks of the date of this order that all the tariff calculations and auditors' certificates are based on audited accounts of the petitioner company or in the alternative, the petitioner may file a revised auditors' certificate, in the format given below, failing which the transmission charges approved above shall not take effect and this order will automatically lapse without any further reference to the Commission.**

A U D I T O R ' S C E R T I F I C A T E

We have verified the books of accounts, records and other documents of Power Grid Corporation of India Ltd and certify that the data used for transmission tariff calculations for _____ [name of the transmission system/line (s)] are in accordance with the audited books of accounts of the company up to _____(date). We have obtained all information and explanations which to the best of our knowledge and belief were necessary for the purpose of our examination and necessary approvals of the competent authority in respect of capital cost, foreign

exchange, time and cost over-run, etc. as prescribed under law, have been obtained.

Auditor's Signature with Seal and Date

25. This order disposes of petition No.89/2000.

Sd/-
(K.N. SINHA)
MEMBER

Sd/-
(ASHOK BASU)
CHAIRMAN

New Delhi dated the 11th May 2004