

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 169/TT/2018

Coram:

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

Date of Hearing : 23.10.2018

Date of Order : 22.02.2019

In the matter of:

Petition for Approval under Section 28(4) & Section 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

- 1) Assets covered in order dated 15.01.2016 in Petition No 181/TT/2013
- 2) Assets covered in order dated 31.05.2016 in petition No 487/TT/2014

Under Fibre Optic Communication System in Lieu of existing Unified Load Dispatch & Communication (ULDC) Microwave Links in Southern 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. Neyvelli Lignite Corporation
Limited, P.O.
Neyvelli-607 801, Cuddalore
District, Tamil Nadu
3. Nuclear Power Corporation of
India Limited, Nabhkiya Bhawan,
Anu-Shakti Nagar,



Mumbai-400 094

4. NTPC Tamil Nadu Energy Company Limited, G-Block, 123 & 123A, 12th street, Anna Nagar (East), Chennai-600 102
5. Meenakshi Energy Private Limited, Meenakshi plot 119, Road# 10, Jubilee Hills, Hyderabad-500 033
6. Simhapuri Energy Limited, 6-3-866/ 2, 3rd Floor, Begumpet, Madhucon Green Lands, Hyderabad-500 016
7. LANCO-Kondapalli Power Private Limited, Plot No. 4, Software Units Layout, Hitech City, Madhapur, Hyderabad-500 081
8. Andhra Pradesh Power Co-ordination Committee, APTRANSCO, Vidyut Soudha, Hyderabad-500 082
9. Power Company of Karnataka Limited, Room No; 503, KPTCL Building, Kaveri Bhavan, Bangalore-560 009, Karnataka State
10. Kerala State Electricity Board, Vydyuthi Bhavanam, Pattom, Thiruvananthapuram-695 004
11. TANGEDCO, 7th Floor, Eastern Wing, 144, Anna Salai, Chennai-600 002
12. Electricity Department, Government of Poducherry, Poducherry-605 001
13. Electricity Department, Government of Goa, Curti-Ponda-Goa-403 401



ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. (“the petitioner”) for trueing up of capital expenditure and tariff for 05 Nos of assets under Fibre Optic Communication System in Lieu of existing “Unified Load Dispatch & Communication (ULDC) Microwave Links” (hereinafter referred as “transmission asset”) under Regulation 6 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as “the 2009 Tariff Regulations”) based on actual capital expenditure for the period from COD of respective assets to 31.3.2014 and for determination of tariff under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from 1.4.2014 to 31.3.2019 for all the assets.

1. Prayer made by the petitioner:

- I. Approve the Trued up Transmission Fees and charges for the 2009-14 tariff block for the assets covered under this petition.
- II. Admit the capital cost as on 31.03.2014 as claimed in the Petition and approve the Additional Capitalization incurred during 2009-14 period and projected to be incurred during the tariff block 2014-19 as claimed in the petition.
- III. Approve the Fees and charges for the 2014-19 tariff block for the assets covered under this petition.
- IV. Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided under clause 25 of the Tariff regulations 2014.



- V. Allow the petitioner to recover the applicable income tax from the respondents separately.
- VI. Allow the petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2014-19 period, if any, from the respondents
- VII. Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 52 Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014, and other expenditure (if any) in relation to the filing of petition.
- VIII. Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 52 Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.
- IX. Allow the Petitioner to bill and recover Service tax on Transmission Charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list at any time in future. Further, any taxes and duties including cess etc. imposed by any statutory/ Government/ municipal authorities shall be allowed to be recovered from the beneficiaries.
- X. Allow reimbursement of tax if any on account of the proposed implementation of GST.

2. The petitioner has served the petition to the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of Electricity Act, 2003 (“the Act”). No comments have been received from the public in response to the notices published by the petitioner under Section 64 of the Act. The hearing in this matter was held on 31.7.2018. None of the respondents have filed any



reply to the petition. Having heard the representatives of the petitioner on 23.10.2018 and perused the material on record, we proceed to dispose of the petition.

3. The brief facts of the case are as follows:-

4. The investment approval for the project was accorded by Board of Directors of the petitioner company vide letter no. C/CP/ Fibre Optic dated 15.02.2011 for ₹4509 Lakhs including an IDC of ₹264 Lakhs. The petitioner has developed the communication assets in the Eastern Region. The details of the assets under instant project covered under various petitions along with COD are as under:-

(₹ in lakh)

Utility	Line Length (km)	Approved Cost	Completed Cost	Petition No	COD
KSEB	238.30	575.00	437.60	181/TT/2013*	1.2.2013
	3.26	150.00	128.98	487/TT/2014*	1.1.2014
	0.70	10.18	3.54	255/TT/2015	1.6.2015
Balance	-	79.00	-	Against total envisaged line length of 280KM, the actual executed line length is 242.3KM. Entire scope of the project has been completed with this and hence the balance apportioned cost cannot be utilised.	
Total	242.26	814.18	570.12		
APTRANSCO	146.17	361.05	305.61	181/TT/2013*	1.2.2013
	31.80	287.58	561.11	181/TT/2013*	1.4.2013
	19.50	77.82	61.49	255/TT/2015	1.6.2015
Balance	-	97.55	-	Against total envisaged line length of 230KM (155+75), the actual executed line length is 197.47KM. Entire scope of the project has been completed with this and hence the balance apportioned cost cannot be utilised.	
Total	197.47	824.00	928.21		
Central Sector	906.04	2050.00	1837.99	181/TT/2013*	1.4.2013
	168.46	420.00	357.63	487/TT/2014*	1.1.2014
Balance	-	103.00	-	Nelamangala-Yelahanka OPGW link is yet to be commissioned for want of RoW clearance. Petition for this will be filed separately upon actual completion.	
Total	1074.50	2573.00	2195.62		
Puducherry	-	298.00	-	Deleted from the scope	
Total	1514.23	4509.18	3693.95		

*Assets covered in the instant petition



5. The petitioner had filed Petition No. 181/TT/2013 & 487/TT/2014 for the period 2009-14 for the determination of transmission tariff for the assets as specified in the table above at para 4 under Fibre Optic communication system in lieu of existing Unified Load Dispatch and Communication (ULDC) Microwave links in SR.

6. The tariff from respective COD to 31.3.2014 was determined by the Commission vide order dated 15.1.2016 in Petition No. 181/TT/2013 and vide order dated 31.5.2016 in Petition No. 487/TT/2014 for subject assets in accordance with the 2009 Tariff Regulations. The capital cost and tariff allowed for the 2009-14 tariff period is as under:

(i) Capital cost:

- **Allowed in Petition No. 181/TT/2013**

(₹ in lakh)

Particulars	Asset-I (KSEB Portion)	Asset-II (AP Transco Portion)	Asset-III (AP Transco Portion)	Asset-II (Central Portion)
(1) Expenditure up to COD (claimed)	365.73	253.61	456.89	1385.07
(2) IDC Disallowed due to Undischarged Liability	14.28	9.92	1.01	9.08
(5) Capital Cost allowed as on COD [1-(2+3)]	595.14		455.88	1375.99
(6) Add-cap for 2012-13	2.00	2.00	-	-
(6) Add-cap for 2013-14	58.24	35.30	83.69	324.76
Capital cost as on 31.3.2014	692.68		539.57	1700.75

- **Allowed in Petition 487/TT/2014**

(₹ in lakh)

Particulars	Asset-I (Central Portion)	Asset-II (State Portion)
(1) Expenditure up to COD (claimed)	269.22	97.90
(2) IDC Disallowed due to Undischarged Liability and Time Over-run	8.35	3.04
(3) IEDC Disallowed due to Time Over-run	0.57	0.21
(5) Capital Cost allowed as on COD [1-(2+3)]	260.30	94.65
(6) Add-cap for 2013-14	54.77	9.56
Capital cost as on 31.3.2014	315.07	104.21



- Asset-I and Asset-II covered in Petition No. 181/TT/2013, have been clubbed by the petitioner in the instant petition. The capital cost allowed by the Commission in order dated 15.1.2016 in Petition No. 181/TT/2013 and order dated 31.5.2016 in Petition No. 487/TT/2014 for the subject assets after considering the clubbing of assets in the instant petition, is summarised as below:-

(₹ in lakh)

Asset	Admitted Cost as on COD	Allowed Add Cap for		Total Cost as on 31.03.2014
		2012-13	2013-14	
I	595.14	4.00	93.54	692.68
II	455.88	-	83.69	539.57
III	1375.99	-	324.76	1700.75
IV	260.30	-	54.77	315.07
V	94.65	-	9.56	104.21
Total	2781.96	4.00	566.32	3352.28

- (ii) Tariff allowed in order dated 15.1.2016 in Petition No. 181/TT/2013 and order dated 31.5.2016 in Petition No. 487/TT/2014 is as under:

(₹ in lakh)

Asset		Allowed tariff	
		2012-13 (pro-rata)	2013-14
CERC order dated 15.01.2016 in Petition No. 181/TT/2013			
I & II	Central sector	14.00	84.57
	State Sector		
III	Central sector	-	-
	State Sector	-	64.51
IV	Central sector	-	211.10
	State Sector	-	-
CERC order dated 31.05.2016 in Petition No. 487/TT/2014			
V	Central sector	-	9.99
VI	State Sector	-	3.29

TRUING UP OF ANNUAL FIXED CHARGES FOR TARIFF PERIOD 2009-14

7. The petitioner was directed vide ROP dated 31.7.2018 to submit weighted average rate of interest. Reply to this query was submitted by the petitioner vide



affidavit dated 17.8.2018. The said information has been captured while passing the subject order. The truing up of tariff for the 2009-14 tariff period for the assets has been carried out as discussed below.

Capital Cost

8. The petitioner has submitted the Auditor’s Certificate certifying the capital cost as on COD and additional capitalization claimed thereafter for subject Asset-I to V, detailed as below:-

(₹ in lakh)

Asset	Auditor’s certificate date	Cost as on COD	2012-2013	2013-2014	TOTAL
I	6.9.2016	619.34	4.00	93.54	716.88
II	6.9.2016	456.89	-	83.69	540.58
III	29.12.2017	1385.07	-	324.76	1709.83
IV	29.12.2017	269.22	-	54.77	323.99
V	6.9.2016	97.9	-	9.56	107.46

9. We have considered the submission of petitioner and accordingly allowed the capital cost as on COD at para 14 below after adjustment of IDC on cash basis.

Treatment of Interest During Construction (IDC)

10. IDC has been worked out based on the loan details viz; drawl dates, amounts, rate of interest and interest payment dates, etc. The Commission, vide order dated 15.1.2016 in Petition No. 181/TT/2013 and vide order dated 31.5.2016 in Petition No. 487/TT/2014, had directed the petitioner to submit the amount of IDC discharged for the instant assets upto date of commercial operation and balance IDC discharged after date of commercial operation. The petitioner vide affidavit dated 20.3.2018, has furnished the same.

11. As decided by the Commission vide order dated 15.1.2016 in Petition No. 181/TT/2013 and vide order dated 31.5.2016 in Petition No. 487/TT/2014, the time over-run of four months in case of Asset-IV and Asset-V has not been condoned.



Accordingly, the IDC has been restricted in case of Asset-IV and Asset-V considering the time over-run. As no time over-run is involved in case of Asset-I, Asset-II and Asset-III, the IDC in respect of these assets has been calculated till COD.

12. Considering the IDC thus worked out based on the information furnished and the details of IDC discharged submitted by the petitioner, following amount of IDC has been allowed.

(₹ in lakh)

Asset	Claimed as on COD as per the Auditor's Certificate	Disallowed on account of time over-run	Allowed as discharged up to COD	Balance Accrued IDC as on COD discharged during	
				2012-13	2013-14
I	24.20	0.00	0.00	23.87	0.33
II	24.63	0.00	18.61	-	6.02
III	80.68	0.00	76.61	-	4.07
IV	8.35	0.98	0.00	-	7.37
V	3.04	0.18	0.00	-	2.86

Treatment of IEDC

13. The petitioner has claimed IEDC amounting to ₹21.15 lakh, ₹11.50 lakh, ₹37.66 lakh, ₹4.87 lakh and ₹1.77 lakh for Asset-I to Asset-V respectively. As decided by the Commission vide order dated 15.1.2016 in Petition No. 181/TT/2013 and order dated 31.05.2016 in Petition No. 487/TT/2014, the time over-run of four months in respect of Asset-IV and Asset-V has not been condoned. As such, the IEDC has been restricted in case of Asset-IV and Asset-V considering the time over-run. Accordingly, IEDC amounting to ₹21.15 lakh, ₹11.50 lakh, ₹37.66 lakh, ₹4.30 lakh and ₹1.56 lakh have been allowed for Asset-I to Asset-V respectively as shown in the table below:-

(₹ in lakh)

Asset	Claimed as on COD as per the Auditor's Certificate	Disallowed on account of time over-run	Allowed
I	21.15	0.00	21.15
II	11.5	0.00	11.5
III	37.66	0.00	37.66
IV	4.87	0.57	4.3
V	1.77	0.21	1.56



Capital cost as on COD

14. Considering the deduction in IDC and IEDC as discussed in the foregoing paragraphs, the capital cost as on COD has been allowed as below:-

(₹ in lakh)

Asset	Capital cost claimed as on COD	IDC Disallowed on account of time over-run	IDC disallowed being undischarged	IEDC disallowed	Capital cost allowed as on COD
I	619.34	0.00	24.2	0.00	595.14
II	456.89	0.00	6.02	0.00	450.87
III	1385.07	0.00	4.07	0.00	1381.00
IV	269.22	0.98	7.37	0.57	260.30
V	97.90	0.18	2.86	0.21	94.65

Additional Capital Expenditure

15. The petitioner has claimed additional capitalization of ₹4.00 lakh for 2012-13 & ₹566.32 lakh for 2013-14, for subject assets. The petitioner has submitted that the additional capitalization incurred in the instant assets is on account of un-discharged liability towards final payment/ withheld payment due to contractual exigencies for works executed within the cut-off date and is to be dealt in accordance with the provisions of Regulation 9 (1) which provides that:-

“Additional Capitalisation. (1) The capital expenditure incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

(i) Undischarged liabilities...;”

16. We have considered the submissions of the petitioner. The petitioner has submitted that the additional capital expenditure incurred in the contextual assets is on account of un-discharged liability towards final payment/ withheld payment due to contractual exigencies for works executed within the cut-off date and the same has been allowed by the Commission on projected basis vide order dated 15.1.2016 in Petition No. 181/TT/2013 and order dated 31.05.2016 in Petition No. 487/TT/2014.



The additional capital expenditure claimed by the petitioner is certified by the Auditor. Accordingly, based on the Auditor certificate dated 6.9.2016, 25.12.2017 and 29.12.2017, the same has been allowed.

17. Based on the discussion in the preceding paragraphs of this order, the capital cost allowed for the 2009-14 tariff period is as below:-

Asset	Capital cost as on COD	Additional Capital Expenditure (2009-14)				Capital cost as on 31.3.2014
		2011-12	2012-13	2013-14	Total add cap	
I	595.14	--	27.87	93.87	121.74	716.88
II	450.87	--	--	89.71	89.71	540.58
III	1381.00	--	--	328.83	328.83	1709.83
IV	260.30	--	--	62.14	62.14	322.44
V	94.65	--	--	12.24	12.24	106.88
Total	2781.95	--	27.87	586.79	614.66	3396.61

Debt: Equity ratio

18. The petitioner has claimed true up Annual Fixed Charge based on debt-equity ratio of 70:30 admitted as on COD in order dated order dated 15.01.2016 in Petition No. 181/TT/2013 and order dated 31.05.2016 in Petition No. 487/TT/2014. The debt: equity ratio of 70:30 as on COD for the assets is in accordance with the 2009 Tariff Regulations and is considered for the purpose of trueing up of the approved tariff for tariff period 2009- 14, as given under:-

(₹ in lakh)										
	Asset:- I	%	Asset:- II	%	Asset:- III	%	Asset:- IV	%	Asset:- V	%
Debt	416.60	70%	315.61	70%	966.70	70%	182.21	70%	66.26	70%
Equity	178.54	30%	135.26	30%	414.30	30%	78.09	30%	28.39	30%
Total	595.14	100%	450.87	100%	1381.00	100%	260.30	100%	94.65	100%

19. The overall debt equity ratio as on 31.3.2014 for the Asset including additional capitalization is as under:-



(₹ in lakh)

	Asset:-I	%	Asset:-II	%	Asset:-III	%	Asset:-IV	%	Asset:-V	%
Debt	501.82	70%	378.41	70%	1196.88	70%	225.71	70%	74.82	70%
Equity	215.06	30%	162.17	30%	512.95	30%	96.73	30%	32.06	30%
Total	716.88	100%	540.58	100%	1709.83	100%	322.44	100%	106.88	100%

Recovery of loan and equity

20. The Capital Recovery Factor (CRF) for loan in respect of the instant assets has been calculated by applying the year-wise weighted average rate of interest on the basis of the impact due to change in floating rate of interest of loan. With respect to CRF for equity and its grossing-up with the tax rate, the Commission has observed vide order dated 9.10.2018 in Petition No. 214/TT/2017 as below:-

....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.

21. In line with the above observation which is applicable in the instant case also, the post-tax rate of return on equity of 15.50% has been applied for calculating the CRF for equity. The rates considered on annual basis, have been converted to monthly rates. 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.

Monthly Capital Recovery Charges

22. The monthly capital recovery factors for loan and equity has been worked out using the following relationship:

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

where, n = period and i = rate



Operation & Maintenance Expenses (“O&M Expenses”)

23. The Commission vide order dated 15.1.2016 in petition No. 181/TT/2013 observed as follows:

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

24. The Commission vide order dated 31.5.2016 in petition No. 487/TT/2014 has observed as below:

“28. The petitioner, vide affidavit dated 26.06.2015, has claimed `0.90 lakh as O&M expenses for 2013-14 in respect of Asset-I (Central Sector) only. However, the petitioner has not claimed any O&M charges for the State portion. The amount of `0.90 lakh claimed as actual O&M Expenses incurred is 0.14% of the total approved cost and it is accordingly allowed.

29. The petitioner has further submitted that the wage revision of employees has been implemented since 1.1.2007 and the actual impact of wage hike has not been factored in fixation of the normative O&M rates specified for the tariff block 2009-14. The petitioner has submitted that it would approach the Commission for suitable revision in norms for O&M Expenses due to impact of wage revision, if any. While specifying the norms for the O & M Expenses, the Commission has in the 2009 Tariff Regulations, given effect to impact of pay revision by factoring 50% on account of pay revision of the employees of PSUs after extensive consultations with the stakeholders, as one time compensation for employee cost. We do not see any reason why the admissible amount is inadequate to meet the requirement of the employee cost. In this order, we have allowed O&M Expenses as per the existing norms.”

25. As such, no O&M expenses were allowed in respect of Asset-I, II, III in petition no. 181/TT/2013 and Asset- II in petition no. 487/TT/2014 which pertain to state portion. Thus, in line with the observations made by the Commission in orders dated 15.1.2016 and 31.5.2016 as quoted above, the O&M Expenses as allowed by the Commission vide the referred orders have been allowed in respect of the corresponding assets in the instant order also. the same are tabulated below:-

		(₹ in lakh)	
		2012-13	2013-14
Asset-I: State Portion	Asset-I & II in petition no. 181/TT/2013	0.00	0.00
Asset-II: State Portion	Asset- III in petition no. 181/TT/2013	-	0.00
Asset-III: Central Portion	Asset-IV in petition no. 181/TT/2013	-	15.55
Asset-IV: Central Portion	Asset- I in petition no. 487/TT/2014	-	3.6
Asset-V: State Portion	Asset- II in petition no. 487/TT/2014	-	0.00



Interest on working capital("IoWC")

26. 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 @ 13.50% for the Asset commissioned in



2012-13 and @ 13.20% for the Assets commissioned in 2013-14 has been considered. Interest on working capital has been worked out accordingly.

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

(₹in lakh)						
	Asset-I		Asset-II	Asset-III	Asset-IV	Asset-V
Year	2012-13	2013-14	2013-14	2013-14	2013-14	2013-14
Maintenance Spares	0.00	0.00	0.00	2.33	0.54	0.00
O&M Expenses	0.00	0.00	0.00	1.30	0.30	0.00
Receivables	14.01	14.00	10.61	35.32	6.66	2.19
Total	14.01	14.00	10.61	38.95	7.50	2.19
Rate of Interest	13.50%	13.20%	13.20%	13.20%	13.20%	13.20%
IoWC	1.89	1.85	1.40	5.14	0.99	0.29

Annual fees and charges

28. Based on the recovery factors, monthly capital recovery charges for central as well as state portion corresponding to instant assets for 2009-14 tariff block and the Interest on working capital, the annual charges are worked out as under:-

28.1. Asset-I

28.1.1. Capital recovery factors:

Particulars	2012-13	2013-14
Monthly Capital Recovery Charges - Loan	0.010290	0.010290
Recovery factor - Equity	0.014340	0.014340

28.1.2. Recovery charges:

		(₹in lakh)	
Particulars		Expenditure upto 31.1.2013	Expenditure upto 31.3.2013
Expenditure		596.14	592.47
O/S Loan		416.60	414.44
O/S Equity		178.54	178.03
No. of years		15.00	14.83
Recovery factor - Loan	9.2461%	0.010290	0.01
Monthly Capital Recovery Charges - Loan	9.2461%	4.29	4.29
Recovery factor - Equity	15.500%	0.014340	0.01
Monthly Capital Recovery Charges - Equity	15.500%	2.56	2.56
Annual Capital Recovery Charges - Total		82.16	82.16



28.1.3. Calculation of Annual Charges

(₹in lakh)

Year	2012-13 (1.2.2013 to 31.3.2013)	2013-14
Annual Capital Recovery Charges	82.16	82.16
O&M Expenses	0.00	0.00
Interest On Working Capital	1.89	1.85
Total Charges	84.05	84.01

28.2. **Asset-II**

28.2.1. Capital recovery factors:

Particulars	2013-14
Monthly Capital Recovery Charges - Loan	0.010301
Recovery factor - Equity	0.014340

28.2.2. Recovery charges:

(₹in lakh)

Particulars	Expenditure upto 31.3.2013
Expenditure	450.87
O/S Loan	315.61
O/S Equity	135.26
No. of years	15.00
Recovery factor - Loan	9.2647%
Monthly Capital Recovery Charges - Loan	3.25
Recovery factor - Equity	15.500%
Monthly Capital Recovery Charges - Equity	1.94
Annual Capital Recovery Charges - Total	62.29

28.2.3. Calculation of Annual Charges :

(₹in lakh)

Year	2013-14
Annual Capital Recovery Charges	62.29
O&M Expenses	0.00
Interest On Working Capital	1.40
Total Charges	63.69

28.3. **Asset-III**

28.3.1. Capital recovery factors:

Particulars	2013-14
Monthly Capital Recovery Charges - Loan	0.012186
Recovery factor - Equity	0.015825

28.3.2. Recovery charges:



(₹in lakh)

Particulars		Expenditure upto 31.3.2013
Expenditure		1381.00
O/S Loan		966.70
O/S Equity		414.30
No. of years		15.00
Recovery factor - Loan	9.3326%	0.01
Monthly Capital Recovery Charges - Loan	9.3326%	10.00
Recovery factor - Equity	15.500%	0.01
Monthly Capital Recovery Charges - Equity	15.500%	5.94
Annual Capital Recovery Charges - Total		191.26

28.3.3. Calculation of Annual Charges :

(₹in lakh)

Year	2013-14
Annual Capital Recovery Charges	191.26
O&M Expenses	15.55
Interest On Working Capital	5.14
Total Charges	211.95

Asset-IV

28.3.4. Capital recovery factors:

Particulars	2013-14
Monthly Capital Recovery Charges - Loan	0.010024
Recovery factor - Equity	0.014340

28.3.5. Recovery charges:

(₹in lakh)

Particulars		Expenditure upto 31.12.2013
Expenditure		260.30
O/S Loan		182.21
O/S Equity		78.09
No. of years		15.00
Recovery factor - Loan	8.8000%	0.01
Monthly Capital Recovery Charges - Loan	8.8000%	1.83
Recovery factor - Equity	15.500%	0.01
Monthly Capital Recovery Charges - Equity	15.500%	1.12
Annual Capital Recovery Charges - Total		35.36

28.3.6. Calculation of Annual Charges :

(₹in lakh)

Year	2013-14
Annual Capital Recovery Charges	35.36



O&M Expenses	3.60
Interest On Working Capital	0.99
Total Charges	39.95

28.4. Asset-V

28.4.1. Capital recovery factors:

Particulars	2013-14
Monthly Capital Recovery Charges - Loan	0.010024
Recovery factor - Equity	0.014340

28.4.2. Recovery charges:

Particulars		(₹in lakh)
		Expenditure upto 31.12.2013
Expenditure		94.64
O/S Loan		66.25
O/S Equity		28.39
No. of years		15.00
Recovery factor - Loan	8.8000%	0.01
Monthly Capital Recovery Charges - Loan	8.8000%	0.66
Recovery factor - Equity	15.500%	0.01
Monthly Capital Recovery Charges - Equity	15.500%	0.41
Annual Capital Recovery Charges - Total		12.85

28.4.3. Calculation of Annual Charges :

Year	(₹in lakh)
	2013-14
Annual Capital Recovery Charges	12.85
O&M Expenses	0.00
Interest On Working Capital	0.29
Total Charges	13.14

Annual Charges on account of the additional capitalisation

29. Asset-I

Year	(₹in lakh)
	2013-14
Annual Capital Recovery Charges	3.84
O&M Expenses	0.00
Interest On Working Capital	0.09
Total Charges	3.92



DETERMINATION OF ANNUAL CHARGES FOR 2014-19

30. The annual fees and charges for the tariff period 2014-19 claimed by the petitioner is summarized as below:-

(₹in lakh)

Asset	Annual Fees and Charges					
	2014-15	2015-16	2016-17	2017-18	2018-19	Total
I	84.05	84.05	84.07	84.09	84.11	420.37
II	63.72	63.72	63.73	63.74	63.75	318.66
III	213.79	197.95	200.54	200.73	200.91	1013.92
IV	39.69	39.18	37.21	37.25	37.28	190.61
V	13.15	13.15	13.15	13.15	13.15	65.75
Total	414.40	398.05	398.70	398.96	399.20	2009.31

31. Fees and Charges due to Add Cap in 2013-14:

(₹in lakh)

Asset	2014-15	2015-16	2016-17	2017-18	2018-19	Total
I	13.87	13.87	13.87	13.87	13.87	69.35
II	13.18	13.18	13.18	13.18	13.18	65.9
III	48.40	48.40	48.40	48.40	48.39	241.99
IV	8.93	8.93	8.93	8.93	8.93	44.65
V	1.75	1.75	1.75	1.75	1.75	8.75
Total	86.13	86.13	86.13	86.13	86.12	430.64

32. Fees and Charges due to Add Cap in 2014-15:

(₹in lakh)

Asset	2014-15	2015-16	2016-17	2017-18	2018-19	Total
I	-	0.02	0.02	0.02	0.02	0.08
II	-	0.10	0.10	0.10	0.10	0.40
III	-	0.91	0.91	0.91	0.91	3.64
IV	-	0.19	0.19	0.19	0.19	0.76
V	-	0.38	0.38	0.38	0.38	1.52
Total	-	1.60	1.60	1.60	1.60	6.40

33. Fees and Charges due to Add Cap in 2015-16:

(₹in lakh)

Asset	2014-15	2015-16	2016-17	2017-18	2018-19	Total
I	-	-	3.97	3.97	3.97	11.91
II	-	-	2.99	2.99	2.99	8.97
III	-	-	-6.48	-6.48	-6.53	-19.49
IV	-	-	4.71	4.71	4.71	14.13
V	-	-	2.74	2.74	2.74	8.22
Total	-	-	7.93	7.93	7.88	23.74

34. Fees and Charges due to Add Cap in 2016-17:

(₹in lakh)

Asset	2014-15	2015-16	2016-17	2017-18	2018-19	Total
I	-	-	-	0.00	0.00	0.00
II	-	-	-	0.00	0.00	0.00
III	-	-	-	-22.45	-22.45	-44.9
IV	-	-	-	-8.90	-8.90	-17.8
V	-	-	-	0.00	0.00	0
Total	-	-	-	-31.35	-31.35	-62.7



35. Fees and Charges due to Add Cap in 2017-18:

(₹in lakh)

Asset No	2014-15	2015-16	2016-17	2017-18	2018-19	Total
I	-	-	-	-	0.00	0.00
II	-	-	-	-	0.00	0.00
III	-	-	-	-	5.13	5.13
IV	-	-	-	-	0.00	0.00
V	-	-	-	-	0.00	0.00
Total	-	-	-	-	0.00	0.00

Capital Cost

36. The petitioner has claimed capital cost for the subject assets for the 2014-19 tariff periods as tabulated below:-

(₹in lakh)

Asset	Cost as on 31.03.2014	Add Cap/De Cap				Cost as on 31.3.2019
		2014-15	2015-16	2016-17	2017-18	
I	716.88	0.10	26.23	-	-	743.21
II	540.58	0.64	19.89	-	-	561.11
III	1709.83	6.07	36.36	-137.76	31.84	1571.27
IV	322.44	1.31	32.33	-57.35	-	298.73
V	106.88	2.72	18.80	-	-	128.41

37. The petitioner has submitted that the additional capitalization incurred in the instant assets is on account of undischarged liability towards final payment/ withheld payment due to contractual exigencies for works executed within the cut-off date. The details of actual add-cap and de-cap as tabulated at para 36 above is based on Auditor's certificate and the admissibility of add-cap incurred after 31.03.2014 has been dealt in accordance with the provisions of clause 14 (1) (1) of 2014 Tariff Regulation.

38. The petitioner has submitted that the additional capital expenditure incurred in the contextual assets is on account of un-discharged liability towards final payment/ withheld payment due to contractual exigencies for works executed within the cut-off date. The projected additional capital expenditure claimed by the petitioner for FY 2014-15, FY 2015-16, FY 2016-17 and FY 2017-18 for the Asset-I, Asset-II, Asset-III,



Asset-IV and Asset-V have been certified by the Auditor. Accordingly, on the basis of the Auditor's certificate, the projected add-cap claimed by the petitioner is allowed. However, the petitioner is directed to submit the details of additional capital expenditure duly certified by the Auditor at the time of truing up.

39. Considering the capital cost as on 31.3.2014 allowed in the instant petition for the respective assets and the add-cap claimed by the petitioner, the capital cost for the period 2014-19 is allowed as tabulated at para 30 above.

Debt:Equity Ratio

40. The admitted debt: equity ratio of 70:30 after true-up for the tariff period ending 31.3.2014 has been considered as opening debt: equity ratio as on 1.4.2014. The details of the debt: equity as on 1.4.2014 considered for the purpose of tariff for the 2014-19 tariff period is as follows:-

(₹ in lakh)

	Asset:- I	%	Asset:- II	%	Asset:- III	%	Asset:- IV	%	Asset:- V	%
Debt	501.816	70%	378.406	70%	1196.88	70%	225.708	70%	74.823	70%
Equity	215.064	30%	162.174	30%	512.949	30%	96.732	30%	32.067	30%
Total	716.88	100%	540.58	100%	1709.83	100%	322.44	100%	106.89	100%

41. For additional capitalization, the petitioner has proposed normative debt: equity ratio of 70:30 and the same has been considered. The details of the debt: equity including additional capitalization as on 31.3.2019 is as follows:-

(₹ in lakh)

	Asset:- I	%	Asset:- II	%	Asset:- III	%	Asset:- IV	%	Asset:- V	%
Debt	520.247	70%	392.777	70%	1099.89	70%	209.111	70%	89.887	70%
Equity	222.963	30%	168.333	30%	471.381	30%	89.619	30%	38.523	30%
Total	743.21	100%	561.11	100%	1571.27	100%	298.73	100%	128.41	100%

Operation and Maintenance expenses:

42. The petitioner has submitted that the O&M expenditure for the central portion



(i.e. Asset-III and Asset-IV) has been considered on actual basis for 2014-15, 2015-16 & 2016-17 and escalation of 3.32% thereafter O&M expenditure have not been considered for state portion. Further, the Auditor Certificate based on actual O&M expenditure for 2013-14, 2014-15, 2015-16 and 2016-17 is submitted.

43. Actual O&M expenditure incurred during 2014-19 is as under:-

(₹ in lakh)					
Asset	2014-15	2015-16	2016-17	2017-18 (escalation@3.32%)	2018-19 (escalation@3.32%)
Asset-III	17.18	2.17	4.62	4.77	4.93
Asset-IV	3.34	2.85	0.99	1.02	1.05

44. We have considered the submissions of the petitioner. The petitioner has not claimed any O&M expenses for Asset-I and Asset-II for 2014-19 tariff period. The petitioner has claimed actual O&M expenses for FY 2013-14, FY 2014-15 and FY 2015-16 and escalated @3.32% for FY 2016-17, 2017-18 and 2018-19. It is observed that the petitioner has claimed self-insurance reserve @0.1% of gross block under O&M expenses. The Commission vide order dated 29.7.2016 in petition No 275/TT/2015 has held as under:

“45. The petitioner was directed vide ROP dated 22.3.2016, to submit the actual O&M Expenses year wise along with details. In response, petitioner vide affidavit dated 29.6.2016 has submitted that actual O&M Expenses for 2014-15 towards Asset-I and II are Rs.5.75 lakh and Rs.4.46 lakh respectively. Break up of O&M Expenses has also been provided vide Auditor's Certificate dated 15.6.2016. The petitioner has claimed self-insurance reserved as expenses under O&M Expenses which is not allowable as expenses.

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45. Considering the observation as above, self-insurance reserve as expenses under O&M expenses is not allowed in the instant petition. Accordingly, the O&M expenses allowable are as follows:

(₹ in lakh)					
Assets	2014-15	2015-16	2016-17	2017-18 (escalation@3.32%)	2018-19 (escalation@3.32%)
Asset-III	13.74	1.78	2.42	2.50	2.58
Asset-IV	2.67	2.34	0.56	0.58	0.60



Interest on working capital

46. The petitioner has submitted that it has computed Interest on working capital for the tariff period 2014-19 considering the SBI Base Rate as on 1.4.2014 plus 350 basis points. The rate of interest on working capital considered is 13.50%.

47. The interest on working capital is worked out in accordance with Regulation 28 of the 2014 Tariff Regulations. The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points). The interest on working capital worked out is shown in the table below:-

47.1. Asset-I

(₹ in lakh)					
Year	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Receivables	14.01	14.01	14.01	14.01	14.02
Total	14.01	14.01	14.01	14.01	14.02
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
IoWC	1.89	1.89	1.89	1.89	1.89

47.2. Asset-II

(₹ in lakh)					
Year	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Receivables	10.62	10.62	10.62	10.62	10.62
Total	10.62	10.62	10.62	10.62	10.62
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
IoWC	1.43	1.43	1.43	1.43	1.43

47.3. Asset-III

(₹ in lakh)					
Year	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	2.58	0.33	0.69	0.72	0.74



O&M Expenses	1.43	0.18	0.39	0.40	0.41
Receivables	35.63	32.99	33.42	33.45	33.49
Total	39.64	33.50	34.50	34.57	34.64
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
IoWC	5.35	4.52	4.66	4.67	4.68

47.4. Asset-IV

(₹ in lakh)

Year	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.50	0.43	0.15	0.15	0.16
O&M Expenses	0.28	0.24	0.08	0.09	0.09
Receivables	6.62	6.53	6.20	6.21	6.21
Total	7.39	7.19	6.43	6.45	6.46
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
IoWC	1.00	0.97	0.87	0.87	0.87

47.5. Asset-V

(₹ in lakh)

Year	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Receivables	2.19	2.19	2.19	2.19	2.19
Total	2.19	2.19	2.19	2.19	2.19
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
IoWC	0.30	0.30	0.30	0.30	0.30

Annual fees and charges

48. Based on the capital cost as on 1.4.2014, add-cap and O&M expenses allowed for the 2014-19 tariff period, the annual fees and charges for the tariff period 2014-19 are allowed as below:

48.1. Asset-I

48.1.1. Recovery factors

Particulars	for the expenditure upto				
	31.3.2014	31.3.2015	31.3.2016	31.3.2017	31.3.2018
Recovery factor - Loan	9.2461%	9.2461%	9.2507%	9.2604%	9.2706%



Recovery factor- Equity	15.500%	15.500%	15.500%	15.500%	15.500%
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48.1.2. Capital recovery charges:

(₹ in lakh)

Particulars	for the expenditure upto				
	31.3.2014	31.3.2015	30.3.2016	30.3.2017	31.3.2018
Expenditure	575.42	556.49	535.45	512.08	486.08
O/S Loan	400.75	385.74	369.28	351.23	331.46
O/S Equity	174.67	170.75	166.18	160.84	154.62
No. of years	13.83	12.83	11.83	10.83	9.83
Recovery factor - Loan	0.01	0.01	0.01	0.01	0.01
Monthly Capital Recovery Charges - Loan	4.29	4.29	4.29	4.29	4.29
Recovery factor - Equity	0.01	0.01	0.02	0.02	0.02
Monthly Capital Recovery Charges - Equity	2.56	2.56	2.56	2.56	2.56
Annual Capital Recovery Charges - Total	82.16	82.16	82.17	82.20	82.22

48.1.3. Calculation of Annual Charges - State Portion

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	82.16	82.16	82.17	82.20	82.22
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest On Working Capital	1.89	1.89	1.89	1.89	1.89
Total Charges	84.05	84.05	84.07	84.09	84.11

48.2. Asset-II

48.2.1. Recovery factors

(₹ in lakh)

Particulars	for the expenditure upto				
	31.3.2014	31.3.2015	31.3.2016	31.3.2017	31.3.2018
Recovery factor - Loan	9.2647%	9.2647%	9.2676%	9.2737%	9.2802%
Recovery factor- Equity	15.500%	15.500%	15.500%	15.500%	15.500%

48.2.2. Capital recovery charges:

(₹ in lakh)

Particulars	for the expenditure upto				
	31.3.2014	31.3.2015	30.3.2016	30.3.2017	31.3.2018
Expenditure	438.19	424.11	408.47	391.09	371.75
O/S Loan	305.41	294.23	281.96	268.52	253.77
O/S Equity	132.78	129.89	126.51	122.57	117.98
No. of years	14.00	13.00	12.00	11.00	10.00
Recovery factor - Loan	0.01	0.01	0.01	0.01	0.01
Monthly Capital Recovery Charges - Loan	3.25	3.25	3.25	3.25	3.25



Recovery factor - Equity	0.01	0.01	0.02	0.02	0.02
Monthly Capital Recovery Charges - Equity	1.94	1.94	1.94	1.94	1.94
Annual Capital Recovery Charges - Total	62.29	62.29	62.29	62.30	62.32

48.2.3. Calculation of Annual Charges - State Portion

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	62.29	62.29	62.29	62.30	62.32
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest On Working Capital	1.43	1.43	1.43	1.43	1.43
Total Charges	63.72	63.72	63.73	63.74	63.75

48.3. Asset-III

48.3.1. Recovery factors:

(₹ in lakh)

Particulars	for the expenditure upto				
	31.3.2014	31.3.2015	31.3.2016	31.3.2017	31.3.2018
Recovery factor - Loan	9.3326%	9.3326%	9.3342%	9.3376%	9.3410%
Recovery factor- Equity	15.500%	15.500%	15.500%	15.500%	15.500%

48.3.2. Capital recovery charges:

(₹ in lakh)

Particulars	for the expenditure upto				
	31.3.2014	31.3.2015	30.3.2016	30.3.2017	31.3.2018
Expenditure	1342.35	1299.40	1251.66	1198.56	1139.46
O/S Loan	935.65	901.57	864.17	823.13	778.11
O/S Equity	406.70	397.83	387.49	375.43	361.35
No. of years	14.00	13.00	12.00	11.00	10.00
Recovery factor - Loan	0.010685	0.011089	0.011569	0.012148	0.012853
Monthly Capital Recovery Charges - Loan	10.00	10.00	10.00	10.00	10.00
Recovery factor - Equity	0.014608	0.014933	0.015332	0.015825	0.016441
Monthly Capital Recovery Charges - Equity	5.94	5.94	5.94	5.94	5.94
Annual Capital Recovery Charges - Total	191.26	191.26	191.27	191.29	191.30

48.3.3. Calculation of Annual Charges - Central Portion

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	191.26	191.26	191.27	191.29	191.30
O&M Expenses	17.18	2.17	4.62	4.77	4.93
Interest On Working Capital	5.35	4.52	4.66	4.67	4.68



Total Charges	213.79	197.95	200.54	200.73	200.91
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48.4. Asset-IV

48.4.1. Recovery factors

(₹ in lakh)

Particulars	for the expenditure upto				
	31.3.2014	31.3.2015	31.3.2016	31.3.2017	31.3.2018
Recovery factor - Loan	8.8000%	8.8000%	8.8000%	8.8000%	8.8000%
Recovery factor- Equity	15.500%	15.500%	15.500%	15.500%	15.500%

48.4.2. Capital recovery charges:

(₹ in lakh)

Particulars	for the expenditure upto				
	31.3.2014	31.3.2015	30.3.2016	30.3.2017	31.3.2018
Expenditure	258.48	250.73	242.16	232.67	222.16
O/S Loan	180.73	174.47	167.63	160.17	152.02
O/S Equity	77.75	76.26	74.53	72.50	70.14
No. of years	14.75	13.75	12.75	11.75	10.75
Recovery factor - Loan	0.010106	0.010469	0.010896	0.011404	0.012015
Monthly Capital Recovery Charges - Loan	1.83	1.83	1.83	1.83	1.83
Recovery factor - Equity	0.014402	0.014683	0.015026	0.015445	0.015966
Monthly Capital Recovery Charges - Equity	1.12	1.12	1.12	1.12	1.12
Annual Capital Recovery Charges - Total	35.36	35.36	35.36	35.36	35.36

48.4.3. Calculation of Annual Charges - Central Portion

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	35.36	35.36	35.36	35.36	35.36
O&M Expenses	3.34	2.85	0.99	1.02	1.06
Interest On Working Capital	1.00	0.97	0.87	0.87	0.87
Total Charges	39.69	39.18	37.21	37.25	37.28

48.5. Asset-V

48.5.1. Recovery factors

(₹ in lakh)

Particulars	for the expenditure upto				
	31.3.2014	31.3.2015	31.3.2016	31.3.2017	31.3.2018
Recovery factor - Loan	8.8000%	8.8000%	8.8000%	8.8000%	8.8000%



Recovery factor- Equity	8.8000%	8.8000%	8.8000%	8.8000%	8.8000%
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48.5.2. Capital recovery charges:

(₹ in lakh)

Particulars	for the expenditure upto				
	31.3.2014	31.3.2015	30.3.2016	30.3.2017	31.3.2018
Expenditure	93.98	91.16	88.04	84.59	80.77
O/S Loan	65.71	63.43	60.95	58.23	55.27
O/S Equity	28.27	27.73	27.10	26.36	25.50
No. of years	14.75	13.75	12.75	11.75	10.75
Recovery factor - Loan	0.0101062	0.0104690	0.0108959	0.0114036	0.0120146
Monthly Capital Recovery Charges - Loan	0.66	0.66	0.66	0.66	0.66
Recovery factor - Equity	0.014402	0.014683	0.015026	0.015445	0.015966
Monthly Capital Recovery Charges - Equity	0.41	0.41	0.41	0.41	0.41
Annual Capital Recovery Charges - Total	12.85	12.85	12.85	12.85	12.85

48.5.3. Calculation of Annual Charges - State Portion

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	12.85	12.85	12.85	12.85	12.85
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest On Working Capital	0.30	0.30	0.30	0.30	0.30
Total Charges	13.15	13.15	13.15	13.15	13.15

Calculation of Annual Charges for 2014-19 tariff period on account of add-cap:

48.6. Asset-I:

(For Add-cap during 2012-13)

48.6.1. Recovery factors

(₹ in lakh)

Particulars	31.3.2014	31.3.2015	31.3.2016	31.3.2017	31.3.2018
Recovery factor - Loan	9.0570%	9.0570%	9.0563%	9.0547%	9.0528%
Recovery factor- Equity	15.500%	15.500%	15.500%	15.500%	15.500%



48.6.2. Capital recovery charges:

(₹ in lakh)					
Particulars	31.3.2014	31.3.2015	30.3.2016	30.3.2017	31.3.2018
Expenditure	27.06	26.16	25.16	24.05	22.82
O/S Loan	18.86	18.14	17.35	16.50	15.56
O/S Equity	8.20	8.02	7.80	7.55	7.26
No. of years	13.83	12.83	11.83	10.83	9.83
Recovery factor - Loan	0.010586	0.011004	0.011501	0.012099	0.012829
Monthly Capital Recovery Charges - Loan	0.20	0.20	0.20	0.20	0.20
Recovery factor - Equity	0.014658	0.014994	0.015407	0.015918	0.016559
Monthly Capital Recovery Charges - Equity	0.12	0.12	0.12	0.12	0.12
Annual Capital Recovery Charges - Total	3.84	3.84	3.84	3.84	3.84

48.6.3. Calculation of Annual Charges - State Portion

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	3.84	3.84	3.84	3.84	3.84
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest On Working Capital	0.09	0.09	0.09	0.09	0.09
Total Charges	3.93	3.93	3.93	3.93	3.93

(For Add-cap during 2013-14)

48.6.4. Recovery factors

(₹ in lakh)					
Particulars	31.3.2014	31.3.2015	31.3.2016	31.3.2017	31.3.2018
Recovery factor - Loan	9.6162%	9.6162%	9.6176%	9.6204%	9.6221%
Recovery factor- Equity	15.500%	15.500%	15.500%	15.500%	15.500%

48.6.5. Capital recovery charges:

(₹ in lakh)					
Particulars	31.3.2014	31.3.2015	30.3.2016	30.3.2017	31.3.2018
Expenditure	93.87	90.85	87.48	83.72	79.53
O/S Loan	65.71	63.32	60.69	57.79	54.60
O/S Equity	28.16	27.53	26.79	25.93	24.93
No. of years	13.83	12.83	11.83	10.83	9.83
Recovery factor - Loan	0.010915	0.011327	0.011819	0.012413	0.013138
Monthly Capital Recovery Charges - Loan	0.72	0.72	0.72	0.72	0.72
Recovery factor - Equity	0.014658	0.014994	0.015407	0.015918	0.016559
Monthly Capital	0.41	0.41	0.41	0.41	0.41



Recovery Charges - Equity					
Annual Capital Recovery Charges - Total	13.56	13.56	13.56	13.56	13.56

48.6.6. Calculation of Annual Charges - State Portion

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	13.56	13.56	13.56	13.56	13.56
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest On Working Capital	0.31	0.31	0.31	0.31	0.31
Total Charges	13.87	13.87	13.87	13.87	13.87

(For Add-cap during 2014-15)

48.6.7. Recovery factors

(₹ in lakh)

Particulars	31.3.2015	31.3.2016	31.3.2017	31.3.2018
Recovery factor - Loan	9.3000%	9.3000%	9.3000%	9.3000%
Recovery factor- Equity	15.500%	15.500%	15.500%	15.500%

48.6.8. Capital recovery charges:

(₹ in lakh)

Particulars	31.3.2015	30.3.2016	30.3.2017	31.3.2018
Expenditure	0.10	0.10	0.09	0.09
O/S Loan	0.07	0.07	0.06	0.06
O/S Equity	0.03	0.03	0.03	0.03
No. of years	12.83	11.83	10.83	9.83
Recovery factor - Loan	0.011144	0.011639	0.012235	0.012963
Monthly Capital Recovery Charges - Loan	0.00	0.00	0.00	0.00
Recovery factor - Equity	0.014994	0.015407	0.015918	0.016559
Monthly Capital Recovery Charges - Equity	0.00	0.00	0.00	0.00
Annual Capital Recovery Charges - Total	0.01	0.01	0.01	0.01

48.6.9. Calculation of Annual Charges - State Portion

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	0.01	0.01	0.01	0.01
O&M Expenses	0.00	0.00	0.00	0.00
Interest On Working Capital	0.00	0.00	0.00	0.00
Total Charges	0.02	0.02	0.02	0.02

(For Add-cap during 2015-16)

48.6.10. Recovery factors



(₹ in lakh)

Particulars	31.3.2016	31.3.2017	31.3.2018
Recovery factor - Loan	8.1500%	8.1500%	8.1500%
Recovery factor- Equity	15.500%	15.500%	15.500%

48.6.11. Capital recovery charges:

(₹ in lakh)

Particulars	30.3.2016	30.3.2017	31.3.2018
Expenditure	26.23	25.01	23.68
O/S Loan	18.36	17.40	16.35
O/S Equity	7.87	7.62	7.32
No. of years	11.83	10.83	9.83
Recovery factor - Loan	0.010998	0.011606	0.012346
Monthly Capital Recovery Charges - Loan	0.20	0.20	0.20
Recovery factor - Equity	0.015407	0.015918	0.016559
Monthly Capital Recovery Charges - Equity	0.12	0.12	0.12
Annual Capital Recovery Charges - Total	3.88	3.88	3.88

48.6.12. Calculation of Annual Charges - State Portion

(₹ in lakh)

Particulars	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	3.88	3.88	3.88
O&M Expenses	0.00	0.00	0.00
Interest On Working Capital	0.09	0.09	0.09
Total Charges	3.97	3.97	3.97

48.7. Asset-II

(For Add-cap during 2013-14)

48.7.1. Recovery factors

(₹ in lakh)

Particulars	31.3.2014	31.3.2015	31.3.2016	31.3.2017	31.3.2018
Recovery factor - Loan	9.5930%	9.5930%	9.5930%	9.5907%	9.5855%
Recovery factor- Equity	15.500%	15.500%	15.500%	15.500%	15.500%

48.7.2. Monthly recovery charges:

(₹ in lakh)

Particulars	31.3.2014	31.3.2015	30.3.2016	30.3.2017	31.3.2018
Expenditure	89.70	86.87	83.72	80.21	76.30
O/S Loan	62.79	60.55	58.08	55.37	52.39
O/S Equity	26.91	26.32	25.64	24.84	23.91
No. of years	14.00	13.00	12.00	11.00	10.00
Recovery factor - Loan	0.010839	0.011240	0.011717	0.012289	0.012987
Monthly Capital Recovery Charges - Loan	0.68	0.68	0.68	0.68	0.68
Recovery factor - Equity	0.014608	0.014933	0.015332	0.015825	0.016441



Monthly Capital Recovery Charges - Equity	0.39	0.39	0.39	0.39	0.39
Annual Capital Recovery Charges - Total	12.88	12.88	12.88	12.88	12.88

48.7.3. **Calculation of Annual Charges - State Portion**

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Cap. Recovery Charges	12.88	12.88	12.88	12.88	12.88
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest On Working Capital	0.30	0.30	0.30	0.30	0.30
Total Charges	13.18	13.18	13.18	13.18	13.18

(For Add-cap during 2014-15)

48.7.4. **Recovery factors**

(₹ in lakh)

Particulars	31.3.2015	31.3.2016	31.3.2017	31.3.2018
Recovery factor - Loan	9.3000%	9.3000%	9.3000%	9.3000%
Recovery factor- Equity	15.500%	15.500%	15.500%	15.500%

48.7.5. **Monthly recovery charges:**

(₹ in lakh)

Particulars	31.3.2015	30.3.2016	30.3.2017	31.3.2018
Expenditure	0.64	0.62	0.59	0.56
O/S Loan	0.45	0.43	0.41	0.39
O/S Equity	0.19	0.19	0.18	0.18
No. of years	13.00	12.00	11.00	10.00
Recovery factor - Loan	0.011070	0.011550	0.012127	0.012831
Monthly Capital Recovery Charges - Loan	0.00	0.00	0.00	0.00
Recovery factor - Equity	0.014933	0.015332	0.015825	0.016441
Monthly Capital Recovery Charges - Equity	0.00	0.00	0.00	0.00
Annual Capital Recovery Charges - Total	0.09	0.09	0.09	0.09

48.7.6. **Calculation of Annual Charges - State Portion**

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	0.09	0.09	0.09	0.09
O&M Expenses	0.00	0.00	0.00	0.00
Interest On Working Capital	0.00	0.00	0.00	0.00
Total Charges	0.10	0.10	0.10	0.10

(For Add-cap during 2015-16)

48.7.7. **Recovery factors**



(₹ in lakh)

Particulars	31.3.2016	31.3.2017	31.3.2018
Recovery factor - Loan	8.1500%	8.1500%	8.1500%
Recovery factor- Equity	15.500%	15.500%	15.500%

48.7.8. Monthly recovery charges:

(₹ in lakh)

Particulars	30.3.2016	30.3.2017	31.3.2018
Expenditure	19.90	19.00	18.01
O/S Loan	13.93	13.22	12.44
O/S Equity	5.97	5.78	5.57
No. of years	12.00	11.00	10.00
Recovery factor - Loan	0.010907	0.011496	0.012212
Monthly Capital Recovery Charges - Loan	0.15	0.15	0.15
Recovery factor - Equity	0.015332	0.015825	0.016441
Monthly Capital Recovery Charges - Equity	0.09	0.09	0.09
Annual Capital Recovery Charges - Total	2.92	2.92	2.92

48.7.9. Calculation of Annual Charges - State Portion

(₹ in lakh)

Particulars	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	2.92	2.92	2.92
O&M Expenses	0.00	0.00	0.00
Interest On Working Capital	0.07	0.07	0.07
Total Charges	2.99	2.99	2.99

48.8. Asset-III**(For Add-cap during 2013-14)**

48.8.1. Recovery factors

(₹ in lakh)

Particulars	31.3.2014	31.3.2015	31.3.2016	31.3.2017	31.3.2018
Recovery factor - Loan	9.6395%	9.6395%	9.6395%	9.6390%	9.6380%
Recovery factor- Equity	15.500%	15.500%	15.500%	15.500%	15.500%

48.8.2. Monthly recovery charges:

(₹ in lakh)

Particulars	31.3.2014	31.3.2015	30.3.2016	30.3.2017	31.3.2018
Expenditure	328.83	318.50	306.98	294.14	279.81
O/S Loan	230.18	222.00	212.99	203.08	192.16
O/S Equity	98.65	96.50	93.99	91.06	87.65
No. of years	14.00	13.00	12.00	11.00	10.00



Recovery factor - Loan	0.010867	0.011267	0.011743	0.012317	0.013015
Monthly Capital Recovery Charges - Loan	2.50	2.50	2.50	2.50	2.50
Recovery factor - Equity	0.014608	0.014933	0.015332	0.015825	0.016441
Monthly Capital Recovery Charges - Equity	1.44	1.44	1.44	1.44	1.44
Annual Cap Recovery Charges - Total	47.31	47.31	47.31	47.31	47.31

48.8.3. **Calculation of Annual Charges - State Portion**

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	47.31	47.31	47.31	47.31	47.31
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest On Working Capital	1.09	1.09	1.09	1.09	1.09
Total Charges	48.40	48.40	48.40	48.40	48.40

(For Add-cap during 2014-15)

48.8.4. Recovery factors

(₹ in lakh)

Particulars	31.3.2015	31.3.2016	31.3.2017	31.3.2018
Recovery factor - Loan	9.3000%	9.3000%	9.3000%	9.3000%
Recovery factor- Equity	15.500%	15.500%	15.500%	15.500%

48.8.5. Monthly recovery charges:

(₹ in lakh)

Particulars	31.3.2015	30.3.2016	30.3.2017	31.3.2018
Expenditure	6.07	5.85	5.60	5.32
O/S Loan	4.25	4.07	3.88	3.67
O/S Equity	1.82	1.77	1.72	1.65
No. of years	13.00	12.00	11.00	10.00
Recovery factor - Loan	0.011070	0.011550	0.012127	0.012831
Monthly Capital Recovery Charges - Loan	0.05	0.05	0.05	0.05
Recovery factor - Equity	0.014933	0.015332	0.015825	0.016441
Monthly Capital Recovery Charges - Equity	0.03	0.03	0.03	0.03
Annual Capital Recovery Charges - Total	0.89	0.89	0.89	0.89

48.8.6. **Calculation of Annual Charges - State Portion**

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	0.89	0.89	0.89	0.89
O&M Expenses	0.00	0.00	0.00	0.00
Interest On Working Capital	0.02	0.02	0.02	0.02



Total Charges	0.91	0.91	0.91	0.91
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(For Add-cap during 2015-16)

48.8.7. Recovery factors

(₹ in lakh)

Particulars	31.3.2016	31.3.2017	31.3.2018
Recovery factor - Loan	11.6070%	11.6070%	11.8891%
Recovery factor- Equity	15.500%	15.500%	15.500%

48.8.8. Monthly recovery charges:

(₹ in lakh)

Particulars	30.3.2016	30.3.2017	31.3.2018
Expenditure	-38.71	-37.25	-35.59
O/S Loan	-27.10	-25.99	-24.76
O/S Equity	-11.61	-11.25	-10.83
No. of years	12.00	11.00	10.00
Recovery factor - Loan	0.012897	0.013446	0.014283
Monthly Capital Recovery Charges - Loan	-0.35	-0.35	-0.35
Recovery factor - Equity	0.01533	0.01582	0.01644
Monthly Capital Recovery Charges - Equity	-0.18	-0.18	-0.18
Annual Capital Recovery Charges - Total	-6.33	-6.33	-6.38

48.8.9. Calculation of Annual Charges - State Portion

(₹ in lakh)

Particulars	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	-6.33	-6.33	-6.38
O&M Expenses	0.00	0.00	0.00
Interest On Working Capital	-0.15	-0.15	-0.15
Total Charges	-6.48	-6.48	-6.53

(For Add-cap during 2016-17)

48.8.10. Recovery factors

(₹ in lakh)

Particulars	31.3.2017	31.3.2018
Recovery factor - Loan	9.4051%	9.4044%
Recovery factor- Equity	15.500%	15.500%

48.8.11. Monthly recovery charges:

(₹ in lakh)

Particulars	30.3.2017	31.3.2018
Expenditure	-137.76	-130.95
O/S Loan	-96.43	-91.18
O/S Equity	-41.33	-39.78
No. of years	11.00	10.00



Recovery factor - Loan	0.012186	0.012887
Monthly Capital Recovery Charges - Loan	-1.18	-1.18
Recovery factor - Equity	0.015825	0.016441
Monthly Capital Recovery Charges - Equity	-0.65	-0.65
Annual Capital Recovery Charges - Total	-21.95	-21.95

48.8.12. **Calculation of Annual Charges - State Portion**

(₹ in lakh)

Particulars	2017-18	2018-19
Annual Capital Recovery Charges	-21.95	-21.95
O&M Expenses	0.00	0.00
Interest On Working Capital	-0.51	-0.51
Total Charges	-22.45	-22.45

(For Add-cap during 2018-19)

48.8.13. Recovery factors

(₹ in lakh)

Particulars	31.3.2018
Recovery factor - Loan	7.2000%
Recovery factor- Equity	15.500%

48.8.14. Monthly recovery charges:

(₹ in lakh)

Particulars	31.3.2018
Expenditure	31.84
O/S Loan	22.29
O/S Equity	9.55
No. of years	10.00
Recovery factor - Loan	0.011714
Monthly Capital Recovery Charges - Loan	0.26
Recovery factor - Equity	0.016441
Monthly Capital Recovery Charges - Equity	0.16
Annual Capital Recovery Charges - Total	5.02

48.8.15. **Calculation of Annual Charges - State Portion**

(₹ in lakh)

Particulars	2018-19
Annual Capital Recovery Charges	5.02
O&M Expenses	0.00
Interest On Working Capital	0.12
Total Charges	5.13

48.9. Asset-IV

(For Add-cap during 2013-14)

48.9.1. Recovery factors

(₹ in lakh)

Particulars	31.3.2014	31.3.2015	31.3.2016	31.3.2017	31.3.2018
Recovery factor - Loan	9.5491%	9.5491%	9.5491%	9.5453%	9.5366%



Recovery factor- Equity	15.500%	15.500%	15.500%	15.500%	15.500%
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48.9.2. Monthly recovery charges:

Particulars	(₹ in lakh)				
	31.3.2014	31.3.2015	30.3.2016	30.3.2017	31.3.2018
Expenditure	62.15	60.38	58.40	56.21	53.76
O/S Loan	43.50	42.09	40.53	38.82	36.94
O/S Equity	18.64	18.29	17.87	17.39	16.82
No. of years	14.75	13.75	12.75	11.75	10.75
Recovery factor - Loan	0.010552	0.010907	0.011326	0.011823	0.012421
Monthly Capital Recovery Charges - Loan	0.46	0.46	0.46	0.46	0.46
Recovery factor - Equity	0.014402	0.014683	0.015026	0.015445	0.015966
Monthly Capital Recovery Charges - Equity	0.27	0.27	0.27	0.27	0.27
Annual Capital Recovery Charges - Total	8.73	8.73	8.73	8.73	8.73

48.9.3. Calculation of Annual Charges - State Portion

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	8.73	8.73	8.73	8.73	8.73
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest On Working Capital	0.20	0.20	0.20	0.20	0.20
Total Charges	8.93	8.93	8.93	8.93	8.93

(For Add-cap during 2014-15)

48.9.4. Recovery factors

Particulars	(₹ in lakh)			
	31.3.2015	31.3.2016	31.3.2017	31.3.2018
Recovery factor - Loan	8.1500%	8.1500%	8.1500%	8.1500%
Recovery factor- Equity	15.500%	15.500%	15.500%	15.500%

48.9.5. Monthly recovery charges:

Particulars	(₹ in lakh)			
	31.3.2015	30.3.2016	30.3.2017	31.3.2018
Expenditure	1.31	1.27	0.84	1.16
O/S Loan	0.92	0.88	1.22	0.80
O/S Equity	0.39	0.39	12.12	0.36
No. of years	13.75	12.75	11.76	10.75
Recovery factor - Loan	0.010096	0.010530	0.020333	0.011662
Monthly Capital Recovery Charges - Loan	0.01	0.01	0.02	0.01



Recovery factor - Equity	0.014683	0.015026	0.021235	0.015966
Monthly Capital Recovery Charges - Equity	0.01	0.01	0.19	0.01
Annual Capital Recovery Charges - Total	0.18	0.18	0.18	0.18

48.9.6. **Calculation of Annual Charges - State Portion**

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	0.18	0.18	0.18	0.18
O&M Expenses	0.00	0.00	0.00	0.00
Interest On Working Capital	0.00	0.00	0.00	0.00
Total Charges	0.19	0.19	0.19	0.19

(For Add-cap during 2015-16)

48.9.7. Recovery factors

(₹ in lakh)

Particulars	31.3.2016	31.3.2017	31.3.2018
Recovery factor - Loan	8.1500%	8.1500%	8.1500%
Recovery factor- Equity	15.500%	15.500%	15.500%

48.9.8. Monthly recovery charges:

(₹ in lakh)

Particulars	30.3.2016	30.3.2017	31.3.2018
Expenditure	32.33	31.01	29.56
O/S Loan	22.63	21.58	20.43
O/S Equity	9.70	9.43	9.13
No. of years	12.75	11.75	10.75
Recovery factor - Loan	0.010530	0.011044	0.011662
Monthly Capital Recovery Charges - Loan	0.24	0.24	0.24
Recovery factor - Equity	0.015026	0.015445	0.015966
Monthly Capital Recovery Charges - Equity	0.15	0.15	0.15
Annual Capital Recovery Charges - Total	4.61	4.61	4.61

48.9.9. **Calculation of Annual Charges - State Portion**

(₹ in lakh)

Particulars	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	4.61	4.61	4.61
O&M Expenses	0.00	0.00	0.00
Interest On Working Capital	0.11	0.11	0.11
Total Charges	4.71	4.71	4.71

(For Add-cap during 2016-17)



48.9.10. Recovery factors

Particulars	(₹ in lakh)	
	31.3.2017	31.3.2018
Recovery factor - Loan	8.8640%	8.8538%
Recovery factor- Equity	15.500%	15.500%

48.9.11. Monthly recovery charges:

Particulars	(₹ in lakh)	
	30.3.2017	31.3.2018
Expenditure	-57.36	-54.76
O/S Loan	-40.15	-38.12
O/S Equity	-17.21	-16.65
No. of years	11.75	10.75
Recovery factor - Loan	0.011439	0.012044
Monthly Capital Recovery Charges - Loan	-0.46	-0.46
Recovery factor - Equity	0.015445	0.015966
Monthly Capital Recovery Charges - Equity	-0.27	-0.27
Annual Capital Recovery Charges - Total	-8.70	-8.70

48.9.12. Calculation of Annual Charges - State Portion

Particulars	(₹ in lakh)	
	2017-18	2018-19
Annual Capital Recovery Charges	-8.70	-8.70
O&M Expenses	0.00	0.00
Interest On Working Capital	-0.20	-0.20
Total Charges	-8.90	-8.90

48.10. Asset-V

(For Add-cap during 2013-14)

48.10.1. Recovery factors

Particulars	31.3.2014	31.3.2015	31.3.2016	31.3.2017	31.3.2018
Recovery factor – Loan	9.4637%	9.4637%	9.4637%	9.4574%	9.4435%
Recovery factor- Equity	15.500%	15.500%	15.500%	15.500%	15.500%

48.10.2. Monthly recovery charges:

Particulars	(₹ in lakh)				
	31.3.2014	31.3.2015	30.3.2016	30.3.2017	31.3.2018
Expenditure	12.24	11.89	11.50	11.06	10.58
O/S Loan	8.57	8.29	7.98	7.64	7.27
O/S Equity	3.67	3.60	3.52	3.42	3.31
No. of years	14.75	13.75	12.75	11.75	10.75
Recovery factor - Loan	0.010501	0.010857	0.011276	0.011773	0.012369
Monthly Capital Recovery Charges - Loan	0.09	0.09	0.09	0.09	0.09



Recovery factor - Equity	0.014402	0.014683	0.015026	0.015445	0.015966
Monthly Capital Recovery Charges - Equity	0.05	0.05	0.05	0.05	0.05
Annual Capital Recovery Charges - Total	1.71	1.71	1.71	1.71	1.71

48.10.3. **Calculation of Annual Charges - State Portion**

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	1.71	1.71	1.71	1.71	1.71
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest On Working Capital	0.04	0.04	0.04	0.04	0.04
Total Charges	1.75	1.75	1.75	1.75	1.75

(For Add-cap during 2014-15)

48.10.4. Recovery factors

(₹ in lakh)

Particulars	31.3.2015	31.3.2016	31.3.2017	31.3.2018
Recovery factor - Loan	8.1500%	8.1500%	8.1500%	8.1500%
Recovery factor- Equity	15.500%	15.500%	15.500%	15.500%

48.10.5. Monthly recovery charges:

(₹ in lakh)

Particulars	31.3.2015	30.3.2016	30.3.2017	31.3.2018
Expenditure	2.73	2.63	2.52	2.41
O/S Loan	1.91	1.83	1.75	1.65
O/S Equity	0.82	0.80	0.78	0.75
No. of years	13.75	12.75	11.75	10.75
Recovery factor - Loan	0.010096	0.010530	0.011044	0.011662
Monthly Capital Recovery Charges - Loan	0.02	0.02	0.02	0.02
Recovery factor - Equity	0.014683	0.015026	0.015445	0.015966
Monthly Capital Recovery Charges - Equity	0.01	0.01	0.01	0.01
Annual Capital Recovery Charges - Total	0.38	0.38	0.38	0.38

48.10.6. **Calculation of Annual Charges - State Portion**

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	0.38	0.38	0.38	0.38
O&M Expenses	0.00	0.00	0.00	0.00
Interest On Working Capital	0.01	0.01	0.01	0.01
Total Charges	0.38	0.38	0.38	0.38



(For Add-cap during 2015-16)

48.10.7. Recovery factors

(₹ in lakh)

Particulars	31.3.2016	31.3.2017	31.3.2018
Recovery factor - Loan	8.1500%	8.1500%	8.1500%
Recovery factor- Equity	15.500%	15.500%	15.500%

48.10.8. Monthly recovery charges:

(₹ in lakh)

Particulars	30.3.2016	30.3.2017	31.3.2018
Expenditure	18.80	18.03	17.19
O/S Loan	13.16	12.55	11.88
O/S Equity	5.64	5.49	5.31
No. of years	12.75	11.75	10.75
Recovery factor - Loan	0.010530	0.011044	0.011662
Monthly Capital Recovery Charges - Loan	0.14	0.14	0.14
Recovery factor - Equity	0.015026	0.015445	0.015966
Monthly Capital Recovery Charges - Equity	0.08	0.08	0.08
Annual Capital Recovery Charges - Total	2.68	2.68	2.68

48.10.9. Calculation of Annual Charges - State Portion

(₹ in lakh)

Particulars	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	2.68	2.68	2.68
O&M Expenses	0.00	0.00	0.00
Interest On Working Capital	0.06	0.06	0.06
Total Charges	2.74	2.74	2.74

Filing Fee and Publication Expenses

49. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 52 of the 2014 Tariff Regulations. The petitioner is 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.

License Fee and RLDC Fees and Charges

50. The petitioner has requested to allow the petitioner to bill and recover License



fee and RLDC fees and charges, separately from the respondents. The petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a), respectively, of Regulation 52 of the 2014 Tariff Regulations.

Service Tax

51. The petitioner has sought to recover Service Tax on transmission charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list in future. We are of the view that the petitioner's prayer is premature and accordingly this prayer is rejected.

Goods & Services Tax:

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

Sharing of Transmission Charges

53. The fees and charges for Fiber Optic Communication system covered under Central Sector portion shall be shared on similar lines as system operation charges by the users in the ratio of 45:45:10 as per Regulation 22 (1) of Fees and charges of Regional Load Dispatch 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"

54. The fees & charges for State portion shall be recovered from respective states. Further, as specified under Regulation 5 of Central Electricity Regulatory Commission (sharing of revenue derived from utilization of transmission assets for other business)



Regulations, 2007, the revenue earned by the petitioner from utilisation of these assets for other business shall be adjusted on monthly basis in the bills of the respective month in the proportion given above.

55. The fees and charges for 2014-19 tariff period for the Unified Scheme under the Central Sector shall be recovered on monthly basis in accordance with Regulation 43 of the 2014 Tariff Regulations shall be shared by the beneficiaries and long term transmission customers in Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges & Losses) Regulations, 2010 as amended time to time. The fees and charges for the Unified Scheme under the State Sector shall also be shall be shared by the respective State as provided under Regulation 43 of the 2014 Tariff Regulations.

56. This order disposes of Petition No. 169/TT/2018.

Sd/-

**(Dr. M.K. Iyer)
Member**

Sd/-

**(P.K. Pujari)
Chairperson**

