#### **Central Electricity Regulatory Commission** New Delhi

Petition No. 73/TT/2012

Coram:

Shri Gireesh B Pradhan, Chairperson

Shri V.S. Verma. Member

Shri M. Deena Dayalan, Member

Shri A K Singhal, Member

**Date of Hearing: 12.11.2013** Date of Order : 21.02.2014

#### In the matter of

Miscellaneous petition for approval under sub-station (4) of Section 28 of Electricity Act 2003 for determination of Fees and Charges for Sub-Load Dispatch Centre at Modipuram under UPPCL for the period 2009-14 block

#### And in the matter of

Power Grid Corporation of India Ltd Saudamini, Plot No 2, Sector 29 Gurgaon - 122001 .....Petitioner

Vs

Uttar Pradesh Power Corporation Ltd Shakti Bhawan, 14, Ashok Marg, Lucknow - 266001

.....Respondent

For petitioner : Shri A.M. Pavgi, PGCIL

Shri S.S. Raju, PGCIL

Smt. Sangeeta Edwards, PGCIL

Shri B.K. Sahoo, PGCIL Shri M.M. Mondal, PGCIL Shri D. Nikhandia, PGCIL

For respondent : None

#### ORDER

The petition has been filed by Power Grid Corporation of India Limited (PGCIL) for approval of fees and charges for Sub-Load Despatch Centre at Modipuram in the State of Uttar Pradesh (Sub-LDC) for the period 2009-14.

- 2. The administrative and expenditure for approval sanction establishment of Sub-LDC was accorded by Board of Directors of the petitioner company vide Memorandum dated 10.8.2004, at an estimated cost of ₹336.00 lakh. Subsequently by Memorandum dated 11.12.2008 approval for the revised cost estimate of ₹353.00 lakh was accorded by the Board of Directors.
- 3. Sub-LDC comprising microwave and non-microwave assets were put under commercial operation on 1.9.2006. The Commission, vide order dated 18.3.2009 in Petition No. 87/2007, approved the fees and charges for the period 1.9.2006 to 31.3.2009 based on the capital cost of ₹353.21 lakh.
- 4. The petitioner has claimed the following fees and charges:

(₹ in lakh)

Microwave Assets					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Annual Capital Recovery Charges – Loan	4.24	4.24	4.24	0	0
Annual Capital Recovery Charges – Equity	2.15	2.15	2.15	0	0
Annual Capital Recovery Charges – Total	6.39	6.39	6.39	0	0
O&M	0.00	0.00	0.00	0	0
Interest on Working Capital	0.13	0.13	0.13	0	0
ANNUAL CHARGES	6.52	6.52	6.52	0	0
Non-	Microwave	Assets			
Annual Capital Recovery Charges – Loan	27.76	27.76	27.76	27.76	27.76
Annual Capital Recovery Charges – Equity	18.74	18.74	18.74	18.74	18.74
Annual Capital Recovery Charges – Total	46.50	46.50	46.50	46.50	46.50
O&M	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	0.97	0.97	0.97	0.97	0.97
TOTAL ANNUAL CHARGES	47.47	47.47	47.47	47.47	47.47

5. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act. The respondent has not filed reply.

## **Preliminary**

6. One aspect that bears attention at this stage itself is regarding recovery of capital through loan and equity. In the order dated 18.3.2009, the fees and charges for Sub-LDC were approved in the same manner as in the case of the assets under the Unified Load Despatch and Communication Scheme (the Scheme) in the Regions. While approving fees and charges for the period ending 31.3.2009 in respect of the assets covered under the Scheme, the Commission had approved the recovery of loan and equity based on the weighted average rate of interest and Return on Equity (RoE) using the Recovery Factor for loan and equity for 15 years as under:-

Recovery Factor = 
$$\frac{i \times (1+i)^n}{(1+i)^n}$$
 -1

Where n = period of recovery, and i = rate of recovery

- 7. Based on the above Recovery Factor, installments of fees and charges computed on yearly basis were ordered to be recovered on monthly basis.
- 8. Haryana Vidyut Prasaran Nigam Ltd (HVPNL) filed an appeal (Appeal No 21/2010) before the Hon'ble Appellate Tribunal for Electricity (Appellate Tribunal) against the methodology adopted, arguing that the charges be computed on monthly basis. HVPNL pointed out that by computing

installments on yearly basis and claiming fees and charges on monthly basis, the whole of equity and loan amounts would be paid back to the petitioner before expiry of the useful life of 15 years. HVPNL further pointed out that by continuing recovery up to the last month of the useful life at the Recovery Factor decided by the Commission, the petitioner would be recovering excess amount over the capital deployed. The Appellate Tribunal in its judgment dated 11.11.2011 upheld the contention of HVPNL and directed as under:-

"We would, therefore, direct the Central Commission to work out the monthly installments by which the amount of loan and equity is fully recovered with the recovery factor decided by its impugned Order dated 11.4.2008. In other words excess amount recovered by the POWERGRID (R-2) would be adjusted in future installments by reducing number of installments appropriately. The recovery of loan and equity would stop thereafter."

- 9. In the present petition, the petitioner has claimed fees and charges in conformity with the direction of the Appellate Tribunal.
- 10. Another aspect which bears notice is that the petitioner has completely replaced the then existing digital microwave with optic fibers on 31.3.2012 as per the directions of Ministry of Communications & Information Technology and microwave frequency has been surrendered. The petitioner has claimed the accelerated depreciation for the microwave links as projected in Petition No 68/2010. The petitioner's claim in this regard has been considered. The extract from the Commission's order dated 8.12.2011 in Petition No. 68/2010 in this regard is placed below:-
  - "11. The petitioner has submitted that to meet the communication requirements under the ULDC projects, microwave links were implemented in four regions namely, Northern, Southern, North-Eastern and Eastern Region...... In the meeting held between the Ministry of Power and the Ministry of Communication and IT on 4.11.2008, it was decided to vacate the 2.3-2.4 GHz frequency band being used for ULDC

Micro Wave links and to establish fibre optics based communications within two years time period which has been subsequently extended by one more year i.e. upto end of 2011. The petitioner has further submitted that the tariff for the Digital Microwave system installed under the ULDC scheme was being recovered considering the 15 year useful life of the project. On account of the change in Government Policy, the useful life of these microwave links have been reduced substantially to 6 to 9 years instead of 15 years. The petitioner has submitted that since it has already incurred the cost and the charges were being recovered considering 15 years of project life, it may be allowed to recover the accelerated depreciation to match the revised useful life for the Digital Microwave links till the end of the year 2011."

#### **Capital Cost**

11. The Commission vide order dated 18.3.2009 approved the fees and charges for the period up to 31.3.2009 based on the total capital expenditure of ₹353.21 lakh, with details of debt and equity as under:-

	(₹ in lakh)
Debt	247.27
Equity	105.94
Total	353.21

12. The above capital expenditure has been considered for determination of fees and charges in the present petition. The capital cost has been partially recovered by the petitioner through recovery of loan and equity during the period 1.9.2006 to 31.3.2009. In view of the direction of the Appellate Tribunal adverted to above, by applying the monthly recovery concept, the loan and equity recovered up to 31.3.2009 has been worked out as under:-

	(₹ In lakh)
Loan	22.65
Equity	6.19
Total	28.84

13. The Chartered Accountant's Certificate dated 4.12.2008 indicates the breakup of microwave and non-microwave portion as on 1.4.2009 of Sub-LDC as under:-

(₹ In lakh)

Particular	Capital 1.4.2009	cost	as	on
Microwave portion				17.64
Non-microwave portion				335.57
Total				353.21

14. The microwave and non-microwave portions have been segregated into debt and equity in the same ratio as considered for admitted Gross Capital Cost as on 31.3.2009, vide order dated 18.3.2009, as indicated herein:-

(₹ In lakh)

Gross Capital Cos	t Microwave	Non-	Total
as on 1.4.2009		Microwave	
Loan	12.35	234.93	247.28
Equity	5.29	100.64	105.93
Total	17.64	335.57	353.21

15. *Pro-rata* capital recovered in respect of the microwave portion upto 31.3.2009 has been calculated by considering the capital cost as on 31.3.2009 in the ratio of total capital recovered from DOCO to 31.3.2009 to admitted capital cost as on 31.3.2009 as per the order dated 18.3.2009. *Pro-rata* Capital Recovered in respect of non-microwave portion upto 31.3.2009 has been worked out similarly. This recovery of capital cost has been segregated in the same debt- equity ratio as that of total capital recovered up to 31.3.2009 as given overleaf:-

(₹ In lakh)

Pro-rata Ca Recovered upto 31.3.2		Non-Microwave portion	Total
Loan	1.13	21.52	22.65
Equity	0.31	5.88	6.19
Total	1.44	27.40	28.84

16. Net capital cost as on 1.4.2009 has been arrived at by deducting the pro- rata capital recovered from the Retained Gross Capital Cost as on 31.3.2009, separately for loan and equity, both for both microwave and nonmicrowave portions as shown below:-

(₹ in lakh)

Retained Net Capital Cost as on 01.4.2009	Microwave	Non-Microwave	Total
Loan	11.22	213.41	224.63
Equity	4.98	94.76	99.74
Total	16.20	307.17	324.37

17. The above values have been considered for the purpose of calculation of fees and charges for 2009-14 period.

## **Additional Capital Expenditure**

18. The petitioner has not claimed any additional capital expenditure.

## **Debt - Equity Ratio**

19. Debt and equity considered for computation of fees and charges has been worked out as under:-

(₹ in lakh)

Retained Net Capital Cost as on 1.4.2009	Microwave	Non- Microwave	Total
Loan	11.22	213.41	224.63
Equity	4.98	94.76	99.74
Total	16.20	308.17	324.37

## Rates for Recovery of Loan and Equity

- 20. The repayment schedule of actual loans deployed for the assets, starts beyond 1.4.2009. Therefore, weighted average rate of interest of 8.4177% per annum admitted vide order dated 18.3.2009 has been applied for calculating the Capital Recovery Factor (CRF) for loan.
- 21. The Commission in its order dated 18.3.2009 approved the fees and charges for the period up to 31.3.2009 by considering RoE at the rate of 14% per annum (post-tax) in accordance with the terms and conditions for determination of tariff applicable during 2004-09 period. The tariff regulations applicable for the period 2009-14 provide for recovery of RoE (pre-tax), calculated by grossing up the base rate (normally @15.5% per annum) with the Corporate Tax/MAT rate for the year 2008-09 and is to be trued up subsequently with reference to the actual tax rate applicable under the provisions of the relevant Finance Act each year during the tariff period. The grossing up concept is basically linked with the 2009-14 Tariff Regulations and these cannot be applied in toto for working out the fee and charges, which are based on CRF concept. A grossed-up value of RoE in working out the CRF would further distort the recovery factor because of tax component. Therefore, deviating from the practice of directly relating the CRF (corresponding to equity portion) to the RoE being allowed in the current tariff regulations, it is considered prudent to work out the CRF based on post-tax RoE of 15.50%, i.e. dispensing with the concept of grossing-up of RoE with the applicable tax rate. The rate of return on equity of 15.50% has been applied for calculating the Capital Recovery Factor for equity. The above rates being on annual basis, have been converted to monthly rates. While the base

rate is as per 2009 Tariff Regulations, the post tax philosophy, for working out fee and charges, is as per the 2004-09 control period. Hence, return on equity @ 15.50% has been applied for calculating the Capital Recovery Factor for equity. This would mean that tax on the income streams shall be recovered from the beneficiaries separately.

## **Monthly Capital Recovery Factor**

22. The above CRF rates being on annual basis, have been converted to monthly rates in view of the direction of the Appellate Tribunal. Based on the recovery rates of loan and equity as above, monthly CRF have been arrived at as under:-

Monthly Capital Recovery Factor	Microwave	Non-Microwave
Loan	0.031529	0.010840
Equity	0.034911	0.015156

#### **Monthly Capital Recovery Charges**

23. The monthly Capital Recovery Charges on the capital cost as on 1.4.2009 arrived at are given as under:-

(₹ in lakh)

	Microwave	Non-microwave
Monthly Capital Recovery Charges - Loan	0.3537	2.3134
Monthly Capital Recovery Charges - Equity	0.1739	1.4362
Total	0.5276	3.7496

24. The calculations of Capital Recovery Factor and the Recovery Charges are given overleaf:-

(₹in lakh)

	(\lin iakii)				
Particulars	On Capital expenditure as on 1.4.2009				
	Microwave Assets	Non-microwave Assets			
Gross Capital Cost	17.64	335.57			
Gross Notional Loan	12.35	234.93			
Gross Equity	5.29	100.64			
Outstanding Capital Cost	16.20	308.17			
Outstanding Notional Loan	11.22	213.41			
Outstanding Equity	4.98	94.76			
Years (Capital recoverable up to 31.3.2012/ 31.3.2014)	3.00	12.41667			
Months	36.00	149.00			
Weighted Average Rare of Interest per annum	8.4177%	8.4177%			
Weighted Average Rare of Interest per month	0.7015%	0.7015%			
Monthly Recovery Factors – Loan	0.031529	0.010840			
Monthly Capital Recovery Charge – Loan	0.3537	2.3134			
Annual Capital Recovery Charge – Loan	4.24	27.76			
Rate of Return on Equity p.a.	15.500%	15.500%			
Rate of Return on Equity p.m.	1.292%	1.292%			
Monthly Recovery Factors – Equity	0.034911	0.015156			
Monthly Capital Recovery Charge – Equity	0.1739	1.4362			
Annual Capital Recovery Charge – Equity	2.0868	17.23			
Monthly Capital Recovery Charge -	0.5276	3.7496			
Annual Capital Recovery Charge -	6.33	45.00			

## **Operation and Maintenance Expenses**

25. The petitioner has not claimed O&M expenses.

## **Interest on Working Capital**

- 26. The components of the working capital and the interest thereon are discussed hereunder:-
- (i) Maintenance spares: The petitioner has not claimed maintenance spares.
- (ii) O & M Expenses: The petitioner has not claimed O&M expenses.

- (iii) Receivables: The receivables, as a component of working capital, have been worked out on the basis 2 months' of the annual fees and charges.
- (iv) Rate of Interest: In line with the tariff regulations, the SBI PLR of 12.25% as on 1.4.2009 has been considered as the rate of interest on working capital.
- 27. The interest on working capital has been allowed in keeping with the above norms. The calculations in support of the interest on working capital allowed are given hereunder:-

(₹ in lakh)

Microwave Asse	ets				(t iii iaiti	
Particulars	2009-10 2010-11		20	2011-12		
Maintenance		0.00		0.0	00	0.00
Spares						
O&M Expenses		0.00		0.0	00	0.00
Receivables		1.08		1.0	8	1.08
Total		1.08		1.0	8	1.08
Rate of Interest	12	2.25%		12.25	%	12.25%
Interest		0.13		0.1	3	0.13
Non-microwave	Assets					
Particulars	2009-10	2010-	11	2011-12	2012-13	2013-14
Maintenance	0.00		0.00	0.00	0.00	0.00
Spares						
O&M Expenses	0.00		0.00	0.00	0.00	0.00
Receivables	7.66		7.66	7.66	7.66	7.66
Total	7.66		7.66	7.66	7.66	7.66
Rate of Interest	12.25%	12	2.25%	12.25%	12.25%	12.25%
Interest	0.94		0.94	0.94	0.94	0.94

## **Annual Fees and Charges**

28. The annual fees and charges allowed for the assets of the Scheme presently administered by the petitioner are incorporated in Annexure to this order and are summarized overleaf:-

#### **Microwave Assets**

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12
Annual Capital Recovery	4.24	4.24	4.24
Charges – Loan			
Annual Capital Recovery	2.09	2.09	2.09
Charges – Equity			
Annual Capital Recovery	6.33	6.33	6.33
Charges – Total			
O&M Expenses	0.00	0.00	0.00
Interest on Working Capital	0.13	0.13	0.13
Total Annual Charges	6.46	6.46	6.46

#### **Non-Microwave Assets**

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
rai liculai 5	2009-10	2010-11	2011-12	2012-13	2013-14
Annual Capital Recovery	27.76	27.76	27.76	27.76	27.76
Charges – Loan					
Annual Capital Recovery	17.23	17.23	17.23	17.23	17.23
Charges – Equity					
Annual Capital Recovery	45.00	45.00	45.00	45.00	45.00
Charges – Total					
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	0.94	0.94	0.94	0.94	0.94
TOTAL ANNUAL	45.93	45.93	45.93	45.93	45.93
CHARGES					

29. In compliance with the directions of the Appellate Tribunal in the appeal filed by HVPNL referred to above, recovery of loan and equity has been recalculated by adopting monthly recovery charge method. The monthly recovery charges, earlier considered on annualized basis, have been worked out for the period from 1.9.2006 to 31.3.2009. It is noted that the excess loan recovered ₹10.85 lakh and excess equity recovered was ₹6.27 lakh. The computations in support of excess recovery during 1.9.2006 to 31.3.2009 are given overleaf:-

(₹ in lakh)

(t in latti)								·· <i>y</i>	
Particulars	Month-wise Calculations			Year-wise calculations			Excess Recovery		
Year	2006-07	2007-08	2008-09	2006-07	2007-08	2008-09	2006-07	2007-08	2008-09
Annual Capital Recovery Charges-Loan	12.96	29.10	29.22	22.65	29.66	29.78	9.69	0.56	0.56
Annual Capital Recovery Charges- Equity	7.55	16.91	16.98	13.18	17.23	17.30	5.63	0.32	0.32
Annual Capital Recovery Charges – Total	20.51	46.02	46.20	35.83	46.89	47.08	15.32	0.87	0.88
Excess Recovery of Loan							10.80		
Excess Recovery of Equity							6.27		
Total Excess Recovery							17.07		

30. The excess amounts recovered by the petitioner shall be adjusted in future installments, beyond 2009-14 periods, by reducing the number of installments.

#### Filing fee and the publication expenses

31. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. In accordance with the Commission's order dated 11.1.2010 in Petition No. 109/2009, the petitioner shall be entitled to recover the filing fee directly from the beneficiaries on *pro-rata* basis. The petitioner shall also be entitled for reimbursement of the publication expenses in connection with the present petition, directly from the beneficiaries on *pro-rata* basis.

## **Service tax**

32. The petitioner has made a prayer to be allowed to bill and recover the service tax on transmission charges separately from the respondents, if it is subjected to such service tax in future. We consider petitioner's prayer premature and accordingly this prayer is rejected.

#### Licence fee

33. The petitioner has submitted that in O&M norms for tariff block 2009-14 the cost associated with license fees had not been captured and the license fee may be allowed to be recovered separately from the respondents. The petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 42 A (1) (b) of the 2009 Tariff Regulations.

#### **FERV**

- 34. The petitioner has prayed that it be allowed to recover the FERV on the foreign currency loan deployed, directly from the beneficiaries on actual basis, without making application to the Commission. The petitioner shall be entitled to recovery of FERV in accordance with Regulation 40 of the 2009 Tariff Regulations.
- 35. The fees and charges allowed herein for the sub-SLDC system shall be borne by Uttar Pradesh Power Corporation Limited, as prayed by the petitioner.

With the above, the petition stands disposed of. 36.

> sd/sd/sd/sd/-

(A. K. Singhal) (M. Deena Dayalan) (V. S. Verma) (Gireesh B. Pradhan) Member Member Chairperson

## **ANNEXURE**

# Microwave: State Portion- Charges (2009-14)

Particular s	On Capital expenditure	Additional Capital Expenditure				
	as on 1.4.2009	2009-10	2010-11	2011-12		
Gross Capital Cost	17.64					
Gross Notional Loan	12.35					
Gross Equity	5.29					
O/S Capital Cost	16.20					
O/S Notional Loan	11.22					
O/S Equity	4.98					
Years (Capital to be recovered up to 31.3.2012)	3.00					
Months	36.00					
Weighted Average Rare of Interest p.a.	8.4177%					
Weighted Average Rare of Interest p.m.	0.7015%					
Monthly Recovery Factors -Loan	0.031529					
Monthly Capital Recovery Charge - Loan	0.3537					
Annual Capital Recovery Charge - Loan	4.24					
Rate of Return on Equity p.a.	15.500%					
Rate of Return on Equity p.m.	1.292%					
Monthly Recovery Factors -Equity	0.034911					
Monthly Capital Recovery Charge - Equity	0.1739					
Annual Capital Recovery Charge - Equity	2.0868					
Monthly Capital Recovery Charge - Total	0.5276					
Annual Capital Recovery Charge - Total	6.33					
(i) Annual Capital Recovery Charge - Total		6.33	6.33	6.33		
(ii) Annual O&M Expenses (As per Engineering Division Input dated 27.11.2013)		0.00	0.00	0.00		
(iii) Annual Interest on Working Capital <sup>1</sup>		0.13	0.13	0.13		
Total Annual Tariff (i+ii+iii)		6.46	6.46	6.46		

# Non-Microwave: State Portion- Charges (2009-14)

(₹ in lakh)

Particulars	On Capital	(र in lakh) Additional Capital Expenditure					
	expenditure as on 1.4.2009	2009-10	2010-11	2011-12	2012-13	2013-14	
Gross Capital Cost	335.57						
Gross Notional Loan	234.93						
Gross Equity	100.64						
O/S Capital Cost	308.17						
O/S Notional Loan	213.41						
O/S Equity	94.76						
Years	12.41667						
Months	149.00						
Weighted Average Rare of Interest p.a.	8.4177%						
Weighted Average Rare of Interest p.m.	0.7015%						
Monthly Recovery Factors -Loan	0.010840						
Monthly Capital Recovery Charge - Loan	2.3134						
Annual Capital Recovery Charge - Loan	27.76						
Rate of Return on Equity p.a.	15.500%						
Rate of Return on Equity p.m.	1.292%						
Monthly Recovery Factors -Equity	0.015156						
Monthly Capital Recovery Charge - Equity	1.4362						
Annual Capital Recovery Charge - Equity	17.23						
Monthly Capital Recovery Charge - Total	3.7496						
Annual Capital Recovery Charge - Total	45.00						
(i) Annual Capital Recovery Charge - Total		45.00	45.00	45.00	45.00	45.00	
(ii) Annual O&M Expenses (As per Engineering Division Input dated 27.11.2013)		0.00	0.00	0.00	0.00	0.00	
(iii) Annual Interest on Working Capital <sup>1</sup>		0.94	0.94	0.94	0.94	0.94	
Total Annual Fee & Charges (i+ii+iii)		45.93	45.93	45.93	45.93	45.93	