

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram:

- 1. Shri Ashok Basu, Chairperson**
- 2. Shri K.N.Sinha. Member**
- 3. Shri Bhanu Bhushan, Member**
- 4. Shri A.H.Jung, Member**

**Petition No.74/2004
With
I.A.No. 36/2005**

In the matter of

Approval of transmission charges for Kayamkulam Transmission System in Southern Region for the period from 1.4.2004 to 31.3.2009.

And in the matter of

Power Grid Corporation of India Limited

..Petitioner

Vs

Kerala State Electricity Board

..... Respondent

The following were present:

1. Shri P.C. Pankaj, PGCIL
2. Shri U.K. Tyagi, PGCIL
3. Shri C. Kannan, PGCIL
4. Shri M.M. Mondal, CM (Fin), PGCIL
5. Shri Rakesh Prasad, PGCIL
6. Shri R.Balachandran, KSEB
7. Shri Ramesh Babu, KSEB

ORDER

(DATE OF HEARING: 22.9.2005)

The petition has been filed for approval for transmission charges for the Kayamkulam Transmission System (the transmission system) in Southern Region for the period from 1.4.2004 to 31.3.2009, based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004, (hereinafter referred to as "the 2004 regulations"). The petitioner has also prayed that it be permitted to continue the billing of transmission charges on the same basis as charged on 31.3.2004, pending determination of tariff in the present petition. No other specific relief is prayed for.

2. I.A. No. 36/2005 has been filed for approval of additional capital expenditure in case of 220 kV D/C Kayamkulam-Pallom transmission line along with associated bays incurred during the period 1.4.2001 to 31.3.2004 and consequent revision of tariff. I.A. was heard along with main petition, after notice.

3. The following assets form part of the transmission system, namely:-

(a) 220 kV D/C Kayamkulam-Edmon transmission line along with associated bays, and

(b) 220 Kv D/C Kayamkulam-Pallom transmission line along with associated bays.

4. Ministry of Power accorded the investment approval for the transmission system at an estimated cost of Rs. 8300.00 lakh vide letter dated 6.2.1996. The approval for the revised cost estimate of the transmission system of Rs. 20441.00 lakh, including IDC of Rs. 2736.00 lakh was accorded by Ministry of Power under its letter dated 3.9.1998.

5. The annual transmission charges from 1.4.2001 to 31.3.2004 were decided by the Commission in its order dated 30.6.2003 in Petition No.52/2002 at a cost of Rs. 12655.33 lakh and Rs. 7848.04 lakh for 220 kV D/C Kayamkulam-Edmon transmission line along with associated bays and 220 kV D/C Kayamkulam-Pallom transmission line along with associated bays, respectively. The capital cost considered included FERV for the period up to 31.3.2001. The date of commercial operation of respective transmission line and its line length are as stated below:

S. No.	Name of the transmission line	Date of commercial	Line length in Ckt-km
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		operation	(for O & M)
(i)	220 kV D/C Kayamkulam-Edmon transmission line along with associated bays	1.11.1998	156
(ii)	220 kV D/C Kayamkulam-Pallom transmission line along with associated bays	1.12.1999	94
	Total		250

6. The petitioner has claimed the transmission charges as under:

(Rs.in lakh)

	220 kV D/C Kayamkulam-Edmon transmission line along with associated bays					220 kV D/C Kayamkulam-Pallom transmission line along with associated bays				
	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	405.57	405.57	405.57	405.57	405.57	257.55	257.82	257.82	257.82	257.82
Interest on Loan	595.58	511.65	425.51	337.01	258.73	413.85	359.85	304.86	248.83	197.11
Return on Equity	236.03	236.03	236.03	236.03	236.03	214.66	216.13	216.13	216.13	216.13
Advance against Depreciation	277.42	614.34	653.23	695.11	553.25	156.85	387.17	404.60	423.02	363.12
Interest on Working Capital	47.33	52.91	53.34	53.85	51.42	32.18	36.06	36.22	36.43	35.41
O & M Expenses	147.89	153.82	160.06	166.30	173.10	133.82	139.18	144.80	150.49	156.60
Total	1709.82	1974.32	1933.75	1893.87	1678.10	1208.91	1396.21	1364.44	1332.71	1226.19

7. The details submitted by the petitioner in support of its claim for interest on working capital are given hereunder:

(Rs.in lakh)

	220 kV D/C Kayamkulam-Edmon transmission line along with associated bays					220 kV D/C Kayamkulam-Pallom transmission line along with associated bays				
	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance Spares	164.41	174.28	184.74	195.82	207.57	101.30	107.48	113.93	120.76	128.01
O & M expenses	12.32	12.82	13.34	13.86	14.42	11.15	11.60	12.07	12.54	13.05
Receivables	284.97	329.05	322.29	315.65	279.68	201.48	232.70	227.41	222.12	204.37
Total	461.71	516.15	520.36	525.32	501.68	313.93	351.78	353.40	355.42	345.42
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	47.33	52.91	53.34	53.85	51.42	32.18	36.06	36.22	36.43	35.41

8. The reply to the petition has been filed by Kerala State Electricity Board. In response to the public notices published by the petitioner in accordance with the procedure specified by the Commission, no comments have been received from the general public.

I.A.No. 36/2005

9. In the present case, the petitioner has claimed an additional capitalization of Rs. 279.25 lakh for the period 2001-2004 for 220 kV D/C Kayamkulam-Pallom transmission line along with associated bays. The details submitted by the petitioner of its claim for additional capital expenditure are given hereunder:

(Rs.in lakh)			
S.No.	Year	Amount claimed (Rs. in lakh)	Details of expenditure
	2001-02	131.96	-Payment to KSEB Pallom bay despost work to NTPC (Rs. 205.05 lakh) -Land development charges (Rs. 0.96 lakh) -Cancellation of compensation DD`s (Rs. 4.56 lakh) -Adjustment against Depositi work of NTPC (Rs. 69.49 lakh)
	2002-03	82.60	-Erection payment of builing and civil works-(Rs. 55.86 lakh) -Compensation payments (Rs. 6.17 lakh) -Spares caitalization (Rs. 19.64) -Final payment after reconciliation with contractor (Rs. 0.93 lakh)
	2003-04	64.69	-Compensation payment (Rs. 7.00 lakh) -Adjustment of advance on account of township construction (Rs. 57.69 lakh)
	Total	279.25	

10. The capital cost of 220 kV D/C Kayamkulam-Pallom transmission line along with associated bays considered in the order dated 30.6.2003 was without capitalization of the above amounts. The capital expenditure incurred was within the scope of the original work and it is also found to be in order, except for capitalization of Rs. 19.64 lakh on spares for Kayamkulam-Pallom transmission line. It has been submitted that the spares of Rs. 19.64 lakh could not be capitalised on the date of commercial operation of the asset and were lying in the store inventory and therefore, these have been capitalised in 2002-03. The initial spares of Rs. 220.94 lakh have already been capitalized on the date of commercial operation of Kayamkulam-Pallom transmission line and the same were considered in the order dated 30.6.2003 ibid. As initial spares of Rs. 220.94 lakh have already been capitalized, therefore, additional capitalization of Rs. 19.64 lakh after 6 years of the date of commercial operation cannot be allowed. Thus, net capitalization allowed is Rs. 259.61 lakh.

CAPITAL COST

11. As per clause (2) of Regulation 52 of the 2004 regulations in case of the projects existing up to 31.3.2004, the project cost admitted by the Commission for determination of tariff prior to 1.4.2004 shall form the basis for determination of tariff.

12. The petitioner has considered the capital expenditure admitted by the Commission in the order dated 30.6.2003 *ibid*. The petitioner has not claimed additional capitalisation on works for. 220 kV D/C Kayamkulam-Edmon transmission line, though it has claimed additional capitalization of Rs. 585.82 lakh on account of FERV. The petitioner has considered additional capitalization on works and FERV for 220 kV D/C Kayamkulam-Pallom transmission line for Rs. 279.25 lakh and Rs. 261.05 lakh respectively. Accordingly, the capital expenditure and FERV considered by the petitioner for tariff purpose are given hereunder:

Name of the Element	Admitted capital cost	Additional capitalization	(Rs.in lakh)	
			FERV for the period 1.4.2001 to 31.3.2004	Capital expenditure
220 kV D/C Kayamkulam-Edmon transmission line along with associated bays	12655.12	-	585.82	13240.94
220 kV D/C Kayamkulam-Pallom transmission line along with associated bays	7848.04	279.25	261.05	8388.34
Total	20503.16	279.25	846.87	21629.28

Extra Rupee Liability during the years 2001-04

13. Regulation 1.13 (a) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2001 provided as under:

- (a) Extra rupee liability towards interest payment and loan repayment actually incurred, in the relevant year shall be admissible; provided it directly arises out of foreign exchange rate variation and is not attributable to Utility or its suppliers or contractors. Every utility shall follow the method as per the Accounting Standard-11 (Eleven) as issued by the Institute of Chartered Accountants of India to calculate the impact of exchange rate variation on loan repayment.

- (b) Any foreign exchange rate variation to the extent of the dividend paid out on the permissible equity contributed in foreign currency, subject to the ceiling of permissible return shall be admissible. This as and when paid, may be spread over the twelve-month period in arrears.

14. Regulation 1.7 of the 2001 further provided that recovery of foreign exchange rate variation would be done directly by the utilities from the beneficiaries without filing a petition before the Commission. In case of any objections by the beneficiaries to the amounts claimed on these counts, they may file an appropriate petition before the Commission.

15. As no objections are raised by the respondents to the petitioner's claim for additional capitalization on account of FERV and also FERV worked out is matching with calculations submitted by the petitioner, the claim has been allowed for tariff calculations. An amount of Rs. 259.61 lakh has already been allowed to be capitalised on works vide para 10 of this order.

16. Based on the above, gross block as given below has been considered for the purpose of tariff for each of the element, after allowing additional capitalization on works and additional capitalization of FERV as per the petition.

Name of the Element	Admitted capital cost	Additional Capitalization on works	Additional capitalization on FERV for the period 1.4.2001 to 31.3.2004	Total
220 kV D/C Kayamkulam-Edmon transmission line along with associated bays	12655.12	-	585.82	13240.94

220 kV D/C Kayamkulam-Pallom transmission line along with associated bays	7848.04	259.61	261.05	8368.70
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DEBT- EQUITY RATIO

17. Regulation 54 of the 2004 regulations *inter alia* provides that,-

(1) In case of the existing project, debt–equity ratio Considered by the Commission for fixation of tariff for the period ending 31.3.2004 shall be considered for determination of tariff.

(2) In case of the transmission system for which investment approval was accorded prior to 1.4.2004 and which is likely to be declared under commercial operation during the period 1.4.2004 to 31.3.2009, debt-equity in the ratio of 70:30 shall be considered:

Provided that where deployment of equity is less than 30%, the actual equity deployed shall be considered for the purpose of determination of tariff:

Provided further that the Commission may in appropriate case consider equity higher than 30% for the purpose of determination of tariff, where the transmission licensee is able to establish to the satisfaction of the Commission that deployment of equity more than 30% was in the interest of general public;

(3) In case of the transmission system for which investment approval is accorded on or after 1.4.2004, debt-equity in the ratio of 70:30 shall be considered for the purpose of determination of tariff:

Provided that where deployment of equity is less than 30%, the actual equity deployed shall be considered for the purpose of determination of tariff.

(4) The debt and equity amount arrived at in accordance with above sub-clause (1), (2) or (3), as the case may be, shall be used for calculation of interest on

loan, return on equity, advance against depreciation and foreign exchange rate variation.”

18. The petitioner has claimed tariff based on debt-equity ratio as considered by the Commission in its order dated 20.4.2004 *ibid*. Based on this, the debt-equity ratio claimed by the petitioner for the purpose of determination of tariff in the present petition is indicated below:

Name of the Element	Debt-equity ratio
220 kV D/C Kayamkulam-Edmon transmission line along with associated bays	87.27:12.73
220 kV D/C Kayamkulam-Pallom transmission line along with associated bays	84.67:15.33

19. FERV of Rs. 585.82 lakh for 220 kV D/C Kayamkulam-Edmon transmission line has been apportioned by the petitioner between debt and equity in the ratio of 87.27:12.73. Further, the additional capital expenditure on works for 220 kV D/C Kayamkulam-Pallom transmission line has been considered by the petitioner to have been financed through equity and Rs. 261.05 lakh on account of FERV has been apportioned between debt and equity in the same ratio as considered in the order dated 30.6.2003 *ibid*. The approved debt-equity ratio for the transmission system is 81.64:18.36. Therefore, in order to bring debt and equity as close to the approved debt-equity ratio as possible, the additional capitalization is deemed to have been financed through equity in case of 220 kV D/C Kayamkulam-Edmon transmission line. In case of 220 kV D/C Kayamkulam Pallom transmission line, additional capitalization on works and FERV has been segregated so as to arrive at the approved debt-equity ratio of 81.64:18.36. Therefore, debt-equity ratio and notional equity considered for tariff in each case are as under:

Name of the Element	Equity as per order dated 30.6.2003	Notional Equity for additional capitalization (Rs. in lakh)	Notional equity on account of FERV (Rs. in lakh)	Total equity (Rs. in lakh)	Debt-equity ratio considered

220 kV D/C Kayamkulam-Edmon transmission line along with associated bays	1611.36	-	585.82	2197.18	83.41:16.59
220 kV D/C Kayamkulam-Pallom transmission line along with associated bays	1203.49	166.04	166.96	1536.49	81.64:18.36

RETURN ON EQUITY

20. As per clause (iii) of Regulation 56 of the 2004 regulations, return on equity shall be computed on the equity base determined in accordance with regulation 54 @ 14% per annum. Equity invested in foreign currency is to be allowed a return in the same currency and the payment on this account is made in Indian Rupees based on the exchange rate prevailing on the due date of billing.

21. The petitioner has claimed return on equity on the basis of order dated 30.6.2003 ibid along with notional equity on additional capitalization as stated above. However, we have already arrived at notional equity as given in the table under para 20. Thus, return on equity recoverable each year during the tariff period is given hereunder:

(Rs. in lakh)

Name of the Element	Notional equity claimed	Notional Equity allowed	Return on Equity
220 kV D/C Kayamkulam-Edmon transmission line along with associated bays	1685.94	2197.18	307.60
220 kV D/C Kayamkulam-Pallom transmission line along with associated bays	1522.76	1536.49	215.11

INTEREST ON LOAN

22. Clause (i) of regulation 56 of the 2004 regulations *inter alia* provides that,-

(a) Interest on loan capital shall be computed loan wise on the loans arrived at in the manner indicated in regulation 54.

(b) The loan outstanding as on 1.4.2004 shall be worked out as the gross loan as per regulation 54 minus cumulative repayment as admitted by the

Commission for the period up to 31.3.2004. The repayment for the period 2004-09 shall be worked out accordingly on normative basis.

(c) The transmission licensee shall make every effort to swap the loan as long as it results in net benefit to the long-term transmission customers. The costs associated with such swapping shall be borne by the long-term transmission customers.

(d) The changes to the loan terms and conditions shall be reflected from the date of such swapping and benefits passed on to the beneficiaries.

(e) In case any moratorium period is availed of by the transmission licensee, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.

23. The petitioner has claimed interest on loan in the following manner:

(i) Gross loans, cumulative loan repayment up to previous year as admitted by the Commission order dated 30.6.2003 in petition No. 52/2002 have been taken as the Opening Balance as on 1.4.2004.

(ii) On the basis of actual rate of interest on actual average loan, the weighted average rate of interest on loan is worked out for various years.

(iii) Loans as admitted by the Commission in the order dated 30.6.2003 in petition No. 52/2002 have been considered as notional loan and the weighted average rate of interest on loan for the year the respective years as per above has been multiplied with average notional loan to work out interest on loan.

(iv) Notional loan component of FERV up to 31.3.2001 as well as per para 2 as above have been considered separately and actual applicable rate of interest on Foreign Loan have been considered to workout the interest on this component.

24. In our calculation, the interest on loan has been worked out as detailed below:

- (i) Details of net outstanding loan as on 31.3.2004, repayment schedule for the period 2004-09, rate of interest as on 1.4.2004, exchange rate as on 31.3.2004 etc. have been taken from the loan allocation statement submitted by the petitioner for working out weighted average rate of interest. The rate of interest of IBRD-I loan is considered as 5.80% as per loan allocation statement approved mentioned above against 5.85% considered in the petition.
- (ii) Gross notional loan and cumulative repayment up to 31.3.2004 has been taken from the order dated 30.3.2006.
- (iii) Notional loan arising out of FERV during the years 2001-04 has been considered.
- (iv) The repayment of notional loan arising due to additional capitalization in case of 220 kV D/C Kayamkulam-Pallom transmission line along with associated bays during the years 2001-04 has been worked out by the following formula:

$$\frac{\text{Actual repayment of actual loan during each year}}{\text{Opening balance of actual loans during corresponding year}} \times (\text{Opening balance + addition of normative loan during corresponding Year})$$

- (v) Tariff is worked out considering normative loan and normative repayments. Once the normative loan is arrived at, it is considered for all purposes in the tariff. Normative repayment is worked out by the following formula:

$$\frac{\text{Actual repayment of actual loan during the year}}{\text{Opening balance of actual loan during the year}} \times \text{Opening balance of normative loan during the year}$$

- (vi) Moratorium in repayment of loan is considered with reference to normative loan and if the normative repayment of loan during the year is less than the depreciation during the year, it is considered as moratorium and depreciation during the year is deemed as normative repayment of loan during the year.
- (vii) Weighted average rate of interest on actual loan worked out has been above is applied on the notional average loan during the year to arrive at the interest on loan.
- (viii) PNB-I, Corporation Bank and IBRD-I loans carry the floating rate of interest and rate of interest as applicable as on 1.4.2004 has been considered in the calculation, subject to mutual settlement between the parties in case of any change/resetting of the interest rate during the tariff period.

25. Based on the above, the year wise details of interest worked out are given hereunder:

(Rs. in lakh)

Details of loan	220 kV D/C Kayamkulam-Edmon transmission line along with associated bays						220 kV D/C Kayamkulam-Pallom transmission line along with associated bays					
	Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09	Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09
Interest on loan												
Gross Loan as on 1.4.2001	11043.76						6644.55					
Addition due to Additional Capitalisation	0.00						93.57					
Addition due to FERV	0.00						94.09					
Gross Loan	11043.76	11043.76	11043.76	11043.76	11043.76	11043.76	6832.21	6832.21	6832.21	6832.21	6832.21	6832.21
Cumulative Repayment up to Previous Year		2686.98	3638.70	4623.14	5642.67	6699.90		1152.73	1785.70	2433.54	3097.33	3778.25

Net Loan-Opening		8356.78	7405.06	6420.62	5401.09	4343.86		5679.48	5046.51	4398.67	3734.89	3053.97
Repayment during the year		951.73	984.44	1019.53	1057.23	904.50		632.97	647.84	663.79	680.92	615.37
Net Loan-Closing		7405.06	6420.62	5401.09	4343.86	3439.36		5046.51	4398.67	3734.89	3053.97	2438.59
Average Loan		7880.92	6912.84	5910.85	4872.48	3891.61		5363.00	4722.59	4066.78	3394.43	2746.28
Weighted Average Rate of Interest on Loan		7.2468%	7.0672%	6.8349%	6.5131%	6.2086%		7.7558%	7.6429%	7.5010%	7.3118%	7.1384%
Interest		571.12	488.54	404.00	317.35	241.61		415.94	360.94	305.05	248.19	196.04

DEPRECIATION

26. Sub-clause (a) of clause (ii) of Regulation 56 of the 2004 regulations provides for computation of depreciation in the following manner, namely:

- (i) The value base for the purpose of depreciation shall be the historical cost of the asset.
- (ii) Depreciation shall be calculated annually based on straight line method over the useful life of the asset and at the rates prescribed in Appendix II to these regulations. The residual value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the historical cost of the asset. The historical capital cost of the asset shall include additional capitalisation on account of Foreign Exchange Rate Variation up to 31.3.2004 already allowed by the Central Government/Commission.
- (iii) On repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.
- (iv) Depreciation shall be chargeable from the first year of operation. In case of operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

27. The petitioner has claimed the depreciation on the capital expenditure on the basis of the capital cost and additional capital expenditure incurred from the date of the commercial operation to 31.3.2004 and 1.4.2004 to 31.3.2005 for each asset. We have, however, considered capital expenditure up to 31.3.2004. The calculations in support of depreciation allowed on the basis of capital cost as per para 12 above, are appended below:

(Rs.in lakh)

Details of Depreciation	220 kV D/C Kayamkulam-Edmon transmission line along with associated bays						220 kV D/C Kayamkulam-Pallom transmission line along with associated bays					
	Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09	Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09
As per order dated 6.8.2003	12655.12						7848.04					
Additions during 2001-04 due to Additional Capitalisation	0.00						259.61					
Addition during 2001-04 due to FERV	585.82						261.05					
Gross Block as on 31.3.2004	13240.94	13240.94	13240.94	13240.94	13240.94	13240.94	8368.71	8368.71	8368.71	8368.71	8368.71	8368.71
Rate of Depreciation	3.0630%						3.0686%					
Depreciable Value	90%	11916.85	11916.85	11916.85	11916.85	11916.85	90%	7479.05	7479.05	7479.05	7479.05	7479.05
Balance Useful life of the asset		-	-	-	-	-		-	-	-	-	-
Remaining Depreciable Value		8195.63	7790.06	7293.70	6274.17	5216.95		5796.27	5539.47	5045.51	4381.72	3700.81
Depreciation		405.57	405.57	405.57	405.57	405.57		256.80	256.80	256.80	256.80	256.80

ADVANCE AGAINST DEPRECIATION

28. As per sub-clause (b) of clause (ii) of Regulation 56 of the 2004 regulations, in addition to allowable depreciation, the transmission licensee is entitled to Advance Against Depreciation, computed in the manner given hereunder:

AAD = Loan repayment amount as per regulation 56 (i) subject to a ceiling of 1/10th of loan amount as per regulation 54 minus depreciation as per schedule

29. It is provided that Advance Against Depreciation shall be permitted only if the cumulative repayment up to a particular year exceeds the cumulative depreciation up

to that year. It is further provided that Advance Against Depreciation in a year shall be restricted to the extent of difference between cumulative repayment and cumulative depreciation up to that year.

30. The petitioner has claimed Advance Against Depreciation in the following manner:

- (i) 1/10th of gross loan is worked out from the gross notional loan admitted by the Commission order dated 30.6.2003 ibid along with notional loan worked out by division of FERV into notional loan & equity in the admitted debt-equity ratio .
- (ii) Cumulative loan as well as repayment of notional loan during the year have been considered.
- (iii) Depreciation as claimed in the petition.
- (iv) In addition to cumulative depreciation up to 2003-04 (excluding Advance Against Depreciation) as per order dated 30.6.2003, depreciation on FERV and Advance Against Depreciation for the period 2001-04 has been added to arrive at total cumulative depreciation amount as on 31.3.2004.

31. In our calculation, the Advance Against depreciation has been worked out as under:

- (i) 1/10th of gross loan is worked out from the gross notional loan.
- (ii) The repayment of notional loan during the year has been considered.
- (iii) Depreciation is worked out as per para 28 above.
- (iv) Cumulative depreciation up to 31.3.2004 is worked out considering Cumulative Depreciation/Advance Against Depreciation up to 2003-04, as per the order dated 30.6.2003 ibid and Depreciation recovered on FERV.

- (v) Cumulative depreciation for calculation of Advance Against Depreciation is worked out considering Depreciation up to the year of calculation excluding Advance Against Depreciation of the year of calculation.

32. The details of Advance Against Depreciation allowed for each element are given hereunder:

(Rs. in lakh)

	220 kV D/C Kayamkulam-Edmon transmission line along with associated bays					220 kV D/C Kayamkulam-Pallom transmission line along with associated bays				
	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09
Advance against Depreciation										
1/10th of Gross Loan(s)	1104.38	1104.38	1104.38	1104.38	1104.38	683.22	683.22	683.22	683.22	683.22
Repayment of the Loan	951.73	984.44	1019.53	1057.23	904.50	632.97	647.84	663.79	680.92	615.37
Minimum of the above	951.73	984.44	1019.53	1057.23	904.50	632.97	647.84	663.79	680.92	615.37
Depreciation during the year	405.57	405.57	405.57	405.57	405.57	256.80	256.80	256.80	256.80	256.80
(A) Difference	546.16	578.87	613.96	651.66	498.93	376.17	391.03	406.98	424.12	358.57
Cumulative Repayment of the Loan	3638.70	4623.14	5642.67	6699.90	7604.40	1785.70	2433.54	3097.33	3778.25	4393.62
Cumulative Depreciation/ Advance against Depreciation	4126.78	4532.35	5028.71	6048.24	7105.47	1939.58	2196.38	2690.34	3354.13	4035.05
(B) Difference	-488.08	90.79	613.96	651.66	498.93	-153.88	237.16	406.98	424.12	358.57
Advance against Depreciation Minimum of (A) and (B)	0.00	90.79	613.96	651.66	498.93	0.00	237.16	406.98	424.12	358.57

OPERATION & MAINTENANCE EXPENSES

33. In accordance with clause (iv) of Regulation 56 the 2004 regulations, the following norms are prescribed for O & M expenses

	Year				
	2004-05	2005-06	2006-07	2007-08	2008-09
O&M expenses (Rs in lakh per ckt-km)	0.227	0.236	0.246	0.255	0.266
O&M expenses (Rs in lakh per bay)	28.12	29.25	30.42	31.63	32.90

34. The petitioner has claimed O & M expenses for 250 (156+94) ckt-km of line length and 8 bays (4 at Kayamkulam and 2 each at Pallom and Edmon sub-stations), which have been allowed. Accordingly, the petitioner's entitlement to O & M expenses has been worked out as given hereunder:

(Rs. in lakh)

	220 kV D/C Kayamkulam-Edmon transmission line along with associated bays					220 kV D/C Kayamkulam-Pallom transmission line along with associated bays				
	2004-05	2005-06	2004-05	2005-06	2006-07	2004-05	2005-06	2006-07	2007-08	2008-09
O&M expenses for line length	35.41	36.82	38.38	39.78	41.50	21.34	22.18	23.12	23.97	25.00
O&M expenses for bays	112.48	117.00	121.68	126.52	131.60	112.48	117.00	121.68	126.52	131.60
TOTAL	147.89	153.82	160.06	166.30	173.10	133.82	139.18	144.80	150.49	156.60

35. The petitioner has submitted that the wage revision of its employees is due with effect from 1.1.2007. Therefore, according to the petitioner, O & M expenses should be subject to revision on account of revision of employee cost from that date. In the alternative, it has been prayed that the increase in employee cost due to wage revision be allowed as per actuals for extra cost to be incurred consequent to wage revision. We are not expressing any view, as this issue does not arise for consideration at this stage. The petitioner may approach for a relief in this regard at an appropriate stage in accordance with law.

INTEREST ON WORKING CAPITAL

36. The components of the working capital and the interest thereon are discussed hereunder:

(i) Maintenance spares

Regulation 56(v) (1) (b) of the 2004 regulations provides for maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation. In the present case, element wise capital expenditure on the date of commercial operation has not been made available by the petitioner. Therefore, element wise capital expenditure on the date of commercial operation which has been considered as the historical cost for the purpose of the present petition and maintenance spares have been

worked out accordingly by escalating 1% of the historical cost @ 6% per annum. The necessary details are given hereunder:

Name of the Element	Date of Commercial Operation	Capital Expenditure (Rs. in lakh) on the date of commercial operation	Escalated spares Cost as on 1.4.2004 (Rs. in lakh)
220 kV D/C Kayamkulam-Edmon transmission line along with associated bays	1.11.1998	11129.25	152.66
220 kV D/C Kayamkulam-Pallom transmission line along with associated bays	1.12.1999	6553.73	84.39

(ii) O & M expenses

Regulation 56(v)(1)(a) of the 2004 regulations provides for operation and maintenance expenses for one month as a component of working capital. The petitioner has claimed O&M expenses for 1 month of O&M expenses of the respective year as claimed in the petition. This has been considered in the working capital.

(iii) Receivables

As per Regulation 56(v)(1)(c) of the 2004 regulations, receivables will be equivalent to two months average billing calculated on target availability level. The petitioner has claimed the receivables on the basis 2 months' transmission charges claimed in the petition. In the tariff being allowed, receivables have been worked out on the basis 2 months' transmission charges.

(iv) Rate of interest on working capital

As per Regulation 56(v) (2) of the 2004 regulations, rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1.4.2004 or on 1st April of the year in which the project or part thereof (as the case may be) is declared under commercial operation, whichever is later. The interest on working capital is

payable on normative basis notwithstanding that the transmission licensee has not taken working capital loan from any outside agency. The petitioner has claimed interest on working capital @ 10.25% based on SBI PLR as on 1.4.2004, which is in accordance with the 2004 regulations and has been allowed.

37. The necessary computations in support of interest on working capital are appended herein below.

(Rs. in lakh)

	220 kV D/C Kayamkulam-Edmon transmission line along with associated bays					220 kV D/C Kayamkulam-Pallom transmission line along with associated bays				
	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance Spares	152.66	161.82	171.53	181.82	192.73	84.39	89.46	94.83	100.51	106.55
O & M expenses	12.32	12.82	13.34	13.86	14.43	11.15	11.60	12.07	12.54	13.05
Receivables	245.71	248.28	323.89	316.84	279.45	174.90	206.79	227.16	221.50	202.69
Total	410.69	422.91	508.76	512.51	486.60	270.44	307.85	334.06	334.56	322.29
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	42.10	43.35	52.15	52.53	49.88	27.72	31.55	34.24	34.29	33.03

TRANSMISSION CHARGES

38. A summary sheet showing basic details of capital cost and other related aspects is annexed to this order. The transmission charges being allowed are summarized below.

(Rs.in lakh)

	220 kV D/C Kayamkulam-Edmon transmission line along with associated bays					220 kV D/C Kayamkulam-Pallom transmission line along with associated bays				
	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	405.57	405.57	405.57	405.57	405.57	256.80	256.80	256.80	256.80	256.80
Interest on Loan	571.12	488.54	404.00	317.35	241.61	415.94	360.94	305.05	248.19	196.04
Return on Equity	307.60	307.60	307.60	307.60	307.60	215.11	215.11	215.11	215.11	215.11
Advance against Depreciation	0.00	90.79	613.96	651.66	498.93	0.00	237.16	406.98	424.12	358.57
Interest on Working Capital	42.10	43.35	52.15	52.53	49.88	27.72	31.55	34.24	34.29	33.03
O & M Expenses	147.89	153.82	160.06	166.30	173.10	133.82	139.18	144.80	150.49	156.60
Total	1474.28	1489.67	1943.34	1901.01	1676.70	1049.39	1240.74	1362.98	1329.00	1216.16

39. In addition to the transmission charges, the petitioner shall be entitled to other charges like income-tax, incentive, surcharge and other cess and taxes in accordance with the 2004 regulations.

40. The petitioner by an affidavit dated 17.10.2005 has sought approval for the reimbursement of expenditure of Rs. 12,468/- incurred on publication of notices in the newspapers. The petitioner shall claim reimbursement of the said expenditure directly from the respondent KSEB in one installment. The petitioner has also sought reimbursement of filing fee of Rs.5.20 lakh paid. A final view on reimbursement of filing fee is yet to be taken by the Commission for which views of the stakeholder have been called for. The view taken on consideration of the comments received shall apply in the present case as regards reimbursement of filing fee.

Impact of additional capitalization for the years 2001-04

41. In the petitions filed by NTPC for approval of revised fixed charges for additional capitalization for the period 1.4.2001 to 31.3.2004, the Commission has decided that additional capital expenditure be added to the gross block as on 1.4.2001 to arrive at gross block as on 1.4.2004 for the purpose of fixation of tariff for the period 2004-05 to 2008-09. The Commission has further ordered that NTPC would be entitled to earn return on equity @ 16% on equity portion of additional capitalization approved and interest on loan at the rate as applicable during 2001-02 to 2003-04. The return on equity and interest on loan are payable on additional capitalization from 1st April of the financial year following the financial year to which additional capital expenditure relates. Impact of additional capitalization for the years 2001-04 in respect of the 220 kV D/C Kayamkulam-Pallom transmission line along with associated bays as shown below, shall be recovered by the petitioner from the respondents along with tariff for the current period:

	2001-02	2002-03	2003-04	Total
Period	1.00	1.00	1.00	
Additional Capitalisation	131.96	62.96	64.69	259.61
Financing of Additional Capitalisation				
Notional Loan	47.56	22.69	23.32	93.57
Notional Equity	84.40	40.27	41.37	166.04

	Total	131.96	62.96	64.69	259.61
Effective Additional Capitalisation					
Opening Loan Balance		0.00	46.12	66.53	
Addition of Loan		47.56	22.69	23.32	93.57
Repayment of Loan		1.45	2.28	8.55	12.27
Closing Loan Balance		46.12	66.53	81.30	
Effective Loan			46.12	66.53	
Weighted Average Rate of Interest on Loan		9.2284%	9.2141%	9.3395%	
Effective Equity			84.40	124.67	
Additional interest on Loan			4.25	6.21	10.46
Additional return on Equity	16%		13.50	19.95	33.45
Total impact of Additional Capitalisation			17.75	26.16	43.91

42. The petitioner is already billing the respondent on provisional basis in accordance with the Commission's interim directions. The provisional billing of tariff shall be adjusted in the light of final tariff now approved by us.

43. The transmission charges approved by us shall be borne exclusively by the respondent, the sole beneficiary.

44. This order disposes of Petition No.74/2004 as also I.A.No 36/2005.

Sd-/
(A.H.JUNG)
MEMBER

sd-/
(BHANU BHUSHAN)
MEMBER

sd-/
(K.N.SINHA)
MEMBER

sd-/
(ASHOK BASU)
CHAIRPERSON

New Delhi dated the 9th May 2006

SUMMARY SHEET

Name of the Element:		220 kV D/C Kayamkulam-Edmon transmission line along with associated bays			220 kV D/C Kayamkulam-Pallom transmission line along with associated bays			
Actual DOCO:		1.11.1998			1.12.1999			
Tariff setting Period:		2004-09			2004-09			
				(Rs. in lakh)			(Rs. in lakh)	
1	Capital Cost of the Project			20441.00			20441.00	
2	Admitted Capital Cost as on 1.4.2004 for Calculation of Debt and Equity			12655.12			7848.04	
3	Additional Capitalisation(works)			0.00			259.61	
	2001-02			0.00		131.96		
	2002-03			0.00		62.96		
	2003-04			0.00		64.69		
	Total			0.00		259.61		
4	Additional Capitalisation(FERV)			585.82			261.05	
	2001-02			28.75		12.81		
	2002-03			486.03		216.59		
	2003-04			71.04		31.66		
	Total			585.82		261.05		
5	Total Capital Cost as on 1. 4.2004(2+3+4)			13240.94			8368.71	
6	Means of Finance :							
	Debt		83.41%	11043.76		81.64%	6832.21	
	Equity		16.59%	2197.18		18.36%	1536.49	
	Total		100.00%	13240.94		100.00%	8368.71	
7	Gross Loan as on 1. 4.2004			11043.76			6832.21	
	Cumulative Repayment up to 31.3.2009 :			7604.40			4393.62	
	Repaid up to 31. 3.2004			2686.98		1128.91		
	1. 4.20 01 to 31. 3.2004 (ACE & FERV)			0.00		23.82		
	1.0.2004 to 31. 3.2009			4917.43		3240.89		
	Total	3732.7226		7604.40		4393.62		
8	Balance Loan to be repaid beyond 31. 3.2009 :			3439.36			2438.59	
9	Depreciation recovered up to 31. 3.2009 :			7604.40			4393.62	
			Dep	AAD	Total	Dep	AAD	Total
	Recovered up to 31.0.2004		3025.64	669.95	3695.59	1358.99	312.32	1671.31
	1. 4.2001 to 31. 3.2004 (ACE & FERV)		25.62	0.00	25.62	11.46	0.00	1.37
	1.4.2004 to 31. 3.2009		2027.85	1855.34	3883.19	1284.02	1426.83	2710.84
	Total			7604.40				4393.62
10	Balance Depreciation to be recovered beyond 31.03.2009 :			4312.44				3085.43
	Capital cost for the purpose of Depreciation			12655.12				7848.04
	ACE + FERV			585.82				520.66
	Capital cost as 1. 4.2004			13240.94				8368.71
	Less: Land Cost			0.00				58.68
				13240.94				8310.06
	90% of Capital Cost as above			11916.85				7479.05
	Cum. Depreciation to be recovered up to 31.03.2009			7604.40				4393.62
	Balance			4312.44				3085.43

@ For both the assets.