

**Central Electricity Regulatory Commission
New Delhi**

Petition No. 56/TT/2012

Coram:

Shri V.S. Verma, Member

Shri M. Deena Dayalan, Member

Date of Hearing: 25.06.2013

Date of Order: 31.12.2013

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 Eastern 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. National Hydro Power Corporation Ltd,
NHPC Office Complex,
Lodhi Road, New Delhi
3. Orissa Hydro Power Corporation Ltd,
Burla Power House, Orissa Hydro Power Corporation Ltd,
Dist. Sambalpur, Burla-768017
4. Damodar Valley Corporation (Mejia TPS)
DVC, P.O. MTPS, Dist- Bankura-722183
5. West Bengal State Electricity Distribution Company Ltd,
Bidyut Bhawan, 8th Floor (A Block),

Block DJ, Salt Lake City,
Calcutta-700091

6. Bihar State Electricity Board,
Vidyut Bhawan, Bailey Road,
Patna-80001
7. Grid Corporation of Orissa Ltd,
Vidyut Bhawan, Janpath,
Bhubanewshwar-751007
8. Department of Power,
Government of Sikkim,
Gangtok-727102
9. Jharkhand State Electricity Board,
Engineering Building,
HEC Township,
Dhurwa, Ranchi-834004
10. Damodar Valley Corporation,
DVC Tower, VIP Road,
Calcutta-700054
11. Powerlinks Transmission Ltd,
Vidyut Nagar,
P.O. Satellite Township,
Siliguri-734015

.....Respondents

Representatives of the Petitioner:

Shri S.S. Raju, Powergrid
Shri A.S. Kushwaha, Powergrid
Shri B.K. Sahoo, Powergrid

Representatives of the Respondent(s):

Shri Ajay Dua, NTPC, Respondent No. 1
Shri Rohit Chhabra, NTPC, Respondents No. 1

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 dated 08.12.2011 in petition no. 68/2010, from the long term customers (DIC Designated ISTS customer); and
- 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 Ltd 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 Eastern Region presently retained by the petitioner.

4. The Scheme in Eastern Region, comprising microwave and non-microwave assets was declared under commercial operation on 1.9.2005.

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

(₹ in lakh)

Microwave Assets				
Particulars	2009-10	2010-11	2011-12	2012-13 (Pro rata)
Central Portion				
Annual Capital Recovery Charges – Loan	981.84	1003.86	1010.04	252.51
Annual Capital Recovery Charges – Equity	224.40	235.44	238.44	59.61
Annual Capital Recovery Charges – Total	1206.24	1239.30	1248.48	312.12
O&M	0.00	0.00	0.00	0.00
Interest on Working Capital	30.69	31.70	32.24	8.16
TOTAL ANNUAL CHARGES	1236.95	1271.02	1280.75	320.28
States' Portion				
Annual Capital Recovery Charges – Loan	1683.48	1683.48	1683.48	420.87
Annual Capital Recovery Charges – Equity	343.68	343.68	343.68	85.92
Annual Capital Recovery Charges – Total	2027.16	2027.16	2027.16	506.79
O&M	0.00	0.00	0.00	0.00
Interest on Working Capital	41.39	41.39	41.39	10.35
TOTAL ANNUAL CHARGES	2068.55	2068.55	2068.55	517.14

Non-Microwave Assets

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Central Portion					
Annual Capital Recovery Charges – Loan	377.46	383.16	387.48	387.96	387.96
Annual Capital Recovery Charges – Equity	126.78	130.92	133.98	134.28	134.28
Annual Capital Recovery Charges – Total	504.24	514.08	521.46	522.24	522.24
O&M	452.03	465.48	492.11	520.25	550.01
Interest on Working Capital	31.07	32.08	33.47	34.80	36.19
TOTAL ANNUAL CHARGES	987.24	1011.51	1046.89	1077.17	1108.31
States' Portion					
Annual Capital Recovery Charges – Loan	1046.88	1046.88	1046.88	1046.88	1046.88
Annual Capital Recovery Charges – Equity	318.48	318.48	318.48	318.48	318.48
Annual Capital Recovery Charges – Total	1365.36	1365.36	1365.36	1365.36	1365.36
O&M	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	28.46	28.46	28.46	28.46	28.46
TOTAL ANNUAL CHARGES	1393.82	1393.82	1393.82	1393.82	1393.82

6. The replies to the petition have been filed by NTPC Ltd, Odisha Hydro Power Corporation Ltd (OHPC) and Bihar State Electricity Board (BSEB).

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

8. 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.

9. The Commission has specified the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (the tariff regulations) applicable for the period 1.4.2009 to 31.3.2014. The 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 the Central 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 the order is extracted hereunder:

"It clearly emerges from the above judgement 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."

10. Another issue raised by the petitioner was regarding admissibility of O&M expenses recoverable for 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. 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.

13. 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.

14. Another aspect which deserves attention at this stage itself is regarding recovery of capital through loan and equity. The Commission in its order dated

3.8.2011 in Petition No 48/2010 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:

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

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

15. 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. The same methodology was adopted for other regions too.

16. Haryana Vidyut Prasaran Nigam Ltd (HVPNL), a utility in Northern Region and party respondent in the petition pertaining to that Region 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 instalments 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

instalments by reducing number of instalments appropriately. The recovery of loan and equity would stop thereafter.”

17. 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. The principle decided by the Appellate Tribunal in the judgment dated 11.11.2011 for Northern Region is to be followed for the purpose of determining fees and charges for communication system and SLDC portions in all regions.

18. In compliance with the directions of the Appellate Tribunal, recovery of loan and equity has been re-calculated by adopting monthly recovery charge method as directed by the Appellate Tribunal. The monthly recovery charges, earlier considered on annualized basis, have been worked out for 2004-09. It is noticed that for Central portion, excess loan recovered by the petitioner during 2004-09 was ₹483.50 lakh and excess equity recovered during the same period was ₹94.32 lakh. Similarly, for States' portion, excess loan recovered during 2004-09 was ₹704.08 lakh and excess equity recovered was ₹138.23 lakh.

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

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

Capital Cost

21. The Commission vide order dated 3.8.2011 in Petition No 48/2010 approved the fees and charges for the period up to 31.3.2009 based on the total capital expenditure of ₹13434.86 lakh (Central portion) and ₹20032.00 lakh (States' portion) as per details given below:-

(₹ in lakh)

Admitted Capital Cost	Central Portion	States' Portion	Total
Loan	11722.95	17402.44	29125.39
Equity	1711.91	2629.56	4341.47
Total	13434.86	20032.00	33466.86

22. The fees and charges in the present petition have been claimed on the basis of gross capital cost of ₹8823.17 lakh (Central portion) and ₹20032.00 lakh (States' portion) (Total ₹28855.17 lakh) for the assets retained by the petitioner in respect of Eastern Region, in the same debt-equity ratio as considered in the order dated 3.8.2011 in Petition No 48/2010 as hereunder:-

(₹ In lakh)

Retained Gross Capital Cost	Central Portion	States' Portion	Total
Loan	7698.90	17402.44	25101.34
Equity	1124.27	2629.56	3753.83
Total	8823.17	20032.00	28855.17

23. From the date of commercial operation (1.9.2005) and up to 31.3.2009, the 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 works out as given overleaf:-

Capital Cost Recovered upto 31.3.2009

(₹ in lakh)

Capital Recovered upto 31.03.2009	Central Portion (RSCC)	State Portion	Total
Loan	1927.82	2835.27	4763.09
Equity	140.96	211.38	352.33
Total	2068.78	3046.65	5115.43

24. The petitioner has indicated that the retained gross capital cost as on 1.4.2009, segregating into microwave and non-microwave portions as under:-

(₹ in lakh)

Particulars	Retained Gross Capital Cost as on 31.3.2009	
	Central Portion	States' Portion
Microwave	4087.22	7020.23
Non-Microwave	4735.95	13011.77
Total	8823.17	20032.00

25. As already noticed, a part of the Central portion assets created under the Scheme were transferred to POSOCO whereas entire States' portion assets have been retained by the petitioner. Therefore, *pro rata* capital cost recovered for the assets retained by the petitioner as on 1.4.2009 has been worked out against the total capital cost recovered up to 31.3.2009 in the ratio of gross capital cost of the assets retained as on 1.4.2009 to admitted gross capital cost as on 31.3.2009 as per the order dated 3.8.2011 in Petition No 48/2010. Finally, the retained gross capital cost as on 1.4.2009 has been worked out as the difference of the total capital cost recovered upto 31.3.2009 and *pro rata* capital cost recovered for the assets retained by the petitioner as on 1.4.2009. When calculated in this manner, the retained gross capital cost as on 1.4.2009 works out as given overleaf, which has been considered for determination of fee and charges in the present petition:-

Retained Gross Capital Cost as on 1.4.2009

(₹ in lakh)

	Microwave Assets			Non- Microwave Assets		
	Central Portion	States' Portion	Total	Central Portion	States' Portion	Total
Loan	3566.42	6098.70	9665.11	4132.48	11303.74	15436.22
Equity	520.80	921.53	1442.34	603.47	1708.03	2311.50
Total	4087.22	7020.23	11107.45	4735.95	13011.77	17747.72

26. The petitioner has submitted the values of Retained Gross Capital Cost as on 31.3.2009 for Central as well as State portion corresponding to Micro-wave and Non-Microwave Systems as stated in Paragraph No.24 and 25. The pro-rata capital recovered in respect of Retained Gross Capital for Micro-wave 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 date of commercial operation to 31.3.2009 to Admitted Gross Capital Cost as on 31.3.2009 as per order dated 3.8.20011 in Petition No. 48/2010. Similarly, pro-rata capital recovered in respect of Retained Gross Capital for Non-Microwave portion upto 31.3.2009 has been worked out.

(₹ in lakh)

Pro-rata Capital Recovered in respect of Retained Gross Capital	Microwave			Non-Microwave		
	Central Portion (RSCC)	State Portion	Total	Central Portion (RSCC)	State Portion	Total
Net Loan	586.49	993.62	1580.12	679.58	1841.65	2521.23
Net Equity	42.88	74.08	116.96	49.69	137.30	186.99
Total	629.37	1067.70	1697.07	729.27	1978.95	2708.22

27. Accordingly, 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 31.03.2009, separately for loan as well as equity. The same concept has been applied for both Microwave and Non-Microwave portions. The Retained Net Capital cost as on 1.4.2009 works out as under:-

(₹ in lakh)

Retained Net Capital Cost as on 1.4.2009	Microwave			Non-Microwave		
	Central Portion (RSCC)	State Portion	Total	Central Portion (RSCC)	State Portion	Total
Net Loan	2979.92	5105.07	8085.00	3452.90	9462.09	12914.99
Net Equity	477.92	847.46	1325.38	553.78	1570.73	2124.51
Total	3457.85	5952.53	9410.38	4006.68	11032.82	15039.50

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

Additional Capital Expenditure

28. The year-wise additional capitalization claimed by the petitioner during 2009-10 to 2011-12 is given below:-

(₹ in lakh)

	Central Portion	State Portion
2009-10	160.95	0.00
2010-11	115.35	0.00
2011-12	9.76	0.00

29. The details of additional capital expenditure claimed by the petitioner are given overleaf:-

S. No.	Element	Additional Capital Expenditure		
		2009-10	2010-11	2011-12
1	EMS/SCADA System	₹5.21 lakh - Release of retention amount to AREVA	0.00	0.00
2	Fiber Optic system	₹37.50 lakh - Release of retention amount to LG Cables	0.00	0.00
3	PLCC/PABX	₹0.50 lakh - Entry Tax PUNCOM	₹85.61 lakh - Release of Retention amount to PUNCOM	₹9.76 lakh - Release of Retention amount to PUNCOM
4	Digital Microwave System (Tower)	₹116.19 lakh - Release of retention amount to Alstom and additional maintenance as part of contract to Areva	₹29.68 lakh - Release of retention amount	0.00
5	Auxiliary Power Supply system	₹1.55 lakh - Release of retention amount to PCL and S.N. Creation	0.06	0.00
	TOTAL	₹160.95 lakh	₹115.35 lakh	₹9.76 lakh

30. The additional capitalization claimed by the petitioner is on account of retention payment and is allowed.

Debt – Equity Ratio

31. 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	2979.92	5105.07	8085.00	3452.90	9462.09	12914.99
Net Equity	477.92	847.46	1325.38	553.78	1570.73	2124.51
Total	3457.85	5952.53	9410.38	4006.68	11032.82	15039.50
Debt-Equity Ratio						
Debt	86.18%	85.76%	85.92%	86.18%	85.76%	85.87%
Equity	13.82%	14.24%	14.08%	13.82%	14.24%	14.13%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Rates for Recovery of Loan and Equity

32. The weighted average rate of interest based on the details of loan furnished by the petitioner work out at 4.2503% per annum and 0.3542% per month.

33. The Commission in its order dated 3.8.2011 in Petition No 48/2010 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. 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 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

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

	Microwave Assets	Non-microwave Assets
Monthly Capital Recovery Factor – Loan	0.027498	0.009226
Monthly Capital Recovery Factor - Equity	0.032801	0.015606

Annual Capital Recovery Charges

35. The annual Capital Recovery Charges on the capital cost as on 1.4.2009 arrived at are given below:- (₹ in lakh)

	Microwave		Non-microwave	
	Central Portion	States' Portion	Central Portion	States' Portion
Monthly Capital Recovery charges - Loan	81.94	140.38	31.85	87.29
Monthly Capital Recovery charges - Equity	15.68	27.80	8.64	24.51
Total	97.62	168.18	40.50	111.81

Operation and Maintenance Expenses

36. 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....."

37. The petitioner vide affidavit dated 31.1.2013 has submitted the detailed break-up of O&M expenditure for the period 2009-10 to 2011-12. The details submitted are given overleaf:-

(₹ in lakh)

Description	Year		
	2009-10	2010-11	2011-12
Employee Cost	164.31	181.77	177.13
Repairs & Maintenance	177.11	163.13	203.96
Power Charges	1.00	2.01	0.49
Training & Recruitment	0.08	1.94	0.01
Communication Expenses	1.55	3.22	2.19
Travelling Expenses	11.20	10.44	11.20
Printing & Stationery	0.16	0.09	0.15
Rent, Rates and Taxes (licence fee and royalty to DOT and WPO)	3.57	3.24	3.71
Other Expenses	16.92	9.29	105.16
Insurance	0.00	5.00	0.01
Security	3.45	4.13	4.19
Hiring of Vehicles	6.10	5.60	6.19
Total	385.45	389.88	514.38
Corporate Office Allocation Expenses	39.31	25.97	69.72
RO/ED Office Expenses	30.77	40.16	116.00
Total	455.53	456.01	700.10
Self Insurance Reserve @ 0.1% on Gross Block	9.50	9.47	9.76
Grand Total	465.03	465.48	709.86

38. 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	193.67	197.55
Repairs & Maintenance	157.88	161.04
Power Charges	1.01	1.03
Training & Recruitment	0.21	0.22
Communication Expenses	3.62	3.69
Travelling Expenses	16.34	16.66
Printing & Stationery	0.09	0.09
Rent, Rates and Taxes	0.04	0.04
Other Expenses	364.26	371.55
Insurance	2.23	2.27
Security	0.00	0.00
Hiring of Vehicles	0.00	0.00
Sub Total	739.35	754.14
Corporate Centre Expenses	20.84	21.25
RHQ Expenses	42.06	42.90
Sub total	802.25	818.29
Self-insurance	10.66	10.66
Grand Total	812.91	828.95

39. NTPC in its response has stated that O&M charges be considered on normative basis instead of allowing actual O&M expenses.

40. The Commission in its order dated 8.12.2011 in Petition No. 68/2010, the relevant portion of which has been reproduced under Paragraph No. 36 above, has already decided that the petitioner would be entitled to recovery of O&M expenses actually incurred. 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 ₹465.03 lakh, against which an amount of ₹451.7 lakh has been allowed. An amount of ₹13.33 lakh which has been claimed as Misc Expenses and Entertainment Expenses have 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 ₹465.48 lakh against which an amount of ₹465.16 lakh has been allowed. An amount of ₹0.32 lakh which has been claimed as Professional Expenses (₹0.13 lakh) and Entertainment Expenses (₹0.19 lakh) have 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 ₹709.86 lakh against which an amount of ₹708.07 lakh has been allowed. An amount of ₹1.79 lakh which has been claimed as Professional Expenses and

Entertainment Expenses have 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 ₹812.91 lakh, against which ₹811.19 lakh has been allowed. A total amount of ₹1.72 lakh has not been allowed as the details of Professional Expenses claimed by the petitioner have not been provided.

(e) **2013-14:** The petitioner has claimed estimated O&M expenditure of ₹828.95 lakh. Out of this, the amount of ₹827.20 lakh has been allowed. An amount of ₹1.75 lakh has not been allowed as the details of the Professional Expenses claimed by the petitioner have not been given.

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

(₹ in lakh)		
Year	O&M expenses claimed	O&M expenses allowed
2009-10	465.03	451.70
2010-11	465.48	465.16
2011-12	709.86	708.07
2012-13	812.91	811.19
2013-14	828.95	827.20

42. 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. O&M expenses claimed by the petitioner include both microwave assets and non-microwave assets which have been considered together.

Interest on Working Capital

43. 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 3.8.2011 in Petition No 48/2010. The petitioner has claimed the maintenance spares in accordance with the said order dated 3.8.2011. Further, it has been 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. 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:-

Year	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares @15% of O&M Expenses (Microwave & Non-Microwave)	67.755	69.774	106.21	121.68	124.08

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. Further, 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 Para 39 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.

44. 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	2012-13
Central Portion				
Maintenance Spares	0.00	0.00	0.00	0.00
O&M Expenses	0.00	0.00	0.00	0.00
Receivables	199.31	208.90	213.15	213.15
Total	199.31	208.90	213.15	213.15
Rate of Interest	12.25%	12.25%	12.25%	12.25%
Interest	24.41	25.59	26.11	26.11
States Portion				
Maintenance Spares	0.00	0.00	0.00	0.00
O&M Expenses	0.00	0.00	0.00	0.00
Receivables	343.36	343.36	343.36	343.36
Total	343.36	343.36	343.36	343.36
Rate of Interest	12.25%	12.25%	12.25%	12.25%
Interest	42.06	42.06	42.06	42.06

Non-microwave Assets

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Central Portion					
Maintenance	67.76	69.77	106.21	121.68	124.08
Spares					
O&M Expenses	37.64	38.76	59.01	67.60	68.93
Receivables	161.73	165.16	209.88	228.19	231.00
Total	267.13	273.70	375.09	417.47	424.01
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
Interest	32.72	33.53	45.95	51.14	51.94
States Portion					
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	228.27	228.27	228.27	228.27	228.27
Total	228.27	228.27	228.27	228.27	228.27
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
Interest	27.96	27.96	27.96	27.96	27.96

Annual Fees and Charges

45. 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	2012-13 (Pro rata)
Central Portion				
Annual Capital Recovery Charges – Loan	983.30	1021.27	1038.37	259.59
Annual Capital Recovery Charges – Equity	188.12	206.57	214.45	53.61
Annual Capital Recovery Charges – Total	1171.42	1227.84	1252.82	313.20
O&M	0.00	0.00	0.00	0.00
Interest on Working Capital	24.41	25.59	26.11	6.53
TOTAL ANNUAL CHARGES	1195.84	1253.43	1278.93	319.73
States' Portion				
Annual Capital Recovery Charges – Loan	1684.55	1684.55	1684.55	421.14
Annual Capital Recovery Charges – Equity	333.57	333.57	333.57	83.39
Annual Capital Recovery Charges – Total	2018.12	2018.12	2018.12	504.53
O&M	0.00	0.00	0.00	0.00
Interest on Working Capital	42.06	42.06	42.06	10.52
TOTAL ANNUAL CHARGES	2060.19	2060.19	2060.19	515.05

Non-Microwave Assets

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Central Portion					
Annual Capital Recovery Charges – Loan	382.26	385.99	393.73	394.69	394.69
Annual Capital Recovery Charges – Equity	103.71	106.31	111.52	112.14	112.14
Annual Capital Recovery Charges – Total	485.97	492.30	505.24	506.84	506.84
O&M	451.70	465.16	708.07	811.19	827.20
Interest on Working Capital	32.72	33.53	45.95	51.14	51.94
TOTAL ANNUAL CHARGES	970.39	990.99	1259.26	1369.17	1385.98
States' Portion					
Annual Capital Recovery Charges – Loan	1047.51	1047.51	1047.51	1047.51	1047.51
Annual Capital Recovery Charges – Equity	294.16	294.16	294.16	294.16	294.16
Annual Capital Recovery Charges – Total	1341.68	1341.68	1341.68	1341.68	1341.68
O&M	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	27.96	27.96	27.96	27.96	27.96
TOTAL ANNUAL CHARGES	1369.64	1369.64	1369.64	1369.64	1369.64

Sharing of Fees and Charges

46. 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.”

47. 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 reproduced 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"

48. 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.

49. 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 tariff regulations.

Recovery of License Fee

50. 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

51. 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 tariff regulations.

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

sd/-

(M. Deena Dayalan)
Member

sd/-

(V. S. Verma)
Member

Annexure

Microwave: Central Portion - Charges (2009-14)

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		2009-10	2010-11	2011-12	2012-13
Gross Capital Cost	4087.22					7020.23				
Gross Notional Loan	3566.42					6098.70				
Gross Equity	520.80					921.53				
O/S Capital Cost	3457.85	116.19	29.68			5952.53				
O/S Notional Loan (1)	2979.92	81.33	20.78			5105.07				
O/S Equity (2)	477.92	34.86	8.90			847.46				
Years (Capital to be recovered up to 31.3.2012)	3.25	2.25	1.25			3.25				
Months	39.00	27.00	15.00			39.00				
Weighted Average Rate of Interest p.a. (A)	4.2503%	4.2503%	4.2503%			4.2503%				
Weighted Average Rate of Interest p.m. {(i)=(A)/12}	0.3542%	0.3542%	0.3542%			0.3542%				
Monthly Recovery Factors –Loan (B) $\frac{i \times (1+i)^n}{(1+i)^n - 1}$	0.027498	0.03890	0.06857			0.027498				
Monthly Capital Recovery Charge – Loan {(c)=(i)X(B)}	81.94	3.16	1.42			140.38				
Annual Capital Recovery Charge – Loan {(D)=(C)*12}	983.30	37.97	17.10			1684.55				
Rate of Return on Equity p.a. (E)	15.500%	15.500%	15.500%			15.500%				
Rate of Return on Equity p.m. {(i)=(E)/12}	1.292%	1.292%	1.292%			1.292%				
Monthly Recovery Factors –Equity (F)	0.032801	0.044106	0.073762			0.032801				
Monthly Capital Recovery Charge – Equity {(G)=(F)*(2)}	15.68	1.54	0.66			27.80				
Annual Capital Recovery Charge – Equity {(H)=(G)*12}	188.12	18.45	7.88			333.57				
Monthly Capital Recovery Charge - Total {(I)=(C)+(G)}	97.62	4.70	2.08			168.18				
Annual Capital Recovery Charge - Total {(J)=(D)+(H)}	1171.42	1171.42	1227.84	1252.82	1252.82	2018.12	2018.12	2018.12	2018.12	2018.12
O&M Expenses		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Interest on Working Capital		24.41	25.59	26.11	26.11		42.06	42.06	42.06	42.06
Total Fee and Charges		1195.84	1253.43	1278.93	1278.93		2060.19	2060.19	2060.19	2060.19

Interest on Working Capital

Particular	2009-10	2010-11	2011-12	2012-13		2009-10	2010-11	2011-12	2012-13
Maintenance Spares (As per Engineering Division Input dated 30.09.2013)	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
O&M Expenses (1 Month)	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Receivables	199.31	208.90	213.15	213.15		343.36	343.36	343.36	343.36
Total	199.31	208.90	213.15	213.15		343.36	343.36	343.36	343.36
Rate of Interest on Working Capital	12.25%	12.25%	12.25%	12.25%		12.25%	12.25%	12.25%	12.25%
Interest on Working Capital	24.41	25.59	26.11	26.11		42.06	42.06	42.06	42.06

Total Tariff (2009-14)

Microwave: Central Portion - Charges

Microwave: State Portion - Charges

Particulars	2009-10	2010-11	2011-12	2012-13 (Pro-Rata)		2009-10	2010-11	2011-12	2012-13 (Pro-Rata)
Annual Capital Recovery Charge - Loan	983.30	1021.27	1038.37	259.59		1684.55	1684.55	1684.55	421.14
Annual Capital Recovery Charge - Equity	188.12	206.57	214.45	53.61		333.57	333.57	333.57	83.39
Annual Capital Recovery Charge - Total	1171.42	1227.84	1252.82	313.20		2018.12	2018.12	2018.12	504.53
O&M Expenses	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Interest on Working Capital⁴	24.41	25.59	26.11	6.53		42.06	42.06	42.06	10.52
Total Tariff	1195.84	1253.43	1278.93	319.73		2060.19	2060.19	2060.19	515.05

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

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

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	4735.95						13011.77					
Gross Notional Loan (1)	4132.48						11303.74					
Gross Equity (2)	603.47						1708.03					
O/S Capital Cost	4006.68	44.76	85.67	9.76			11032.82					
O/S Notional Loan	3452.90	31.33	59.97	6.83			9462.09					
O/S Equity	553.78	13.43	25.70	2.93			1570.73					
Years	11.41667	10.41667	9.41667	8.41667			11.41667					
Months	137.0000	125.0000	113.0000	101.0000			137.00					
Weighted Average Rate of Interest p.a. (A)	4.2503%	4.2503%	4.2503%	4.2503%			4.2503%					
Weighted Average Rate of Interest p.m. $\{(i)=(A)/12\}$	0.3542%	0.3542%	0.3542%	0.3542%			0.3542%					
Monthly Recovery Factors –Loan (B) $\frac{ix}{(1+i)^n}$	0.009226	0.00992	0.01075	0.01179			0.009226					
Monthly Capital Recovery Charge – Loan $\{(c)=(i)X(B)\}$	31.85	0.31	0.64	0.08			87.29					
Annual Capital Recovery Charge - Loan $\{(D)=(C)*12\}$	382.26	3.73	7.74	0.97			1047.51					
Rate of Return on Equity p.a. (E)	15.500%	15.500%	15.500%	15.500%			15.500%					
Rate of Return on Equity p.m. $\{(i)=(E)/12\}$	1.292%	1.292%	1.292%	1.292%			1.292%					
Monthly Recovery Factors –Equity (F)	0.015606	0.016167	0.016874	0.017781			0.015606					
Monthly Capital Recovery Charge – Equity $\{(G)=(F)*12\}$	8.64	0.22	0.43	0.05			24.51					
Annual Capital Recovery Charge – Equity $\{(H)=(G)*12\}$	103.71	2.61	5.20	0.62			294.16					
Monthly Capital Recovery Charge - Total $\{(I)=(C)+(G)\}$	40.50	0.53	1.08	0.13			111.81					
Annual Capital Recovery Charge - Total $\{(J)=(D)+(H)\}$	485.97	485.97	492.30	505.24	506.84	506.84	1341.68	1341.68	1341.68	1341.68	1341.68	1341.68
O&M Expenses		451.70	465.16	708.07	811.19	827.20		0.00	0.00	0.00	0.00	0.00
Interest on Working capital		32.72	33.53	45.95	51.14	51.94		27.96	27.96	27.96	27.96	27.96
Total Fee and Charges		970.39	990.99	1259.26	1369.17	1385.98		1369.64	1369.64	1369.64	1369.64	1369.64

Interest on Working Capital

Particular	2009-10	2010-11	2011-12	2012-13	2013-14		2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares (As per Engineering Division Input dated 30.09.2013)	67.76	69.77	106.21	121.68	124.08		0.00	0.00	0.00	0.00	0.00
O&M Expenses (1 Month)	37.64	38.76	59.01	67.60	68.93		0.00	0.00	0.00	0.00	0.00
Receivables	161.73	165.16	209.88	228.19	231.00		228.27	228.27	228.27	228.27	228.27
Total	267.13	273.70	375.09	417.47	424.01		228.27	228.27	228.27	228.27	228.27
Rate of Interest on Working Capital	12.25%	12.25%	12.25%	12.25%	12.25%		12.25%	12.25%	12.25%	12.25%	12.25%
Interest on Working Capital	32.72	33.53	45.95	51.14	51.94		27.96	27.96	27.96	27.96	27.96

Total Tariff (2009-14)

Non-Microwave: Central Portion - Charges

Non-Microwave: State Portion - Charges

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14		2009-10	2010-11	2011-12	2012-13	2013-14
Annual Capital Recovery Charge - Loan	382.26	385.99	393.73	394.69	394.69		1047.51	1047.51	1047.51	1047.51	1047.51
Annual Capital Recovery Charge - Equity	103.71	106.31	111.52	112.14	112.14		294.16	294.16	294.16	294.16	294.16
Annual Capital Recovery Charge - Total	485.97	492.30	505.24	506.84	506.84		1341.68	1341.68	1341.68	1341.68	1341.68
O&M Expenses	451.70	465.16	708.07	811.19	827.20		0.00	0.00	0.00	0.00	0.00
Interest on Working Capital¹	32.72	33.53	45.95	51.14	51.94		27.96	27.96	27.96	27.96	27.96
Total Tariff	970.39	990.99	1259.26	1369.17	1385.98		1369.64	1369.64	1369.64	1369.64	1369.64