

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram

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

Petition No. 12/2002

In the matter of

Approval of tariff for 400 kV Transmission System associated with Farakka (I & II) STPS in Eastern Region for the period 1.4.2001 to 31.3.2004.

And in the matter of

Petition No. 25/2002

Approval of tariff in respect of Kahalgaon Transmission System in Eastern Region for the period 1.4.2001 to 31.3.2004

And in the matter of

Petition No. 63/2002

Approval of tariff in respect of Hathidah River Crossing Section of 220 kV Biharsharif-Begusarai Transmission Line in Eastern Region for the period 1.4.2001 to 31.3.2004

And in the matter of

Petition No. 71/2002

Approval of tariff in respect of Malda-Bongaigoan Transmission Line in Eastern Region for the period from 1.4.2001 to 31.3.2004.

And in the matter of

Power Grid Corporation of India Ltd.

.... Petitioner

Vs

1. Bihar State Electricity Board, Patna
 2. West Bengal State Electricity Board, Calcutta
 3. Grid Corporation of Orissa Ltd., Bhubanshwar
 4. Damodar Valley Corporation, Calcutta
 5. Power Dept., Govt. of Sikkim, Gangtok
 6. Jharkhand State Electricity Board, Ranchi
-Respondents**

ORDER

In these petitions, the petitioner, Power Grid Corporation of India Limited, had sought approval of tariff in respect of its various transmission assets in

Eastern Region for the period from 1.4.2001 to 31.3.2004, based on the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations 2001 (hereinafter referred to as “the 2001 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.

2. Tamil Nadu Electricity Board (TNEB) filed Appeal No. 135/2005 in the Appellate Tribunal for Electricity (the Tribunal) 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 Transmission System was followed. 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 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. The above decision was reiterated by the 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.

4. The ruling of the Tribunal, involving interpretation of the notification dated 16.12.1997 of Ministry of Power, is considered to be judgment in *rem* and thereby has universal application in all the cases of similar nature. Accordingly, it has been decided to apply the ratio of the judgment in all similar cases and re-calculate the tariff in accordance with the judgment of the Tribunal.

5. In terms of judgment dated 4.10.2006 of the 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 shall form part of loan.

6. .Based on the above decision, the tariff for the period 1.4.2001 to 31.3.2004 has been recalculated. The revised calculations are also incorporated in the annexures attached separately for each petition. It is to be noted that there is no change in the 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. All other components of tariff have been recalculated.

7. In the light of the forgoing, the revised transmission charges have also been summarized in the annexures.

8. It is brought out that but for revision of debt and equity in line with the Appellate Tribunal's judgment dated 4.10.2006, in all other respects, the methodology considered for re-computation of the transmission charges is the same as originally considered .

9. The petitioner shall adjust the entire excess amount collected by it against the future bills within six months, from the date of this order.

10. We also make it clear that as the revision of tariff has arisen consequent to the directions of the Tribunal, and not any commission or omission on the part of the petitioner, it will not incur any liability towards payment of interest on the grounds of excess recovery.

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 Tribunal's judgment dated 4.10.2006.

Sd/-
(R KRISHNAMOORTHY)
MEMBRER
New Delhi dated 5th January 2008

sd/-
(BHANU BHUSHAN)
MEMBRER

Annexure-I

1. Petition No. 12/2002
2. Subject: Approval of tariff for 400 kV Transmission System associated with Farakka (I & II) STPS in Eastern Region for the period 1.4.2001 to 31.3.2004.
3. Date of order of approval of tariff: 4.8.2003
4. **Original tariff**
 - (a) Summary of the tariff awarded

(Rs. in lakh)

| Transmission Tariff | 2001-02 | 2002-03 | 2003-04 |
|------------------------------|----------------|----------------|----------------|
| Interest on Loan | 144.89 | 115.74 | 99.97 |
| Interest on Working Capital | 150.39 | 151.65 | 156.82 |
| Depreciation | 905.85 | 905.85 | 905.85 |
| Advance against Depreciation | 170.90 | 0.00 | 0.00 |
| Return on Equity | 2067.36 | 2067.36 | 2067.36 |
| O & M Expenses | 1385.33 | 1468.45 | 1556.56 |
| Total | 4824.72 | 4709.04 | 4786.55 |

- (b) Computation of capital cost

(Rs. in lakh)

| | |
|---|-----------------|
| Capital Expenditure up to 31.3.2001 | 30601.00 |
| FERV as on 31.3.2001 on account of foreign loan liability due to capitalization | 1712.96 |
| Capital Expenditure up to 31.3.2001 including FERV | 32313.96 |
| Additional Capital Expenditure after 31.3.2001 | 0.00 |
| Capital Expenditure considered for determination of Tariff | 32313.96 |

- (c) Computation of equity

(Rs. in lakh)

| | |
|-------------------------------------|----------|
| Equity up to 31.3.2001 | 12069.50 |
| Notional equity arising out of FERV | 856.98 |
| Total Equity | 12920.98 |

5. Revised tariff computations

- (a) Equity and return on equity

(Rs. in lakh)

| | 2001-02 | 2002-03 | 2003-04 |
|----------------------------------|----------------|----------------|----------------|
| Equity | 12064.50 | 12064.50 | 12064.50 |
| Return on equity up to 31.3.2001 | 1930.32 | 1930.32 | 1930.32 |

(b) Interest on notional loan

(Rs. in lakh)

| Interest on Loan | 2001-02 | 2002-03 | 2003-04 |
|--|----------------|----------------|----------------|
| Gross Loan –Opening | 13777.46 | 13777.46 | 13777.46 |
| Cumulative Repayment up to Previous Year | 7167.52 | 8654.20 | 9587.70 |
| Net Loan-Opening | 6609.94 | 5123.27 | 4189.76 |
| Repayment during the year | 1486.68 | 933.50 | 933.50 |
| Net Loan-Closing | 5123.27 | 4189.76 | 3256.26 |
| Average Loan | 5866.60 | 4656.51 | 3723.01 |
| Rate of interest | 2.8374% | 2.8555% | 3.0850% |
| Interest | 166.46 | 132.97 | 114.85 |

(c) Advance Against Depreciation

(Rs. in lakh)

| Advance Against Depreciation | 2001-02 | 2002-03 | 2003-04 |
|-------------------------------------|----------------|----------------|----------------|
| 1/12th of Gross Loan(s) | 1148.12 | 1148.12 | 1148.12 |
| Scheduled Repayment of the Loan(s) | 1486.68 | 933.50 | 933.50 |
| Minimum of the above | 1148.12 | 933.50 | 933.50 |
| Depreciation during the year | 905.85 | 905.85 | 905.85 |
| Advance Against Depreciation | 242.27 | 27.66 | 27.66 |

(d) Interest on Working Capital

(Rs. in lakh)

| Working Capital | | 2001-02 | 2002-03 | 2003-04 |
|------------------------|--------|----------------|----------------|----------------|
| Maintenance Spares | 366.24 | 388.21 | 411.50 | 436.19 |
| O & M expenses | | 115.44 | 122.37 | 129.71 |
| Receivables | | 796.63 | 769.18 | 781.70 |
| Total | | 1,300.28 | 1,303.05 | 1,347.61 |
| Rate of Interest | | 11.50% | 11.50% | 11.50% |
| Interest | | 149.53 | 149.85 | 154.97 |

(e) Revised Annual Transmission charges

(Rs. in lakh)

| Transmission Tariff | 2001-02 | 2002-03 | 2003-04 |
|------------------------------|----------------|----------------|----------------|
| Interest on Loan | 166.46 | 132.97 | 114.85 |
| Interest on Working Capital | 149.53 | 149.85 | 154.97 |
| Depreciation | 905.85 | 905.85 | 905.85 |
| Advance against Depreciation | 242.27 | 27.66 | 27.66 |
| Return on Equity | 1930.32 | 1930.32 | 1930.32 |
| O & M Expenses | 1385.33 | 1468.45 | 1556.56 |
| Total | 4779.76 | 4615.09 | 4690.21 |

Annexure-II

1. Petition No. 25/2002
2. Subject: Approval of tariff in respect of Kahalgaon Transmission System in Eastern Region for the period 1.4.2001 to 31.3.2004
3. Date of order of approval of tariff: 17.2.2004
4. **Original tariff**

- (a) Summary of the tariff awarded

(Rs. in lakh)

| Transmission Tariff | 2001-02 | 2002-03 | 2003-04 |
|------------------------------|----------------|----------------|----------------|
| Interest on Loan | 69.77 | 8.00 | 0.00 |
| Interest on Working Capital | 93.22 | 95.22 | 92.18 |
| Depreciation | 571.88 | 571.88 | 350.69 |
| Advance against Depreciation | 100.62 | 100.62 | 0.00 |
| Return on Equity | 1291.21 | 1291.21 | 1291.21 |
| O & M Expenses | 835.05 | 885.15 | 938.26 |
| Total | 2961.75 | 2952.09 | 2672.34 |

- (b) Computation of capital cost

(Rs. in lakh)

| | |
|---|----------|
| Capital Expenditure up to 31.3.2001 as per previous tariff setting | 19447.00 |
| FERV as on 31.3.2001 on account of foreign loan liability due to capitalization | 163.11 |
| Capital Expenditure up to 31.3.2001 | 19610.11 |
| Additional Capital Expenditure after 31.3.2001 | 0.00 |
| Capital Expenditure considered for determination of Tariff | 19610.11 |

- (c) Computation of equity

(Rs. in lakh)

| | |
|-------------------------------------|---------|
| Equity up to 31.3.2001 | 7988.50 |
| Notional equity arising out of FERV | 81.56 |
| Total Equity | 8070.05 |

5. **Revised tariff computations**

- (a) Equity and return on equity

(Rs. in lakh)

| | 2001-02 | 2002-03 | 2003-04 |
|----------------------------------|----------------|----------------|----------------|
| Equity | 7988.50 | 7988.50 | 7988.50 |
| Return on equity up to 31.3.2001 | 1278.16 | 1278.16 | 1278.16 |

(b) Interest on notional loan

(Rs. in lakh)

| Interest on Loan | 2001-02 | 2002-03 | 2003-04 |
|--|----------------|----------------|----------------|
| Gross Loan –Opening | 8151.61 | 8151.61 | 8151.61 |
| Cumulative Repayment up to Previous Year | 4768.16 | 6408.37 | 8151.61 |
| Net Loan-Opening | 3383.45 | 1743.24 | 0.00 |
| Repayment during the year | 1640.21 | 1743.24 | 0.00 |
| Net Loan-Closing | 1743.24 | 0.00 | 0.00 |
| Average Loan | 2563.35 | 871.62 | 0.00 |
| Rate of interest | 2.7891% | 0.9403% | 0.00% |
| Interest | 71.49 | 8.20 | 0.00 |

(c) Depreciation

(Rs. in lakh)

| | | 2001-02 | 2002-03 | 2003-04 |
|----------------------------------|----------|----------------|----------------|----------------|
| Rate of depreciation | 2.92% | | | |
| Depreciable value | 17649.10 | | | |
| Balance useful life of the asset | 25.00 | 25.00 | 24.00 | 23.00 |
| Remaining depreciable value | | 9410.94 | 8731.64 | 8052.34 |
| Depreciation | | 571.88 | 571.88 | 350.10 |

(d) Advance Against Depreciation

(Rs. in lakh)

| Advance Against Depreciation | 2001-02 | 2002-03 | 2003-04 |
|-------------------------------------|----------------|----------------|----------------|
| 1/12th of Gross Loan(s) | 679.30 | 679.30 | 679.30 |
| Scheduled Repayment of the Loan(s) | 1640.21 | 1743.24 | 0.00 |
| Minimum of the above | 679.30 | 679.30 | 0.00 |
| Depreciation during the year | 571.88 | 571.88 | 350.10 |
| Advance Against Depreciation | 107.42 | 107.42 | 0.00 |

(e) Interest on Working Capital

(Rs. in lakh)

| Working Capital | | 2001-02 | 2002-03 | 2003-04 |
|------------------------|--------|----------------|----------------|----------------|
| Maintenance Spares | 233.39 | 274.39 | 262.23 | 277.97 |
| O & M expenses | | 69.59 | 73.76 | 78.19 |
| Receivables | | 492.86 | 490.99 | 443.07 |
| Total | | 809.83 | 826.98 | 799.23 |
| Rate of Interest | | 11.50% | 11.50% | 11.50% |
| Interest | | 93.13 | 95.10 | 91.91 |

(f) Revised Annual Transmission charges

(Rs. in lakh)

| Transmission Tariff | 2001-02 | 2002-03 | 2003-04 |
|------------------------------|----------------|----------------|----------------|
| Interest on Loan | 71.49 | 8.20 | 0.00 |
| Interest on Working Capital | 93.13 | 95.10 | 91.91 |
| Depreciation | 571.88 | 571.88 | 350.10 |
| Advance against Depreciation | 107.42 | 107.42 | 0.00 |
| Return on Equity | 1278.16 | 1278.16 | 1278.16 |
| O & M Expenses | 835.05 | 885.15 | 938.26 |
| Total | 2957.14 | 2945.91 | 2658.44 |

Annexure-III

1. Petition No.63/2002
2. Subject: Approval of tariff in respect of Hathidah River Crossing Section of 220 kV Biharsharif-Begusarai Transmission Line in Eastern Region for the period 1.4.2001 to 31.3.2004.
3. Date of order of approval of tariff: 30.6.2003

4. Original tariff

- (a) Summary of the tariff awarded

(Rs. in lakh)

| Transmission Tariff | 2001-02 | 2002-03 | 2003-04 |
|------------------------------|----------------|----------------|----------------|
| Interest on Loan | 95.54 | 95.54 | 89.67 |
| Interest on Working Capital | 4.41 | 4.49 | 5.33 |
| Depreciation | 27.41 | 27.41 | 27.41 |
| Advance against Depreciation | 0.00 | 0.00 | 44.41 |
| Return on Equity | 32.76 | 32.76 | 32.76 |
| O & M Expenses | 3.77 | 4.00 | 4.24 |
| Total | 163.89 | 164.20 | 203.81 |

- (b) Computation of capital cost

(Rs. in lakh)

| | |
|---|---------|
| Capital Expenditure up to 31.3.2001 | 1066.80 |
| FERV as on 31.3.2001 on account of foreign loan liability due to capitalization | (-)0.24 |
| Additional Capital Expenditure after 31.3.2001 | (+)0.00 |
| Capital Expenditure considered for determination of Tariff | 1066.56 |

- (c) Computation of equity

(Rs. in lakh)

| | |
|--------------------------------------|--------|
| Equity allowed by 31.3.2001 | 204.80 |
| Notional equity arising out of FERV. | - |
| Total Equity | 204.80 |

5. Revised tariff computations

- (a) Equity and return on equity

(Rs. in lakh)

| | 2001-02 | 2002-03 | 2003-04 |
|----------------------------------|----------------|----------------|----------------|
| Equity | 204.80 | 204.80 | 204.80 |
| Return on equity up to 31.3.2001 | 32.77 | 32.77 | 32.77 |

(b) Interest on notional loan

(Rs. in lakh)

| Interest on Loan | 2001-02 | 2002-03 | 2003-04 |
|--|----------------|----------------|----------------|
| Gross Loan –Opening | 861.76 | 861.76 | 861.76 |
| Cumulative Repayment up to Previous Year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 861.76 | 861.76 | 861.76 |
| Repayment during the year | 0.00 | 0.00 | 81.12 |
| Net Loan-Closing | 861.76 | 861.76 | 780.64 |
| Interest | 95.57 | 95.57 | 89.69 |

(c) Depreciation

(Rs. in lakh)

| Advance Against Depreciation | 2001-02 | 2002-03 | 2003-04 |
|-------------------------------------|----------------|----------------|----------------|
| 1/12th of Gross Loan(s) | 71.81 | 71.81 | 71.81 |
| Scheduled Repayment of the Loan(s) | 0.00 | 0.00 | 81.12 |
| Minimum of the above | 0.00 | 0.00 | 71.81 |
| Depreciation during the year | 27.41 | 27.41 | 27.41 |
| Advance Against Depreciation | 0.00 | 0.00 | 44.40 |

(d) Interest on Working Capital

(Rs. in lakh)

| Interest on Working Capital | | 2001-02 | 2002-03 | 2003-04 |
|------------------------------------|-------|----------------|----------------|----------------|
| Maintenance Spares | 10.67 | 10.69 | 11.33 | 12.01 |
| O & M expenses | | 0.31 | 0.33 | 0.35 |
| Receivables | | 27.32 | 27.37 | 33.97 |
| Total | | 38.33 | 39.04 | 46.34 |
| Rate of Interest | | 11.50% | 11.50% | 11.50% |
| Interest | | 4.41 | 4.49 | 5.33 |

(e) Revised Annual Transmission charges

(Rs. in lakh)

| Transmission Tariff | 2001-02 | 2002-03 | 2003-04 |
|------------------------------|----------------|----------------|----------------|
| Interest on Loan | 95.57 | 95.57 | 89.69 |
| Interest on Working Capital | 4.41 | 4.49 | 5.33 |
| Depreciation | 27.41 | 27.41 | 27.41 |
| Advance against Depreciation | 0.00 | 0.00 | 44.40 |
| Return on Equity | 32.77 | 32.77 | 32.77 |
| O & M Expenses | 3.77 | 4.00 | 4.24 |
| Total | 163.92 | 164.23 | 203.84 |

Annexure-IV

1. Petition No. 71/2002
2. Subject: Approval of tariff in respect of Malda-Bongaigoan Transmission Line in Eastern Region for the period from 1.4.2001 to 31.3.2004.
3. Date of order of approval of tariff: 13.4.2004

4. Original tariff

(a) Summary of the tariff awarded

(Rs. in lakh)

| Transmission Tariff | 2001-02 | 2002-03 | 2003-04 |
|------------------------------|----------------|----------------|----------------|
| Interest on Loan | 2465.94 | 2266.46 | 1644.00 |
| Interest on Working Capital | 162.73 | 152.77 | 154.58 |
| Depreciation | 805.12 | 805.12 | 805.12 |
| Advance against Depreciation | 488.20 | 0.00 | 525.26 |
| Return on Equity | 1596.38 | 1596.38 | 1596.38 |
| O & M Expenses | 757.17 | 802.61 | 850.77 |
| Total | 6275.54 | 5623.34 | 5576.50 |

(b) Computation of capital cost

(Rs. in lakh)

| | |
|---|-----------------|
| Capital Expenditure up to 31.3.2001 | 29743.02 |
| FERV as on 31.3.2001 on account of foreign loan liability due to capitalization | 113.56 |
| Capital Expenditure up to 31.03.2001 | 29856.58 |
| Additional Capital Expenditure after 31.03.2001 | 0.00 |
| Total Capital Expenditure | 29856.58 |

(c) Computation of equity

(Rs. in lakh)

| | |
|-------------------------------------|----------------|
| Equity up to 31.3.2001 | 9939.40 |
| Notional equity arising out of FERV | 37.95 |
| Total Equity | 9977.35 |

5. Revised tariff computations

(a) Equity and return on equity

(Rs. in lakh)

| | 2001-02 | 2002-03 | 2003-04 |
|----------------------------------|----------------|----------------|----------------|
| Equity | 9939.40 | 9939.40 | 9939.40 |
| Return on equity up to 31.3.2001 | 1590.30 | 1590.30 | 1590.30 |

(b) Interest on notional loan

(Rs. in lakh)

| Interest on Loan | 2001-02 | 2002-03 | 2003-04 |
|--|----------------|----------------|----------------|
| Gross Loan –Opening | 19917.19 | 19917.19 | 19917.19 |
| Cumulative Repayment up to Previous Year | 259.89 | 1553.21 | 2045.20 |
| Net Loan-Opening | 19657.31 | 18363.98 | 17871.99 |
| Repayment during the year | 1293.32 | 491.99 | 1330.78 |
| Net Loan-Closing | 18363.98 | 17871.99 | 16541.21 |
| Interest | 2468.33 | 2268.85 | 1646.40 |

(c) Advance Against Depreciation

(Rs. in lakh)

| Advance Against Depreciation | 2001-02 | 2002-03 | 2003-04 |
|-------------------------------------|----------------|----------------|----------------|
| 1/12th of Gross Loan(s) | 1659.77 | 1659.77 | 1659.77 |
| Scheduled Repayment of the Loan(s) | 1293.32 | 491.99 | 1330.78 |
| Minimum of the above | 1293.32 | 491.99 | 1330.78 |
| Depreciation during the year | 805.12 | 805.12 | 805.12 |
| Advance Against Depreciation | 488.20 | 0.00 | 525.66 |

(d) Interest on Working Capital

(Rs. in lakh)

| Working Capital | | 2001-02 | 2002-03 | 2003-04 |
|------------------------|--------|----------------|----------------|----------------|
| Maintenance Spares | 288.68 | 306.00 | 324.36 | 343.83 |
| O & M expenses | | 63.10 | 66.88 | 70.90 |
| Receivables | | 1045.30 | 936.60 | 928.79 |
| Total | | 1414.40 | 1327.85 | 1343.51 |
| Rate of Interest | | 11.50% | 11.50% | 11.50% |
| Interest | | 162.66 | 152.70 | 154.50 |

(e) Revised Annual Transmission charges

(Rs.in lakh)

| Transmission Tariff | 2001-02 | 2002-03 | 2003-04 |
|------------------------------|----------------|----------------|----------------|
| Interest on Loan | 2468.33 | 2268.85 | 1646.40 |
| Interest on Working Capital | 162.66 | 152.70 | 154.50 |
| Depreciation | 805.12 | 805.12 | 805.12 |
| Advance against Depreciation | 488.20 | 0.00 | 525.66 |
| Return on Equity | 1590.30 | 1590.30 | 1590.30 |
| O & M Expenses | 757.18 | 802.61 | 850.77 |
| Total | 6271.79 | 5619.59 | 5572.75 |