

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Coram**

1. Shri Bhanu Bhushan, Member
2. Shri R. Krishnamoorthy, Member

**Petition No. 69/2004**

**In the matter of**

Approval of tariff in respect of Korba-Budhipadar transmission system in Eastern Region and Western Region for the period from 1.4.2004 to 31.3.2009.

**And in the matter of**

Power Grid Corporation of India Ltd., Gurgaon

**.... Petitioner**

Vs

1. Madhya Pradesh State Electricity Board, Jabalpur
2. Bihar State Electricity Board, Patna
3. West Bengal State Electricity Board, Kolkata
4. Grid Corporation of Orissa Ltd., Bhubaneshwar
5. Damodar Valley Corporation, Kolkata
6. Power Deptt. Govt of Sikkim, Gangtok
7. Jharkhand State Electricity Board, Ranchi
8. Gujarat Electricity Board, Vadodara
9. Chhattisgarh State Electricity Board, Raipur
10. Maharashtra State Electricity Board, Mumbai
11. Electricity Department, Govt of Goa, Panaji, Goa
12. Electricity Department, Admn. of Daman & Diu, Daman
13. Electricity Department, Admn. of Dadra and Nagar Haveli, Silvassa
14. Karnatraka Power Transmission Corp. Ltd., Bangalore **.Respondents**

**In the matter of**

**Petition No. 72/2004**

Approval of tariff in respect of Vindhyachal Stage-I Additional transmission system in Western Region for the period from 1.4.2004 to 31.3.2009.

**And in the matter of**

**Petition No.73/2004**

Approval of tariff in respect of transmission system associated with Vindhyachal Stage II in Western Region for the period from 1.4.2004 to 31.3.2009.

**And in the matter of**

**Petition No. 116/2004**

Approval of tariff in respect of 50 MVAR Reactor along with the associated equipment at Chandrapur sub-station in Western Region for the period from 1.4.2004 to 31.3.2009.

**And in the matter of**

Power Grid Corporation of India Ltd., Gurgaon

**.... Petitioner**

Vs

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

### **ORDER**

In these petitions, the petitioner, Power Grid Corporation of India Limited, had sought approval of tariff in respect of Korba-Budhipadar transmission system an inter-regional link between Eastern Region and Western Region and its various transmission assets 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”). On completion of pleadings and after hearing the parties, final tariff in respect of these assets was awarded by different orders. The details of capital cost, equity considered at the time of award of tariff and the summary of the tariff awarded in each case are given in the Annexures I to IV attached. While awarding tariff, the Commission adopted capital cost, loan, equity, etc considered for determination of tariff for the period 1.4.2001 to 31.3.2004. Also, FERV for the

period up to 31.3.2004 was capitalized and apportioned between debt and equity in the same ratio as considered for the period 1.4.2001 to 31.3.2004.

2. Tamil Nadu Electricity Board (TNEB) filed Appeal No. 135/2005 in the Appellate Tribunal for Electricity against order dated 30.6.2006 of the Commission in Petition No 40/2002, vide which while fixing transmission tariff in respect of 400 kV D/C Kaiga-Sirsi transmission line along with associated bays for the period 1.4.2001 to 31.3.2004, the methodology similar to that adopted in respect of the various transmission assets was followed as regards apportionment of FERV into debt and equity. TNEB had, *inter alia*, questioned the methodology of bifurcation of FERV into debt and equity for the purpose of tariff determination. This appeal, as also some other linked appeals were disposed of by the Appellate Tribunal through a common judgment dated 4.10.2006. The Tribunal vide its judgment dated 4.10.2006 held as under:

“16. According to Explanation 1 to clause 4.4 (c), the premium raised by the Transmission Utility while issuing share capital and investment of internal resources created out of free reserve of the existing utility, if any, for the funding of the project, shall also be reckoned as paid up capital for the purpose of computing the return on equity subject to fulfillment of certain conditions. Explanation also makes no provision for increasing the equity beyond 50% of the book value of the transmission system. Once the fixed cost has been agreed to be financed in a certain ratio of debt and equity, the equity can be affected by FERV only if the equity is in foreign exchange. The provision of FERV as a pass through has been kept to ensure that any liability or gain, if any, arising on account of any variation in foreign exchange rates (whether debt or equity) is passed on to the beneficiary. In case there is no FERV liability or gain, as the case may be, there will not be any FERV adjustment. In the instant case the additional liability arising on account of FERV shall have an impact only on the debt liability and not equity capital. In this view of the matter, we hold that FERV adjustment is to be made in respect of debt liability and not in respect of the equity. Accordingly, we hold that the CERC is only to make adjustment in respect of debt liability and not in respect of the equity.

17. In view of the aforesaid discussion, the appeal is partly allowed to the extent indicated above. The Central Electricity Regulatory Commission shall re-calculate the effect of FERV on the debt liability. “

3. In terms of judgment dated 4.10.2006 of the Appellate Tribunal in Appeal No 135 of 2005 and other related appeals, addition of notional equity on account of FERV is not to be considered for computation of return on equity. As a consequence, the entire amount of FERV forms part of loan.

4. The above decision was reiterated by the Appellate Tribunal in its judgment dated 22.12.2006 in Appeal No 161 Of 2006 (M.P. State Electricity Board Vs. Power grid Corporation of India and Others) which related to transmission tariff for Vindhyachal Stage - I Additional Transmission System in Western Region for the period 1.4.2001 to 31.3.2004.

5. Further, North Eastern Electric Power Corporation Ltd. (NEEPCO) filed Appeal No. 159 of 2005 before the Appellate Tribunal for Electricity which was disposed of vide judgment dated 31.10.2007. The Appellate Tribunal vide the above judgment held, *inter alia*, that interest on loan capital should be determined based on normative debt repayment formula. A similar methodology has been decided by the Appellate Tribunal in some of the appeals filed by NTPC Ltd.

6. The above rulings of the Appellate Tribunal, on the question of apportionment of FERV and computation of interest on loan have been considered to be judgments in *rem* and thereby have been applied in all cases of similar nature to re-calculate the transmission charges.

7. Accordingly, the transmission charges for the period 1.4.2001 to 31.3.2004 for the transmission assets covered in the present order have been revised by order dated 17.1.2008. The revised transmission charges allowed for the said period are also incorporated in the Annexures I to IV attached, separately for each asset.

8. In the light of the forgoing discussion, the transmission charges for the transmission assets forming subject-matter of the present order for the period 2004-09 are also being revised, and the revised transmission charges are summarized in the annexures. It is to be noted that there is no change in O & M component of the tariff because this was allowed on normative basis for per km line length and per bay. O & M charges already approved, therefore, hold good. Other components of tariff (except depreciation), including Advance Against Depreciation, wherever applicable, already allowed have been recalculated.

9. The petitioner shall adjust the balance amount recoverable/refundable, as the case may be, against the future bills within six months, from the date of this order.

10. It is brought out that but for revision of debt and equity in line with the Appellate Tribunal's judgments dated 4.10.2006 and 31.10.2007, and computation of interest on loan in accordance with the methodology decided by the Appellate Tribunal in the judgment dated 31.10.2007 *ibid.* generally the methodology considered for re-computation of the transmission charges is the same as originally considered.

11. The revision of tariff allowed is subject to decision of the Hon`ble Supreme Court in the appeals filed by the petitioner against the Appellate Tribunal's judgment dated 4.10.2006.

**Sd/-**  
**(R KRISHNAMOORTHY)**  
**MEMBRER**  
New Delhi dated 29<sup>th</sup> April 2008

**sd/-**  
**(BHANU BHUSHAN)**  
**MEMBRER**

## Annexure-I

1. Petition No. 69/2004
2. Subject: Approval of tariff in respect of Korba-Budhipadar transmission system in Eastern Region and Western Region for the period from 1.4.2004 to 31.3.2009
3. Date of order of approval of tariff: 16.3.2006
4. **Original tariff**

(a) Computation of capital cost

(Rs. in lakh)

Capital Expenditure up to 31.3.2001	3012.57
Additional Capital Expenditure during 2001-04	0.00
FERV during 2001-04	(-)8.82
Capital Expenditure as on 31.3.2004	3003.76

(b) Computation of equity

(Rs. in lakh)

Equity up to 31.3.2001	664.28
Notional equity arising out of additional capitalization during 2001-04	0.00
Notional equity arising out of FERV during 2001-04	(-)8.82
Total Equity	655.47

(c) Computation of interest on loan

(Rs. in lakh)

Details of loan	Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09
<b>Interest on Loan</b>						
Gross Loan Order 18.7.2003	2348.29					
Addition due to Additional Capitalisation	0.00					
Addition due to FERV	0.00					
Gross Normative Loan	2348.29	2348.29	2348.29	2348.29	2348.29	2348.29
Cumulative Repayment up to Previous Year		303.73	633.18	962.63	1292.08	1621.53
Net Loan-Opening		2044.56	1715.11	1385.66	1056.21	726.76
Repayment during the year		329.45	329.45	329.45	329.45	195.23
Net Loan-Closing		1715.11	1385.66	1056.21	726.76	531.53

Average Loan		1879.83	1550.38	1220.94	891.49	629.15
Weighted Average Rate of Interest on Loan		9.3492%	9.1298%	8.7919%	8.2042%	7.6436%
Interest		175.75	141.55	107.34	73.14	48.09

(d) Summary of the transmission charges awarded

(Rs. in lakh)

<b>Transmission Tariff</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Depreciation	81.39	81.39	81.39	81.39	81.39
Interest on Loan	175.75	141.55	107.34	73.14	48.09
Return on Equity	91.77	91.77	91.77	91.77	91.77
Advance against Depreciation	0.00	153.43	153.43	153.43	113.84
Interest on Working Capital	11.98	14.37	14.11	13.87	13.12
O & M Expenses	69.89	72.67	75.68	78.55	81.84
<b>Total</b>	<b>430.78</b>	<b>555.18</b>	<b>523.73</b>	<b>492.15</b>	<b>430.05</b>

5. Revised tariff for the period 2001-04

(a) Date of order: 17.1.2008 in Petition No. 49/2002

(b) Equity during 2001-04:

(Rs. in lakh)

	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>
Equity	661.94	661.94	661.94

(c) Computation of interest on loan:

(Rs. in lakh)

<b>Interest on Loan</b>	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>
Gross Loan –Opening	2350.63	2350.63	2350.63
Cumulative Repayment up to Previous Year	0.00	0.00	0.00
Net Loan-Opening	2350.63	2350.63	2350.63
Repayment during the year	0.00	0.00	303.73
Net Loan-Closing	2350.63	2350.63	2046.90
<b>Interest</b>	<b>285.17</b>	<b>285.17</b>	<b>265.22</b>

6. Revised tariff computations for the period 2004-09

(a) Equity and return on equity

(Rs. in lakh)

Equity up to 31.3.2004 as per order dated 17.1.2008	661.94
Notional equity arising out of additional capitalization during 2001-04	0.00
Notional equity arising out of FERV during 2001-04	0.00
<b>Total Equity</b>	<b>661.94</b>



Return on equity @ 14% for the period 2004-09	92.67
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(b) Interest on notional loan

(i) Computation of outstanding loan

(Rs. in lakh)

		As per order dated 18.7.2003 in petition 49/2002 for tariff period 2001-04	As per order dated 16.3.2006 in petition 69/2004 for tariff period 2004-09	As per order dated 17.1.2008 in petition 49/2002 for tariff period 2001-04	Revised tariff for the period 2004-09
(i)	Gross loan as on DOCO	2340.00		2340.00	
(ii)	Loan against FERV capitalised upto 31.3.2001	8.29		10.63	
(iii)	Gross Loan considered for Tariff period 2001-04	2348.29	2348.29	2350.63	2350.63
(iv)	Loan against FERV capitalised during 2001-04		0.00		-8.82
(v)	Loan against ACE capitalised during 2001-04		0.00		0.00
(vi)	Gross Loan considered for Tariff period 2004-09		2348.29		2341.82
	<b>Repayment</b>				
(vii)	Upto 31.3.2001	0.00		0.00	
(viii)	During 2001-04	303.73		303.73	
(ix)	Repayment considered for Tariff period 2001-04	303.73	303.73	303.73	303.73
(x)	Repayment against FERV capitalised during 2001-04		0.00		-1.14
(xi)	Repayment against ACE capitalised during 2001-04		0.00		0.00
(xii)	Total repayment considered for Tariff period 2004-09		303.73		302.59
(xiii)	Outstanding as on 31.03.2004	2044.56	2044.56	2046.90	2039.23

(ii) Computation of interest

(Rs. in lakh)

<b>Interest on Loan</b>		<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Gross Loan as per order dated 8.2.2008	2350.63					
Addition due to Additional Capitalisation for the period 2004-09	0.00					
Addition due to FERV for the period 2004-09	-8.82					
Gross Normative Loan	2341.82	2341.82	2341.82	2341.82	2341.82	2341.82
Cumulative Repayment up to Previous Year beginning from as per order dated 8.2.2008		302.59	631.18	959.77	1288.36	1616.95
Net Loan-Opening		2039.23	1710.64	1382.05	1053.46	724.87
Repayment during the year		328.59	328.59	328.59	328.59	194.73
Net Loan-Closing		1710.64	1382.05	1053.46	724.87	530.14
Average Loan		1874.93	1546.34	1217.75	889.16	627.50
Rate of interest		9.3492%	9.1298%	8.7919%	8.2042%	7.6436%
<b>Interest</b>		175.29	141.18	107.06	72.95	47.96

## (c) Advance Against Depreciation

(Rs. in lakh)

<b>Advance Against Depreciation</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
1/10th of Gross Loan(s)	234.18	234.18	234.18	234.18	234.18
Repayment of the Loan	328.59	328.59	328.59	328.59	194.73
Minimum of the above	234.18	234.18	234.18	234.18	194.73
Depreciation during the year	81.39	81.39	81.39	81.39	81.39
(A) Difference	152.79	152.79	152.79	152.79	113.33
Cumulative Repayment of the Loan	631.18	959.77	1288.36	1616.95	1811.68
Cumulative Depreciation/ Advance against Depreciation	706.87	788.27	1022.45	1256.63	1490.81
(B) Difference	-75.69	171.50	265.91	360.32	320.86
Advance against Depreciation Minimum of (A) and (B)	0.00	152.79	152.79	152.79	113.33

## (d) Interest on Working Capital

(Rs. in lakh)

<b>Working Capital</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Maintenance Spares	39.23	41.58	44.07	46.72	49.52
O & M expenses	5.82	6.06	6.31	6.55	6.82
Receivables	71.87	92.51	87.28	82.04	71.72
Total	116.92	140.15	137.66	135.30	128.06
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	<b>11.98</b>	<b>14.36</b>	<b>14.11</b>	<b>13.87</b>	<b>13.13</b>

## (e) Revised Annual Transmission charges

(Rs. in lakh)

<b>Transmission Tariff</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Depreciation	81.39	81.39	81.39	81.39	81.39
Interest on Loan	175.29	141.18	107.06	72.95	47.96
Return on Equity	92.67	92.67	92.67	92.67	92.67
Advance against Depreciation	0.00	152.79	152.79	152.79	113.33
Interest on Working Capital	11.98	14.36	14.11	13.87	13.13
O & M Expenses	<b>69.89</b>	<b>72.67</b>	<b>75.68</b>	<b>78.55</b>	<b>81.84</b>
<b>Total</b>	<b>431.23</b>	<b>555.07</b>	<b>523.71</b>	<b>492.22</b>	<b>430.33</b>

## Annexure II

1. Petition No.72/2004
2. Subject: Approval of tariff in respect of Vindhyachal Stage-I Additional transmission system in Western Region for the period from 1.4.2004 to 31.3.2009
3. Date of order of approval of tariff: 2.5.2006
4. **Original tariff**

(a) Computation of capital cost

(Rs. in lakh)

Capital Expenditure up to 31.3.2001	76505.20
Additional Capital Expenditure during 2001-04	0.00
FERV during 2001-04	4309.83
Capital Expenditure as on 31.3.2004	80815.03

(b) Computation of equity

(Rs. in lakh)

Equity up to 31.3.2001	6021.70
Notional equity arising out of additional capitalization during 2001-04	0.00
Notional equity arising out of FERV during 2001-04	4309.83
Total Equity	10331.53

(c) Computation of interest on loan

(Rs. in lakh)

Details of loan	Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09
<b>Interest on Loan</b>						
Gross loan as per order dated 17.7. 2003	70483.51					
Addition due to additional capitalisation	0.00					
Addition due to FERV	0.00					
Gross Normative Loan	70483.51	70483.51	70483.51	70483.51	70483.51	70483.51
Cumulative Repayment up to Previous Year		25300.88	28859.12	32660.54	36722.89	41065.51

Net Loan-Opening		45182.63	41624.39	37822.97	33760.62	29418.00
Repayment during the year		3558.24	3801.42	4062.35	4342.62	4644.55
Net Loan-Closing		41624.39	37822.97	33760.62	29418.00	24773.45
Average Loan		43403.51	39723.68	35791.79	31589.31	27095.72
Weighted Average Rate of Interest on Loan		5.9980%	5.9782%	5.9555%	5.9283%	5.8937%
<b>Interest</b>		<b>2603.35</b>	<b>2374.78</b>	<b>2131.60</b>	<b>1872.72</b>	<b>1596.95</b>

(d) Summary of the transmission charges awarded:

(Rs. in lakh)

<b>Transmission Tariff</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Depreciation	2190.37	2190.37	2190.37	2190.37	2190.37
Interest on Loan	2603.35	2374.78	2131.60	1872.72	1596.95
Return on Equity	1446.41	1446.41	1446.41	1446.41	1446.41
Advance against Depreciation	1367.87	1611.05	1871.98	2152.25	2454.18
Interest on Working Capital	254.78	261.94	269.58	277.63	286.29
O & M Expenses	858.58	892.83	929.69	965.06	1005.37
<b>Total</b>	<b>8721.36</b>	<b>8777.38</b>	<b>8839.63</b>	<b>8904.44</b>	<b>8979.58</b>

#### 5. Revised tariff for the period 2001-04

(a) Date of order: 17.1.2008 in Petition No. 66/2002

(a) Equity during 2001-04:

(Rs. in lakh)

	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>
Equity	5327.50	5327.50	5327.50

(c) Computation of interest on loan

(Rs. in lakh)

<b>Interest on Loan</b>	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>
Gross Loan –Opening	71177.70	71177.70	71177.70
Cumulative Repayment up to Previous Year	13833.56	18515.29	21751.81
Net Loan-Opening	57344.14	52662.41	49425.89
Repayment during the year	4681.73	3236.51	3675.86
Net Loan-Closing	52662.41	49425.89	45750.03
<b>Interest</b>	<b>3520.02</b>	<b>3205.52</b>	<b>2987.25</b>

#### 6. Revised tariff computations for the period 2004-09

(a) Equity and return on equity

(Rs. in lakh)

Equity up to 31.3.2001 as per order dated 17.1.2008	5327.50
Notional equity arising out of additional capitalization	0.00

during 2001-04	
Notional equity arising out of FERV during 2001-04	0.00
Total Equity	5327.50
Return on equity @ 14% of the above total for the period 2004-09	745.85

(b) Interest on notional loan

(i) Computation of outstanding loan

(Rs. in lakh)

		As per order dated 17.7.2003 in petition 66/2002 for tariff period 2001-04	As per order dated 2.5.2006. in petition 72/2004 for tariff period 2004-09	As per order dated 17.1.2008 in petition 66/2002 for tariff period 2001-04	Revised tariff for the period 2004-09
(i)	Gross loan as on DOCO	62358.00		62358.00	
(ii)	Loan against FERV capitalised upto 31.3.2001	8125.51		8819.70	
(iii)	Gross Loan considered for Tariff period 2001-04	70483.51	70483.51	71177.70	71177.70
(iv)	Loan against FERV capitalised during 2001-04		0.00		4309.83
(v)	Loan against ACE capitalised during 2001-04		0.00		0.00
(vi)	Gross Loan considered for Tariff period 2004-09		70483.51		75487.53
	<b>Repayment</b>				
(vii)	Upto 31.3.2001	13833.56		13833.56	
(viii)	During 2001-04	11467.32		11594.11	
(ix)	Repayment considered for Tariff period 2001-04	25300.88	25300.88	25427.67	25427.67
(x)	Repayment against FERV capitalised during 2001-04		0.00		550.97
(xi)	Repayment against ACE capitalised during 2001-04		0.00		0.00
(xii)	Total repayment considered for Tariff period 2004-09		25300.88		25978.64
(xiii)	Outstanding as on 31.03.2004	45182.63	45182.63	45750.03	49508.89

(ii) Computation of interest

(Rs. in lakh)

<b>Interest on Loan</b>		<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Gross Loan as per order dated 17.1.2008	71177.70					
Addition due to Additional Capitalisation for the period 2004-09	0.00					
Addition due to FERV for the period 2004-09	4309.83					
Gross Normative Loan	75487.53	75487.53	75487.53	75487.53	75487.53	75487.53
Cumulative Repayment up to Previous Year beginning from as per order dated 8.2.2008		25978.64	29877.58	34042.99	38494.31	43252.74
Net Loan-Opening		49508.89	45609.95	41444.54	36993.22	32234.79
Repayment during the year		3898.95	4165.41	4451.32	4758.43	5089.27
Net Loan-Closing		45609.95	41444.54	36993.22	32234.79	27145.52
Average Loan		47559.42	43527.25	39218.88	34614.00	29690.16
Rate of interest		5.9980%	5.9782%	5.9555%	5.9283%	5.8937%
<b>Interest</b>		2852.62	2602.17	2335.70	2052.03	1749.86

## (c) Advance Against Depreciation

(Rs. in lakh)

<b>Advance Against Depreciation</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
1/10th of Gross Loan(s)	7548.75	7548.75	7548.75	7548.75	7548.75
Repayment of the Loan	3898.95	4165.41	4451.32	4758.43	5089.27
Minimum of the above	3898.95	4165.41	4451.32	4758.43	5089.27
Depreciation during the year	2190.37	2190.37	2190.37	2190.37	2190.37
(A) Difference	1708.58	1975.04	2260.95	2568.06	2898.90
Cumulative Repayment of the Loan	29877.58	34042.99	38494.31	43252.74	48342.01
Cumulative Depreciation/ Advance against Depreciation	25971.25	29870.20	34035.60	38486.93	43245.35
(B) Difference	3906.33	4172.79	4458.71	4765.81	5096.66
Advance against Depreciation Minimum of (A) and (B)	1708.58	1975.04	2260.95	2568.06	2898.90

## (d) Interest on Working Capital

(Rs. in lakh)

<b>Working Capital</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Maintenance Spares	960.58	1018.22	1079.31	1144.07	1212.71
O & M expenses	71.55	74.40	77.47	80.42	83.78
Receivables	1434.81	1444.38	1455.05	1466.19	1479.14
Total	2,466.94	2,537.00	2,611.83	2,690.68	2,775.64
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	<b>252.86</b>	<b>260.04</b>	<b>267.71</b>	<b>275.80</b>	<b>284.50</b>

## (e) Revised Annual Transmission charges

(Rs. in lakh)

<b>Transmission Tariff</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Depreciation	2190.37	2190.37	2190.37	2190.37	2190.37
Interest on Loan	2852.62	2602.17	2335.70	2052.03	1749.86
Return on Equity	745.85	745.85	745.85	745.85	745.85
Advance against Depreciation	1708.58	1975.04	2260.95	2568.06	2898.90
Interest on Working Capital	252.86	260.04	267.71	275.80	284.50
O & M Expenses	<b>858.58</b>	<b>892.83</b>	<b>929.69</b>	<b>965.06</b>	<b>1005.37</b>
<b>Total</b>	<b>8608.85</b>	<b>8666.30</b>	<b>8730.27</b>	<b>8797.16</b>	<b>8874.85</b>

### Annexure-III

1. Petition No. 73/2004
2. Subject: Approval of tariff in respect of respect of transmission system associated with Vindhyachal Stage II in Western Region for the period from 1.4.2004 to 31.3.2009.
3. Date of order of approval of tariff: 14.2.2006
4. **Original tariff**
  - (a) Computation of capital cost

(Rs. in lakh)

	400 kV D/C Vindhyachal-Satna & Satna –Bina transmission lines and 400/220 kV sub-station at Satna and 400 kV bays in MPEB sub-station at Bina	400 kV S/C Korba-Raipur transmission line and associated bays at Korba and Raipur, 315 MVA Inter connecting Transformer-I with associated bays & Bus Reactor at Raipur & LILLO of Korba-Bhilai Circuit-III and associated bays at Raipur	315 MVA Inter connecting Transformer-II with <u>associated bays &amp; Bus Reactor at Raipur</u> LILLO of Bhilai-Chandrapur Circuit-II and associated bays at Raipur
Capital Expenditure up to 31.3.2001	45525.83	16304.86	2598.32
Additional Capital Expenditure during 2001-04	0.00	0.00	0.00
FERV during 2001-04	(-)1578.56	(-)442.00	(-)65.23
Capital Expenditure as on 31.3.2004	<b>43947.27</b>	<b>15862.86</b>	<b>2533.09</b>

- (b) Computation of equity

(Rs. in lakh)

	400 kV D/C Vindhyachal-Satna & Satna –Bina transmission lines and 400/220 kV sub-station at Satna and 400 kV bays in MPEB sub-	400 kV S/C Korba-Raipur transmission line and associated bays at Korba and Raipur, 315 MVA Inter connecting Transformer-I with associated bays & Bus	315 MVA Inter connecting Transformer-II with <u>associated bays &amp; Bus Reactor at Raipur</u>
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	station at Bina	Reactor at Raipur & LILO of Korba-Bhilai Circuit-III and associated bays at Raipur	LILO of Bhilai-Chandrapur Circuit-II and associated bays at Raipur
Equity up to 31.3.2001	4243.66	1005.50	136.44
Notional equity arising out of additional capitalization during 2001-04	0.00	0.00	0.00
Notional equity arising out of FERV during 2001-04	0.00	0.00	0.00
<b>Total Equity</b>	<b>4243.66</b>	<b>1005.50</b>	<b>136.44</b>

(c) Computation of interest on loan:

400 kV D/C Vindhyaachal-Satna & Satna –Bina transmission lines and 400/220 kV sub-station at Satna and 400 kV bays in MPEB sub-station at Bina

(Rs. in lakh)

Details of loan	Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09
<b>Interest on Loan</b>						
Gross Loan as on 1.4.2001	41282.17					
Addition due to additional capitalisation	0.00					
Addition due to FERV	(-)1578.56					
Gross Normative Loan	39703.60	39703.60	39703.60	39703.60	39703.60	39703.60
Cumulative Repayment up to Previous Year		6689.60	9014.58	11493.52	14142.18	16978.00
Net Loan-Opening		33014.00	30689.03	28210.09	25561.42	22725.60
Repayment during the year		2324.97	2478.94	2648.67	2835.82	2790.92
Net Loan-Closing		30689.03	28210.09	25561.42	22725.60	19934.68
Average Loan		31851.51	29449.56	26885.75	24143.51	21330.14
Weighted Average Rate of Interest on Loan		7.8627%	7.8094%	7.7481%	7.6750%	7.6196%
<b>Interest</b>		2504.38	2299.83	2083.13	1853.02	1625.28

400 kV S/C Korba-Raipur transmission line and associated bays at Korba and Raipur, 315 MVA Inter connecting Transformer-I with associated bays & Bus Reactor at Raipur & LILO of Korba-Bhilai Circuit-III and associated bays at Raipur

(Rs. in lakh)

Details of loan	Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09
<b>Interest on Loan</b>						
Gross Loan as on 1.4.2001	15304.35					
Addition due to additional capitalisation	0.00					
Addition due to FERV	(-)442.00					
Gross Normative Loan	14862.36	14862.36	14862.36	14862.36	14862.36	14862.36
Cumulative Repayment up to Previous Year		2418.01	3614.04	4853.35	6140.35	7479.96



Net Loan-Opening		12444.35	11248.31	10009.01	8722.00	7382.40
Repayment during the year		1196.03	1239.30	1287.01	1339.60	1161.23
Net Loan-Closing		11248.31	10009.01	8722.00	7382.40	6221.16
Average Loan		11846.33	10628.66	9365.51	8052.20	6801.78
Weighted Average Rate of Interest on Loan		8.4020%	8.2903%	8.1529%	7.9755%	7.8334%
<b>Interest</b>		<b>995.32</b>	<b>881.15</b>	<b>763.56</b>	<b>642.20</b>	<b>532.81</b>

315 MVA Inter connecting Transformer-II with associated bays & Bus Reactor at Raipur  
LILO of Bhilai-Chandrapur Circuit-II and associated bays at Raipur

(Rs. in lakh)

Details of loan	Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09
<b>Interest on Loan</b>						
Gross Loan as on 1.4.2001	2461.88					
Addition due to additional capitalisation	0.00					
Addition due to FERV	(-) 65.23					
Gross Normative Loan	2396.65	2396.65	2396.65	2396.65	2396.65	2396.65
Cumulative Repayment up to Previous Year		387.19	593.26	805.72	1025.22	1252.49
Net Loan-Opening		2009.46	1803.39	1590.93	1371.43	1144.16
Repayment during the year		206.07	212.46	219.50	227.27	191.98
Net Loan-Closing		1803.39	1590.93	1371.43	1144.16	952.18
Average Loan		1906.43	1697.16	1481.18	1257.80	1048.17
Weighted Average Rate of Interest on Loan		8.5393%	8.4176%	8.2651%	8.0637%	7.9001%
<b>Interest</b>		<b>162.80</b>	<b>142.86</b>	<b>122.42</b>	<b>101.43</b>	<b>82.81</b>

(d) Summary of the transmission charges awarded:

(Rs.in lakh)

	400 kV D/C Vindhyachal-Satna & Satna –Bina transmission lines and 400/220 kV sub-station at Satna and 400 kV bays in MPEB sub-station at Bina					400 kV S/C Korba-Raipur transmission line and associated bays at Korba and Raipur, 315 MVA Inter connecting Transformer-I with associated bays & Bus Reactor at Raipur & LILO of Korba-Bhilai Circuit-III and associated bays at Raipur					315 MVA Inter connecting Transformer-II with associated bays & Bus Reactor at Raipur LILO of Bhilai-Chandrapur Circuit-II and associated bays at Raipur				
	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	1197.63	1197.63	1197.63	1197.63	1197.63	463.84	463.84	463.84	463.84	463.84	80.70	80.70	80.70	80.70	80.70
Interest on Loan	2504.38	2299.83	2083.13	1853.02	1625.28	995.32	881.15	763.56	642.20	532.81	162.80	142.86	122.42	101.43	82.81
Return on Equity	594.11	594.11	594.11	594.11	594.11	140.07	140.07	140.07	140.07	140.07	19.10	19.10	19.10	19.10	19.10
Advance	0.00	0.00	647.64	1638.18	1593.29	0.00	468.07	823.16	875.76	697.39	0.00	103.58	138.80	146.56	111.28

against Depreciation															
Interest on Working Capital	145.49	145.94	157.68	175.35	175.37	53.87	61.47	67.14	67.56	64.28	8.68	10.37	10.86	10.89	10.23
O & M Expenses	471.48	490.30	510.52	529.97	552.08	217.98	226.71	235.90	245.12	255.12	33.57	34.91	36.32	37.75	39.28
<b>Total</b>	<b>4913.10</b>	<b>4727.82</b>	<b>5190.72</b>	<b>5988.27</b>	<b>5737.76</b>	<b>1871.09</b>	<b>2241.32</b>	<b>2493.67</b>	<b>2434.55</b>	<b>2153.51</b>	<b>304.85</b>	<b>391.52</b>	<b>408.21</b>	<b>396.43</b>	<b>343.40</b>

## 5. Revised tariff for the period 2001-04

- (a) Date of order: 17.1.2008 in Petition No. 72/2002
- (b) Equity during 2001-04:

(Rs. in lakh)

	400 KV D/C Vindhyachal-Satna-Bina transmission line with associated bays			400 KV Korba-Raipur Transmission line, LILO of Korba-Bhilai Circuit III, 315 MVA Interconnecting Transformer-I and bus reactor, new sub-station at Raipur with associated bays			315 MVA interconnecting Transformer II		LILO of 400 KV D/C Bhilai-Chandrapur line, Circuit II
	2001-02	2002-03	2003-04	2001-02	2002-03	2003-04	2001-02	2002-03	2003-04
Equity	4013.69	4013.69	4013.69	961.06	961.06	961.06	131.62	131.62	131.62

## (c) Computation of interest on loan

(Rs. in lakh)

	400 KV D/C Vindhyachal-Satna-Bina transmission line with associated bays			400 KV Korba-Raipur Transmission line, LILO of Korba-Bhilai Circuit III, 315 MVA Interconnecting Transformer-I and bus reactor, new sub-station at Raipur with associated bays			315 MVA interconnecting Transformer II		LILO of 400 KV D/C Bhilai-Chandrapur line, Circuit II
	2001-02	2002-03	2003-04	2001-02	2002-03	2003-04	2001-02	2002-03	2003-04
<b>Interest on Loan</b>									
Gross Loan - Opening	41512.14	41512.14	41512.14	15343.80	15343.80	15343.80	2466.70	2466.70	2466.70
Cumulative Repayment upto Previous Year	908.00	2415.38	4128.37	254.00	676.05	1189.28	38.00	100.30	177.88
Net Loan-Opening	40604.14	39096.76	37383.77	15089.80	14667.74	14154.52	2428.70	2366.40	2288.82
Repayment during the year	1507.38	1712.99	2626.14	422.05	513.22	1256.87	62.30	77.58	213.81
Net Loan-Closing	39096.76	37383.77	34757.63	14667.74	14154.52	12897.65	2366.40	2288.82	2075.01
<b>Interest</b>	<b>3333.10</b>	<b>3187.95</b>	<b>3002.43</b>	<b>1392.69</b>	<b>1337.77</b>	<b>1253.43</b>	<b>230.47</b>	<b>221.58</b>	<b>207.38</b>

## 6. Revised tariff computation for the period 2004-09

- (a) Equity and return on equity

(Rs. in lakh)

	400 kV D/C Vindhyachal-Satna & Satna – Bina transmission lines and 400/220 kV sub-station at Satna and 400 kV bays in MPEB sub-station at Bina	400 kV S/C Korba-Raipur transmission line and associated bays at Korba and Raipur, 315 MVA Inter connecting Transformer-I with associated bays & Bus Reactor at Raipur & LILO of Korba-Bhilai Circuit-III and associated bays at Raipur	315 MVA Inter connecting Transformer-II with associated bays & Bus Reactor at Raipur LILO of Bhilai-Chandrapur Circuit-II and associated bays at Raipur
Equity up to 31.3.2004 as per order dated 17.1.2008	4013.69	961.06	131.62
Notional equity arising out of additional capitalization during 2001-04	0.00	0.00	0.00
Notional equity arising out of FERV during 2001-04	0.00	0.00	0.00
Total Equity	4013.69	961.06	131.62
Return on equity up to 31.3.2004 @ 14% for the period 2004-09	561.92	134.55	18.43

## (b) Interest on notional loan

## (i) Computation of outstanding loan

(Rs.in lakh)

	400 kV D/C Vindhyachal-Satna & Satna –Bina transmission lines and 400/220 kV sub-station at Satna and 400 kV bays in MPEB sub-station at Bina				400 kV S/C Korba-Raipur transmission line and associated bays at Korba and Raipur, 315 MVA Inter connecting Transformer-I with associated bays & Bus Reactor at Raipur & LILO of Korba-Bhilai Circuit-III and associated bays at Raipur				315 MVA Inter connecting Transformer-II with associated bays & Bus Reactor at Raipur LILO of Bhilai-Chandrapur Circuit-II and associated bays at Raipur			
	As per order dated 6.8.2003 in petition 72/2002 for tariff period 2001-04	As per order dated 14.2.2006 in petition 73/2004 for tariff period 2004-09	As per order dated 17.1.2008 in petition 41/2002 for tariff period 2001-04	Revised tariff for the period 2004-09	As per order dated 6.8.2003 in petition 72/2002 for tariff period 2001-04	As per order dated 14.2.2006 in petition 73/2004 for tariff period 2004-09	As per order dated 17.1.2008 in petition 41/2002 for tariff period 2001-04	Revised tariff for the period 2004-09	As per order dated 6.8.2003 in petition 72/2002 for tariff period 2001-04	As per order dated 14.2.2006 in petition 73/2004 for tariff period 2004-09	As per order dated 17.1.2008 in petition 41/2002 for tariff period 2001-04	Revised tariff for the period 2004-09
Gross loan as on DOCO	39045.00		39045.00		14701.00		14701.00		2374.92		2374.92	
Loan against FERV capitalised upto 31.3.2001	2237.17		2467.14		603.35		642.80		86.96		91.78	
Gross Loan considered for Tariff period 2001-04	41282.17		41512.14	41512.14	15304.35		15343.80	15343.80	2461.88		2466.70	2466.70
Loan against FERV capitalised during 2001-04												
Loan against ACE capitalised during 2001-04		-1578.56		-1578.56		-442.00		-442.00		-65.23		-65.23
		0.00		0.00		0.00		0.00		0.00		0.00

Gross Loan considered for Tariff period 2004-09												
		39703.60		39933.58		14862.36		14901.80		2396.65		2401.47
<b>Repayment</b>												
Upto 31.3.2001	908.00				254.00				38.00			
During 2001-04	5813.59		908.00		2186.51		254.00		353.01		38.00	
Repayment considered for Tariff period 2001-04	6721.59		5846.51		2440.51		2192.15		391.01		353.70	
Repayment against FERV capitalised during 2001-04		6721.59	6754.51	6754.51		2440.51	2446.15	2446.15		391.01	391.70	391.70
Repayment against ACE capitalised during 2001-04												
		-31.99		-31.81		-22.49		-22.44		-3.81		-3.81
Repayment against FERV capitalised during 2001-04												
		0.00		0.00		0.00		0.00		0.00		0.00
Total repayment considered for Tariff period 2004-09		6689.60		6722.70		12863.85	2418.01	2423.71		387.19		387.89
Outstanding as on 31.03.2004	34560.58				12863.85				2070.88			
		33014.00	34757.63	33210.87		12444.35	12897.65	12478.09		2009.46	2075.01	2013.59

(ii) Computation of interest on loan

400 kV D/C Vindhychal-Satna & Satna –Bina transmission lines and 400/220 kV sub-station at Satna and 400 kV bays in MPEB sub-station at Bina

(Rs. in lakh)

<b>Interest on Loan</b>		<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Gross Loan as per order dated 17.1.2008	41512.14					
Addition due to Additional Capitalisation for the period 2004-09	0.00					
Addition due to FERV for the period 2004-09	-1578.56					
Gross Normative Loan	39933.58	39933.58	39933.58	39933.58	39933.58	39933.58
Cumulative Repayment up to Previous Year beginning from as per order dated 17.1.2008		6722.70	9061.54	11555.26	14219.73	17072.45
Net Loan-Opening		33210.87	30872.03	28378.31	25713.85	22861.12
Repayment during the year		2338.84	2493.72	2664.46	2852.73	2807.56
Net Loan-Closing		30872.03	28378.31	25713.85	22861.12	20053.56
Average Loan		32041.45	29625.17	27046.08	24287.49	21457.34
Rate of interest		7.8627%	7.8094%	7.7481%	7.6750%	7.6196%
<b>Interest</b>		2519.32	2313.55	2095.55	1864.07	1634.97

400 kV S/C Korba-Raipur transmission line and associated bays at Korba and Raipur, 315 MVA Inter connecting Transformer-I with associated bays & Bus Reactor at Raipur & LILO of Korba-Bhilai Circuit-III and associated bays at Raipur

(Rs. in lakh)

<b>Interest on Loan</b>		<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Gross Loan as per order dated 17.1.2008	15343.80					
Addition due to Additional Capitalisation for the period 2004-09	0.00					
Addition due to FERV for the period 2004-09	-442.00					

Gross Normative Loan	14901.80	14901.80	14901.80	14901.80	14901.80	14901.80
Cumulative Repayment up to Previous Year beginning from as per order dated 17.1.2008		2423.71	3622.99	4865.65	6156.15	7499.38
Net Loan-Opening		12478.09	11278.81	10036.15	8745.65	7402.42
Repayment during the year		1199.28	1242.66	1290.50	1343.24	1164.38
Net Loan-Closing		11278.81	10036.15	8745.65	7402.42	6238.03
Average Loan		11878.45	10657.48	9390.90	8074.03	6820.22
Rate of interest		8.4020%	8.2903%	8.1529%	7.9755%	7.8334%
<b>Interest</b>		998.02	883.54	765.63	643.94	534.25

315 MVA Inter connecting Transformer-II with associated bays & Bus Reactor at Raipur  
LILO of Bhilai-Chandrapur Circuit-II and associated bays at Raipur

(Rs. in lakh)

<b>Interest on Loan</b>		<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Gross Loan as per order dated 17.1.2008	2466.70					
Addition due to Additional Capitalisation for the period 2004-09	0.00					
Addition due to FERV for the period 2004-09	-65.23					
Gross Normative Loan	2401.47	2401.47	2401.47	2401.47	2401.47	2401.47
Cumulative Repayment up to Previous Year beginning from as per order dated 17.1.2008		387.89	594.38	807.28	1027.23	1254.96
Net Loan-Opening		2013.59	1807.09	1594.20	1374.24	1146.51
Repayment during the year		206.49	212.90	219.95	227.73	192.38
Net Loan-Closing		1807.09	1594.20	1374.24	1146.51	954.13
Average Loan		1910.34	1700.64	1484.22	1260.38	1050.32
Rate of interest		8.5393%	8.4176%	8.2651%	8.0637%	7.9001%
<b>Interest</b>		163.13	143.15	122.67	101.63	82.98

(c) Advance Against Depreciation

400 kV D/C Vindhyachal-Satna & Satna –Bina transmission lines and 400/220 kV sub-station at Satna and 400 kV bays in MPEB sub-station at Bina

(Rs.in lakh)

<b>Advance Against Depreciation</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
1/10th of Gross Loan(s)	3993.36	3993.36	3993.36	3993.36	3993.36
Repayment of the Loan	2338.84	2493.72	2664.46	2852.73	2807.56
Minimum of the above	2338.84	2493.72	2664.46	2852.73	2807.56
Depreciation during the year	1197.63	1197.63	1197.63	1197.63	1197.63
(A) Difference	1141.21	1296.09	1466.83	1655.10	1609.93
Cumulative Repayment of the Loan	9061.54	11555.26	14219.73	17072.45	19880.02
Cumulative Depreciation/ Advance against Depreciation	11132.19	12329.83	13527.46	15417.36	18270.09
(B) Difference	-2070.65	-774.56	692.27	1655.10	1609.93

Advance against Depreciation Minimum of (A) and (B)	0.00	0.00	692.27	1655.10	1609.93
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400 kV S/C Korba-Raipur transmission line and associated bays at Korba and Raipur, 315 MVA Inter connecting Transformer-I with associated bays & Bus Reactor at Raipur & LILO of Korba-Bhilai Circuit-III and associated bays at Raipur

(Rs. in lakh)

Advance Against Depreciation	2004-05	2005-06	2006-07	2007-08	2008-09
1/10th of Gross Loan(s)	1490.18	1490.18	1490.18	1490.18	1490.18
Repayment of the Loan	1199.28	1242.66	1290.50	1343.24	1164.38
Minimum of the above	1199.28	1242.66	1290.50	1343.24	1164.38
Depreciation during the year	463.84	463.84	463.84	463.84	463.84
(A) Difference	735.43	778.82	826.65	879.39	700.54
Cumulative Repayment of the Loan	3622.99	4865.65	6156.15	7499.38	8663.77
Cumulative Depreciation/ Advance against Depreciation	3925.38	4389.22	5329.49	6619.99	7963.23
(B) Difference	-302.39	476.43	826.65	879.39	700.54
Advance against Depreciation Minimum of (A) and (B)	0.00	476.43	826.65	879.39	700.54

315 MVA Inter connecting Transformer-II with associated bays & Bus Reactor at Raipur LILO of Bhilai-Chandrapur Circuit-II and associated bays at Raipur

(Rs. in lakh)

Advance Against Depreciation	2004-05	2005-06	2006-07	2007-08	2008-09
1/10th of Gross Loan(s)	240.15	240.15	240.15	240.15	240.15
Repayment of the Loan	206.49	212.90	219.95	227.73	192.38
Minimum of the above	206.49	212.90	219.95	227.73	192.38
Depreciation during the year	80.70	80.70	80.70	80.70	80.70
(A) Difference	125.79	132.19	139.25	147.03	111.67
Cumulative Repayment of the Loan	594.38	807.28	1027.23	1254.96	1447.34
Cumulative Depreciation/ Advance against Depreciation	621.84	702.54	887.98	1107.93	1335.67
(B) Difference	-27.45	104.74	139.25	147.03	111.67
Advance against Depreciation Minimum of (A) and (B)	0.00	104.74	139.25	147.03	111.67

(d) Interest on Working Capital

(Rs. in lakh)

	400 kV D/C Vindhyachal-Satna & Satna – Bina Transmission lines and 400/220 kV sub-station at Satna and 400 kV bays in MPEB sub-station at Bina					400 kV S/C Korba-Raipur Transmission line and associated bays at Korba and Raipur, 315 MVA Inter connecting Transformer-I with associated bays & Bus Reactor at Raipur & LILO of Korba-Bhilai Circuit-III and associated bays at Raipur					315 MVA Inter connecting Transformer-II with associated bays & Bus Reactor at Raipur LILO of Bhilai-Chandrapur Circuit-II and associated bays at Raipur				
	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance Spares	561.30	594.97	630.67	668.51	708.62	195.57	207.30	219.74	232.93	246.90	31.09	32.96	34.94	37.03	39.25
O & M expenses	39.29	40.86	42.54	44.16	46.01	18.17	18.89	19.66	20.43	21.26	2.80	2.91	3.03	3.15	3.27
Receivables	815.92	784.84	869.33	997.33	955.30	311.37	374.44	415.62	405.73	358.76	50.75	65.39	68.04	66.07	57.21
Total	1,416.51	1,420.67	1,542.55	1,710.00	1,709.93	525.10	600.64	655.02	659.09	626.92	84.64	101.25	106.00	106.25	99.74
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	145.19	145.62	158.11	175.28	175.27	53.82	61.57	67.14	67.56	64.26	8.68	10.38	10.87	10.89	10.22

(e) Revised Annual Transmission charges

(Rs.in lakh)

	400 kV D/C Vindhyachal-Satna & Satna –Bina Transmission line and 400/220 kV sub-station at Satna and 400 kV bays in MPEB sub-station at Bina					400 kV S/C Korba-Raipur transmission line and associated bays at Korba and Raipur, 315 MVA Inter connecting Transformer-I with associated bays & Bus Reactor at Raipur & LILO of Korba-Bhilai Circuit-III and associated bays at Raipur					315 MVA Inter connecting transformer-II with associated bays & Bus Reactor at Raipur ----- LILO of Bhilai-Chandrapur Circuit-II and associated bays at Raipur				
	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	1197.63	1197.63	1197.63	1197.63	1197.63	463.84	463.84	463.84	463.84	463.84	80.70	80.70	80.70	80.70	80.70
Interest on Loan	2519.32	2313.55	2095.55	1864.07	1634.97	998.02	883.54	765.63	643.94	534.25	163.13	143.15	122.67	101.63	82.98
Return on Equity	561.92	561.92	561.92	561.92	561.92	134.55	134.55	134.55	134.55	134.55	18.43	18.43	18.43	18.43	18.43
Advance against Depreciation	0.00	0.00	692.27	1655.10	1609.93	0.00	476.43	826.65	879.39	700.54	0.00	104.74	139.25	147.03	111.67
Interest on Working Capital	145.19	145.62	158.11	175.28	175.27	53.82	61.57	67.14	67.56	64.26	8.68	10.38	10.87	10.89	10.22
O & M Expenses	471.48	490.30	510.52	529.97	552.08	217.98	226.71	235.90	245.12	255.12	33.57	34.91	36.32	37.75	39.28
Total	4895.54	4709.01	5216.00	5983.96	5731.79	1868.22	2246.64	2493.71	2434.40	2152.56	304.51	392.31	408.24	396.43	343.28

**Annexure-IV**

1. Petition No. 116/2004
2. Subject: Approval of tariff in respect of 50 MVAR Reactor along with the associated equipment at Chandrapur sub-station in Western Region for the period from 1.4.2004 to 31.3.2009
3. Date of order of approval of tariff: 25.4.2006
4. **Original tariff**

(a) Computation of capital cost

(Rs. in lakh)

Capital Expenditure up to 31.3.2001	439.67
Additional Capital Expenditure during 2001-04	0.00
FERV during 2001-04	16.99
Capital Expenditure considered for determination of tariff for the period 2004-09	456.66

(b) Computation of equity

(Rs. in lakh)

Equity up to 31.3.2001	233.65
Notional equity arising out of additional capitalization during 2001-04	0.00
Notional equity arising out of FERV during 2001-04	0.00
Total Equity	233.55

## (c) Computation of interest on loan

(Rs. in lakh)

Details of loan	Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09
<b>Interest on Loan</b>						
Gross loan as per order dated 31.7. 2003	206.11					
Addition due to additional capitalisation	0.00					
Addition due to FERV	16.99					
Gross Normative Loan	223.10	223.10	223.10	223.10	223.10	223.10
Cumulative Repayment up to Previous Year		56.28	72.72	89.16	105.60	122.04
Net Loan-Opening		166.83	150.39	133.95	117.51	101.07
Repayment during the year		16.44	16.44	16.44	16.44	16.44
Net Loan-Closing		150.39	133.95	117.51	101.07	84.63
Average Loan		158.61	142.17	125.73	109.29	92.85
Weighted Average Rate of Interest on Loan		5.8000%	5.8000%	5.8000%	5.8000%	5.8000%
<b>Interest</b>		<b>9.20</b>	<b>8.25</b>	<b>7.29</b>	<b>6.34</b>	<b>5.39</b>

## (d) Summary of the transmission charges awarded

(Rs. in lakh)

Transmission Tariff	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	16.44	16.44	16.44	16.44	16.44
Interest on Loan	9.20	8.25	7.29	6.34	5.39
Return on Equity	32.70	32.70	32.70	32.70	32.70
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	2.36	2.41	2.46	2.52	2.58
O & M Expenses	28.12	29.25	30.42	31.63	32.90
<b>Total</b>	<b>88.82</b>	<b>89.04</b>	<b>89.31</b>	<b>89.63</b>	<b>90.00</b>

## 5. Revised tariff for the period 2001-04

(a) Date of order: 17.1.2008 in Petition No. 48/2002

(b) Equity during 2001-04:

(Rs. in lakh)

	2001-02	2002-03	2003-04
Equity	207.92	207.92	207.92

(c) Computation of interest on loan

(Rs. in lakh)

Interest on Loan	2001-02	2002-03	2003-04
Gross Loan –Opening	231.75	231.75	231.75



Cumulative Repayment up to Previous Year	20.25	33.23	45.66
Net Loan-Opening	211.50	198.51	186.09
Repayment during the year	12.98	12.42	13.17
Net Loan-Closing	198.51	186.09	172.92
<b>Interest</b>	<b>12.44</b>	<b>11.69</b>	<b>10.90</b>

## 6. Revised tariff computation for the period 2004-09

### (a) Equity and return on equity

(Rs. in lakh)

Equity up to 31.3.2001 as per order dated 17.1.2008	207.92
Notional equity arising out of additional capitalization during 2001-04	0.00
Notional equity arising out of FERV during 2001-04	0.00
<b>Total Equity</b>	<b>207.92</b>
Return on equity @ 14% of the above total for the period 2004-09	29.11

### (b) Interest on notional loan

#### (i) Computation of outstanding loan

(Rs. in lakh)

		As per order dated 31.7.2003 in petition 48/2002 for tariff period 2001-04	As per order dated 25.4.2006. in petition 116/2004 for tariff period 2004-09	As per order dated 17.1.2008 in petition 48/2002 for tariff period 2001-04	Revised tariff for the period 2004-09
(i)	Gross loan as on DOCO	183.49		183.49	
(ii)	Loan against FERV capitalised upto 31.3.2001	22.62		48.26	
(iii)	Gross Loan considered for Tariff period 2001-04	206.11	206.11	231.75	231.75
(iv)	Loan against FERV capitalised during 2001-04		16.99		16.99
(v)	Loan against ACE capitalised during 2001-04		0.00		0.00
(vi)	Gross Loan considered for Tariff period 2004-09		223.10		248.74
	<b>Repayment</b>				
(vii)	Upto 31.3.2001	20.25		20.25	
(viii)	During 2001-04	33.90		38.58	
(ix)	Repayment considered for Tariff period 2001-04	54.15	54.16	58.83	58.83
(x)	Repayment against FERV capitalised during 2001-04		2.12		2.12
(xi)	Repayment against ACE capitalised during 2001-04		0.00		0.00
(xii)	Total repayment considered for Tariff period 2004-09		56.28		60.94
(xiii)	Outstanding as on 31.3.2004	151.96	166.83	172.92	187.79

#### (ii) Computation of interest on loan

(Rs. in lakh)

<b>Interest on Loan</b>		<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
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Gross Loan as per order dated 17.1.2008	231.75					
Addition due to Additional Capitalisation for the period 2004-09	0.00					
Addition due to FERV for the period 2004-09	16.99					
Gross Normative Loan	248.74	248.74	248.74	248.74	248.74	248.74
Cumulative Repayment up to Previous Year beginning from as per order dated 8.2.2008		60.94	77.38	93.82	110.26	127.10
Net Loan-Opening		187.79	171.35	154.92	138.48	121.63
Repayment during the year		16.44	16.44	16.44	16.84	18.12
Net Loan-Closing		171.35	154.92	138.48	121.63	103.52
Average Loan		179.57	163.13	146.70	130.05	112.58
Rate of interest		5.8000%	5.8000%	5.8000%	5.8000%	5.8000%
<b>Interest</b>		10.42	9.46	8.51	7.54	6.53

(c) Interest on Working Capital

(Rs. in lakh)

<b>Working Capital</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Maintenance Spares	5.89	6.24	6.61	7.01	7.43
O & M expenses	2.34	2.44	2.54	2.64	2.74
Receivables	14.40	14.44	14.48	14.53	14.59
Total	22.63	23.11	23.63	24.18	24.76
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
<b>Interest</b>	<b>2.32</b>	<b>2.37</b>	<b>2.42</b>	<b>2.48</b>	<b>2.54</b>

(d) Revised Annual Transmission charges

(Rs. in lakh)

<b>Transmission Tariff</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Depreciation	16.44	16.44	16.44	16.44	16.44
Interest on Loan	10.42	9.46	8.51	7.54	6.53
Return on Equity	29.11	29.11	29.11	29.11	29.11
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	2.32	2.37	2.42	2.48	2.54
O & M Expenses	28.12	29.25	30.42	31.63	32.90
<b>Total</b>	<b>86.40</b>	<b>86.63</b>	<b>86.90</b>	<b>87.20</b>	<b>87.52</b>