

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Coram:**

1. **Shri D.P. Sinha, Member**
2. **Shri G.S. Rajamani, Member**
3. **Shri K.N. Sinha, Member**

**Petition No.15/2000**

**In the matter of**

Approval under Regulation - 86 for Tariff ( Transmission Charges) for

- (a) 220 KV D/C Unchahar - Kanpur Line II with Associated Bays, ICT - II at Kanpur Sub-Station alongwith Associated bays & 220 KV S/C RAPP-B - Udaipur Line with Associated Bays
- (b) Lilo of RAPP-A - Kota Line alongwith Associated bays in Northern Region.

**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 Board                    |                   |
| 4. Haryana Vidyut Prasaran Nigam Lt.                 |                   |
| 5. Power Development Deptt., Jammu & Kashmir         |                   |
| 6. Uttar Pradesh Power Corporation Ltd.              |                   |
| 7. Delhi Vidyut Board, Delhi                         |                   |
| 8. Chandigarh Administration, Electricity Department |                   |
| 9. Uttaranchal Power Corporation Ltd                 | ..... Respondents |

The following were present:

1. Shri S.S. Sharma, AGM, PGCIL
2. Shri U.K. Tyagi, PGCIL
3. Shri C. Kannan, PGCIL
4. Shri K.K.S. Babu, PGCIL
5. Shri Sanjay Mehra, PGCIL
6. Shri S. Gopal, PGCIL
7. Shri A.K. Nagpal, PGCIL
8. Shri S.S. Vindal, PGCIL

9. Shri D. Sen, PGCIL
10. Shri Mahendra Kumar, EE, UPPCL
11. Shri T.P.S. Bawa, PSEB
12. Shri S.C. Mehta, XEN, RRVPNL
13. Shri A.K. Jain, CE (Comm), RRVPNL
14. Shri R.K. Arora, XEN, HVPNL

**ORDER**  
**(DATE OF HEARING: 19.2.2002 )**

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In this petition, the petitioner has sought approval of the Commission for transmission tariff in respect of 220 kV S/C RAPP-B - Udaipur line along with associated bays and LILO of RAPP-A - Kota line along with associated bays forming part of transmission system associated with 2x220 MW Rajasthan Atomic Power Project B(RAPP-B). The petitioner in addition has sought approval for tariff for 220kV D/C Unchahar-Kanpur-II line with bays and ICT-II transmission system associated with 2x210 MW Feroze Gandhi Unchahar Stage II Power Project.

**Rajasthan Atomic Power Project `B' (RAPP-B) Transmission System**

2. RAPP-B Transmission System associated with 2x220 MW RAPP-B comprises of the following components: -

**A. TRANSMISSION LINES**

- (i) RAPP-B - Chittorgarh 220 kV D/C line.
- (ii) RAPP-B - Udaipur 220 kV S/C line.
- (iii) RAPP-B - Anta 220 kV S/C line.

- (iv) RAPP-B - Kota 220 kV S/C (This line is established by LILO of one of the inter-connections between RAPP-A - Kota 220 kV D/C line and opening of RAPP-A and RAPP-B interconnections).

**B. SUB-STATIONS :**

- (i) Extension of sub-stations at Udaipur, Chittorgarh and Anta.
- (ii) Protection and PLCC equipments at Kota sub-station due to LILO of RAPP-A - Kota Ckt. And other lines terminating at RAPP-B.

3. The investment approval for the transmission system was initially accorded by the Central Govt vide its letter dated 6.9.1995 at an estimated cost of Rs.97.80 crores, including IDC of Rs.6.98 crores. RAPP-B - Udaipur line was to be commissioned by May 1997 to match with the second unit of RAPP-B Power Station. Subsequently, the cost of the project was revised to Rs.116.08 crores, including IDC of Rs.28 crores, approval for which was accorded by the Board of Directors of the petitioner company in its meeting held on 9.3.2000. The RAPP-B-Udaipur 220 kV S/C transmission line was completed and put under commercial operation with effect from 1.1.2000. The apportioned approved cost and the completion cost are Rs.44.88 crores and Rs.46.03 crores respectively.

**220 kV D/C Unchahar Line II with associated bays and 400/220 kV ICT-II at Kanpur sub-station**

4. 220 kV D/C Unchahar -Kanpur Line II forms part of the Unchahar transmission system associated with 2x210 MW Feroze Gandhi Unchahar Stage-II Power Project. Initial approval of the scheme was accorded by the Central Government on 3.4.1996 at

an estimated cost of Rs.168.31 crores including IDC of Rs.29.37 crores. Subsequently, the scope of the project was revised in consultation with the respondents and the revised cost estimate of the Unchahar State-II Transmission System was approved by the Central Government vide letter dated 31.7.2001 for an amount of Rs.135.15 crores, which included IDC of Rs.11.93 crores based on first quarter of 2000 price level. Out of the total cost of Rs.135.15 crores approved by the Central Government, Rs.59.02 crores have been apportioned to 220 kV D/C Unchahar Line II along with associated bays and 315 MVA ICT-II at Kanpur sub-station along with associated bays. The assets have been put under commercial operation with effect from 1.1.2000 at completion cost of Rs.48.40 crores.

5. The tariff petition for approval of tariff from the date of commercial operation of the assets up to 31.3.2002 was filed, based on Ministry of Power notification dated 16.12.1997. Subsequently, however, it was decided that determination of tariff in this petition would be limited to period up to 31.3.2001. The petitioner has filed separate petitions for approval of tariff for the period from 1.4.2001 to 31.3.2004. The petitioner has filed amended petition in order to implead newly constituted Uttaranchal Power Corporation Ltd. as also to place on record certain additional facts regarding expenditure, etc.

6. The replies to **the petition** have been filed on behalf of Rajasthan Rajya Vidyut Prasaran Nigam Ltd. (respondent No.1), Punjab State Electricity Board (respondent

No.3), Haryana Vidyut Prasaran Nigam Ltd. (respondent No.4) and Uttar Pradesh Power Corporation Ltd. (respondent No.6).

7. We propose to consider the issues raised on behalf of the respondents.

8. The respondents are unanimous in their submission that tariff should be determined based on the terms and conditions notified by the Commission on 26.3.2001. The Commission has already decided that terms and conditions prescribed in the Commission's notification dated 26.3.2001 shall apply with effect from 1.4.2001 and for period prior to that tariff shall be regulated in terms of Ministry of Power's notification dated 16.12.1997. In the present petition, the determination of tariff being considered relates to period prior to 1.4.2001. The tariff is to be determined based on notification dated 16.12.1997 and not in accordance with the notification dated 26.3.2001 issued by the Commission.

### **CAPITAL COST**

9. It is pointed out on behalf of the respondents that the petitioner has not maintained debt-equity in the ratio of 80:20 for the assets for which approval of tariff has been sought. According to the respondents, for the purpose of tariff the financial package approved by CEA should be considered. 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 cash/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 non-collection of dues from SEBs. The submissions made by the parties on this issue have been considered. The respondents' contention is that use of excess of equity over equity of 20% has the effect of increasing ROE. As provided in Ministry of Power notification dated 16.12.1997, ROE is to be computed on the paid up and subscribed capital relating to the transmission system. Therefore, ROE is to be allowed on actual equity. 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. We, therefore, allow the actual debt and equity employed for the purpose of computation of tariff.

10. The respondents have also pointed out that different debt-equity ratios have been followed for different assets associated with RAPP-B Transmission system. The petitioner in its affidavit filed before the Commission has clarified that debt-equity is being dealt at corporate level and is not transferred to regional and project level as far as books of accounts are concerned. However, for tariff purpose, actual debt-equity ratio employed for a particular project is being considered. The petitioner has further clarified that for RAPP-B transmission system, debt-equity ratio on overall basis is 81:19, which approximates with debt-equity ratio of 80:20 being demanded by the respondents. Therefore, we are satisfied that there is no scope for interference by the Commission on

this issue and debt-equity ratio employed by petitioner is to be allowed for the purpose of tariff in the present petition.

11. It is further submitted that the completion cost of Rs.46.03 crores for 220 kV S/C RAPP-B-Udaipur line has exceeded the approved apportioned cost of Rs.44.88 crores. It has, therefore, been prayed that for the purpose of tariff the approved apportioned cost should be considered.

12. The final completion cost of the RAPP-B Transmission system is Rs.109.89 crores against the total sanctioned cost of Rs.116.08 crores. Thus, there is no cost over-run for the project as a whole. Therefore, for the purpose of tariff computation the entire completion cost of Rs.46.03 crores should be considered.

13. It has been pointed out that completion cost of 220 kV D/C Unchahar-Kanpur Line II works out to Rs.25.11 lakhs per Km, which is on the higher side as compared to cost estimates of Rs.24.75 lakhs per Km in respect of 220 kV D/C Palli-Chakrapur line received from the petitioner. It has been prayed that completion cost of the line should be considered by taking cost of Rs.24.75 lakhs per Km. We have considered the objection raised on behalf of the respondents. The estimates for 220 kV D/C Palli-Chakrapur line were not based on firm costs but were only the cost estimates which did not cater to a number of items of cost. Therefore, the completion cost of the Unchahar-Kanpur Line II cannot be determined with reference to cost estimates for Palli-Chakrapur line.

14. Another ground taken by the respondents is regarding delay in completion of RAPP-B - Udaipur line. It is submitted that this line was to be commissioned by May 1997, but was put under commercial operation on 1.1.2000. As a result of delay, IDC has increased. It has been submitted on behalf of the petitioner that delay in commissioning of line was on account of non-commissioning of RAPP-B generation project till 1999. As per the investment approval granted by the Ministry of Power, the different components of transmission system were to be commissioned along with the generation project and this target had actually been achieved. For the reasons placed on record by the petitioner, we are satisfied that reasons for delay are not attributable to the petitioner and it is mainly on account of delay in completion of generation project. Therefore, the petitioner is entitled to claim IDC up to the date of commissioning. The revised approval has been accorded by the Board of Directors of the petitioner company under the financial powers delegated to it. For this reason, we do not find any merit in the submission made on behalf of respondents that revised cost estimates had not been approved by the competent authority.

### **INTEREST ON LOAN**

15. The interest has been computed based on the loan amount and the relevant interest rates as claimed by the petitioner. It is, however, observed that the interest rates considered in different petitions for the same loan are different. During the hearing it was explained by 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.

### **DEPRECIATION**

16. 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 operation. Therefore, the same principle should be followed in the present proceedings. The petitioner in its rejoinder 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 prorata basis for the 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 has been worked out on the basis of actual capital expenditure as per CA's certificate annexed to the petition.

## **INTEREST ON WORKING CAPITAL**

17. It is also stated by the respondents that for calculating interest on working capital, interest rate of 12.24% has been considered, though RBI has considerably reduced the interest rates during the recent years. We have considered the submission. We direct that interest on working capital should be worked out on the basis of annual average PLR of the State Bank of India. The rate of interest for the years 1999-2000 and 2000-2001 allowed in tariff are 12% and 11.5% respectively.

18. It is further submitted by the respondents that O&M charges have been escalated @ 10% every year, which is contrary to the notification dated 16.12.1997 *ibid*. We uphold this objection raised on behalf of the respondents. Therefore, the escalation in O&M expenses and maintenance spares for working capital is to be allowed on the basis of WPI and CPI (industrial workers) for the month of April of the respective year.

19. On consideration of entirety of the circumstances, we approve the transmission charges as under:

		(Rs. in lakhs)	
		1999-2000 (for three months)	2000-2001
(a)	220 kV S/C RAPP-B - Udaipur line with associated bays at Udaipur	256.62	1033.19
(b)	220 kV D/C Unchahar-Kanpur line with associated bays and ICT-II at Kanpur sub-station with associated bays	201.66	798.42

20. The details of the tariff are contained in Table I and Table II appended hereinbelow.

**TABLE I**

**220 kV S/C RAPP-B - Udaipur line with associated bays, etc**

(Rs in Lakhs)

	1999-2000*	2000-2001
Interest on Loan	153.98	615.96
Depreciation	64.06	257.81
Operation & Maintenance Expenses	17.13	69.96
Return on Equity	14.78	63.62
Interest on Working Capital	6.67	25.84
<b>Total</b>	<b>256.62</b>	<b>1033.19</b>

**TABLE II**

**220 kV D/C Unchahar-Kanpur line with associated bays, etc**

(Rs in Lakhs)

	1999-2000*	2000-2001
Interest on Loan	102.36	404.79
Depreciation	71.37	284.57
Operation & Maintenance Expenses	18.21	73.70
Return on Equity	4.05	13.70
Interest on Working Capital	5.67	21.66
<b>Total</b>	<b>201.66</b>	<b>798.42</b>

\*For three months

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 issued by Ministry of Power and in force up to 31.3.2001.

22. In its order dated 31.12.1999 the Commission had allowed a provisional tariff of 83% and 80% for the years 1999-2000 and 2000-2001 respectively of the transmission charges claimed by the petitioner in the petition. The provisional/interim tariff allowed by the Commission earlier shall be adjusted against the final transmission charges approved by us in this order.

23. The transmission tariff 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.

24. We find that the auditor's 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 auditor's 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 up to \_\_\_\_\_(date) of the company. 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.15/2000

Sd/-

**(K.N. Sinha)  
Member**

Sd/-

**(G.S.Rajamani)  
Member**

Sd/-

**(D.P.Sinha)  
Member**

New Delhi dated the 25<sup>th</sup> June, 2002.