

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram

1. Shri Ashok Basu, Chairman
 2. Shri D.P. Sinha, Member
 3. Shri G.S. Rajamani, Member
 4. Shri K.N. Sinha, Member

Petition No. 69/2000

In the matter of

Transmission tariff for LILO of Chamera-Moga Line with associated bays at Jallandhar, ICT-I at Jallandhar, Jallandhar-Dasuya line with associated bays at Jallandhar and Dasuya and -ICT-I with associated bays at Jaipur in Northern Region

Petition No. 3/2001

And in the matter of

Transmission tariff for 400/220 KV ICT-II with associated bays at Jallandhar and ICT-II with associated bays at Jaipur.

And in the matter of

Power Grid Corporation of India Limited ...Petitioner

Vs

1. Rajasthan Rajya Vidyut Prasaran Nigam Ltd, Jaipur
 2. Himachal Pradesh State Electricity Board, Shimla
 3. Punjab State Electricity Board, Patiala
 4. Haryana Vidyut Prasaran Nigam Ltd., Panchkula
 5. Power Development Department, Govt. of J&K, Jammu
 6. Uttar Pradesh Power Corporation Ltd., Lucknow
 7. Delhi Vidyut Board, New Delhi
 8. Chief Engineer, Chandigarh Administration, Chandigarh
 9. Uttranchal Power Corporation Ltd., Dehradun ... Respondents

The following were present:

1. Er. A.K. Tandon, Sr. AE, UPPCL
2. Shri Umesh Gupta, SE (Law), RVPNL
3. Shri V.K. Gupta, DCE (Comml.), RVPNL
4. Shri J.S. Bhargava, AE (JSP), RVPNL
5. Shri D.D. Chopra, Advocate, UPPCL
6. Shri R.K. Vohra, GM (Comml.), PGCIL
7. Shri S.S. Sharma, AGM (Comml.), PGCIL
8. Shri C. Kannan, CM (Fin.), PGCIL
9. Shri T.P.S. Bawa, Addl. SE, PSEB
10. Shri R.K. Arora, XEN (T), HVPNL

ORDER
(DATE OF HEARING : 29.8.2002)

Petition No. 69/2000 has been filed by PGCIL, the petitioner for approval of transmission charges for (i) LILO of 400 KV Chamera-Moga line and its associated bays at Jallandhar, (ii) 400 /220 KV ICT-I and its associated bays at Jallandhar sub-station, (iii) 220 KV Jallandhar-Dasuya Line and its associated bays at Jallandhar and Dasuya, (iv) ICT-I at Jaipur sub-station with associated bays and (v) 2 Nos LILO bays associated with ICT-I at Jaipur.

2. Similarly, in Petition No. 3/2001 the petitioner, PGCIL has sought approval of transmission charges in respect of 400/220 KV ICT-II and its associated bays at Jallandhar sub-station and ICT-II at Jaipur sub-station with associated bays.
3. The assets in respect of which approval of transmission charges is prayed for in Petitions No. 69/2000 and 3/2001 are the components of Nathpa-Jhakri

Transmission System. The approval sought by the petitioner was from the respective date of commercial operation and up to 31.3.2002 based on the terms and conditions of tariff contained in the Ministry of Power notification dated 16.12.1997. Meanwhile, the Commission notified the terms and conditions of tariff on 26.3.2001, which have come into force w.e.f. 1.4.2001. Therefore, the petitioner filed amended petitions whereby approval of transmission charges was sought up to 31.3.2001, on the basis of Ministry of Power notification dated 16.12.1997.

4. The Central Government in Ministry of Power accorded its approval for Nathpa-Jhakri Transmission System for evacuation of power generated from 6 x 250 MW Nathpa-Jhakri Hydroelectric Project in Northern Region vide letter dated 5.4.1989 at an estimated cost of Rs.889.95 crores including IDC of Rs.95.59 crores, based on 1st quarter 1989 price level. However, subsequently there were changes made in the scope and structure of the transmission system, which included those relating to transmission line configuration, relocation of transformers and sub-stations and the route of transmission lines. Accordingly, Ministry of Power vide its letter dated 25.5.2001, accorded the administrative approval and expenditure sanction to the Revised Cost Estimate of Rs.1561.63 crores (including IDC of Rs.353.58 crores) for the Nathpa-Jhakri Transmission System, with the revised scope of work as under:

(a) Transmission Lines

- (i) 400 KV D/C Nathpa-Jhakri – Abdullapur-Bawana Transmission Line
- (ii) 400 KV D/C Nathpa-Jhakri – Nalagarh-Hissar Transmission Line
- (iii) 400 KV D/C Bawana-Bhiwani Transmission Line
- (iv) 400 KV S/C Hissar-Jaipur Transmission Line
- (v) 220 KV D/C Jallandhar-Dasuya Transmission Line
- (vi) LILO of 400 KV D/C Chamera-Moga Transmission Line at Jallandhar

(b) Sub-stations

- (i) 400/220 KV sub-station at Abdullapur (new) (2x315 MVA ICT)
- (ii) 400/220 KV sub-station at Nalagarh (new) (2x315 MVA ICT)
- (iii) 400/220 KV sub-station at Jallandhar (new) (2x315 MVA ICT)
- (iv) Extension of 400/220 KV sub-station at Bawana and Malerkotla (1x315 MVA ICT)
- (v) Extension of 400/220 KV sub-station at Jaipur (2x315 MVA ICT)
- (vi) Extension of 400 KV sub-station at Hissar and 220 KV sub-station at Dasuya
- (vii) Provision of 4 sets of Emergency Restoration System
- (viii) Provision of 4 Nos of Thermovision cameras

5. The replies filed on behalf of RRVPNL, UPPCL and HVPNL are on record. The respondents are unanimous in their representation that the transmission lines in respect of which the tariff has been claimed were meant for evacuation of power generated from Nathpa Jhakri Hydroelectric Project. There has been delay in commissioning of Nathpa Jhakri Hydroelectric Project and, therefore, the respondents should not be made liable to pay charges for these transmission lines. It has been clarified on behalf of the petitioner that though the transmission lines were sanctioned as a part of Nathpa Jhakri Hydroelectric Project, the transmission lines are being used for strengthening of the transmission system in the Northern Region. We are satisfied with the explanation given on behalf of the petitioner. The other general points raised by the parties in their responses have been duly taken note of while approving the different components of transmission charges in respect of these transmission lines.

CAPITAL COST

6. The date of commercial operation of different components of the Nathpa-Jhakri Transmission System, forming the subject matter of these two petitions, their apportioned approved cost and the completion cost as furnished by the petitioner are given hereunder in the Table.

TABLE

(Rs. in lakhs)

Sl. No.	Details of the Assets	Date of commercial operation	Apportioned Approved cost (Rs. in lakhs)	Estimated Completion cost (Rs. in lakhs)
	<u>PETITION NO. 69/2000</u>			
1.	LILO of 400 KV Chamera-Moga line and its associated bays at Jallandhar sub-station	1.1.2001	1808.43	1206.31 (Final)
2.	ICT I at Jallandhar sub-station with associated bays	1.1.2001	5679.77	5437.20 (Final)
3.	220 KV Jallandhar-Dasuya line and associated bays at Jallandhar and Dasuya	1.1.2001	2360.38	1536.30
4.	ICT-I at Jaipur with associated bays	1.10.2000	3683.3	2470.94
5.	Two Nos. of LILO bays associated with ICT-I at Jaipur	1.12.2000	(Total cost of 400/ 220 KV Jaipur sub-station extension)	202.06 (Final)
(a)	TOTAL			10852.81
	<u>PETITION NO.3/2001</u>			
1.	ICT-II at Jalandhar sub-station with the associated bays	1.1.2001	1304.10	1618.63
2.	ICT-II at Jaipur sub-station with its associated bays	1.3.2001	3683.3 (Total cost of 400/ 220 KV Jaipur sub-station extension)	819.33
(b)	Total			2437.96
	Grand Total (a) + (b)			13290.77

7. Based on the above, the petitioner has claimed asset-wise transmission charges as under from the date of commercial operation of the respective asset and up to 31.3.2001 :

(Rs. in lakhs)

1.	LILO of 400 KV Chamera-Moga line and associated bays at Jalandhar sub-station	62.58
2.	ICT-I at Jalandhar sub-station with associated bays	278.80
3.	220 KV Jalandhar Dasuya line and associated bays at Jalandhar and Dasuya	74.37
4.	ICT-I at Jaipur with associated bays	257.07
5.	Two Nos. of LILO at Jaipur with associated bays	13.34
6.	ICT-II at Jalandhar sub-station with associated bays	65.22
7.	ICT-II at Jaipur sub-station with associated bays	14.91

8. The petitioner in addition to petitions No. 69/2000 and 3/2001, being considered presently, has also filed petitions for approval of transmission charges in respect of other assets of Nathpa-Jhakri Transmission System, these being petitions No. 39/2000, 87/2000 and 51/2001. Nathpa-Jhakri Nalagarh and Nathpa-Jhakri-Abdulapur Transmission lines are, however, yet to be commissioned. The completion cost of the assets already under commercial operation is well within the RCE of Rs.1561.63 crores approved by Ministry of Power. Therefore, for the purpose of tariff calculations, the actual completion cost has been considered. However, in case subsequently with the commissioning of the complete transmission system, the actual completion cost exceeds the approved RCE of Rs.1561.63 crores, the calculation of tariff shall be limited to the approved RCE.

9. As per the original investment approval dated 5.4.1989 the transmission system was to be commissioned within a period of 7 years, including one and a half year for pre-construction activities, already in progress. Thus, the project was to be completed by April 1996. It has been explained on behalf of the petitioner

that consequent upon transfer of the project to it, tendering activities were taken up and tenders were floated in February 1994 and various assets under the Nathpa-Jhakri Transmission System were progressively commissioned from April 1996 onwards. We notice that the Revised Cost Estimate was approved by Ministry of Power vide its letter dated 25.5.2001, wherein it has taken note of the fact that all the originally approved transmission lines, except 400 KV D/C Nathpa-Jhakri-Nalagarh line had been completed and additional components of the project were to be completed by May 2001. Under these circumstances, the commissioning of the transmission lines is generally in accord with the prescribed completion schedule.

10. Vide our order dated 31.7.2002, we directed the petitioner to furnish the following information in respect of Emergency Restoration System (ERS):

- (a) Number of Emergency Restoration System equipment available with the petitioner and whether these were maintained on regional basis at some central locations,
- (b) Cost of procurement, means of financing, etc, of Emergency Restoration System equipment;
- (c) In case the number of Emergency Restoration System equipment was not large, whether the cost of equipment could be accounted for at corporate level; and

(d) Whether any charges were being collected from the state utilities when utilised by them in emergent situations. If so, the details of the charges recovered during the past three years were directed to be furnished.

11. The petitioner has filed affidavit dated 14.8.2002 to clarify the points raised. The petitioner has stated that the total number of ten sets of ERS equipment had been procured under the following two schemes:

<u>Project Name</u>	<u>No. of sets</u>	<u>Cost</u>
VindhyaChal Additional Transmission System	6 sets	Rs. 23.93 crs
Nathpa-Jhakri Transmission system	4 sets	Rs. 13.63 crs.

12. The ERS sets are deployed in all the five regions and their locations have been furnished by the petitioner

13. The petitioner has clarified that the procurement of ERS was funded through foreign loans earmarked for specific projects. According to the petitioner, booking of ERS at corporate level at this juncture was not feasible. It was also stated that CEA vide its letter dated 12.11.2001 had cleared procurement of additional 21 ERS sets in different regions under the specific schemes giving the locations of these sets. The petitioner further stated that each region was a separate profit centre and relocation of part of asset from the region to corporate level would not be prudent.

14. The petitioner clarified that it is collecting the following deployment charges when ERS is used in the system of State Utilities:

- (a) Expenses incurred towards mobilisation, demobilisation, transportation (to and fro), loading and unloading expenses, labour cost, insurance and contingency expenses
- (b) The employee cost on man-day basis,
- (c) Taxes and levies as per actual, and
- (d) Overhead charges @ 16% on (a)+(b)

15. The hiring charges of Rs.96.31 lakhs were collected by the petitioner from Metro Rail for use of ERS sets.

16. We have considered the matter for tariff calculation purposes. ERS covered in a particular scheme would be considered as part of that scheme itself. No separate charges are to be recovered from beneficiaries in case ERS is used in the states' system, as the annual transmission charges for the ERS are payable by them. However, in case ERS under the specific scheme of the region is used in other regions or by other authorities, then the "net" earnings of the petitioner on this account, shall be passed on to the beneficiaries of the region, who are paying the transmission charges on account of ERS.

17. As per the original approval of the Central Government, Ministry of Power dated 5.4.1989, the total capital investment was to be met by debt and equity in the ratio of 50:50. However, the petitioner has employed debt and equity in the ratio varying from 71.87%:28.13% to 88.06%:11.94% for different assets. For the purpose of computation of tariff in accordance with the notification dated 16.12.1997, we allow the actual debt and equity employed by the petitioner.

18. In the details of completion cost furnished by the petitioner, the expenditure incurred/to be incurred after 31.3.2001 has also been included. As the transmission charges up to 31.3.2001 are being considered in these petitions, the actual expenditure incurred up to that date, as per CA's certificates annexed to these petitions, has been allowed for calculation of transmission charges. Accordingly, the expenditure considered for calculation of transmission charges for different assets is as given hereunder:

(Rs. in lakhs)

(a) LILO of 400 KV Chamera-Moga line and associated bays at Jallandhar sub-station	1206.31
(b) ICT-I at Jallandhar sub-station with associated bays	5437.20
(c) 220 KV Jallandhar-Dasuya line and associated bays at Jallandhar and Dasuya	1528.17
(d) ICT-I at Jaipur with associated bays	2272.43
(e) Two Nos of LILO bays associated with ICT-I at Jaipur	184.74

(f) ICT-II at Jallandhar sub-station with associated bays	1217.86
(g) ICT II at Jaipur sub-station with associated bays	794.90

INTEREST ON LOAN

19. The interest on loan has been considered based on the loan amount, the repayment schedule and the interest rates contained in the petitions. It is observed that the interest rates considered in different petitions for the same loan are different. It has been explained by the petitioner that these loans are carrying floating rates of interest and the interest prevailing on the date of commercial operation has been considered in the tariff petitions. 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. Subject to the above observations, actual interest rates as claimed in the petition as per the details given below have been allowed:

STATEMENT OF LOANS AND INTEREST RATES

S. No.	Details of the assets	Source of Loan	Amount of loan in the year 2000-01 (Rs. in lakhs)	Rate of interest on the date of commercial operation
1.	LILO of 400 KV Chamera-Moga line and its associated bays at Jallandhr sub-station	(i) Bond - IX (ii) BOI (Foreign Currency Loan) (iii) Corporation Bank	395.00 402.00 70.00	12.25% 7.80% 12.07%
2.	ICT-I at Jallandhar sub-station with associated bays	(i) Bond – VIII (1 st) (ii) Bond - IX (iii) BOI (Foreign Currency Loan) (iv) Corporation Bank	60.00 2025.00 1797.00 484.00	10.35% 12.25% 7.80% 12.50%
3.	220 KV Jallandhr-Dasuya line and with associated bays at Jallandhar and Dasuya	(i) Bond – VIII (1 st) (ii) Bond - IX (iii) BOI (Foreign Currency Loan) (iv) SBI-II	50.00 785.00 271.00 102.00	10.35% 12.25% 7.80% 12.07%
4.	ICT-I at Jaipur with associated bays	(i) Bond - IX (ii) PNB (iii) Corporation Bank	832.00 847.00 200.00	12.25% 12.01% 12.50%
5.	Two Nos LILO bays associated with ICT-I at Jaipur	(i) Bond – IX (ii) PNB (iii) Corporation Bank	68.00 69.00 16.00	12.25% 12.01% 12.50%
6.	ICT-II at Jallandhar with associated bays	(i) Bond – VII (ii) PNB (iii) SBI-II (iv) SBI-I	317.00 317.00 264.00 158.00	13.64% 12.01% 12.07% 12.00%
7.	ICT-II at Jaipur with associated bays	(i) Bond – IX (ii) SBI-II	623.00 77.00	12.25% 12.07%

O&M EXPENSES

20. As provided in Ministry of Power notification dated 16.12.1997, operation and maintenance expenses, including expenses on insurance, if any, for the first full year after commissioning of the transmission utility are to be calculated as

percentage of actual expenditure @ 1.5% of actual expenditure at the time of commissioning of the transmission system in the plain area and @ 2% of such expenditure in the hilly area. The expenditure on O&M in each subsequent year is to be revised as per weighted price index taking into account 60 percentage of weightage for wholesale price index and 40 percentage of weightage of consumer price index.

21. The completion cost of different assets in respect of which approval of transmission charges in these petitions is sought, has been considered. The O&M expenses have been calculated @ 1.5% in accordance with the format prescribed under Ministry of Power notification dated 16.12.1997 by taking the actual expenditure incurred up to 31.3.2001, subject to the limit of apportioned cost of the respective asset.

INTEREST ON WORKING CAPITAL

22. It has been provided in the Ministry of Power notification dated 16.12.1997 that interest on working capital shall cover

- (a) Operation and Maintenance expenses (cash) for one month
- (b) Maintenance spares at a normative rate of 1% of the capital cost. Cost of maintenance spares for each subsequent years shall be revised at

the rate applicable for revision of expenditure on O&M of transmission system; and

(c) Receivables equivalent to two months' average billing calculated on normative availability level.

23. The above methodology has been considered while computing working capital. The details of computation of working capital are given here under:

COMPUTATION OF WORKING CAPITAL

(Rs. in lakhs)

S. No.	Details of the assets	O&M Expenses	Maintenance Spares	Receivables	Total
1.	LILO of 400 KV Chamera-Moga line and associated bays at Jallandhar sub-station	1.51	12.06	41.67	55.24
2.	ICT-I at Jallandhar sub-station with associated bays	6.77	54.14	185.66	246.57
3.	220 KV Jallandhar-Dasuya line and associated bays at Jallandhar and Dasuya	1.87	14.98	49.53	66.38
4.	ICT-I at Jaipur with associated bays	2.83	22.63	85.60	111.06
5.	Two Nos LILO bays associated with ICT-I at Jaipur	0.22	1.73	6.68	8.63
6.	ICT-II at Jallandhar with associated bays	1.46	11.70	43.11	56.27
7.	ICT-II at Jaipur with associated bays	0.99	7.92	29.80	38.71

24. In the petitioner's tariff calculations, interest on working capital is based on interest rate of 11.5%/12%. We have, however, allowed the annual average SBI PLR applicable during the financial year 2000-01, that is, 11.50% instead of the interest rate claimed by the petitioner in the petition.

DEPRECIATION

25. It has been contended by the respondents that depreciation should be adjusted towards the loan repayment. According to the petitioner, depreciation is a recognised cost element and it does not have any bearing on repayment of loan. In this context, the petitioner has relied upon the accounting principle of the Institute of Chartered Accountants of India. It is contended on behalf of the petitioner that depreciation is charged for the purpose of replacement of assets at the end of useful life of the assets and, therefore, cannot be linked with loan repayment. As the 16.12.1997 notification issued by Ministry of Power provides for charging of depreciation in the tariff, the same is being allowed in this petition. While allowing depreciation component of tariff, the weighted average depreciation rate has been applied, which has been worked out on the basis of actual capital expenditure as on 31.3.2001 as per CA's Certificates annexed to the petitions. The asset-wise weighted average depreciation rate applied is as under:

S.No.	Details of the assets	Weighted average depreciation rate
1.	LILo of 400 KV Chamera-Moga line and its associated bays at Jallandhar sub-station	6.89%
2.	ICT-I at Jallandhar sub-station with associated bays	7.05%
3.	220 KV Jallandhar-Dasuya line and associated bays at Jallandhar and Dasuya	5.74%
4.	ICT-I at Jaipur with associated bays	7.81%
5.	Two Nos LILo bays associated with ICT-I at Jaipur	8.42%
6.	ICT-II at Jallandhar with associated bays	7.20%
7.	ICT-II at Jaipur with associated bays	7.84%

26. Based on the above discussion, the transmission charges approved by us are given below:

(Rs. in lakhs)

S. No.	Details of the assets	Period	Interest on Loan	Depre-ciation	O&M expenses	Return on Equity	Interest on working capital	Total
1.	LILO of 400 KV Chamera-Moga line and associated bays at Jallandhar sub-station	1.1.2001 to 31.3.2001	22.05	20.78	4.52	13.57	1.59	62.51
2.	ICT-I at Jallandhar sub-station with associated bays	1.1.2001 to 31.3.2001	113.74	95.43	20.30	41.93	7.09	278.49
3.	220 KV Jallandhar-Dasuya line and associated bays at Jallandhar and Dasuya	1.1.2001 to 31.3.2001	33.69	21.49	5.62	11.58	1.91	74.29
4.	ICT-I at Jaipur with associated bays	1.10.2000 to 31.3.2001	114.32	88.37	16.98	30.73	6.39	256.79
5.	Two Nos LILO bays associated with ICT-I at Jaipur	1.12.2000 to 31.3.2001	6.21	4.86	0.87	1.08	0.33	13.35
6.	ICT-II at Jallandhar with associated bays	1.1.2001 to 31.3.2001	33.04	21.06	4.39	4.55	1.62	64.66
7.	ICT-II at Jaipur with associated bays	1.3.2001 to 31.3.2001	7.13	5.18	0.99	1.23	0.37	14.90

27. In addition to the transmission charges, the petitioner shall be entitled to other charges like extra rupee liability arising out of foreign exchange rate variation, income tax, incentive, surcharge and other cess and taxes in accordance with the notification dated 16.12.1997 and the notification of transmission tariff for Northern Region dated 16.11.1998 issued by Ministry of Power.

28. The petitioner is already charging provisional tariff in respect of the assets covered by this petition. The provisional tariff being presently charged shall be subject to adjustment in the light of final tariff now approved by us.

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

30. This order disposes of Petitions No. 69/2000 and 3/2001.

Sd/-

Sd/-

Sd/-

Sd/-

(K.N. SINHA) MEMBER (G.S. RAJAMANI) MEMBER (D.P. SINHA) MEMBER (ASHOK BASU) CHAIRMAN

New Delhi dated the 24th October 2002