

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 214/TT/2017**

**Coram:**

**Shri P.K.Pujari, Chairperson  
Shri A.K. Singhal, Member  
Dr. M.K. Iyer, Member**

**Date of Hearing : 8.8.2018  
Date of Order : 9.10.2018**

**In the matter of:**

Misc. Petition for Approval under sub-section(4) of Section 28 & 79(1)(d) of Electricity Act 2003 and regulation-86 of CERC (Conduct of Business) Regulations 1999 for determination of

- i) Trued up Fees and Charges for 2009-14 block
- ii) Fees and Charges for the period 2014-19 block.

for Fibre Optic communication system in lieu of existing Unified Load Despatch and Communication(ULDC) Microwave links in North 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. North-Eastern Electric Power Corporation Limited,  
(NEEPCO limited),  
15, NBCC Tower, Bhikaji Cama Place,  
New Delhi

2. National Hydro Power Corporation Limited,  
NHPC Office Complex, Lodhi Road,  
New Delhi

3. Assam State Electricity Board,  
Bijulee Bhawan, Paltan Bazar,  
Guwahati-781 001, Assam

4. Meghalaya Energy Corporation Limited,



(Formerly Meghalaya State Electricity Board)  
Short Round Road, Shillong-793

5. Government of Arunachal Pradesh,  
Itanagar, Arunachal Pradesh

6. Power & Electricity Department,  
Government of Mizoram,  
Mizoram, Aizwal

7. Electricity Department,  
Government of Manipur,  
Keishampat, Imphal

8. Department of Power,  
Government of Nagaland,  
Kohima, Nagaland

9. Tripura State Electricity Corporation Limited,  
Bidyut Bhawan, North Banamalipur,  
Agartala, Tripura-700 001

10. DONER Advisor (Power)  
Government of India,  
North Eastern Council Secretariat,  
Shillong, Meghalaya

....Respondents

**For petitioner** : Shri Vivek Kumar Singh, PGCIL  
Shri S. K. Venkatesan, PGCIL  
Shri S. S. Raju, PGCIL  
Shri V. P. Rastogi, PGCIL  
Shri Rakesh Prasad, PGCIL

### **ORDER**

The instant 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 truing up of fee and charges for Fibre Optic Communication System in lieu of existing Unified Load Despatch and



Communication(ULDC) Microwave links in North Eastern Region for the 2009-14 period allowed vide orders dated 31.5.2016 and 3.3.2017 in petition no 17/TT/2014 and for determination of fee and charges for 2014-19 period.

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

<b>Sector #</b>	<b>Asset</b>	<b>Length (in Km)</b>	<b>COD</b>
Central Sector	Optic Fibre	37.874	01.04.2013
State Sector	Optic Fibre	79.298	01.04.2013

# The term 'Sector' or 'Portion' has been used interchangeably in this order

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 NER dated 15.2.2011 at an estimated cost of ₹ 3413 lakh, including IDC of ₹ 200 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. However, priority links of fibre optic were to be implemented as per DOT requirement to release microwave links and best efforts were to be made to complete the project in 24 months.

4. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act, 2003 ("the Act"). The petitioner has served the copy of the petition on the respondents. None of the respondents have filed any reply.



5. 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, the estimated length of such cable is approximately 1160 kms.

(ii) 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**

6. The methodology for working out the fee and charges of Communication/ ULDC system was elaborated at paragraphs 5 to 9 of our Order dated 31.5.2016 in petition no 17/TT/2014 and, we continue with the same methodology for determination of trued up fee and charges for 2009-14 period.

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

8. The trued up annual fee and charges claimed by the petitioner based on the actual date of commercial operation are as follows:-

Particulars	(₹ in lakh)	
	Central Sector	State Sector
	2013-14	2013-14
Annual Fee & Charges	64.09	14.64

9. The commercial operation dates of both CS and SS portions are 1.4.2013. The Commission, vide order dated 31.5.2016 and 3.3.2017 in petition



no 17/TT/2014 had approved the Fee and Charges, on the basis of the following Capital Costs as on COD and 31.03.2014 for the asset given hereunder:

Portion	Admitted cost	₹ in lakh
Central	COD	44.37
	2013-14	89.24
	Total	133.61
State	COD	21.95
	2013-14	5.34
	Total	27.29

10. The Commission, under the same order, had approved the Fee and Charges as below:

(₹ in Lakh)

Particulars	Central Portion	State Portion
	2013-14	2013-14
Annual Capital Recovery Charge - Loan	3.79	7.63
Annual Capital Recovery Charge - Equity	2.29	4.61
Annual Capital Recovery Charge - Total	6.09	12.24
O&M Expenses	25.85	0.00
Interest on Working Capital	1.53	0.28
Total Fee & Charges	33.47	12.52

11. The petitioner has submitted Auditor's Certificates dated 06.09.2017 and 07.09.2017 for the expenditure corresponding to the Central Sector and State Sector respectively. The details of the Apportioned Approved Cost, Capital Cost as on COD and additional capitalization incurred for the assets covered during 2013-14/14-19 are given below :



(₹ in Lakh)

Portion	Apportioned approved cost	Cost as on DOCO	2013-2014	2014-2019	TOTAL
Central Portion	111.45	53.35	21.95	80.94	156.24
State Portion	233.34	107.31	5.34	91.78	204.43
<b>TOTAL</b>	<b>344.79</b>	<b>160.66</b>	<b>27.29</b>	<b>172.72</b>	<b>360.67</b>

**Truing-up of fee and charges for 2009-14 tariff period**

**Capital cost**

12. There is neither cost over-run nor time over-run in commissioning of instant asset.

**Treatment of IDC and IEDC**

13. As per investment approval, the project was scheduled to be commissioned within 30 months from the date of investment approval (i.e. 15.02.2011). Accordingly, the schedule of completion works out to 14.08.2013 say September 2013. The asset in North Eastern Region under current petition has been put for Commercial Operation on 01.04.2013. Therefore, there is no time overrun in commissioning of the project from the investment approval in respect of the Assets. Hence, adjustment of IDC/IEDC in respect of time overrun in the calculations of the concerned assets is not required.

**IDC**

14. Petitioner has claimed Interest during Construction (IDC) of ₹ 1.48 Lakh and ₹ 2.97 for Central Sector and State Sector respectively. Petitioner has



submitted combined working of IDC calculations for Central Sector as well as State Sector.

15. IDC has been worked out, on cash basis, considering the loans deployed as submitted by the petitioner. The calculations are based on the premise that the petitioner has not made any default in the payment of interest. IDC claimed by the petitioner being lower vis-à-vis that calculated, we are allowing the petitioner's claim and considering the IDC for fee and charges computation.

16. Petitioner has submitted the statement showing un-discharged IDC liability as on COD and that to be discharged after COD. Thus, the following IDC is disallowed as on COD on account of un-discharged liability:

**(₹ in Lakhs)**

<b>Portion</b>	<b>IDC disallowed as on COD</b>
Central	1.48
State	2.97

The petitioner has submitted that the IDC remaining un-discharged as on COD has been discharged during 2013-14. Accordingly, this un-discharged portion of IDC has been added to the additional capital expenditure incurred during 2013-14.

### **IEDC**

17. Petitioner has claimed Interest during Construction (IDC) of ₹ 11.81 Lakh and ₹ 23.76 for Central Sector and State Sector respectively. The Commission, vide order dated 31.05.2016 in petition no. 17/TT/2014, had observed as below:



**Quote**

16 .....IDC/IEDC allowed will be reviewed at the time of truing up on submission of adequate and proper information by the petitioner.

**Un-quote**

18. We find that the petitioner has not submitted detailed information/justification in respect of IEDC. Therefore, in line with the approach followed in Commission's order dated 31.05.2016 in petition no. 17/TT/2014, we are considering the percentage on hard cost indicated in the Abstract Cost Estimate as the ceiling limit for IEDC. In the current petition, 10.75% IEDC is claimed by the petitioner in the Abstract Cost Estimate; hence 10.75% of the hard cost or the claimed amount whichever is less up to COD is being allowed as IEDC. The IEDC claimed by the petitioner, IEDC considered in our calculations and IEDC disallowed are as below:

(₹ in Lakh)

<b>Particulars</b>	<b>Central Sector</b>	<b>State Sector</b>
Hard Cost Claimed as on COD	40.06	80.58
IEDC Claimed by the petitioner	11.81	23.76
IEDC considered in Tariff Calculations (10.75% of Hard Cost or Claimed amount whichever is less)	4.31	8.66
IEDC Disallowed	7.50	15.10

19. Therefore, Capital Cost as on COD considered for the purpose of fee and charges in the present petition, after scrutiny of IEDC/IDC, are as below :





(₹ in Lakhs)

<b>Particulars</b>	<b>Central Sector</b>	<b>State Sector</b>
(1) Expenditure as on COD (Claimed)	53.35	107.31
(2) IDC Disallowed due to Time Overrun	-	-
(3) IDC Disallowed due to Un-discharged Liability	1.48	2.97
(4) IEDC Disallowed due to Excess of Allowable Limit	7.50	15.10
(5) Capital Cost as on COD (allowable) [1-(2+3+4)]	44.37	89.24

### **Additional Capital Expenditure**

20. As explained under para 11 above, the petitioner has submitted Auditor's Certificates dated 06.09.2017 and 07.09.2017 for additional capitalization for the Central Sector and State Sector respectively during 2013-14. These additional capitalization are on account of balance/retention payment. Accordingly, the claim of the petitioner is being allowed.

21. Further, in line with para 16, the IDC which remained un-discharged as on COD, was discharged during 2013-14 and has been added to the add cap during the year. Hence, the following add cap has been allowed during 2013-14:

(₹ in Lakh)

<b>Particulars</b>	<b>Add Cap allowable during 2013-14</b>
Central Portion	23.43
State Portion	8.31

Therefore, the Capital Cost as on COD, additional capitalization during 2009-14 period and Capital Cost as on 31.03.2014 has been considered for the purpose of fee and charges for 2009-14, as below:



(₹ in lakh)

Particulars	Particular	Capital Cost
Central Portion	As on COD	44.37
	Additional Capitalization during 2013-14	23.43
	As on 31.03.2014	67.80
State Portion	As on COD	89.24
	Additional Capitalization during 2013-14	8.31
	As on 31.03.2014	97.55

### Debt-Equity Ratio

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

(₹ in lakh)

Debt-Equity Ratio as on COD		
Particulars	Central Portion	State Portion
Loan	31.06	62.47
Equity	13.31	26.77
Total	44.37	89.24
Debt	70.00%	70.00%
Equity	30.00%	30.00%
Total	100.00%	100.00%

(₹ in lakh)

Debt-Equity Ratio as on 31.3.2014		
Particulars	Central Portion	State Portion
Loan	47.46	68.29
Equity	20.34	29.27
Total	67.80	97.55
Debt	70.00%	70.00%
Equity	30.00%	30.00%
Total	100.00%	100.00%



### **Rates for Recovery of loan and equity**

23. The Capital Recovery Factors (CRF) for Loan and Equity in respect of instant asset 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).

24. As explained in the order in petition No 17/TT/2014, 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 of the order. The rates considered on annual basis, have been converted to monthly rates.

25. The monthly Capital Recovery Factors for loan and equity has been worked out using the following relationship:

$$\text{Recovery Factor} = \frac{i \times (1+i)^n}{(1+i)^n - 1} \quad n = \text{period, and } i = \text{rate}$$

26. Following are the monthly recovery factors for loan are:

<b>Particulars</b>	<b>2013-14</b>
Central Portion	0.010187
State Portion	0.010187

Similarly, monthly recovery factors for equity are:

<b>Particulars</b>	<b>2013-14</b>
Central Portion	0.014340
State Portion	0.014340



27. Based on the above recovery factors, monthly Capital Recovery Charges for loan are worked out as below:

(₹ in Lakhs)

Particulars	2013-14
Central Portion	0.32
State Portion	0.64

Likewise, monthly Capital Recovery Charges for Equity are worked out as below:

(₹ in Lakhs)

Particulars	2013-14
Central Portion	0.19
State Portion	0.38

28. While working out the capital recovery charges for loan, Wt. Average Rate of Interest & Rate of Return on Equity, as indicated in one of the earlier para have been considered. Accordingly, the recovery of Capital cost during 2009-14 is as given below:

(₹ in Lakhs)

Particulars	Capital	Capital Cost recovered during 2009-14
Central Portion	Loan	1.02
	Equity	0.24
	<b>Total</b>	<b>1.26</b>
State Portion	Loan	2.05
	Equity	0.49
	<b>Total</b>	<b>2.54</b>

In view above Capital Cost considered and its recovery during 2009-14 period, is as below:



(₹ in Lakhs)

<b>Central Portion</b>	<b>Capital</b>	<b>Capital Cost</b>
Gross Capital Cost as on 31.03.2014	Loan	47.46
	Equity	20.34
	<b>Total</b>	<b>67.80</b>
Capital Cost Recovered from COD to 31.03.2014	Loan	1.02
	Equity	0.24
	<b>Total</b>	<b>1.26</b>
Net Capital Cost as on 31.03.2014	Loan	46.44
	Equity	20.10
	<b>Total</b>	<b>66.54</b>

(₹ in Lakhs)

<b>State Portion</b>		<b>Capital Cost</b>
Gross Capital Cost as on 31.03.2014	Loan	68.29
	Equity	29.27
	<b>Total</b>	<b>97.55</b>
Capital Cost Recovered from COD to 31.03.2014	Loan	2.05
	Equity	0.49
	<b>Total</b>	<b>2.54</b>
Net Capital Cost as on 31.03.2014	Loan	66.23
	Equity	28.77
	<b>Total</b>	<b>95.01</b>

29. The petitioner has prayed for recovery of the shortfall or refund the excess AFC on account of ROE due to change in applicable MAT/ Corporate Tax rate as per Income Tax Act from the beneficiaries.

30. The Commission in its order dated 18.3.2011 in Petition No. 28/2010 had approved the fees and charges for the period up to 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 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)**

31. In this regard, Commission vide order dated 8.12.2011 in petition no. 68/2010 had directed as follows:

#### **Quote**

“(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.”

#### **Unquote**

32. The petitioner has submitted the details of actual O & M expenses incurred during 2013-14. Accordingly, actual O & M expenses are being allowed with the Fee and Charges.

### **Interest on working capital**

33. 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.

**(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 @ 13.20% (Base rate of 9.70% as on 1.4.2013 plus 350 basis points) has been considered. Interest on working capital has been worked out accordingly.

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

(₹ in lakh)

Particulars	Central Portion	State Portion
	2013-14	2013-14
Maintenance Spares	8.09	0.00
O & M Expenses	4.49	0.00
Receivables	10.51	2.09
Total	23.08	2.09
Rate of Interest	13.20%	13.20%
Interest	3.05	0.28

#### **Annual Fee and charges**

35. The detailed calculations of fee and charges being worked out on annualized basis for the instant assets are attached at Annexure of this order and are as follows:-

(₹ in lakh)

Particulars	Central Portion	State Portion
2013-14	63.03	12.52

#### **Determination of Annual Fee and Charges for 2014-19**

36. As per the directions of the Commission in order dated 8.12.2011 in Petition No.68/2010, the scope of the 2014 Tariff Regulations has been



widened to include the communication system used for inter-State transmission of electricity. However, as per proviso (iii) of Regulation 6(1) of the 2014 Tariff Regulations, the tariff of the existing communication system forming part of the transmission system is to be determined as per the methodology followed prior to 1.4.2014. The said proviso (iii) of Regulation 6(1) provides as follows:-

“(iii) the tariff of the existing communication system forming part of transmission system shall be as per the methodology followed by the Commission prior to 1.4.2014.”

37. The annual fee and charges claimed by the petitioner for the instant assets for the 2014-19 tariff period are as hereunder:-

(₹ in lakh)

Portion	2014-15	2015-16	2016-17	2017-18	2018-19
Central	51.12	48.73	68.12	73.37	75.35
State	15.81	15.81	15.81	19.77	19.76

**Capital Expenditure as on 01.04.2014**

38. The closing Capital Cost as indicated at para-21 are being considered as opening Capital Cost on 1.4.2014 for working out the Fee & Charges for the period 2014-19 for Central Portion and State Portion.

**Additional Capital Expenditure during the tariff period 2014-19:**

39. The petitioner has submitted Auditor’s Certificates dated 20.07.2017, duly verified on the basis of audited statement of accounts for the period ending 31.03.2017, for expenditure incurred up to 31.03.2017 and expenditure projected to be incurred up to 31.03.2019. The following additional capital



expenditure for the period 2014-19 has been indicated in the Auditor's certificates:

(₹ in Lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Central Portion	0.00	0.00	21.36	50.64	8.94
State Portion	0.00	0.00	25.37	56.45	9.96

The COD of Central Portion as well as the State Portion is 1.4.2013. In the absence of specific regulations in respect of ULDC/Communication petitions, we are not inclined to consider the add cap beyond cut off date, as per analogy to Tariff Regulations 2009. Accordingly, cut-off date for both the portions shall be 31.3.2015. Hence, we have considered the add cap up to 31.03.2015, which is NIL for Central as well as State Portion.

### **Debt : Equity Ratio**

40. The following Debt-Equity ratio has been considered as on 01.04.2014 for Asset-I and Asset-II:

(₹ in lakh)

Particulars	As on 1.04.2014	
	Central Portion	State Portion
Loan	47.46	68.29
Equity	20.34	29.27
Total	67.80	97.55
Debt	70.00%	70.00%
Equity	30.00%	30.00%
Total	100.00%	100.00%

### **Rates for Recovery of loan and equity:**

(i) **Capital Recovery for Loan:**



41. The year wise Weighted Average Rate of Interest have been calculated on the basis of the impact due to change in floating rate of interest of loan which have been applied for calculating the Capital Recovery Factor for loan.

**(ii) Capital Recovery for Equity:**

42. The methodology as used for true-up calculation for 2009-14 has been applied for Capital Recovery of Equity. Hence, post-tax RoE of 15.50%, without grossing has been applied for calculating the Capital Recovery Factor for equity.

**Monthly Capital Recovery Charges: -**

43. Following are the monthly Recovery factors for Loan for Central Portion and State Portion:

<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Central Portion	0.010335	0.010745	0.011232	0.011815	0.012525
State Portion	0.010497	0.010904	0.011388	0.011968	0.012675

44. Similarly, monthly Recovery Factors for Equity for Central Portion and State Portion are:

<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Central Portion	0.014445	0.014736	0.015090	0.015524	0.016064
State Portion	0.014360	0.014633	0.014964	0.015369	0.015871



45. Based on the above recovery factors, monthly Capital Recovery Charges for Loan for Central Portion and State Portion are as below:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Central Portion	0.48	0.48	0.48	0.48	0.48
State Portion	0.70	0.70	0.70	0.70	0.70

46. Monthly Capital Recovery Charges for Equity for Central Portion and State Portion are as below:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Central Portion	0.29	0.29	0.29	0.29	0.29
State Portion	0.42	0.42	0.42	0.42	0.42

While working out the capital recovery charges for loan, Wt. Average Rate of Interest & Rate of Return on Equity have been considered. The details of weighted average rate of interest on loan are attached at Annexure

47. Accordingly, the following recovery of Capital during 2014-19 has been allowed:

(₹ in Lakh)

Particulars	Capital	Capital Cost recovered during 2014-19
Central Portion	Loan	10.63
	Equity	3.05
	<b>Total</b>	<b>13.68</b>
State Portion	Loan	14.92
	Equity	4.37
	<b>Total</b>	<b>19.29</b>



### **Operation & Maintenance Expenses:**

48. The petitioner has claimed actual audited O & M expenses up to 2016-17 and escalated it thereafter @ 3.32% for the Central Portion. For State Portion, no O&M expenses have been claimed:

(₹ in lakh)

<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Central Portion	38.46	36.19	54.57	56.38	58.25
State Portion	0.00	0.00	0.00	0.00	0.00

Accordingly, these O & M expenses are allowed for the period 2014-19. O & M expenses for 2017-18 and 2018-19 shall be considered on actual basis at the time of true up.

### **Interest on working capital**

49. The petitioner is entitled to claim Interest on Working Capital and, in the absence of specific regulations in respect of ULDC/existing Communication petitions, these have been considered as per the 2014 Tariff Regulations. The components of the working capital and the petitioner's entitlement to interest thereon are discussed hereinafter:-

#### **(i) Maintenance spares:**

Maintenance spares have been worked out as 15% of O&M.

#### **(ii) O & M expenses:**

One month's O&M expenses have been allowed.



**(iii) Receivables:**

The receivables have been worked out on the basis 2 months' of annual Fee & Charges.

**(iv) Rate of interest on working capital:**

In line with the Clause 28(3) of Regulations, 2014, SBI Base Rate Plus 350 bps as on 1.4.2014 (i.e.13.50%) has been considered as the rate of interest on working capital for the asset.

50. The detailed calculations of fee and charges being worked out for 2014-19 period for the instant assets are attached at Annexure of this order and are as follows:-

(₹ in lakh)

<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Central Portion	50.08	47.69	67.08	68.99	70.96
State Portion	13.69	13.69	13.69	13.69	13.69

**Filing fee and Publication Expenses**

51. 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 the Regulation 52 of 2014 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**

52. 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 52 of the 2014 Tariff Regulations.

### **GST**

53. The petitioner has prayed for reimbursement of tax, if any, on account of implementation of GST. GST is not levied on transmission service at present and we are of the view that petitioner's prayer is premature.

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

54. The fee 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 26 of Fees and charges of Regional Load Despatch Centre and other related matters Regulations, 2015 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"

55. This order disposes of Petition No. 214/TT/2017.

**Sd/-**  
**(M.K. Iyer)**  
**Member**

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

**Sd/-**  
**(P.K. Pujari)**  
**Chairperson**





## Annexure-1

### Central Portion - Charges (2009-14)

(Rs in lakh)

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

(Rs in lakh)

Particulars	Years		Years	
	2013-14		2013-14	
<b>Opening Gross Capital Cost</b>		<b>44.37</b>		<b>89.24</b>
Opening Gross Notional Loan		31.06		62.47
Opening Gross Equity		13.31		26.77
<b>Recovered Gross Capital Cost (As on 1st April)</b>		<b>0.00</b>		<b>0.00</b>
Recovered Gross Notional Loan		0.00		0.00
Recovered Gross Equity		0.00		0.00
<b>Opn.Net Capital Cost</b>		<b>44.37</b>		<b>89.24</b>
Opn. Net Notional Loan		31.06		62.47
Opn. Net Equity		13.31		26.77
<b>Recovered Capital Cost (During the Year)</b>		<b>1.26</b>		<b>2.54</b>
Recovered Notional Loan		1.02		2.05
Recovered Equity		0.24		0.49
<b>Cl. Net Capital Cost</b>		<b>43.11</b>		<b>86.70</b>
Cl. Net Notional Loan		30.04		60.42
Cl. Net Equity		13.07		26.28
<b>Additional Capital Expenditure</b>		<b>23.43</b>		<b>8.31</b>
Additional Notional Loan		16.40		5.82
Additional Equity		7.03		2.49
Years (Capital to be recovered up to 31.03.2028)		15.00		15.00
Months		180.00		180.00
Weighted Average Rate of Interest p.a.		9.0743%		9.0744%
Weighted Average Rate of Interest p.m.		0.7562%		0.7562%
Monthly Recovery Factors -Loan		0.010187		0.010187
Monthly Capital Recovery Charge - Loan		0.32		0.64
<b>Annual Capital Recovery Charge - Loan</b>		<b>3.80</b>		<b>7.64</b>



Rate of Return on Equity p.a.		15.500%	15.500%
Rate of Return on Equity p.m.		1.292%	1.292%
Monthly Recovery Factors -Equity		0.014340	0.014340
Monthly Capital Recovery Charge - Equity		0.19	0.38
<b>Annual Capital Recovery Charge - Equity</b>		<b>2.29</b>	<b>4.61</b>
Monthly Capital Recovery Charge - Total		0.51	1.02
<b>Annual Capital Recovery Charge - Total</b>		<b>6.09</b>	<b>12.24</b>
<b>O&amp;M Expenses (Annualized)</b>		<b>53.90</b>	<b>0.00</b>

Fee & Charges (2009-14)	Central Portion - Charges		State Portion - Charges	
	2013-14		2013-14	
<b>Particulars</b>				
Annual Capital Recovery Charge - Loan		3.80		7.64
Annual Capital Recovery Charge - Equity		2.29		4.61
<b>Annual Capital Recovery Charge - Total</b>		<b>6.09</b>		<b>12.24</b>
<b>O&amp;M Expenses</b>		<b>53.90</b>		<b>0.00</b>
<b>Interest on Working Capital<sup>†</sup></b>		<b>3.05</b>		<b>0.28</b>
<b>Total Fee &amp; Charges</b>		<b>63.03</b>		<b>12.52</b>

Interest on Working Capital <sup>†</sup>		
Particular	2013-14	2013-14
Maintenance Spares (15% of O&M)	8.09	0.00
O&M Expenses (1 Month)	4.49	0.00
Receivables (2 months)	10.51	2.09
<b>Total</b>	<b>23.08</b>	<b>2.09</b>
Rate of Interest on Working Capital	13.20%	13.20%
<b>Total Interest on Working Capital (Annualized)</b>	<b>3.05</b>	<b>0.28</b>

Note: As per practise, Additional Capital Expenditure for the respective year are considered at the end of the corresponding year. Therefore, the impact of the additional capital expenditure for a particular year is considered in the tariff for the following year.



## Annexure-2

### Wt. Average Rate of Interest (for 2009-14) - Central Portion

(Rs. in Lacs)

Loan	2013-14						
	Opening	Repayment	Closing	Average	Rate of interest	Interest	Weighted Average Rate of Interest
Bond XL	19.92	0.00	19.92	19.92	9.3000%	1.85	
Bond XLII	16.39	0.00	16.39	16.39	8.8000%	1.44	
<b>Total Loan</b>	<b>36.31</b>	<b>0.00</b>	<b>36.31</b>	<b>36.31</b>		<b>3.29</b>	<b>9.0743%</b>

### Wt. Average Rate of Interest (for 2009-14) - State Portion

(Rs. in Lacs)

Loan	2013-14						
	Opening	Repayment	Closing	Average	Rate of interest	Interest	Weighted Average Rate of Interest
Bond XL	40.08	0.00	40.08	40.08	9.3000%	3.73	
Bond XLII	32.96	0.00	32.96	32.96	8.8000%	2.90	
<b>Total Loan</b>	<b>73.04</b>	<b>0.00</b>	<b>73.04</b>	<b>73.04</b>		<b>6.63</b>	<b>9.0744%</b>





p.m.										
Monthly Recovery Factors -Loan	0.010335	0.010745	0.011232	0.011815	0.012525	0.010497	0.010904	0.011388	0.011968	0.012675
Monthly Capital Recovery Charge - Loan	0.48	0.48	0.48	0.48	0.48	0.70	0.70	0.70	0.70	0.70
<b>Annual Capital Recovery Charge - Loan</b>	<b>5.76</b>	<b>5.76</b>	<b>5.76</b>	<b>5.76</b>	<b>5.76</b>	<b>8.34</b>	<b>8.34</b>	<b>8.34</b>	<b>8.34</b>	<b>8.34</b>
Rate of Return on Equity p.a.	15.500%	15.500%	15.500%	15.500%	15.500%	15.500%	15.500%	15.500%	15.500%	15.500%
Rate of Return on Equity p.m.	1.292%	1.292%	1.292%	1.292%	1.292%	1.292%	1.292%	1.292%	1.292%	1.292%
Monthly Recovery Factors -Equity	0.014608	0.014933	0.015332	0.015825	0.016441	0.014608	0.014933	0.015332	0.015825	0.016441
Monthly Capital Recovery Charge - Equity	0.29	0.29	0.29	0.29	0.29	0.42	0.42	0.42	0.42	0.42
<b>Annual Capital Recovery Charge - Equity</b>	<b>3.52</b>	<b>3.52</b>	<b>3.52</b>	<b>3.52</b>	<b>3.52</b>	<b>5.04</b>	<b>5.04</b>	<b>5.04</b>	<b>5.04</b>	<b>5.04</b>
Monthly Capital Recovery Charge - Total	0.77	0.77	0.77	0.77	0.77	1.12	1.12	1.12	1.12	1.12
<b>Annual Capital Recovery Charge - Total</b>	<b>9.28</b>	<b>9.28</b>	<b>9.28</b>	<b>9.28</b>	<b>9.28</b>	<b>13.39</b>	<b>13.39</b>	<b>13.39</b>	<b>13.39</b>	<b>13.39</b>
<b>O&amp;M Expenses (Annualized)</b>	<b>38.46</b>	<b>36.19</b>	<b>54.57</b>	<b>56.38</b>	<b>58.25</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**Central Portion - Charges**

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charge - Loan	5.76	5.76	5.76	5.76	5.76	8.34	8.34	8.34	8.34	8.34
Annual Capital Recovery Charge - Equity	3.52	3.52	3.52	3.52	3.52	5.04	5.04	5.04	5.04	5.04
<b>Annual Capital Recovery Charge - Total</b>	<b>9.28</b>	<b>9.28</b>	<b>9.28</b>	<b>9.28</b>	<b>9.28</b>	<b>13.39</b>	<b>13.39</b>	<b>13.39</b>	<b>13.39</b>	<b>13.39</b>
<b>O&amp;M Expenses</b>	<b>38.46</b>	<b>36.19</b>	<b>54.57</b>	<b>56.38</b>	<b>58.25</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Interest on Working Capital <sup>1</sup>	2.34	2.21	3.23	3.33	3.43	0.31	0.31	0.31	0.31	0.31
<b>Total Fee &amp; Charges</b>	<b>50.08</b>	<b>47.69</b>	<b>67.08</b>	<b>68.99</b>	<b>70.96</b>	<b>13.69</b>	<b>13.69</b>	<b>13.69</b>	<b>13.69</b>	<b>13.69</b>

**Interest on Working**

Particular	2014-15	2015-16	2016-17	2017-18	2018-19	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares (15% of	5.77	5.43	8.19	8.46	8.74	0.00	0.00	0.00	0.00	0.00



O&M)										
O&M Expenses (1 Month)	3.21	3.02	4.55	4.70	4.85	0.00	0.00	0.00	0.00	0.00
Receivables (2 months)	8.35	7.95	11.18	11.50	11.83	2.28	2.28	2.28	2.28	2.28
<b>Total</b>	<b>17.32</b>	<b>16.39</b>	<b>23.91</b>	<b>24.65</b>	<b>25.42</b>	<b>2.28</b>	<b>2.28</b>	<b>2.28</b>	<b>2.28</b>	<b>2.28</b>
Rate of Interest on Working Capital	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%
<b>Total Interest on Working Capital (Annualized)</b>	<b>2.34</b>	<b>2.21</b>	<b>3.23</b>	<b>3.33</b>	<b>3.43</b>	<b>0.31</b>	<b>0.31</b>	<b>0.31</b>	<b>0.31</b>	<b>0.31</b>

Note: As per practise, Additional Capital Expenditure for the respective year are considered at the end of the corresponding year. Therefore, the impact of the additional capital expenditure for a particular year is considered in the tariff for the following year.



## Annexure-4

### Wt. Average Rate of Interest (for 2014-19) - Central Portion

(Rs. in Lacs)

2014-15							
Loan	Opening	Repayment	Closing	Average	Rate of interest	Interest	Weighted Average Rate of Interest
Bond XL	19.92	0.00	19.92	19.92	9.3000%	1.85	
Bond XLII	16.39	0.00	16.39	16.39	8.8000%	1.44	
Bond XLII (Add Cap 2013-14)	1.03	0.00	1.03	1.03	8.8000%	0.09	
Bond XLIII (Add Cap 2013-14)	15.36	0.00	15.36	15.36	7.9300%	1.22	
<b>Total Loan</b>	<b>52.70</b>	<b>0.00</b>	<b>52.70</b>	<b>52.70</b>		<b>4.60</b>	<b>8.7354%</b>
2015-16							
Loan	Opening	Repayment	Closing	Average	Rate of interest	Interest	Weighted Average Rate of Interest
Bond XL	19.92	0.00	19.92	19.92	9.3000%	1.85	
Bond XLII	16.39	0.00	16.39	16.39	8.8000%	1.44	
Bond XLII (Add Cap 2013-14)	1.03	0.00	1.03	1.03	8.8000%	0.09	
Bond XLIII (Add Cap 2013-14)	15.36	0.00	15.36	15.36	7.9300%	1.22	
<b>Total Loan</b>	<b>52.70</b>	<b>0.00</b>	<b>52.70</b>	<b>52.70</b>		<b>4.60</b>	<b>8.7354%</b>
2016-17							
Loan	Opening	Repayment	Closing	Average	Rate of interest	Interest	Weighted Average Rate of Interest
Bond XL	19.92	0.00	19.92	19.92	9.3000%	1.85	
Bond XLII	16.39	0.00	16.39	16.39	8.8000%	1.44	
Bond XLII (Add Cap 2013-14)	1.03	0.00	1.03	1.03	8.8000%	0.09	
Bond XLIII (Add Cap 2013-14)	15.36	0.00	15.36	15.36	7.9300%	1.22	
<b>Total Loan</b>	<b>52.70</b>	<b>0.00</b>	<b>52.70</b>	<b>52.70</b>		<b>4.60</b>	<b>8.7354%</b>
2017-18							
Loan	Opening	Repayment	Closing	Average	Rate of interest	Interest	Weighted Average Rate of Interest
Bond XL	19.92	0.00	19.92	19.92	9.3000%	1.85	
Bond XLII	16.39	0.00	16.39	16.39	8.8000%	1.44	



Bond XLII (Add Cap 2013-14)	1.03	0.00	1.03	1.03	8.8000%	0.09	
Bond XLIII (Add Cap 2013-14)	15.36	0.00	15.36	15.36	7.9300%	1.22	
<b>Total Loan</b>	<b>52.70</b>	<b>0.00</b>	<b>52.70</b>	<b>52.70</b>		<b>4.60</b>	<b>8.7354%</b>

Loan	2018-19						
	Opening	Repayment	Closing	Average	Rate of interest	Interest	Weighted Average Rate of Interest
Bond XL	19.92	0.00	19.92	19.92	9.3000%	1.85	
Bond XLII	16.39	0.00	16.39	16.39	8.8000%	1.44	
Bond XLII (Add Cap 2013-14)	1.03	0.00	1.03	1.03	8.8000%	0.09	
Bond XLIII (Add Cap 2013-14)	15.36	0.00	15.36	15.36	7.9300%	1.22	
<b>Total Loan</b>	<b>52.70</b>	<b>0.00</b>	<b>52.70</b>	<b>52.70</b>		<b>4.60</b>	<b>8.7354%</b>





## Annexure-5

### Wt. Average Rate of Interest (for 2014-19) - State Portion

(Rs. in Lacs)

2014-15							
Loan	Opening	Repayment	Closing	Average	Rate of interest	Interest	Weighted Average Rate of Interest
Bond XL	40.08	0.00	40.08	40.08	9.3000%	3.73	
Bond XLII	32.96	0.00	32.96	32.96	8.8000%	2.90	
Bond XLII (Add Cap 2013-14)	2.08	0.00	2.08	2.08	8.8000%	0.18	
Bond XLIII (Add Cap 2013-14)	3.74	0.00	3.74	3.74	7.9300%	0.30	
<b>Total Loan</b>	<b>78.86</b>	<b>0.00</b>	<b>78.86</b>	<b>78.86</b>		<b>7.11</b>	<b>9.0129%</b>
2015-16							
Loan	Opening	Repayment	Closing	Average	Rate of interest	Interest	Weighted Average Rate of Interest
Bond XL	40.08	0.00	40.08	40.08	9.3000%	3.73	
Bond XLII	32.96	0.00	32.96	32.96	8.8000%	2.90	
Bond XLII (Add Cap 2013-14)	2.08	0.00	2.08	2.08	8.8000%	0.18	
Bond XLIII (Add Cap 2013-14)	3.74	0.00	3.74	3.74	7.9300%	0.30	
<b>Total Loan</b>	<b>78.86</b>	<b>0.00</b>	<b>78.86</b>	<b>78.86</b>		<b>7.11</b>	<b>9.0129%</b>
2016-17							
Loan	Opening	Repayment	Closing	Average	Rate of interest	Interest	Weighted Average Rate of Interest
Bond XL	40.08	0.00	40.08	40.08	9.3000%	3.73	
Bond XLII	32.96	0.00	32.96	32.96	8.8000%	2.90	
Bond XLII (Add Cap 2013-14)	2.08	0.00	2.08	2.08	8.8000%	0.18	
Bond XLIII (Add Cap 2013-14)	3.74	0.00	3.74	3.74	7.9300%	0.30	
<b>Total Loan</b>	<b>78.86</b>	<b>0.00</b>	<b>78.86</b>	<b>78.86</b>		<b>7.11</b>	<b>9.0129%</b>
2017-18							
Loan	Opening	Repayment	Closing	Average	Rate of interest	Interest	Weighted Average Rate of Interest
Bond XL	40.08	0.00	40.08	40.08	9.3000%	3.73	
Bond XLII	32.96	0.00	32.96	32.96	8.8000%	2.90	



Bond XLII (Add Cap 2013-14)	2.08	0.00	2.08	2.08	8.8000%	0.18	
Bond XLIII (Add Cap 2013-14)	3.74	0.00	3.74	3.74	7.9300%	0.30	
<b>Total Loan</b>	<b>78.86</b>	<b>0.00</b>	<b>78.86</b>	<b>78.86</b>		<b>7.11</b>	<b>9.0129%</b>

2018-19							
Loan	Opening	Repayment	Closing	Average	Rate of interest	Interest	Weighted Average Rate of Interest
Bond XL	40.08	0.00	40.08	40.08	9.3000%	3.73	
Bond XLII	32.96	0.00	32.96	32.96	8.8000%	2.90	
Bond XLII (Add Cap 2013-14)	2.08	0.00	2.08	2.08	8.8000%	0.18	
Bond XLIII (Add Cap 2013-14)	3.74	0.00	3.74	3.74	7.9300%	0.30	
<b>Total Loan</b>	<b>78.86</b>	<b>0.00</b>	<b>78.86</b>	<b>78.86</b>		<b>7.11</b>	<b>9.0129%</b>

