

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 331/2009**

**Coram:**

- 1. Dr. Pramod Deo, Chairperson**
- 2. Shri S.Jayaraman, Member**
- 3. Shri V.S.Verma, Member**

**DATE OF ORDER 20.7.2010**

**In the matter of**

Revision of transmission tariff due to additional capital expenditure incurred during 2008-09 for (a) 80 MVAR Reactor along with Nellore 400 kV bay extension work; (b) 315 MVA ICT along with Cuddapah 400 kV bay extension work; (c) 315 MVA ICT along with Gooty sub-station bay extension work and 11nd 3x167 MVA Auto transformer at Kolar and switching arrangement for reactor at Somanhalli; (d) 315 MVA ICT along with Guzuwaka sub-station bay extension work; (e) 315 MVA ICT at Munirabad sub-station bay extension work; and (f) 315 MVA ICT along with Khammam sub-station bay extension work under the system strengthening Scheme-V in Southern Region Grid.

**And in the matter of**

Power Grid Corporation of India Limited, Gurgaon **..Petitioner**

Vs

1. Karnataka Power Transmission Corporation Limited, Bangalore
2. Transmission Corporation of Andhra Pradesh Ltd., Hyderabad
3. Kerala State Electricity Board, Thiruvananthapuram
4. Tamil Nadu Electricity Board, Chennai
5. Electricity Department, Govt. of Pondicherry, Pondicherry
6. Eastern Power Distribution Company of Andhra Pradesh Limited, Vishakhapatnam
7. Southern Power Distribution Company of Andhra Pradesh Limited, Tirupati
8. Central Power Distribution Company of Andhra Pradesh Limited, Hyderabad
9. Northern Power Distribution Company of Andhra Pradesh Limited, Warangal
10. Bangalore Electricity Supply Company Ltd., Bangalore
11. Gulbarga Electricity Supply Company Ltd. Gulbarga
12. Hubli Electricity Supply Company Ltd., Hubli
13. MESCOM Corporate office, Mangalore
14. Chamundeswari Electricity Supply Corporation Ltd., Mysore.

**.Respondents**

## ORDER

The Commission by its order dated 18.3.2010 had approved the revised transmission charges due to additional capital expenditure incurred in respect of transmission elements given in the table below under the System Strengthening Scheme-V (the transmission scheme) in Southern Region Grid for the period from 1.4.2008 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:

| S.No.          | Name of Asset   |
|----------------|---|
| 1. (Asset-I)   | 80 MVAR Reactor along with Nellore 400 kV bay extension work  |
| 2. (Asset-II)  | 315 MVA ICT along with Cuddapah 400 kV bay extension work   |
| 3. (Asset-III) | 315 MVA ICT along with Gooty sub-station bay extension work and 11nd 3 x167 MVA Auto transformer at Kolar and switching arrangement for reactor at Somanhalli |
| 4. (Asset-IV)  | 315 MVA ICT along with Guzuwaka sub-station bay extension work  |
| 5. (Asset-V)   | 315 MVA ICT along with Munirabad sub-station bay extension work   |
| 6.(Asset-VI)   | 315 MVA ICT along with Khammam sub-station bay extension  |

2. Commission vide para 14 of the said order dated 18.3.2010 observed as under:

" In case of Asset-III, the value of capital spares has been exceeded, hence excess spares of Rs. 4.32 lakh claimed by the petitioner has been restricted from sub-station for Asset-III from the date of commercial operation of the above assets and the tariff for 2007-08 and 2008-09 has been revised accordingly."

3. It has been brought to the Commission's notice that the transmission tariff for Asset-III has been revised, after taking into consideration the

additional capital expenditure for the year 2008-09 only, instead of revising the tariff for the year 2007-08 and 2008-09. Through this order, the inadvertent error in the order dated 18.3.2010 is being rectified and the transmission charges are being revised for Asset-III.

### **DEBT- EQUITY RATIO**

4. The petitioner has considered the amount of additional capital expenditure in the debt-equity ratio of 70:30. This has been found to be in order. Accordingly, for the purpose of tariff, equity considered for the Asset-III is as under:

(Rs. in lakh)

|           | Equity as on date of the commercial operation | Notional additional equity during 2007-08 | Average equity for 2008-09 | Equity as on 1.4.2008 | Notional additional equity during 2008-09 | Total equity considered as on 31.3.2009 | Average equity for 2008-09 |
|-----------|---|---|----------------------------|-----------------------|---|---|----------------------------|
| Asset-III | 1182.87                                       | 31.57                                     | 1198.66                    | 1214.44               | 161.76                                    | 1376.20                                 | 1295.32                    |

### **RETURN ON EQUITY**

5. Equity as given in the table under para 5 above has been considered. However, tariff for the 2007-08 and 2008-09 has been allowed on average equity. Accordingly, return on equity allowed for the year 2007-08 and 2008-09 is given as under:

(Rs. in lakh)

| Name of the asset |         |         |
|-------------------|---------|---------|
|                   | 2007-08 | 2008-09 |
| Asset-III         | 97.89   | 181.34  |

### **INTEREST ON LOAN**

6. The year-wise revised details of interest worked out are given hereunder:

(Rs. in lakh)

| Details   | 2007-08       | 2008-09       |
|---|---------------|---------------|
| Gross Normative Loan  | 2760.04       | 2833.69       |
| Cumulative Repayment up to Previous Year/date of commercial operation | 0.00          | 84.25         |
| Net Loan-Opening  | 2760.04       | 2749.44       |
| Addition due to Additional Capitalisation                             | 73.65         | 377.44        |
| Repayment during the year   | 84.25         | 156.03        |
| Net Loan-Closing  | 2749.44       | 2970.86       |
| Average Loan  | 2754.74       | 2860.15       |
| Weighted Average Rate of Interest on Loan                             | 8.62%         | 9.44%         |
| Interest  | <b>138.57</b> | <b>270.07</b> |

7. The detailed revised calculations in support of computation of the weighted average rate of interest are annexed as Annexure to this order.

### **DEPRECIATION**

8. The revised depreciation allowed has been worked out as below:

(Rs. in lakh)

| Details  | Asset- III   |               |
|--|--------------|---------------|
|  | 2007-08      | 2008-09       |
| Gross block as on the date of commercial operation | 3942.91      | 4048.13       |
| Additional Capitalisation during 2008-09           | 105.22       | 539.20        |
| Gross Block at the end of the year                 | 4048.13      | 4587.33       |
| Rate of Depreciation                               | 3.6147%      | 3.6136%       |
| Depreciable Value                                  | 3595.97      | 3885.96       |
| Balance Useful life of the asset                   | -            | -             |
| Remaining Depreciable Value                        | 3595.97      | 3801.71       |
| Depreciation                                       | <b>84.25</b> | <b>156.03</b> |

### **INTEREST ON WORKING CAPITAL**

9. The necessary computations in support of the revised interest on working capital are appended herein below:

(Rs. in lakh)

|                    | Asset- III   |              |
|--------------------|--------------|--------------|
|                    | 2007-08      | 2008-09      |
| Maintenance Spares | 39.43        | 40.81        |
| O & M expenses     | 18.45        | 19.19        |
| Receivables        | 132.42       | 143.78       |
| Total              | 190.30       | 203.79       |
| Rate of Interest   | 12.25%       | 12.25%       |
| Interest           | <b>13.60</b> | <b>24.96</b> |

### TRANSMISSION CHARGES

10. The revised transmission charges being allowed for the transmission asset for the period 2007-08 to 2008-09 are summarised below:

(Rs.in lakh)

|                              | Asset- III    |               |
|------------------------------|---------------|---------------|
|                              | 2007-08       | 2008-09       |
| Depreciation                 | 84.25         | 156.03        |
| Interest on Loan             | 138.57        | 270.07        |
| Return on Equity             | 97.89         | 181.34        |
| Advance against Depreciation | 0.00          | 0.00          |
| Interest on Working Capital  | 13.60         | 24.96         |
| O & M Expenses               | 129.16        | 230.30        |
| Total                        | <b>463.47</b> | <b>862.71</b> |

11. The transmission charges already approved for Asset-I, Asset-II, Asset-IV, Asset-V and Asset-VI vide order dated 18.3.2010 remain unaltered.

sd/-  
(V.S.VERMA)  
MEMBER

sd/-  
(S.JAYARAMAN)  
MEMBER

sd/-  
(DR.PRAMOD DEO)  
CHAIRPERSON

## CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

|          |  | (Rs. in lakh)                         |         |
|----------|--|---------------------------------------|---------|
|          | Details of Loan  | 2007-08                               | 2008-09 |
| <b>1</b> | <b>Bond XXI</b>  |                                       |         |
|          | Gross Loan opening   | 86.00                                 | 86.00   |
|          | Cumulative Repayment up to the date of commercial operation/previous year  | 0.00                                  | 0.00    |
|          | Net Loan-Opening   | 86.00                                 | 86.00   |
|          | Additions during the year  | 0.00                                  | 0.00    |
|          | Repayment during the year  | 0.00                                  | 0.00    |
|          | Net Loan-Closing   | 86.00                                 | 86.00   |
|          | Average Loan   | 86.00                                 | 86.00   |
|          | Rate of Interest   | 8.73%                                 | 8.73%   |
|          | Interest   | 7.51                                  | 7.51    |
|          | Repayment Schedule   | 12 Annual instalments from 11-10-2010 |         |
| <b>2</b> | <b>Bond XXII</b>   |                                       |         |
|          | Gross Loan opening   | 40.00                                 | 40.00   |
|          | Cumulative Repayment up to the date of commercial operation /previous year | 0.00                                  | 0.00    |
|          | Net Loan-Opening   | 40.00                                 | 40.00   |
|          | Additions during the year  | 0.00                                  | 0.00    |
|          | Repayment during the year  | 0.00                                  | 0.00    |
|          | Net Loan-Closing   | 40.00                                 | 40.00   |
|          | Average Loan   | 40.00                                 | 40.00   |
|          | Rate of Interest   | 8.68%                                 | 8.68%   |
|          | Interest   | 3.47                                  | 3.47    |
|          | Repayment Schedule   | 12 Annual instalments from 7.12.2010  |         |
| <b>3</b> | <b>Bond XXIV</b>   |                                       |         |
|          | Gross Loan opening   | 80.00                                 | 80.00   |
|          | Cumulative Repayment up to the date of commercial operation /previous year | 0.00                                  | 0.00    |
|          | Net Loan-Opening   | 80.00                                 | 80.00   |
|          | Additions during the year  | 0.00                                  | 0.00    |
|          | Repayment during the year  | 0.00                                  | 0.00    |
|          | Net Loan-Closing   | 80.00                                 | 80.00   |
|          | Average Loan   | 80.00                                 | 80.00   |
|          | Rate of Interest   | 9.95%                                 | 9.95%   |
|          | Interest   | 7.96                                  | 7.96    |
|          | Repayment Schedule   | 12 Annual instalments from 26.3.2011  |         |
| <b>4</b> | <b>Bond XXV</b>  |                                       |         |
|          | Gross Loan opening   | 350.00                                | 350.00  |

|          |  |                                      |         |
|----------|--|--------------------------------------|---------|
|          | Cumulative Repayment up to the date of commercial operation /previous year   | 0.00                                 | 0.00    |
|          | Net Loan-Opening   | 350.00                               | 350.00  |
|          | Additions during the year  | 0.00                                 | 0.00    |
|          | Repayment during the year  | 0.00                                 | 0.00    |
|          | Net Loan-Closing   | 350.00                               | 350.00  |
|          | Average Loan   | 350.00                               | 350.00  |
|          | Rate of Interest   | 10.10%                               | 10.10%  |
|          | Interest   | 35.35                                | 35.35   |
|          | Repayment Schedule   | 12 Annual instalments from 12.6.2011 |         |
| <b>5</b> | <b>Bond XX</b>   |                                      |         |
|          | Gross Loan opening   | 520.00                               | 520.00  |
|          | Cumulative Repayment up to the date of commercial operation /previous year   | 0.00                                 | 0.00    |
|          | Net Loan-Opening   | 520.00                               | 520.00  |
|          | Additions during the year  | 0.00                                 | 0.00    |
|          | Repayment during the year  | 0.00                                 | 0.00    |
|          | Net Loan-Closing   | 520.00                               | 520.00  |
|          | Average Loan   | 520.00                               | 520.00  |
|          | Rate of Interest   | 8.93%                                | 8.93%   |
|          | Interest   | 46.44                                | 46.44   |
|          | Repayment Schedule   | 12 Annual instalments from 7.9.2010  |         |
| <b>6</b> | <b>Bond XXVI / ICICI</b>   |                                      |         |
|          | Gross Loan opening   | 1687.00                              | 1687.00 |
|          | Cumulative Repayment up to the date of commercial operation /previous year   | 0.00                                 | 0.00    |
|          | Net Loan-Opening   | 1687.00                              | 1687.00 |
|          | Additions during the year  | 0.00                                 | 0.00    |
|          | Repayment during the year  | 0.00                                 | 0.00    |
|          | Net Loan-Closing   | 1687.00                              | 1687.00 |
|          | Average Loan   | 1687.00                              | 1687.00 |
|          | Rate of Interest   | 8.15%                                | 9.30%   |
|          | Interest   | 137.53                               | 156.89  |
|          | Repayment Schedule   | 12 Annual instalments from 7.3.2012  |         |
|          |  |                                      |         |
| <b>7</b> | <b>STBL FROM BOB 29.09.2008 TO 14.12.2008 @ 12.5% Replaced by BOND XXVIII @ 9.33% from 15.12.2008 (ADDCAP FOR 2008-09 DRAWL ON 15.12.2008)</b> |                                      |         |
|          | Gross Loan opening   | 0.00                                 | 0.00    |
|          | Cumulative Repayment up to the date of commercial operation /previous year   | 0.00                                 | 0.00    |
|          | Net Loan-Opening   | 0.00                                 | 0.00    |
|          | Additions during the year  | 0.00                                 | 539.20  |

|   |  |         |
|---|--|---------|
| Repayment during the year   | 0.00                                     | 0.00    |
| Net Loan-Closing  | 0.00                                     | 539.20  |
| Average Loan  | 0.00                                     | 269.60  |
| Rate of Interest  | 0.00%                                    | 10.66%  |
| Interest  | 0.00                                     | 28.74   |
| Repayment Schedule  | 12 Annual instalments from<br>15.12.2012 |         |
| Gross Loan opening  | 2763.00                                  | 2763.00 |
| Cumulative Repayment up to the date of<br>commercial operation /previous year | 0.00                                     | 0.00    |
| Net Loan-Opening  | 2763.00                                  | 2763.00 |
| Additions during the year   | 0.00                                     | 539.20  |
| Repayment during the year   | 0.00                                     | 0.00    |
| Net Loan-Closing  | 2763.00                                  | 3302.20 |
| Average Loan  | 2763.00                                  | 3032.60 |
| Rate of Interest  | 8.62%                                    | 9.44%   |
| Interest  | 238.26                                   | 286.36  |