

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram

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

Petition No.19/2000

In the matter of

Petition for approval of tariff for Kaiga-Sirsi Transmission Line in Southern Region for the period from 1.12.1999 to 31.3.2001.

And in the matter of

Power Grid Corporation of India Ltd.

.... Petitioner

Vs

1. Karnataka Power Transmission Corporation Ltd, Bangalore
 2. Transmission Corporation of Andhra Pradesh, Hyderabad
 3. Kerala State Electricity Board, Thiruvananthapuram
 4. Tamil Nadu Electricity Board, Chennai
 5. Electricity Department, Govt. of Pondicherry, Pondicherry
 6. Electricity Department, Govt. of Goa, Panaji
-Respondents**

The following were present:

1. Shri S.S. Sharma, PGCIL
2. Shri U.K. Tyagi, PGCIL
3. Shri C. Kannan, PGCIL
4. Shri A. K. Nagpal, PGCIL
5. Shri S.K. Jain, Manager (Law), PGCIL
6. Shri K. Krishnamurthy Naik, KPTCL

**ORDER
(DATE of HEARING : 1.5.2003)**

In this petition, the petitioner, Power Grid Corporation of India Ltd sought approval to transmission tariff in respect of the Kaiga-Sirsi Transmission Line, forming part of Kaiga Transmission System, in Southern Region for the period from 1.12.1999 to 31.3.2002 based on terms and conditions of tariff as contained in Ministry of Power notification dated 16.12.1997, hereinafter referred to as “the notification”. However, as

the terms and conditions for determination of tariff notified by the Commission have come into effect on 1.4.2001, the petitioner filed an amended petition for approval of transmission charges for the period up to 31.3.2001.

2. The implementation of Kaiga Transmission System for evacuation of central sector power from Kaiga Atomic Power Project, stage-I was approved along with Kaiga Atomic Power Project in 1994, at an estimated cost of Rs. 29.03 crore, including IDC of Rs. 3.32 crore at 1st Quarter 1993 price level. The implementation of the transmission system was entrusted to the petitioner. Thereafter, the Board of Directors of the petitioner company in its meeting held on 23.12.1998 accorded its fresh approval, under the powers delegated by the Bureau of public enterprises, for capital outlay of Rs. 53.65 crore, including IDC of Rs.11.09 crore, for Kaiga Transmission System. The approval for the revised cost estimate (completed cost) of Rs. 57.53 crore has been accorded by the Board of Directors of the petitioner company in its 131st meeting held on 13.6.2002.

3. In accordance with the approved implementation schedule, the transmission line was to be commissioned during March 1999. The petitioner commenced commercial operation of the transmission line on 1.12.1999.

4. The petition was filed before the revised approval of the Board of Directors. Based on the assessed completion cost of Rs. 5752.73 lakh, the petitioner sought approval for transmission charges as under in accordance with the notification:

<u>Period</u>	<u>Annual Transmission Charges</u> (Rs. In lakh)
1999-2000 (for 4 months)	436.42
2000-2001	1244.21

5. In addition, the petitioner prayed for approval of other charges like Foreign Exchange Rate Variation, Income Tax, incentive, other cess & Taxes, Surcharge, etc.

PRELIMINARY ISSUES

6. There are certain preliminary issues to be considered and disposed of before considering the tariff. The revised completion cost of Rs. 57.53 crore does not include the cost of compensatory afforestation, incurred by Nuclear Power Corporation for which no formal claim was lodged by Nuclear Power Corporation with the petitioner. It has been submitted by the petitioner that in case any such compensation is demanded by Nuclear Power Corporation, it would be approaching the Commission for revision of tariff. We grant liberty to the petitioner to approach the Commission for revision of tariff, when the additional expenditure, on account of compensation for compulsory afforestation is incurred.

7. It has been submitted on behalf of the respondents that the transmission charges could not be determined based on the notification, as the question of revision of the terms and conditions was under consideration of the Commission. We have considered the submission. The Commission has notified the terms and conditions of tariff vide notification dated 26.3.2001. However, the terms and conditions notified by the Commission have become effective from 1.4.2001. The Commission in its order dated 21.12.2000 in petitions No 4/2000 and other related petitions has already held that for the period prior to 1.4.2001, the tariff is to be determined in accordance with

the notifications issued by Ministry of Power, as applicable. Therefore, the transmission charges for Kaiga-Sirsi Transmission Line have to be regulated in terms of Ministry of Power notification dated 16.12.1997, in view of the earlier decision of the Commission, adverted to above.

8. Kaiga-Sirsi Transmission Line has been constructed at 400 kV voltage level, but is being operated at 220 kV voltage level. This has resulted in higher cost of construction. The petitioner has submitted that in the 8th meeting of the Standing Committee on matters related to Power System Planning for Southern Region held on 11.9.1998, it was decided to construct two lines of Kaiga-Sirsi Transmission Line at 400 kV, keeping in view the security and reliability of the Transmission System, though the line is to be operated at 220 kV. The decision to construct the transmission line at 400 kV was a collective decision of the Standing Committee and a result of consultative process, which cannot be faulted. The petitioner has employed capital for construction of the transmission line at 400 kV voltage level and is to be allowed transmission charges on the cost incurred.

9. Now we proceed to examine the individual elements of transmission charges.

CAPITAL COST

10. The respondents have pointed out that the completion cost of Rs. 57.53 crore of the transmission line exceeds the original approved cost of Rs. 29.03 crore, which was based on price level of 1993 (1st Quarter), and which was revised to Rs.53.56 crore. It has been prayed that the project cost as revised should be considered for the purpose of tariff. The petitioner has explained that increase in

completion cost is on account of general price escalation during the period, when feasibility report was finalised in 1993 and actual construction of the transmission line completed in December 1999.

11. As provided in the notification, the capital expenditure of the project shall be financed as per the approved financial package set out in the techno-economic clearance of Central Electricity Authority (CEA). It is further provided that the actual capital expenditure incurred on completion of the project shall be the criterion for the fixation of tariff. Where the actual expenditure exceeds the approved project cost, the excess expenditure as approved by CEA shall be deemed to be the actual expenditure for the purposes of tariff, provided the excess expenditure is not attributable to the petitioner or its suppliers or contractors.

12. In the present case, the techno-economic clearance for the transmission line has not been issued by CEA as the sanction of the transmission line was within the competence of the Board of Directors. The provisions of the notification does not provide the necessary guidance in the matter. Therefore, the actual expenditure as approved by the competent authority, the Board of Directors in the present case, has to be the guiding factor for considering the capital cost for the purpose of tariff, subject to the condition that the excess expenditure is not attributable to the petitioner or its suppliers or contractors. The respondents in their replies have not even averred that the excess expenditure is on account of negligence or for any other reason attributable to the petitioner or its suppliers or contractors. We have also considered the explanation of the petitioner, which is found to be plausible. For these reasons, we

allow the actual capital expenditure of Rs. 57.53 crore to be reckoned for the purpose of tariff determination.

13. As per the investment approval, Kaiga Transmission System was to be completed by 31.3.1999. The transmission line was, however, commissioned on 1.12.1999. Thus, there is a delay of about 8 months in execution of the transmission line. It is submitted on behalf of the respondents that IDC on account of this delay should not be charged in tariff. The petitioner has explained that about 51 Kms out of total of 61 Kms of the transmission line passes through dense forests, which involved cutting of large number of trees. This was objected to by the environmentalists. The settlement of these objections took time, as the works had to be stopped. It is further explained that difficult terrain through which the transmission line passes took longer time in completion as it involved shifting of materials by head loading. The difficult terrain also resulted in increase in quantum of tension towers and involved heavy benching and revetment works.

14. We have considered the reasons furnished by the petitioner to explain delay in completion of construction of the transmission line. We are satisfied that the reasons for delay were beyond the control of the petitioner. We also find that there was no loss of generation on account of delay in commissioning of the transmission line. Therefore, we accept the explanation furnished by the petitioner in support of delay in completion of the transmission system.

15. It is next pointed out on behalf of the respondents that the petitioner has employed debt and equity in the ratio of 56:44, which will result into higher return on

equity (ROE). The respondents have submitted that debt and equity in the ratio of 80:20 or 75:25 should be considered notionally for the purpose of fixation of tariff. It has been explained on behalf of the petitioner that for the purpose of investment approval, debt-equity ratio of 75:25 is considered. However, actual debt-equity mix is based on the phasing of investments done during the construction period.

16. The submissions made by the parties on this issue have been considered. It is provided in the notification that the capital expenditure of the project shall be financed as per the approved financial package set out in the techno-economic clearance of Central Electricity Authority (CEA) and ROE is to be computed on the paid up and subscribed capital relatable to the transmission system. In the present case, the techno-economic clearance of CEA has not been given as the approval of the transmission line was within the delegated powers of the Board of Directors of the petitioner company. In view of the provision of the notification that ROE is to be computed on the paid up and subscribed capital relatable to the transmission system, actual equity employed by the petitioner is to be considered for tariff purposes. We, therefore, allow the actual debt and equity for computation of tariff in accordance with the notification.

17. The petitioner has filed the details of capital expenditure. The expenditure up to 31.3.2001 will be considered for the purpose of determination of tariff, as the petition for approval of tariff is for the period up to 31.3.2001. The details of capital expenditure, duly audited, filed by the petitioner are as under :

<u>PERIOD</u>	<u>ACTUAL EXPENDITURE</u> (Rs. in lakhs)
As on 30.11.1999	5606.04
1.12.1999 to 31.3.2000	40.51
1.4.2000 to 31.3.2001	22.11
1.4.2001 to 31.3.2002	5.60
1.4.2002 to 31.3.2003	0.06
Anticipated	78.41
Total	<u>5752.73</u>

18. The break up the capital expenditure into debt and equity is as given under:

	Up to 30.11.1999	1.12.1999 to 31.3.2000	(Rs. In lakh) 1999-2000	1.4.2000 to 31.3.2001	2000-01
Loan	3176.00	00.00	3176.00	00.00	3176.00
Equity	2430.04	40.51	2470.55	22.11	2492.66
Total	5606.04	40.51	5646.55	22.11	5668.66

Average Gross Block	(Rs. In lakh)
1999-2000	5626.30 (5606.04 + 5646.55)/2
2000-2001	5657.61 (5646.55 + 5668.66)/2

INTEREST ON LOAN

19. As provided in the notification, interest on loan capital is to be computed on the outstanding loans, duly taking into account the schedule of repayment, as per financial package approved by CEA. In the absence of financial package approved by CEA, the actual loan taken by the petitioner is to be considered as held in para 16 above. It has been stated by the petitioner that gross loan utilised for the project is Rs. 3176 lakh, out of which Rs.1200 lakh were repaid before 31.3.2001 and the net loan

outstanding as on 31.3.2001 has been shown as Rs.1976 lakh. The following details of loan have been furnished by the petitioner:

	1.12.1999	1999-2000	2000-01	Total	Rate of interest
Actual Loan					
BONDS VI	161.00	0.00	0.00	161.00	13.13%
SBI-I	321.00	0.00	0.00	321.00	12.00%
BONDS III (I) ISSUE I	85.34	0.00	0.00	85.34	9.75%
BONDS III (I) ISSUE II	13.66	0.00	0.00	13.66	13.50%
BOND III (II SERIES)	580.00	0.00	0.00	580.00	16.30%
BOND IV (I)	620.00	0.00	0.00	620.00	17.07%
BOND IV (II TRENCH)	610.00	0.00	0.00	610.00	17.84%
BOND V	590.00	0.00	0.00	590.00	15.80%
BOI (FOREIGN CURRENCY)	195.00	0.00	0.00	195.00	7.66%
TOTAL LOAN	3176.00	0.00	0.00	3176.00	

20. The petitioner has further submitted that Bond III loan was issued in two components, Issue I and Issue II, with repayment date as October 2001 and February 2002 respectively for Issue I and Issue II. These details have been considered for the purpose of tariff. The interest on loan has been considered based on interest rates claimed in the petition. The amount of interest on loan allowed is summarized as under:

Period	Interest on loan (Rs in lakh)
1999-2000 (4 Months)	162.38
2000-2001	408.20

21. It is 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. Subject to the above observations, interest as claimed in the petitioner has been allowed.

DEPRECIATION

22. Based on the notification, the petitioner is entitled to claim depreciation at the rates notified by the Central Government from time to time. 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 further 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. It is also submitted by the respondents that depreciation rate 3.6% should be allowed. As the notification provides for charging of depreciation in the tariff, the same is being allowed in this petition. While approving tariff, the weighted average depreciation rate of 5.47% has been worked out on the basis of actual capital expenditure as per the auditor's certificate dated 30.4.2003, filed by the petitioner. The detailed calculations in support of weighted average rate of depreciation are appended hereinbelow:

Capital Expenditure		Upto Date of Commercial Operation 01.12.1999	1999-2000	2000-01	Total	Depreciation
Land	0%	0.00	0.00	0.00	0.00	0.00
Building & Other Civil Works	3.02%	0.00	0.00	0.00	0.00	0.00
Sub-Station Equipments	7.84%	0.00	0.00	0.00	0.00	0.00
Transmission Line	5.27%	5462.02	37.22	21.98	5521.22	290.97
PLCC	12.77%	144.02	3.29	0.13	147.44	18.83
Total		5606.04	40.51	22.11	5668.66	309.80
Weighted Average Rate of Depreciation						5.47%

23. Depreciation allowed by following this methodology works out as under:

Period	Depreciation (Rs in lakh)
1999-2000 (4 Months)	102.59
2000-2001	309.47

OPERATION & MAINTENANCE EXPENSES

24. Operation & Maintenance expenses including expenses on insurance, if any, for the first full year after commissioning of the transmission line are to be calculated at the rate of 1.5% of the actual expenditure at the time of commissioning of the transmission system in the plain area, as laid down in the notification. It is further provided in the notification that the expenditure on operation and maintenance in each subsequent year shall 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. The calculation of O&M expenses has been worked out on the basis of the notification by taking price indices for the month of April of the year 2000-2001 and weighted average Growth Rate of Index of 6% has been considered.

The detailed calculations in support of calculation of O&M expenses are given hereunder:

(Rs. In Lacs)			
			2000-01
Wholesale Price Index for April of 2000-2001 (W1)			151.7
Wholesale Price Index for April of 1999-2000 (W0)			142.7
All India Consumer Price Index for Industrial Workers for April 2000-2001 (C1)			438
All India Consumer Price Index for Industrial Workers for April of 1999-2000 (C0)			415
Weighted average Growth Rate of Index = $((60\% \times W1/W0) + (40\% \times C1/C0)) - 1$			6.00%
Date of Commercial Operation	1.12.1999		
Gross Block		1999-2000	2000-2001
Opening Balance (at date of commercial operation)		5606.04	5646.55
Addition		40.51	22.11
Cumulative Gross Block		5646.55	5668.66
O & M Expenses	1.50%		
On Assets at date of commercial operation		84.09	85.77
On Assets added during Year1	1999-2000	0.30	0.61
On Assets added during Year2	2000-2001	0.00	0.17
O & M Expenses for the Full year		84.39	86.55
Proportionate O & M Expenses for the Year		28.13	86.55

RETURN ON EQUITY

25. In accordance with the notification, the petitioner is entitled to return on equity at the rate of 16% per annum. The details of equity employed by the petitioner as culled out from the petition are as under:

(Rs. in lakh)		
Equity	1999-2000	2000-2001
Opening Balance (at date of commercial operation)	2430.04	2470.55
Addition during the year	40.51	22.11
Closing Balance	2470.55	2492.66
Average Equity	2450.30	2481.61

26. Based on the above, the petitioner shall be entitled to return on equity as given hereunder:

Period	Return on Equity (Rs in lakh)
1999-2000 (4 Months)	130.68
2000-2001	397.06

INTEREST ON WORKING CAPITAL

27. As provided in the notification, the 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 year shall be revised at the rate applicable for revision of expenditure on O & M of the transmission system; and
- (c) Receivables equivalent to two months' average billing calculated on normative availability level, which is 95%.

28. In keeping with the above methodology, working capital works out as under:

		(Rs. in lakh)	
Calculation of Working Capital		1999-2000	2000-2001
Operation & Maintenance Expenses	1 months of O&M expenses	7.03	7.21
Maintenance Spares	1% of capital cost	56.26	57.70
Receivables	2 months' average billing	217.51	205.40
Total		280.80	270.31

29. The petitioner has claimed interest on working capital at the rate of 12.24%. For the purpose of tariff calculations, for the years 1999-2000 and 2000-2001 annual average PLR of SBI of 12% and 11.5% respectively has been used instead of 12.24% rate of interest claimed by the petitioner. The petitioner's entitlement to interest on working capital shall be:

Period	Interest on Working Capital (Rs in lakh)
1999-2000 (4 Months)	11.23
2000-2001	31.09

30. In the light of above discussion, we approve the transmission charges as given in the Table below:

TABLE

(Rs. in lakh)		
Transmission Charges	(Pro-rata)	
	1999-2000	2000-2001
Interest on Loan	162.38	408.20
Depreciation	102.59	309.47
Operation & Maintenance Expenses	28.13	86.55
Return on Equity	130.68	397.06
Interest on Working Capital	11.23	31.09
Total	435.01	1232.37

31. 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.

32. The petitioner is already charging provisional tariff of 90% of the tariff claimed in the petition as per the Commission's order dated 26.4.2000. The provisional tariff being presently charged shall be subject to adjustment in the light of final tariff now approved by us.

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

34. 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 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.**

AUDITOR'S CERTIFICATE

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.

Signature with Auditor's seal and date

35. This order disposes of Petition No.19/2000.

**Sd/-
(K.N. SINHA)
MEMBER**

**Sd/-
(G.S. RAJAMANI)
MEMBER**

**Sd/-
(ASHOK BASU)
CHAIRMAN**

New Delhi dated the 17th June, 2003