CENTRAL ELECTRICITY REGULATORY COMMISSION NEW DELHI

Coram

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

Petition No.122/2004

In the matter of

Approval of tariff in respect of Jeypore-Talcher transmission system in Eastern Region for the period from 1.4.2004 to 31.3.2009.

Petition No. 124/2004

And in the matter of

Approval of tariff in respect of Chukha Transmission system in Eastern Region for the period from 1.4.2004 to 31.3.2009

Petition No. 125/2004

And in the matter of

Approval of tariff in respect of 400 kV Talcher transmission system in Eastern Region for the period from 1.4.2004 to 31.3.2009

And in the matter of

Power Grid Corporation of India Ltd., Gurgaon Vs

.... Petitioner

- 1. Bihar State Electricity Board, Patna
- 2. West Bengal State Electricity Board, Kolkata
- 3. Grid Corporation of Orissa Ltd., Bhubaneshwar
- 4. Damodar Valley Corporation, Kolkata
- 5. Power Deptt., Govt. of Sikkim, Gangtok
- 6. Jharkhand State Electricity Board, Ranchi

.... Respondents

ORDER

In these petitions, the petitioner, Power Grid Corporation of India Ltd. had sought approval for tariff in respect of its above-named transmission assets in Eastern 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 the transmission assets for the period 1.4.2004 to 31.3.2009 was awarded by the Commission. The details of the orders, capital cost considered in these orders and final tariff awarded by the Commission are given in Annexures I to III of this order.

- 2. Through this order, we are revising the tariff in the process of implementation of the judgment of the Appellate Tribunal for Electricity (hereinafter referred to as "the Appellate Tribunal") dated 16.5.2007 in Appeal No. 121 of 2005. Briefly, the background of the case is as under:
 - (a) The petitioner, on its establishment, took-over the transmission network from the central generating companies like NTPC, NHPC, NLC and NEEPCO with effect from 1.4.1992 on book value.
 - (b) Prior to setting up of the Commission, the tariff for the various transmission systems owned by the petitioner was fixed by the Central Government in Ministry of Power, based on advice from the Central Electricity Authority.
 - (c) For the purpose of tariff determination, Ministry of Power considered the capital cost on the following basis:
 - (i) Capital cost as on 31.3.1992 was notionally divided into debt and equity in the ratio of 50:50.
 - (ii) Cumulative depreciation accrued till 31.3.1992 was deducted from capital cost as at (a) above to arrive at net asset value which was used for tariff purposes.

- (iii) Net asset value obtained at (ii) above, was divided notionally into debt and equity in the ratio of 50:50. In other words, both debt and equity as in (i) above were reduced equally by one-half of the cumulative depreciation accruing till 31.3.1992 mentioned in (ii) above.
- (iv) This approach was continued during 1.4.1992 to 31.3.1997, with equity getting depleted further by 50% of depreciation amount charged during this period.
- (v) The approach was discontinued after 31.3.1997, and there was no further depletion of equity thereafter.
- (d) When the Commission determined tariff for the various assets of the petitioner, following the approach adopted by Ministry of Power, 50% of the Net Fixed Asset as on 1.4.1997 was taken as the equity deployment as on 1.4.1997.
- (e) Aggrieved by the above principle followed by the Commission, the petitioner made an application, being Petition No 26/2005 urging that in respect of all its assets, the depleted equity amounting to Rs. 64600 lakh through the application of the above methodology be restored.
- (f) The said application was dismissed vide the Commission's order dated 11.5.2005, whereupon, the petitioner filed Appeal No. 121 of 2005 before the Appellate Tribunal.

(g) The above appeal was disposed of by the Appellate Tribunal vide its judgment dated 16.5.2006 with the following directions:

"CONCLUSION

- 33. Thus, we have no hesitation in holding that the aforesaid grave error committed by the Central Government as a regulator while determining tariff for the block year 1992-1997, requires to be rectified with effect from April 1, 2004.
- 34. In the light of the aforesaid discussion, the issues raised in Para 19 are determined and answered as follows:
- **ISSUE No.1:** The regulator committed grave error in fixing equity while determining tariff for the block year 1992-1997 and 1997-2002.
- **ISSUE No.2:** The appellant is entitled to the restoration of equity of Rs.664 Crore, with effect from April 1, 1992, for the purposes of accounting.
- **ISSUE No.3:** Consequent to restoration of equity, tariff needs to be determined for the period commencing from April 1, 2004.
- **ISSUE No.4:** The Order of the CERC is liable to be set aside.
- **ISSUE No.5:** The CERC shall re-determine the transmission tariff for the period commencing from April 1, 2004.
- 35. In view of the aforesaid determination, the appeal is allowed. The order of the CERC is set aside and the matter is remitted to it (CERC) for re-determination of the tariff for the period commencing from April 1, 2004 in accordance with law and having regard to the observations made by us.

We make it clear that the appellant shall not be entitled to claim tariff difference from the period anterior to 01.04.2004. "

(h) In pursuance of the above judgment of the Appellate Tribunal, the petitioner filed region-wise applications for revision of tariff for the period 2004-09 after restoration of equity. The project-wise details for revision of

equity in respect of the transmission assets in the Eastern Region were filed in Petition No. 41/2007.

3. As a consequence of the judgment of the Appellate Tribunal, notional equity as on 1.4.2004 stands revised. This has consequently led to the revision of return on equity and interest on working capital. Restoration of equity does not

have any bearing on any other component of tariff.

4. Details of the revised calculation of the annual transmission charges in respect of the transmission assets considered in this order are given in Annexures I to III to this order.

5. The petitioner shall recover the additional amount in six equal monthly installments.

Sd/- sd/-

(R KRISHNAMOORTHY)
MEMBER
New Delhi, dated 31st March 2008

(BHANU BHUSHAN) MEMBER

Annexure- I

- 1. Petition No. 122/2004
- 2. Approval of tariff in respect of Jeypore-Talcher transmission system in Eastern Region for the period from 1.4.2004 to 31.3.2009.
- 3. Date of order of approval of tariff: 14.9.2005.

4. Original tariff

(a) Summary of the tariff awarded

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	251.95	251.95	251.95	251.95	251.95
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	746.20	746.20	746.20	746.20	746.20
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	53.06	55.03	57.12	59.32	61.66
O & M Expenses	321.89	334.77	348.40	361.93	376.78
Total	1373.10	1387.96	1403.68	1419.40	1436.59

(b) Computation of capital cost

(Rs. in lakh)

/-	(O. III IGI(II)
Capital cost approved in the order dated 14.9.2005, as on 1.4.2001	12040.00
Admitted capital cost as on 1.4.2001 for calculation of debt and equity	10660.00
Additional capitalization due to works from 1.4.2001 to 31.3.2004	00.00
Additional capitalization due to FERV from 1.4.2004 to 31.3.2004	00.00
Total capital cost as on 1.4.2004 considered for calculation of return on equity	10660.00

(c) Computation of equity: Rs. 5330.00 lakh at the debt-equity ratio of 50:50.

5. Revised tariff claimed by the petitioner

	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	251.95	251.95	251.95	251.95	251.95
Interest on Loan	0.00	0.00	0.00	0.00	0.00

Return on Equity	842.80	842.80	842.80	842.80	842.80
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	54.73	56.71	58.80	61.00	63.34
O & M Expenses	321.89	334.77	348.40	361.93	376.78
Total	1471.38	1486.24	1501.96	1517.68	1534.87

6. Revised tariff computations

(a) Capital cost

(Rs. in lakh)

Capital cost approved in the order dated 27.2.2006, as on 1.4.2001	12040.00
Additional capitalization due to works from 1.4.2001 to 31.3.2004	00.00
Additional capitalization due to FERV from 1.4.2001 to 31.3.2004	00.00
Total capital cost as on 1.4.2004	12040.00

(b) Equity and return on equity:

Equity as per order dated 14.9.2005 Rs. 5330.00 lakh

Addition on account of restitution of equity Rs. 690.00 lakh

Net equity (50% of capital cost)

Rs. 6020.00 lakh

Return on equity Rs. 842.80 lakh per

annum

(c) Interest on working capital

(Rs. in lakh)

				(a
	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance Spares	261.94	277.66	294.32	311.98	330.69
O & M expenses	26.82	27.90	29.03	30.16	31.40
Receivables	245.23	247.71	250.33	252.95	255.81
Total	533.99	553.26	573.68	595.08	617.90
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	54.73	56.71	58.80	61.00	63.34

(d) Revised annual transmission charges

			(113.11116	anii)
2004-05	2005-06	2006-07	2007-08	2008-09

Depreciation	251.95	251.95	251.95	251.95	251.95
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	842.80	842.80	842.80	842.80	842.80
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	54.73	56.71	58.80	61.00	63.34
O & M Expenses	321.89	334.77	348.40	361.93	376.78
Total	1471.38	1486.23	1501.96	1517.68	1534.87

Annexure-II

- 1. Petition No. 124/2004
- 2. Approval of tariff in respect of Chukha Transmission System in Eastern Region for the period from 1.4.2004 to 31.3.2009.
- 3. Date of order of approval of tariff: 21.12.2005

4. Original tariff

(a) Summary of the tariff awarded

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	279.04	279.04	279.04	279.04	279.04
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	732.16	732.16	732.16	732.16	732.16
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	75.99	78.76	81.69	84.71	87.94
O & M Expenses	1406.05	1462.40	1521.59	1581.15	1645.57
Total	2493.23	2552.36	2614.48	2677.06	2744.71

(b) Computation of capital cost

(Rs. in lakh)

Capital cost approved in the order dated 21.12.2005, as on 1.4.2001	13789.43
Admitted capital cost as on 1.4.2001 for calculation of debt and equity	9374.86
Additional capitalization due to works from 1.4.2001 to 31.3.2004	84.57
Additional capitalization due to FERV from 1.4.2001 to 31.3.2004	0.00
Total capital cost as on 1.4.2004 considered for calculation of return on equity	10459.43

(c) Computation of equity: Rs. 5229.72 lakh at the debt-equity ratio of 50:50.

5. Revised tariff claimed by the petitioner

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	279.04	279.04	279.04	279.04	279.04
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	965.26	965.26	965.26	965.26	965.26
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	80.04	82.81	85.74	88.76	91.99
O & M Expenses	1406.05	1462.40	1521.59	1581.15	1645.57
Total	2730.39	2789.51	2851.63	2914.20	2981.86

6. Revised tariff computations

(a) Capital cost

(Rs. in lakh)

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Capital cost approved in the order dated 21.12.2005, as on 1.4.2001	13789.43
Additional capitalization due to works from 1.4.2001 to 31.3.2004	84.57
Additional capitalization due to FERV from 1.4.2001 to 31.3.2004	0.00
Total capital cost as on 1.4.2004	13874.00

(b) Equity and return on equity:

Equity as per order dated 21.12.2005 Rs. 5229.72 lakh

Addition on account of restitution of equity Rs. 1665.00 lakh

Net equity (50% of the capital cost)

Rs. 6894.72 lakh

Return on equity Rs. 965.26 lakh per

annum

(c) Interest on working capital

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance Spares	208.61	221.13	234.40	248.46	263.37
O & M expenses	117.17	121.87	126.80	131.76	137.13
Receivables	455.06	464.92	475.27	485.70	496.98
Total	780.85	807.92	836.47	865.93	897.48
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	80.04	82.81	85.74	88.76	91.99

(d) Revised annual transmission charges

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	279.04	279.04	279.04	279.04	279.04
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	965.26	965.26	965.26	965.26	965.26
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	80.04	82.81	85.74	88.76	91.99
O & M Expenses	1406.05	1462.40	1521.59	1581.15	1645.57
Total	2730.39	2789.51	2851.63	2914.21	2981.86

Annexure- III

- 1. Petition No. 125/2004
- 2. Approval of tariff in respect of 400 kV Talcher transmission system in Eastern Region for the period from 1.4.2004 to 31.3.2009.
- 3. Date of order of approval of tariff: 2.2.2006.

4. Original tariff

(a) Summary of the tariff awarded

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	241.26	241.26	241.26	241.26	241.26
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	767.41	767.41	767.41	767.41	767.41
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	43.49	44.93	46.45	48.05	49.75
O & M Expenses	229.13	238.29	248.04	257.60	268.24
Total	1281.29	1291.89	1303.16	1314.32	1326.66

(b) Computation of capital cost

Capital cost approved in the order dated 2.2.2006, as on 1.4.2001	11621.00
Admitted capital cost as on 1.4.2001 for calculation of debt and equity	10963.00
Additional capitalization due to works from 1.4.2001 to 31.3.2004	00.00
Additional capitalization due to FERV from 1.4.2001 to 31.3.2004	0.00
Total capital cost as on 1.4.2004 considered for calculation of return on equity	10963.00

(c) Computation of equity: Rs. 5481.50 lakh at the debt-equity ratio of 50:50.

5. Revised tariff claimed by the petitioner

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	241.26	241.26	241.26	241.26	241.26
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	813.47	813.47	813.47	813.47	813.47
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	44.29	45.73	47.25	48.85	50.55
O & M Expenses	229.13	238.29	248.04	257.6	268.24
Total	1328.15	1338.75	1350.02	1361.18	1373.52

6. Revised tariff computations

(a) Capital cost

(Rs. in lakh)

	(1.101.11.1011.1)
Capital cost approved in the order dated 2.2.2006, as on 1.4.2001	11621.00
Additional capitalization due to works from 1.4.2001 to 31.3.2004	00.00
Additional capitalization due to FERV from 1.4.2001 to 31.3.2004	0.00
Total capital cost as on 1.4.2004	11621.00

(b) Equity and return on equity:

Equity as per order dated 2.2.2006 Rs. 5481.50 lakh

Addition on account of restitution of equity Rs. 329.00 lakh

Total equity (50% of the capital cost)

Rs. 5810.50 lakh

Return on equity Rs. 813.57 lakh per

annum

(c) Interest on loan

(i) Gross loan as on and cumulative repayment up to 31.3.2004 had been considered to be the same amount of Rs. 5481.50 lakh and no loan was outstanding as on 31.3.2004, as per the Commission's

order dated 2.2.2006. Tariff for the period 2001-04 has been since revised vide order dated 12.2.2008 in petition No. 17/2002 considering normative repayment of loan as per the Appellate Tribunal judgment dated 16.5.2006 in Appeal No. 121 of 2005, due to which cumulative repayment up to 31.3.2004 has been changed to Rs. 3633.58 lakh leaving Rs. 1847.92 lakh outstanding as on 31.3.2004. Further, while revising the tariff order for the period 2004-09, restitution of equity depleted prior to 1.4.1997 has been considered which has changed the figure of outstanding loan on 1.4.2001 from Rs. 2841.21 lakh to Rs. 2512.21 lakh. As a consequence, normative loan repayment during 2001-04 period has changed as follows:

(Rs. in lakh)

	2001-02	2002-03	2003-04	
Net Loan-Opening (actual)	8131.67	6846.85	6172.28	
Repayment during the year	1284.82	674.57	883.45	
Net Loan-Closing	6846.85	6172.28	5288.83	
Revised Notional Loan -Opening	2512.21	2115.27	1906.87	
Repayment of Revised Notional Loan	396.93	208.40	272.93	878.27
Revised Notional Loan-Closing	2115.27	1906.87	1633.94	

(ii) The revised repayment up to 31.3.2004 work out as under:

Repayment up to 31.3.1997 Rs. 658.00 lakh
Repayment during 1997-2001 Rs. 2640.29 lakh
Repayment during 2001-04 Rs. 878.27 lakh
Total Rs. 4176.56 lakh

(iii) Revised interest on loan for the period 2004-09 work out as under:

				(133. 111.10	21(11 <i>)</i>	
Interest on Loan		2004-05	2005-06	2006-07	2007-08	2008-09
Gross Notional Loan	5810.50					
Addition due to Additional Capitalization	0.00					

Addition due to FERV	0.00					
Gross Normative Loan	5810.50	5810.50	5810.50	5810.50	5810.50	5810.50
Cumulative Repayment upto Previous Year		4176.56	4494.78	4812.99	5131.21	5449.42
Net Loan-Opening		1633.94	1315.72	997.51	679.29	361.08
Repayment during the year		318.22	318.22	318.22	318.22	318.22
Net Loan-Closing		1315.72	997.51	679.29	361.08	42.86
Average Loan		1474.83	1156.61	838.40	520.18	201.97
Weighted Average Rate of Interest on Loan		6.3000%	6.3000%	6.3000%	6.3000%	6.3000%
Interest		92.91	72.87	52.82	32.77	12.72

(d) Interest on working capital

(Rs. in lakh)

	(recinitatin)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance Spares	457.09	484.52	513.59	544.40	577.07
O & M expenses	91.83	95.50	99.43	103.23	107.53
Receivables	535.24	543.24	551.81	560.14	569.53
Total	1,084.16	1,123.26	1,164.83	1,207.78	1,254.12
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	47.24	48.33	49.51	50.75	52.11

(e) Revised annual transmission charges

	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	318.22	318.22	318.22	318.22	318.22
Interest on Loan	92.91	72.87	52.82	32.77	12.72
Return on Equity	813.47	813.47	813.47	813.47	813.47
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	47.24	48.33	49.51	50.75	52.11
O & M Expenses	229.13	238.29	248.04	257.60	268.24
Total	1500.97	1491.17	1482.05	1472.81	1464.76