

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Coram** \_\_\_\_\_

- 1. Dr. Promod Deo, Chairperson**
- 2. Shri Bhanu Bhushan, Member**
- 3. Shri R. Krishnamoorthy, Member**
- 4. Shri S.Jayaraman, Member**

**Petition No.147/2005**

**In the matter of**

Approval of charges for Unified Load Despatch & Communication Scheme in North Eastern Region for the period from 1.4.2004 to 31.7.2018 and additional capitalization after the date of commercial operation during 2002-03 to 2004-05.

**And in the matter of**

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

1. Assam State Electricity Board, Guwahati
2. Meghalaya State Electricity Board, Shillong
3. Government of Arunachal Pradesh, Itanagar
4. Power and Electricity Department, Govt. of Mizoram, Aizwal
5. Electricity Department, Govt. of Manipur, Imphal
6. Department of Power, Govt. of Nagaland , Kohima
7. Department of Power, Govt. of Tripura, Agartala .... **Respondents**

**The following were present:**

Shri U.K. Tyagi, PGCIL  
Ms. Sangeeta Edwaros, PGCIL  
Shri. M.M. Mondal, PGCIL  
Shri V V Sharma, PGCIL  
Shri Harmeet Singh, PGCIL

**ORDER  
(DATE OF HEARING: 18.11.2008)**

\_\_\_\_\_The petition has been filed seeking approval of charges for Unified Load Despatch & Communication Scheme in North Eastern Region (hereinafter referred to as "the Scheme") for the period from 1.4.2004 to

30.6.2017 and additional capitalization after the date of commercial operation during 2002-03 to 2004-05.

2. The Scheme, designed to strengthen the load despatch infrastructure in North eastern Region, covers investment in North Eastern Load Despatch Centre (NERLDC), the State Load Despatch Centres (SLDCs) in the North eastern Region and the associated communication system.

3. Investment approval and expenditure sanction was accorded by the Central Government in Ministry of Power vide letter dated 21.8.1997 at an estimated cost of Rs. 16783 lakh, including IDC of Rs. 2306 lakh based on 4<sup>th</sup> quarter of 1996 price level. During execution of the Scheme there has been an increase in the cost on account of change in scope of approved items of work, Foreign Exchange Rate Variation and other reasons. As such, based on the recommendations of Public Investment Board, the Central Government vide its letter dated 31.3.2003, accorded its fresh approval to the Revised Cost Estimates of Rs. 26381 lakh, including IDC of Rs. 3460 lakh, consisting of (i) Power Grid's portion of Rs. 25036 lakh, including IDC of Rs. 3182 lakh and (ii) States` portion of Rs. 1344 lakh, including IDC of Rs. 278 lakh, based on 2<sup>nd</sup> quarter 2002 price level. The scheme was to be commissioned by December 2003 and was in fact declared under commercial operation on 1.8.2003.

4. Earlier, the Commission vide its order dated 9.5.2006 in Petition No. 139/2005 awarded the charges for the Unified Load Despatch and Communication Scheme in Northern Region for the period 1.4.2004 onwards.

The petitioner filed review application No. 133/2006 seeking review of the above order on the ground that methodology for calculation of recovery of return on equity and interest on loan capital allowed by the Commission did not ensure recovery of investment made during the life of the assets. The Commission, vide its order dated 11.4.2008 in Review Petition No 133/2006 in Petition No 139/2005 revised the methodology for calculation of the capital recovery factor for return of equity and interest on loan for the period from 1.4.2004 to 31.3.2009 after accounting for the additional capital expenditure incurred during 2001-04. Thereupon, the petitioner in the present petition was directed vide the Commission's order dated 18.6.2008 to submit the following information on affidavit with advance copy to the respondents, who were allowed to file their reply, if any:

- (a) Revised calculations of the annual fees and charges for Scheme in accordance with the methodology considered by the Commission in order dated 11.4.2008, *ibid*;
- (b) "Right-of-way" charges, if any, for laying optic fibre cable underground, duly apportioned between the telecom business of the petitioner and the Scheme ; and
- (c) Detailed year-wise O&M expenses attributable to the Scheme from the date of commercial operation till 31.3.2008, with details of royalty and other charges, if any, paid to the Department of Telecommunications for optic fibre cable and their apportioning between the Scheme ULDC and the telecom business.

(d) Proposal for interest rate resetting in case of loans with floating rate of interest being considered by the Commission in the scheme.

5. The petitioner has filed the above vide its affidavit dated 25.9.2008.

6. Reply to the petition was filed by respondents No. 1 and 7. The case was heard on 18.11.2008. Having heard the parties and gone through the pleadings, we proceed to dispose of the petition.

7. Before taking up the issue of determination of the charges, we propose to dispose of the issues raised by the respondents. Gist of the issues raised by respondents are as under:

Respondent No.1

(a) Details of additional capital expenditure submitted by the petitioner need further scrutiny.

(b) Revenue earned from telecommunication business be shared with beneficiaries.

(c) Generators and others who derive benefit of the Scheme be made to share the cost.

(d) Expenditure on publication of notice be not reimbursed.

Respondent No. 7

(e) Charges for the Scheme be levied on generating companies also.

(f) Adjustment of O&M charges be done by the end of every financial year.

8. Submissions relating to the liability of the generating companies to share the charges is based on the literal interpretation of sub-section (4) of Section 28 of the Act, which is extracted hereunder:

“(4) The Regional Load Despatch Centre may levy and collect such fee and charges from the generating companies or licensees engaged in inter-State transmission of electricity as may be specified by the Central Commission.”

9. Sub section (1) of Section 183 of the Act read with the proviso thereto empowers the Central Government to make such provisions not inconsistent with the provisions of the Act as may appear to be necessary for removing of the difficulty within a period of two years from the date of commencement of the Act. In exercise of the above powers, the Central Government in the Ministry of Power, vide the Electricity (Removal of Difficulty) (Sixth) Order, 2005 dated 8.6.2005 has ordered as under:

“(1) The Regional Load Despatch Centre may levy and collect such fee and charges from the licensees using the inter-State transmission system as may be specified by the Central Commission.”

10. The respondents have not quoted any specific provision of the Act which empowers this Commission to examine the legality and validity of the statutory order made by the Central Government while exercising the powers under Section 183 of the Act.

11. The issue similar to that raised by the respondents was earlier considered by the Commission in Petition No. 8/2004. The Commission by its order dated 3.1.2006 in that petition observed that:

“6. Before we consider the merits of the petitioner’s claim, a preliminary issue raised by Respondent No. 13, Grid Corporation of Orissa (GRIDCO) deserves to be considered. According to GRIDCO, under sub-section (4) of Section 28 of the Act, RLDC fees and charges can be levied and collected from the generating companies and licensees engaged in inter-state transmission of electricity. It has been submitted that GRIDCO is neither a generating company nor a licensee engaged in inter-state transmission of electricity. Accordingly, it has been urged that GRIDCO does not have any liability to share RLDC fees and charges.

7. The Central Government in Ministry of Power, vide S.O.795 (E) dated 8.6.2005, published in Part II, Section 3(ii), Gazette of India (Extraordinary), by virtue of powers under Section 183 of the Act, has ordered that RLDC fees and charges may be levied and collected from “the licensees using the inter-state transmission system”. There is no dispute that GRIDCO has been using the inter-state transmission system. Therefore, by virtue of Ministry of Power order dated 8.6.2005, GRIDCO is liable to share RLDC fees and charges being determined through this order. This disposes of the preliminary objection raised by GRIDCO.”

12. The Commission, it may be seen from the above, has already given effect to the order of the Central Government issued under Section 183 of the Act. This was reiterated in order dated 7.11.2008 in petition No. 11/2007 relating to the charges for the Unified Load Despatch Centre and Communication Scheme for Western Region. For the view already taken by the Commission on the issue, we are not inclined to consider the objection afresh.

13. As regards the objection at para 7(a) above, the respondent may rest assured that the details of additional capitalization submitted by the petitioner

are subjected to prudence check by the Commission as is being done in all the cases. As regards the income derived from other business, the same shall be treated as per the provisions of the relevant regulation thereon. As regards the objection mentioned in para 7(d) above, namely reimbursement of the publication cost, we do not consider it appropriate to make a deviation from the normal procedure followed in other cases. Suggestion of respondent No 7 to adjust O&M expenditure at the end of every financial year does not appear practical because the quantum of O&M expenditure incurred during a year would be known only after the finalization of accounts, which normally takes considerable time. If however, there is any unjustifiable delay on the part of the petitioner in this regard, aggrieved party is at liberty to agitate the matter before the Commission if the issue could not be mutually settled.

14. The following principles as contained in Petition No. 139/2005 pertaining to Northern Region have been adopted in this case for calculation of fee and charges for the Scheme:

- (a) Annual capital cost recovery shall be based on the levelised fees and charges for 15 years through recovery factor =  $i(1+i)^n / [(1+i)^n - 1]$  where, i = weighted average rate of interest and rate of return on equity as the case may be and n= period.
- (b) IWC and O & M charges shall not be levelised.
- (c) O&M charges shall be payable initially @ 7.5.% of the admitted capital cost.

(d) Actual O&M expenses incurred by the petitioner may, if found appropriate, be reimbursed with retrospective effect after a thorough scrutiny and prudence check.

(e) O&M expenses for State portion are not being considered as the expenses are being borne by the State utilities concerned, the respondents.

### **CAPITAL COST**

15. Charges for the period up to 31.3.2004 were awarded vide Commission's order dated 20.9.2005 in Petition No. 30/2004 wherein the following capital cost as on date of commercial operation was considered:

(Rs. in lakh)	
Central portion	10216.20
State portion	7174.80
Total	17391.00

16. Based on the audited accounts up to 31.3.2008, the petitioner has submitted the following details of capital expenditure:

(Rs. in lakh)	
Expenditure up to date of commercial operation (1.8.2003)	17391.00
Expenditure from date of commercial operation to 31.3.2004	1525.64
Expenditure from 1.4.2004 to 31.3.2005	141.92
Expenditure from 1.4.2005 to 31.3.2006	337.43
Expenditure from 1.4.2006 to 31.3.2007	33.08
Expenditure from 1.4.2007 to 31.3.2008	65.31
Balance estimated expenditure	52.69
<b>Total</b>	<b>19547.07</b>

17. Additional capital expenditure amounting to Rs. 1525.64 lakh from the date of commercial operation to 31.3.2004 and Rs. 141.92 lakh during 2004-



05 are allowed. The remaining additional capital expenditure for the period starting from 1.4.2005 has presently not been taken into account as the petitioner has not provided its justification.

## **FUNDING**

18. While determining tariff for the previous period i.e. up to 31.3.2004, the Commission had allowed 90% of the capital expenditure as Grant-in-Aid (GIA) and remaining 10% as loan vide order dated 20.9.2005 in Petition No. 30/2004 as the actual expenditure was less than the approved GIA. The revised cost estimates approved by the Ministry of Power vide No. 12/5/2001-PG dated 31.3.2003 reveals that the project was proposed to be funded in the following manner:

Source	(Rs. in lakh)
Grant for Powergrid's share	22162
Grant for Constituent's share	1344
Total Government of India grant	23506
Loan/internal resources of PowerGrid	2875
Grant Total	26381

19. Even after considering the additional capital expenditure for the period 2003-04 and 2004-05, the actual expenditure incurred comes to Rs. 19065.36 lakh and is less than the approved GIA (Powergrid's share) i.e. Rs. 22162 lakh. Hence, the commission has applied the same principle for funding of additional capital expenditure viz. 90% GIA and 10% loan. However, impact of foreign exchange rate variation is considered as 100% of the loan as per the judgment of the Appellate Tribunal. In essence, for the calculation of capital recovery, no equity is considered as per the reason stated above and capital

recovery on loan portion is being calculated by considering weighted average rate of interest discussed in the succeeding paragraph.

### **INTEREST ON LOAN**

20. The petitioner has worked out year wise weighted average rate of interest as tabulated below after taking into consideration loans carrying floating interest rates for the years 2004-05 to 2007-08. The same has been used by the petitioner to workout the yearwise additional interest amount for Central as well as State portion without working out impact of Capital Recovery Factor. However, we have considered the weighted average rate of interest as on 1.4.2004 as 10.209% worked out on the basis of net loan outstanding as on 31.3.2004.

Weighted average rate of interest Now submitted by the petitioner	
As on 1.4.2004	10.1485%
2004-05	10.06%
2005-06	10.09%
2006-07	10.23%
2007-08	10.57%

21. As regards the petitioner's request to subsequently adjust floating rate of interest on year to year basis, the Commission generally allows these to be settled between the parties themselves. We feel that the same procedure may be adopted in the case of charges in the present case also.

### **CAPITAL RECOVERY FACTOR**

22. Capital recovery factor corresponding to loan up to 31.3.2004 as well as additional capital expenditure during 2004-05 has been considered as

14.33 years and 13.33 years respectively. Further, weighted average rate of interest for loan capital has been considered based on weighted average rate of interest as on 1.4.2004.

23. As 90% of the capital expenditure has been sourced through grant-in-aid, recovery factor is relevant only for the loan component. Following recovery factor has been applied in the determination of charges awarded in this petition is as under:

Period	Annual Recovery Factor for loan
2003-04	0.135803
2004-05	0.140541

#### **OPERATION AND MAINTENANCE EXPENSES**

24. The Commission, vide its order dated 9.5.2005 in Petition No. 139/2005, has decided to retain the O&M charges allowed for the previous period. Accordingly, in these calculations also O&M charges amounting to Rs. 766.22 lakh per annum as approved in the previous tariff period, subject to adjustment based on actuals..

#### **INTEREST ON WORKING CAPITAL**

25. The components of the working capital and the interest thereon are discussed hereunder:

**(i) Maintenance spares**

Regulation 56(v)(1)(b) of the 2004 regulations provides for maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation. In the present case, capital expenditure as on the date of commercial operation is Rs. 10216.20 lakh for the powergrid portion, which has been considered as the historical cost for the purpose of the present petition and maintenance spares haven worked out accordingly by escalating 1% of the historical cost @ 6% per annum. The value of maintenance spares works out to Rs. 102.16 lakh as on date of commercial operation.

**(ii) O & M expenses**

Regulation 56(v)(1)(a) of the 2004 regulations provides for operation and maintenance expenses for one month as a component of working capital. The petitioner has claimed O&M expenses for 1 month of O&M expenses of the central sector as claimed in the petition. This has been considered in the working capital.

**(iii) Receivables**

As per Regulation 56(v)(1)(c) of the 2004 regulations, receivables will be equivalent to two months average billing calculated on target availability level. The petitioner has claimed the

receivables on the basis 2 months' charges claimed in the petition. In the fees and charges being allowed, receivables have been worked out on the basis 2 months' charges.

**(iv) Rate of interest on working capital**

As per Regulation 56(v)(2) of the 2004 regulations, rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1.4.2004 or on 1st April of the year in which the project or part thereof (as the case may be) is declared under commercial operation, whichever is later. The interest on working capital is payable on normative basis notwithstanding that the transmission licensee has not taken working capital loan from any outside agency. The petitioner has claimed interest on working capital @ 10.25% based on SBI PLR as on 1.4.2004, which is in accordance with the 2004 regulations and has been allowed.

26. The detailed calculation in support of interest on working capital are as under:

**CENTRAL PORTION**

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-07	2008-09
Maintenance spares	102.16	108.29	114.79	121.68	128.98
O&M Expenses	63.85	63.85	63.85	63.85	63.85
Receivables	158.13	158.31	158.42	158.53	158.65
Total	324.14	330.46	337.06	344.06	351.48
Rate of Interest on Working Capital	10.25%	10.25%	10.25%	10.25%	10.25%
<b>Interest on Working Capital</b>	<b>33.22</b>	<b>33.87</b>	<b>34.55</b>	<b>35.27</b>	<b>36.03</b>

## STATE PORTION

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-07	2008-09
Maintenance spares	0.00	0.00	0.00	0.00	0.00
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Receivables	17.57	17.73	17.73	17.73	17.73
Total	17.57	17.73	17.73	17.73	17.73
Rate of Interest on Working Capital	10.25%	10.25%	10.25%	10.25%	10.25%
<b>Interest on Working Capital</b>	<b>1.80</b>	<b>1.82</b>	<b>1.82</b>	<b>1.82</b>	<b>1.82</b>

27. Based on the foregoing principles and methodologies, the annual fees and charges for the Scheme are calculated as under:

## CENTRAL PORTION

### IMPACT OF ADDITIONAL CAPITAL EXPENDITURE

(Rs. in lakh)

Particulars	On Capital expenditure upto DOCO	On Capital expenditure from DOCO to 31.03.2004 (including FERV)	Total ( On the Capital expenditure upto 31.03.2004)	On Capital expenditure from 01.04.2004 to 31.03.2005
Capital Cost	10216.20	954.95	11171.15	76.41
Gross Deemed Loan (10%)	1021.62	99.09	1120.71	7.64
	1021.62	99.09	1120.71	7.64
O/S Gross Deemed Loan as on 01.04.2004	1000.58	99.09		
Years	14.333333	14.333333		13.333333
Recovery Factors -Loan	0.135803	0.135803		0.140541
Annual Capital Recovery Charge - Gross Deemed Loan	135.88	13.46	149.34	1.07
Annual Capital Recovery Charge - Total	135.88	13.46	149.34	1.07
O&M Expenses as per input of Engg. Division dated 02.08.2006	766.22	0.00	766.22	0.00
Interest on Working Capital <sup>+</sup>	32.99	0.23	33.22	0.02
Total Tariff	935.09	13.69	948.78	1.09

## ANNUAL CHARGES

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-07	2008-09
Annual Capital Recovery Charge - Total	149.34	150.41	150.41	150.41	150.41
O&M Expenses	766.22	766.22	766.22	766.22	766.22
Interest on Working Capital <sup>+</sup>	33.22	33.87	34.55	35.27	36.03
<b>Total Tariff</b>	<b>948.78</b>	<b>950.50</b>	<b>951.18</b>	<b>951.90</b>	<b>952.66</b>

## STATE PORTION

### IMPACT OF ADDITIONAL CAPITAL EXPENDITURE

(Rs. in lakh)

Particulars	Total	On Capital expenditure from DOCO to 31.03.2003 (including FERV)	Total ( On the Capital expenditure upto 31.03.2004)	On Capital expenditure from 01.04.2004 to 31.03.2005
Capital Cost	7174.80	577.50	7752.30	65.51
Gross Deemed Loan (10%)	717.48	60.28	777.76	6.55
	717.48	60.28	777.76	6.55
O/S Gross Deemed Loan as on 01.04.2004	702.70	60.28		
Years	14.33333	14.333333		13.33333
Recovery Factors -Loan	0.135803	0.135803		0.140541
Annual Capital Recovery Charge - Gross Deemed Loan	95.43	8.19	103.61	0.92
Annual Capital Recovery Charge - Total	95.43	8.19	103.61	0.92
O&M Expenses as per input of Engg. Division dated 02.08.2006	0.00	0.00	0.00	0.00
Interest on Working Capital <sup>+</sup>	1.66	0.14	1.80	0.02
<b>Total Tariff</b>	<b>97.09</b>	<b>8.33</b>	<b>105.42</b>	<b>0.94</b>

## ANNUAL CHARGES

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-07	2008-09
Annual Capital Recovery Charge - Total	103.61	104.54	104.54	104.54	104.54
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital <sup>+</sup>	1.80	1.82	1.82	1.82	1.82
<b>Total Tariff</b>	<b>105.42</b>	<b>106.35</b>	<b>106.35</b>	<b>106.35</b>	<b>106.35</b>

28. In addition to the above charges the petitioner shall be entitled to other charges like income-tax, incentive, surcharge and other cess and taxes in accordance with the 2004 regulations.

29. It is to be noted that as the full capital cost is being recovered over a period of 15 years with interest/return. After full recovery, the assets shall be transferred to the respective constituents at nominal value

30. This disposes of Petition No. 147/2005

<b>Sd/=</b> <b>(S. Jayaraman)</b> <b>Member</b>	<b>Sd/=</b> <b>(R. Krishnamoorthy)</b> <b>Member</b>	<b>Sd/=</b> <b>(Bhanu Bhushan)</b> <b>Member</b>	<b>Sd/=</b> <b>(Dr. Pramod Deo)</b> <b>Chairperson</b>
---	--	--	--

**New Delhi, dated 3<sup>rd</sup> February 2009**