

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 181/TT/2016

Coram:

Shri A.K. Singhal, Member

Shri A.S. Bakshi, Member

Dr. M.K. Iyer, Member

Date of Order : 11.07.2017

In the matter of:

Truing up of transmission tariff for 2009-14 tariff period and determination of transmission tariff for 2014-19 tariff period, for Combined Assets for Transmission System associated with Northern Region Bus Reactor Scheme (Group II) in Northern Region, under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

And in the matter of:

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

.....Petitioner

Vs

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited,
Vidyut Bhawan, Vidyut Marg,
Jaipur- 302 005
2. Ajmer Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor),
Ajmer Road, Heerapura, Jaipur
3. Jaipur Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor),
Ajmer Road, Heerapura, Jaipur
4. Jodhpur Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor),
Ajmer Road, Heerapura, Jaipur
5. Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House Complex Building II,
Shimla-171 004



6. Punjab State Power Corporation Limited,
Thermal Shed TIA, Near 22 Phatak,
Patiala-147 001
7. Haryana Power Purchase Centre,
Shakti Bhawan, Sector-6,
Panchkula (Haryana)-134 109
8. Power Development Department,
Govt. of Jammu and Kashmir,
Mini Secretariat, Jammu
9. Uttar Pradesh Power Corporation Limited,
(Formerly Uttar Pradesh State Electricity Board)
Shakti Bhawan, 14, Ashok Marg,
Lucknow-226 001
10. Delhi Transco Limited,
Shakti Sadan, Kotla Road,
New Delhi-110 002
11. BSES Yamuna Power Limited,
BSES Bhawan, Nehru Place
New Delhi
12. BSES Rajdhani Power Limited,
BSES Bhawan, Nehru Place
New Delhi
13. North Delhi Power Limited,
Power Trading & Load Dispatch Group, Cennet Building,
Adjacent to 66/11kV Pitampura-3 Grid Building,
Near PP Jewellers,
Pitampura, New Delhi-110 034
14. Chandigarh Administration,
Sector-9, Chandigarh
15. Uttarakhand Power Corporation Limited,
Urja Bhawan, Kanwali Road,
Dehradun
16. North Central Railway,
Allahabad
17. New Delhi Municipal Council,
Palika Kendra, Sansad Marg,
New Delhi-110 002

.....Respondents



For Petitioner: Shri S.K. Venkatesan, PGCIL
Shri M.M. Mondal, PGCIL
Shri Rakesh Prasad, PGCIL
Shri Jasbir Singh, PGCIL

For Respondents: Shri R.B. Sharma, Advocate for BRPL

ORDER

The present petition has been filed by Power Grid Corporation of India Limited ('the petitioner'), for truing up of capital expenditure and tariff of Combined Assets of Transmission System associated with Northern Region Bus Reactor Scheme (Group-II) (hereinafter referred as "transmission assets") in Northern Region, 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 expenditure for the period 1.4.2009 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.

2. This order has been issued after considering the petitioner's affidavits dated 16.9.2016 and 21.12.2016.

3. 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.



4. The hearing in the matter was held on 25.10.2016. Having heard the representatives of the petitioner, respondents and perused the material on record, we proceed to dispose of the petition.

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

a. The project was scheduled to be commissioned within 20 months from the date of Investment Approval dated 15.12.2010. Accordingly, the schedule date of commissioning of the instant assets was 14.8.2012 i.e. 1.9.2012. The scope of the project is as under:-

Sub-stations:

- (1) Extension of 400/220 kV Gorakhpur (PGCIL) Sub-station-1 No. 400 kV, 125 MVAR bus reactor
- (2) Extension of 400/220 kV Allahabad (PGCIL) Sub-station-1 No. 400 kV, 125 MVAR bus reactor
- (3) Extension of 400/220 kV Mainpuri (PGCIL) Sub-station-1 No. 400 kV, 125 MVAR bus reactor
- (4) Extension of 400/220 kV Hissar (PGCIL) Sub-station-1 No. 400 kV, 125 MVAR bus reactor
- (5) Extension of 400/220 kV Jalandhar (PGCIL) Sub-station-1 No. 400 kV, 125 MVAR bus reactor
- (6) Extension of 400/220 kV Amritsar (PGCIL) Sub-station-1 No. 400 kV, 80 MVAR bus reactor
- (7) Extension of 400/220 kV Kankaroli (PGCIL) Sub-station-1 No. 400 kV, 125 MVAR bus reactor
- (8) Extension of 400/220 kV Nalagarh (PGCIL) Sub-station-1 No. 400 kV, 125 MVAR bus reactor
- (9) Extension of 400/220 kV Vindhyachal (NR Bus) (PGCIL) Sub-station-2 Nos. 400 kV, 125 MVAR bus reactor



b. The petitioner had filed two petitions claiming tariff for assets covered under the Transmission System associated with Northern Region Bus Reactor Scheme in NR for the period 1.4.2009 to 31.3.2014 i.e. Petition No. 102/TT/2012 and Petition No. 31/TT/2013. The details of the assets covered in these petitions and their COD are as under:-

Sri. No.	Name of the assets	COD	Remarks
		Actual	
1	1 No. 400 kV, 125 MVAR Bus Reactor at Jalandhar	1.4.2012	Petition No. 102/TT/2012
2	1 No. 400 kV, 125 MVAR Bus Reactor at Amritsar	1.4.2012	
3	1 No. 400 kV, 125 MVAR Bus Reactor at Hissar	1.5.2012	
4	1 No. 400 kV, 125 MVAR Bus Reactor at Nalagarh	1.5.2012	
5	400 kV, 125 MVAR Bus Reactor at Gorakhpur	1.2.2013	Petition No. 31/TT/2013
6	400 kV, 125 MVAR Bus Reactor at Allahabad.	1.11.2012	
7	400 kV, 125 MVAR Bus Reactor at Mainpuri.	1.1.2013	
8	400 kV, 125 MVAR Bus Reactor at Kankaroli.	1.11.2012	
9	400 kV, 125 MVAR Bus Reactor-I at Vindhyachal.	1.4.2013	
10	400 kV, 125 MVAR Bus Reactor-II at Vindhyachal	1.6.2013	

c. The final transmission tariff for the part scope of the subject cited scheme (4 assets) i.e. except the assets covered under the present petition, for the tariff period 2009-14, was approved, vide order dated 2.12.2013 in Petition no. 102/TT/2012. The final tariff approved for the tariff period 2009-14, in Petition no. 102/TT/2012 was trued-up vide order dated 29.2.2016 in Petition No. 505/TT/2014;



d. The final tariff approved for the instant assets for the tariff period 2009-14 in Petition No. 31/TT/2013 is being trued-up in this order. The details of the instant assets and CODs thereof are as under:-

Particulars	Name of the assets	COD		Delay in months
		Scheduled	Actual	
Asset-I	400 kV, 125 MVAR Bus Reactor at Gorakhpur	1.9.2012	1.2.2013	5
Asset-II	400 kV, 125 MVAR Bus Reactor at Allahabad.		1.11.2012	2
Asset-III	400 kV, 125 MVAR Bus Reactor at Mainpuri.		1.1.2013	4
Asset-IV	400 kV, 125 MVAR Bus Reactor at Kankaroli.		1.11.2012	2
Asset-V	400 kV, 125 MVAR Bus Reactor-I at Vindhyachal.		1.4.2013	7
Asset-VI	400 kV, 125 MVAR Bus Reactor-II at Vindhyachal		1.6.2013	9

e. The Commission vide order dated 7.8.2015 in Petition No. 31/TT/2013, had approved the final tariff for the period 2009-14 and the capital cost as on COD and additional capitalisation for the period from COD to 31.3.2014 as under:-

Particulars	Capital Cost as on COD after adjusting IDC/IEDC and excess spares	Projected additional capitalization		Total completion cost
		2012-13	2013-14	
Asset-I	447.27	23.11	98.09	568.47
Asset-II	418.56	89.45	81.67	589.68
Asset-III	577.83	150.00	122.58	850.41
Asset-IV	423.27	87.65	130.43	641.95
Asset-V	535.82	-	236.75	772.57
Asset-VI	563.31	-	212.90	776.21
Total	2966.65	350.21	882.42	4199.29

f. The final tariff allowed for instant assets, vide order dated 7.8.2015 in Petition No. 31/TT/2013 for 2012-13 and 2013-14 is as follows:-



(₹ in lakh)

Particulars	Asset-I		Asset-II	
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Depreciation	4.04	27.43	10.19	28.98
Interest on Loan	4.82	31.31	12.19	32.83
Return on Equity	4.01	27.24	10.12	28.78
Interest on Working Capital	0.87	5.60	2.17	5.70
O & M Expenses	10.32	65.46	25.80	65.46
Total	24.05	157.03	60.48	161.76

Particulars	Asset-III		Asset-IV	
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Depreciation	8.62	41.67	10.29	30.45
Interest on Loan	10.46	48.34	12.35	34.66
Return on Equity	8.56	41.38	10.22	30.25
Interest on Working Capital	1.49	6.64	2.18	5.81
O & M Expenses	15.48	65.46	25.80	65.46
Total	44.61	203.49	60.84	166.63

(₹ in lakh)

Particulars	Asset-V	Asset-VI
	2013-14	2013-14 (pro-rata)
Depreciation	34.54	29.47
Interest on Loan	39.08	33.96
Return on Equity	34.31	29.27
Interest on Working Capital	5.96	5.03
O & M Expenses	65.46	54.55
Total	179.35	152.28

e. The MAT rate applicable as on 2008-09 was considered to arrive at rate of return on equity for the tariff period 2009-14, which is required to be adjusted as per the actual MAT rate applicable for the respective year at the time of truing up of tariff for 2009-14 tariff period.

Truing-up of Annual Fixed Charges for Period 2012-13 and 2013-14

6. The truing up of tariff for 2012-13 and 2013-14 has been determined as discussed hereinafter.



Capital Cost and Additional Capital Expenditure

7. Clause (1) and Clause (3) of Regulation 6 of the 2009 Tariff Regulations specifies as under:-

“(1) The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2014, as admitted by the Commission after prudence check at the time of truing up.-----”

“(3) The generating company or the transmission licensee, as the case may be, shall submit for the purpose of truing up, details of capital expenditure and additional capital expenditure incurred for the period from 1.4.2009 to 31.3.2014, duly audited and certified by the auditors;”

8. The details of the approved apportioned cost, cost as on COD and estimated/projected additional capitalization to be incurred for the instant assets, as per Auditors' Certificates dated 23.7.2016 and 3.8.2016 has been submitted by the petitioner. The details are as under:-

Particulars	Approved Apportioned Cost	Expenditure up to COD	Expenditure Incurred/ Projected to be Incurred					Estimated completion Cost
			2012-13	2013-14	2014-15	2015-16	2016-17	
Asset-I	794.12	489.39	23.11	88.35	19.86	0.00	4.00	624.71
Asset-II	794.12	458.13	89.45	62.52	0.00	12.34	0.00	622.44
Asset-III	1041.32	538.73	84.18	103.47	0.00	9.29	300.00	1035.66
Asset-IV	862.31	465.21	87.65	70.08	0.00	3.47	0.00	626.42
Asset-V	945.66	621.92	0.00	56.55	38.57	6.85	131.00	854.89
Asset-VI	945.66	675.14	0.00	56.55	38.57	6.85	52.00	829.11
TOTAL	5383.19	3248.52	284.39	437.52	97.00	38.80	487.00	4593.23

*The capital expenditure has been stated to have been verified from the audited figures of accounts by the Auditors, up to 31.3.2016.

Cost Over-run

9. The total completion cost of each of the asset, incurred up to 31.3.2016, is within their approved apportioned cost. Hence, there is no cost over-run in the commissioning of instant assets.

Time Over-run

10. There is time over-run of two to nine months in commissioning of instant assets as discussed at para-5 above. The time over-run was not condoned in



order dated 7.8.2015 in Petition No. 31/TT/2013. The relevant part of the order are as under:-

“15. The Commission directed the petitioner to submit reasons along with documentary evidence for time over-run in commissioning of the instant assets. The petitioner vide affidavit dated 20.9.2013 submitted the actual COD of the instant assets and has submitted that the delay in the commissioning of the instant assets is due to the delay in supply and due to delay in construction of foundation work on account of unavoidable circumstances. However, the petitioner has not submitted any documentary evidence. Further, the petitioner vide affidavit dated 19.6.2014 submitted that additional RoE has not been claimed in the instant petition. We have considered the submissions made by the petitioner and the respondents. The petitioner has not submitted any documentary evidence justifying the time over-run. We are of the view that time over-run in case of these assets is on account of delay on the part of suppliers and the petitioner. As such, we are not inclined to condone the time over-run in the case of the instant assets.”

Treatment of IDC and IEDC

11. The petitioner has submitted information related to IDC alongwith details of year-wise discharge of the entire claimed IDC as per the petition. However, we have worked out IDC on cash basis up to COD, after disallowing delay in the commissioning of the instant assets, based on the available information, i.e. loan details mentioned in Form-13 and the working sheet of the IDC, submitted by the petitioner in the instant petition. The details submitted by the petitioner and allowable/worked out IDC as on COD, for instant assets is as under:-

Particulars	Asset No.					
	I	II	III	IV	V	VI
Total IDC claimed (As per Auditor's Certificate)	12.51	11.16	13.98	11.11	12.46	24.83
IDC claimed as on COD	0.94	11.16	9.79	7.81	11.58	17.97
IDC allowed as on COD	0.94	10.63	8.53	6.70	8.83	11.87
IDC claimed to be discharged in 2012-13	0.83	-	3.08	1.65	-	-
IDC to be discharged in 2012-13 allowed	0.83	0.53	3.08	1.65	-	-
IDC claimed to be discharged in 2013-14	10.74	-	1.11	1.65	0.88	6.86
IDC to be discharged in 2013-14 allowed	2.06	-	1.11	1.65	-	0.04
Total IDC Allowed	3.83	11.16	12.72	10.00	8.83	11.91



12. Thus, the IDC worked out as above has been allowed to be capitalised against the IDC claim of the petitioner.

13. As regards IEDC, the petitioner has submitted that IEDC as on COD has been discharged. We have considered the IEDC limit, as indicated in the 'Abstract Cost Estimate', which is 10.75% of the Hard Cost. Though, the IEDC claimed as on COD is lower than 10.75% of the hard cost, the IEDC claimed corresponding to each asset is considered in the instant petition. However, as time over-run has not been condoned, therefore, IEDC is deducted on pro-rata basis as per the respective delay (in months) for each asset. The details of IEDC claimed and allowed are as under:-

(₹ in lakh)

Particulars	IEDC as on COD	
	Claimed	Allowed
Asset-I	5.62	2.87
Asset-II	5.43	4.03
Asset-III	6.80	5.44
Asset-IV	5.41	4.03
Asset-V	5.67	2.71
Asset-VI	11.55	2.71
Total	40.48	21.79

Capital Cost as on COD

14. The details of capital cost, considered as on COD after allowing the IDC and IEDC on cash basis, are as under:-

(₹ in lakh)

Particulars	Claimed as on COD		Less: Total claimed IDC	Add: Allowable as on COD		Capital Cost as on COD considering allowable IDC on (Cash Basis) and IEDC
	Capital cost	Less: Claimed IEDC		IDC on (Cash Basis)	IEDC	
Asset-I	489.39	5.62	12.51	0.94	2.87	475.07
Asset-II	458.13	5.43	11.16	10.63	4.03	456.20
Asset-III	538.73	6.80	13.98	8.53	5.44	531.92
Asset-IV	465.21	5.41	11.11	6.70	4.03	459.41
Asset-V	621.92	5.67	12.46	8.83	2.71	615.33



Asset-VI	675.14	11.55	24.83	11.87	2.71	653.34
Total	3248.52	40.48	86.05	47.50	21.79	3191.27

Initial Spares

15. Regulation 8 of 2009 Tariff Regulations provides that initial spares shall be capitalised as a percentage of the original project cost, subject to following ceiling norms:-

Transmission line	0.75%
Transmission Sub-station	2.5%

16. The tariff for four other assets of the instant transmission project has already been trued-up, vide order dated 29.2.2016 in Petition No. 505/TT/2014. The initial spares were worked out in Petition No. 505/TT/2014 independently i.e. without considering the initial spares claimed in the instant petition. Therefore, the initial spares have been worked out for each of the instant assets separately.

17. The petitioner has claimed initial spares in the original petition for the instant assets. Subsequently, the petitioner vide affidavit dated 21.12.2016 has submitted the details of year wise payment made against the procurement of the initial spares upto 31.3.2014. The details are as under:-

(₹ in lakh)

Particulars	Claimed Bifurcation of discharged Initial Spares			
	As on COD	2012-13	2013-14	Total
Asset-I	9.50	11.71	0.42	21.63
Asset-II	19.34	19.31	1.55	40.20
Asset-III	16.82	-	-	16.82
Asset-IV	19.60	25.83	4.19	49.62
Asset-V	13.12	-	0.71	13.83
Asset-VI	13.12	-	0.71	13.83



18. The cut-off dates for instant assets are beyond 2009-14 tariff period. However, initial spares have been worked out considering the ceiling limits as specified in the 2009 Tariff Regulations. Therefore, the allowable initial spares during 2009-14 have been worked out after considering the capital cost as on COD and additional capitalisation during 2012-13 and 2013-14 i.e. capital cost up to 31.03.2014. The details of initial spares allowed for tariff period 2009-14 are as given below:-

(₹ in lakh)								
Particulars	Total cost as on available cut-off date i.e. 31.3.2014 as per Auditors' Certificate dated 23.7.2016 and 3.8.2016	Disallowed IDC & IEDC	Capital cost adjusted after reducing disallowed IDC&IEDC up to 31.3.2014	Initial spares claimed up to 31.3.2014	Initial spares claimed in proportion to adjusted capital cost	Ceiling Limits as per the 2009 Tariff Regulations	Allowable initial spares worked out	Total Excess initial spares
Asset-I	600.85	11.43	589.42	21.63	21.22	2.50%	14.57	6.65
Asset-II	610.10	1.40	608.70	40.20	40.11	2.50%	14.58	25.53
Asset-III	726.38	2.62	723.76	16.82	16.76	2.50%	18.13	-
Asset-IV	622.94	2.49	620.45	49.62	49.42	2.50%	14.64	34.78
Asset-V	678.47	6.59	671.88	13.83	13.70	2.50%	16.88	-
Asset-VI	731.69	21.76	709.93	13.83	13.42	2.50%	17.86	-

19. The initial spares claimed by the petitioner in case of Assets- III, V and VI is within the ceiling limit specified in the 2014 Tariff Regulations and hence it is allowed. However, in case of Assets- I, II and IV it is more, accordingly, it is restricted to the limit specified in the 2014 Tariff Regulations. Therefore, the initial spares allowed are ₹14.57 lakh, ₹14.58 lakh, ₹16.76 lakh, ₹14.64 lakh, ₹13.70 lakh and ₹13.42 lakh for Asset-I to Asset-VI respectively. Further, excess initial spares worked out as above have been reduced from the capital cost as on COD, considered after allowing IDC and IEDC as on cash basis and from the claimed additional capitalization. The details of the bifurcation of the deduction of the excess initial spares in the respective year up to 31.3.2014 are as follows:-



(₹ in lakh)

Particulars	Bifurcation of excess initial spares deducted from respective year			
	As on COD	2012-13	2013-14	Total
Asset-I	-	6.23	0.42	6.65
Asset-II	4.67	19.31	1.55	25.53
Asset-III	-	-	-	-
Asset-IV	4.76	25.83	4.19	34.78
Asset-V	-	-	-	-
Asset-VI	-	-	-	-

20. In view of above, the allowable capital cost as on COD, after deducting excess initial spares is as under:-

(₹ in lakh)

Particulars	Capital cost as on COD after considering IDC and IEDC on cash basis	Less: Excess Initial Spares as on COD	Capital cost after considering IDC and IEDC on cash basis and deducting excess initial spares as on COD
Asset-I	475.07	-	475.07
Asset-II	456.20	4.67	451.53
Asset-III	531.92	-	531.92
Asset-IV	459.41	4.76	454.65
Asset-V	615.33	-	615.33
Asset-VI	653.34	-	653.34

Capital Cost and Additional Capital Expenditure

21. Clause (1) and Clause (3) of Regulation 6 of the 2009 Tariff Regulations provide as under:-

“(1) The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2014, as admitted by the Commission after prudence check at the time of truing up.-----”

“(3) The generating company or the transmission licensee, as the case may be, shall submit for the purpose of truing up, details of capital expenditure and additional capital expenditure incurred for the period from 1.4.2009 to 31.3.2014, duly audited and certified by the auditors;”

22. Therefore, additional capitalization worked out, after allowing IDC on cash basis and deducting excess Initial Spares, for 2012-13 and 2013-14 is as per details hereunder:-



(₹ in lakh)

Particulars	Capital cost as on COD allowed (1)	2012-13				2013-14				Capital cost as on 31.3.2014 (10)=(1)+(5)+(9)
		Add-cap claimed (2)	IDC on cash basis allowed (3)	Less: excess initial spares (4)	Add: Add-cap allowed (5)=(2)+(3)-(4)	Add-cap claimed (6)	IDC on cash basis allowed (7)	Less: excess initial spares (8)	Add: Add-cap allowed (9)=(6)+(7)-(8)	
Asset-I	475.07	23.11	0.83	6.23	17.71	88.35	2.06	0.42	89.99	582.77
Asset-II	451.53	89.45	0.53	19.31	70.67	62.52	-	1.55	60.97	583.17
Asset-III	531.92	84.18	3.08	-	87.26	103.47	1.11	-	104.58	723.76
Asset-IV	454.65	87.65	1.65	25.83	63.47	70.08	1.65	4.19	67.54	585.66
Asset-V	615.33	-	-	-	-	56.55	-	-	56.55	671.88
Asset-VI	653.34	-	-	-	-	56.55	0.04	-	56.59	709.93

Debt: Equity Ratio

23. Clause (1) of Regulation 12 of the 2009 Tariff Regulations provides that:-

“12. Debt-Equity Ratio. (1) For a project declared under commercial operation on or after 1.4.2009, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff:”

24. The petitioner has claimed trued up Annual Fixed Charge based on debt: equity ratio of 70:30 as admitted vide order dated 7.8.2015 in Petition No. 31/TT/2013. The admitted debt: equity ratio of 70:30 in order dated 7.8.2015 in Petition No. 31/TT/2013 has been considered for the purpose of truing up of the approved tariff for 2012-13 and 2013-14.

25. The details of the debt: equity considered for the purpose of tariff in the tariff period 2009-14 is as below:-

(₹ in lakh)

Particulars	Asset-I				Asset-II			
	Cost as on COD		Cost as on 31.3.2014		Cost as on COD		Cost as on 31.3.2014	
	Amount	%	Amount	%	Amount	%	Amount	%
Debt	332.55	70.00	407.94	70.00	316.07	70.00	408.22	70.00
Equity	142.52	30.00	174.83	30.00	135.46	30.00	174.95	30.00
Total	475.07	100.00	582.77	100.00	451.53	100.00	583.17	100.00
Particulars	Asset-III				Asset-IV			
	Cost as on COD		Cost as on 31.3.2014		Cost as on COD		Cost as on 31.3.2014	
	Amount	%	Amount	%	Amount	%	Amount	%
Debt	372.34	70.00	506.63	70.00	318.26	70.00	409.97	70.00
Equity	159.58	30.00	217.13	30.00	136.39	30.00	175.70	30.00



Total	531.92	100.00	723.76	100.00	454.65	100.00	585.66	100.00
Particulars	Asset-V				Asset-VI			
	Cost as on COD		Cost as on 31.3.2014		Cost as on COD		Cost as on 31.3.2014	
	Amount	%	Amount	%	Amount	%	Amount	%
Debt	430.73	70.00	470.32	70.00	457.34	70.00	496.95	70.00
Equity	184.60	30.00	201.57	30.00	196.00	30.00	212.98	30.00
Total	615.33	100.00	671.88	100.00	653.34	100.00	709.93	100.00

Return on Equity ("RoE")

26. Clause (3), (4) and (5) of the Regulation 15 of the 2009 Tariff

Regulations provide that:-

“(3) The rate of return on equity shall be computed by grossing up the base rate with the Minimum Alternate/Corporate Income Tax Rate for the year 2008-09, as per the Income Tax Act, 1961, as applicable to the concerned generating company or the transmission licensee, as the case may be.

(4) Rate of return on equity shall be rounded off to three decimal points and be computed as per the formula given below:

Rate of pre-tax return on equity = Base rate / (1-t)

Where “t” is the applicable tax rate in accordance with clause (3) of this regulation.

(5) The generating company or the transmission licensee, as the case may be, shall recover the shortfall or refund the excess Annual Fixed Charge 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:

Provided further that Annual Fixed Charge with respect to the tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations.”

27. The petitioner has submitted that MAT rate of 11.330% applicable for 2008-09 was considered vide order dated 7.8.2015 in Petition No. 31/TT/2013.

However, for truing up purpose, the computation of RoE for the tariff period 2009-14 has been done on the basis of actual MAT rate applicable during 2009-

14. The petitioner has submitted the variation in the MAT rate during 2009-14



as per the Finance Act of the relevant year for the purpose of grossing up of RoE, as below:-

Particulars	MAT Rate	Grossed up RoE (Base rate/(1-t))
2009-10	16.995 %	18.674%
2010-11	19.931 %	19.358%
2011-12	20.008 %	19.377%
2012-13	20.008 %	19.377%
2013-14	20.961 %	19.610%

28. Accordingly, the RoE trued-up is shown in the table as under:-

Particulars	(₹ in lakh)					
	Asset-I		Asset-II		Asset-III	
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Approved vide order dated 7.8.2015	4.01	27.24	10.12	28.78	8.56	41.38
Allowed after trued up	4.69	31.64	11.79	32.51	8.36	39.50

Particulars	(₹ in lakh)			
	Asset-IV		Asset-V	Asset-VI
	2012-13 (pro-rata)	2013-14	2013-14	2013-14 (pro-rata)
Approved vide order dated 7.8.2015	10.22	30.25	34.31	29.27
Allowed after truing up	11.78	32.47	37.86	33.42

Interest on Loan (“IOL”)

29. Regulation 16 of the 2009 Tariff Regulations provides that:-

“16. (1) The loans arrived at in the manner indicated in regulation 12 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2009 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2009 from the gross normative loan.

(3) The repayment for the year of the tariff period 2009-14 shall be deemed to be equal to the depreciation allowed for that year:

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed,.



(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project:

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.

(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute:

Provided that the beneficiary or the transmission customers shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan.”

30. In these calculations, interest on loan has been worked out as hereinafter:-

(a) Gross amount of loan, repayment of instalments, rate of interest and weighted average rate of interest on actual average loan have been considered as per the petition;

(b) The repayment during tariff period 2009-14 has been considered to be equal to the depreciation allowed for that period; and



(c) Weighted average rate of interest on actual average loan worked out as per (a) above is applied on the notional average loan during the year to arrive at the interest on loan.

31. We have considered the submissions of the petitioner and accordingly calculated the IOL based on actual interest rate submitted by the petitioner, in accordance with Regulation 16 of the 2009 Tariff Regulations. The details of weighted average rate of interest are given in Annexure-1 to Annexure-6 to this order and the IOL has been worked out and allowed as under:-

Particulars	Asset-I		Asset-II		Asset-III	
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Approved vide order dated 7.8.2015	4.82	31.31	12.19	32.83	10.46	48.34
Allowed after truing-up	5.09	32.64	12.79	33.09	9.21	41.24

Particulars	Asset-IV		Asset-V	Asset-VI
	2012-13 (pro-rata)	2013-14	2013-14	2013-14 (pro-rata)
Approved vide order dated 7.8.2015	12.35	34.66	39.08	33.96
Allowed truing-up	12.83	33.17	38.57	33.92

Depreciation

32. Clause (4) of Regulation 17 of the 2009 Tariff Regulations provide as under:-

“17. **Depreciation** (1) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.

(2) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.

Provided that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site;

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the



percentage of sale of electricity under long-term power purchase agreement at regulated tariff.

(3) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-III to these regulations for the assets of the generating station and transmission system:

Provided that, the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the assets.

(5) In case of the existing projects, the balance depreciable value as on 1.4.2009 shall be worked out by deducting the cumulative depreciation as admitted by the Commission up to 31.3.2009 from the gross depreciable value of the assets.

(6) Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.”

33. Depreciation was worked out in accordance with Regulation 17 of the 2009 Tariff Regulations vide order dated 7.8.2015 in Petition No. 31/TT/2013. The depreciation for 2012-13 and 2013-14 has been worked out in accordance with Regulation 17 of the 2009 Tariff Regulations based on admitted capital expenditure as on respective CODs of instant assets and details are as under:-

(₹ in lakh)

Particulars	Asset-I		Asset-II		Asset-III	
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Approved vide order dated 7.8.2015	4.04	27.43	10.19	28.98	8.62	41.67
Allowed after trued up	4.26	28.39	10.71	29.18	7.60	35.45

(₹ in lakh)

Particulars	Asset-IV		Asset-V	Asset-VI
	2012-13 (pro-rata)	2013-14	2013-14	2013-14 (pro-rata)
Approved vide order dated 7.8.2015	10.29	30.45	34.54	29.47
Allowed truing-up	10.70	29.14	33.98	29.99



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

34. The petitioner has claimed same O&M Expenses during 2012-13 and 2013-14, for respective assets, which was approved vide order dated 7.8.2015 in Petition No. 31/TT/2013. Accordingly, the O&M Expenses allowed and trued up are same as under:-

Particulars	Asset-I		Asset-II		Asset-III	
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Approved vide order dated 7.8.2015	10.32	65.46	25.80	65.46	15.48	65.46
Allowed after trued up	10.32	65.46	25.80	65.46	15.48	65.46

Particulars	Asset-IV		Asset-V	Asset-VI
	2012-13 (pro-rata)	2013-14	2013-14	2013-14 (pro-rata)
Approved vide order dated 7.8.2015	25.80	65.46	65.46	54.55
Allowed truing-up	25.80	65.46	65.46	54.55

Interest on working capital (“IWC”)

35. Sub-clause (c) of clause (1) of Regulation 18 of the 2009 Tariff Regulations provides for the components of the working capital for the transmission system and clause (3) of Regulation 18 of the 2009 Tariff Regulations provides for the rate of interest of working capital.

36. The rate of interest on working capital of 13.50% and 13.20% applicable as on 1.4.2012 and 1.4.2013 for assets commissioned during 2012-13 and 2013-14 respectively was approved in order dated 7.8.2015 in Petition No. 31/TT/2013. Therefore, same applicable rate of interest has been considered to work out the interest on working capital for in the instant petition. The summary of IWC allowed and trued up is as follows:-



(₹ in lakh)

Particulars	Asset-I		Asset-II		Asset-III	
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Approved vide order dated 7.8.2015	0.87	5.60	2.17	5.70	1.49	6.64
Allowed after trued up	0.89	5.75	2.24	5.80	1.43	6.29

(₹ in lakh)

Particulars	Asset-IV		Asset-V	Asset-VI
	2012-13 (pro-rata)	2013-14	2013-14	2013-14 (pro-rata)
Approved vide order dated 7.8.2015	2.18	5.81	5.96	5.03
Allowed truing-up	2.24	5.80	6.02	5.13

APPROVED ANNUAL FIXED CHARGES FOR 2009-14 TARIFF PERIOD

37. The detailed computation of the various components of the trued up annual fixed charges for 2009-14 tariff period for the instant assets are as under:-

(₹ in lakh)

Particulars	Asset-I		Asset-II		Asset-III	
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Gross Block						
Opening Gross Block	475.07	492.78	451.53	522.20	531.92	619.18
Additional Capitalisation	17.71	89.99	70.67	60.97	87.26	104.58
Closing Gross Block	492.78	582.77	522.20	583.17	619.18	723.76
Average Gross Block	483.92	537.77	486.87	552.69	575.55	671.47
Depreciation						
Rate of Depreciation	5.2800%	5.2800%	5.2800%	5.2800%	5.2800%	5.2800%
Depreciable Value	435.53	484.00	438.18	497.42	517.99	604.32
Remaining Depreciable Value	435.53	479.74	438.18	486.71	517.99	596.72
Depreciation	4.26	28.39	10.71	29.18	7.60	35.45
Interest on Loan						
Gross Normative Loan	332.55	344.94	316.07	365.54	372.34	433.42
Cumulative Repayment upto Previous Year	-	4.26	-	10.71	-	7.60
Net Loan-Opening	332.55	340.68	316.07	354.83	372.34	425.83
Addition due to Additional Capitalisation	12.40	63.00	49.47	42.68	61.08	73.21
Repayment during the year	4.26	28.39	10.71	29.18	7.60	35.45
Net Loan-Closing	340.68	375.29	354.83	368.33	425.83	463.58
Average Loan	336.62	357.98	335.45	361.58	399.08	444.70
Weighted Average Rate of Interest on Loan	9.08%	9.12%	9.1513%	9.1510%	9.2355%	9.2735%
Interest	5.09	32.64	12.79	33.09	9.21	41.24
Return on Equity						



Opening Equity	142.52	147.83	135.46	156.66	159.58	185.75
Addition due to Additional Capitalisation	5.31	27.00	21.20	18.29	26.18	31.37
Closing Equity	147.83	174.83	156.66	174.95	185.75	217.13
Average Equity	145.18	161.33	146.06	165.81	172.66	201.44
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year (MAT)	20.008%	20.961%	20.008%	20.961%	20.008%	20.961%
Rate of Return on Equity (Pre Tax)	19.377%	19.610%	19.377%	19.610%	19.377%	19.610%
Return on Equity (Pre Tax)	4.69	31.64	11.79	32.51	8.36	39.50
Interest on Working Capital						
Maintenance Spares	9.29	9.82	9.29	9.82	9.29	9.82
O & M expenses	5.16	5.46	5.16	5.46	5.16	5.46
Receivables	25.25	27.31	25.33	27.67	28.06	31.32
Total	39.70	42.59	39.78	42.95	42.51	46.60
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	0.89	5.75	2.24	5.80	1.43	6.29
Annual Transmission Charges						
Depreciation	4.26	28.39	10.71	29.18	7.60	35.45
Interest on Loan	5.09	32.64	12.79	33.09	9.21	41.24
Return on Equity	4.69	31.64	11.79	32.51	8.36	39.50
Interest on Working Capital	0.89	5.75	2.24	5.80	1.43	6.29
O & M Expenses	10.32	65.46	25.80	65.46	15.48	65.46
Total	25.25	163.88	63.33	166.04	42.09	187.95

(₹ in lakh)

Particulars	Asset-IV		Asset-V	Asset-VI
	2012-13 (pro-rata)	2013-14	2013-14	2013-14 (pro-rata)
Gross Block				
Opening Gross Block	454.65	518.12	615.33	653.34
Additional Capitalisation	63.47	67.54	56.55	56.59
Closing Gross Block	518.12	585.66	671.88	709.93
Average Gross Block	486.39	551.89	643.61	681.64
Depreciation				
Rate of Depreciation	5.2800%	5.2800%	5.2800%	5.2800%
Depreciable Value	437.75	496.70	579.25	613.47
Remaining Depreciable Value	437.75	486.00	579.25	613.47
Depreciation	10.70	29.14	33.98	29.99
Interest on Loan				
Gross Normative Loan	318.26	362.69	430.73	457.34
Cumulative Repayment upto Previous Year	-	10.70	-	-
Net Loan-Opening	318.26	351.99	430.73	457.34
Addition due to Additional Capitalisation	44.43	47.28	39.59	39.61
Repayment during the year	10.70	29.14	33.98	29.99
Net Loan-Closing	351.99	370.13	436.34	466.96
Average Loan	335.12	361.06	433.54	462.15
Weighted Average Rate of Interest on Loan	9.1873%	9.1863%	8.8959%	8.8077%
Interest	12.83	33.17	38.57	33.92
Return on Equity				
Opening Equity	136.39	155.44	184.60	196.00



Addition due to Additional Capitalisation	19.04	20.26	16.97	16.98
Closing Equity	155.44	175.70	201.57	212.98
Average Equity	145.91	165.57	193.08	204.49
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year (MAT)	20.008%	20.961%	20.96%	20.96%
Rate of Return on Equity (Pre Tax)	19.377%	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	11.78	32.47	37.86	33.42
Interest on Working Capital				
Maintenance Spares	9.29	9.82	9.82	9.82
O & M expenses	5.16	5.46	5.46	5.46
Receivables	25.34	27.67	30.32	31.40
Total	39.79	42.95	45.59	46.68
Rate of Interest	13.50%	13.50%	13.20%	13.20%
Interest	2.24	5.80	6.02	5.13
Annual Transmission Charges				
Depreciation	10.70	29.14	33.98	29.99
Interest on Loan	12.83	33.17	38.57	33.92
Return on Equity	11.78	32.47	37.86	33.42
Interest on Working Capital	2.24	5.80	6.02	5.13
O & M Expenses	25.80	65.46	65.46	54.55
Total	63.35	166.03	181.89	157.01

Sharing of Transmission Charges

38. With effect from 1.7.2011, the billing, collection and disbursement of the transmission charges shall be governed by the provision of Central Electricity Regulatory Commission (Sharing of Inter-state Transmission Charges and Losses) Regulations, 2010 as amended from time to time.

DETERMINATION OF ANNUAL FIXED CHARGES FOR 2014-19 TARIFF PERIOD

39. The true-up tariff for the instant transmission assets up to 2009-14 tariff period has been granted based on the actual COD of individual assets irrespective of the project as whole is completed or not. This leads to granting of multiple tariffs for the assets covered under the single project/transmission system. As per Regulation 6 of the 2014 Tariff Regulations, a single consolidated petition is required to be submitted by the petitioner if all the elements of a transmission system have been declared under commercial



operation prior to 1.4.2014, then a single tariff can be granted for all the assets covered under the project/transmission system. However, to determine a single transmission tariff for different assets after combining them, as per the 2014 Tariff Regulations, the concept of effective date of commercial operation and weighted average life has been introduced in Regulation 27 (Depreciation) of the 2014 Tariff Regulations. The relevant portions of Regulation 6 and Regulation 27 of the 2014 Tariff Regulations are as under:-

“6. Tariff determination

(1) Tariff in respect of a generating station may be determined for the whole of the generating station or stage or generating unit or block thereof, and tariff in respect of a transmission system may be determined for the whole of the transmission system or transmission line or sub-station or communication system forming part of transmission system:

Provided that:

(i) where all the generating units of a stage of a generating station or all elements of a transmission system have been declared under commercial operation prior to 1.4.2014, the generating company or the transmission licensee, as the case may be, shall file consolidated petition in respect of the entire generating station or transmissions system for the purpose of determination of tariff for the period 2014-15 to 2018-19:

Xxx

Xxx”

“27. Depreciation:

(1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the



generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

Xxx
Xxx”

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in **Appendix-II** to these regulations for the assets of the generating station and transmission system:

Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

Xxx
Xxx”

40. The instant petition relates to the transmission system associated with Northern Region Bus Reactor Scheme (Group-II) in Northern Region. The final tariff of part scope of the transmission system consisting of four assets was approved separately vide order dated 2.12.2013 in Petition No. 102/TT/2012 for 2009-14 tariff period. The final tariff for 2009-14 tariff period was trued up vide order dated 29.2.2016 in Petition No. 505/TT/2014 alongwith approval of tariff for tariff period 2014-19. Hence, the tariff for Asset-I to Asset-VI for tariff period 2009-14 has been now trued-up separately in the above paragraphs. Besides these six assets, four more assets are covered in the instant project. All these assets need to be combined into a single asset and accordingly single tariff for the project as a whole needs to be worked out for the tariff period 2014-19. However, as the final tariff for four other assets has been approved vide order dated 29.2.2016 in Petition No. 505/TT/2014, the exercise to determine the Effective COD of the combined assets i.e. all ten assets, for the purpose of calculation of single tariff, needs to be carried out at truing-up of tariff of 2014-19 period. Accordingly, the petitioner is directed to file a single petition for all ten



assets at the time of truing-up for 2014-19 tariff period, as specified in the 2014 Tariff Regulations.

41. The petitioner has submitted the tariff forms, combining the instant six assets into a single asset. Accordingly, the Effective COD and Weighted Average life of the instant assets as a whole has been computed as discussed in the following paragraphs, subject to revision, together with the other four assets, at the time of truing-up.

Effective Date of Commercial Operation (E-COD)

42. The Effective Date of Commercial Operation (E-COD) for the instant assets as a whole has been worked out based on the admitted capital cost of individual assets as on 31.3.2014 and the actual COD of individual assets. Accordingly, the Effective Date of Commercial Operation (E-COD) for the instant assets as a whole has been worked out as 29.1.2013 as under:-

Particulars	Actual COD	Admitted Capital Cost as on 31.3.2014	Weight of the cost	No. of days from last COD	Weighted days	Effective COD (Latest COD- Total Weighted days)
Asset-I	1.2.2013	582.77	15.11%	121	18.28	29.1.2013
Asset-II	1.11.2012	583.17	15.12%	213	32.20	
Asset-III	1.1.2013	723.76	18.76%	152	28.52	
Asset-IV	1.11.2012	585.66	15.18%	213	32.34	
Asset-V	1.4.2013	671.88	17.42%	62	10.80	
Asset-VI	1.6.2013	709.93	18.41%	-	-	
Total		3857.18	100.00%		122.15	

43. Thus, the E-COD has been used to determine the lapsed life of the combined assets as whole which works out as 1 year as on 1.4.2014. (i.e. the number of completed years as on 1.4.2014 from E-COD).



Weighted Average Life (WAL)

44. A transmission asset as a whole has multiple elements (i.e. Land, Building, Transmission line, Substation and PLCC) and each element has different span of life. Therefore, in the 2014 Tariff Regulations, the concept of Weighted Average Life (WAL) has been introduced which has been used as the useful life of the project/combined asset as a whole. The Weighted Average Life (WAL) has been determined based on the admitted capital cost of individual elements as on 31.3.2014 and their respective life as stipulated in the 2014 Tariff Regulations. The element wise life as it was defined in Tariff Regulations prevailing at the time of actual COD of individual assets has been ignored for this purpose. The life as defined in the 2014 Tariff Regulations has been considered for determination of WAL. Accordingly, the Weighted Average Life of the instant assets as whole has been worked out as 25 years as under:-

Particulars	Admitted capital cost as on 31.3.2014 (₹ in lakh)							Life as per 2014 Tariff Regulations (b)	Weight (a) x (b)
	Asset-I	Asset-II	Asset-III	Asset-IV	Asset-V	Asset-VI	Combined Cost (a)		
Freehold Land	-	-	-	-	-	-	-	0	-
Leasehold Land	-	-	-	-	-	-	-	25	-
Building & Other Civil Works	-	-	-	-	-	-	-	25	-
Transmission Line	-	-	-	-	-	-	-	35	-
Sub-Station Equipment	582.77	583.17	723.76	585.66	671.88	709.93	3857.18	25	96429.52
PLCC	-	-	-	-	-	-	-	15	-
Total	582.77	583.17	723.76	585.66	671.88	709.93	3857.18	25	96429.52
Weighted Average Life=Total of Weight/Capital cost of project							25	years	

45. Further, it is assumed that, the Weighted average life of the instant assets as whole as on 1.4.2014 as determined above is applicable prospectively (i.e. for 2014-19 tariff period onwards) and no retrospective adjustment of depreciation in previous tariff period is required. However, it is subject to truing-up along with the other part of the project i.e. four assets and



revision thereof. Accordingly, the WAL has been used to determine the remaining useful life of instant assets as whole as on 31.3.2014 as 24 years.

46. The petitioner has claimed the transmission charges as under:-

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	203.87	207.46	221.34	234.20	234.20
Interest on Loan	216.74	202.30	199.67	194.40	173.04
Return on Equity	227.15	231.14	246.61	260.93	260.93
Interest on Working Capital	34.90	35.40	36.70	37.92	38.16
O&M Expenses	361.80	373.80	386.22	399.06	412.26
Total	1044.46	1050.10	1090.54	1126.51	1118.59

47. The details submitted by the petitioner in support of its claim for interest on working capital are given hereunder:-

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	54.27	56.07	57.93	59.86	61.84
O & M Expenses	30.15	31.15	32.19	33.26	34.36
Receivables	174.08	175.02	181.76	187.75	186.43
Total	258.50	262.24	271.88	280.86	282.62
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	34.90	35.40	36.70	37.92	38.15

Capital Cost

48. Clause (1) and (3) of Regulation 9 of the 2014 Tariff Regulations provides as under:-

“(1) The Capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new projects.”

(2) -----

(3) The Capital cost of an existing project shall include the following:

(a) the capital cost admitted by the Commission prior to 1.4.2014 duly tried up by excluding liability, if any, as on 1.4.2014;

(b) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and

(c) expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 15.”



49. The element wise capital cost, admitted as on 31.3.2014 for instant assets combined together, as discussed at para-44 has been considered as combined capital cost of instant assets as on 1.4.2014. Thus, ₹3857.18 lakh has been considered as the opening gross block of capital cost of the instant asset (i.e. combined Asset-I to Asset-VI) as on 1.4.2014 as per details as under:-

(₹ in lakh)	
Particulars	Combined capital cost of Asset-I to Asset-VI as on 31.3.2014 as determined in true-up for tariff period 2009-14
Freehold Land	-
Leasehold Land	-
Building & Other Civil Works	-
Transmission Line	-
Sub-Station Equipments	3857.18
PLCC	-
Total	3857.18

50. The total completion cost of the combined asset is within its combined approved apportioned cost. Hence, there is no cost over-run in the instant case.

Initial Spares

51. The petitioner has indicated the year wise payment made against the initial spares for the individual asset, vide affidavit dated 21.12.2016 for 2014-19 tariff period. The details are as under:-

(₹ in lakh)				
Particulars	Claimed bifurcation of discharged Initial Spares			
	2014-15	2015-16	2016-17	Total
Asset-I	19.04	-	2.35	21.39
Asset-II	-	12.34	-	12.34
Asset-III	-	1.78	33.94	35.72
Asset-IV	-	2.39	-	2.39
Asset-V	-	1.72	12.40	14.12
Asset-VI	-	1.72	12.40	14.12
Total				100.08



52. The petitioner has claimed add-cap for the instant assets till 2016-17, which is beyond the cut-off date of all the assets. However, as discussed later in para-58, the petitioner has been allowed the total claimed add-cap for all the six assets during tariff period 2014-19. Therefore, the entire claim for initial spares corresponding to each asset, as submitted by the petitioner has been considered. However, the claim for initial spares is subject to true-up on the submission of the audited year-wise discharge of the initial spares.

53. The cost up to 31.3.2017 has been considered while working out the allowable initial spares for period 2014-19 and the ceiling limits have been considered as per the 2009 Tariff Regulations. The details are as under:-

(₹ in lakh)										
Particulars	Cut-off date of the asset	Total capital cost upto 2014-19's cut-off date (Inclusive of Land Cost, Civil Building, PLCC etc) as per Auditors' Certificate dated 23.7.2016 and 3.8.2016	Initial spares claimed for discharge up to 31.3.2017	2014-19 ACE claim up to cut-off date as per Auditors' Certificate	Capital cost after considering the allowable IDC and IEDC upto 2009-14's cut-off date (i.e. upto 31.3.2014+ add-cap upto 2014-19's cut-off date	Spares claimed in proportion to adjusted capital cost	Ceiling limits as per the 2009 Tariff Regulations	Initial spares worked out upto 31.3.2017	Initial spares already allowed up to 31.3.2014	Remaining entitled/ total allowable Initial Spares during 2014-17 period
Asset-I	31.03.2016	620.71	43.02	19.86	609.28	42.23	2.50%	14.54	14.57	-0.03
Asset-II	31.03.2015	610.10	52.54	0.00	608.70	52.42	2.50%	14.26	14.58	-0.32
Asset-III	31.03.2016	735.67	52.54	9.29	733.05	52.35	2.50%	17.45	16.76	0.69
Asset-IV	31.03.2015	622.94	52.01	0.00	620.45	51.80	2.50%	14.58	14.64	-0.06
Asset-V	31.03.2016	723.89	27.95	45.42	717.30	27.70	2.50%	17.68	13.70	3.99
Asset-VI	31.03.2016	777.11	27.95	45.42	755.35	27.17	2.50%	18.67	13.42	5.25
		Total	256.01			253.66		97.19	87.66	9.53

54. Therefore, the total allowable initial spares, worked out on pro-rata basis upto 31.3.2017 as above is ₹97.19 lakh for the combined asset. However, an amount of ₹87.66 lakh on account of initial spares for instant assets, as discussed at para-19, has already been allowed up to 31.3.2014, during tariff period 2009-14. Thus, the remaining entitlement of initial spares for combined asset is ₹9.53 lakh, which is the maximum limit of allowable initial spares from 1.4.2014 to 31.3.2017. The details of the excess initial spares of ₹90.55 lakh (₹100.08 lakh-₹9.53 lakh) for each separate asset, during tariff period 2014-19



is as under:-

(₹ in lakh)

Particulars	Bifurcation of excess initial spares reduced from respective years' add-cap			
	2014-15	2015-16	2016-17	Total
Asset-I	19.07	-	2.35	21.42
Asset-II	-	12.66	-	12.66
Asset-III	-	1.09	33.94	35.03
Asset-IV	-	2.45	-	2.45
Asset-V	-	-	10.13	10.13
Asset-VI	-	-	8.87	8.87
Total	19.07	16.19	55.29	90.55

55. The disallowed excess initial spares as above are subject to be reviewed at the time of truing-up, on the submission of audited year-wise discharging details of initial spares for tariff period 2014-19, for complete project by the petitioner. The petitioner is also, directed to submit the audited capital cost, for the instant combined asset, at the time of truing-up.

Additional Capital Expenditure

56. Clause (1) and (3) of Regulation 14 of the 2014 Tariff Regulations provides as under:-

“(1) The capital expenditure in respect of the new project or an existing project 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 recognised to be payable at a future date;
- (ii) Works deferred for execution;
- (iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and
- (v) Change in Law or compliance of any existing law.”

Provided that the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff.



“(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:”

“(vi) Any liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;”

57. The details of additional capital expenditure claimed by the petitioner for the period 2014-15, 2015-16 and 2016-17 is as given below:-

(₹ in lakh)			
Particulars	2014-15	2015-16	2016-17
Asset-I	19.86	-	4.00
Asset-II	-	12.34	-
Asset-III	-	9.29	300.00
Asset-IV	-	3.47	-
Asset-V	38.57	6.85	131.00
Asset-VI	38.57	6.85	52.00
Total	97.00	38.80	487.00

58. The petitioner has submitted that the claim for add-cap is for balance and retention payments. Accordingly, additional capital expenditure of ₹622.80 lakh is allowed under Regulation 14(3)(vi) of the 2014 Tariff Regulations. However, the petitioner is directed to submit the justifiable reasons of delayed payments i.e. beyond the cut-off dates in discharge of these liabilities at the time of triung-up. The details of add-cap after reduction of excess initial spares separately for Asset-I to Asset-VI is as under:-

Particulars	2014-15			2015-16			2016-17		
	Claimed add-cap	Less: Excess initial spares	Add-cap allowed	Claimed add-cap	Less: Excess initial spares	Add-cap allowed	Claimed add-cap	Less: Excess initial spares	Add-cap allowed
Asset-I	19.86	19.07	0.79	-	-	-	4.00	2.35	1.65
Asset-II	-	-	-	12.34	12.66	-0.32	-	-	-
Asset-III	-	-	-	9.29	1.09	8.20	300.00	33.94	266.06
Asset-IV	-	-	-	3.47	2.45	1.02	-	-	-
Asset-V	38.57	-	38.57	6.85	-	6.85	131.00	10.13	120.87
Asset-VI	38.57	-	38.57	6.85	-	6.85	52.00	8.87	43.13
Total			77.93			22.61			431.71

59. The additional capitalization allowed for tariff period 2014-19 is subject to



review on the submission of the audited additional capitalization, at the time of truing-up. The details of combined add-cap from 1.4.2014 to 31.3.2017 and estimated completion cost as on 31.3.2017 are as under:-

Combined admitted capital cost as on 1.4.2014	Add-cap allowed during			Total estimated completion cost up to 31.3.2017/ 31.3.2019
	2014-15	2015-16	2016-17	
3857.18	77.93	22.61	431.71	4389.43

(₹ in lakh)

Debt: Equity Ratio

60. Clause 3 of Regulation 19 of the 2014 Tariff Regulations specifies as follows:-

“(3) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2014, debt: equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered.”

61. The debt: equity ratio of 70:30 was admitted after true-up for the tariff period ending 31.3.2014 for instant assets now considered as combined asset for tariff period 2014-19. The debt: equity ratio of 70:30 has been considered for additional capitalisation during 2014-15, 2015-16 and 2016-17. The details of the debt: equity as on 1.4.2014 and as on 31.3.2019 considered for the purpose of tariff for the 2014-19 tariff period are as under:-

Particulars	As on 1.4.2014		As on 31.3.2019	
	Amount	%	Amount	%
Debt	2700.03	70.00	3072.60	70.00
Equity	1157.15	30.00	1316.83	30.00
Total	3857.18	100.00	4389.43	100.00

(₹ in lakh)



Interest on Loan (“IOL”)

62. Regulation 26 of the 2014 Tariff Regulations with regard to Interest on Loan specifies as under:-

“(1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of decapitalisation of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of decapitalisation of such asset.

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.

5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.”

63. The actual loans as on 31.3.2014 for all the assets have been combined and it has been considered as actual loan portfolio of combined asset as on 1.4.2014. Accordingly, the weighted average rate of interest has been calculated on the basis of the actual loan portfolio of the combined asset, which is subject to true up, in accordance with Regulation 26 of the 2014 Regulations.



The normative loan as on 1.4.2014 for the combined asset has been worked out by deducting the cumulative repayment of individual assets as admitted upto 31.3.2014, from the gross normative loan of individual assets as per details as under:-

Particulars (as on 1.4.2014)	Asset No.						(₹ in lakh) Total
	I	II	III	IV	V	VI	
Gross Loan	407.94	408.22	506.63	409.97	470.32	496.95	2700.03
Cumulative Re- payment of Loan	32.65	39.89	43.05	39.84	33.98	29.99	219.41
Normative Loan Outstanding	375.29	368.33	463.58	370.13	436.34	466.96	2480.62

64. The details of weighted average rate of interest are at Annexure-7 and the IOL has been worked out and allowed as under:-

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	2700.03	2754.58	2770.41	3072.60	3072.60
Cumulative Repayment upto previous year	219.41	425.13	633.50	853.86	1085.63
Net Loan-Opening	2480.62	2329.45	2136.91	2218.74	1986.98
Additions during the year	54.55	15.83	302.20	-	-
Repayment during the year	205.72	208.37	220.36	231.76	231.76
Net Loan-Closing	2329.45	2136.91	2218.74	1986.98	1755.21
Average Loan	2405.03	2233.18	2177.82	2102.86	1871.10
Weighted Rate of Interest	9.08%	9.08%	9.09%	9.08%	9.08%
Interest	218.46	202.77	197.87	191.00	169.87

Return on Equity ("ROE")

65. Clause (1) and (2) of Regulation 24 and Clause (1) and (2) of Regulation 25 of the 2014 Tariff Regulations specify as under:-

"24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:



Provided that:

(i) in case of projects commissioned on or after 1st April, 2014, an additional return of **0.50 %** shall be allowed, if such projects are completed within the timeline specified in **Appendix-I**:

(ii) the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

(iii) additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:

(iv) the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:

(v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:

(vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometers.”

“25. Tax on Return on Equity:

(1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax income on other income stream (i.e., income of non generation or non transmission business, as the case may be) shall not be considered for the calculation of “effective tax rate”.

“(2) Rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below:

Rate of pre-tax return on equity = Base rate / (1-t)

Where “t” is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), “t” shall be considered as MAT rate including surcharge and cess.”



66. The gross normative equity as on 31.3.2014 for individual assets admitted in this order has been added together and the total amount has been considered as gross normative equity of the combined asset as on 1.4.2014.

The details are as under:-

Particulars (as on 1.4.2014)	Asset No.						(₹ in lakh) Total
	I	II	III	IV	V	VI	
Gross Equity	174.83	174.95	217.13	175.70	201.57	212.98	1157.15

67. The petitioner has computed ROE at the rate of 19.610% after grossing up the ROE with MAT rate of 20.9605% 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.

68. 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.

69. We have considered the submissions made by the petitioner. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including



surcharge and cess will be considered for the grossing up of return on equity. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25(3) of the 2014 Tariff Regulations. Accordingly, the ROE determined and allowed is as under:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	1157.15	1180.53	1187.31	1316.83	1316.83
Addition due to Additional Capitalisation	23.38	6.78	129.51	-	-
Closing Equity	1180.53	1187.31	1316.83	1316.83	1316.83
Average Equity	1168.84	1183.92	1252.07	1316.83	1316.83
Return on Equity (Base Rate) (%)	15.50%	15.50%	15.50%	15.50%	15.50%
MAT rate for 2013-14(%)	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax) (%)	19.610%	19.610%	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	229.21	232.17	245.53	258.23	258.23

Depreciation

70. Regulation 27 of the 2014 Tariff Regulations with regard to depreciation specifies as under:-

"27. Depreciation:

(1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial



operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:

Provided that in case of hydro generating station, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the Plant:

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciated value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff:

Provided also that any depreciation disallowed on account of lower availability of the generating station or generating unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life and the extended life.

(4) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in **Appendix-II** to these regulations for the assets of the generating station and transmission system:

Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

(6) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets.”

71. The Cumulative Depreciation for the combined asset as whole has been computed as detailed under:-

Cumulative Depreciation (as on 1.4.2014)	Asset No.						(₹ in lakh)
	I	II	III	IV	V	VI	Total
	32.65	39.89	43.05	39.84	33.98	29.99	219.41

72. Therefore, the capital cost, effective date of commercial operation and weighted average life (WAL) for the combined asset, as determined above have



been considered for determination of depreciation during the tariff period 2014-19.

73. Accordingly, the WAL of the combined asset will complete its 12 years beyond tariff period 2014-19. The depreciation for the combined asset is being calculated from 2014-15 and as per SLM method, as provided under Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation allowed are given hereunder:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	3857.18	3935.11	3957.72	4389.43	4389.43
Additions during the year due to projected additional capitalization	77.93	22.61	431.71	-	-
Closing Gross block	3935.11	3957.72	4389.43	4389.43	4389.43
Average gross block	3896.15	3946.42	4173.57	4389.43	4389.43
Rate of Depreciation (%)	5.2800%	5.2800%	5.2800%	5.2800%	5.2800%
Depreciable Value	3506.53	3551.77	3756.22	3950.49	3950.49
Remaining Depreciable Value	3287.12	3126.65	3122.72	3096.62	2864.86
Depreciation	205.72	208.37	220.36	231.76	231.76

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

74. Regulation 29 (4) (a) of the 2014 Tariff Regulations specifies the norms for operation and maintenance expenses for the transmission system based on the type of sub-station and the transmission line. Norms specified in respect of the elements covered in the instant petition are as under:-

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
400 kV bays (₹ lakh/bay)	60.30	62.30	64.37	66.51	68.71

75. The allowable O&M Expenses for the instant combined transmission asset are as under:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
6 nos. 400 kV bay	361.80	373.80	386.22	399.06	412.26



76. The petitioner has submitted that O&M Expenses for the tariff period 2014-19 had been arrived at on the basis of normalized actual O&M Expenses during the period 2008-09 to 2012-13. The petitioner has further submitted that the wage revision of the employees is due during 2014-19 and actual impact of wage hike effective from a future date has not been factored in fixation of the normative O&M rates specified for the tariff block 2014-19. The petitioner has submitted that it would approach the Commission for suitable revision in norms for O&M Expenses for claiming the impact of wage hike during 2014-19, if any.

77. The O&M Expenses have been worked out as per the norms of O&M Expenses specified in the 2014 Tariff Regulations. As regards impact of wage revision, any application filed by the petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.

Interest on Working Capital (“IWC”)

78. Clause 1 (c) and 3 of Regulation 28 and Clause 5 of Regulation 3 of the 2014 Tariff Regulations specify as under:-

“28. Interest on Working Capital: (1) The working capital shall cover:

(a)-----

(c) Hydro generating station including pumped storage hydro electric generating station and transmission system including communication system:

(i) Receivables equivalent to two months of fixed cost;

(ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 29; and

(iii) Operation and maintenance expenses for one month”

“(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later”



“(5) ‘Bank Rate’ means the base rate of interest as specified by the State Bank of India from time to time or any replacement thereof for the time being in effect plus 350 basis points;”

79. 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% as on 1.4.2014 plus 350 basis points). The details of interest on working capital determined is shown below:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	54.27	56.07	57.93	59.86	61.84
O & M expenses	30.15	31.15	32.19	33.26	34.36
Receivables	175.04	175.43	181.10	186.29	185.01
Total	259.46	262.65	271.22	279.41	281.21
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	35.03	35.46	36.61	37.72	37.96

Annual Transmission Charges

80. The Annual Transmission Charges allowed for the instant combined transmission asset are as under:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	205.72	208.37	220.36	231.76	231.76
Interest on Loan	218.46	202.77	197.87	191.00	169.87
Return on Equity	229.21	232.17	245.53	258.23	258.23
Interest on Working Capital	35.03	35.46	36.61	37.72	37.96
O&M Expenses	361.80	373.80	386.22	399.06	412.26
Total	1050.22	1052.56	1086.60	1117.77	1110.08

81. The petitioner has submitted that the claim for transmission charges and other charges is exclusive of incentive, late payment surcharge, FERV, any statutory taxes, levies, duties, cess, or any other kind of impositions etc. The same, if imposed shall be borne and additionally paid by the respondents. We have considered the submissions of the petitioner. The petitioner is entitled for



late payment surcharge and FERV as per Regulations 45 and 50 respectively of the 2014 Tariff Regulations.

Filing Fee and Publication Expenses

82. 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 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 and RLDC Fees and Charges

83. 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

84. The petitioner has made a prayer to be allowed to bill and recover the service tax on transmission charges separately from the respondents, if notification regarding granting of exemption to transmission service is withdrawn at a later date and it is subjected to such service tax in future the beneficiaries shall have to share the service tax paid by the petitioner. We consider petitioner's prayer pre-mature and accordingly this prayer is rejected.



Goods and Services Tax (GST)

85. The petitioner has submitted that under the proposed GST which is likely to be introduced, transmission charges are not exempted and has prayed for reimbursement of any tax payable in future on implementation of GST. We are of the view that the petitioners' prayer is premature and hence it is not allowed.

Sharing of Transmission Charges

86. The billing, collection and disbursement of the transmission charges approved for 2014-19 tariff period shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010, as amended from time to time, as provided in Regulation 43 of the 2014 Tariff Regulations.

87. This order disposes of Petition No. 181/TT/2016.

sd/-
(M.K. Iyer)
Member

sd/-
(A.S. Bakshi)
Member

sd/-
(A.K. Singhal)
Member



Annexure-1

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN			
	Details of Loan	2012-13	2013-14
1	Bond XXXVIII		
	Gross loan opening	10.00	10.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	10.00	10.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	10.00	10.00
	Average Loan	10.00	10.00
	Rate of Interest	9.25%	9.25%
	Interest	0.93	0.93
	Rep Schedule	Bullet Payment on 09.03.2027	
2	Bond XL		
	Gross loan opening	144.60	144.60
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	144.60	144.60
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	144.60	144.60
	Average Loan	144.60	144.60
	Rate of Interest	9.30%	9.30%
	Interest	13.45	13.45
	Rep Schedule	12 annual instalments from 28.06.2016	
3	Bond XXXVI		
	Gross loan opening	10.00	10.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	10.00	10.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	10.00	10.00
	Average Loan	10.00	10.00
	Rate of Interest	9.35%	9.35%
	Interest	0.94	0.94
	Rep Schedule	15 annual instalments from 29.08.2016	
4	Bond XLII (Add-cap for 2012-2013)		
	Gross loan opening	0.00	16.18
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	16.18
	Additions during the year	16.18	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	16.18	16.18
	Average Loan	8.09	16.18
	Rate of Interest	8.80%	8.80%
	Interest	0.71	1.42



	Rep Schedule	Bullet payment on 13.03.2023	
5	Bond XLI		
	Gross loan opening	150.13	150.13
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	150.13	150.13
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	150.13	150.13
	Average Loan	150.13	150.13
	Rate of Interest	8.85%	8.85%
	Interest	13.29	13.29
	Rep Schedule	12 annual instalments from 19.10.2016	
6	Bond XLV Add-cap 2013-14		
	Gross loan opening	0.00	0.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	0.00
	Additions during the year	0.00	61.85
	Repayment during the year	0.00	0.00
	Net Loan-Closing	0.00	61.85
	Average Loan	0.00	30.93
	Rate of Interest	9.65%	9.65%
	Interest	0.00	2.98
	Rep Schedule	12 annual instalments from 28.02.2018	
7	Bond XLI (Add-cap 2012-13 and 2013-14)		
	Gross loan opening	0.00	0.58
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	0.58
	Additions during the year	0.58	7.52
	Repayment during the year	0.00	0.00
	Net Loan-Closing	0.58	8.10
	Average Loan	0.29	4.34
	Rate of Interest	8.85%	8.85%
	Interest	0.03	0.38
	Rep Schedule	12 annual instalments from 19.10.2016	
	Total Loan		
	Gross loan opening	314.73	331.49
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	314.73	331.49
	Additions during the year	16.76	69.37
	Repayment during the year	0.00	0.00
	Net Loan-Closing	331.49	400.86
	Average Loan	323.11	366.18
	Rate of Interest	9.0780%	9.1176%
	Interest	29.33	33.39



Annexure-2

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN			
	Details of Loan	2012-13	2013-14
1	Bond XXXVIII		
	Gross loan opening	10.45	10.45
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	10.45	10.45
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	10.45	10.45
	Average Loan	10.45	10.45
	Rate of Interest	9.25%	9.25%
	Interest	0.97	0.97
	Rep Schedule	Bullet Payment on 09.03.2027	
2	Bond XL		
	Gross loan opening	213.47	213.47
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	213.47	213.47
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	213.47	213.47
	Average Loan	213.47	213.47
	Rate of Interest	9.30%	9.30%
	Interest	19.85	19.85
	Rep Schedule	12 annual instalments from 28.06.2016	
3	Bond XXXIV		
	Gross loan opening	70.00	70.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	70.00	70.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	70.00	70.00
	Average Loan	70.00	70.00
	Rate of Interest	8.84%	8.84%
	Interest	6.19	6.19
	Rep Schedule	12 annual instalments from 21.10.2014	
4	Bond XLII (Add cap for 2012-2013)		
	Gross loan opening	0.00	62.62
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	62.62
	Additions during the year	62.62	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	62.62	62.62
	Average Loan	31.31	62.62
	Rate of Interest	8.80%	8.80%
	Interest	2.76	5.51



	Rep Schedule	Bullet payment on 13.03.2023	
5	XLV (Add-cap 2013-14)		
	Gross loan opening	0.00	0.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	0.00
	Additions during the year	0.00	43.76
	Repayment during the year	0.00	0.00
	Net Loan-Closing	0.00	43.76
	Average Loan	0.00	21.88
	Rate of Interest	9.65%	9.65%
	Interest	0.00	2.11
	Rep Schedule	12 annual instalments from 28.02.2018	
	Total Loan		
	Gross loan opening	293.92	356.54
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	293.92	356.54
	Additions during the year	62.62	43.76
	Repayment during the year	0.00	0.00
	Net Loan-Closing	356.54	400.30
	Average Loan	325.23	378.42
	Rate of Interest	9.15%	9.15%
	Interest	29.76	34.63



Annexure-3

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN			
	Details of Loan	2012-13	2013-14
1	Bond XXXVIII		
	Gross loan opening	40.78	40.78
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	40.78	40.78
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	40.78	40.78
	Average Loan	40.78	40.78
	Rate of Interest	9.25%	9.25%
	Interest	3.77	3.77
	Rep Schedule	Bullet Payment on 09.03.2027	
2	Bond XL		
	Gross loan opening	248.88	248.88
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	248.88	248.88
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	248.88	248.88
	Average Loan	248.88	248.88
	Rate of Interest	9.30%	9.30%
	Interest	23.15	23.15
	Rep Schedule	12 annual instalments from 28.06.2016	
3	Bond XXXIV		
	Gross loan opening	50.00	50.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	50.00	50.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	50.00	50.00
	Average Loan	50.00	50.00
	Rate of Interest	8.84%	8.84%
	Interest	4.42	4.42
	Rep Schedule	12 annual instalments from 21.10.2014	
4	Bond XXXVI		
	Gross loan opening	10.00	10.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	10.00	10.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	10.00	10.00
	Average Loan	10.00	10.00
	Rate of Interest	9.35%	9.35%
	Interest	0.94	0.94



	Rep Schedule	15 annual instalments from 29.08.2016	
5	Bond XLV Add-cap 2013-14		
	Gross loan opening	0.00	0.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	0.00
	Additions during the year	0.00	72.43
	Repayment during the year	0.00	0.00
	Net Loan-Closing	0.00	72.43
	Average Loan	0.00	36.22
	Rate of Interest	9.65%	9.65%
	Interest	0.00	3.49
	Rep Schedule	12 annual instalments from 28.02.2018	
6	Bond XL (Add-cap 2012-13 and 2013-14 for Accrual IDC)		
	Gross loan opening	0.00	61.09
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	61.09
	Additions during the year	61.09	0.78
	Repayment during the year	0.00	0.00
	Net Loan-Closing	61.09	61.87
	Average Loan	30.55	61.48
	Rate of Interest	9.30%	9.30%
	Interest	2.84	5.72
	Rep Schedule	12 annual instalments from 28.06.2016	
	Total Loan		
	Gross loan opening	349.66	410.75
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	349.66	410.75
	Additions during the year	61.09	73.21
	Repayment during the year	0.00	0.00
	Net Loan-Closing	410.75	483.96
	Average Loan	380.21	447.36
	Rate of Interest	9.2355%	9.2735%
	Interest	35.11	41.49



Annexure-4

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN			
	Details of Loan	2012-13	2013-14
1	Bond XXXVIII		
	Gross loan opening	27.45	27.45
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	27.45	27.45
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	27.45	27.45
	Average Loan	27.45	27.45
	Rate of Interest	9.25%	9.25%
	Interest	2.54	2.54
	Rep Schedule	Bullet Payment on 09.03.2027	
2	Bond XL		
	Gross loan opening	225.63	225.63
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	225.63	225.63
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	225.63	225.63
	Average Loan	225.63	225.63
	Rate of Interest	9.30%	9.30%
	Interest	20.98	20.98
	Rep Schedule	12 annual instalments from 28.06.2016	
3	Bond XXXIV		
	Gross loan opening	44.10	44.10
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	44.10	44.10
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	44.10	44.10
	Average Loan	44.10	44.10
	Rate of Interest	8.84%	8.84%
	Interest	3.90	3.90
	Rep Schedule	12 annual instalments from 21.10.2014	
4	Bond XLII (ADD CAP FOR 2012-13)		
	Gross loan opening	0.00	61.36
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	61.36
	Additions during the year	61.36	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	61.36	61.36
	Average Loan	30.68	61.36
	Rate of Interest	8.80%	8.80%
	Interest	2.70	5.40



	Rep Schedule	Bullet Payment on 13.03.2023	
5	Bond XL (Add-cap 2012-13 and 2013-14 for Accrual IDC)		
	Gross loan opening	0.00	1.15
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	1.15
	Additions during the year	1.15	1.16
	Repayment during the year	0.00	0.00
	Net Loan-Closing	1.15	2.31
	Average Loan	0.58	1.73
	Rate of Interest	9.30%	9.30%
	Interest	0.05	0.16
	Rep Schedule	12 annual instalments from 28.06.2016	
6	Bond XLV (Add-cap 2013-14)		
	Gross loan opening	0.00	0.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	0.00
	Additions during the year	0.00	49.06
	Repayment during the year	0.00	0.00
	Net Loan-Closing	0.00	49.06
	Average Loan	0.00	24.53
	Rate of Interest	9.65%	9.65%
	Interest	0.00	2.37
	Rep Schedule	12 annual instalments from 28.02.2018	
	Total Loan		
	Gross loan opening	297.18	359.69
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	297.18	359.69
	Additions during the year	62.51	50.22
	Repayment during the year	0.00	0.00
	Net Loan-Closing	359.69	409.91
	Average Loan	328.44	384.80
	Rate of Interest	9.1873%	9.1863%
	Interest	30.17	35.35



Annexure-5

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN		
	Details of Loan	2013-14
1	Bond XXXVIII	
	Gross loan opening	34.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	34.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	34.00
	Average Loan	34.00
	Rate of Interest	9.25%
	Interest	3.15
	Rep Schedule	Bullet Payment on 09.03.2027
2	Bond XLI	
	Gross loan opening	125.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	125.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	125.00
	Average Loan	125.00
	Rate of Interest	8.85%
	Interest	11.06
	Rep Schedule	12 annual instalments from 19.10.2016
3	Bond XXXIV	
	Gross loan opening	45.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	45.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	45.00
	Average Loan	45.00
	Rate of Interest	8.84%
	Interest	3.98
	Rep Schedule	12 annual instalments from 21.10.2014
4	Bond XLII	
	Gross loan opening	218.65
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	218.65
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	218.65
	Average Loan	218.65
	Rate of Interest	8.80%
	Interest	19.24



	Rep Schedule	Bullet Payment on 13.03.2023
5	Bond XLII (Add-cap 2013-14)	
	Gross loan opening	0.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	0.62
	Repayment during the year	0.00
	Net Loan-Closing	0.62
	Average Loan	0.31
	Rate of Interest	8.80%
	Interest	0.03
	Rep Schedule	Bullet Payment on 13.03.2023
6	Bond XLV Add-cap 2013-14	
	Gross loan opening	0.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	39.59
	Repayment during the year	0.00
	Net Loan-Closing	39.59
	Average Loan	19.80
	Rate of Interest	9.65%
	Interest	1.91
	Rep Schedule	12 annual instalments from 28.02.2018
7	Bond XXXVI	
	Gross loan opening	5.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	5.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	5.00
	Average Loan	5.00
	Rate of Interest	9.35%
	Interest	0.47
	Rep Schedule	15 annual instalments from 29.08.2016
	Total Loan	
	Gross loan opening	427.65
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	427.65
	Additions during the year	40.21
	Repayment during the year	0.00
	Net Loan-Closing	467.86
	Average Loan	447.76
	Rate of Interest	8.8959%
	Interest	39.83



Annexure-6**(₹ in lakh)**

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN		
	Details of Loan	2013-14
1	Bond XXXVIII	
	Gross loan opening	114.11
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	114.11
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	114.11
	Average Loan	114.11
	Rate of Interest	9.25%
	Interest	10.56
	Rep Schedule	Bullet Payment on 09.03.2027
2	Bond XLI	
	Gross loan opening	80.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	80.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	80.00
	Average Loan	80.00
	Rate of Interest	8.85%
	Interest	7.08
	Rep Schedule	12 annual instalments from 19.10.2016
3	Bond XXXIV	
	Gross loan opening	26.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	26.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	26.00
	Average Loan	26.00
	Rate of Interest	8.84%
	Interest	2.30
	Rep Schedule	12 annual instalments from 21.10.2014
4	Bond XLII	
	Gross loan opening	115.15
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	115.15
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	115.15
	Average Loan	115.15
	Rate of Interest	8.80%
	Interest	10.13



	Rep Schedule	Bullet Payment on 13.03.2023
5	Bond XLIII (Add-cap 2013-14)	
	Gross loan opening	0.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	4.80
	Repayment during the year	0.00
	Net Loan-Closing	4.80
	Average Loan	2.40
	Rate of Interest	7.93%
	Interest	0.19
	Rep Schedule	12 annual instalments from 20.5.2017
6	Bond XLIII	
	Gross loan opening	96.42
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	96.42
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	96.42
	Average Loan	96.42
	Rate of Interest	7.93%
	Interest	7.65
	Rep Schedule	12 annual instalments from 20.5.2017
7	Bond XXXVI	
	Gross loan opening	30.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	30.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	30.00
	Average Loan	30.00
	Rate of Interest	9.35%
	Interest	2.81
	Rep Schedule	15 annual instalments from 29.08.2016
8	Bond XLV Add-cap 2013-14	
	Gross loan opening	0.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	39.59
	Repayment during the year	0.00
	Net Loan-Closing	39.59
	Average Loan	19.80
	Rate of Interest	9.65%
	Interest	1.91
	Rep Schedule	12 annual instalments from 28.02.2018



	Total Loan	
	Gross loan opening	461.68
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	461.68
	Additions during the year	44.39
	Repayment during the year	0.00
	Net Loan-Closing	506.07
	Average Loan	483.88
	Rate of Interest	8.8077%
	Interest	42.62



Annexure-7

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN						
	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	Bond XXXVIII					
	Gross loan opening	236.79	236.79	236.79	236.79	236.79
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	236.79	236.79	236.79	236.79	236.79
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	236.79	236.79	236.79	236.79	236.79
	Average Loan	236.79	236.79	236.79	236.79	236.79
	Rate of Interest	9.25%	9.25%	9.25%	9.25%	9.25%
	Interest	21.90	21.90	21.90	21.90	21.90
	Rep Schedule	Bullet Payment on 09.03.2027				
2	Bond XL					
	Gross loan opening	896.76	896.76	896.76	896.76	896.76
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	74.73	149.46
	Net Loan-Opening	896.76	896.76	896.76	822.03	747.30
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	74.73	74.73	74.73
	Net Loan-Closing	896.76	896.76	822.03	747.30	672.57
	Average Loan	896.76	896.76	859.40	784.67	709.94
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	83.40	83.40	79.92	72.97	66.02
	Rep Schedule	12 annual instalments from 28.06.2016				
2	Bond XLI					
	Gross loan opening	363.23	363.23	363.23	363.23	363.23
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	30.27	60.54
	Net Loan-Opening	363.23	363.23	363.23	332.96	302.69
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	30.27	30.27	30.27
	Net Loan-Closing	363.23	363.23	332.96	302.69	272.42
	Average Loan	363.23	363.23	348.10	317.83	287.56
	Rate of Interest	8.85%	8.85%	8.85%	8.85%	8.85%
	Interest	32.15	32.15	30.81	28.13	25.45
	Rep Schedule	12 annual instalments from 19.10.2016				
4	Bond XXXIV					
	Gross loan opening	235.10	235.10	235.10	235.10	235.10
	Cumulative Repayment upto DOCO/previous year	0.00	19.59	39.18	58.78	78.37
	Net Loan-Opening	235.10	215.51	195.92	176.33	156.73
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	19.59	19.59	19.59	19.59	19.59
	Net Loan-Closing	215.51	195.92	176.33	156.73	137.14
	Average Loan	225.30	205.71	186.12	166.53	146.94
	Rate of Interest	8.84%	8.84%	8.84%	8.84%	8.84%



	Interest	19.92	18.18	16.45	14.72	12.99
	Rep Schedule	12 annual instalments from 21.10.2014				
5	Bond XLII					
	Gross loan opening	474.58	474.58	474.58	474.58	474.58
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	474.58	474.58	474.58	474.58	474.58
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	474.58	474.58	474.58	474.58	474.58
	Average Loan	474.58	474.58	474.58	474.58	474.58
	Rate of Interest	8.80%	8.80%	8.80%	8.80%	8.80%
	Interest	41.76	41.76	41.76	41.76	41.76
	Rep Schedule	Bullet Payment on 13.03.2023				
6	Bond XLIII					
	Gross loan opening	101.22	101.22	101.22	101.22	101.22
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	8.44
	Net Loan-Opening	101.22	101.22	101.22	101.22	92.79
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	8.44	8.44
	Net Loan-Closing	101.22	101.22	101.22	92.79	84.35
	Average Loan	101.22	101.22	101.22	97.00	88.57
	Rate of Interest	7.93%	7.93%	7.93%	7.93%	7.93%
	Interest	8.03	8.03	8.03	7.69	7.02
	Rep Schedule	12 annual instalments from 20.5.2017				
7	SBI (2014-15), Add-cap 2015-16					
	Gross loan opening	0.00	0.00	27.17	27.17	27.17
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.00	27.17	27.17	27.17
	Additions during the year	0.00	27.17	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	0.00	27.17	27.17	27.17	27.17
	Average Loan	0.00	13.59	27.17	27.17	27.17
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	0.00	1.39	2.78	2.78	2.78
	Rep Schedule	20 Half yearly equal instalments from 15.06.2019				
8	Bond XXXVI					
	Gross loan opening	55.00	55.00	55.00	55.00	55.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	3.67	7.33
	Net Loan-Opening	55.00	55.00	55.00	51.33	47.67
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	3.67	3.67	3.67
	Net Loan-Closing	55.00	55.00	51.33	47.67	44.00
	Average Loan	55.00	55.00	53.17	49.50	45.83
	Rate of Interest	9.35%	9.35%	9.35%	9.35%	9.35%
	Interest	5.14	5.14	4.97	4.63	4.29
	Rep Schedule	15 annual instalments from 29.08.2016				



9	Bond XLVIII Add-cap 2014-15					
	Gross loan opening	0.00	41.90	41.90	41.90	41.90
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	41.90	41.90	41.90	41.90
	Additions during the year	41.90	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	41.90	41.90	41.90	41.90	41.90
	Average Loan	20.95	41.90	41.90	41.90	41.90
	Rate of Interest	8.20%	8.20%	8.20%	8.20%	8.20%
	Interest	1.72	3.44	3.44	3.44	3.44
	Rep Schedule	Redeemable at par in 4 equal instalments on 23.01.2020, 23.01.2022, 23.01.2025 & 23.01.2030				
10	Bond XLIX (Add-cap 2014-15)					
	Gross loan opening	0.00	26.00	26.00	26.00	26.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	26.00	26.00	26.00	26.00
	Additions during the year	26.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	26.00	26.00	26.00	26.00	26.00
	Average Loan	13.00	26.00	26.00	26.00	26.00
	Rate of Interest	8.15%	8.15%	8.15%	8.15%	8.15%
	Interest	1.06	2.12	2.12	2.12	2.12
	Rep Schedule	3 Equal Instalments on 09.03.2020, 09.03.2025 and 09.03.2030				
11	Bond XLV					
	Gross loan opening	306.28	306.28	306.28	306.28	306.28
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	25.52
	Net Loan-Opening	306.28	306.28	306.28	306.28	280.76
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	25.52	25.52
	Net Loan-Closing	306.28	306.28	306.28	280.76	255.23
	Average Loan	306.28	306.28	306.28	293.52	268.00
	Rate of Interest	9.65%	9.65%	9.65%	9.65%	9.65%
	Interest	29.56	29.56	29.56	28.32	25.86
	Rep Schedule	12 annual instalments from 28.02.2018				
	Total Loan					
	Gross loan opening	2668.96	2736.86	2764.03	2764.03	2764.03
	Cumulative Repayment upto DOCO/previous year	0.00	19.59	39.18	167.44	329.66
	Net Loan-Opening	2668.96	2717.27	2724.85	2596.59	2434.37
	Additions during the year	67.90	27.17	0.00	0.00	0.00
	Repayment during the year	19.59	19.59	128.26	162.22	162.22
	Net Loan-Closing	2717.27	2724.85	2596.59	2434.37	2272.16
	Average Loan	2693.11	2721.06	2660.72	2515.48	2353.27
	Rate of Interest	9.08%	9.08%	9.09%	9.08%	9.08%
	Interest	244.63	247.07	241.74	228.47	213.64

