

**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. 39/2000

In the matter of

Transmission tariff for 400 KV D/C Abdullapur-Bawana Transmission Line with associated bays, 315 MVA ICT-II at Abdullapur sub-station, 220 KV Jorian (HVPNL) bay at Abdullapur sub-station and 400 KV D/C Nalagarh-Hissar Transmission Line along with associated bays in Northern Region

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. 39/2000 was filed by PGCIL, the petitioner for approval of transmission charges for (i) 400 KV D/C Abdullapur-Bawana Transmission Line with associated bays, 315 MVA ICT-II at Abdullapur sub-station, 220 KV Jorian (HVPNL) bay at Abdullapur sub-station and (ii) 400 KV D/C Nalagarh-Hissar Transmission Line with associated bays.

2. The assets in respect of which approval of transmission charges is prayed for are the components of Nathpa-Jhakri Transmission System. The approval sought by the petitioner was from the date of commercial operation, that is, 1.1.2000, 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 subsequently sought approval of transmission charges up to 31.3.2001, on the basis of Ministry of Power notification dated 16.12.1997.

3. 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, 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 (Triple)
- (ii) 400 KV D/C Nathpa-Jhakri – Nalagarh-Hissar (Triple)
- (iii) 400 KV D/C Bawana-Bhiwani
- (iv) 400 KV S/C Hissar-Jaipur
- (v) 220 KV D/C Jalandhar-Dasuya
- (vi) LILO OF 400 KV D/C Chamera-Moga at Jalandhar

(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 Jalandhar (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

4. 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 Plant. 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, these 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

5. The apportioned approved cost and the completion cost of different components of the Nathpa-Jhakri Transmission System, forming the subject matter of this petition, as furnished by the petitioner are given hereunder:

(Rs. in lakhs)

Sl. No.	Details of the Assets	Apportioned Approved cost (Rs. in lakhs)	Completion cost (Rs. in lakhs)
1.	400 KV D/C Abdullapur Bawana line with associated bays, 315 MVA ICT II at Abdullapur sub-station and 220 KV Jorian (HVPNL) bay I&II at Abdullapur sub-station	21507.42	20228.02
2.	400 KV Nalagarh-Hissar Line Ckt I&II with associated bays	33023.41	28978.91
TOTAL		54530.83	49206.93

6. Based on the above, the petitioner has claimed asset-wise transmission charges as under from the date of commercial operation of the assets, that is, 1.1.2000 and up to 31.3.2001 :

(Rs. in lakhs)

1.	400 KV D/C Abdullapur Bawana line with associated bays, 315 MVA ICT II at Abdullapur sub-station and 220 KV Jorian (HVPNL) bay I&II at Abdullapur sub-station	1999-2000 (Three months)	1079.58
		2000-2001	4400.86
2.	400 KV Nalagarh-Hissar Line Ckt I&II with associated bays	1999-2000 (Three months)	1553.14
		2000-2001	6255.33

7. The petitioner in addition to the present petition, has also filed petitions for approval of transmission charges in respect of other assets of Nathpa-Jhakri Transmission System, these being petitions No. 69/2000, 87/2000, 3/2001 and 51/2001. Nathpa-Jhakri-Nalagarh and Nathpa-Jhakri-Abdullapur Transmission lines are, however, yet to be commissioned or declared under commercial operation. The completion cost of the assets already under commercial operation along with the apportioned cost of the balance assets yet to be commissioned 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 for the assets yet to be commissioned shall be limited to the approved RCE.

8. 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 and there is no time over-run.

9. It is seen that in case of Nalagarh-Hissar Transmission Line repayment of Govt. of India loan commenced before the date of commercial operation. The

capital cost on the date of commercial operation, gross loan and equity corresponding to this capital cost on the date of commercial operation, along with schedule of repayment have been considered for the purpose of tariff calculations. The repayment of loan made before the date of commercial operation has been taken into account for interest on loan calculations.

10. We have already noticed that a provision of 4 sets of Emergency Restoration System (ERS) was made as a part of Nathpa-Jhakri Transmission System, the cost of which is included in the RCE of Rs.1561.63 crores, approved by Ministry of Power vide its letter dated 25.5.2001. We have already considered the question of allowing cost of ERS for tariff calculation purposes. In our order of date, that is, dated 24th October 2002 in Petitions No. 69/2000 and 3/2001, relating to certain other assets forming part of Nathpa-Jhakri Transmission System, we have held that 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. We reiterate the decision already taken on this matter which shall apply to the present case as well.

11. 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 this petition, 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 as on 31.3.2001 is as given hereunder:

		(Rs. in lakhs)
1.	400 KV D/C Abdullapur Bawana line with associated bays, 315 MVA ICT II at Abdullapur sub-station and 220 KV Jorian (HVPNL) bay I&II at Abdullapur sub-station	20201.02
2.	400 KV Nalagarh-Hissar Line Ckt I&II with associated bays	28627.99

DEBT-EQUITY

12. 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 81.41 : 18.59 and 89.27 : 10.73 for the assets covered by the present petition. 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.

INTEREST ON LOAN

13. The interest on loan has been considered based on the gross loan amount corresponding to capital cost on the date of commercial operation, the repayment schedule and the interest rates contained in the petition. 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 on the loan amount indicated therein have been allowed.

O&M EXPENSES

14. 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 for consumer price index.

15. The O&M expenses for the assets covered by this petition have been calculated @ 1.5% of the capital expenditure 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 assets.

INTEREST ON WORKING CAPITAL

16. 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.

17. 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)
(for the whole year)

S. No.	Details of the assets	Period	O&M Expenses	Maintenance Spares	Receivables	Total
1.	400 KV D/C Abdullapur Bawana line with associated bays, 315 MVA ICT II at Abdullapur sub-station and 220 KV Jorian (HVPNL) bay I&II at Abdullapur sub-station	1.1.2000 to 31.3.2000	24.46	195.67	719.35	939.48
		1.4.2000 to 31.3.2001	25.23	201.85	732.27	959.35
2.	400 KV Nalagarh-Hissar Line Ckt I&II with associated bays	1.1.2000 to 31.3.2000	35.42	283.38	1035.21	1354.01
		1.4.2000 to 31.3.2001	36.15	289.18	1041.25	1366.58

18. In the petitioner's tariff calculations, interest on working capital is based on interest rate of 12.24%. We have, however, allowed the annual average SBI PLR of 12% and 11.50% respectively applicable during the financial years 1999-2000 and 2000-01, instead of the interest rate claimed by the petitioner in the petition.

DEPRECIATION

19. 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 notification dated 16.12.1997 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 rates of 5.77% and 5.50% have 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 petition.

20. 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	Depreciation	O&M expenses	Return on Equity	Interest on working capital	Total
1.	400 KV D/C Abdullapur Bawana line with associated bays, 315 MVA ICT II at Abdullapur sub-station and 220 KV Jorian (HVPNL) bay I&II at Abdullapur sub-station	1.1.2000 to 31.3.2000	570.35	282.26	73.38	124.85	28.18	1079.02
		1.4.2000 to 31.3.2001	2281.36	1147.78	302.78	551.38	110.33	4393.63
2.	400 KV Nalagarh-Hissar Line Ckt I&II with associated bays	1.1.2000 to 31.3.2000	905.23	389.65	106.27	111.05	40.62	1552.82
		1.4.2000 to 31.3.2001	3620.56	1567.07	433.77	468.91	157.16	6247.47

21. 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 notification dated 16.12.1997 issued by Ministry of Power.

22. 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.

23. 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.

24. This order disposes of Petitions No. 39/2000.

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

New Delhi dated the 30th October 2002