

**CENTRAL ELECTRICITY REGULATORY COMMISSION**

**NEW DELHI**

**Petition No. 181/TT/2013**

**Coram:**

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

**Date of Hearing : 17.03.2015**

**Date of Order : 15.01.2016**

**In the matter of:**

Determination of fees and charges for fibre optic communication system in lieu of existing Unified Load Despatch and Communication (ULDC) Microwave links in Southern Region for tariff block 2009-14 under sub-section 4 of Section 28 & 79(1)(d) of the Electricity Act, 2003 and under Regulation-86 of Central Electricity Regulatory Commission (Conduct of business) Regulations, 1999.

**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. Neyvelli Lignite Corporation Limited,  
P.O. Neyvelli-607 801,  
Cuddalore District, Tamil Nadu
3. Nuclear Power Corporation of India Limited,  
Nabhkiya Bhawan, Anu-Shakti Nagar,  
Mumbai-400 094
4. NTPC Tamil Nadu Energy Company Limited,  
G-Block, 123 & 123A,  
12<sup>th</sup> street, Anna Nagar (East),  
Chennai-600 102



5. Meenakshi Energy Private Limited,  
Meenakshi plot 119, Road # 10, Jubilee Hills,  
Hyderabad-500 033
6. Simhapuri Energy Limited,  
6-3-866/2, 3<sup>rd</sup> Floor, Begumpet,  
Madhucon Green Lands,  
Hyderabad-500 016
7. LANCO-Kondapalli Power Private Limited,  
Plot No. 4, Software Units Layout,  
Hitech City, Madhapur,  
Hyderabad-500 081
8. Andhra Pradesh Power Co-ordination Committee,  
APTRANSCO, Vidyut Soudha,  
Hyderabad-500 082
9. Power Company of Karnataka Limited,  
Room No; 503, KPTCL Building, Kaveri Bhavan,  
Bangalore-560 009, Karnataka State
10. Kerala State Electricity Board,  
Vydyuthi Bhavanam, Pattom,  
Thiruvananthapuram-695 004
11. TANGEDCO,  
7<sup>th</sup> Floor, Eastern Wing,  
144, Anna Salai, Chennai-600 002
12. Electricity Department,  
Government of Poducherry,  
Poducherry-605 001
13. Electricity Department,  
Government of Goa,  
Curti-Ponda-Goa-403 401

....Respondents

**For petitioner** : Shri S.K. Venkatesan, PGCIL  
Shri S.S Raju, PGCIL  
Shri M.M. Mondal, PGCIL  
Shri Jasbir Singh, PGCIL

**For respondents** : None



## 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 annual fees and charges for fibre optic communication system in lieu of existing Unified Load Despatch and Communication (ULDC) Microwave links in Southern Region for the 2009-14 period.

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

Particulars	Details of the Asset	Scheduled COD	Actual COD	Delay
Asset-I	KSEB portion of OPGW (238.04 km) Fibre optic in lieu of existing Microwave	1.9.2013	1.2.2013	None
Asset-II	OPGW Communication Link of APTRANSCO (146.17 km) Fibre optic in lieu of existing Microwave		1.2.2013	
Asset-III	UFOFC Communication Link of APTRANSCO (49.800 km) Fibre optic in lieu of existing Microwave		1.4.2013	
Asset-IV	OPGW Communication Link of Central Sector (1110.320 km) Fibre optic in lieu of existing Microwave		1.4.2013	

3. The Investment Approval for the Fibre Optic Communication System in lieu of existing ULDC Microwave links was accorded by Board of Directors of the petitioner company vide letter Reference No. C/CP/Fibre Optic in SR dated 15.2.2011 at an estimated cost of ₹4509 lakh, including IDC of ₹264 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.



4. The broad scope of work covered under the project is as hereinafter:-
- “(i) Installation of OPGW fibre optic cable on the existing EHV transmission line of POWERGRID and constituents except TNEB portion, the estimated length of such cable is approximately 1575 kms.
  - (ii) Installation of approximately 120 kms 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. Five number of radio links are proposed.
  - (iii) The terminal equipment for communication based upon Synchronous Digital Hierarchy (SDH) technology shall be installed in the substations 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**

5. 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.

6. 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 under:-

(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)

7. Thereafter, the petitioner filed a Miscellaneous Petition No. 68/2010 under sub-section (4) of Section 28 of the Act and Regulations 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.

8. 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.”

9. 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 fees 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.

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

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

(₹ in lakh)

Asset-I & Asset-II Particulars	KSEB & APTRANSCO	
	2012-13	2013-14
Annual Capital Recovery Charges-Total	14.24	86.03
Interest on working capital	0.33	1.98
O & M Expenses	-	-
<b>Total</b>	<b>14.57</b>	<b>88.01</b>



(₹ in lakh)

Particulars	Asset-III	Asset-IV
	APTRANSCO	Central Sector
	2013-14	2013-14
Annual Capital Recovery Charges-Total	63.23	191.68
Interest on working capital	1.42	5.15
O & M Expenses	-	15.55
<b>Total</b>	<b>64.65</b>	<b>212.38</b>

**Capital cost**

12. The petitioner vide affidavit dated 30.7.2015 submitted Auditors Certificate dated 23.4.2015 for expenditure incurred as on the date of commercial operation (COD) and additional capital expenditure incurred/projected to be incurred for 2012-13, 2013-14, 2014-15 and 2015-16 corresponding to Asset-I, Asset-II Asset-III and Asset-IV. Accordingly, the gross value of assets as on COD, submitted by the petitioner have been considered for the purpose of annual fee and charges for 2009-14 period as under:-

(₹ in lakh)

Particulars	Asset-I	Asset-II	Asset-III	Asset-IV
	KSEB portion of OPGW (238.04 km)	APTRANSCO portion of OPGW (146.174 km)	APTRANSCO portion of UGOFC link (49.800 km)	Central Sector portion of OPGW (1110.320 km)
	COD: 1.2.2013	COD: 1.2.2013	COD: 1.4.2013	COD: 1.4.2013
Expenditure upto COD	365.73	253.61		
Additional capitalisation from COD to 31.3.2013	2.00	2.00	456.89	1385.07
Additional capitalisation during 2013-14	58.24	35.30	83.69	324.76
Additional capitalisation during 2014-15	-	0.10	0.64	6.07
Additional capitalisation during 2015-16	11.63	14.60	19.89	122.09
<b>Total</b>	<b>437.60</b>	<b>305.61</b>	<b>561.11</b>	<b>1837.99</b>

13. The petitioner has sought approval of combined tariff for Asset-I and Asset-II as COD of both these assets is 1.2.2013. However, in the original petition, combined apportioned approved cost of ₹824 lakh was indicated for Asset-II and





Asset-III as both the assets pertain to respondent APTRANSCO. The petitioner was directed to submit segregated apportioned approved cost of Asset-II and Asset-III and the same was submitted by the petitioner vide affidavit dated 30.7.2015 as ₹361 lakh and ₹288 lakh for Asset-II and Asset-III respectively. On a comparison of the combined apportioned approved cost of ₹824 lakh with the segregated apportioned approved cost of ₹649 lakh (₹361 lakh+₹288 lakh), it is observed that these do not match indicating that there is a discrepancy. Thus, we have relied on the combined apportioned approved cost as submitted in the original petition and as such the combined completion cost as on 31.3.2014 is being allowed for calculation of annual fee and charges in this order. The petitioner is directed to reconcile the apportioned approved cost and submit the same at the time of truing-up.

14. As per the investment approval dated 15.2.2011, the instant assets were to be commissioned within 30 months from the date of investment approval. Accordingly, the scheduled date of commercial operation works out to 14.8.2013, say 1.9.2013. Both the Asset-I and Asset-II have been commissioned on 1.2.2013, whereas both Asset-III and Asset-IV have been commissioned on 1.4.2013 respectively. Thus, there is no time over-run in the commissioning of the instant assets.

### **Treatment of IDC and IEDC**

15. The petitioner has claimed IDC of ₹14.28 lakh, ₹9.92 lakh, ₹24.63 lakh and ₹80.68 lakh for Asset-I, Asset-II, Asset-III and Asset-IV respectively, vide affidavit dated 30.7.2015 and submitted Auditor Certificate dated 23.4.2015 in support of



the claim. Further, the petitioner in response to certain queries has also submitted details of IDC discharged upto COD, whereas it is NIL in respect of Asset-I and Asset-II and in case of Asset-III and Asset-IV IDC discharged has been indicated to be ₹23.62 lakh and ₹71.60 lakh respectively. However, there appears to be a mismatch in the IDC data submitted vide the Auditor Certificate vis-à-vis that submitted in the text portion of the affidavit dated 30.7.2015. In the case of Asset-II, total IDC claimed is ₹9.92 lakh, whereas IDC discharged on cash basis has been indicated to be ₹24.20 lakh (₹23.87 lakh+₹0.33 lakh) and in the case of Asset-III, total IDC claimed is ₹24.63 lakh, whereas IDC discharged has been indicated to be ₹32.70 lakh. Therefore, in the absence of the correct information, IDC on cash basis has been considered based on the loans deployed as per Form-13 submitted for the instant assets, assuming that the petitioner has not made any default in the payment of interest. Thus, IDC on cash basis upto COD has been considered to be NIL in the case of Asset-I and Asset-II and ₹23.62 lakh and ₹71.60 lakh in the case of Asset-III and Asset-IV respectively against the claim of the petitioner for ₹14.28 lakh, ₹9.92 lakh, ₹24.63 lakh and ₹80.68 lakh towards IDC for Asset-I, Asset-II, Asset-III and Asset-IV respectively. Thus, the amount of IDC accrued as on COD and to be discharged after COD has not been considered in the capital cost due to non-availability of adequate information. The petitioner is directed to submit the amount of IDC discharged for the instant assets upto date of commercial operation and balance IDC discharged after date of commercial operation. IDC allowed is subject to review at the time of truing up on submission of adequate information.



16. As regards, Incidental Expenditure During Construction (IEDC), the petitioner has submitted that the entire IEDC of ₹70.31 lakh in respect of the instant assets has been discharged as on COD of the respective asset.

17. The capital cost considered for the purpose of annual fee and charges, after adjusting the disallowed amount of IDC, is as hereunder:-

(₹ in lakh)

Particulars	Asset-I	Asset-II	Asset-III	Asset-IV
	KSEB portion of OPGW (238.04 km)	APTRANSCO portion of OPGW (146.174 km)	APTRANSCO portion of UGOFC link (49.800 km)	Central Sector portion of OPGW (1110.320 km)
	COD: 1.2.2013	COD: 1.2.2013	COD: 1.4.2013	COD: 1.4.2013
Expenditure up to COD (inclusive of IDC)-(A)	365.73	253.61	456.89	1385.07
IDC not considered on COD-(B)	14.28	9.92	1.01	9.08
<b>Capital Cost as on COD (allowed) (A-B)</b>	<b>595.14*</b>		<b>455.88</b>	<b>1375.99</b>

\*The petitioner has submitted combined calculation of Fee and Charges for Asset-I and Asset-II.

### **Projected additional capital expenditure**

18. The petitioner vide affidavit dated 30.7.2015 has submitted Auditors' Certificates dated 23.4.2015 for revised claim of additional capital expenditure for 2012-13 and 2013-14. The additional capital expenditure claimed is for balance and retention payment. Therefore, the additional capital expenditure as claimed by the petitioner in the instant petition upto 31.3.2014 is allowed. The projected additional capital expenditure for 2014-15 and 2015-16 falls in the tariff period 2014-19 and as such has not been considered. Thus, the details of capital cost considered as on COD and 31.3.2014 after adjustment for disallowed IDC and consideration of additional capital expenditure for the purpose of fee and charges in the instant petition are as given overleaf:-



(₹ in lakh)

Particulars	Asset-I	Asset-II	Asset-III	Asset-IV
	KSEB portion of OPGW (238.04 km)	APTRANSCO portion of OPGW (146.174 km)	APTRANSCO portion of UGOFC link (49.800 km)	Central Sector portion of OPGW (1110.320 km)
Capital Cost as on COD (allowed)	595.14		455.88	1375.99
Additional capital expenditure-2012-13	2.00	2.00	-	-
Additional capital expenditure-2013-14	58.24	35.30	83.69	324.76
<b>Capital cost as on 31.3.2014</b>	<b>692.68</b>		<b>539.57</b>	<b>1700.75</b>

**Debt-equity ratio**

19. The capital cost on the date of commercial operation and additional capital expenditure allowed have been considered in the normative debt-equity ratio of 70:30. Details of debt-equity as on date of commercial operation and 31.3.2014 considered on normative basis are as under:-

(₹ in lakh)

Particulars	Asset-I & II			
	As on COD		As on 31.3.2014	
	Amount	%	Amount	%
Loan	416.60	70.00	484.88	70.00
Equity	178.54	30.00	207.80	30.00
<b>Total</b>	<b>595.14</b>	<b>100.00</b>	<b>692.68</b>	<b>100.00</b>
Particulars	Asset-III			
	As on COD		As on 31.3.2014	
	Amount	%	Amount	%
Loan	319.12	70.00	377.70	70.00
Equity	136.76	30.00	161.87	30.00
<b>Total</b>	<b>455.88</b>	<b>100.00</b>	<b>539.57</b>	<b>100.00</b>
Particulars	Asset-IV			
	As on COD		As on 31.3.2014	
	Amount	%	Amount	%
Loan/Debt	963.19	70.00	1190.53	70.00
Equity	412.80	30.00	510.23	30.00
<b>Total</b>	<b>1375.99</b>	<b>100.00</b>	<b>1700.75</b>	<b>100.00</b>



### Rates for Recovery of loan and equity

20. The Capital Recovery Factor for loan in respect of both Asset-I and Asset-II, has been calculated by applying weighted average rate of interest of 9.2306% and in respect of Asset-III and Asset-IV has been calculated by applying weighted average rate of interest of 9.3130% and 9.3130% respectively. The Capital Recovery Factor for equity has been considered on post-tax return on equity of 15.50%. The details are attached at Annexure-4 to Annexure-6 of the 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 Fee and Charges for 2012-13**

Particulars	Asset-I & II		Asset-III	Asset-IV
	KSEB portion of OPGW (238.04 km)	APTRANSCO portion of OPGW (146.174 km)	APTRANSCO portion of UGOFC link (49.800 km)	Central Sector portion of OPGW (1110.320 km)
Loan	0.010280		0.010330	0.010330
Equity	0.014340		0.014340	0.014340
<b>Total</b>	<b>0.024620</b>		<b>0.024670</b>	<b>0.024670</b>

21. Thus, the amount of monthly capital recovery charges as on COD together for Asset-I and Asset-II, Asset-III and Asset-IV respectively have been considered by calculating the capital recovery charges for loan and equity using respective Capital Recovery Factors and are as under:-

(₹ in lakh)

Particulars	Asset-I & II		Asset-III	Asset-IV
	KSEB portion of OPGW (238.04 km)	APTRANSCO portion of OPGW (146.174 km)	APTRANSCO portion of UGOFC link (49.800 km)	Central Sector portion of OPGW (1110.320 km)
Loan	4.28		3.30	9.95
Equity	2.56		1.96	5.92
<b>Total</b>	<b>6.84</b>		<b>5.26</b>	<b>15.87</b>



22. The petitioner has prayed to recover the shortfall or refund the excess Annual Fixed Charges, on account of return on equity due to change in applicable Minimum Alternate Tax/Corporate Income Tax rate as per the Income Tax Act, 1961 of the respective financial year directly without making any application before the Commission.

23. 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.

#### **Operation & Maintenance Expenses (O&M Expenses)**

24. The petitioner has submitted the revised claim of the O&M Expenses vide affidavit dated 30.7.2015. The petitioner has not claimed any O&M Expenses in respect of Asset-I, Asset-II and Asset-III for 2012-13 and 2013-14. However, an amount of ₹15.55 lakh has been claimed in respect of Asset-IV for 2013-14, which is 0.38% of the total approved cost and it is accordingly allowed.

#### **Interest on working capital**

25. 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 fee and charges claimed in the petition. In the fee and charges being allowed, receivables have been worked out on the basis of 2 months fee 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 in the case of Asset-IV only.

**(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 in the case of Asset-IV only. This has been considered in the working capital in respect of Asset-IV only.

**(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 as on 1.4.2012 and 350 basis points) has been considered in respect of Asset-I and Asset-II and 13.20% (Base rate as on 1.4.2013 and 350 basis points) has been considered





in respect of Asset-III and Asset-IV. Interest on working capital has been worked out accordingly.

26. Necessary computations in support of interest on working capital are given under:-

(₹ in lakh)

Particulars	Asset-I & II		Asset-III	Asset-IV
	KSEB portion of OPGW (238.04 km)	APTRANSCO portion of OPGW (146.174 km)	APTRANSCO portion of UGOFC link (49.800 km)	Central Sector portion of OPGW (1110.320 km)
	2012-13	2013-14	2013-14	2013-14
Maintenance Spares	-	-	-	2.33
O & M Expenses	-	-	-	1.30
Receivables	14.00	14.10	10.75	35.18
<b>Total</b>	<b>14.00</b>	<b>14.10</b>	<b>10.75</b>	<b>38.81</b>
Rate of Interest	13.50%	13.50%	13.20%	13.20%
<b>Interest</b>	<b>1.89</b>	<b>1.90</b>	<b>1.42</b>	<b>5.12</b>

### Annual Fees and charges

27. The detailed calculations of fees and charges being allowed for the instant assets are attached at Annexure-1 to Annexure-3 of this order and are summarized hereinafter:-

(₹ in lakh)

Period	Asset-I & II		Asset-III	Asset-IV
	KSEB portion of OPGW (238.04 km)	APTRANSCO portion of OPGW (146.174 km)	APTRANSCO portion of UGOFC link (49.800 km)	Central Sector portion of OPGW (1110.320 km)
2012-13 (pro-rata)	14.00		-	-
2013-14	84.57		64.51	211.10
<b>Total</b>	<b>98.57</b>		<b>64.51</b>	<b>211.10</b>

### Filing fee

28. 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.

### **Service tax**

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

### **Sharing of Annual Fees and Charges**

30. 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"

The fees and charges for State Sector under KSEB and APTRANSCO shall be recovered from respective States as provided in the order dated 8.12.2011 in Petition No. 68/2010. 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 sharable by the transmission owner in accordance with these regulations shall be utilised towards reduction of fees and charges payable by the beneficiaries of the assets utilised for other business in proportion to the fees and charges payable by them



to the transmission owner and shall be adjusted on monthly basis in the bills of the respective month.

31. This order disposes of Petition No. 181/TT/2013.

sd/-  
**(A.S. Bakshi)**  
Member

sd/-  
**(A.K. Singhal)**  
Member

sd/-  
**(Gireesh B. Pradhan)**  
Chairperson



(₹ in lakh)

Fee & Charges (2009-14) Particulars	Asset-I (KSEB) & Asset-II (APTRANSCO)		
	On Capital expenditure upto COD-1.2.2013	2012-13	2013-14
Gross Capital Cost	595.14	4.00	93.54
Gross Notional Loan	416.60	2.80	65.48
Gross Equity	178.54	1.20	28.06
	595.14	4.00	93.54
Years	15.00000	14.83333	13.83333
Months	180.00	178.00	166.00
Weighted Average Rate of Interest p.a.	9.2306%	9.2306%	9.2306%
Weighted Average Rate of Interest p.m.	0.7692%	0.7692%	0.7692%
Monthly Recovery Factors-Loan	0.010280	0.010334	0.010688
Monthly Capital Recovery Charge-Loan	4.28	0.03	0.70
<b>Annual Capital Recovery Charge-Loan</b>	<b>51.39</b>	<b>0.35</b>	<b>8.40</b>
Rate of Return on Equity p.a. (As per the 2009 Tariff Regulations)	15.50%	15.50%	15.50%
Rate of Return on Equity p.m.	1.29%	1.29%	1.29%
Monthly Recovery Factors-Equity	0.014340	0.014381	0.014658
Monthly Capital Recovery Charge-Equity	2.56	0.02	0.41
<b>Annual Capital Recovery Charge-Equity</b>	<b>30.72</b>	<b>0.21</b>	<b>4.94</b>
Monthly Capital Recovery Charge-Total	6.84	<b>0.05</b>	<b>1.11</b>
<b>Annual Capital Recovery Charge-Total</b>	<b>82.12</b>	<b>0.55</b>	<b>13.33</b>
<b>Total Fee &amp; Charges (Annualized):</b>			
<b>Particulars</b>		<b>2012-13</b>	<b>2013-14</b>
Annual Capital Recovery Charge-Loan		51.39	51.74
Annual Capital Recovery Charge-Equity		30.72	30.93
<b>Annual Capital Recovery Charge-Total</b>		<b>82.12</b>	<b>82.67</b>
<b>O&amp;M Expenses</b>		<b>0.00</b>	<b>0.00</b>
<b>Interest on Working Capital</b>		<b>1.89</b>	<b>1.90</b>
<b>Total Fee &amp; Charges (Annualized)</b>		<b>84.01</b>	<b>84.57</b>
<b>Interest on Working Capital (Annualized)</b>			
<b>Particulars</b>		<b>2012-13</b>	<b>2013-14</b>
Maintenance Spares		0.00	0.00
O&M Expenses (1 Month)		0.00	0.00
Receivables		14.00	14.10
<b>Total</b>		<b>14.00</b>	<b>14.10</b>
Rate of Interest on Working Capital (SBI Base rate as on 01.04.2012 plus 350 points)		13.50%	13.50%
<b>Total Interest on Working Capital (Annualized)</b>		<b>1.89</b>	<b>1.90</b>
<b>Allowable Fee &amp; Charges (2009-14)</b>			



<b>Particulars</b>		<b>2012-13 (For 2 Months)</b>	<b>2013-14</b>
Annual Capital Recovery Charge-Loan		8.57	51.74
Annual Capital Recovery Charge-Equity		5.12	30.93
<b>Annual Capital Recovery Charge-Total</b>		<b>13.69</b>	<b>82.67</b>
<b>O&amp;M Expenses</b>		<b>0.00</b>	<b>0.00</b>
<b>Interest on Working Capital</b>		<b>0.32</b>	<b>1.90</b>
<b>Total Allowable Fee &amp; Charges (2009-14)</b>		<b>14.00</b>	<b>84.57</b>
<b>Note: Additional Capitalisation after date of commercial operation shall be considered in the next period (As per prevailing practice in respect of ULDC petitions).</b>			

**Annexure-2**



(₹ in lakh)

<b>Fee &amp; Charges (2009-14)</b>		<b>Asset-III (APTRANSCO)</b>	
<b>Particulars</b>	<b>On Capital expenditure upto COD-1.4.2013</b>	<b>2013-14</b>	
Gross Capital Cost	455.88	83.69	
Gross Notional Loan	319.12	58.58	
Gross Equity	136.76	25.11	
	455.88	83.69	
Years	15.00000	14.00000	
Months	180.00	168.00	
Weighted Average Rate of Interest p.a.	9.3130%	9.3130%	
Weighted Average Rate of Interest p.m.	0.7761%	0.7761%	
Monthly Recovery Factors-Loan	0.010330	0.010673	
Monthly Capital Recovery Charge-Loan	3.30	0.63	
<b>Annual Capital Recovery Charge-Loan</b>	<b>39.56</b>	<b>7.50</b>	
Rate of Return on Equity p.a. (As per the 2009 Tariff Regulations)	15.50%	15.50%	
Rate of Return on Equity p.m.	1.29%	1.29%	
Monthly Recovery Factors-Equity	0.014340	0.014608	
Monthly Capital Recovery Charge-Equity	1.96	0.37	
<b>Annual Capital Recovery Charge-Equity</b>	<b>23.53</b>	<b>4.40</b>	
Monthly Capital Recovery Charge-Total	5.26	<b>0.99</b>	
<b>Annual Capital Recovery Charge-Total</b>	<b>63.09</b>	<b>11.90</b>	
<b>Total Fee &amp; Charges (Annualized):</b>			
<b>Particulars</b>		<b>2013-14</b>	
Annual Capital Recovery Charge-Loan		39.56	
Annual Capital Recovery Charge-Equity		23.53	
<b>Annual Capital Recovery Charge-Total</b>		<b>63.09</b>	
<b>O&amp;M Expenses</b>		<b>0.00</b>	
<b>Interest on Working Capital</b>		<b>1.42</b>	
<b>Total Fee &amp; Charges (Annualized)</b>		<b>64.51</b>	
<b>Interest on Working Capital (Annualized)</b>			
<b>Particulars</b>		<b>2013-14</b>	
Maintenance Spares		0.00	
O&M Expenses (1 Month)		0.00	
Receivables		10.75	
<b>Total</b>		<b>10.75</b>	
Rate of Interest on Working Capital (SBI Base rate as on 1.4.2013 plus 350 points)		13.20%	
<b>Total Interest on Working Capital (Annualized)</b>		<b>1.42</b>	



<b>Allowable Fee &amp; Charges (2009-14)</b>		
<b>Particulars</b>		<b>2013-14 (For 12 Months)</b>
Annual Capital Recovery Charge-Loan		39.56
Annual Capital Recovery Charge-Equity		23.53
<b>Annual Capital Recovery Charge-Total</b>		<b>63.09</b>
<b>O&amp;M Expenses</b>		<b>0.00</b>
<b>Interest on Working Capital</b>		<b>1.42</b>
<b>Total Allowable Fee &amp; Charges (2009-14)</b>		<b>64.51</b>
<p><b>Note: Additional Capitalisation after date of commercial operation shall be considered in the next period (As per prevailing practice in respect of ULDC petitions).</b></p>		



(₹ in lakh)

Fee & Charges (2009-14) Particulars	Asset-IV-Central Sector	
	On Capital expenditure upto COD-1.4.2013	2013-14
Gross Capital Cost	1375.99	324.76
Gross Notional Loan	963.19	227.33
Gross Equity	412.80	97.43
	1375.99	324.76
Years	15.00000	14.00000
Months	180.00	168.00
Weighted Average Rate of Interest p.a.	9.3130%	9.3130%
Weighted Average Rate of Interest p.m.	0.7761%	0.7761%
Monthly Recovery Factors-Loan	0.010330	0.010673
Monthly Capital Recovery Charge-Loan	9.95	2.43
<b>Annual Capital Recovery Charge-Loan</b>	<b>119.39</b>	<b>29.12</b>
Rate of Return on Equity p.a. (As per the 2009 Tariff Regulations)	15.50%	15.50%
Rate of Return on Equity p.m.	1.29%	1.29%
Monthly Recovery Factors-Equity	0.014340	0.014608
Monthly Capital Recovery Charge-Equity	5.92	1.42
<b>Annual Capital Recovery Charge-Equity</b>	<b>71.03</b>	<b>17.08</b>
Monthly Capital Recovery Charge-Total	15.87	<b>3.85</b>
<b>Annual Capital Recovery Charge-Total</b>	<b>190.43</b>	<b>46.19</b>
<b>Total Fee &amp; Charges (Annualized):</b>		
<b>Particulars</b>		<b>2013-14</b>
Annual Capital Recovery Charge-Loan		119.39
Annual Capital Recovery Charge-Equity		71.03
<b>Annual Capital Recovery Charge-Total</b>		<b>190.43</b>
<b>O&amp;M Expenses</b>		<b>15.55</b>
<b>Interest on Working Capital</b>		<b>5.12</b>
<b>Total Fee &amp; Charges (Annualized)</b>		<b>211.10</b>
<b>Interest on Working Capital (Annualized)</b>		
<b>Particulars</b>		<b>2013-14</b>
Maintenance Spares		2.33
O&M Expenses (1 Month)		1.30
Receivables		35.18
<b>Total</b>		<b>38.81</b>
Rate of Interest on Working Capital (SBI Base rate as on 1.4.2013 plus 350 points)		13.20%
<b>Total Interest on Working Capital (Annualized)</b>		<b>5.12</b>
<b>Allowable Fee &amp; Charges (2009-14)</b>		





<b>Particulars</b>		<b>2013-14 (For 12 Months)</b>
Annual Capital Recovery Charge-Loan		119.39
Annual Capital Recovery Charge-Equity		71.03
<b>Annual Capital Recovery Charge-Total</b>		<b>190.43</b>
<b>O&amp;M Expenses</b>		<b>15.55</b>
<b>Interest on Working Capital</b>		<b>5.12</b>
<b>Total Allowable Fee &amp; Charges (2009-14)</b>		<b>211.10</b>
<b>Note: Additional Capitalisation after date of commercial operation shall be considered in the next period (As per prevailing practice in respect of ULDC petitions).</b>		

**Annexure-4**



(₹ in lakh)

<b>Wt. Average Rate of Interest on COD (for 2009-14) as submitted by the petitioner</b>				
<b>Loan</b>	<b>Amount of Loan as on COD</b>	<b>Rate of interest as on COD</b>	<b>Interest</b>	<b>Weighted Average Rate of Interest</b>
Bond XXXIX	300.00	9.40%	28.20	
Bond XLI	133.54	8.85%	11.82	
<b>Total Loan</b>	<b>433.54</b>		<b>40.02</b>	<b>9.2306%</b>

**Annexure-5**



(₹ in lakh)

<b>Wt. Average Rate of Interest on COD (for 2009-14) as submitted by the petitioner</b>				
<b>Loan</b>	<b>Amount of Loan as on COD</b>	<b>Rate of interest as on COD</b>	<b>Interest</b>	<b>Weighted Average Rate of Interest</b>
Bond XXXIX	1013.00	9.40%	95.22	
Bond XL	94.00	9.30%	8.74	
Bond XLI	133.46	8.85%	11.81	
Bond XLII	48.91	8.80%	4.30	
<b>Total Loan</b>	<b>1289.37</b>		<b>120.08</b>	<b>9.3130%</b>

**Annexure-6**



(₹ in lakh)

<b>Wt. Average Rate of Interest on COD (for 2009-14) as submitted by the petitioner</b>				
<b>Loan</b>	<b>Amount of Loan as on COD</b>	<b>Rate of interest as on COD</b>	<b>Interest</b>	<b>Weighted Average Rate of Interest</b>
Bond XXXIX	1013.00	9.40%	95.22	
Bond XL	94.00	9.30%	8.74	
Bond XLI	133.46	8.85%	11.81	
Bond XLII	48.91	8.80%	4.30	
<b>Total Loan</b>	<b>1289.37</b>		<b>120.08</b>	<b>9.3130%</b>

