

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Coram:**

1. **Shri Ashok Basu, Chairman**
2. **Shri Bhanu Bhushan, Member**
3. **Shri A.H. Jung, Member**

**Petition No.114/2004**

**In the matter of**

Approval for transmission tariff for Kawas transmission system in Western 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

1. Madhya Pradesh State Electricity Board, Jabalpur
  2. Maharashtra State Electricity Board, Mumbai
  3. Gujarat Electricity Board, Baroda
  4. Electricity Department, Govt. of Goa, Panaji
  5. Electricity Department, Administration of Daman & Diu, Daman
  6. Electricity Department, Admin. of Dadra Nagar Haveli, Silvassa
  7. Chhattisgarh State Electricity Board, Raipur
- .....Respondents**

**The following were present:**

1. Shri U.K. Tyagi, PGCIL
2. Shri C. Kannan, PGCIL
3. Shri P.C. Pankaj, PGCIL
4. Shri M.M. Mondal, CM (Fin), PGCIL
5. Shri Prashant Sharma, PGCIL
6. Shri Deepak Shrivastava, EE, MPSEB
7. Shri D. Khandelwal, ACE, MPSEB
8. Shri P.M. Matiey, MSEB

**ORDER  
(DATE OF HEARING : 8.9.2005)**

The petition has been filed for approval for transmission charges for Kawas Transmission System (hereinafter referred to as "the transmission system") in Western 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 had 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. The petitioner has claimed the transmission charges as under:

(Rs. In lakh)

	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Depreciation	57.14	57.14	57.14	57.14	57.14
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	174.76	174.76	174.76	174.76	174.76
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	16.99	17.64	18.33	19.05	19.81
O & M Expenses	244.54	254.32	264.68	274.95	286.24
<b>Total</b>	<b>493.44</b>	<b>503.87</b>	<b>514.92</b>	<b>525.90</b>	<b>537.96</b>

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

(Rs. in lakh)

	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Maintenance Spares	63.18	66.97	70.99	75.25	79.76
O & M expenses	20.38	21.19	22.06	22.91	23.85
Receivables	82.24	83.98	85.82	87.65	89.66
Total	165.79	172.14	178.86	185.81	193.27
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	16.99	17.64	18.33	19.05	19.81

4. The different lines of the transmission system were declared under commercial operation during March 1992 to December 1992 as given hereunder:

<b>S.No.</b>	<b>Name of the Transmission Line</b>	<b>Date of Commercial Operation</b>	<b>Ckt-km</b>
1.	220 kV D/C Kawas-Navsari Transmission Line	22.3.1992	98
2.	220 kV D/C Kawas-Valthan Transmission Line*	22.3.1992	74
3.	220 kV D/C Kawas-Bharuch Transmission Line*	1.12.1992	162
		<b>Total</b>	334

\* “Valthan” sub-station has also been known as “Vav” earlier. One circuit of 220 kV Kawas-Valthan line has been looped-in-looped-out at Ichchapur sub-station.

“Bharuch” sub-station has also been known as “Haldarwa” earlier.

5. The annual transmission charges for the period from 1.4.2001 to 31.3.2004 were decided by the Commission in its order dated 4.8.2003 in petition No 28/2002, and for the period ending 31.3.2001 by Ministry of Power under its notifications dated 20.7.1998 and 14.5.1999.

### **CAPITAL COST**

6. 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.

7. The petitioner has considered the capital expenditure of Rs.3139.72 lakh as admitted by the Commission in its order dated 4.8.2003 *ibid*. The petitioner has not claimed additional capitalisation on works. The petitioner has also not considered additional capitalisation on account of FERV as there are no foreign loans.

Accordingly, gross block of Rs. 3139.72 lakh as claimed has been considered for the purpose of tariff.

### **DEBT- EQUITY RATIO**

8. Regulation 54 of the 2004 regulations *inter alia* provides that 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. It further provides that the debt and equity amount arrived at in the above manner shall be used for calculation of interest on loan, return on equity, advance against depreciation and foreign exchange rate variation.

9. The petitioner has claimed tariff based on debt-equity of 50:50 in the Net Fixed Asset as on 1.4.1997, which was considered by the Commission in its order dated 4.8.2003 *ibid*, and is in accordance with the 2004 regulations. Accordingly, the Net Fixed Asset of Rs. 2496.63 lakh as on 1.4.1997 has been divided into debt and equity. Based on this, Rs. 1248.32 lakh has been considered as the equity for the purpose of determination of tariff in the present petition.

### **RETURN ON EQUITY**

10. 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.

11. The petitioner has claimed return on equity of Rs. 1248.32 lakh, which has been found to be admissible. Accordingly, the petitioner shall be entitled to return on equity @ Rs. 174.76 lakh each year during the tariff period.

### **INTEREST ON LOAN**

12. As per clause (i) of Regulation 56 of the 2004 regulations, interest on loan capital is to be computed loan wise on the loans arrived at in the manner indicated in regulation 54. Further, the loan outstanding as on 1.4.2004 is worked out as the gross loan as per regulation 54 minus cumulative repayment as admitted by the Commission up to 31.3.2004. The repayment for the period 2004-09 needs to be worked out on normative basis.

13. The petitioner has not claimed any interest on loan as the entire loan was repaid prior to 2001-02. Accordingly, the petitioner is not entitled to interest on loan.

### **DEPRECIATION**

14. 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.

15. The gross depreciable value of the asset, as per (ii) above, is  $0.9 \times \text{Rs. } 3139.72 \text{ lakh} = \text{Rs. } 2825.75 \text{ lakh}$ . Cumulative depreciation and AAD recovered in tariff up to 31.3.2004 is Rs. 1511.53 lakh. Remaining depreciable value as on 1.4.2004 is thus Rs. 1314.22 lakh.

16. As the entire loan for the transmission lines covered in the present petition has already been repaid, the depreciation has been worked out by spreading the balance depreciable value over the remaining useful life of the transmission system (23 years as on 1.4.2004), and it comes to Rs.57.14 lakh per year.

#### **ADVANCE AGAINST DEPRECIATION**

17. 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

18. 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.

19. The petitioner has not claimed Advance Against Depreciation, as there is no loan repayment. The petitioner's entitlement to Advance Against Depreciation is, therefore, zero.

### **OPERATION & MAINTENANCE EXPENSES**

20. 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
<b>O&amp;M expenses per ckt-km (Rs in lakh)</b>	0.227	0.236	0.246	0.255	0.266
<b>O&amp;M expenses per bay (Rs in lakh)</b>	28.12	29.25	30.42	31.63	32.90

21. The petitioner has claimed O&M expenses for 334 Kms of line length and 6 bays (two each at Navsari, Valthan and Bharuch sub-stations of GEB), which have been considered for calculation purposes. Accordingly, O&M expenses allowed are given hereunder:

	Year				
	2004-05	2005-06	2006-07	2007-08	2008-09
O&M expenses for line length	75.82	78.82	82.16	85.17	88.84
O&M expenses for bays	168.72	175.50	182.52	189.78	197.40
<b>Total</b>	244.54	254.32	264.68	274.95	286.24

22. 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**

23. 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. The petitioner has claimed the maintenance spares on the basis of capital cost as on 1.4.1992 and escalating the same @ 6% per annum. The maintenance spares have been worked out based on the capital cost of Rs 2613.00 lakh as on 1.4.1993, based on the Ministry of Power notification, as the capital cost on the date of commercial operation of the transmission system has not been made available on record by the petitioner.



**(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.

24. The necessary computations in support of interest on working capital are appended hereinbelow.

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance Spares	49.60	52.58	55.73	59.08	62.62
O & M expenses	20.38	21.19	22.06	22.91	23.85
Receivables	82.00	83.73	85.55	87.37	89.36
Total	151.98	157.50	163.34	169.36	175.84
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
<b>Interest</b>	<b>15.58</b>	<b>16.14</b>	<b>16.74</b>	<b>17.36</b>	<b>18.02</b>

### **TRANSMISSION CHARGES**

25. A summary sheet giving capital cost, depreciation and other relevant parameters which have formed the basis for determining transmission charges is annexed. The transmission charges being allowed for Kawas Transmission System in Western Region are summarised below.

(Rs. In lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	57.14	57.14	57.14	57.14	57.14
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	174.76	174.76	174.76	174.76	174.76
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	15.58	16.14	16.74	17.36	18.02
O & M Expenses	244.54	254.32	264.68	274.95	286.24
<b>Total</b>	<b>492.02</b>	<b>502.37</b>	<b>513.33</b>	<b>524.21</b>	<b>536.17</b>

26. 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. These transmission charges shall be included in the regional transmission tariff for Western Region and shall be shared by the regional beneficiaries in accordance with the 2004 regulations.

27. The petitioner is already billing the respondents 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.

28. This order disposes of Petition No.114/2004.

**Sd/-**  
**(A.H. JUNG)**  
**MEMBER**

**Sd/-**  
**(BHANU BHUSHAN)**  
**MEMBER**

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

**New Delhi dated the 26<sup>th</sup> October, 2005**

**Annexure**

**Summary Sheet**

<b>Name of the Company</b>		<b>PGCIL</b>					
<b>Name of the Scheme</b>		<b>Kawas Transmission System</b>					
<b>Date of Commercial Operation</b>		<b>Between March 1992 to Dec 1992</b>					
<b>Tariff setting Period</b>		<b>2004-09</b>					<b>Rs.in lacs</b>
<b>Petition No.</b>		<b>114/2004</b>					
<b>1</b>	<b>Capital Cost of the Project</b>						<b>3139.72</b>
<b>2</b>	<b>Cumulative Depreciation upto 31.03.97</b>						643.09
<b>3</b>	<b>Net Fixed assets as 1.04.97</b>						2496.63
<b>4</b>	<b>Admitted Capital Cost as on 01.04.2004 for Calculation of Debt and Equity</b>						<b>2496.63</b>
<b>2</b>	<b>Additional Capitalisation(works)</b>						<b>0.00</b>
	For the year 2001-02				0.00		
	For the year 2002-03				0.00		
	For the year 2003-04				0.00		
	Total				0.00		
<b>3</b>	<b>Additional Capitalisation(FERV) as per Commission's Order dated in</b>						<b>0.00</b>
	<b>Petition</b>						
	For the year 2001-02				0.00		
	For the year 2002-03				0.00	Not applicable	
	For the year 2003-04				0.00		
	Total				0.00		
<b>4</b>	<b>Total Capital Cost as on 01.04.2004(1+2+3)</b>						2496.63
<b>5</b>	<b>Means of Finance<sup>1</sup> :</b>						
	Debt	50.00%			1248.32		
	Equity	50.00%			1248.31		
	Total				2496.63		
<b>6</b>	<b>Debt details-Entire notional debt stands paid as on 01.04.2004</b>						-
<b>7</b>	<b>Weighted Av. Rate of interest-Not applicable</b>						
<b>8</b>	<b>Depreciation recovered upto 31.03.09 :</b>						<b>1797.23</b>
				<b>Dep</b>	<b>AAD</b>	<b>Total</b>	
	Recovered upto 31.03.97			643.09	0	643.09	
	From 01.04.97 to 31.04.2001			697.02	0.00	697.02	
	From 01.04.01 to 31.04.2004			171.42	0.00	171.42	
	From 01.04.2004 to 31.03.2009			285.70	0.00	285.7	
	Total					1797.23	
<b>9</b>	<b>Balance Depreciation to be recovered beyond 31.03.2009 :</b>						<b>1028.52</b>
	<b>Capital cost for the purpose of Depreciation<sup>2</sup></b>					<b>3139.72</b>	
	<b>90% of Capital Cost as above</b>					<b>2825.75</b>	
	<b>Cum. Depreciation to be recovered upto 31.03.09</b>					<b>1797.23</b>	
	<b>Balance</b>					<b>1028.52</b>	
<p>1 Debt and Equity are not actual but notional calculated in the ratio of 50:50 as considered by GOI and the same has been accepted by the Commission.</p>							
<p>2 The tariff was set by GOI for the period upto 31.03.1997 on NFA basis .The Gross Block as on 01.04.1997 as per tariff notification Gol Notification F no. 2/3/Powergrid/Tariff/98 dated 20.07.98 was Rs. 2613.00 lacs. Further as per Gol Notification Gol Notification F no. 2/3/Powergrid/Tariff/99(7) dated 14.05.1999,additional capitalisation of Rs.526.72 lacs was allowed which enhanced the Gross Block to Rs.3139.72 lacs.Cumulative depreciation recovered upto 31.03.1997 amounting to Rs.643.09 lacs was deducted to arrive at NFA as on 31.03.1997 amounting to Rs.2496.63 lacs.The same was divided into notional loan and notional equity in the ratio of 50:50 which has been considered by the Commission while awarding the tariff for the period 2001-04 in petition 28/2002.</p>							