

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 59/TT/2012

Coram:
Shri V.S. Verma, Member
Shri M. Deena Dayalan, Member

Date of Hearing: 11.04.2013
Date of Order: 17.12.2013

In the matter of

Petition for approval under sub-section (4) of Section 28 of Electricity Act 2003 for determination of Fees and Charges for Unified Load Despatch & Communication Scheme (POWERGRID portion i.e. Communication system portion and SLDC system retained by the petitioner after formation of POSOCO) in Northern Region for the period 2009-14 block.

And in the matter of

Power Grid Corporation of India Limited
"Saudamani", Plot No.2,
Sector-29, Gurgaon -122 001.

.....**Petitioner**

Vs

1. NTPC Limited,
NTPC Bhawan,
Core-7, Scope Complex,
7, Institutional Area, Lodi Road,
New Delhi-110 003
2. Satluj Jal Vidyut Nigam Ltd,
Power Project,
Jhakri, Rampur, Distt, Shimla,
HP-172201
3. THDC India Ltd,
Bhagirath Puram, Tehri,
Uttarakhand-249001
4. Nuclear Power Corporation of India Ltd,
Nabhkiya Bhawan,
Anu-Shakti Nagar,
Mumbai-400094



5. ADHPL,
Bhilwara Towers,
A-12, Sector-1
Noida-201301.
6. Aravali Power Company Private Ltd,
PO-Jharli, Distt.-Jhajjar
7. Jaypee Karcham Wangtoo Corporation Ltd,
Sector-128
Noida-201304
8. Malana II HPS
Everest Power Pvt. Ltd,
1st Floor, Hall-1, NBCC Tower
Bikaji Cama Place,
New Delhi-110066
9. Shree Cement Ltd,
PO Box No. 33, Bangur Nagar,
Beawar-305901
Distt.- Ajmer (Rajasthan)
10. Electricity Department, UT of Chandigarh,
Sector-9 D,
Chandigarh-160019
11. Delhi Transco Ltd,
SLDC Building,
Tagore Hostel Lane, Minto Road,
New Delhi-110002
12. Haryana Vidyut Prasaran Nigam Ltd,
Room No. 213, Shakti Bhawan,
Sector-6, Panchkula-134109, Haryana
13. Himachal Pradesh State Electricity Board,
Totu, Shimla-171011, Himachal Pradesh
14. Power Development Department, Govt. of Jammu and Kashmir,
Narwal Bala,
Gladni-180004, Jammu
15. Punjab state transmission Company Limited (PSTCL),
SLDC Building,
220 kV Sub Station Ablowal,

Patiala-147001, Punjab

16. Rajasthan Rajya Vidyut Prasaran Nigam Ltd,
Vidyut Bhawan, Jyoti Nagar,
Vidyut Marg,
Jaipur- 302015, Rajasthan

17. UP Power Corporation Ltd,
11th Floor, Shakti Bhawan Extn.,
14-Ashok Marg,
Lucknow-226001, UP

18. Northern Central Railway,
Nawabyusuf Road,
Allahabad, UP

19. Uttaranchal Power Corporation Ltd,
Kanwli Road, Urja Bhawan,
Dehradun-248001, Uttrakhand

20. Powerlinks Transmission Ltd,
10th Floor, DLF Tower-A,
District Centre, Jasola,
New Delhi-110044

.....**Respondents**

Representatives of the Petitioner:

Shri S.S. Raju, Powergrid
Shri Upendra Pandey, Powergrid
Shri Y.K. Dixit, Powergrid
Shri M.M. Mondal, Powergrid
Shri A.S. Kushwaha, Powergrid

Counsel for the Respondent(s) :

Shri P.C. Trivedi, RVPNL, Respondent No. 16

ORDER

The petitioner has made the following prayers, namely –

- a) Approve the Fees and charges for the communication system and SLDC system covered under this petition.
- b) Approve the reimbursement of expenditure by the beneficiaries towards any other expenditure (if any) in relation to the filing of petition and petition filing fee.

- c) Allow the petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2009-14 period, if any, from the respondent.
- d) Allow the petitioner to bill and recover Service Tax on Transmission Charges separately from the respondents, if at any time exemption from service tax is withdrawn and transmission is notified as taxable service
- e) Allow the Petitioner to bill and recover License fee separately from the respondents.
- f) Allow to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly from the beneficiaries.”
- g) Allow the Petitioner to bill and recover the Charges, to be shared for using the communication system by the transmission license as per CERC Order dtd. 08.12.2011 in petition no. 68/2010, from the long term customers (DIC Designated ISTS customer).
- h) Allow the petitioner to recover the FERV on the foreign currency loan deployed directly without making application to the Hon’ble Commission from the beneficiaries on actual basis.”

2. The petitioner, Power Grid Corporation of India Limited, who was earlier operating the Regional Load Despatch Centres (RLDCs) devised a scheme called the Unified Load Despatch and Communication Scheme (the Scheme) for all the five Regions with the objective of strengthening the load despatch infrastructure and augmenting communication system for efficient discharge of load despatch functions. The Scheme covered investment in RLDCs at the Central level and the State Load Despatch Centres (SLDCs) in the beneficiary States in the Region.

3. In keeping with the directive of Ministry of Power contained in the order dated 4.7.2008, Power System Operation Corporation Ltd (POSOCO), a wholly owned subsidiary of the petitioner, responsible for operation of National Load Despatch Centre and RLDCs has been established. The assets directly related to discharge of load

despatch functions raised by the petitioner under the Scheme have been transferred to POSOCO. The petitioner has been left with the assets associated with the communication system under the Central portion of the Scheme and assets for SLDCs (the States' portion). This petition has been filed for determination of tariff for the period 2009-14 for the assets under the Scheme in Northern Region presently retained by the petitioner.

4. The Scheme in Northern Region was declared under commercial operation on 1.8.2002.

5. The petitioner has claimed the following fees and charges:-

(₹ in lakh)

Microwave portion of communication assets			
Particulars	2009-10	2010-11	2011-12
Central Portion			
Annual Capital Recovery Charges – Loan	821.52	821.52	821.52
Annual Capital Recovery Charges – Equity	239.28	239.28	239.28
Annual Capital Recovery Charges – Total	1060.75	1060.75	1060.75
O&M	0.00	0.00	0.00
Interest on Working Capital	28.78	29.18	29.60
TOTAL ANNUAL CHARGES	1089.53	1089.93	1090.35
States' Portion			
Annual Capital Recovery Charges – Loan	1678.80	1678.80	1678.80
Annual Capital Recovery Charges – Equity	512.64	512.64	512.64
Annual Capital Recovery Charges – Total	2191.40	2191.40	2191.40
O&M	0.00	0.00	0.00
Interest on Working Capital	45.67	45.67	45.67
TOTAL ANNUAL CHARGES	2237.07	2237.07	2237.07

Non-Microwave portion of communication assets

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Central Portion					
Annual Capital Recovery Charges – Loan	744.36	744.36	744.36	744.36	807.30
Annual Capital Recovery Charges – Equity	269.16	269.16	269.16	269.16	301.74
Annual Capital Recovery Charges – Total	1013.47	1013.47	1013.47	1013.47	1109.00
O&M	941.69	835.58	883.38	933.90	987.32
Interest on Working Capital	64.70	62.23	64.63	67.16	71.83
TOTAL ANNUAL CHARGES	2019.87	1911.29	1961.47	2014.54	2168.15
States' Portion					
Annual Capital Recovery Charges – Loan	1911.72	1911.72	1911.72	1911.72	1911.72
Annual Capital Recovery Charges – Equity	724.80	724.80	724.80	724.80	724.80
Annual Capital Recovery Charges – Total	2636.52	2636.52	2636.52	2636.52	2636.52
O&M	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	54.95	54.95	54.95	54.95	54.95
TOTAL ANNUAL CHARGES	2691.48	2691.48	2691.48	2691.48	2691.48

6. Before we examine the petitioner's entitlement to fees and charges, it is considered appropriate to take notice of certain relevant events.

7. The petitioner had filed Petition No. 68/2010 wherein it raised certain issues in connection with the determination of fees and charges for the Central and the States' portions of the scheme retained with the petitioner consequent to transfer of certain

assets to POSOCO. The petition was disposed of by order dated 8.12.2011. Some of the issues raised and the Commission's decision thereon are noted hereunder.

8. The Commission has specified the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (the 2009 Tariff Regulations) applicable for the period 1.4.2009 to 31.3.2014. The 2009 Tariff Regulations do not specify the terms and conditions for determination of charges for the assets covered under the Scheme and owned by the petitioner. Therefore, the petitioner prayed for fixation of the norms for recovery of cost for communication system for Central Portion and the States' portions. In the absence of any regulations, the Commission decided to continue with the levelised tariff of the existing assets as followed while approving the fees and charges for the tariff period 2004-09. The relevant part of Commission's order dated 8.12.2011 is extracted hereunder:-

"It clearly emerges from the above judgment that the Central Commission can specify the terms and conditions of tariff even in the absence of the regulations. Since no regulation was specified for determination of tariff of the communication system and the ULDC system, the Commission determined the tariff of these assets during the period 2004-09 on levelised basis by adopting some of the parameters of 2004 tariff regulations. We have decided to continue with the levelised tariff for the existing assets in the absence of any provision in 2009 regulations regarding determination of tariff of communication system and ULDC system of the petitioner. For the new assets, the tariff will be decided as per the regulations for communication systems to be framed. Accordingly we direct the staff of the Commission to take necessary action to prepare draft regulations for determination of tariff for the communication system and ULDC system of the petitioner."

9. PGCIL, vide affidavit dated 30.1.2013, has submitted that the digital microwave link has been replaced completely on 31.3.2012 by fibre optic and other communication media.

10. Another issue raised by the petitioner was regarding admissibility of O&M expenses recoverable in respect of the communication system. The Commission in the said order dated 8.12.2011 directed that the petitioner should be allowed actual O&M expenses for the communication system already in operation. However, for the new assets of the communication system, the Commission ordered, O&M norms would be decided while framing of regulations for the period 2014-19.

11. On the issue of the initial spares raised by the petitioner, the Commission directed the petitioner to furnish the actual expenses incurred on spares from 2002-03 onwards while filing the petition for approval of fees and charges. As regards the new assets, it was observed that the initial spares would be decided at the time of framing of regulations for the communication system.

12. The Commission, vide order dated 8.12.2011 in Petition No. 68/2010, has observed as 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. These microwave links are working in the 2.3-2.5 GHz frequency band allocated by Ministry of Communication (MOC). During August, 2008, MOC informed that as per Government of India guidelines, 2.3-2.4 GHz was to be allocated to Broad Band Wireless (BWA) and therefore the users of 2.3-2.4 GHz band would have to either shift to another frequency band of 2.7-2.9 GHz or to switch over to fibre optic based communication. 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."

13. On the issue of life of the assets and the depreciation chargeable, the Commission directed that for the existing assets excluding Microwave links, the methodology adopted for the period 2004-09 would be continued to be followed till expiry of the period already mentioned in the orders. As regards Microwave links, the Commission noted that the accelerated depreciation would be considered keeping in view the reduced life of these assets as per decision of MoC/DoT.

14. On the last issue of sharing of the fees and charges, the Commission observed that all users of the communication system including the transmission licensees should share the fees and charges as the communication system would also be used to transmit operational data of the assets of the users. Accordingly, the Commission directed that the sharing of fees and charges of the communication system shall be on similar lines as the system operation charges for the RLDCs.

15. Another aspect which bears attention at this stage itself is regarding recovery of capital through loan and equity. The Commission, in its order dated 18.3.2011 in Petition No 28/2010, had approved 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 given hereunder:-

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

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

16. Based on the above Recovery Factor, installments of fees and charges were computed on yearly basis but were ordered to be recovered on monthly basis.

17. Respondent No 13, Haryana Vidyut Prasaran Nigam Ltd (HVPNL) pointed out that by computing installments on yearly basis and claiming fees and charges on monthly basis, the entire equity amount would be paid back to the petitioner in 167th month and entire loan would be paid back in 175th month, instead of 180th month, the useful life of the assets considered under the Scheme. HVPNL further pointed out that by continuing recovery up to 180th month at the Recovery Factor decided by the Commission, the petitioner would be recovering excess amount over the capital deployed. HVPNL filed an appeal (Appeal No 21/2010) before the Appellate Tribunal arguing that the charges be computed on monthly basis. The Appellate Tribunal in its judgment dated 11.11.2011 upheld the contention of HVPNL and concluded 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.”

18. In view of the above direction of the Appellate Tribunal, excess amount recovered by the petitioner would be adjusted in future installments by reducing number of installments appropriately and recovery of loan and equity would stop thereafter.

19. In compliance with the directions of the Appellate Tribunal, recovery of loan and equity has been re-calculated by adopting monthly recovery charge method. The monthly recovery charges, earlier considered on annualized basis, have been worked

out for 2002-04 and 2004-09. As a result the excess capital recovered during 2001-04 and 2004-09 works out to:-

(₹ in lakh)

Period	Central Portion		State Portion	
	Loan	Equity	Loan	Equity
2001-04	67.89	14.94	79.13	17.42
2004-09	180.91	43.36	211.62	58.42

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

21. Now we proceed to examine the petitioner's proposal for approval of fees and charges based on the above principles.

Capital Cost

22. The Commission, vide order dated 18.3.2011 in Petition No 28/2010, approved the fees and charges for the period up to 31.3.2009 based on the total capital expenditure of ₹25045.20 lakh (Central portion) and ₹30556.52 lakh (States' portion) as per details given below:-

(₹ in lakh)

Admitted Capital Cost	Central Portion	States' Portion	Total
Loan	21419.92	25047.31	46467.23
Equity	3625.28	5509.21	9134.49
Total	25045.20	30556.52	55601.72

23. Subsequent to the formation of POSOCO, communication system of central portion and the entire states portion (EMS SCADA system, fibre optic system, digital microwave communication system, PABX, PLCC and part of Auxillary power supply system) were retained by the PGCIL.

24. The fees in the present petition have been claimed on the basis of gross capital cost of ₹12611.60 lakh (Central portion) and ₹30556.52 lakh (States' portion) (Total ₹43168.12 lakh) as on 31.3.2009 for the assets retained by the petitioner. These values of Central as well as State portions have been considered in the same debt-equity ratio as considered in the order dated 18.3.2011 in Petition No. 28/2010 as hereunder:-

(₹ in lakh)

Retained Gross Capital Cost	Central Portion	States' Portion	Total
Loan	10786.08	25047.31	35833.39
Equity	1825.52	5509.21	7334.73
Total	12611.60	30556.52	43168.12

25. From the date of commercial operation (1.8.2002) and up to 31.3.2009, the above capital cost has been partially recovered by the petitioner through recovery of loan and equity. In view of the direction of the Appellate Tribunal, by applying the monthly recovery concept, the loan and equity recovered up to 31.3.2009 on the pre-transfer capital cost work out as under:-

Capital Cost Recovered upto 31.3.2009

(₹ in lakh)

	Central Portion	States' Portion	Total
Loan	7189.29	8402.15	15591.44
Equity	745.94	1108.52	1854.46
Total	7935.23	9510.67	17445.90

26. In view of Paragraph No.12 and 23, the petitioner has indicated the retained gross capital cost as on 1.4.2009 segregating it into microwave and non-microwave portions as given hereunder:-

(₹ in lakh)

Particular	Retained Gross Capital Cost	
	Central Portion	States' Portion
Microwave	4043.30	8572.19
Non-Microwave	8568.30	21984.33
Total	12611.60	30556.52

27. The Microwave and Non-Microwave portions corresponding to Central as well as State have been segregated in the same Debt-Equity ratio as that considered for admitted Gross Capital Cost as on 31.3.2009 vide order dated 18.3.2011 in Petition No. 28/2010. These are as indicated herein:-

(₹ in lakh)

Retained Gross Capital Cost as on 1.4.2009	Microwave			Non-Microwave		
	Central Portion	State Portion	Total	Central Portion	State Portion	Total
Net Loan	3458.03	7026.66	10484.69	7328.04	18020.65	25348.69
Net Equity	585.27	1545.53	2130.80	1240.26	3963.68	5203.94
Total	4043.30	8572.19	12615.49	8568.30	21984.33	30552.63

28. PGCIL has submitted the values of Retained Gross Capital Cost as on 31.03.2009 for Central as well as State portion corresponding to Microwave and non-Microwave Portion of the Communitarian Systems. In our calculations, the Pro-rata Capital Recovered in respect of Retained Gross Capital for Microwave portion upto 31.3.2009 has been calculated by considering the Retained Gross Capital Cost as on 31.3.2009 in the ratio of Total capital recovered from DOCO to 31.3.2009 to Admitted Gross Capital Cost as on 31.3.2009 as per CERC order dated 18.3.2011 in Petition No 28/2010. Similarly, Pro-rata Capital Recovered in respect of Retained Gross Capital for Non-Microwave portion upto 31.3.2009 has been worked out as shown hereunder:-

(₹ in lakh)

Pro-rata Capital Recovered in respect of Retained Gross Capital	Microwave			Non-Microwave		
	Central Portion	State Portion	Total	Central Portion	State Portion	Total
Net Loan	1160.64	2357.10	3517.74	2459.55	6045.05	8504.60
Net Equity	120.43	310.98	431.40	255.20	797.54	1052.74
Total	1281.06	2668.08	3949.14	2714.75	6842.59	9557.33

29. The retained net capital cost as on 1.4.2009 has been arrived at by deducting the above calculated pro-rata Capital Recovered in respect of Retained Gross Capital from the Retained Gross Capital Cost as on 31.3.2009, separately for loan as well as equity. The same concept has applied for both Microwave and Non-Microwave portions as indicated below:-

(₹ in lakh)

Retained Net Capital Cost as on 1.4.2009	Microwave			Non-Microwave		
	Central Portion	State Portion	Total	Central Portion	State Portion	Total
Net Loan	2,297.39	4,669.56	6,966.95	4,868.49	11,975.60	16,844.09
Net Equity	464.84	1,234.55	1,699.39	985.06	3,166.14	4,151.20
Total	2762.24	5904.11	8,666.35	5853.55	15141.74	20,995.29

30. These values have been considered for the purpose of calculation of Fee and Charges for 2009-14 period.

Additional Capital Expenditure

31. The petitioner has claimed additional capital expenditure of ₹765.10 lakh during 2013-14. The additional capital expenditure claimed includes ₹603.91 lakh for installation of Optic Fibre and ₹181.19 lakh for other items.

32. The additional capital expenditure claimed is based on estimates and detailed break up of additional capital expenditure claimed has not submitted by the petitioner. Therefore, additional capital expenditure is presently not allowed. The petitioner may claim additional capital expenditure incurred, which was necessary for successful and efficient operation of the Scheme with proper justification, at the time of truing up.

Debt – Equity Ratio

33. Debt-equity ratio 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		
	Central Portion	State Portion	Total	Central Portion	State Portion	Total
Net Loan	2297.39	4669.56	6966.95	4,868.49	11975.60	16844.09
Net Equity	464.84	1234.55	1699.39	985.06	3166.14	4151.20
Total	2762.24	5904.11	8,666.35	5853.55	15141.74	20,995.29
Debt-Equity Ratio						
Debt	83.17%	79.09%	80.39%	83.17%	79.09%	80.23%
Equity	16.83%	20.91%	19.61%	16.83%	20.91%	19.77%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Rates for recovery of loan and equity

34. The weighted average rate of interest based on the details of loan furnished by the petitioner work out at 6.9176% per annum and 0.5765% per month. Detailed calculation of the weighted average rate of interest is given below:-

Wt. Average Rate of Interest and Rate of Return on Equity (for 2009-14) as submitted by the petitioner				
(₹ in lakh)				
Loan	Net Loan o/s as on 31.3.2009	Rate of interest as on 1.4.2009	Interest	Weighted Average Rate of Interest p.a.
LIC Tranche 2 (Replacement of GOI Loan in 2003-04)	9777.38	6.30%	615.97	
Bond IX	1844.40	12.25%	225.94	
Bond X	2041.67	10.90%	222.54	
Bond XII	126.00	9.70%	12.22	
Oriental Bank of Commerce	726.25	9.60%	69.72	
PNB II	869.17	9.35%	81.27	
IBRD-I	471.46	8.34%	39.32	
IBRD-II	5189.88	3.64%	188.91	
Total Loan	21046.21		1455.90	6.9176%

35. The Commission in its order dated 18.3.2011 in Petition No 28/2010 approved the fees and charges for the period up to 31.3.2009 by considering the CRF corresponding to equity on the basis of return on equity at the rate of 14% per annum (post-tax) in accordance with the terms and conditions for determination of tariff applicable during 2004-09. Whereas, during 2009-14, consequent to creation of POSOCO, fee and charges of the assets transferred to POSOCO were allowed as per RLDC Regulations 2009, the assets retained with the CTU are neither covered under the RLDC Regulations nor under the 2009 Tariff Regulations. 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. As already mentioned earlier in this order, PGCIL has filed a miscellaneous petition (Petition No. 68/2010) for fixation of tariff norms for recovery of cost of assets ("communication system" and "Sub-Load Despatch Centre System") to be retained/ to be installed by the petitioner after formation of POSOCO for the period 2009-14 block. Vide order dated 8.12.2011 in Petition No. 68/2010, it was decided to continue with the levelised tariff for the existing assets in the absence of any provision in 2009 Tariff Regulations regarding determination of tariff of communication system and ULDC system of the petitioner. In our opinion, the concept of grossing up linked with the tariff determination for ordinary assets cannot *per se* be applied for calculating fees and charges in accordance with the Capital Recovery Factor (CRF) concept. By considering

the grossed-up value of RoE, CRF gets distorted because of factoring of tax component. Therefore, in departure from the provisions for recovery of RoE specified under the tariff regulations presently applicable, post-tax RoE of 15.50% per annum, converted to monthly rates, has been considered. As RoE has been considered post-tax, the petitioner shall be entitled to recover income-tax from the respondents in proportion of the fees and charges shared by them in accordance with this order.

Capital Recovery Factor

36. Based on the recovery rates of loan and equity as above, CRF for Central and States' portions have been arrived as under:-

	Microwave Assets	Non-microwave Assets
Monthly Capital Recovery Factor – Loan	0.03084	0.01319
Monthly Capital Recovery Factor - Equity	0.03491	0.01787

Annual Capital Recovery Charges

37. The annual Capital Recovery Charges on the capital cost as on 1.4.2009 arrived at are given hereunder:-

(₹ in lakh)

	Microwave		Non-microwave	
	Central Portion	States' Portion	Central Portion	States' Portion
Monthly Capital Recovery charges - Loan	70.85	144.01	64.19	157.91
Monthly Capital Recovery charges - Equity	16.23	43.10	17.60	56.57
Total	87.08	187.11	81.80	214.48

Operation and Maintenance Expenses

38. The Commission, in the order dated 8.12.2011 in Petition No. 68/2010, directed as under:-

"27..... We have examined the data submitted by the petitioner regarding actual O&M expenses during 2002-03 to 2009-10 for communication system. It is observed that O&M charges for the year 2008-09 vary from 3.54% to 8.59% of the capital cost as on 31.03.2009 for different regions. We are of the view that the petitioner should be allowed O&M expenses on actual for the communication systems already in operation under ULDC schemes in different regions. However, for the new systems the O&M norms would be decided at the time of framing of regulation for communication system....."

39. The petitioner, vide affidavit dated 20.4.2012, has submitted detailed break-up of O&M expenditure for the period 2009-10 to 2010-11. The details submitted are given hereunder:-

Description	Year		
	2009-10	2010-11	2011-12
Employee Cost	129.01	116.52	95.84
Repairs & Maintenance	148.43	169.51	292.16
Power Charges	0.23	0.27	0.64
Training & Recruitment	0.25	0.28	0.15
Communication Expenses	0.95	1.12	0.77
Travelling Expenses	6.52	8.53	5.80
Printing & Stationery	0.71	0.2	0.20
Rent	0	0	0.00
Misc. Expenses	3.46	2.75	0.44
Insurance	0.08	0.09	0.00
Others: Security, Hiring of Vehicles, EDP Hire Charges, etc	0.74	0.23	4.75
Rates & Taxes	501.56	397.48	432.54
Total Expenses	791.94	696.98	833.29
Corporate Office Expenses Allocation	99.72	83.88	81.14
RHQ Expenses Allocation	37.11	41.62	80.18
Loss on Disposal/write off			
Self Insurance Reserve @ 0.1% on Gross Block	12.92	13.1	13.77
Township expenses from WRLDC			
Grand Total	941.69	835.58	1008.38

40. The petitioner has further submitted break-up of the estimated O&M expenditure for the years 2012-13 and 2013-14 as under:-

(₹ in lakh)

Description	2012-13 (Estimated)	2013-14 (Estimated)
Employee Cost	112.53	173.79
Repairs & Maintenance	192.96	462.26
Power Charges	0.72	0.79
Training & Recruitment	0.00	20.00
Communication Expenses	0.71	0.78
Travelling Expenses	8.99	9.89
Printing & Stationery	0.23	0.25
Misc. Expenses	2.23	2.45
Insurance	0.10	0.11
Other Expenses	12.87	14.15
Total Expenses	331.33	684.46
CC Expenses	33.40	36.74
RHQ Expenses	28.00	30.80
TOTAL		
Self Insurance	21.27	23.29
GRAND TOTAL	413.99	775.39

41. The Commission in its order dated 8.12.2011 in Petition No. 68/2010 has already held that the petitioner would be entitled to recovery of O&M expenses actually incurred, the relevant portion of which has already been extracted above in Paragraph No. 38. Therefore, actual O&M expenses, subject to prudence check, are being allowed. The year-wise details of O&M claimed and allowed are discussed hereunder:-

- a) **2009-10:** The petitioner has claimed O&M expenditure of ₹949.61 lakh, against which an amount of ₹938.23 lakh has been allowed. An amount of ₹3.46 lakh which has been claimed as Misc. Expenses has not been considered as the details thereof have not been provided by the petitioner.

- b) **2010-11:** The petitioner has claimed O&M expenditure of ₹835.58 lakh against which an amount of ₹832.83 lakh has been allowed. An amount of ₹2.75 lakh which has been claimed as Misc. Expenses has not been considered as the details thereof have not been provided by the petitioner.
- c) **2011-12:** The petitioner has claimed O&M expenditure of ₹1008.38 lakh against which an amount of ₹1007.94 lakh has been allowed. An amount of ₹0.44 lakh which has been claimed as Misc. Expenses has not been considered as the details thereof have not been provided by the petitioner.
- d) **2012-13:** The petitioner has claimed estimated O&M expenditure of ₹413.99 lakh, against which ₹411.76 lakh has been allowed. A total amount of ₹2.23 lakh has not been allowed as the details of Misc. Expenses claimed by the petitioner have not been provided.
- e) **2013-14:** The petitioner has claimed estimated O&M expenditure of ₹775.39 lakh. Against this, an amount of ₹472.94 lakh has been allowed. An amount of ₹2.45 lakh has not been allowed as the details of the Misc Expenses claimed by the petitioner have not been given. Further, amounts of ₹100 lakh claimed for OPGW replacement, ₹50 lakh for Mux Equipment and ₹150 lakh for live line OPGW installation tool have not considered, as the expenses on these account are capital in nature.

42. The comparative summary of O&M expenses claimed and those allowed is given overleaf:-

(₹ in lakh)

Year	O&M expenses claimed	O&M expenses allowed
2009-10	941.69	938.23
2010-11	835.58	832.83
2011-12	1008.38	1007.94
2012-13	413.99	411.70
2013-14	775.39	472.94

43. O&M expenses for the years 2012-13 and 2013-14, which have been escalated @ 5.72% per annum over the expenses for the immediately preceding year, are subject to adjustment based on actual expenses at the time of truing up. In respect of central portion O&M, the petitioner has claimed the O&M charges under Non-microwave portion only. Accordingly in our calculations we have considered it under Non-microwave portion. The petitioner has not claimed O&M component for State portion. The Fee & charges for State portion, thus, does not have any O&M. The petitioner has not submitted the details of Rates and Taxes. The petitioner may seek revision of O&M expenses on account of Rates and Taxes at the time of truing up.

Interest on Working Capital

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

- (i) **Maintenance spares:** The maintenance spares at the rate of 1% of the historical cost escalated at the rate of 6% per annum from the date of commercial operation were considered for the period 2004-09 in the order dated 18.3.2011 in Petition No 28/2010. The petitioner has claimed the maintenance spares in accordance with the said order dated 18.3.2011. The maintenance spares claimed by the petitioner include maintenance spares for both Microwave and Non-microwave assets of central portion. Further, it was

submitted that the Microwave assets are being decommissioned in a phased manner and its complete replacement is considered by end of June, 2012. The petitioner has requested for recovery of accelerated depreciation of Microwave assets to match the revised useful life for the digital microwave link till the end of year 2011. As mentioned above in Paragraph No.9 the microwave link has been replaced completely on 31.3.2012. The maintenance spares @1% of the historical cost escalated @6% per annum from the date of commercial operation based on the regulations for determination of tariff applicable for the period 2004-09 is not proper as in the meantime the tariff regulations which are applicable during 2009-14 have been notified. Regulation 18 of the tariff regulations provides for consideration of 15% of O&M expenses towards maintenance spares of the transmission system. The norms for maintenance spares of Communication system have not been separately specified by the Commission. The maintenance spares are part of O&M expenses. Accordingly, the maintenance spares have been considered at the rate of 15% of O&M expenses each year for the purpose of calculation of working capital as given below for non-microwave part of central portion only:-

(₹ in lakh)					
Year	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares @15% of O&M Expenses	140.73	124.92	151.19	61.76	70.94

The maintenance spares allowed for the years 2012-13 and 2013-14 are provisional and are subject to adjustment based on actual O&M expenses for

these years. The maintenance spares have been calculated for Central portion only since the petitioner has not claimed O&M expenses for the States' portion.

- (ii) **O & M Expenses:** One month's O&M expenses allowed under Paragraph No. 36 above have been considered as an element of working capital.
- (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.

45. 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 below:-

(₹ in lakh)

Microwave Assets			
Particulars	2009-10	2010-11	2011-12
Central Portion			
Maintenance Spares	0.00	0.00	0.00
O&M Expenses	0.00	0.00	0.00
Receivables	177.79	177.79	177.79
Total	177.79	177.79	177.79
Rate of Interest	12.25%	12.25%	12.25%
Interest	21.78	21.78	21.78
States' Portion			
Maintenance Spares	0.00	0.00	0.00
O&M Expenses	0.00	0.00	0.00
Receivables	382.01	382.01	382.01
Total	382.01	382.01	382.01
Rate of Interest	12.25%	12.25%	12.25%
Interest	46.80	46.80	46.80

Non-microwave Assets

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Central Portion					
Maintenance Spares	140.73	124.92	151.19	61.76	70.94
O&M Expenses	78.19	69.40	84.00	34.31	39.41
Receivables	331.19	312.75	343.39	239.05	249.77
Total	550.11	507.07	578.58	335.12	360.12
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
Interest	67.39	62.12	70.88	41.05	44.11
States' Portion					
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	437.90	437.90	437.90	437.90	437.90
Total	437.90	437.90	437.90	437.90	437.90
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
Interest	53.64	53.64	53.64	53.64	53.64

Annual Fees and Charges

46. The annual fees and charges allowed for the assets of the Scheme are provided in Annexure and are summarized below:-

(₹ in lakh)

Microwave Assets

Particulars	2009-10	2010-11	2011-12
Central Portion			
Annual Capital Recovery Charges – Loan	850.20	850.20	850.20
Annual Capital Recovery Charges – Equity	194.74	194.74	194.74
Annual Capital Recovery Charges – Total	1044.94	1044.94	1044.94
O&M	0.00	0.00	0.00
Interest on Working Capital	21.78	21.78	21.78
TOTAL ANNUAL CHARGES	1066.72	1066.72	1066.72
States Portion			
Annual Capital Recovery Charges – Loan	1728.08	1728.08	1728.08
Annual Capital Recovery Charges – Equity	517.19	517.19	517.19
Annual Capital Recovery Charges – Total	2245.27	2245.27	2245.27
O&M	0.00	0.00	0.00
Interest on Working Capital	46.80	46.80	46.80
TOTAL ANNUAL CHARGES	2292.06	2292.06	2292.06

Non-Microwave Assets

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Central Portion					
Annual Capital Recovery Charges – Loan	770.34	770.34	770.34	770.34	770.34
Annual Capital Recovery Charges – Equity	211.21	211.21	211.21	211.21	211.21
Annual Capital Recovery Charges – Total	981.55	981.55	981.55	981.55	981.55
O&M	938.23	832.83	1007.94	411.70	472.94
Interest on Working Capital	67.39	62.12	70.88	41.05	44.11
TOTAL ANNUAL CHARGES	1987.16	1876.49	2060.36	1434.30	1498.60
States' Portion					
Annual Capital Recovery Charges – Loan	1894.89	1894.89	1894.89	1894.89	1894.89
Annual Capital Recovery Charges – Equity	678.86	678.86	678.86	678.86	678.86
Annual Capital Recovery Charges – Total	2573.75	2573.75	2573.75	2573.75	2573.75
O&M	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	53.64	53.64	53.64	53.64	53.64
TOTAL ANNUAL CHARGES	2627.39	2627.39	2627.39	2627.39	2627.39

47. NTPC, in its affidavit dated 1.2.2012, has pointed out that the Commission had directed the petitioner to decide the salvage value of Digital Microwave System in consultation with beneficiaries. However, it has been further pointed out, the petitioner had recovered the entire cost of Microwave System. NTPC has sought direction to the petitioner to pass on the credit to beneficiaries once salvage value of the same is agreed upon by the beneficiaries.

48. The petitioner, in its affidavit dated 10.7.2013, has submitted that during the PIB meeting held on 12.1.2001 the Central Government decided for sharing of cost of OPGW between ULDC and telecom projects. The petitioner has explained that because of the commercial non-availability of a Fiber Optic Cable and keeping in view the future

usage, it was envisaged to put 24 Fiber Optic Cable in most of the links for the Scheme in Northern Region with minimal incremental cost and therefore, Fiber Optic Cables containing 24 no of Fibers were installed. The petitioner has stated that out of those 24 nos. Fibers, six nos. of Fibers (including 2 nos. spare) have been kept for usage under the Scheme. The petitioner has explained that the data and voice communication through optical fiber media requires at least 2 fibers i.e. one for transmission of data and the second for reception and two additional fibers are kept for standby switchover and one pair (2 nos.) of fiber is kept as a spare. Thus, 6 fibers in all are used for the purposes under the Scheme. It has stated that the balance 18 nos. of Fibers were kept for the petitioner's telecom business. It has been submitted that the petitioner has made the investment for implementation of Digital Microwave Communication system under ULDC projects and since the frequency band is to be vacated before completion of life of Digital Microwave System, the investment made will not be recovered fully at the time of vacation of frequency band by end of 2012. It submitted that the petitioner has to replace these equipments under the force majeure condition because of change in government policy. The petitioner has undertaken to pass on credit for the salvage value of Digital Microwave systems to the beneficiaries after the salvage value of the same is agreed upon by the beneficiaries. This takes care of the concern of NTPC.

Recovery of License Fee

49. The petitioner has sought recovery of the license fee. The petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 42A (1)(b) of the 2009 Tariff Regulations.

Foreign Exchange Rate Variation

50. 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, if applicable, in accordance with Regulation 40 of the 2009 Tariff Regulations.

Sharing of Fees and Charges

51. The Commission in the order dated 8.12.2011 in Petition No 68/2010 directed as under:-

“40. In our view, all users of the communication system including the transmission licensee should share the tariff as the communication system would also be used to transmit operational data of the assets of the users. We direct that the sharing of tariff of the communication system shall be on similar lines as the system operation charges for the Regional Load Despatch Centres under RLDC Regulations.”

52. Accordingly, the fees and charges for the Central portion shall be shared by all concerned in accordance with Para 40 of the order dated 8.12.2011 read with Regulation 22 (1) of Fees and Charges of Regional Load Despatch Centre and other related matters Regulations, 2009. The Regulation 22 (1) has been extracted hereunder:-

"The system operation charges shall be collected from the users as per the norms given below:

Generating stations and sellers : 45% of system operation charges;
Distribution licensees and buyers : 45% of system operation charges;
Inter-state Transmission licensees: 10% of system operation charges"

53. The fees and charges for the States' portion of the Scheme shall be shared by the States in proportion to capital cost incurred for SLDC portion for the respective State.

54. The fees and charges paid by the generating companies and the inter-State transmission licensees (including deemed inter-State transmission licensees) shall be recovered by them from their beneficiaries in accordance with Regulation 42A of the 2009 Tariff Regulations.

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

sd/-

(M. Deena Dayalan)
Member

sd/-

(V. S. Verma)
Member

Particulars	On Capital expenditure as on 1.4.2009	Additional Capital Expenditure			On Capital expenditure as on 1.4.2009	Additional Capital Expenditure		
		2009-10	2010-11	2011-12		2009-10	2010-11	2011-12
Gross Capital Cost	4043.30				8572.19			
Gross Notional Loan	3458.03				7026.66			
Gross Equity	585.27				1545.53			
O/S Capital Cost	2762.24				5904.11			
O/S Notional Loan (1)	2297.40				4669.56			
O/S Equity (2)	464.84				1234.55			
Years (Capital to be recovered up to 31.3.2012)	3.00				3.00			
Months	36.00				36.00			
Weighted Average Rate of Interest p.a. (A)	6.9176%				6.9176%			
Weighted Average Rate of Interest p.m. $\{(i)=(A)/12\}$	0.5765%				0.5765%			
Monthly Recovery Factors –Loan (B) $\frac{i \times (1+i)^n}{(1+i)^n - 1}$	0.03084				0.03084			
Monthly Capital Recovery Charge – Loan $\{(c)=(i)X(B)\}$	70.85				144.01			
Annual Capital Recovery Charge – Loan $\{(D)=(C)*12\}$	850.20				1728.08			
Rate of Return on Equity p.a. (E)	15.500%				15.500%			
Rate of Return on Equity p.m. $\{(i)=(E)/12\}$	1.292%				1.292%			
Monthly Recovery Factors –Equity (F)	0.03491				0.03491			
Monthly Capital Recovery Charge – Equity $\{(G)=(F)*12\}$	16.23				43.10			
Annual Capital Recovery Charge – Equity $\{(H)=(G)*12\}$	194.73				517.19			
Monthly Capital Recovery Charge - Total $\{(I)=(C)+(G)\}$	87.08				187.11			
Annual Capital Recovery Charge - Total $\{(J)=(D)+(H)\}$	1044.94	1044.94	1044.94	1044.94	2245.27	2245.27	2245.27	2245.27
O&M Expenses		0.00	0.00	0.00		0.00	0.00	0.00
Interest on Working Capital		21.78	21.78	21.78		46.80	46.80	46.80
Total Fee and Charges		1066.72	1066.72	1066.72		2292.06	2292.06	2292.06

Non-Microwave: Central Portion - Charges (2009-14)

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

(₹ in lakh)

Particulars	On Capital expenditure as on 1.4.2009	Additional Capital Expenditure					On Capital expenditure as on 1.4.2009	Additional Capital Expenditure				
		2009-10	2010-11	2011-12	2012-13	2013-14		2009-10	2010-11	2011-12	2012-13	2013-14
Gross Capital Cost	8568.30						21984.33					
Gross Notional Loan (1)	7328.04						18020.65					
Gross Equity (2)	1240.26						3963.68					
O/S Capital Cost	5853.55						15141.74					
O/S Notional Loan	4868.49						11975.60					
O/S Equity	985.06						3166.14					
Years	8.33						8.33					
Months	100.00						100.00					
Weighted Average Rate of Interest p.a. (A)	6.9176%						6.9176%					
Weighted Average Rate of Interest p.m. $\{(i)=(A)/12\}$	0.5765%						0.5765%					
Monthly Recovery Factors – Loan (B) $\frac{i \times (1+i)^n}{(1+i)^n - 1}$	0.01319						0.01319					
Monthly Capital Recovery Charge – Loan $\{(c)=(i)X(B)\}$	64.19						157.91					
Annual Capital Recovery Charge - Loan $\{(D)=(C)*12\}$	770.34						1894.89					
Rate of Return on Equity p.a. (E)	15.500%						15.500%					
Rate of Return on Equity p.m. $\{(i)=(E)/12\}$	1.292%						1.292%					
Monthly Recovery Factors – Equity (F)	0.01787						0.01787					
Monthly Capital Recovery Charge – Equity $\{(G)=(F)*2\}$	17.60						56.57					
Annual Capital Recovery Charge – Equity $\{(H)=(G)*12\}$	211.21						678.86					
Monthly Capital Recovery Charge - Total $\{(I)=(C)+(G)\}$	81.80						214.48					
Annual Capital Recovery Charge - Total $\{(J)=(D)+(H)\}$	981.55	981.55	981.55	981.55	981.55	981.55	2573.75	2573.75	2573.75	2573.75	2573.75	2573.75
O&M Expenses		938.23	832.83	1007.94	411.70	472.94	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working capital		67.39	62.12	70.88	41.05	44.11	53.64	53.64	53.64	53.64	53.64	53.64
Total Fee and Charges		1987.17	1876.49	2060.36	1434.30	1498.60	2627.39	2627.39	2627.39	2627.39	2627.39	2627.39

