

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 57/TT/2014

Coram:

**Shri Gireesh B. Pradhan, Chairperson
Shri A.K. Singhal, Member
Shri A.S. Bakshi, Member
Dr. M.K. Iyer, Member**

Date of Order : 15.09.2016

In the matter of:

Miscellaneous petition for approval under sub-section (4) of Section 28 and Section 79(1)(d) of the Electricity Act, 2003 for determination of Fees and Charges of Fibre Optic Communication System in lieu of existing Unified Load Despatch and Communication (ULDC) Microwave links for the period 2009-14 block in Eastern Region.

And in the matter of:

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

.....Petitioner

Vs

1. NTPC Limited,
NTPC Bhawan, Core-7, Scope Complex,
7, Institutional Area, Lodhi Road,
New Delhi-110 003
2. National Hydro Power Corporation Limited,
NHPC Office Complex, Institutional Area,
Lodhi Road, New Delhi-110 003
3. Orissa hydro Power Corporation Limited,
Burla Power House,
Dist. Sambalpur, Burla-768 017
4. Mejia Thermal Power Station
DVC, P.O. MTPS,
District Bankura-722 183



5. West Bengal State Electricity Distribution Co. Limited,
Bidyut Bhawan, 8th Floor (A Block),
Block DJ, Salt Lake City,
Kolkata-700 091
6. Bihar State Electricity Board,
Vidyut Bhawan, Bailey Road,
Patna-800 001
7. Gird Corporation of Orissa Limited,
Vidyut Bhawan, Janpath,
Bhubaneshwar-751 007
8. Power Department,
Govt. of Sikkim,
Gangtok-727 102
9. Jharkhand State Electricity Board,
Engineering Building, HEC Township,
Dhurwa, Ranchi-834 004
10. Damodar Valley Corporation
DVC Tower, VIP Road,
Calcutta-700 054
11. Powerlinks Transmission Limited,
Vidyut Nagar, P.O. Satellite Township,
Siliguri-734 015

....Respondents

For petitioner : Shri S.K. Venkatesan, PGCIL
Shri S.S Raju, PGCIL
Shri M.M. Mondal, PGCIL
Shri Rakesh Prasad, PGCIL
Shri Jasbir Singh, PGCIL
Shri Anshul Garg, PGCIL

For respondents : Shri S.S. Bhoi, OHPC

ORDER

The petition has been filed by Power Grid Corporation of India Limited (PGCIL) under sub-section (4) of Section 28 and Section 79(1)(d) of Electricity



Act, 2003 (Act) for determination of fees and charges for Fibre Optic Communication system in lieu of existing Unified Load Despatch and Communication (ULDC) Microwave links in Eastern Region for the 2009-14 period.

2. The details of the assets covered in the instant petition are as under:-

Details of the Asset	COD		Delay
	Scheduled	Actual	
Asset-I: 17 OPGW links (approximately 759 km)	14.8.2013	1.10.2012	-
Asset-II: 9 OPGW links (approximately 490 km)	(say	1.4.2013	-
Asset-III: 10 OPGW links (approximately 440 km)	1.9.2013)	1.11.2013	2 months

3. This order has been issued after considering the petitioner's affidavit dated 30.5.2014 and 10.6.2016.

4. The investment approval for the Fibre Optic Communication system in lieu of existing Unified Load Despatch and Communication (ULDC) Microwave links in Eastern Region was accorded by the Board of Directors of PGCIL vide letter no. C/CP/Fibre Optic in ER dated 15.2.2011 at an estimated cost of ₹5743 lakh including IDC of ₹331 lakh (based on 3rd Quarter, 2010 price level). The scheduled completion time of the project was 30 months from the date of investment approval i.e. 14.8.2013 say 1.9.2013.

5. The broad scope of work covered under the project is as hereinafter:-

(a) Installation of OPGW fibre optic cable on the existing EHV transmission line of POWERGRID and constituents, the estimated length of such cable is approximately 2325 km;



(b) Installation of approximately 34 km underground fibre optic to provide last mile connectivity to the control room where transmission line connectivity is not available. It is also envisaged that portion of the network which involves installation of the underground cable would be provided with radio based communication which operates in free band to back up the underground cable link of the network. Four number of radio links are proposed;

(c) The terminal equipment for communication based upon synchronous digital hierarchy (SDH) technology shall be installed in the sub-stations of constituents and POWERGRID. The project would also involve installation of primary multiplexers at the new wide band nodes; To monitor the Network, Network Management System (NMS) would also be required.

Brief background

6. As per the directives of Government of India vide order dated 4.7.2008, Power System Operation Corporation Ltd. (POSOCO), a wholly owned subsidiary of Power Grid Corporation of India Limited was created and POSOCO is responsible for system operation of National Load Despatch Centre (NLDC) and Regional Load Despatch Centres (RLDCs). Pursuant to Satnam Singh Committee's report, the assets pertaining to system operations have been transferred to POSOCO for which separate tariff orders had been issued by the Commission.

7. Government of India had also constituted a Task Force to look into the financial aspects for augmentation and up-gradation of the State Load Despatch Centres and issues related to emoluments for the personnel engaged in the system operation. The Task Force made certain recommendations with regard



to the ownership of the assets. The petitioner constituted committees at the regional level, subsequent to the Task Force's report, to identify the assets to be transferred to POSOCO. The recommendations of the committees for asset transfer were as follows:-

(A) Assets to be transferred to POSOCO:

- (i) EMS/SCADA system (computer system, hardware and software)
- (ii) Auxiliary power supply system comprising of uninterrupted power supply, diesel generating set etc.
- (iii) Building and civil works.

(B) Assets which will remain with petitioner:

I. Central Portion:

- (i) Fibre Optic Cables (overhead and underground)
- (ii) Fibre Optic Communication Equipment
- (iii) Digital Microwave Communication System (Tower, Antenna, Equipment etc.)
- (iv) PABX
- (v) Power Line Carrier Communication System;
- (vi) Auxiliary power supply system.

II. State Portion: Entire state portion which consists of the following equipment will remain with the petitioner:

- (i) EMS/SCADA system
- (ii) Fibre Optic System
- (iii) Digital Microwave Communication System (Tower, Antenna, Equipment etc.)
- (iv) PABX
- (v) Power Line Carrier Communication System
- (vi) Auxiliary power supply system (part)

8. Thereafter, the petitioner filed a Miscellaneous Petition No. 68/2010 under sub-section (4) of Section 28 of the Act and Regulation 44 "Power to Relax" of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2009 for fixation of tariff norms for recovery of cost for the assets ("Communication system" and "Sub-Load Dispatch Centre system") to



be retained/to be installed by the petitioner after formation of POSOCO for the period 2009-14 block.

9. The Commission in Petition No. 68/2010 vide order dated 8.12.2011, had observed as under:-

“9.....Since the communication system and SLDC system form part of the assets of the CTU, there is a requirement to specify regulations for determination of tariff of these assets. We direct the staff of the Commission to undertake the exercise separately and include these assets of CTU in the tariff regulations applicable for the next tariff period i.e.2014-19. As regards the tariff of these assets for the period 2009-14, we are not inclined to determine the tariff of these assets by exercising our power to relaxation under Regulation 44 of the 2009 regulations since there is no provision for determination of tariff for the assets covered under the communication system and ULDC system. We are of the view that the tariff of these assets shall be determined under our general power of determination of tariff for inter-State transmission system under section 79(1)(d) of the Act.....”

“.....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.”

“21. We have considered the submission of the petitioner and the respondents. We are of the view that replacement of microwave links with fibre optic links should be implemented as agreed by the beneficiaries to ensure safe and reliable operation of the power system. Moreover, the petitioner has submitted that surrender of the microwave frequencies would save substantial cost and the fibre optic system would be beneficial in the long run as the fibre optic communication network is required for implementation of new technologies like Wide Area Measurement System (WAMS), Special Protection Schemes (SPS) etc. in view of fast development and complexity of the power system in the country. As regards the regulatory approval, we are of the view that since the project has been agreed to be implemented by the constituents of each of the regions, regulatory approval is not considered necessary. The petitioner is granted liberty to approach the Commission for determination of tariff for the fibre optic network being installed in lieu of microwave links for each of the region separately. As regards the submission of UPPTCL, it is clarified that if the state portion is not being implemented by it separately as proposed earlier, the same shall be



implemented by the petitioner and UPPTCL would be required to share the tariff in proportion to the assets being utilised by it. It is however made clear that the timeline for replacement of the digital microwave by optical fibre should be strictly complied with.”

10. As held in order dated 8.12.2011 in Petition No.68/2010, we would like to continue with the levelised tariff for the existing assets in the absence of any provision in the 2009 Tariff Regulations regarding determination of tariff of communication system and ULDC system of the petitioner. Accordingly, the annual fee and charges of the optic fibre need to be determined as per the principles approved by the Commission vide order dated 8.12.2011 in Petition No 68/2010.

11. Odisha Hydro Power Corporation Limited (OHPCL), Respondent No. 3 has filed reply vide letter dated 8.3.2016. OHPCL has submitted that its Burla Power House is not a user of ERLDC system as it has been deleted from the list of ERLDC. This has been confirmed by POSOCO vide its letter reference ERLDC/Commercial/F&C/2012/636-654 dated 1.5.2012 and it should not be made a respondent by the petitioner. The petitioner has not filed a rejoinder to the reply of the respondent.

12. Having heard the representatives of the parties and perused the material on record, we proceed to dispose of the petition.

13. The annual fees and charges claimed by the petitioner based on the actual date of commercial operation are as follows:-



(₹ in lakh)

Particulars	Asset-I		Asset-II	Asset-III
	Central Portion			
	2012-13	2013-14	2013-14	2013-14
Annual Capital Recovery Charges-Total	2.29	7.82	8.50	21.70
Interest on working capital	0.11	0.29	0.33	1.01
O & M Expenses	0.99	2.10	2.61	10.05
Total	3.39	10.21	11.44	32.76
Particulars	Asset-I		Asset-II	Asset-III
	State Portion			
	2012-13	2013-14	2013-14	2013-14
Annual Capital Recovery Charges-Total	38.98	156.62	87.22	18.90
Interest on working capital	0.90	3.60	1.96	0.43
O & M Expenses	-	-	-	-
Total	39.88	160.22	89.18	19.33

Capital Cost:

14. The petitioner has submitted Auditors' Certificates dated 9.12.2013 in support of capital cost claimed for the instant assets. The details of actual expenditure incurred as on the date of commercial operation (COD) and additional capital expenses incurred for the period from the COD to 31.3.2014, and 2014-15 in respect of Asset-I, Asset-II and Asset-III are as under:-

(₹ in lakh)

Particulars	Asset-I: 17 Nos. Optic Fibre (COD: 1.10.2012)		Asset-II: 9 Nos. Optic Fibre (COD: 1.4.2013)		Asset-III: 10 Nos. Optic Fibre (COD: 1.11.2013)	
	Central Portion	State Portion	Central Portion	State Portion	Central Portion	State Portion
	Apportioned approved cost	2094.63		1292.84		1054.57
Expenditure upto COD	26.47	423.32	34.81	391.20	321.75	259.48
Add Cap during 2012-13	11.12	244.72	-	-	-	-
Add Cap during 2013-14	32.32	807.37	47.43	421.82	93.82	132.00
Add Cap during 2014-15	25.00	468.31	30.01	222.58	115.00	96.92
Sub-Total	94.91	1943.72	112.25	1035.60	530.57	488.40
Total	2038.63		1147.85		1018.97	

As per auditors' certificates, expenditure upto 31.3.2013 is based on audited statements of account of the petitioner.

Cost Over-Run

15. The total approved apportioned cost of Asset-I, Asset-II and Asset-III is ₹2094.63 lakh, ₹1292.84 lakh and ₹1054.57 lakh respectively against which the



estimated completion cost is ₹2038.63 lakh, ₹1147.85 lakh and ₹1018.97 lakh respectively. Therefore, there is no cost over-run in case of instant assets.

Time Over-run

16. As per investment approval, the project was scheduled to be commissioned within 30 months from the date of investment approval (i.e. 15.2.2011). Accordingly, the schedule of completion works out to 14.8.2013 (say September 2013). Asset-I and Asset-II have been put under commercial operation on 1.10.2012 and 1.4.2013 respectively. Therefore, there is no time over-run in commissioning of Asset-I and Asset-II. However, Asset-III has been put under commercial operation on 1.11.2013 i.e. with a delay of two months.

17. The petitioner in the instant petition, has submitted the main reasons for the delay of 2 months in execution of part of project and submitted that the delay be condoned, the reasons are as under:-

“It may be mentioned the OPGW installation is a specialized nature of job and is generally done under live line conditions. POWERGRID has taken up huge volume of work for connecting POWERGRID sub-stations. Simultaneously, POWERGRID has also taken up OPGW work for state utilities on their request due to greater stress on reliable communication requirement for grid operation. The live line installation of OPGW requires trained manpower and specialized T&P. Due to availability of limited no. of trained gangs for live line installation of OPGW, the installation process is not commensurate with the volume of work. Further, to take up live line installation, permission from RLDC/SLDC is required who are responsible for grid operation. The SLDCs and RLDCs provide permission for live line installation considering the power flow situation. Considering these aspects there are restrictions on taking up live line work on parallel lines and adjacent lines simultaneously. The progress of the live line work is also affected due to rain and fog. Efforts are being made to expedite the work and in the last few months the no. of gangs have increased several times with corresponding increase in OPGW installation.”

18. We have considered the submissions of the petitioner regarding time over-run. As submitted by the petitioner, the time over run is mainly due to



availability of limited number of trained gangs for live line installation and obtaining permission from SLDC and RLDC for live line installation as well as also restrictions on taking up live line work on parallel lines and adjacent lines simultaneously. The progress of the live line work was also affected due to rain and fog. We had made it specifically clear in our order dated 8.12.2011 in Petition No. 68/2010 that the timeline for replacement of the digital microwave by optical fibre should be strictly complied with. The relevant extract of the said order is as below:-

21."We have considered the submission of the petitioner and the respondents. We are of the view that replacement of microwave links with fibre optic links should be implemented as agreed by the beneficiaries to ensure safe and reliable operation of the power system. Moreover, the petitioner has submitted that surrender of the microwave frequencies would save substantial cost and the fibre optic system would be beneficial in the long run as the fibre optic communication network is required for implementation of new technologies like Wide Area Measurement System (WAMS), Special Protection Schemes (SPS) etc. in view of fast development and complexity of the power system in the country. As regards the regulatory approval, we are of the view that since the project has been agreed to be implemented by the constituents of each of the regions, regulatory approval is not considered necessary. The petitioner is granted liberty to approach the Commission for determination of tariff for the fibre optic network being installed in lieu of microwave links for each of the region separately. As regards the submission of UPPTCL, it is clarified that if the state portion is not being implemented by it separately as proposed earlier, the same shall be implemented by the petitioner and UPPTCL would be required to share the tariff in proportion to the assets being utilised by it. It is however made clear that the timeline for replacement of the digital microwave by optical fibre should be strictly complied with."

Therefore, in view of the above, we are not inclined to condone the time over run of two months in commissioning of Asset-III.

Treatment of IDC and IEDC

19. The petitioner has claimed Interest During Construction (IDC) of ₹8.15 lakh, ₹5.03 lakh and ₹34.78 lakh for Asset-I, Asset-II and Asset-III respectively. However, the petitioner has not submitted any detailed working of IDC calculations as well as details of IDC paid after COD for the instant assets.



Therefore, IDC has been worked out based on the loans deployed for instant assets, in respect of Asset-I as submitted by the petitioner vide affidavit dated 30.6.2014 and in case of Asset-II and Asset-III on the basis of original petition, on cash basis, assuming that the petitioner has not made any default in the payment of interest. Further, the amount of IDC, in case of Asset-III for the delay period of two months has not been allowed as we have not condoned the time over-run of two months. Thus, IDC on cash basis up to the actual COD i.e. 1.10.2012, in case of Asset-I works out to NIL amount. Similarly, in case of Asset-II, IDC on cash basis upto actual COD i.e. 1.4.2013 works out to ₹5.55 lakh and in case of Asset-III, IDC on cash basis upto scheduled COD i.e. 1.9.2013 works out to ₹34.86 lakh against the claim of ₹34.78 lakh, which has been considered for the purpose of tariff in this order.

20. Thus, there is no need for adjustment of IDC in the capital cost, in respect of Asset-II and Asset-III. However, in case of Asset-I, the amount of IDC accrued as on COD and to be discharged after COD has not been considered in the capital cost. The undischarged liability pertaining to IDC would be considered upon its payment subject to submission of adequate and detailed information and prudence check at the time of truing-up.

21. Similarly, the petitioner has claimed Incidental Expenditure during Construction (IEDC) in respect of instant assets. The petitioner has not submitted any detailed working for IEDC. The petitioners' claim is within the percentage of 10.75% on Hard Cost as indicated in the Abstract Cost Estimate, in case of Asset-I and Asset-II. In case of Asset-III, IEDC claimed is slightly higher than the percentage on hard cost by 0.48% as indicated in the Abstract



Cost Estimate. However, after disallowance of IEDC for the period of time over-run, IEDC falls within the percentage on Hard Cost as indicated in the Abstract Cost Estimate. Thus IEDC as claimed by the petitioner is allowed and the same is considered for the purpose of tariff in this order. The details of IEDC claimed, disallowed due to time over-run and allowed are as under:-

(₹ in lakh)

Particulars	Asset-I		Asset-II		Asset-III	
	Central portion	State portion	Central portion	State portion	Central portion	State portion
IEDC Claimed	6.44	20.06	2.66	29.93	30.55	24.63
IEDC Disallowed due to Time Overrun	-	-	-	-	1.91	1.54
IEDC Allowed	6.44	20.06	2.66	29.93	28.64	23.09

22. The petitioner is directed to submit the year wise details of actual IEDC paid till COD of instant assets, at the time of truing-up.

Capital Cost for the purpose of annual fee and charges

23. The details of Capital Cost as on COD considered for the purpose of annual fees and charges in the instant petition, after allowing IDC/IEDC for Asset-I, Asset-II and Asset-III are as under:-

(₹ in lakh)

Particulars	Asset-I		Asset-II		Asset-III	
	Central portion	State portion	Central portion	State portion	Central portion	State portion
(1) Expenditure upto COD inclusive of IDC and IEDC claimed	26.47	423.32	34.81	391.20	321.75	259.48
(2) IDC disallowed due to undischarged liability and/or time over-run	1.98	6.17	-	-	-	-
(3) IEDC disallowed due to time over-run	-	-	-	-	1.91	1.54
(4) Capital cost as on COD allowed {1-(2+3)}	24.49	417.15	34.81	391.20	319.84	257.94



Projected Additional Capital Expenditure

24. The petitioner has submitted Auditors' Certificate dated 9.2.2013 in support of its claim for additional capital expenditure incurred for 2012-13 and 2013-14, as discussed at para-14. The additional capital expenditure incurred/projected to be incurred for 2012-13 and 2013-14 is for balance and retention payments and is allowed and considered for tariff calculations. Additional capital expenditure incurred/to be incurred for 2014-15 is beyond the tariff period 2009-14 and as such the same shall be considered in tariff period 2014-19. However, IDC discharged post COD shall be considered as add-cap on submission of reconciled IDC figures by the petitioner alongwith add-cap during 2013-14 as a part of capital cost during 2014-15.

Debt-Equity Ratio

25. The details of debt-equity ratio of the instant assets as on COD and as on 31.3.2014 are as follows:-

(₹ in lakh)

Particulars	As on COD						
	Asset-I		Asset-II		Asset-III		% age
	Central Portion	State Portion	Central Portion	State Portion	Central Portion	State Portion	
Loan/Debt	17.14	292.01	24.37	273.84	223.89	180.56	70.00
Equity	7.35	125.15	10.44	117.36	95.95	77.38	30.00
Total	24.49	417.15	34.81	391.20	319.84	257.94	100.00
Particulars	As on 31.3.2014						
	Asset-I		Asset-II		Asset-III		% age
	Central Portion	State Portion	Central Portion	State Portion	Central Portion	State Portion	
Loan/Debt	47.55	1028.47	57.57	569.11	289.56	272.96	70.00
Equity	20.38	440.77	24.67	243.91	124.10	116.98	30.00
Total	67.93	1469.24	82.24	813.02	413.66	389.94	100.00

Rates for Recovery of loan and equity

26. The Capital Recovery Factor for Loan and Equity in respect of instant assets have been calculated by applying weighted average rate of interest and



Return on Equity using a recovery factor for loan and equity for 15 years (i.e. 180 months) and weighted average interest on loan works out to be 9.2762% 9.0582% and 9.5248% for Asset-I, Asset-II and Asset-III respectively for both Central portion and State portion in the instant petition. The Capital Recovery Factor for equity has been considered on post-tax return on equity of 15.50%. The details of weighted average rate of interest on loan are attached at Annexure-4, Annexure-5 and Annexure-6 of this order. Thus, the rates considered on annual basis, have been converted to monthly rates and are as under:-

CRF as on COD to be considered for Fees & Charges						
Particulars	Asset-I		Asset-II		Asset-III	
	Central Portion	State Portion	Central Portion	State Portion	Central Portion	State Portion
Loan	0.010308	0.010308	0.010177	0.010177	0.010457	0.010457
Equity	0.014340	0.014340	0.014340	0.014340	0.014340	0.014340
Total	0.024648	0.024648	0.024517	0.024517	0.024797	0.024797

27. Accordingly, the amount of monthly capital recovery charges as on COD for both Central portion and State Portion for Asset-I, Asset-II and Asset-III have been considered by calculating the capital recovery charges for loan and equity using respective Capital Recovery Factors and are as below:-

(₹ in lakh)

Particulars	Asset-I		Asset-II		Asset-III	
	Central Portion	State Portion	Central Portion	State Portion	Central Portion	State Portion
Loan	0.18	3.01	0.25	2.79	2.34	1.89
Equity	0.11	1.79	0.15	1.68	1.38	1.11
Total	0.28	4.80	0.40	4.47	3.72	3.00

28. The petitioner has prayed to be allowed to bill and adjust impact of Interest on loan due to change in interest rate on account of floating rate of interest applicable, if any, during the tariff period from the respondents. The



interest on loan has been calculated on the basis of prevailing rate of actual loan applicable as on COD. Any change in rate of interest subsequent to the date of commercial operation will be considered at the time of truing up.

29. The petitioner has further submitted that capital recovery on account of equity has been claimed @17.481% based on the rate notified and is based on the MAT rate of 11.33% being applicable for 2008-09 and it be allowed to recover the shortfall or refund the excess AFC, on account of RoE due to change in applicable MAT/Corporate Income Tax rate directly without making any application, from the beneficiaries.

30. The Commission in its order dated 18.3.2011 in Petition No. 28/2010 approved the fees and charges for the period upto 31.3.2009 by considering 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, fees 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 filed a miscellaneous 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 or to be installed by the petitioner after formation of POSOCO for the tariff period 2009-14. It was decided, vide order dated 8.12.2011 in Petition No. 68/2010, to continue with the levelised tariff for the existing assets in the absence of any provision in the 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.

31. The Commission in its order dated 16.5.2016 in Petition No. 427/TT/2014 directed the Staff of the Commission to examine the issue for review of the Capital Recovery factor methodology for determining the fees and charges for communication systems. After submission of the report by the Staff, the Commission will take a view and issue appropriate directions. Accordingly, the fees and charges for communication systems are allowed in this petition subject to the decision of the Commission with regard to the Capital Recovery Factor. Any consequential changes in the fees and charges will be issued through a



separate order. The above directions shall be applicable in case of all similar petitions regarding communication systems.

Operation & Maintenance Expenses (O&M Expenses)

32. The petitioner vide affidavit dated 10.5.2016 has claimed actual O&M Expenses of ₹14.32 lakh in case of Asset-I for 2012-13 and amounting to ₹31.48 lakh, ₹17.45 lakh and ₹6.11 lakh in case of Asset-I, Asset-II and Asset-II respectively for 2013-14. The petitioner has submitted that the claim of the O&M Expenses for central portion for 2012-13 have been considered @ 7.5% of the capital cost. Further, the O&M expenses for 2013-14 have been escalated @ 5.72% which will be subject to actual expenditure at the time of truing-up. This seems to be as per the norms which had been arrived at on the basis of normalized actual O&M Expenses during the period 2003-04 to 2007-08 and by escalating it by 5.72% per annum for arriving at norms for the tariff period 2009-14. However, the petitioner has not claimed O&M Expenditure for state portion as the same is undertaken by the respective State.

33. The following O&M Expenses claimed by the petitioner for 2012-13 and 2013-14 in respect of Asset-I, Asset-II and Asset-III for Central Sectors is allowed and considered for the purpose of computation of tariff.

(₹ in lakh)

Actual O&M Expenses	Asset-I: (COD 1.10.2012)	Asset-II: (COD 1.4.2013)	Asset-III (COD 1.11.2013)
2012-13	14.32 (6 months)	-	-
2013-14	31.48	17.45	6.11 (5 months)



34. The petitioner has further submitted that the claim for fees and charges is exclusive of incentive, late payment surcharge, FERV, any statutory taxes, levies, duties, cess, filing fees, license fee or any other kind of impositions etc. Such kinds of payments are generally included in the O&M Expenses. We do not see any reason why the actual amount admissible is still inadequate.

35. In this regard, the Commission vide order dated 8.12.2011 in petition no. 68/2010 has already directed as follows:-

“(C) O&M Charges: 27. We have examined the data submitted by the petitioner regarding actual O&M expenses during 2002-03 to 2009-10 for the 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.”

36. In view of the above, O&M expenses are allowable on actual basis. The O&M Expenditure as claimed by the petitioner for Asset-I, Asset-II and Asset-III is allowed subject to actual certified by Auditor with proper details to be submitted by the petitioner at the time of truing-up.

Interest on working capital

37. The petitioner is entitled to claim interest on working capital and in the absence of specific regulation in respect of ULDC petitions, it has been considered as per the 2009 Tariff Regulations. The components of the working capital and the petitioner’s entitlement to interest thereon are discussed hereinafter:-



(i) Receivables

As per Regulation 18(1) (c) (i) of the 2009 Tariff Regulations, receivables as a component of working capital will be equivalent to two months of fixed cost. The petitioner has claimed the receivables on the basis of 2 months of annual fees and charges in the instant petition. In the fees and charges being allowed, receivables have been worked out on the basis of 2 months fees and charges.

(ii) Maintenance Spares

Regulation 18 (1) (c) (ii) of the 2009 Tariff Regulations provides for maintenance spares @ 15% per annum of the O & M Expenses as part of the working capital from 1.4.2009. The value of maintenance spares has accordingly been worked out.

(iii) O & M Expenses

Regulation 18(1) (c) (iii) of the 2009 Tariff Regulations provides for O&M Expenses for one month to be included in the working capital. The petitioner has claimed O&M Expenses for 1 month of the respective year. This has been considered in the working capital in respect of instant assets.

(iv) Rate of Interest on Working Capital

In accordance with clause (3) of Regulation 18 of the 2009 Tariff Regulations, as amended, rate of interest on working capital shall be on normative basis and shall be equal to State Bank of India Base Rate plus 350 basis point. As such, rate of interest on working capital @ 13.50% (Base rate of 10.00% as on 1.4.2012 plus 350 basis points) has been



considered in case of Asset-I and rate of interest on working capital @ 13.20% (Base rate of 9.70% as on 1.4.2013 plus 350 basis points) has been considered in respect of Asset-I and Asset-II. Interest on working capital has been worked out accordingly.

38. Necessary computations in support of interest on working capital are as follows:-

(₹ in lakh)

Particulars	Asset-I		Asset-II	Asset-III
	Central Portion			
	Annualized			
	2012-13	2013-14	2013-14	2013-14
Maintenance Spares	4.30	4.72	2.62	2.20
O & M Expenses	2.39	2.62	1.45	1.22
Receivables	5.61	6.38	3.88	10.18
Total	12.30	13.72	7.95	13.60
Rate of Interest	13.50%	13.50%	13.20%	13.20%
Interest	1.66	1.85	1.05	1.80
Particulars	Asset-I		Asset-II	Asset-III
	State Portion			
	Annualized			
	2012-13	2013-14	2013-14	2013-14
Maintenance Spares	-	-	-	-
O & M Expenses	-	-	-	-
Receivables	9.83	15.67	9.14	6.13
Total	9.83	15.67	9.14	6.13
Rate of Interest	13.50%	13.50%	13.20%	13.20%
Interest	1.33	2.12	1.21	0.81

Annual Fees and charges

39. The detailed calculations of fees and charges being worked out on annualized basis for the instant assets are attached at Annexure-1 to Annexure-3 of this order and are as under:-

(₹ in lakh)

Particulars	Asset-I	Asset-II	Asset-III
	Central portion		
2012-13 (pro-rata)	16.84	-	-



			(pro-rata)
2013-14	38.27	23.27	25.44
Particulars	Asset-I	Asset-II	Asset-III
	State portion		
2012-13 (pro-rata)	29.49	-	-
			(pro-rata)
2013-14	94.04	54.85	15.33

Filing fee and Publication Expenses

40. The petitioner has sought reimbursement of filing fee paid by it. The petitioner has clarified that reimbursement of expenditure has been claimed in terms of Regulation 42 of the 2009 Tariff Regulations. The petitioner shall recover the filing fee in connection with the present petition, directly from the beneficiaries on pro-rata basis.

Licence Fee

41. The petitioner has submitted that the license fee has been a new component of cost to the transmission license 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 42A of the 2009 Tariff Regulations.

Service tax

42. The petitioner has made a prayer to be allowed to bill and recover the service tax on fee and 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.



Sharing of Annual Fees and Charges

43. OHPCL has submitted that its Burla Power House is not a user of ERLDC system as it has been deleted from the list of ERLDC. The same has been confirmed by POSOCO vide letter dated 1.5.2012. Accordingly, OHPCL is not liable to bear any fee and charges in the case of instant assets.

44. The fees and charges for Fiber Optic Communication system covered under Central Sector portion shall be shared on similar lines as system operation charges by the users in the ratio of 45:45:10 as per Regulation 22 (1) of Fees and charges of Regional Load Despatch Centre and other related matters Regulations, 2009 as under:-

Distribution licensees and buyers : 45% of system operation charges;

Generating stations and sellers : 45% of system operation charges;

Inter-state Transmission licensees : 10% of system operation charges"

45. The fees & charges for State portion shall be recovered from respective states. Further, as specified under Regulation 5 of Central Electricity Regulatory Commission (sharing of revenue derived from utilization of transmission assets for other business) Regulations, 2007, the revenue earned by the petitioner from utilisation of these assets for other business shall be adjusted on monthly basis in the bills of the respective month in the proportion given in para 44 above.

46. This order disposes of Petition No. 57/TT/2014.

sd/-

(M.K. Iyer)
Member

sd/-

(A.S. Bakshi)
Member

sd/-

(A.K. Singhal)
Member

sd/-

(Gireesh B. Pradhan)
Chairperson



Annexure-1

(₹ in lakh)

Particulars	Central Portion-Charges (2009-14)			State Portion-Charges (2009-14)		
	On Capital expenditure upto COD (1.10.2012)	2012-13	2013-14	On Capital expenditure upto COD (1.10.2012)	2012-13	2013-14
Gross Capital Cost	24.49	11.12	32.32	417.15	244.72	807.37
Gross Notional Loan	17.14	7.78	22.62	292.01	171.30	565.16
Gross Equity	7.35	3.34	9.70	125.15	73.42	242.21
	24.49	11.12	32.32	417.15	244.72	807.37
Years	15.00000	14.50000	13.50000	15.00000	14.50000	13.50000
Months	180.00	174.00	162.00	180.00	174.00	162.00
Weighted Average Rate of Interest p.a.	9.2762%	9.2762%	9.2762%	9.2762%	9.2762%	9.2762%
Weighted Average Rate of Interest p.m.	0.7730%	0.7730%	0.7730%	0.7730%	0.7730%	0.7730%
Monthly Recovery Factors-Loan	0.010308	0.010473	0.010845	0.010308	0.010473	0.010845
Monthly Capital Recovery Charge-Loan	0.18	0.08	0.25	3.01	1.79	6.13
Annual Capital Recovery Charge-Loan	2.12	0.98	2.94	36.12	21.53	73.55
Rate of Return on Equity p.a.	15.50%	15.50%	15.50%	15.50%	15.50%	15.50%
Rate of Return on Equity p.m.	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%
Monthly Recovery Factors-Equity	0.014340	0.014468	0.014763	0.014340	0.014468	0.014763
Monthly Capital Recovery Charge-Equity	0.11	0.05	0.14	1.79	1.06	3.58
Annual Capital Recovery Charge-Equity	1.26	0.58	1.72	21.53	12.75	42.91
Monthly Capital Recovery Charge-Total	0.28	0.13	0.39	4.80	2.86	9.70
Annual Capital Recovery Charge-Total	3.38	1.56	4.66	57.65	34.27	116.46
Total Fee & Charges (Annualized):						
Particulars		2012-13	2013-14		2012-13	2013-14
Annual Capital Recovery Charge - Loan		2.12	3.10		36.12	57.65
Annual Capital Recovery Charge-Equity		1.26	1.84		21.53	34.28
Annual Capital Recovery Charge-Total		3.38	4.94		57.65	91.93
O&M Expenses		28.64	31.48		0.00	0.00



Interest on Working Capital		1.66	1.85		1.33	2.12
Total Fee & Charges (Annualized)		33.68	38.27		58.98	94.04
Interest on Working Capital (Annualized)						
Particulars		2012-13	2013-14		2012-13	2013-14
Maintenance Spares		4.30	4.72		0.00	0.00
O&M Expenses (1 Month)		2.39	2.62		0.00	0.00
Receivables		5.61	6.38		9.83	15.67
Total		12.30	13.72		9.83	15.67
Rate of Interest on Working Capital		13.50%	13.50%		13.50%	13.50%
Total Interest on Working Capital (Annualized)		1.66	1.85		1.33	2.12
Allowable Fee & Charges (2009-14)						
Particulars		2012-13 (Pro-rata)	2013-14		2012-13 (Pro-rata)	2013-14
Annual Capital Recovery Charge-Loan		1.06	3.10		18.06	57.65
Annual Capital Recovery Charge-Equity		0.63	1.84		10.77	34.28
Annual Capital Recovery Charge-Total		1.69	4.94		28.83	91.93
O&M Expenses		14.32	31.48		0.00	0.00
Interest on Working Capital		0.83	1.85		0.66	2.12
Total Allowable Fee & Charges (2009-14)		16.84	38.27		29.49	94.04
Note: Additional Capitalisation after date of commercial operation shall be considered in the next period (As per prevailing practice in respect of ULDC petitions).						



Annexure-2

(₹ in lakh)

Particulars	Central Portion-Charges (2009-14)		State Portion-Charges (2009-14)	
	On Capital expenditure upto COD (1.4.2013)	2013-14	On Capital expenditure upto COD (1.4.2013)	2013-14
Gross Capital Cost	34.81	47.43	391.20	421.82
Gross Notional Loan	24.37	33.20	273.84	295.27
Gross Equity	10.44	14.23	117.36	126.55
	34.81	47.43	391.20	421.82
Years	15.00000	14.00000	15.00000	14.00000
Months	180.00	168.00	180.00	168.00
Weighted Average Rate of Interest p.a.	9.0582%	9.0582%	9.0582%	9.0582%
Weighted Average Rate of Interest p.m.	0.7549%	0.7549%	0.7549%	0.7549%
Monthly Recovery Factors- Loan	0.010177	0.010523	0.010177	0.010523
Monthly Capital Recovery Charge- Loan	0.25	0.35	2.79	3.11
Annual Capital Recovery Charge- Loan	2.98	4.19	33.44	37.29
Rate of Return on Equity p.a.	15.50%	15.50%	15.50%	15.50%
Rate of Return on Equity p.m.	1.29%	1.29%	1.29%	1.29%
Monthly Recovery Factors - Equity	0.014340	0.014608	0.014340	0.014608
Monthly Capital Recovery Charge- Equity	0.15	0.21	1.68	1.85
Annual Capital Recovery Charge- Equity	1.80	2.49	20.20	22.18
Monthly Capital Recovery Charge- Total	0.40	0.56	4.47	4.96
Annual Capital Recovery Charge- Total	4.77	6.69	53.64	59.47
Total Fee & Charges (Annualized):				
Particulars		2013-14		2013-14
Annual Capital Recovery Charge-Loan		2.98		33.44
Annual Capital Recovery Charge-Equity		1.80		20.20
Annual Capital Recovery Charge- Total		4.77		53.64
O&M Expenses		17.45		0.00
Interest on Working Capital		1.05		1.21
Total Fee & Charges (Annualized)		23.27		54.85
Interest on Working Capital (Annualized)				
Particulars		2013-14		2013-14
Maintenance Spares		2.62		0.00
O&M Expenses (1 Month)		1.45		0.00
Receivables		3.88		9.14
Total		7.95		9.14



Rate of Interest on Working Capital		13.20%		13.20%
Total Interest on Working Capital (Annualized)		1.05		1.21
Allowable Fee & Charges (2009-14)				
Particulars		2013-14		2013-14
Annual Capital Recovery Charge-Loan		2.98		33.44
Annual Capital Recovery Charge-Equity		1.80		20.20
Annual Capital Recovery Charge-Total		4.77		53.64
O&M Expenses		17.45		0.00
Interest on Working Capital		1.05		1.21
Total Allowable Fee & Charges (2009-14)		23.27		54.85
Note: Additional Capitalisation after date of commercial operation shall be considered in the next period (As per prevailing practice in respect of ULDC petitions).				



Annexure-3

(₹ in lakh)

Particulars	Central Portion-Charges (2009-14)		State Portion-Charges (2009-14)	
	On Capital expenditure upto COD (1.11.2013)	2013-14	On Capital expenditure upto COD (1.11.2013)	2013-14
Gross Capital Cost	319.84	93.82	257.94	132.00
Gross Notional Loan	223.89	65.67	180.56	92.40
Gross Equity	95.95	28.15	77.38	39.60
	319.84	93.82	257.94	132.00
Years	15.00000	14.58333	15.00000	14.58333
Months	180.00	175.00	180.00	175.00
Weighted Average Rare of Interest p.a.	9.5248%	9.5248%	9.5248%	9.5248%
Weighted Average Rare of Interest p.m.	0.7937%	0.7937%	0.7937%	0.7937%
Monthly Recovery Factors-Loan	0.010457	0.010593	0.010457	0.010593
Monthly Capital Recovery Charge-Loan	2.34	0.70	1.89	0.98
Annual Capital Recovery Charge-Loan	28.09	8.35	22.66	11.75
Rate of Return on Equity p.a.	15.50%	15.50%	15.50%	15.50%
Rate of Return on Equity p.m.	1.29%	1.29%	1.29%	1.29%
Monthly Recovery Factors-Equity	0.014340	0.014445	0.014340	0.014445
Monthly Capital Recovery Charge-Equity	1.38	0.41	1.11	0.57
Annual Capital Recovery Charge-Equity	16.51	4.88	13.32	6.86
Monthly Capital Recovery Charge -Total	3.72	1.10	3.00	1.55
Annual Capital Recovery Charge-Total	44.61	13.23	35.97	18.61
Total Fee & Charges (Annualized):				
Particulars		2013-14		2013-14
Annual Capital Recovery Charge-Loan		28.09		22.66
Annual Capital Recovery Charge-Equity		16.51		13.32
Annual Capital Recovery Charge-Total		44.61		35.97
O&M Expenses		14.66		0.00
Interest on Working Capital		1.80		0.81
Total Fee & Charges (Annualized)		61.07		36.78
Interest on Working Capital (Annualized)				
Particulars		2013-14		2013-14
Maintenance Spares		2.20		0.00
O&M Expenses (1 Month)		1.22		0.00
Receivables		10.18		6.13
Total		13.60		6.13
Rate of Interest on Working Capital		13.20%		13.20%



Total Interest on Working Capital (Annualized)		1.80		0.81
Allowable Fee & Charges (2009-14)				
Particulars		2013-14 (Pro-rata)		2013-14 (Pro-rata)
Annual Capital Recovery Charge-Loan		11.71		9.44
Annual Capital Recovery Charge-Equity		6.88		5.55
Annual Capital Recovery Charge-Total		18.59		14.99
O&M Expenses		6.11		0.00
Interest on Working Capital		0.75		0.34
Total Allowable Fee & Charges (2009-14)		25.44		15.33
Note: Additional Capitalisation after date of commercial operation shall be considered in the next period (As per prevailing practice in respect of ULDC petitions).				



Annexure-4

(₹ in lakh)

Wt. Average Rate of Interest on COD (for 2009-14)				
Loan	Amount of Loan as on COD	Rate of interest as on COD	Interest	Weighted Average Rate of Interest
Bond XXXVIII	150.00	9.25%	13.88	
Bond XL	164.85	9.30%	15.33	
Total Loan	314.85		29.21	9.2762%



Annexure-5

(₹ in lakh)

Wt. Average Rate of Interest on COD (for 2009-14)				
Loan	Amount of Loan as on COD	Rate of interest as on COD	Interest	Weighted Average Rate of Interest
Bond XXXVIII	60.00	9.25%	5.55	
Bond XL	100.00	9.30%	9.30	
Bond XLII	138.21	8.80%	12.16	
Total Loan	298.21		27.01	9.0582%



Annexure-6

(₹ in lakh)

Wt. Average Rate of Interest on COD (for 2009-14)				
Loan	Amount of Loan as on COD	Rate of interest as on COD	Interest	Weighted Average Rate of Interest
Bond XXXVIII	40.00	9.25%	3.70	
Bond XL	80.00	9.30%	7.44	
Bond XLII	123.50	8.80%	10.87	
SBI (Proposed Loan)	163.36	10.25%	16.74	
Total Loan	406.86		38.75	9.5248%

