

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 19/TT/2015**

**Coram:**

**Shri A.K. Singhal, Member  
Shri A.S. Bakshi, Member**

**Date of Hearing : 26.02.2016**

**Date of Order : 15.07.2016**

**In the matter of:**

Miscellaneous petition for approval under sub-section 4 of Section 28 of the Electricity Act, 2003 for determination of (i) Truing up of fee and charges for the period 2009-14 block and (ii) fee and charges for the period 2014-19 block for Unified Load Despatch and Communication Scheme (PGCIL portion i.e. Communication system portion and SLDC system retained by PGCIL after formation of POSOCO) in Northern 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, Lodhi Road,  
New Delhi
3. Satluj Jal Vidyut Nigam Limited,  
Power Project, Jhakri, Rampur, District Shimla,  
Himachal Pradesh-172 201
4. THDC India Limited,  
Bhagirath Puram, Tehri,  
Uttarakhand-249 001



5. Nuclear Power Corporation of India Limited,  
Nabhkiya Bhawan, Anu-Shakti Nagar,  
Mumbai-400 094
6. ADHPL,  
Bhilwara Towers, A-12, Sector-1  
Noida-201 301
7. Aravali Power Company Private Limited,  
Indira Gandhi Super Thermal Power Project,  
PO: Jharli, District Jhajjar, Haryana
8. Jaypee Karchan Hydro Corporation Limited,  
Sector-128, Noida-201 304
9. Everest Power Private Limited,  
1<sup>st</sup> Floor, Hall-1, NBCC Tower,  
Bhikaji Cama Place, New Delhi-110 066
10. Shree Cement Limited,  
PO Box No. 33, Bangur Nagar,  
Beawar-305 901, District: Ajmer (Rajasthan)
11. Chandigarh (Electricity Department),  
UT Chandigarh, Sector-9,  
Chandigarh-160 019
12. Delhi Transco Limited,  
SLDC Building (Behind Jakir Husain College),  
Tagore Hostel Lane, Minto Road,  
New Delhi-110 002
13. Haryana Vidyut Prasaran Nigam Limited,  
Room No.-213, Shakti Bhawan, Sector-6,  
Panchkula-134 109, Haryana
14. Himachal Pradesh State Electricity Board,  
Totu, Shimla-171 011, Himachal Pradesh
15. Power Development Department,  
Government of J & K, Narwal Bala,  
Gladni-180 004, Jammu
16. PSTCL,  
SLDC Building, 220 kV Sub-station Ablowal,  
Patiala-147 001, Punjab
17. RVPN,  
Vidyut Bhawan, Jyoti Nagar,  
Vidyut Marg, Jaipur-302 015, Rajasthan



18. U.P. Power Corporation Limited,  
Electricity Import-Export & Payment Circle,  
11<sup>th</sup> Floor, Shakti Bhawan Extension,  
14-Ashok Marg, Lucknow-226 001, U.P
19. Northern Central Railway,  
Nawabyusuf Road, Allahabad
20. Uttranchal Power Corporation Limited,  
Kanwali Road, Urja Bhawan,  
Dehradun-248 001, Uttrakhand
21. Powerlinks Transmission Limited,  
10<sup>th</sup> Floor, DLF Tower-A,  
District Centre, Jasola,  
New Delhi-110 044

....Respondents

**For petitioner** : Shri S.S Raju, PGCIL  
Shri Jasbir Singh, PGCIL  
Ms. Sangeeta Edwards, PGCIL  
Shri M.M. Mondal, PGCIL  
Ms. Treepti, PGCIL  
Shri K.K. Jain, PGCIL

**For respondents** : Ms. Sheela Mishra, RVPN  
Shri Arvind Agrawal, RVPN

### **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 for trueing up of annual fees and charges for Communication System Portion and SLDC System retained in Northern Region for the 2009-14 period based on actual expenditure for the period 1.4.2009 to 31.3.2014 and for determination of tariff for the period from 1.4.2014 to 31.3.2019.



2. The details of the assets covered in the instant petition are given in the table below. The tariff for the 2009-14 tariff period for the instant assets was allowed vide order dated 17.12.2013 in Petition No.59/TT/2012.

Details of the Asset
PGCIL retained microwave system
PGCIL retained non-microwave system

3. This order has been issued after considering the petitioner's affidavit dated 3.3.2016.

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 petition on the respondents. None of the respondents have filed any reply.

5. The hearing in the matter was held on 26.2.2016. Having heard the representatives of the parties and perused the material on record, we proceed to dispose of the petition.

#### **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 Ltd. 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.

8. Thereafter, the petitioner filed a Miscellaneous Petition No. 68/2010 under sub-section (4) of Section 28 of Electricity Act 2003 and Regulations 44 "Power to Relax" of the CERC (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. In the absence of any provision in the 2009 Tariff Regulations regarding determination of tariff of communication system and ULDC system of the petitioner and to continue with the levelised tariff for the instant assets, the annual fee and charges of the communication system and SLDC System retained by the petitioner were approved vide order dated 17.12.2013 in Petition No. 59/TT/2012, as per the principles approved by the Commission vide order dated 8.12.2011 in Petition No 68/2010.

11. The net capital cost as on 1.4.2009 of the instant assets as approved vide order dated 17.12.2013 in Petition No. 59/TT/2012 is as under:-

Particulars	Capital	(₹ in lakh)	
		Central Portion	State Portion
Retained Gross Capital Cost as on 31.3.2009-“Microwave”	Loan	3458.03	7026.66
	Equity	585.27	1545.53
	<b>Total</b>	<b>4043.30</b>	<b>8572.19</b>
Retained Gross Capital Cost as on 31.3.2009-“Non-Microwave”	Loan	7328.04	18020.65
	Equity	1240.26	3963.68
	<b>Total</b>	<b>8568.30</b>	<b>21984.33</b>



Capital Cost Recovered up to 31.3.2009-“Microwave”	Loan	1160.64	2357.10
	Equity	120.43	310.98
	<b>Total</b>	<b>1281.06</b>	<b>2668.08</b>
Capital Cost Recovered up to 31.3.2009-“Non-Microwave”	Loan	2459.55	6045.05
	Equity	255.20	797.54
	<b>Total</b>	<b>2714.75</b>	<b>6842.59</b>
Net Capital Cost as on 31.3.2009-“Microwave”	Loan	2297.39	4669.56
	Equity	464.84	1234.55
	<b>Total</b>	<b>2762.24</b>	<b>5904.11</b>
Net Capital Cost as on 31.3.2009-“Non-Microwave”	Loan	4868.49	11975.60
	Equity	985.06	3166.14
	<b>Total</b>	<b>5853.55</b>	<b>15141.74</b>

12. The annual fee and charges for 2009-14 for the instant assets as approved vide order dated 17.12.2013 in Petition No. 59/TT/2012 are as hereunder:-

(₹ in lakh)			
Particulars	Microwave-Central Portion		
	2009-10	2010-11	2011-12
Annual Capital Recovery Charge-Loan	850.20	850.20	850.20
Annual Capital Recovery Charge-Equity	194.74	194.74	194.74
<b>Annual Capital Recovery Charge-Total</b>	<b>1044.94</b>	<b>1044.94</b>	<b>1044.94</b>
O&M Expenses	-	-	-
Interest on Working Capital	21.78	21.78	21.78
<b>Total Fee &amp; Charges</b>	<b>1066.72</b>	<b>1066.72</b>	<b>1066.72</b>
Particulars	Microwave-State Portion		
	2009-10	2010-11	2011-12
Annual Capital Recovery Charge-Loan	1728.08	1728.08	1728.08
Annual Capital Recovery Charge-Equity	517.19	517.19	517.19
<b>Annual Capital Recovery Charge-Total</b>	<b>2245.27</b>	<b>2245.27</b>	<b>2245.27</b>
O&M Expenses	-	-	-
Interest on Working Capital	46.80	46.80	46.80
<b>Total Fee &amp; Charges</b>	<b>2292.06</b>	<b>2292.06</b>	<b>2292.06</b>

(₹ in lakh)					
Particulars	Non-Microwave-Central Portion				
	2009-10	2010-11	2011-12	2012-13	2013-14
Annual Capital Recovery Charge-Loan	770.34	770.34	770.34	770.34	770.34
Annual Capital Recovery Charge-Equity	211.21	211.21	211.21	211.21	211.21
<b>Annual Capital Recovery Charge-Total</b>	<b>981.55</b>	<b>981.55</b>	<b>981.55</b>	<b>981.55</b>	<b>981.55</b>
O&M Expenses	938.23	832.83	1007.94	411.70	472.94
Interest on Working Capital	67.39	62.12	70.88	41.05	44.11
<b>Total Fee &amp; Charges</b>	<b>1987.16</b>	<b>1876.49</b>	<b>2060.36</b>	<b>1434.30</b>	<b>1498.60</b>
Particulars	Non-Microwave-State Portion				
	2009-10	2010-11	2011-12	2012-13	2013-14
Annual Capital Recovery Charge-Loan	1894.89	1894.89	1894.89	1894.89	1894.89



Annual Capital Recovery Charge-Equity	678.86	678.86	678.86	678.86	678.86
<b>Annual Capital Recovery Charge-Total</b>	<b>2573.75</b>	<b>2573.75</b>	<b>2573.75</b>	<b>2573.75</b>	<b>2573.75</b>
O&M Expenses	-	-	-	-	-
Interest on Working Capital	53.64	53.64	53.64	53.64	53.64
<b>Total Fee &amp; Charges</b>	<b>2627.39</b>	<b>2627.39</b>	<b>2627.39</b>	<b>2627.39</b>	<b>2627.39</b>

### Truing-up of Fee and Charges for 2009-14 Tariff Period

#### Capital cost

13. The net capital cost as approved vide order dated 17.12.2013 in Petition No. 59/TT/2012 has been considered as on 1.4.2009 for the purpose of truing up of fee and charges for the instant assets as discussed at para-11. The petitioner has not claimed any additional capital expenditure during 2009-14 tariff period.

#### Debt-Equity ratio

14. The debt: equity ratio as on 1.4.2009, as approved vide order dated 17.12.2013 in Petition No. 59/TT/2012 has been considered for the purpose of truing up and it is as under:-

(₹ in lakh)

Particulars	Microwave					
	Central portion		State portion		Total	
	Amount	%	Amount	%	Amount	%
Loan/Debt	2297.39	83.17	4669.56	79.09	6966.95	80.39
Equity	464.84	16.83	1234.55	20.91	1699.39	19.61
<b>Total</b>	<b>2762.24</b>	<b>100.00</b>	<b>5904.11</b>	<b>100.00</b>	<b>8666.35</b>	<b>100.00</b>
Particulars	Non-Microwave					
	Central portion		State portion		Total	
	Amount	%	Amount	%	Amount	%
Loan/Debt	4868.49	83.17	11975.60	79.09	16844.09	80.23
Equity	985.06	16.83	3166.14	20.91	4151.20	19.77
<b>Total</b>	<b>5853.55</b>	<b>100.00</b>	<b>15141.74</b>	<b>100.00</b>	<b>20995.29</b>	<b>100.00</b>

15. The total capital cost in respect of Microwave Portion has been recovered during the period 2009-14, in line with order dated 8.12.2011 in Petition No.



68/TT/2010. Thus, the debt; equity ratio as on 31.3.2014 for Non-Microwave system is as follows:-

Particulars	(₹ in lakh)					
	Non-Microwave					
	Central portion		State portion		Total	
	Amount	%	Amount	%	Amount	%
Loan/Debt	2239.71	80.37	5509.28	75.80	7748.99	77.07
Equity	547.12	19.63	1758.55	24.20	2305.67	22.93
<b>Total</b>	<b>2786.83</b>	<b>100.00</b>	<b>7267.83</b>	<b>100.00</b>	<b>10054.66</b>	<b>100.00</b>

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

16. The Capital Recovery Factor for loan in respect of instant assets has been calculated by applying weighted average rate of interest on the basis of the impact due to change in floating rate of interest of loan and it works out to be 6.5515%, 6.2633% and 6.1246% for 2009-10, 2010-11 and 2011-12 in respect of Microwave system and 6.5515%, 6.2633%, 6.1246%, 5.7621% and 5.1373% for 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14 in respect of Non-Microwave system respectively. Thus, the rates considered on annual basis, have been converted to monthly rates. The details of weighted average rate of interest calculation are attached at Annexure-3 to this order. Thus, monthly recovery factors for loan for Central Portion and State Portion for instant assets are as under:-

CRF for loan to be considered for Fee & Charges					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Microwave-Central Portion	0.030672	0.044439	0.086124	-	-
Microwave-State Portion	0.030672	0.044439	0.086124	-	-
Non-Microwave-Central Portion	0.013004	0.014202	0.015907	0.018186	0.021492
Non-Microwave-State Portion	0.013004	0.014202	0.015907	0.018186	0.021492

17. The Capital Recovery Factor for equity has been considered on the same basis as approved vide order dated 17.12.2013 in Petition No. 59/TT/2012 and on post-tax return on equity of 15.50%. Thus, monthly recovery factors for equity for Central Portion and State Portion for instant assets are as follows:-



<b>CRF for equity to be considered for Fee &amp; Charges</b>					
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Microwave-Central Portion	0.034911	0.048725	0.090494	-	-
Microwave-State Portion	0.034911	0.048725	0.090494	-	-
Non-Microwave-Central Portion	0.017868	0.019086	0.020735	0.023058	0.026526
Non-Microwave-State Portion	0.017868	0.019086	0.020735	0.023058	0.026526

18. In view of above, the amount of monthly capital recovery charges for loan and equity both for Central and State portions for instant assets have been considered by using respective Capital Recovery Factors and are as follows:-

(₹ in lakh)

<b>Monthly capital recovery charges for loan</b>					
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Microwave-Central Portion	70.47	70.26	70.21	-	-
Microwave-State Portion	143.23	142.81	142.70	-	-
Non-Microwave-Central Portion	63.31	62.69	62.43	61.85	61.04
Non-Microwave-State Portion	155.73	154.21	153.57	152.15	150.16

(₹ in lakh)

<b>Monthly capital recovery charges for equity</b>					
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Microwave-Central Portion	16.23	16.23	16.23	-	-
Microwave-State Portion	43.10	43.10	43.10	-	-
Non-Microwave-Central Portion	17.60	17.60	17.60	17.60	17.60
Non-Microwave-State Portion	56.57	56.57	56.57	56.57	56.57

19. Accordingly, the recovery of capital during 2009-14 has been worked out. Further, in line with order dated 8.12.2011 in Petition No. 68/TT/2010, the total capital cost in respect of Microwave Portion has been recovered during the period 2009-14. The details are as under:-

(₹ in lakh)

<b>Particulars</b>	<b>Capital</b>	<b>Central Portion</b>	<b>State Portion</b>
Capital Cost Recovered during 2009-14-“Microwave”	Loan	2297.40	4669.56
	Equity	464.84	1234.55
	<b>Total</b>	<b>2762.24</b>	<b>5904.11</b>
Capital Cost Recovered during 2009-14-“Non-Microwave”	Loan	2628.78	6466.32
	Equity	437.94	1407.60
	<b>Total</b>	<b>3066.72</b>	<b>7873.92</b>



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

20. The petitioner has not submitted any claim for O&M Expenses in case of Microwave system for Central Portion and State portion and Non Microwave system for State portion. The petitioner has submitted claim for O&M Expenses in case of Non-Microwave system for Central Portion on actual basis. The details of O&M Expenses claimed earlier by the petitioner on actual basis for 2009-10, 2010-11 and 2011-12 but on projected basis for 2012-13 and 2013-14 and allowed vide order dated 17.12.2013 in Petition No. 59/TT/2012 are as follows:-

(₹ in lakh)					
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Claimed by petitioner in P. No. 59/TT/2012	941.69	835.58	1008.38	413.99	775.39
Amount allowed vide order dated 17.12.2013	938.23	832.83	1007.94	411.76	472.94
<b>Amount disallowed</b>	<b>3.46</b>	<b>2.75</b>	<b>0.44</b>	<b>2.23</b>	<b>302.45</b>

21. The claim for actual O&M Expenses amounting to ₹3.46 lakh, ₹2.75 lakh and ₹0.44 lakh for 2009-10, 2010-11 and 2011-12 was disallowed as the petitioner had not submitted details of the amounts claimed as “miscellaneous expenses”. The petitioner in the instant petition has not revised its claim of O&M Expenses for 2009-10, 2010-11 and 2011-12 and has submitted the details of miscellaneous expenses earlier disallowed in Petition No. 59/TT/2012 for 2009-10, 2010-11 and 2011-12. In line with decision earlier taken vide order dated 11.6.2014 in Review Petition No. 3/RP/2014, we are of the view that in case of details submitted, the O&M Expenses claimed on actual basis for 2009-10, 2010-11 and 2011-12 are to be allowed for determination of fee and charges in this order also.

22. The petitioner has revised its claim of O&M Expenses for 2012-13 and 2013-14 on actual basis amounting to ₹362.24 lakh and ₹615.54 lakh respectively in the



instant petition. However, it is noted that the claim of the petitioner for O&M Expenses includes Foreign Exchange Rate Variation (FERV) of (-) ₹0.71 lakh and ₹0.07 lakh for 2012-13 and 2013-14 respectively and one time lease charges of ₹269.65 lakh for 2013-14, which are not allowable as O&M Expenses in line with the principles approved by the Commission vide order dated 8.12.2011 in Petition No. 68/2010. Accordingly, the details of O&M Expenses allowed in the instant petition are as follows:-

(₹ in lakh)					
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Claimed by petitioner	941.69	835.58	1008.38	362.24	615.54
Amount now allowed	941.69	835.58	1008.38	362.95	345.82
<b>Amount disallowed as O&amp;M Expenses</b>	-	-	-	<b>-0.71</b>	<b>269.72</b>

23. The claim of the petitioner for (-) ₹0.71 lakh and ₹0.07 lakh for 2012-13 and 2013-14 respectively on account of FERV and ₹269.65 lakh on account of one time lease charges for 2013-14 was further examined. As per principles laid down vide order dated 8.12.2011 in Petition No. 68/2010, such non-recurring expenditure is not allowable as O&M Expenses as it would make them a part of actual O&M Expenses and hence will broaden the base for O&M Expenses to be allowed/escalated for the purpose of determination of fee and charges during 2014-19.

24. However, we allow the amount of ₹269.65 lakh on account of one time lease charges for 2013-14 separately to be recovered directly from the beneficiaries or the long term transmission customers/DICs, as the case maybe.

25. As regards FERV, Regulation 41 of the 2009 Tariff Regulations specifies as follows:-



**“41. Recovery of cost of hedging Foreign Exchange Rate Variation.**

Recovery of cost of hedging and foreign exchange rate variation shall be made directly by the generating company or the transmission licensee, as the case may be, from the beneficiaries or the transmission customers, as the case may be, without making any application before the Commission:

Provided that in case of any objections by the beneficiaries to the amounts claimed on account of cost of hedging or foreign exchange rate variation, the generating company or the transmission licensee, as the case may be, may make an appropriate application before the Commission for its decision.”

26. Drawing analogy from Regulation 41 of the 2009 Tariff Regulations, the petitioner is allowed to recover amounts of (-) ₹0.71 lakh and ₹0.07 lakh for 2012-13 and 2013-14 respectively, on account of FERV directly from the beneficiaries or the long term transmission customers/DICs, as the case maybe, without making any application before the Commission.

**Interest on working capital**

27. The petitioner has not submitted any claim for O&M Expenses in case of Microwave system-Central Portion. Further, in the case of State Portion of both Microwave system and Non-Microwave system, O&M expenses are to borne by the concerned states. Accordingly, no O&M expenses and no maintenance spares have been considered for working out interest on working capital. Receivables for two months and SBI Base Rate as on 1.4.2009 i.e. 8.75% Plus 350 bps (12.25%) have been considered as the rate of interest on working capital for the Microwave system-Central Portion, Microwave system-State Portion and Non-Microwave system-State Portion. The necessary computations in support of interest on working capital for Microwave system-Central Portion, Microwave system-State Portion and Non-Microwave system-State Portion are as follows:-



(₹ in lakh)

Particulars	Microwave-Central Portion			Microwave-State Portion		
	2009-10	2010-11	2011-12	2009-10	2010-11	2011-12
Maintenance Spares	-	-	-	-	-	-
O & M Expenses	-	-	-	-	-	-
Receivables	177.00	176.58	176.58	380.42	379.56	379.35
<b>Total</b>	<b>177.00</b>	<b>176.58</b>	<b>176.58</b>	<b>380.42</b>	<b>379.56</b>	<b>379.35</b>
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%	12.25%
<b>Interest</b>	<b>21.68</b>	<b>21.63</b>	<b>21.62</b>	<b>46.60</b>	<b>46.50</b>	<b>46.47</b>

(₹ in lakh)

Particulars	Non-Microwave-State Portion				
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	-	-	-	-	-
O & M Expenses	-	-	-	-	-
Receivables	433.44	430.34	429.04	426.15	422.07
<b>Total</b>	<b>433.44</b>	<b>430.34</b>	<b>429.04</b>	<b>426.15</b>	<b>422.07</b>
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
<b>Interest</b>	<b>53.10</b>	<b>52.72</b>	<b>52.56</b>	<b>52.20</b>	<b>51.70</b>

28. However, in the case of Non-Microwave system-Central Portion, the petitioner has claimed O&M Expenses and accordingly O&M Expenses for 1 month, Maintenance spares @15% of O&M Expenses, receivables for two months and SBI Base Rate as on 1.4.2009 i.e. 8.75% Plus 350 bps (12.25%) have been considered as the rate of interest on working capital for the Non-Microwave system-Central Portion. The necessary computations of interest on working capital for Non-Microwave system-Central Portion are as under:-

(₹ in lakh)

Particulars	Non-Microwave-Central Portion				
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	141.25	125.34	151.26	54.44	51.87
O & M Expenses	78.47	69.63	84.03	30.25	28.82
Receivables	329.99	310.16	339.87	225.74	221.09
<b>Total</b>	<b>549.72</b>	<b>505.13</b>	<b>575.16</b>	<b>310.43</b>	<b>301.78</b>
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
<b>Interest</b>	<b>67.34</b>	<b>61.88</b>	<b>70.46</b>	<b>38.03</b>	<b>36.97</b>



## **Annual Fee and charges-2009-14**

29. The detailed computation of the various components of the trued up annual fee and charges for the instant assets for the tariff period 2009-14 is summarised as follows:-

(₹ in lakh)			
<b>Microwave-Central Portion-fee and charges</b>			
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>
<b>Opening Gross Capital Cost</b>	<b>4043.30</b>	<b>4043.30</b>	<b>4043.30</b>
Opening Gross Notional Loan	3458.03	3458.03	3458.03
Opening Gross Equity	585.27	585.27	585.27
<b>Recovered Gross Capital Cost (As on 1st April)</b>	<b>1281.06</b>	<b>2129.19</b>	<b>3048.77</b>
Recovered Gross Notional Loan	1160.64	1876.98	2642.82
Recovered Gross Equity	120.43	252.21	405.94
<b>Opening Net Capital Cost</b>	<b>2762.24</b>	<b>1914.11</b>	<b>994.53</b>
Opening Net Notional Loan	2297.40	1581.05	815.21
Opening Net Equity	464.84	333.05	179.32
<b>Recovered Capital Cost (During the Year)</b>	<b>848.13</b>	<b>919.57</b>	<b>994.53</b>
Recovered Notional Loan	716.34	765.84	815.21
Recovered Equity	131.79	153.73	179.32
<b>Closing Net Capital Cost</b>	<b>1914.11</b>	<b>994.53</b>	<b>0.00</b>
Closing Net Notional Loan	1581.05	815.21	0.00
Closing Net Equity	333.05	179.32	0.00
<b>Additional Capital Cost</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Additional Notional Loan	0.00	0.00	0.00
Additional Equity	0.00	0.00	0.00
Years (Capital to be recovered up to 31.3.2012)	3.00	2.00	<b>1.00</b>
Months	36.00	24.00	12.00
Weighted Average Rate of Interest p.a.	6.5515%	6.2633%	6.1246%
Weighted Average Rate of Interest p.m.	0.5460%	0.5219%	0.5104%
Monthly Recovery Factors-Loan	0.030672	0.044439	0.086124
Monthly Capital Recovery Charge-Loan	70.47	70.26	70.21
<b>Annual Capital Recovery Charge-Loan</b>	<b>845.60</b>	<b>843.13</b>	<b>842.51</b>
Rate of Return on Equity p.a.	15.500%	15.500%	15.500%
Rate of Return on Equity p.m.	1.292%	1.292%	1.292%
Monthly Recovery Factors-Equity	0.034911	0.048725	0.090494
Monthly Capital Recovery Charge-Equity	16.23	16.23	16.23
<b>Annual Capital Recovery Charge-Equity</b>	<b>194.73</b>	<b>194.73</b>	<b>194.73</b>
Monthly Capital Recovery Charge-Total	86.69	86.49	86.44
<b>Annual Capital Recovery Charge-Total</b>	<b>1040.34</b>	<b>1037.87</b>	<b>1037.24</b>
<b>O&amp;M Expenses (Annualized)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>



<b>Allowable Fee &amp; Charges</b>			
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>
Annual Capital Recovery Charge-Loan	845.60	843.13	842.51
Annual Capital Recovery Charge-Equity	194.73	194.73	194.73
<b>Annual Capital Recovery Charge-Total</b>	<b>1040.34</b>	<b>1037.87</b>	<b>1037.24</b>
O&M Expenses	0.00	0.00	0.00
Interest on Working Capital	21.68	21.63	21.62
<b>Total Fee &amp; Charges</b>	<b>1062.02</b>	<b>1059.50</b>	<b>1058.86</b>
<b>Microwave-State Portion-fee and charges</b>			
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>
<b>Opening Gross Capital Cost</b>	<b>8572.19</b>	<b>8572.19</b>	<b>8572.19</b>
Opening Gross Notional Loan	7026.66	7026.66	7026.66
Opening Gross Equity	1545.53	1545.53	1545.53
<b>Recovered Gross Capital Cost (As on 1st April)</b>	<b>2668.08</b>	<b>4474.09</b>	<b>6438.98</b>
Recovered Gross Notional Loan	2357.10	3813.10	5369.71
Recovered Gross Equity	310.98	660.99	1069.27
<b>Opening Net Capital Cost</b>	<b>5904.11</b>	<b>4098.10</b>	<b>2133.21</b>
Opening Net Notional Loan	4669.56	3213.56	1656.95
Opening Net Equity	1234.55	884.54	476.26
<b>Recovered Capital Cost (During the Year)</b>	<b>1806.01</b>	<b>1964.89</b>	<b>2133.21</b>
Recovered Notional Loan	1456.00	1556.61	1656.95
Recovered Equity	350.01	408.28	476.26
<b>Closing Net Capital Cost</b>	<b>4098.10</b>	<b>2133.21</b>	<b>0.00</b>
Closing Net Notional Loan	3213.56	1656.95	0.00
Closing Net Equity	884.54	476.26	0.00
<b>Additional Capital Cost</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Additional Notional Loan	0.00	0.00	0.00
Additional Equity	0.00	0.00	0.00
Years (Capital to be recovered up to 31.3.2012)	3.00	2.00	<b>1.00</b>
Months	36.00	24.00	12.00
Weighted Average Rate of Interest p.a.	6.5515%	6.2633%	6.1246%
Weighted Average Rate of Interest p.m.	0.5460%	0.5219%	0.5104%
Monthly Recovery Factors-Loan	0.030672	0.044439	0.086124
Monthly Capital Recovery Charge-Loan	143.23	142.81	142.70
<b>Annual Capital Recovery Charge-Loan</b>	<b>1718.72</b>	<b>1713.70</b>	<b>1712.43</b>
Rate of Return on Equity p.a.	15.500%	15.500%	15.500%
Rate of Return on Equity p.m.	1.292%	1.292%	1.292%
Monthly Recovery Factors-Equity	0.034911	0.048725	0.090494
Monthly Capital Recovery Charge-Equity	43.10	43.10	43.10
<b>Annual Capital Recovery Charge-Equity</b>	<b>517.19</b>	<b>517.19</b>	<b>517.19</b>
Monthly Capital Recovery Charge-Total	186.33	185.91	185.80
<b>Annual Capital Recovery Charge-Total</b>	<b>2235.91</b>	<b>2230.89</b>	<b>2229.62</b>
<b>O&amp;M Expenses (Annualized)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>



<b>Allowable Fee &amp; Charges</b>			
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>
Annual Capital Recovery Charge-Loan	1718.72	1713.70	1712.43
Annual Capital Recovery Charge-Equity	517.19	517.19	517.19
<b>Annual Capital Recovery Charge-Total</b>	<b>2235.91</b>	<b>2230.89</b>	<b>2229.62</b>
O&M Expenses	0.00	0.00	0.00
Interest on Working Capital	46.60	46.50	46.47
<b>Total Fee &amp; Charges</b>	<b>2282.51</b>	<b>2277.39</b>	<b>2276.09</b>

(₹ in lakh)

<b>Non-Microwave: Central Portion-fee and Charges</b>					
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
<b>Opening Gross Capital Cost</b>	<b>8568.30</b>	<b>8568.30</b>	<b>8568.30</b>	<b>8568.30</b>	<b>8568.30</b>
Opening Gross Notional Loan	7328.04	7328.04	7328.04	7328.04	7328.04
Opening Gross Equity	1240.26	1240.26	1240.26	1240.26	1240.26
<b>Recovered Gross Capital Cost (As on 1st April)</b>	<b>2714.75</b>	<b>3231.83</b>	<b>3794.86</b>	<b>4403.73</b>	<b>5064.45</b>
Recovered Gross Notional Loan	2459.55	2913.76	3403.46	3926.79	4487.72
Recovered Gross Equity	255.20	318.06	391.40	476.94	576.73
<b>Opening Net Capital Cost</b>	<b>5853.55</b>	<b>5336.47</b>	<b>4773.44</b>	<b>4164.57</b>	<b>3503.85</b>
Opening Net Notional Loan	4868.49	4414.28	3924.59	3401.26	2840.32
Opening Net Equity	985.06	922.19	848.86	763.31	663.53
<b>Recovered Capital Cost (During the Year)</b>	<b>517.08</b>	<b>563.03</b>	<b>608.87</b>	<b>660.72</b>	<b>717.02</b>
Recovered Notional Loan	454.21	489.69	523.33	560.93	600.61
Recovered Equity	62.87	73.33	85.54	99.79	116.40
<b>Closing Net Capital Cost</b>	<b>5336.47</b>	<b>4773.44</b>	<b>4164.57</b>	<b>3503.85</b>	<b>2786.83</b>
Closing Net Notional Loan	4414.28	3924.59	3401.26	2840.32	2239.71
Closing Net Equity	922.19	848.86	763.31	663.53	547.12
<b>Additional Capital Cost</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Additional Notional Loan	0.00	0.00	0.00	0.00	0.00
Additional Equity	0.00	0.00	0.00	0.00	0.00
Years (Capital to be recovered up to 31.7.2017)	8.33	7.33	6.33	5.33	4.33
Months	100.00	88.00	76.00	64.00	52.00
Weighted Average Rate of Interest p.a.	6.5515%	6.2633%	6.1246%	5.7621%	5.1373%
Weighted Average Rate of Interest p.m.	0.5460%	0.5219%	0.5104%	0.4802%	0.4281%
Monthly Recovery Factors-Loan	0.013004	0.014202	0.015907	0.018186	0.021492
Monthly Capital Recovery Charge-Loan	63.31	62.69	62.43	61.85	61.04
<b>Annual Capital Recovery Charge-Loan</b>	<b>759.69</b>	<b>752.28</b>	<b>749.16</b>	<b>742.26</b>	<b>732.52</b>
Rate of Return on Equity p.a.	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%
Monthly Recovery Factors-	0.01787	0.019086	0.020735	0.023058	0.026526



Equity					
Monthly Capital Recovery Charge-Equity	17.60	17.60	17.60	17.60	17.60
<b>Annual Capital Recovery Charge-Equity</b>	<b>211.21</b>	<b>211.21</b>	<b>211.21</b>	<b>211.21</b>	<b>211.21</b>
Monthly Capital Recovery Charge-Total	80.91	80.29	80.03	79.46	78.64
<b>Annual Capital Recovery Charge-Total</b>	<b>970.90</b>	<b>963.48</b>	<b>960.37</b>	<b>953.47</b>	<b>943.73</b>
<b>O&amp;M Expenses (Annualized)</b>	<b>941.69</b>	<b>835.58</b>	<b>1008.38</b>	<b>362.95</b>	<b>345.82</b>
<b>Allowable Fee &amp; Charges</b>					
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Annual Capital Recovery Charge-Loan	759.69	752.28	749.16	742.26	732.52
Annual Capital Recovery Charge-Equity	211.21	211.21	211.21	211.21	211.21
<b>Annual Capital Recovery Charge-Total</b>	<b>970.90</b>	<b>963.48</b>	<b>960.37</b>	<b>953.47</b>	<b>943.73</b>
O&M Expenses	941.69	835.58	1008.38	362.95	345.82
Interest on Working Capital	67.34	61.88	70.46	38.03	36.97
<b>Total Fee &amp; Charges</b>	<b>1979.93</b>	<b>1860.94</b>	<b>2039.21</b>	<b>1354.44</b>	<b>1326.52</b>
<b>Non-Microwave: State Portion-fee and Charges</b>					
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
<b>Opening Gross Capital Cost</b>	<b>21984.33</b>	<b>21984.33</b>	<b>21984.33</b>	<b>21984.33</b>	<b>21984.33</b>
Opening Gross Notional Loan	18020.65	18020.65	18020.65	18020.65	18020.65
Opening Gross Equity	3963.68	3963.68	3963.68	3963.68	3963.68
<b>Recovered Gross Capital Cost (As on 1st April)</b>	<b>6842.59</b>	<b>8161.93</b>	<b>9602.19</b>	<b>11164.44</b>	<b>12864.97</b>
Recovered Gross Notional Loan	6045.05	7162.33	8366.88	9654.17	11033.97
Recovered Gross Equity	797.54	999.60	1235.31	1510.27	1831.00
<b>Opening Net Capital Cost</b>	<b>15141.74</b>	<b>13822.40</b>	<b>12382.13</b>	<b>10819.89</b>	<b>9119.36</b>
Opening Net Notional Loan	11975.60	10858.32	9653.77	8366.47	6986.68
Opening Net Equity	3166.14	2964.08	2728.37	2453.41	2132.68
<b>Recovered Capital Cost (During the Year)</b>	<b>1319.34</b>	<b>1440.27</b>	<b>1562.25</b>	<b>1700.53</b>	<b>1851.53</b>
Recovered Notional Loan	1117.28	1204.56	1287.29	1379.79	1477.40
Recovered Equity	202.06	235.71	274.95	320.73	374.14
<b>Closing Net Capital Cost</b>	<b>13822.40</b>	<b>12382.13</b>	<b>10819.89</b>	<b>9119.36</b>	<b>7267.83</b>
Closing Net Notional Loan	10858.32	9653.77	8366.47	6986.68	5509.28
Closing Net Equity	2964.08	2728.37	2453.41	2132.68	1758.55
<b>Additional Capital Cost</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Additional Notional Loan	0.00	0.00	0.00	0.00	0.00
Additional Equity	0.00	0.00	0.00	0.00	0.00
Years (Capital to be recovered)	8.33	7.33	6.33	5.33	4.33



up to 31.7.2017)					
Months	100.00	88.00	76.00	64.00	52.00
Weighted Average Rate of Interest p.a.	6.5515%	6.2633%	6.1246%	5.7621%	5.1373%
Weighted Average Rate of Interest p.m.	0.5460%	0.5219%	0.5104%	0.4802%	0.4281%
Monthly Recovery Factors - Loan	0.013004	0.014202	0.015907	0.018186	0.021492
Monthly Capital Recovery Charge-Loan	155.73	154.21	153.57	152.15	150.16
<b>Annual Capital Recovery Charge-Loan</b>	<b>1868.71</b>	<b>1850.46</b>	<b>1842.81</b>	<b>1825.81</b>	<b>1801.86</b>
Rate of Return on Equity p.a.	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%
Monthly Recovery Factors-Equity	0.01787	0.019086	0.020735	0.023058	0.026526
Monthly Capital Recovery Charge-Equity	56.57	56.57	56.57	56.57	56.57
<b>Annual Capital Recovery Charge-Equity</b>	<b>678.86</b>	<b>678.86</b>	<b>678.86</b>	<b>678.86</b>	<b>678.86</b>
Monthly Capital Recovery Charge-Total	212.30	210.78	210.14	208.72	206.73
<b>Annual Capital Recovery Charge-Total</b>	<b>2547.57</b>	<b>2529.32</b>	<b>2521.67</b>	<b>2504.68</b>	<b>2480.72</b>
<b>O&amp;M Expenses (Annualized)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Allowable Fee &amp; Charges</b>					
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Annual Capital Recovery Charge-Loan	1868.71	1850.46	1842.81	1825.81	1801.86
Annual Capital Recovery Charge-Equity	678.86	678.86	678.86	678.86	678.86
<b>Annual Capital Recovery Charge-Total</b>	<b>2547.57</b>	<b>2529.32</b>	<b>2521.67</b>	<b>2504.68</b>	<b>2480.72</b>
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	53.10	52.72	52.56	52.20	51.70
<b>Total Fee &amp; Charges</b>	<b>2600.66</b>	<b>2582.04</b>	<b>2574.22</b>	<b>2556.88</b>	<b>2532.43</b>

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

30. 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 Clause (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 Regulation 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.

31. The instant assets were put into commercial operation before 1.4.2009 and the capital cost of Microwave system has been fully recovered during 2009-14. In view of above provision in the 2014 Tariff Regulations, the tariff of the communication system and ULDC system of the petitioner, we continue to allow levelised tariff for the Non-Microwave system as per the principles approved by the Commission vide order dated 8.12.2011 in Petition No 68/2010. Accordingly, the annual fee and charges of Non-Microwave system are determined in this order.

32. The annual fee and charges claimed by the petitioner are as hereunder:-

(₹ in lakh)

Particulars	Non-Microwave-Central Portion			
	2014-15	2015-16	2016-17	2017-18
Annual Capital Recovery Charges-loan	728.94	728.94	728.94	242.98
Annual Capital Recovery Charges-equity	224.88	224.88	224.88	74.96
<b>Annual Capital Recovery Charges-total</b>	<b>953.82</b>	<b>953.82</b>	<b>953.82</b>	<b>317.94</b>
O & M Expenses	635.98	657.09	678.91	233.82
Interest on working capital	57.09	58.25	59.46	15.36
<b>Total</b>	<b>1646.88</b>	<b>1669.16</b>	<b>1692.18</b>	<b>567.11</b>

(₹ in lakh)

Particulars	Non-Microwave-State Portion			
	2014-15	2015-16	2016-17	2017-18
Annual Capital Recovery Charges-loan	1793.06	1793.06	1793.06	597.70
Annual Capital Recovery Charges-equity	722.76	722.76	722.76	240.92
<b>Annual Capital Recovery Charges-total</b>	<b>2515.85</b>	<b>2515.85</b>	<b>2515.85</b>	<b>838.62</b>
O & M Expenses	-	-	-	-
Interest on working capital	57.91	57.91	57.91	20.23
<b>Total</b>	<b>2573.76</b>	<b>2573.76</b>	<b>2573.76</b>	<b>858.85</b>



### **Capital cost**

33. The net capital cost as trued-up and allowed in this order for 2009-14 has been considered as on 1.4.2014 for the purpose of determination of fee and charges for the instant asset. The petitioner has not claimed any additional capital expenditure during 2014-19 tariff period. Accordingly, the capital cost considered for determining fee and charges for 2014-19 tariff period is as under:-

(₹ in lakh)			
Particulars	Capital	Central Portion	State Portion
Gross Capital Cost as on 1.4.2014- "Non-Microwave"	Loan	7328.04	18020.65
	Equity	1240.26	3963.68
	<b>Total</b>	<b>8568.30</b>	<b>21984.33</b>
Capital Cost Recovered up to 31.3.2014-"Non-Microwave"	Loan	5,088.33	12,511.37
	Equity	693.13	2,205.14
	<b>Total</b>	<b>5781.47</b>	<b>14716.50</b>
Net Capital Cost as on 1.4.2014- "Non-Microwave"	Loan	2,239.71	5,509.28
	Equity	547.12	1,758.55
	<b>Total</b>	<b>2786.83</b>	<b>7267.83</b>

### **Debt-equity ratio**

34. The debt: equity as determined as on 31.3.2014 as discussed at para-15 has been considered as on 1.4.2014 and it is as under:-

(₹ in lakh)						
Particulars	Non-Microwave system					
	Central portion		State portion		Total	
	Amount	%	Amount	%	Amount	%
Loan/Debt	2239.71	80.37	5509.28	75.80	7748.99	77.07
Equity	547.12	19.63	1758.55	24.20	2305.67	22.93
<b>Total</b>	<b>2786.83</b>	<b>100.00</b>	<b>7267.83</b>	<b>100.00</b>	<b>10054.66</b>	<b>100.00</b>

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

35. The Capital Recovery Factor for loan in respect of instant asset has been calculated by applying weighted average rate of interest and it works out to be 4.8414% in case of the instant asset. The details are attached at Annexure-4 of the



order. Thus, the rates considered on annual basis, have been converted to monthly rates and are as under:-

<b>CRF for loan to be considered for Fee &amp; Charges</b>				
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>
Non-Microwave-Central Portion	0.027122	0.037841	0.064665	0.252527
Non-Microwave-State Portion	0.027122	0.037841	0.064665	0.252527

36. The Capital Recovery Factor for equity has been considered on the same basis as approved vide order dated 17.12.2013 in Petition No. 59/TT/2012 and on post-tax return on equity of 15.50%. Thus, the rates considered on annual basis, have been converted to monthly rates and are as under:-

<b>CRF for equity to be considered for Fee &amp; Charges</b>				
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>
Non-Microwave-Central Portion	0.032170	0.042789	0.069582	0.258125
Non-Microwave-State Portion	0.032170	0.042789	0.069582	0.258125

37. In view of above, the amount of monthly capital recovery charges for loan and equity both for Central and State portions for instant asset have been considered by using respective Capital Recovery Factors and are as follows:-

(₹ in lakh)

<b>Monthly capital recovery charges for loan</b>				
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18 (pro-rata)</b>
Non-Microwave-Central Portion	60.74	60.74	60.74	60.74
Non-Microwave-State Portion	149.42	149.42	149.42	149.42

(₹ in lakh)

<b>Monthly capital recovery charges for equity</b>				
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18 (pro-rata)</b>
Non-Microwave-Central Portion	17.60	17.60	17.60	17.60
Non-Microwave-State Portion	56.57	56.57	56.57	56.57



38. Accordingly, the recovery of capital during 2014-19 has been worked out. The date of commercial operation of instant asset was 1.8.2002, hence, the instant asset shall complete 15 years as on 31.7.2017. Further, in line with order dated 8.12.2011 in Petition No. 68/TT/2010, the total capital cost in respect of Non-Microwave system shall be recovered upto 31.7.2017 i.e. during 2017-18. The details are as follows:-

(₹ in lakh)			
Particulars	Capital	Central Portion	State Portion
Capital Cost Recovered during 2014-19-“Non-Microwave”	Loan	2239.71	5509.28
	Equity	547.12	1758.55
	<b>Total</b>	<b>2786.83</b>	<b>7267.83</b>

39. The petitioner has submitted that RoE has been calculated at the rate of 19.610% after grossing up the RoE with MAT rate of 20.961% as per the above Regulations. The petitioner has further submitted that the grossed up RoE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up RoE after truing up shall be recovered or refunded to the beneficiaries on year to year basis.

40. The petitioner has further submitted that adjustment due to any additional tax demand including interest duly adjusted for any refund of the tax including interest received from IT authorities shall be recoverable/adjustable after completion of income tax assessment of the financial year.

41. 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)**

42. The petitioner has not claimed O&M Expenses for State Portion. The petitioner has submitted the claim of the O&M Expenses for Central portion by escalating the actual O&M expenditure in 2013-14 @ 3.32% subject to actual expenditure at the time of truing-up. Accordingly, the O&M Expenses are allowed in this order which shall be subject to review at the time of truing-up. The details are as under:-

	(₹ in lakh)			
Particulars	2014-15	2015-16	2016-17	2017-18 (pro-rata)
Claimed by petitioner	635.98	657.09	678.91	233.82
Amount allowed	357.30	369.16	381.42	131.36

### **Interest on working capital**

43. The petitioner has claimed O&M Expenses in the case of Central Portion and accordingly O&M Expenses for 1 month, Maintenance spares @15% of O&M Expenses, receivables for two months and SBI Base Rate as on 1.4.2014 i.e. 10.00% Plus 350 bps (13.50%) have been considered as the rate of interest on working capital for the Central Portion only.

44. The necessary computations of interest on working capital (annualized) for Non-Microwave system-Central Portion are as under:-

	(₹ in lakh)			
Particulars	Central Portion			
	2014-15	2015-16	2016-17	2017-18
Maintenance Spares	53.60	55.37	57.21	59.11
O & M Expenses	29.78	30.76	31.78	32.84
Receivables	223.14	225.22	227.38	229.61
<b>Total</b>	<b>306.51</b>	<b>311.36</b>	<b>316.38</b>	<b>321.56</b>



Rate of Interest	13.50%	13.50%	13.50%	13.50%
<b>Interest</b>	<b>41.38</b>	<b>42.03</b>	<b>42.71</b>	<b>43.41</b>

(₹ in lakh)

Particulars	State Portion			
	2014-15	2015-16	2016-17	2017-18
Maintenance Spares	-	-	-	-
O & M Expenses	-	-	-	-
Receivables	421.47	421.47	421.47	421.47
<b>Total</b>	<b>421.47</b>	<b>421.47</b>	<b>421.47</b>	<b>421.47</b>
Rate of Interest	13.50%	13.50%	13.50%	13.50%
<b>Interest</b>	<b>56.90</b>	<b>56.90</b>	<b>56.90</b>	<b>56.90</b>

### Annual Fee and charges

45. The detailed calculations of fee and charges being allowed for the instant asset are attached at Annexure-1 to Annexure-2 of this order and are summarized hereinafter:-

(₹ in lakh)

Particulars	Central Portion			
	2014-15	2015-16	2016-17	2017-18 (pro-rata)
Annual capital recovery charge-Loan	728.94	728.94	728.94	242.98
Annual capital recovery charge-Loan	211.21	211.21	211.21	70.40
<b>Annual capital recovery charge-Total</b>	<b>940.15</b>	<b>940.15</b>	<b>940.15</b>	<b>313.38</b>
O&M expenses	357.30	369.16	381.42	131.36
Interest on working capital	41.38	42.03	42.71	14.47
<b>Total fee and charges</b>	<b>1338.83</b>	<b>1351.35</b>	<b>1364.28</b>	<b>459.21</b>

  

Particulars	State Portion			
	2014-15	2015-16	2016-17	2017-18 (pro-rata)
Annual capital recovery charge-Loan	1793.06	1793.06	1793.06	597.69
Annual capital recovery charge-Loan	678.86	678.86	678.86	226.29
<b>Annual capital recovery charge-Total</b>	<b>2471.92</b>	<b>2471.92</b>	<b>2471.92</b>	<b>823.97</b>
O&M expenses	-	-	-	-
Interest on working capital	56.90	56.90	56.90	18.97
<b>Total fee and charges</b>	<b>2528.82</b>	<b>2528.82</b>	<b>2528.82</b>	<b>842.94</b>



46. The Commission is of the view that there is a need to review the Capital Recovery Factor methodology applied while determining fee and charges for Communication system. Accordingly, Commission directs the staff to examine the issue and submit to the Commission for appropriate directions.

#### **Filing fee and Publication Expenses**

47. The petitioner has sought reimbursement of fee paid by it for filing the petition and any other expenditure in relation to the filing of petition. The petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with clause (1) of Regulation 52 of the 2014 Tariff Regulations.

#### **Licence Fee**

48. The petitioner has requested to allow it to bill and recover License fee, separately from the respondents. The petitioner shall be entitled for reimbursement of licence fee in accordance with Clause (2)(b) and (2)(a), respectively, of Regulation 52 of the 2014 Tariff Regulations.

#### **Service tax**

49. The petitioner has made a prayer to be allowed to bill and recover the service tax on transmission charges separately from the respondents, if at any time exemption from service tax is withdrawn and transmission is notified as a taxable service. We consider petitioner's prayer pre-mature and accordingly this prayer is rejected.



### **Deferred Tax Liability**

50. The petitioner has sought recovery of deferred tax liability before 1.4.2009 from the beneficiaries or long term consumers/ DICs as and when materialized. The deferred tax liability shall be dealt as per Regulations 49 of the 2014 Tariff Regulations, as amended. Accordingly, the petitioner is entitled to recover the deferred tax liability upto 31.3.2009 whenever the same materializes, directly from the beneficiaries or long term transmission customers /DICs.

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

51. The fees and charges for Non-microwave system 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"

52. The fee & charges for State Sector 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 51 above.



53. This order disposes of Petition No. 19/TT/2015.

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

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



## Annexure-1

(₹ in lakh)

Non-Microwave: Central Portion-Charges-2014-19				
Particulars	2014-15	2015-16	2016-17	2017-18
<b>Opening Gross Capital Cost</b>	<b>8568.30</b>	<b>8568.30</b>	<b>8568.30</b>	<b>8568.30</b>
Opening Gross Notional Loan	7328.04	7328.04	7328.04	7328.04
Opening Gross Equity	1240.26	1240.26	1240.26	1240.26
<b>Recovered Gross Capital Cost (As on 1st April)</b>	<b>5781.47</b>	<b>6551.71</b>	<b>7375.97</b>	<b>8259.56</b>
Recovered Gross Notional Loan	5088.33	5722.79	6388.66	7087.49
Recovered Gross Equity	693.13	828.92	987.31	1172.07
<b>Opn.Net Capital Cost</b>	<b>2786.83</b>	<b>2016.59</b>	<b>1192.33</b>	<b>308.74</b>
Opn. Net Notional Loan	2239.71	1605.25	939.38	240.55
Opn. Net Equity	547.12	411.34	252.95	68.19
<b>Recovered Capital Cost (During the Year)</b>	<b>770.24</b>	<b>824.26</b>	<b>883.59</b>	<b>308.74</b>
Recovered Notional Loan	634.46	665.87	698.83	240.55
Recovered Equity	135.78	158.39	184.76	68.19
<b>Cl. Net Capital Cost</b>	<b>2016.59</b>	<b>1192.33</b>	<b>308.74</b>	<b>0.00</b>
Cl. Net Notional Loan	1605.25	939.38	240.55	0.00
Cl. Net Equity	411.34	252.95	68.19	0.00
<b>Additional Capital Cost</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Additional Notional Loan	0.00	0.00	0.00	0.00
Additional Equity	0.00	0.00	0.00	0.00
Years (Capital to be recovered up to 31.7.2017)	3.33	2.33	1.33	0.33
Months	40.00	28.00	16.00	4.00
Weighted Average Rate of Interest p.a.	4.8414%	4.8414%	4.8414%	4.8414%
Weighted Average Rate of Interest p.m.	0.4035%	0.4035%	0.4035%	0.4035%
Monthly Recovery Factors-Loan	0.027122	0.037841	0.064665	0.252527
Monthly Capital Recovery Charge-Loan	60.74	60.74	60.74	60.74
<b>Annual Capital Recovery Charge-Loan</b>	<b>728.94</b>	<b>728.94</b>	<b>728.94</b>	<b>728.94</b>
Rate of Return on Equity p.a.	15.500%	15.500%	15.500%	15.500%
Rate of Return on Equity p.m.	1.292%	1.292%	1.292%	1.292%
Monthly Recovery Factors-Equity	0.032170	0.042789	0.069582	0.258125
Monthly Capital Recovery Charge-Equity	17.60	17.60	17.60	17.60
<b>Annual Capital Recovery Charge-Equity</b>	<b>211.21</b>	<b>211.21</b>	<b>211.21</b>	<b>211.21</b>
Monthly Capital Recovery Charge-Total	78.35	78.35	78.35	78.35
<b>Annual Capital Recovery Charge-Total</b>	<b>940.15</b>	<b>940.15</b>	<b>940.15</b>	<b>940.15</b>
Fee & Charges (2014-19) (Annualised)				
Particulars	2014-15	2015-16	2016-17	2017-18
Annual Capital Recovery Charge- Loan	728.94	728.94	728.94	728.94
Annual Capital Recovery Charge- Equity	211.21	211.21	211.21	211.21
<b>Annual Capital Recovery Charge-Total</b>	<b>940.15</b>	<b>940.15</b>	<b>940.15</b>	<b>940.15</b>
O&M Expenses (Escalated at the basis of 3.32% p.a.)	357.30	369.16	381.42	394.08



Interest on Working Capital	41.38	42.03	42.71	43.41
<b>Total Fee &amp; Charges (Annualized)</b>	<b>1338.83</b>	<b>1351.35</b>	<b>1364.28</b>	<b>1377.64</b>
<b>Interest on Working Capital (Annualised)</b>				
<b>Particular</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>
Maintenance Spares (15% of O&M)	53.60	55.37	57.21	59.11
O&M Expenses (1 Month)	29.78	30.76	31.78	32.84
Receivables (2 months)	223.14	225.22	227.38	229.61
<b>Total</b>	<b>306.51</b>	<b>311.36</b>	<b>316.38</b>	<b>321.56</b>
Rate of Interest on Working Capital	13.50%	13.50%	13.50%	13.50%
<b>Total Interest on Working Capital (Annualized)</b>	<b>41.38</b>	<b>42.03</b>	<b>42.71</b>	<b>43.41</b>
<b>Allowable Fee &amp; Charges-2014-19</b>				
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18 (Pro-rata)</b>
Annual Capital Recovery Charge- Loan	728.94	728.94	728.94	242.98
Annual Capital Recovery Charge- Equity	211.21	211.21	211.21	70.40
<b>Annual Capital Recovery Charge- Total</b>	<b>940.15</b>	<b>940.15</b>	<b>940.15</b>	<b>313.38</b>
O&M Expenses	357.30	369.16	381.42	131.36
Interest on Working Capital	41.38	42.03	42.71	14.47
<b>Total Fee &amp; Charges (Applicable)</b>	<b>1338.83</b>	<b>1351.35</b>	<b>1364.28</b>	<b>459.21</b>



## Annexure-2

(₹ in lakh)

Non-Microwave: State Portion-Charges-2014-19				
Particulars	2014-15	2015-16	2016-17	2017-18
<b>Opening Gross Capital Cost</b>	<b>21984.33</b>	<b>21984.33</b>	<b>21984.33</b>	<b>21984.33</b>
Opening Gross Notional Loan	18020.65	18020.65	18020.65	18020.65
Opening Gross Equity	3963.68	3963.68	3963.68	3963.68
<b>Recovered Gross Capital Cost (As on 1st April)</b>	<b>14716.50</b>	<b>16713.59</b>	<b>18860.60</b>	<b>21173.46</b>
Recovered Gross Notional Loan	12511.37	14072.03	15709.94	17428.94
Recovered Gross Equity	2205.14	2641.56	3150.66	3744.52
<b>Opn.Net Capital Cost</b>	<b>7267.83</b>	<b>5270.74</b>	<b>3123.73</b>	<b>810.87</b>
Opn. Net Notional Loan	5509.28	3948.62	2310.71	591.71
Opn. Net Equity	1758.55	1322.12	813.02	219.16
<b>Recovered Capital Cost (During the Year)</b>	<b>1997.09</b>	<b>2147.01</b>	<b>2312.86</b>	<b>810.87</b>
Recovered Notional Loan	1560.66	1637.92	1719.00	591.71
Recovered Equity	436.43	509.09	593.86	219.16
<b>Cl. Net Capital Cost</b>	<b>5270.74</b>	<b>3123.73</b>	<b>810.87</b>	<b>0.00</b>
Cl. Net Notional Loan	3948.62	2310.71	591.71	0.00
Cl. Net Equity	1322.12	813.02	219.16	0.00
<b>Additional Capital Cost</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Additional Notional Loan	0.00	0.00	0.00	0.00
Additional Equity	0.00	0.00	0.00	0.00
Years (Capital to be recovered up to 31.7.2017)	3.33	2.33	1.33	0.33
Months	40.00	28.00	16.00	4.00
Weighted Average Rate of Interest p.a.	4.8414%	4.8414%	4.8414%	4.8414%
Weighted Average Rate of Interest p.m.	0.4035%	0.4035%	0.4035%	0.4035%
Monthly Recovery Factors-Loan	0.027122	0.037841	0.064665	0.252527
Monthly Capital Recovery Charge-Loan	149.42	149.42	149.42	149.42
<b>Annual Capital Recovery Charge-Loan</b>	<b>1793.06</b>	<b>1793.06</b>	<b>1793.06</b>	<b>1793.06</b>
Rate of Return on Equity p.a.	15.500%	15.500%	15.500%	15.500%
Rate of Return on Equity p.m.	1.292%	1.292%	1.292%	1.292%
Monthly Recovery Factors-Equity	0.032170	0.042789	0.069582	0.258125
Monthly Capital Recovery Charge-Equity	56.57	56.57	56.57	56.57
<b>Annual Capital Recovery Charge-Equity</b>	<b>678.86</b>	<b>678.86</b>	<b>678.86</b>	<b>678.86</b>
Monthly Capital Recovery Charge-Total	205.99	205.99	205.99	205.99
<b>Annual Capital Recovery Charge-Total</b>	<b>2471.92</b>	<b>2471.92</b>	<b>2471.92</b>	<b>2471.92</b>
<b>Fee &amp; Charges (2014-19) (Annualised)</b>				
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>
Annual Capital Recovery Charge-Loan	1793.06	1793.06	1793.06	1793.06
Annual Capital Recovery Charge-Equity	678.86	678.86	678.86	678.86
<b>Annual Capital Recovery Charge-Total</b>	<b>2471.92</b>	<b>2471.92</b>	<b>2471.92</b>	<b>2471.92</b>



O&M Expenses (Escalated at the basis of 3.32% p.a.)	0.00	0.00	0.00	0.00
Interest on Working Capital	56.90	56.90	56.90	56.90
<b>Total Fee &amp; Charges (Annualized)</b>	<b>2528.82</b>	<b>2528.82</b>	<b>2528.82</b>	<b>2528.82</b>
<b>Interest on Working Capital (Annualised)</b>				
<b>Particular</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>
Maintenance Spares (15% of O&M)	0.00	0.00	0.00	0.00
O&M Expenses (1 Month)	0.00	0.00	0.00	0.00
Receivables (2 months)	421.47	421.47	421.47	421.47
<b>Total</b>	<b>421.47</b>	<b>421.47</b>	<b>421.47</b>	<b>421.47</b>
Rate of Interest on Working Capital	13.50%	13.50%	13.50%	13.50%
<b>Total Interest on Working Capital (Annualized)</b>	<b>56.90</b>	<b>56.90</b>	<b>56.90</b>	<b>56.90</b>
<b>Allowable Fee &amp; Charges-2014-19</b>				
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18 (Pro-rata)</b>
Annual Capital Recovery Charge-Loan	1793.06	1793.06	1793.06	597.69
Annual Capital Recovery Charge-Equity	678.86	678.86	678.86	226.29
<b>Annual Capital Recovery Charge-Total</b>	<b>2471.92</b>	<b>2471.92</b>	<b>2471.92</b>	<b>823.97</b>
O&M Expenses	0.00	0.00	0.00	0.00
Interest on Working Capital	56.90	56.90	56.90	18.97
<b>Total Fee &amp; Charges (Applicable)</b>	<b>2528.82</b>	<b>2528.82</b>	<b>2528.82</b>	<b>842.94</b>



## Annexure-3

(₹ in lakh)

Wt. Average Rate of Interest (for 2009-14)							
Loan	2009-10						
	Opening (Net O/S as on 1.4.2009)	Repayment	Closing	Average	Rate of interest	Interest	Weighted Average Rate of Interest
LIC Tranche 2 (Replacement of GOI Loan in 2003-04)	9777.38	1396.77	8380.61	9079.00	6.3000%	571.98	
Bond IX	1844.40	461.10	1383.30	1613.85	12.2500%	197.70	
Bond X	2041.67	291.67	1750.00	1895.84	10.9000%	206.65	
Bond XII	126.00	15.75	110.25	118.13	9.7000%	11.46	
Oriental Bank of Commerce	726.25	103.75	622.50	674.38	9.6000%	64.74	
PNB II	869.17	124.17	745.00	807.09	8.8915%	71.76	
IBRD-I	471.46	91.72	379.74	425.60	8.4056%	35.77	
IBRD-II	5189.88	282.65	4907.23	5048.56	2.5379%	128.13	
<b>Total Loan</b>	<b>21046.21</b>	<b>2767.58</b>	<b>18278.63</b>	<b>19662.42</b>		<b>1288.18</b>	<b>6.5515%</b>
Loan	2010-11						
	Opening	Repayment	Closing	Average	Rate of interest	Interest	Weighted Average Rate of Interest
LIC Tranche 2 (Replacement of GOI Loan in 2003-04)	8380.61	1396.77	6983.84	7682.23	6.3000%	483.98	
Bond IX	1383.30	461.10	922.20	1152.75	12.2500%	141.21	
Bond X	1750.00	291.67	1458.33	1604.17	10.9000%	174.85	
Bond XII	110.25	15.75	94.50	102.38	9.7000%	9.93	
Oriental Bank of Commerce	622.50	103.75	518.75	570.63	10.2207%	58.32	
PNB II	745.00	124.17	620.83	682.92	9.6512%	65.91	
IBRD-I	379.74	98.81	280.93	330.34	8.7450%	28.89	
IBRD-II	4907.23	300.83	4606.40	4756.82	1.9823%	94.29	
<b>Total Loan</b>	<b>18278.63</b>	<b>2792.85</b>	<b>15485.78</b>	<b>16882.21</b>		<b>1057.39</b>	<b>6.2633%</b>
Loan	2011-12						
	Opening	Repayment	Closing	Average	Rate of interest	Interest	Weighted Average Rate of Interest
LIC Tranche 2 (Replacement of GOI Loan in 2003-04)	6983.84	1396.77	5587.07	6285.46	6.3000%	395.98	
Bond IX	922.20	461.10	461.10	691.65	12.2500%	84.73	
Bond X	1458.33	291.67	1166.66	1312.50	10.9000%	143.06	
Bond XII	94.50	15.75	78.75	86.63	9.7000%	8.40	
Oriental Bank of Commerce	518.75	103.75	415.00	466.88	12.3157%	57.50	



PNB II	620.83	124.17	496.66	558.75	11.7996%	65.93	
IBRD-I	280.93	106.34	174.59	227.76	8.9548%	20.40	
IBRD-II	4606.40	320.24	4286.16	4446.28	1.9362%	86.09	
<b>Total Loan</b>	<b>15485.78</b>	<b>2819.79</b>	<b>12665.99</b>	<b>14075.89</b>		<b>862.09</b>	<b>6.1246%</b>
<b>Loan</b>	<b>2012-13</b>						
	<b>Opening</b>	<b>Repayment</b>	<b>Closing</b>	<b>Average</b>	<b>Rate of interest</b>	<b>Interest</b>	<b>Weighted Average Rate of Interest</b>
LIC Tranche 2 (Replacement of GOI Loan in 2003-04)	5587.07	1396.77	4190.30	4888.69	6.3000%	307.99	
Bond IX	461.10	461.10	0.00	230.55	12.2500%	28.24	
Bond X	1166.66	291.67	874.99	1020.83	10.9000%	111.27	
Bond XII	78.75	15.75	63.00	70.88	9.7000%	6.87	
Oriental Bank of Commerce	415.00	103.75	311.25	363.13	12.3721%	44.93	
PNB II	496.66	124.17	372.49	434.58	11.8396%	51.45	
IBRD-I	174.59	114.32	60.27	117.43	8.9738%	10.54	
IBRD-II	4286.16	340.95	3945.21	4115.69	2.1009%	86.47	
<b>Total Loan</b>	<b>12665.99</b>	<b>2848.48</b>	<b>9817.51</b>	<b>11241.75</b>		<b>647.76</b>	<b>5.7621%</b>
<b>Loan</b>	<b>2013-14</b>						
	<b>Opening</b>	<b>Repayment</b>	<b>Closing</b>	<b>Average</b>	<b>Rate of interest</b>	<b>Interest</b>	<b>Weighted Average Rate of Interest</b>
LIC Tranche 2 (Replacement of GOI Loan in 2003-04)	4190.30	1396.77	2793.53	3491.92	6.3000%	219.99	
Bond IX	0.00	0.00	0.00	0.00	12.2500%	0.00	
Bond X	874.99	291.67	583.32	729.16	10.9000%	79.48	
Bond XII	63.00	15.75	47.25	55.13	9.7000%	5.35	
Oriental Bank of Commerce	311.25	103.75	207.50	259.38	12.3500%	32.03	
PNB II	372.49	124.17	248.32	310.41	11.6000%	36.01	
IBRD-I	60.27	60.26	0.01	30.14	8.6800%	2.62	
IBRD-II	3945.21	362.88	3582.33	3763.77	1.8170%	68.39	
<b>Total Loan</b>	<b>9817.51</b>	<b>2355.25</b>	<b>7462.26</b>	<b>8639.89</b>		<b>443.86</b>	<b>5.1373%</b>



## Annexure-4

(₹ in lakh)

Wt. Average Rate of Interest (for 2014-19)				
Loan	2014-19			
	Opening (Net O/S as on 1.4.2014)	Rate of interest	Interest	Weighted Average Rate of Interest
LIC Tranche 2 (Replacement of GOI Loan in 2003-04)	2793.53	6.3000%	175.99	
Bond IX	0.00	12.2500%	0.00	
Bond X	583.33	10.9000%	63.58	
Bond XII	47.25	9.7000%	4.58	
Oriental Bank of Commerce	207.50	12.3500%	25.63	
PNB II	248.33	11.6000%	28.81	
IBRD-I	0.00	0.0000%	0.00	
IBRD-II	3582.33	1.7500%	62.69	
<b>Total Loan</b>	<b>7462.27</b>		<b>361.28</b>	<b>4.841448%</b>

