

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 9/TT/2018

Coram:

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

Date of Order: 05.09.2018

In the matter of:

Truing up of transmission tariff of 2009-14 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 and determination of transmission tariff of 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for the assets of "Transmission System of Vindhyachal-IV & RIHAND-III {1000MW} Generation Project

And in the matter of:

Power Grid Corporation of India Limited,
"Saudamini", Plot No. 2,
Sector 29, Gurgaon-122001
Haryana

....Petitioner

Vs

1. Madhya Pradesh Power Management Company Limited,
Shakti Bhawan, Rampur
Jabalpur-482 008.
2. Maharashtra State Electricity Distribution Company Limited,
Prakashganga, 4th Floor,
Bandra (East) Mumbai-400 052.
3. Gujarat Urja Vikas Nigam Limited,
Sardar Patel Vidyut Bhawan,
Race Course Road,
Vadodara-390 007.
4. Electricity Department,
Government of Goa,
Vidyut Bhawan, Panaji,
Near Mandvi Hotel,
Goa-403 001.



5. Electricity Department,
Administration of Daman and Diu,
Daman-396 210.
6. Electricity Department,
Administration of Dadra Nagar Haveli,
U.T., Silvassa-396 230.
7. Chhattisgarh State Electricity Board,
P.O. Sunder Nagar, Dangania, Raipur
Chhattisgarh-492 013.
8. Madhya Pradesh Audyogik Kendra
Vikas Nigam (Indore) Ltd.
3/54, Press Complex, Agra-Bombay Road,
Indore-452 008.
9. Rajasthan Rajya Vidyut Prasaran Nigam Limited
Vidyut Bhawan, Vidyut Marg,
Jaipur-302005.
10. Ajmer Vidyut Vitran Nigam Limited
400 kV GSS Building (Ground Floor),
Ajmer Road, Heerapura,
Jaipur.
11. Jaipur Vidyut Vitran Nigam Limited
400 kV GSS Building (Ground Floor),
Ajmer Road, Heerapura,
Jaipur.
12. Jodhpur Vidyut Vitran Nigam Limited
400 kV GSS Building (Ground Floor),
Ajmer Road, Heerapura,
Jaipur
13. Himachal Pradesh State Electricity Board
Vidyut Bhawan
Kumar House Complex Building II
Shimla-171004
14. Punjab State Electricity Board
The Mall, Patiala-147001.
15. Haryana Power Purchase Centre
Shakti Bhawan, Sector-6
Panchkula (Haryana) - 134109.



16. Power Development Department
Government of Jammu & Kashmir
Mini Secretariat, Jammu.
17. Uttar Pradesh Power Corporation Limited
(Formerly Uttar Pradesh State Electricity Board)
Shakti Bhawan, 14, Ashok Marg
Lucknow - 226001
18. Delhi Transco Ltd.
Shakti Sadan, Kotla Road,
New Delhi-110002
19. BSES Yamuna Power Ltd.
BSES Bhawan, Nehru Place,
New Delhi.
20. BSES Rajdhani Power Ltd.
BSES Bhawan, Nehru Place,
New Delhi
21. North Delhi Power Ltd.
Power Trading and Load Dispatch Group
Cennet Building, Adjacent to 66/11 kV Pitampura-3
Grid Building, Near PP Jewellers
Pitampura, New Delhi-110 034.
22. Chandigarh Administration
Sector -9,
Chandigarh.
23. Uttarakhand Power Corporation Ltd.
UrjaBhawan, Kanwali Road,
Dehradun.
24. North Central Railway,
Allahabad.
25. New Delhi Municipal Council
Palika Kendra, Sansad Marg,
New Delhi-110002.

....Respondents

For Petitioner : Shri Ramji Srinivasan, Senior Advocate, PGCIL
Ms. Swapna Seshadri, Advocate, PGCIL
Shri S.S. Raju, PGCIL
Shri Rakesh Prasad, PGCIL
Shri V.P. Rastogi, PGCIL
Shri Aryaman Saxena, PGCIL
Shri A. Choudhary, PGCIL



Shri B. Dash, PGCIL
Ms. Rhea Luthra, PGCIL

For Respondent : Shri R. B. Sharma, Advocate, BRPL

ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. (“the petitioner”) for trueing up of capital expenditure of the period 1.4.2013 to 31.3.2014 and for determination of tariff for the 2014-19 tariff period for 400 kV D/C (Quad) Vindhyachal IV-Vindhyachal Pooling Station (Bypassing Vindhyachal Pooling Station) Transmission Line (hereinafter referred as “**Asset A**”), 400 kV D/C (Twin) Sasan-Vindhyachal Pooling Transmission Line (herein after referred as “**Asset B**”), 400 kV 1X63 MVAR Bus Reactor along with associated 400 kV bays at Satna Sub-Station (herein after referred as “**Asset C**”), 400 kV D/C Quad Bassi-Jaipur (RPVNL) line along with associated bays at Bassi Sub-station (herein after referred as “**Asset D**”), 765 kV S/C Satna-Gwalior Line-1 with associated bays at Satna Sub-Station and line reactor (herein after referred as “**Asset E**”), 3X80MVAR 765kV Line reactor along with associated bays at Gwalior Substation for Satna-Gwalior Line-I (herein after referred as “**Asset F**”), 3X80MVAR 765kV Line reactor along with associated bays at Gwalior Sub-station (for 765 kV S/C Gwalior-Jaipur (Ckt-I))(herein after referred as “**Asset G**” and collectively all assets are referred as “transmission asset”) for Transmission System of Vindhyachal-IV & RIHAND-III {1000 MW} Generation Project (hereinafter referred to as “transmission scheme”) under Regulation 6 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as “the 2009 Tariff Regulations”) and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014



Tariff Regulations”).

2. The petitioner has made the following prayers:-

- (i) “Approve the Trued up Transmission Tariff for the tariff block 2009-14 block for the assets covered under this petition. The adjustment billing shall be raised;
- (ii) Admit the capital cost as on 31.3.2014 as claimed in the Petition and approve the Additional Capitalisation incurred during 2009-14 period and projected to be incurred during the tariff block 2014-19 as claimed in the petition;
- (iii) Approve the Transmission Tariff for the tariff block 2014-19 block for the assets covered under this petition;
- (iv) Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided under clause 25 of the Tariff regulations 2014;
- (v) Allow the Petitioner to approach Hon'ble Commission for suitable revision in the norms for O&M expenditure for claiming the impact of wage hike, if any, during period 2014-19;
- (vi) Allow the petitioner to recover FERV on the foreign loans deployed as provided under clause 50 of the Tariff Regulations, 2014;
- (vii) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 52 Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014, and other expenditure (if any) in relation to the filing of petition;
- (viii) Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 52 Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014;
- (ix) Allow the petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2014-19 period, if any, from the respondents;
- (x) Allow the petitioner to bill and recover GST on Transmission charges separately from the respondents, if GST on Transmission of electricity is withdrawn from the exempted (negative) list at any time in future. Further any



taxes and duties including cess, etc. imposed by any Statutory/Govt./Municipal Authorities shall be allowed to be recovered from the beneficiaries;

- (xi) Allow the Petitioner to bill and recover Service tax on Transmission Charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list at any time in future. Further, any taxes and duties including cess etc. imposed by any statutory/Govt/municipal authorities shall be allowed to be recovered from the beneficiaries.”

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

- (i) The Investment Approval (IA) for the project was accorded by Board of Directors of the petitioner company vide Memorandum No. C/CP/Vin-IV & Rih-III dated 17.3.2010 at an estimated cost of ₹467299 lakh including an IDC of ₹29779lakh. The Board of Directors of the petitioner vide Memorandum No. C/CP/RCE/Vin-IV &Rih-III approved the Revised Cost Estimates (RCE) for ₹453121 lakh including IDC of ₹41998 lakh.
- (ii) The instant project was partially put into commercial operation during the tariff period 2009-14 and balance during the tariff period 2014-19. The Commission approved final tariff for the assets put into commercial operation during 2009-14 tariff period in different petitions. In the instant petition, the petitioner has claimed truing-up tariff of the 2009-14 period and final tariff for the 2014-19periodfor the assets put into commercial operation during the 2014-19 tariff period. The details of assets covered in the instant petition are given below:-

Order dated 4.9.2014 in Petition No. 86/TT/2012	Referred in current petition as	COD
400 kV D/C (Quad) Vindhyachal IV-Vindhyachal pooling Station (Bypassing Vindhyachal Pooling Station) Transmission Line	Asset-A	1.1.2013
400 kV D/C (Twin) Sasan -Vindhyachal Pooling Transmission Line	Asset-B	1.1.2013
Order dated 18.3.2016 in Petition No.		



Order dated 4.9.2014 in Petition No. 86/TT/2012	Referred in current petition as	COD
113/TT/2013		
400 kV 1X63 MVAR Bus Reactor along with associated 400 kV bays at Satna Sub-Station	Asset-C	1.4.2013
400 kV D/C Quad Bassi-Jaipur (RPVNL) line along with associated bays at Bassi Sub-station	Asset-D	1.1.2014
Order dated 17.7.2015 in Petition No. 295/TT/2013		
765 kV S/C Satna-Gwalior Line-1 with associated bays at Satna Sub-Station and line reactor	Asset-E	1.3.2014
3X80MVAR 765kV Line reactor along with associated bays at Gwalior Substation for Satna-Gwalior Line-I	Asset-F**	1.1.2014
Order dated 31.12.2015 in Petition No. 192/TT/2014		
3X80MVAR 765kV Line reactor along with associated bays at Gwalior Substation (for 765 kV S/C Gwalior-Jaipur (Ckt-I)	Asset-G	1.3.2014

**Final tariff for Asset-F was not considered in Petition No. 295/TT/2013 due to non-availability of requisite information.

- (iii) The Commission, vide order dated 4.9.2014 in Petition No. 86/TT/2012, had approved tariff for 2 nos. of assets (Asset-1 and 2) which has been named as Asset-A and Asset-B respectively in the instant truing-up petition. The admitted capital cost on 31.3.2014 in case of Assets-1 and 2 was ₹9465.80 lakh and ₹1029.03 lakh respectively and additional capital expenditure allowed for Asset-1 was ₹336.87 lakh in 2012-13 and ₹201.87 lakh in 2013-14 and in case of Asset-2 it was ₹12.20 lakh in 2012-13, ₹83.84 in 2013-14 and ₹11.32 lakh in 2014-15. ₹2.26 lakh in 2015-16 was not allowed due to cost over-run of 11.09% as on COD. Further, the time over-run of one month in case of Assets-1 and 2 was condoned by the Commission.
- (iv) The Commission, vide order dated 18.3.2016 in Petition No. 113/TT/2013, had approved tariff for two assets (Assets-I and II) which has been named as Asset-C and Asset-D respectively in the instant truing-up petition. The



admitted capital cost as on 31.3.2014 for Assets-I and II was ₹596.58 lakh and ₹11386.04 lakh respectively and the additional capital expenditure allowed for Asset-I and II was ₹123.92 lakh and ₹220.88 lakh respectively in 2013-14. The time over-run of 4 months in case of Asset-I was condoned. In case of Asset-II, out of total 13 months' time over-run, 8 months was condoned and remaining 5 months was not condoned.

- (v) The Commission, vide order dated 17.7.2015 in Petition No. 295/TT/2013, approved tariff for one asset, which is named as Asset-E in the instant true up petition. The admitted capital cost of the asset as on 31.3.2014 was ₹57144.15 lakh. Additional capital expenditure allowed was ₹429.84 lakh during 2013-14. The time over-run of 15 months was not condoned and the petitioner was given liberty to approach the Commission at the time of truing-up with proper documents and justification.
- (vi) The Commission, vide order dated 31.12.2015 in Petition No. 192/TT/2014, had approved tariff of one asset, which has been named as Asset-G in the instant truing-up petition. The admitted capital cost as on 31.3.2014 was ₹2498.21 lakh and the additional capital expenditure allowed was ₹36.71 lakh during 2013-14. The time over-run of 15 months was not condoned and the petitioner was given liberty to approach the Commission at the time of truing-up with proper documents and justification. However, tariff for 3x80 MVAR 765 kV Line reactor along with associated bays at Gwalior sub-station for Satna-Gwalior Line-I (named Asset F in the instant petition) was not considered due to non-availability of requisite information.



- (vii) The balance assets covered in the instant project were put into commercial operation during the 2014-19 tariff period and the petitioner has claimed tariff for those assets through Petition Nos. 201/TT/2014, 71/TT/2015 and 204/TT/2016. Under the instant petition only the assets put into commercial operation during the tariff period 2009-14 has been considered.
- (viii) The Commission in order dated 4.9.2014 in Petition No. 86/TT/2012 had directed the petitioner to de-capitalise the additional equipment used to commission the 400 kV D/C Vindhyachal-IV Vindhyachal pooling system transmission line under the contingency arrangement and their utilization in other projects. The petitioner in this petition has submitted that to commission 400 kV D/C Vindhyachal-Vindhyachal IV Transmission Line under the contingency arrangement the additional equipment have been used from the existing spare bank maintained by the petitioner. After the withdrawal of contingency arrangement, the spares have been returned to the borrowing store. So, there is no need for de-capitalization of the additional equipment used to commission the said line under contingency.
- (ix) The petitioner has submitted that Commission in order dated 17.7.2015 in Petition No. 295/TT/2013 has directed to furnish the separate cost of 42.18 km DC tower, with respect to loading of capital cost of DC tower on 765 kV S/C Satna-Gwalior Line-1, at the time of truing up. The petitioner has submitted that out of total expenditure of ₹149.52 crore on D/C towers, ₹14310 lakh has been included in the cost of 765 kV S/C Satna-Gwalior Line-1.



(x) The capital cost allowed in line with the above said orders is given below:-

(₹ in lakh)

Assets	Apportioned Approved Cost		Admitted cost as on COD	Add Cap allowed		IDC and IEDC disallowed	Total Cost as on 31.3.14
	FR	RCE		2012-13	2013-14		
A	12439.72	10353.94	8927.06	336.87	201.87	-	9465.80
B	1029.03	1382.70	1029.03	0.00	0.00	-	1029.03
C	2063.51	777.39	472.66	0.00	123.92	-	596.58
D	14841.46	13033.93	11165.16	0.00	220.88	140.22	11386.04
E	87424.00	69285.34	56714.31	0.00	429.84	2293.33	57144.15
F		4270.46					
G	6315.46	3566.58	2461.50	0.00	36.71	116.78	2498.21
Total	124113.18	102670.34	80769.72	336.87	1013.22	2550.33	82119.81

(xi) The tariff allowed in the above referred orders for the instant assets from their respective COD to 31.3.2014 in terms of the provisions of the 2009 Tariff Regulations are as under:-

(₹ in lakh)

Particulars	Asset-A		Asset-B		Asset-C
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14	2013-14
Depreciation	120.06	494.46	13.58	54.33	28.23
Interest on Loan	144.68	567.41	16.57	63.11	32.45
Return on Equity	119.25	491.12	13.49	53.96	31.45
Interest on working capital	9.29	37.65	1.06	4.17	5.61
O & M Expenses	8.13	34.37	0.97	4.10	65.46
Total	401.41	1625.01	45.67	179.67	163.20

(₹ in lakh)

Particulars	Asset-D	Asset-E	Asset-F	Asset-G
	2013-14 (pro-rata)	2013-14 (pro-rata)	2013-14 (pro-rata)	2013-14 (pro-rata)
Depreciation	149.10	250.52	36.50	10.91
Interest on Loan	139.51	253.33	41.44	14.69
Return on Equity	165.84	248.79	40.67	12.16
Interest on working capital	14.52	19.60	5.14	1.67
O & M Expenses	79.55	49.37	45.82	15.27
Total	548.52	821.61	169.57	54.70

4. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the



Electricity Act, 2003 (“the Act”). Madhya Pradesh Power Management company Limited (MPPMCL) has filed its reply vide affidavit dated 4.3.2017. MPPMCL has submitted that the time over-run in case of Asset D(iii) may not be allowed and accordingly the IDC and IEDC may be disallowed. The same is considered in the relevant para of this order.

5. The hearing in the matter was held on 15.3.2018. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

Truing-up of Annual Fixed Charges for 2009-14 tariff period

6. The summary of apportioned approved cost as per the IA, and the actual capital cost claimed by the petitioner vide Auditor certificate(s) in the instant truing-up petition are summarized as under:-

Assets	Appor-tioned approved cost as per IA as per Form 5B	Appor-tioned approved Cost as per RCE as per Form 5B	Expendi-ture up to COD	Additional Capital Expenditure					Total estimated completion cost
				2012-13	2013-14	2014-15	2015-16	2016-17	
Asset-A	12386.53	10353.94	8927.06	336.87	301.40	66.09	178.79	0.00	9810.21
Asset-B	1029.03	1382.70	1143.21	12.20	57.19	1.31	21.41	0.00	1235.32
Asset-C	2063.51	777.39	479.08	0.00	117.50	48.84	31.17	0.00	676.59
Asset-D	14841.46	13033.93	11403.41	0.00	152.13	623.46	1.25	356.08	12536.33
Asset-E	74312.29	68785.34	59853.66	0.00	1459.21	2475.61	1548.08	2143.97	67480.53
Asset-F	13111.71	4270.46	2753.58	0.00	91.47	396.00	78.59	543.59	3863.23
Asset-G	6315.46	3566.58	2608.32	0.00	36.71	464.03	26.12	193.54	3328.72
Total	124059.99	102170.34	87168.32	349.07	2215.61	4075.34	1885.41	3237.18	98930.93

(₹ in lakh)

7. The petitioner in Petition No. 295/TT/2013 had claimed tariff for Asset-I i.e. 765kV S/C Satna-Gwalior Line-1 along with associated bays and respective line reactor at Satna and Gwalior Sub-stations (Assets-E and F in the instant petition) based on anticipated COD on 1.8.2014. However, at the time of truing up, the



petitioner vide affidavit dated 19.4.2018, has submitted that initially Asset E: 765 kV S/C Satna-Gwalior Line-1 with associated bays at Satna Sub-stations and line reactor and Asset F: 3X80MVAR 765kV Line reactor along with associated bays at Gwalior Sub-station for Satna-Gwalior Line-I under subject petition were filed collectively as Asset-I: 765 S/C Satna-Gwalior Line-1 along with associated bays and respective line reactor at Satna and Gwalior Sub-station in Petition No. 295/TT/2013 with anticipated COD on 1.12.2013.

8. Further, Asset-I under Petition No. 295/TT/2013 was put into commercial operation progressively in two parts. Asset-IA:765 kV S/C Satna-Gwalior Line-1 with associated bays at Satna Sub-stations and line reactor was declared under commercial operation on 1.3.2014 (Asset-E in the instant petition) and Asset-IB: 3X80 MVAR 765 kV Line reactor along with associated bays at Gwalior Sub-station for Satna-Gwalior Line-I was declared under commercial operation on 1.1.2014 (Asset-F in the instant petition). Details of Asset-IA were submitted and accordingly final tariff was allowed vide order dated 17.7.2015 in Petition No. 295/TT/2013 for Asset-IA. However, the details of Asset-IB: 3X80 MVAR 765 kV Line reactor along with associated bays at Gwalior Sub-station for Satna-Gwalior Line-I which was declared under commercial operation on 1.1.2014 was not submitted and hence the final tariff could not be determined for Asset-IB. The final audited cost certificate and tariff calculation has been submitted by the petitioner alongwith justification of time over-run and cost over-run in the instant petition.

9. We have considered the submissions of the petitioner regarding Asset-F and the submissions of the petitioner in Petition No. 295/TT/2013. It is observed that petitioner did not submit the cost of Asset-F (3x80 MVAR 765kV Line reactor along



with associated bays at Gwalior sub-station for Satna-Gwalior Line-I). The petitioner, based on the actual COD of 1.1.2014, has submitted the details of capital cost along with the additional capital expenditure incurred as on 31.3.2014. The petitioner vide affidavit dated 27.3.2018 has also submitted the COD letter dated 1.1.2014 of Asset-F.

10. The cost of 3x80 MVAR 765 kV Line reactor along with associated bays at Gwalior sub-station for Satna-Gwalior Line-I was not included in order dated 17.7.2015 in Petition No. 295/TT/2103. Therefore, tariff for Asset-F is allowed in the instant petition.

Cost variation

11. The apportioned approved cost based on RCE for the instant assets is ₹102170.34 lakh and the estimated completion cost as on 31.3.2019 as per the Auditor certificate is ₹98930.93 lakh. The estimated completion cost of the instant asset is within the limit of the apportioned approved cost as per RCE. There is no cost over-run in case of the instant assets. However, against the overall admitted cost of ₹80769.72 lakh as on COD, the petitioner in the instant truing-up petition has claimed ₹87168.32 lakh. Thus, there is an increase of ₹6398.60 lakh as on COD. The Commission in previous order had allowed an overall total additional capital expenditure of ₹1350.09 lakh (₹336.87 lakh for 2012-13 and ₹1013.22 lakh for 2013-14) against which the petitioner at the time of truing-up has claimed additional capital expenditure of ₹2564.68 lakh (₹349.07 lakh for 2012-13 and ₹2215.61 lakh for 2013-14). Thus, there is an increase of ₹1214.59 lakh of additional capital expenditure at the time of truing-up. Against the overall total admitted cost of ₹82119.81 lakh in previous order, the petitioner has claimed ₹89733.00 lakh. Hence,



there is an increase of ₹7613.19 lakh in the petitioner's claim.

12. MPPMCL has submitted that the capital expenditure incurred for the instant assets upto 31.3.2014 is only ₹89733 lakh whereas the apportioned approved cost is ₹102670 lakh. MPPMCL has summarised the estimated cost as on 31.3.2014 of the instant assets submitted by the petitioner and has compared it with the FR cost and the RCE as under:-

Asset	Apportioned approve cost		Total Cost		If less Diff from RCE
	FR	RCE	As on 31.3.2014	If less Diff from FR (Amount %)	
Asset A	12439.72	10353.94	9565.33	2874.39 (23%)	788.61 (8%)
Asset B	1029.03	1382.70	1212.60	-	170.10(17%)
Asset C	2063.51	777.39	596.58	1466.53 (71%)	180.81 (23%)
Asset D	14841.46	13033.93	11555.54	3285.92 (22%)	1478.39(11%)
Asset E	87424	69285.34	61312.87	23266.08 (27%)	7972.47(11%)
Asset F		4270.46	2845.05		1425.41 (33%)
Asset G	6315.46	3566.58	2645.03	3670.43 (58%)	784.50 (22%)
Total	124113.18	102670.34	89733.00	34380.18(28%)	12937.34(10%)

13. MPPMCL has submitted that as per the information submitted by the petitioner, the total cost on 31.3.2014 of the instant assets is less than FR apportioned approved cost by a margin ranging from 22% to 71% and lesser than the RCE by a margin ranging from 8% to 33%. There is a clear case of overestimating first and then claiming the cost as being no cost over-run. In some cases, the RCE is more than the final cost which indicates the casual way in which the petitioner has prepared the estimates. It appears that it has been done intentionally to evade giving the justification for cost over-run. MPPMCL has submitted that the petitioner should be directed to submit all the details on records and to justify this huge difference. The capital cost may be allowed after prudence check of the information



and explanation submitted by petitioner as it increases the financial burden on the beneficiaries.

14. In response, the petitioner in its rejoinder has submitted that the contention of MPPMCL regarding variation in the apportioned approved cost as per FR and RCE with respect to total cost of the assets as on 31.3.2014 is not correct as the apportioned approved cost of any asset as per FR/RCE should be compared with estimated completion cost of the asset. The petitioner has submitted that comparison of apportioned approved cost of the asset as per FR/RCE with the partial cost upto 31.3.2014 is irrational. The comparison of RCE apportioned approved cost with the total estimated completion cost of the instant assets is as under:-

Assets	Apportioned approved cost	Total estimated cost	Difference w.	
			Amount	%
Asset A	10353.94	9810.21	543.73	5
Asset B	1382.7	1235.35	147.35	11
Asset C	777.39	676.59	100.8	13
Asset D	13033.93	12536.33	497.6	4
Asset E	69285.34	67480.53	1804.81	3
Asset F	4270.46	3863.23	407.23	10
Asset G	3566.58	3328.72	237.86	7
Total	102670.3	98930.96	3739.38	4

15. The petitioner has further submitted that the above table indicates that the actual difference between RCE apportioned approved cost and the total estimated cost of the assets is ranging from 3%-13% and not from 8% to 33% as mentioned by MPPMCL. Further, for the purpose of working out the estimated cost of the project i.e., the FR cost, the unit rates considered for preparation of cost estimates is generally taken from Schedule of Rates (SOR). For implementation of the complete project, the petitioner divides the project into defined packages based on the definite



scope of works falling under various categories namely, 'Supply-cum-Installation', 'Supply', 'Civil', 'Consultancy' packages etc. for the purpose of competitiveness, efficiency, availability of prospective bidders, project execution schedule, combination/clubbing of equipment/services that can be advantageously engineered to its work content and clear cut terminal points for interfacing. Since the procurement for the project is being carried out in different packages, the reference bids/contracts varies from item to item. The petitioner has submitted that the SOR and the FR cost is prepared on the basis of the unit item rates of the respective reference bids/awarded contracts/rates derived based on raw materials which are updated to price level of SOR/FR on the basis of price variation formulae using applicable indices as mentioned in the respective bids/ awarded contracts. The petitioner has submitted that in the instant case also, the FR cost has been arrived at prudently by considering the reference bids/contracts for various items for various substations. Further, the details of balance and retention payment of all the assets under instant petition have already been furnished and requested to allow the entire cost and tariff as claimed in the petition.

16. The petitioner was directed to submit the reasons for FR and RCE cost variation among various assets. In response, the petitioner has submitted the following comparison of RCE cost of ₹453121 lakh and the FR approved cost of ₹467299 lakh for instant project:-

Srl. No.	Reasons for variation	Variation	
		(₹ in crore)	(%)
(i)	Price Variation		
A	DPR to LOA (on competitive bidding while award)	(-) 446.86	(-) 9.56%
B	LOA provisions (towards PV based on indices)	296.92	6.35%
	Sub-Total (PV)	(-) 149.95	(-) 3.21%
(ii)	Variation in quantities of approved Items	(-) 146.76	(-) 3.14%



(iii)	Addition/Deletion of items	18.10	0.39%
(iv)	Land and Compensation	230.29	4.93%
(v)	FERV	38.62	0.83%
(vi)	Other Reasons (IEDC and IDC)		
A	IEDC (incl. Contingencies)	(-) 254.28	(-) 5.44%
B	IDC	122.19	2.61%
	Sub- Total (IEDC & IDC)	(-) 132.09	(-) 2.83%
	GRAND TOTAL	(-) 141.78	(-) 3.03%

17. The petitioner has submitted that the estimated capital cost of the assets is lower by ₹141.78 crore {(-) 3.03 %} against the approved cost of ₹4672.99 crore. The petitioner has attributed the reasons for major variation in cost to the following reasons:-

- a. Price Variation:-There has been a decrease in the cost of the project by ₹149.95 crore on this account, which works out to (-) 3.21% of the approved cost. Out of the total price variation, a negative variation of ₹446.86 crore has been incurred from the time of approval of project till award of various contracts (DPR to LOA) based on prices received as per competitive bidding and a variation of ₹296.92 crore has been incurred/likely to be incurred on the basis of PV based on indices as per provision of respective contracts. As regards the PV from DPR to LOA, the contracts for various packages under this project were awarded to the lowest evaluated and responsive bidder, on the basis of Competitive Bidding by the petitioner, after publication of NITs in leading Newspapers. Thus, the award prices represent the lowest prices available at the time of bidding of various packages. Further, price variation of ₹296.92 crore has been incurred/ likely to be incurred under contract on the basis of provision of respective contracts. The reasons for the same are attributable to inflationary trends prevalent during execution of project from March, 2010 (first OBD under the



project) to March, 2015 (period of major supplies). Thus, the price variation under the project is attributable to the inflationary trend prevailing during execution of project and also market forces prevailing at the time of bidding process of various packages.

- b. Variation in quantities of approved items:-The line length, type of various towers and foundations in the DPR were estimated on the basis of walk-over/preliminary survey. However, during execution of project, there has been decrease in the cost due to decrease in overall line length from about 1664 km to about 1501 km resulting in decrease of ₹127.02 crore in the project cost. Further, there has been decrease in the quantities of 80 MVAR, 765 kV reactors at VPS from 11 to 10 and decrease in 63 MVAR, 400 kV reactors at VPS and Satna sub-station from two each to one each., which resulted in decrease of ₹19.73 crore. Accordingly, there has been a net decrease in the cost of the project by ₹146.76 crore, which works out to (-) 3.14 % of the approved cost.
- c. Addition/Deletion of items:-There has been an increase of ₹18.10 crore which works out to be 0.39 % of the approved cost due to addition/deletion of items. The increase is mainly due to expenditure towards civil works associated with additional land acquired for sub-station extension at Satna Sub-station. Due to above, there has been increase in the cost of the project by ₹18.10 crore, which works out to 0.39 % of the approved cost.
- d. Land and Compensation:-A provision of ₹149.48 crore was made for land and compensation. However, based on actual expenditure incurred and



balance anticipated expenditure an amount of ₹379.77 crore is likely to be incurred under the head, resulting in an increase of ₹230.29 crore in cost of project.

- e. Foreign Exchange Rate Variation:-The project involves ECB funding from International Finance Corporation (IFC) and also from foreign bonds alongwith domestic sources. The project also involves payment in foreign currency for various contracts awarded in the project. Increase in liability on account of FERV is ₹38.62crore (0.83% of the approved cost) and the following exchange rates was considered:-

Foreign currency (in INR)		
	Approved DPR (3 rd Quarter'09 Price Level)	Remarks
1 Euro	72.07	Varied from 57.30 to 86.31
1 USD	49.11	Varied from 44.50 to 63.52

18. We have considered the submissions of the petitioner and respondents. Against the revised approved cost of ₹102670.34 lakh, the overall completion cost as on 31.3.2014 is ₹89733.00 lakh. The petitioner has claimed ₹12937.34 lakh less than the revised apportionment approved cost. Thus, there is a 12.60% variation in capital cost. The completion cost has reduced from original estimation cost due to variation on account of lowest prices recovered through bidding of various packages, decrease in line length from 1664km to 1501 km and various other factors, which cannot be attributed to the petitioner. Accordingly, the cost variation is allowed.

Time Over-run

19. The time over-run in case of Assets A, B and C have already been condoned by the Commission in orders dated 4.9.2014 and 18.3.2016 in Petition Nos.



86/TT/2014 and 113/TT/2013 respectively. Out of the time over-run of 13 months in case of Asset-D, 8 months was condoned and 5 months was not condoned in order dated 18.3.2016 in Petition No.113/TT/2014. The time over-run of 15 months each in case of Assets-E and G was not condoned in orders dated 17.7.2015 and 31.12.2015 in Petition Nos. 295/TT/2013 and 192/TT/2014 respectively. However, the petitioner was given liberty to submit the relevant documents and justification at the time of truing-up for consideration. The relevant portions of the orders dated 17.7.2015 and 31.12.2015 are extracted hereunder:-

“16. We have considered the submissions of the petitioner and the respondents. The petitioner has claimed that delay occurred due to time taken in forest clearance. However, it is not possible to assess the impact of the delay in getting the forest clearance on project implementation, as it is difficult to assess the time the petitioner considered for forest clearance while deciding schedule of 32 months at the time of planning. It has been observed that the petitioner took 17 months for applying for forest clearance, for which no justification/ reason has been given. The petitioner has not submitted how much time was envisaged for this activity in original schedule. Further, the petitioner cannot claim that route was not final for applying for forest clearance because the petitioner applied for forest clearance in August, 2011 whereas the re-routing was done in May, 2012. The petitioner could have applied for first stage forest clearance immediately after I.A. based on preliminary survey and the project could have been commissioned in time even after delay in availability of forest clearance. So in the absence of reasons for delay in applying for forest clearance, delay of 15 months is not being condoned as of now. We will consider the claim of the petitioner if the aforesaid information is furnished, at the time of truing up”.

“18. We have considered the submissions made by the petitioner regarding the time –over run on account of delay in execution of some other assets, which is not a subject matter of the instant petition and therefore, the merits of the same have not been looked into. We are therefore, in instant order, not inclined to condone the delay of 15 months. However, liberty is granted to the petitioner to place the matter for final view at the time of truing up. In view of above, IDC and IEDC corresponding to delay of 15 months is adjusted in the capital cost.”

20. The petitioner has submitted the detailed justification for time over-run in case of Assets-E and G. The same is considered in the following paragraphs.

21. The petitioner has submitted the following reasons for the time over-run of Asset-E:-



a. The Vindhyachal Pooling Station (VPS) was to be developed to pool the power generated at Vindhyachal-IV (2X500 MW) and Rihand-III (2X500 MW) generation projects of NTPC. The process for land acquisition of 765/400kV VPS commenced in February 2010. In the process of land acquisition, the petitioner faced severe Right of Way problems. Several temporary houses etc. were erected in the proposed land by the villagers as soon as they came to know about the land acquisition process. The acquisition of the land for the VPS was inordinately delayed due to various hearings conducted by revenue authorities. The said hearings were conducted for finalization of rates for the newly constructed temporary houses in the identified land for the pooling station. Award of land was made by Land Acquisition Officer, Singrauli vide letter dated 13.9.2012 and 1.10.2012. The number of persons to whom compensation had to be distributed was also large as per the orders made by the Land Acquisition Officer. The final possession of the land of VPS could be taken only in December 2014, after disbursement of compensation payment and demolition of the temporary houses.

b. The Commission, vide order dated 31.5.2016 in Petition No. 71/TT/2015, has condoned the time over-run in case of the 765/400 kV Vindhyachal Pooling Station.

c. The bays for the 765 kV Vindhyachal-Satna line were required to be constructed in 765/400 kV VPS (New), as part of the R3V4. However, due to delay in land acquisition for VPS (New), the line was terminated at VPS. The Commission has already condoned the time over-run in case of Vindhyachal-Satna line in order dated 31.5.2016 in Petition No. 71/TT/2015.



d. In view of the uncertainties in the land for VPS, the awards for both the Vindhyachal-Satna and Satna-Gwalior transmission lines were held up. The LoA for the 765 kV Vindhyachal-Satna Line was placed on 8.3.2011 and for 765 kV Satna-Gwalior Line-I and II were awarded vide LOA dated 5.1.2011 and 9.12.2010 respectively i.e. nearly 10-12 months after the IA dated 17.3.2010. In the meanwhile, discussions were going on to expedite the 765 kV Satna-Gwalior section of the transmission system for system/grid security, as the existing Satna-Bina and Bina-Gwalior line were getting heavily loaded.

e. During the construction of 765 kV S/C Satna-Gwalior Line-1, severe ROW problem was encountered in various stretches/villages under jurisdiction of Satna Collector. Several letters were written to local administration for resolution of the ROW problem. After lot of follow up, district administration of Satna initiated action on ROW issues by deployment of revenue staff and police force. When the construction staff was manhandled, the Collector ordered heavy police deployment to facilitate the construction work. After deployment of police battalion, work re-commenced and pending stretches were completed.

f. The petitioner has submitted that the prior commissioning of 765 kV Satna-Gwalior line-I improved the grid security. The load flow shows that prior to the COD of the line, the lines connected to Satna-Bina were heavily loaded, but after the COD of the 765 kV Satna-Gwalior Line-I, the loading of the 765 kV Satna-Bina I & II have come to safe limit, thus enabling secure Grid. COD of the 765 kV Satna-Gwalior line-I ahead of 765 kV VPS by the petitioner not only



enabled to improve Grid Security but saved in IDC of ₹0.37 lakh. i.e. IDC from 1.3.2014 to 2.4.2015.

g. Despite the best efforts, the 765 kV Satna-Gwalior Line-I was put into commercial operation on 1.3.2014. The time over-run was initially due to delay in land acquisition of VPS and subsequently due to ROW issues, which were beyond the control of the petitioner. Therefore, the petitioner has requested to condone the time over-run in COD of 765 kV Satna-Gwalior Line-I and to allow the cost and tariff as claimed in the petition.

22. MPPMCL has submitted that the petitioner has claimed condonation of time over-run on incomplete and misconceived facts and has not submitted full details of time over-run. MPPMCL has submitted that the petitioner instead of giving chronological details of proceedings with Satna Collector has given details of all events related to all district authorities. It is evident from the details submitted that requests submitted by PGCIL to Collector, Satna on 24.9.2011 and 8.6.2012 are for different locations. It has been nowhere mentioned what correspondence was made with Satna district authorities between 24.9.2011 to 8.6.2012 and from 8.6.2012 to 20.6.2013. The details submitted by the petitioner regarding action taken in case of Satna district reveals that all possible quick response has been made by the District and Police administration. The petitioner has failed to establish that reasons for time over-run were beyond its control and therefore the prayer for condonation of delay is liable to be rejected.

23. The petitioner has submitted that the time over-run of 13 months in case of Asset-F is due to delay in COD of the associated bays at Gwalior Sub-station due to time over-run in case of the associated 764 kV S/C Satna-Gwalior Line-I. The line



reactor at Gwalior Sub-station was part of the line and was being installed for compensating the reactive power of the line to control the voltage. However, in order to control overvoltage conditions at various sub-stations in the Western grid, CEA has given in principle approval for use of line reactors as bus reactors to PGCIL till the associated line is put into commercial operation. Therefore, Asset-F was declared under commercial operation on 1.1.2014, till readiness of 765 kV S/C Satna-Gwalior Line-1 to control overvoltage conditions in Gwalior and the same was ratified in 37th SCM. As the time over-run in COD of the instant asset was due to delay in associated transmission line, which was beyond the control of the petitioner, the petitioner has prayed to condone the time over-run and allow the tariff as claimed for in the petition.

24. MPPMCL has submitted that MoM of 37th SCM does not give a blanket approval of the time over-run. The documents placed in support of its claim by the petitioner shows that proposal for commissioning was submitted to CEA by the petitioner on 23.12.2013 which was approved by CEA within a week i.e. on 31.12.2013. The asset was not ready for COD before 23.12.2013 and hence, there is a delay of 13 months. The petitioner has not disclosed the real facts and has requested not to condone the time over-run on irrelevant facts and grounds. The request of petitioner in respect of condonation of delay is devoid of merit and is liable to be rejected.

25. The petitioner has submitted that the time over-run in case of the line reactor and the associated bays at Gwalior Sub-station at Gwalior is on account of time over-run in case of the associated 765 kV S/C Gwalior-Jaipur Line-1 Reactor which was being installed for compensating the reactive power of the line to control the



voltage. The time over-run in case of the line reactor was on account of delay in getting forest clearance for associated transmission line. However, in order to control overvoltage conditions at various sub-stations in the Western Grid, CEA has given in principle approval for use of line reactors as bus reactors to the petitioner till the associated line is commissioned. Therefore, Asset-F was declared under commercial operation on 1.3.2014, till readiness of 765 kV Gwalior-Jaipur Line -1 to control overvoltage conditions in Gwalior and the same was ratified in 37th SCM. The petitioner has further submitted that the delay in case of 765 kV Gwalior-Jaipur Line-I has already been condoned by the Commission in order dated 31.5.2016 in Petition no. 71/TT/2015 on consideration of the justification given by the petitioner. The same principle is applicable in the present case. The petitioner has requested to condone the time over-run in case of Asset-G and allow the tariff as claimed in the petition. The petitioner has further submitted that the time over-run in the instant case is due to the reasons beyond the control of the petitioner and has requested to condone the time over-run.

26. MPPMCL has submitted that the documents placed by the petitioner show that the request for commissioning of the Gwalior-Jaipur line was made by the petitioner to CEA on 18.12.2014, which is after a delay of 15 months of SCOD, and it was approved on 27.2.2014. The petitioner has not established that the Asset-G was ready for commissioning on SCOD but was not put into commercial operation for the reasons mentioned by the petitioner. The petitioner has referred to the Commission's order dated 31.5.2016 in Petition No.71/TT/2015, while justifying the delay in time over-run. However, the instant case is not similar to the case referred, as the reasons for delay in COD of Gwalior-Jaipur line-1 was checked prudently. MPPMCL has further submitted that the petitioner has not placed sufficient



justification for time over-run of Asset-G. Therefore, the request for condonation of time over-run is liable to be rejected and accordingly IEDC and IDC may also be revised considering these facts.

27. In response, the petitioner in its rejoinder dated 28.2.2018 has submitted that the time over-run in case of the instant assets is mainly due to RoW issues and delay in land acquisition which were beyond the control of the petitioner and hence requested to condone the time over-run.

28. BRPL has made the following submissions with regard to time over-run:-

a) "The Commission in order dated 17.7.2015 in Petition No. 295/TT/2013 did not condone the time over-run of 15 months in case of the 765 kV S/C Satna-Gwalior Line-I indicating inadequacy of the information related to the time period prescribed in the schedule of completion i.e. 32 months in IA. The petitioner has now changed his reasoning and blaming the delay of 15 months to land acquisition and the ROW issues. The reasoning and the change in stance and the excuses given are unbelievable. The issues like land acquisition and ROW are being encountered usually during the construction of the transmission projects and all these aspects are kept in view while deciding the schedule for completion period of the projects. The entire cost of time over-run including the IDC and the IEDC during the period of time overrun in respect of the asset is required to be borne by the petitioner.

b) The other issue raised by the petitioner is related to the delay of 13 months in the 3x80 MVAR Line reactor along with associated bays at Gwalior Sub-station(765 kV S/C Satna-Gwalior line-I). The petitioner has claimed that the line reactor was part of the line to control the voltage. However, the



petitioner is claiming that the line reactor is being used as bus reactor till the COD of the associated line and is claiming the commercial operation on 1.1.2014 because of the alleged over-voltage conditions at various sub-stations in the Western Grid but there is nothing in the petition indicating over-voltage from WRLDC who are monitoring the operation grid. The petitioner has already filed an appeal against the order dated 22.6.2015 in Petition No. 42/TT/2013 and order dated 30.6.2015 in Petition No. 99/TT/2013 of the Commission rejecting the claim of the petitioner for use of line reactor as bus reactor for controlling over-voltage conditions. APTEL in its judgment dated 18.1.2018 in Appeal Nos. 198 of 2015 and 6 of 2016 has dismissed the appeal of the petitioner upholding the views of the Commission. Thus, there is no substance in the contention of the petitioner in so far as the commercial operation for the purpose of tariff is concerned.

29. The petitioner in its written submissions vide affidavit dated 11.4.2018 has reiterated the submissions made in the petition regarding time over-run. Some of the reasons given by the petitioner for the time over-run in the written submissions are as under:-

a) There was stiff resistance in the land acquisition process for the construction of the VPS and the petitioner was carrying on all the works simultaneously. Even though the IA in the present case was dated 17.3.2010, the petitioner was awarded the LOIs for construction of the line only vide LOA dated 9.12.2010 i.e. nearly after 10-12 months of the I.A., when the petitioner had made substantial progress in the land acquisition process of the VPS and became certain that the land would become available to the petitioner.



b) The Commission has dealt with the issue of time over-run in the case of the VPS in order dated 31.5.2016 in Petition No. 71/TT/2015, wherein, the Commission condoned the time over-run till 2.4.2015 in case of the VPS as it was due to reasons beyond the control of the petitioner. The COD of Satna-Gwalior line was 1.4.2014 much before the COD of the VPS.

c) The Commission has held in several tariff orders that the time taken to obtain land on account of ROW issues cannot be attributed to the petitioner and ought to be considered as a reason for condoning the time over-run.

d) BRPL has chosen not to deal with any of the contentions of the petitioner on the merits of the time over-run. Neither the view taken by the Commission in the order dated 31.5.2016 related to VPS nor the documents pertaining to ROW have been dealt with by BRPL. Instead, BRPL has only contended that the petitioner while deciding the implementation schedule in its IA dated 17.3.2010 ought to have taken into account all aspects while fixing the time line for completion of the project. The petitioner cannot fix an unrealistic timeline of 10 years to complete every project. The petitioner fixes the time line anticipating some eventualities but every ROW issue cannot be anticipated by the petitioner.

e) The time over-run of 15 months in case of the instant assets was mainly on account of land acquisition of VPS and RoW issues. The period of 28 months delay was condoned by the Commission vide order dated 31.5.2016 in Petition No. 71/TT/2015 regarding VPS. The time taken by the petitioner in the Satna-Gwalior line is co-extensive with the period taken by the petitioner for putting the VPS into commercial operation. However, the petitioner expedited the



Satna-Gwalior line and put the same into commercial operation on 1.3.2014 i.e. prior to the COD of VPS on 2.4.2015.

f) The reason for early COD of the Satna-Gwalior line was not a unilateral decision of the petitioner but due to the demand of all the constituents of the Western Region grid. The Satna-Gwalior line is in regular service since 1.3.2014 and has got connected to the VPS after 2.4.2015

g) BRPL has wrongly relied on the judgment dated 27.4.2011 passed by the Appellate Tribunal in the matter of MSPGCL v. MERC & Ors. The present case of the petitioner falls under situation (ii).

h) There is no imprudence in selection of contractor or award of LOI or making land available to the contractor. The petitioner is a transmission licensee and never acquires the land for laying down the transmission towers. The ROW issues encountered are sought to be resolved in an expeditious manner by the petitioner. However, there is no imprudence on the part of the petitioner in taking any action. Therefore, the case of the petitioner is governed by situation (ii) and not situation (i) of the APTEL's judgement dated 27.4.2011.

i) Asset F is a line reactor at Gwalior Sub-station (765 kV S/C Satna-Gwalior Line-I). A line reactor is part of the line and is generally installed for compensating the reactive power of the line to control the voltage. However, an analysis of the voltage profile of 765 kV Gwalior I & II line at Bina prior to the commissioning of Satna-Gwalior line shows that the voltage remained above 800 kV. Therefore, principle approval by Central Electricity Authority (CEA) was obtained to use all line reactors as bus reactors till the lines are put into



commercial operation as it shall provide flexibility for controlling over voltages at various sub-stations in Western Grid. Further, the bus reactors need to be restored as line reactors with the COD of Satna-Gwalior line. Thus, Asset-F was declared under commercial operation on 1.3.2014. The same was also approved by all the constituents in the Western Region in the WRPC Meeting and once the said line reactors were restored from bus reactors the constituents were duly informed in the meeting of WRPC held on 8.1.2016.

j) BRPL has contended that the Appellate Tribunal in its Judgment dated 18.1.2018 in Appeal No.198 of 2015 has held that line reactors being used as bus reactors are not for intended use and cannot be considered as having achieved COD. The said judgment has no application in the facts of the present case when the CEA gave a specific approval to pre-commission the line reactors and use them as bus reactors till the COD of the lines vide letter dated 31.12.2013. This was also approved in the WRPC Meeting dated 5.9.2014. Further, there is actual proof that after COD of the bus reactors on 1.3.2014, the voltage profile at Bina improved substantially. The Commission also has accepted this principle in its Order dated 21.12.2015 in 21/RP/2015 filed by the petitioner.

k) BRPL in its reply has wrongly interpreted the judgment dated 18.1.2018 in Appeal No. 198 of 2015 passed by APTEL wherein it was held that the line reactor cannot be declared under commercial operation until the COD of the associated transmission line. However, it was appreciated by APTEL in the above judgment that the bays and line reactors cannot be considered ready for regular use without the availability of the transmission line for which the line



reactors were envisaged. In the present case, the line reactor was asked to be used as bus reactor to control the overvoltage condition and was therefore already in regular use from 1.1.2014. If this is not approved, the additional IDC and IEDC for 2 months (from 1.1.2014 to 1.3.2014) will get capitalized and recovered through tariff, which will not be in the interest of either BRPL or its consumers.

l) The submissions made in case of the line reactor at Satna-Gwalior line is applicable to the 3 x 80 MVAR line reactor and bays at the Gwalior Sub-station, which was dealt with by the Commission in order dated 31.12.2015 in Petition No. 192/TT/2015. The COD was achieved on 1.3.2014 pursuant to the CEA approval dated 31.12.2013.

30. The petitioner was directed to submit the reasons for the time over-run and chronology of the time over-run alongwith documentary evidence. In response, petitioner vide affidavit dated 19.4.2018 has submitted as under:-

Srl. No	Asset	Reasons for delay	Start	Scheduled end	Actual end	Remarks
1	Asset-A	Delay in Forest clearance	17.10.2010	1.12.2012	1.1.2013	Delay condoned vide order dated 4.9.2014 in Petition No. 86/TT/2012
2	Asset-B		17.10.2010	1.12.2012	1.1.2013	
3	Asset-C	Retendering of packages	17.10.2010	1.12.2012	1.4.2013	Delay disallowed vide order dated 18.3.2016 in Petition No. 113/TT/2013
4	Asset-D	Retendering of packages and ROW issues	17.10.2010	1.12.2012	1.1.2014	
5	Asset-E	Delay in land acquisition at VPS	17.10.2010	1.12.2012	1.3.2014	Detailed reasons submitted in petition.
		ROW issues				
6	Asset-F	To match with associated 765kV S/C Satna-Gwalior TL	17.10.2010	1.12.2012	1.1.2014	Detailed reasons for time over-run delay submitted in petition.
7	Asset-G	To match with associated 765kV S/C Gwalior-Jaipur TL	17.10.2010	1.12.2012	1.3.2014	Detailed reasons for time over-run delay submitted in petition.



31. We have considered the submissions made by the petitioner and the respondents. The time over-run in case of Assets-A, B and C has already been condoned and the time over-run in case of Asset-D has already been dealt in order dated 18.3.2016 in Petition No. 113/TT/2013 and as such the time over-run in case of Assets-A, B, C and D is not dealt in this order. The time over-run in case of Assets-E, F and G is dealt in the following paragraphs.

Asset E

32. There was time over-run of 15 months in case of Asset-E, i.e. Satna-Gwalior line alongwith associated bays at Satna Sub-station and line reactor. The Commission vide order dated 17.7.2015 in Petition No.295/TT/2013 had disallowed the total delay of 15 months and the petitioner was given the liberty to approach the Commission with appropriate justification at the time of truing-up. The petitioner vide affidavit dated 7.9.2017 submitted that due to uncertainties in acquisition of land for VPS, the awards of both the transmission lines of Vindhyachal-Satna and Satna-Gwalior were held up. The petitioner has also submitted award dates. The petitioner has claimed that the 765 kV Vindhyachal-Satna and Satna-Gwalior lines were delayed mainly due to 765/400 kV VPS. The Commission in its order dated 17.7.2015 in Petition No. 295/TT/2013 observed that the time over-run will be considered at the time of truing-up. The relevant portion of the order is extracted hereunder:-

“16. We have considered the submission of the petitioner and the respondents. The petitioner has claimed that delay occurred due to time taken in forest clearance. However, it is not possible to assess the impact of the delay in getting the forest clearance on project implementation, as it is difficult to assess the time the petitioner considered for forest clearance while deciding schedule of 32 months at the time of planning. It has been observed that the petitioner took 17 months for applying for forest clearance, for which no justification/reason has been given. The petitioner has not submitted how much time was envisaged for this activity in original schedule. Further, the petitioner cannot claim that route was not final for applying for forest



clearance because the petitioner applied for forest clearance in August, 2011 whereas the re-routing was done in May, 2012. The petitioner could have applied for first stage forest clearance immediately after I.A. based on preliminary survey and the project could have been commissioned in time even after delay in availability of forest clearance. So in the absence of reasons for delay in applying for forest clearance, delay of 15 months is not being condoned as of now. We will consider the claim of the petitioner if the aforesaid information is furnished, at the time of truing up.”

33. The petitioner has submitted that there was stiff resistance in the land acquisition process for the construction of the Vindhyachal Pooling Station and the petitioner was carrying on all the works simultaneously. Even though the I.A. was approved on 17.3.2010, the LOIs for construction of the line was granted vide LOA dated 9.12.2010 i.e. after 10-12 months when the petitioner had made substantial progress in the land acquisition process of the VPS and it became certain that the land would become available to the petitioner. We are of the view that time over-run of 15 months in case of Asset-E was on account of delay in land acquisition at VPS from February, 2010 to December, 2014 and RoW issues from May, 2011 to February, 2014 which is beyond the control of the petitioner. Hence, we condoned the time over-run of 15 months in case of Asset-E.

Asset F

34. There is time over-run of 13 months in case of Asset-F, i.e. 3X80 MVAR 765 kV line reactor alongwith associated bays at Gwalior Sub-station for Satna-Gwalior Line. The petitioner has submitted that the time over-run is mainly on account of time over-run in case of the associated 765 kV S/C Satna-Gwalior line-I. The line reactor was part of the line and was to be installed for compensating the reactive power of the line to control the voltage. The same was ratified in 37th SCM. The time over-run in case of the line reactor was because of delay in COD of associated transmission line due to forest clearance and other factors.



35. The line reactor alongwith the associated bays at Gwalior Sub-station are meant for Satna-Gwalior Line-I and the bays at Gwalior Sub-station are dependent on the said line. As the time over-run in case of the said line has been condoned in the instant petition (at para 33), the time over-run of 13 months in case of Asset-F is accordingly condoned.

Asset-G

36. There is a time over-run of 15 months in case of Asset-G, i.e. the 3X80 MVAR 765 kV line reactor alongwith associated bays at Gwalior Sub-station (for 765 kV S/C Gwalior-Jaipur Ckt-I). The time over-run of 15 months was not condoned in order dated 31.12.2015 in Petition No. 192/TT/2014 and the petitioner was directed to come with proper justification at the time of truing-up. The relevant portion of the order dated 31.12.2015 is extracted hereunder:

“18. We have considered the submissions made by the petitioner regarding the time over-run on account of delay in execution of some other assets, which is not a subject-matter of the instant petition and therefore, the merits of the same have not been looked into. We are, therefore, in the instant order, not inclined to condone the delay of 15 months. However, liberty is granted to the petitioner to place the matter for final view at the time of truing up. In view of above, IDC and IEDC corresponding to delay of 15 months is adjusted in the capital cost.”

In the instant petition, the petitioner has submitted that the delay is mainly on account of delay in COD of the associated 765 kV Gwalior-Jaipur line-I and the instant line reactor was part of the line and was installed for compensating the reactive power of the line to control the voltage. The same was ratified in 37th SCM. The delay in COD of the line reactor was because of delay in getting forest clearance for associated transmission line. The Commission in order dated 31.5.2016 in Petition No. 71/TT/2015 condoned the time over-run in case of 765 kV



Gwalior-Jaipur line-I. The relevant portion of the order dated 31.5.2016 is extracted hereunder:-

“23. We have considered the submission of the petitioner w.r.t the time overrun in the transmission assets due to delay in land acquisition, delay in forest clearance and further delay due to litigations filed by the land owners. Based on the reasons explained above and the documentary evidences submitted by the petitioner, we are of the view that the delay in commissioning of the assets was beyond the control of the petitioner and hence the time overrun in the instant assets is condoned.”

37. The COD of the line reactor alongwith the bays at Gwalior Sub-station is dependent on the COD of the 765 kV S/C Gwalior-Jaipur (Ckt-I). The time over-run in case of the said line has already been condoned in order dated 31.5.2016 in Petition No.71/TT/2015 as it was due to delay in getting forest clearance. As the time over-run in case of the said line has already been condoned, we condone the time over-run of 15 months in case of Asset-G.

38. Based on the discussion in foregoing paragraph, the time-run in case of Assets-E, F and G are condoned. In case of Asset-D, as per order dated 18.3.2016 in Petition No.113/TT/2013 out of the total time over run of 13 months, 8 months is condoned and remaining time over-run of 5 months is disallowed.

Interest During Construction (IDC)

39. The petitioner has claimed IDC as per Auditor certificate and has also submitted IDC statement showing the loan wise IDC discharged up to COD and discharged after COD. The petitioner has claimed IDC on foreign loan for Assets-D, E and F. The petitioner was directed to submit the legible copy of interest rate in support of IFC A, B and ICFF loan. In response, the petitioner has submitted the information and the submitted IDC computation sheet do not contain the exchange rates. Therefore, based on the available information, i.e. loan details mentioned in



Form-13 and the IDC computation sheet as submitted by the petitioner, the allowable IDC has been worked out for the individual assets separately on cash basis after considering the time over run period.

40. It is observed that the claimed IDC is less than the IDC worked out based on the information provided by the petitioner for Assets-A, B, C and E. However, the petitioner has not provided any explanations for the deviation, hence the claimed IDC are considered for these assets. For Asset-D, the IDC has been restricted for the not condoned time over-run period. Further, the petitioner has not submitted the flow of liability in Form 4A for the Asset-D. Due to this, the discharge of IDC liability is not verifiable. Hence, the discharge of IDC liability for 2013-14 claimed as additional capital expenditure is not considered for Asset D.

41. In case of Assets-F and G, the IDC worked out is less than IDC claimed. Hence, the IDC worked out is considered for tariff. Based on the above, the asset-wise IDC claimed by the petitioner and allowable IDC as worked out are summarized below:-

Particulars	IDC Claimed as per the Auditor's Certificate	Entitled IDC as on COD as worked out	IDC disallowed as on COD due to computation difference and time overrun	Un-discharged portion of Entitled IDC as on COD	IDC Allowed on cash basis as on COD
a	b	c	d=b-c	e	f=b-d-e
Asset-A	716.56	716.56	0.00	69.38	647.18
Asset-B	82.94	82.94	0.00	27.50	55.44
Asset-C	6.42	6.42	0.00	6.42	0.00
Asset D	1109.00	871.39	237.61	28.26	843.13
Asset E	4935.94	4935.94	0.00	0.00	4935.94
Asset F	485.67	483.54	2.13	36.99	446.55
Asset G	383.44	355.23	28.21	4.48	350.75
Total	7719.97	7452.01	267.96	173.03	7278.98



FERV

42. The petitioner was directed to clarify whether the claimed capital cost includes FERV component for any of the assets. In response, the petitioner has submitted that the claimed capital cost includes FERV component for the Assets-D, E and F under the instant petition, however, the same could not be mentioned in the footnote of the audited certificate inadvertently. In this regard the petitioner neither mentioned the FERV amount nor provided revised auditor certificate with footnote. Further, the petitioner has not mentioned this information in Form 4A. The petitioner vide ROP of the hearing dated 15.3.2018 was directed to submit the Form-5B for all the assets for the period 2009-14. The petitioner has submitted that the Form-5B for all the assets for the period 2009-14 have already been submitted in their respective POC petitions and the same have been considered. The Form 5B submitted at the time of claiming final tariff petitions are not considered, since the cost claimed and the liability mentioned in those Form 5B are differing with the amount claimed in the instant true up petition. The petitioner is directed to submit the Form 5B for all the assets with updated information irrespective of the fact whether the same was submitted at the time of claiming final tariff or not. In the absence of Form 5B and the details of FERV, it is difficult to verify the FERV amount included in the capital cost.

Incidental Expenditure During Construction (IEDC)

43. The percentage of IEDC on Hard Cost as indicated in the Abstract Cost Estimate as per original investment approval i.e. 5% in the current petition has been considered as the maximum limit for allowing IEDC. Thus, IEDC claimed is within this limit for all the individual assets. However, the pro-rata IEDC for Asset-D has been restricted for the un-condoned time over-run period. The asset wise details of



claimed and allowed IEDC are as under:-

(₹in lakh)

Asset	Treatment of IEDC	
	Claimed	Allowed
Asset-A	0.00	0.00
Asset-B	0.00	0.00
Asset-C	0.00	0.00
Asset-D	153.02	136.02
Asset-E	100.91	100.91
Asset-F	17.08	17.08
Asset-G	12.50	12.50
Total	283.51	266.51

Initial spares

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

Transmission Sub-station	2.5%
Transmission line	0.75%

45. MPPMCL has submitted that initial spares may be allowed after finalizing the capital cost and prudence check. The petitioner has adjusted the excess initial spares in one asset against savings in another asset and then in expenditure as on COD of respective asset for calculation of tariff. MPPMCL has further submitted that sub-station and transmission line are two different types of assets and that is why the Commission has fixed separate norms for these. The offsetting excess amount in case of transmission line in sub-station or vice-versa will be against the letter and spirit of regulations in force. Accordingly, the respondent has requested to disallow offsetting of excess claim of sub-station initial spares against savings in transmission line.



46. In response, petitioner vide its rejoinder dated 28.2.2018 submitted that the argument of the respondent regarding excess initial spares of the assets under instant petition is completely unsound. The petitioner has not adjusted excess initial in any asset savings in another asset for calculation of tariff. Though there is total savings of ₹25.39 lakh in other assets, the petitioner has not claimed the excess initial spares in any asset under subject petition. Further, the argument that the petitioner has adjusted excess initial spares of transmission lines in sub-station is also untrue. The initial spares have been claimed under instant petition in terms of the 2009 Tariff Regulations and requested to allow the initial spares as claimed under the instant petition.

47. We have considered the submission of petitioner and respondents. The petitioner has not claimed any initial spares for Asset-A and Asset-B. The petitioner has claimed initial spares pertaining to sub-station and transmission line for Asset-C, Asset-D, Asset-E, Asset-F and Asset-G. The capital cost allowed up to cut-off date has been considered and allowed as per ceiling limits specified in the 2009 Tariff Regulations. The details of the initial spares claimed and allowed for the instant assets are summarized in the table below:-

(₹ in lakh)

Assets	Element	Total Cost as on available Cutoff date	Initial Spares Claimed	Ceiling Limits as per 2009 Tariff Regulations	Initial Spares worked out	Total Excess Initial spares
Asset-A	Not Claimed					
Asset-B	Not Claimed					
Asset-C	S/S	683.01	16.99	2.5%	17.08	--
Asset-D	S/S	875.57	46.14	2.5%	21.27	24.87
	T/L	11277.74	80.05	0.75%	84.62	--
Asset-E	S/S	3943.59	89.64	2.5%	98.82	--
	T/L	63448.12	439.58	0.75%	476.14	--
Asset-F	S/S	3414.55	83.00	2.5%	85.42	--
Asset-G	S/S	3300.51	93.03	2.5%	82.24	10.79



Capital Cost allowed as on COD

48. Details of the capital cost considered on COD for computation of tariff are as under:-

(₹ in lakh)						
Asset	Capital cost as on COD claimed by Petitioner	IDC disallowed due to time over run and computational difference	Un-discharged IDC as on COD	IEDC disallowed on COD.	Excess Initial Spare	Capital Cost as on COD considered for tariff calculation
1	2	3	4	5	6	7= (2-3-4-5-6)
Asset-A	8927.06	0.00	69.38	0.00	0.00	8857.68
Asset-B	1143.21	0.00	27.50	0.00	0.00	1115.71
Asset-C	479.08	0.00	6.42	0.00	0.00	472.66
Asset D	11403.40	237.61	28.26	17.00	0.00	11120.52
Asset E	59853.66	0.00	0.00	0.00	0.00	59853.66
Asset F	2753.58	2.13	36.99	0.00	0.00	2714.46
Asset G	2608.32	28.21	4.48	0.00	0.00	2575.63
Total	87168.31	267.96	173.03	17.00	0.00	86710.32

Additional Capital Expenditure (ACE)

49. The ACE has been considered as per the provisions of Regulation 9(1) of the 2009 Tariff Regulations. The petitioner has submitted that the ACE claimed is mainly on account of undischarged liability towards final payment/withheld payment due to contractual exigencies for works executed within the cut-off date. The ACE submitted by the petitioner vide affidavit dated 7.9.2017 and Auditor certificate dated 22.5.2017 for Asset-A, dated 22.5.2017 for Asset-B, dated 23.2.2017 for Asset-C, dated 30.11.2016 for Asset-D, dated 4.6.2016 for Asset-E, dated 4.6.2016 for Asset-F and dated 23.2.2017 for Asset-G has submitted the details of ACE incurred during various period and also submitted the details in Form-9. Based on above Auditor certificate and Form-9, the ACE claimed by the petitioner is as under:-



(₹in lakh)

Asset-A					
Srl. No.	Year	Work/Equipment proposed to be added after COD upto cut- off date/beyond cut-off date	Amount capitalised and proposed to be capitalised	Justification	Regulation
1	2012-13	Transmission line	402.56	Balance & Retention payment + Accrual IDC discharged in 2012-13	9(1)(i)
2	2013-14	Transmission line	305.08	Balance & Retention payment + Accrual IDC discharged in 2013-14	9(1)(i)
Asset-B					
1	2012-13	Transmission line	22.73	Balance & Retention payment + Accrual IDC discharged in 2012-13	9(1)(i)
2	2013-14	Transmission line	74.17	Balance & Retention payment + Accrual IDC discharged in 2013-14	9(1)(i)
Asset-C					
1	2013-14	Sub-station	43.69	Balance & retention payment	9(1)(i)
2			6.42	Accrual IDC discharged in 2013-14	
3			73.81	works deferred for execution	9(1)(ii)
Asset-D					
1	2013-14	Transmission line	202.35	Balance/Retention payment +Accrual IDC discharged during 2013-14	9(1)(i)
2		Sub-station	15.37		
3		PLCC	0.97		
Asset-E					
1	2013-14	Transmission line	1426.92	Balance & Retention payment + Accrual IDC discharged in 2013-14	9(1)(i)
2		Sub-station	32.29		
Asset-F					
1	2013-14	Sub-station	49.46	Balance & Retention payment	9(1)(i)
			7.47	Accrual IDC discharged in 2013-14	
			42.01	works deferred for execution	
Asset-G					
1	2013-14	Sub-station	36.71	Balance & Retention payment	9(1)(i)



50. The cut-off date in case of Assets-A, B, C, D, E, F and G is 31.3.2016, 31.3.2016, 31.3.2016, 31.3.2017, 31.3.2017, 31.3.2017 and 31.3.2017 respectively. The undischarged IDC is allowed as add cap in respective years. The details of ACE allowed is as under:-

(₹ in lakh)

Assets	2012-13			2013-14		
	ACE as per CA certificate	IDC discharge	Allowed	Add cap as per CA certificate	IDC discharge	Allowed add cap
Asset-A	336.87	65.69	402.56	301.4	3.68	305.08
Asset-B	12.20	10.53	22.73	57.19	16.97	74.16
Asset-C	0.00	0.00	0.00	117.50	6.42	123.92
Asset-D	0.00	0.00	0.00	152.20	0.00	152.20
Asset-E	0.00	0.00	0.00	1459.21	0.00	1459.21
Asset-F	0.00	0.00	0.00	91.47	7.47	98.94
Asset-G	0.00	0.00	0.00	36.71	4.48	41.19
Total	349.07	76.22	425.29	2215.68	39.02	2254.70

Capital Cost summary from COD to 31.3.2014

51. Based on the above, the summary of capital cost considered for tariff from COD to 31.3.2014 is given below:-

(₹ in lakh)

Particulars	Capital cost allowed as on COD	Add cap for 2012-13	Add cap for 2013-14	Capital cost allowed as on 31.3.2014.
Asset-A	8857.68	402.56	305.08	9565.32
Asset-B	1115.71	22.73	74.16	1212.60
Asset-C	472.66	0.00	123.92	596.58
Asset-D	11120.52	0.00	152.20	11272.72
Asset-E	59853.66	0.00	1459.21	61312.87
Asset-F	2714.46	0.00	98.94	2813.40
Asset-G	2575.63	0.00	41.19	2616.82
TOTAL	86710.32	425.29	2254.70	89390.31

Debt: Equity Ratio

52. The petitioner has claimed true-up annual fixed charge based on debt- equity ratio of 70:30 admitted as on COD in orders dated 4.9.2014 in Petition No.



86/TT/2012, 18.3.2016 in Petition No. 113/TT/2013, 17.7.2015 in Petition No. 295/TT/2013 and order dated 31.12.2015 in Petition No. 192/TT/2014. The debt:equity ratio of 70:30 as on COD is considered for the purpose of truing-up of the approved tariff for the period 2009-14 as provided under Regulation 19 of the 2009 Tariff Regulations. The details of debt:equity of the instant assets as on COD is as under:-

(₹ in lakh)

Particulars	Asset-A		Asset-B		Asset-C		Asset-D	
	Amount	(%)	Amount	(%)	Amount	(%)	Amount	(%)
Debt	6200.38	70.00	781.00	70.00	330.87	70.00	7784.37	70.00
Equity	2657.30	30.00	334.71	30.00	141.79	30.00	3336.16	30.00
Total	8857.68	100.00	1115.71	100.00	472.66	100.00	11120.52	100.00

(₹ in lakh)

Particulars	Asset-E		Asset-F		Asset-G	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	41897.57	70.00	1900.12	70.00	1802.94	70.00
Equity	17956.09	30.00	814.34	30.00	772.69	30.00
Total	59853.66	100.00	2714.46	100.00	2575.63	100.00

53. The debt:equity ratio of 70:30 and as on 31.3.2014 considered for the purpose of truing-up of the approved tariff for the period 2009-14 is as under:-

(₹ in lakh)

Particulars	Asset-A		Asset-B		Asset-C		Asset-D	
	Amount	(%)	Amount	(%)	Amount	(%)	Amount	(%)
Debt	6695.72	70.00	848.82	70.00	417.61	70.00	7890.91	70.00
Equity	2869.60	30.00	363.78	30.00	178.97	30.00	3381.82	30.00
Total	9565.32	100.00	1212.60	100.00	596.58	100.00	11272.72	100.00

(₹ in lakh)

Particulars	Asset-E		Asset-F		Asset-G	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	42919.01	70.00	1969.38	70.00	1831.77	70.00
Equity	18393.86	30.00	844.02	30.00	785.04	30.00
Total	61312.87	100.00	2813.40	100.00	2616.82	100.00

Return on Equity (ROE)

54. The petitioner has submitted the MAT rate applicable during the various years. RoE has been worked out by considering year wise MAT rate submitted by the petitioner in accordance with Regulation 15 of the 2009 Tariff Regulations. The



variation in the tax rate during the 2009-14 tariff period applicable to the petitioner as per the Finance Act, 1961 of the relevant year for the purpose of grossing up of ROE is as under:-

Year	MAT Rate (in %)	Grossed up ROE (Base rate/(1-t) (in %))
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

55. The trued up ROE allowed for the instant transmission assets under Regulation 15 of the 2009 Tariff Regulations is as follows:-

(₹ in lakh)

Particulars	Asset-A		Asset-B		Asset-C
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14	2013-14
Opening Equity	2657.30	2778.07	334.71	341.53	141.79
Addition due to Add Cap	120.77	91.52	6.82	22.25	37.17
Closing Equity	2778.07	2869.60	341.53	363.78	178.97
Average Equity	2717.69	2823.83	338.12	352.66	160.38
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate	20.0080%	20.961%	20.0080%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	19.377%	19.610%	19.377%	19.610%	19.611%
Return on Equity (Pre Tax)	131.65	553.75	16.38	69.16	31.45

(₹ in lakh)

Particulars	Asset-D	Asset-E	Asset-F	Asset-G
	2013-14 (pro-rata)	2013-14 (pro-rata)	2013-14 (pro-rata)	2013-14 (pro-rata)
Opening Equity	3336.16	17956.09	814.34	772.69
Addition due to Add Cap	45.66	437.76	29.68	12.36
Closing Equity	3381.82	18393.86	844.02	785.04
Average Equity	3358.99	18174.98	829.18	778.87
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%
Tax rate	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	19.611%	19.611%	19.611%	19.611%
Return on Equity (Pre Tax)	164.68	297.02	40.65	38.19

Interest on Loan (IOL)

56. The petitioner has claimed the IOL based on actual interest rates for each year during the 2009-14 period. We have considered the submissions of the petitioner



and accordingly calculated the IOL based on gross amount of normative loan and normative repayment of installments and rate of interest submitted by the petitioner, in accordance with Regulation 16 of the 2009 Tariff Regulations.

57. In the calculations, the IoL has been worked out as detailed below:-

(i) Gross amount of loan, repayment of installments and rate of interest weighted average rate of interest on actual average loan have been considered as per the petition.

(ii) The repayment for the tariff period 2009-14 has been considered to be equal to the depreciation allowed for that period.

58. The details of weighted average rate of interest are given in **Annexure-I to VII** and the IOL has been worked out and allowed as provided under Regulation 16 of the 2009 Tariff Regulations as under:-

(₹ in lakh)

Particulars	Asset-A		Asset-B		Asset-C
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14	2013-14
Gross Normative Loan	6200.38	6482.17	781.00	796.91	330.87
Cumulative Repayment up to Previous Year	0.00	119.58	0.00	14.88	0.00
Net Loan-Opening	6200.38	6362.59	781.00	782.03	330.87
Addition due to Additional Capitalization	281.79	213.56	15.91	51.91	86.75
Repayment during the year	119.58	496.99	14.88	62.07	28.23
Net Loan-Closing	6362.59	6079.15	782.03	771.88	389.38
Average Loan	6281.48	6220.87	781.51	776.95	360.12
Weighted Average Rate of Interest on Loan	9.18%	9.1495%	9.29%	9.2752%	9.01%
Interest	144.09	569.18	18.15	72.06	32.45

(₹ in lakh)

Particulars	Asset-D	Asset-E	Asset-F	Asset-G
	2013-14 (pro-rata)	2013-14 (pro-rata)	2013-14 (pro-rata)	2013-14 (pro-rata)
Gross Normative Loan	7784.37	41897.57	1900.12	1802.94
Cumulative Repayment up to Previous Year	0.00	0.00	0.00	0.00



Net Loan-Opening	7784.37	41897.57	1900.12	1802.94
Addition due to Additional Capitalization	106.54	1021.45	69.26	28.83
Repayment during the year	148.06	266.61	36.48	34.27
Net Loan-Closing	7742.85	42652.40	1932.90	1797.50
Average Loan	7763.61	42274.98	1916.51	1800.22
Weighted Average Rate of Interest on Loan	7.11%	7.96%	8.65%	10.20%
Interest	138.04	280.55	41.43	45.91

Depreciation

59. Depreciation was worked out in orders dated 4.9.2014 in Petition No. 86/TT/2012, 18.3.2016 in Petition No. 113/TT/2013, 17.7.2015 in Petition No. 295/TT/2013 and order dated 31.12.2015 in Petition No. 192/TT/2014 in accordance with Regulation 17 of the 2009 Tariff Regulations.

60. As per Regulations 3(42) and 17(4) of the 2009 Tariff Regulations, useful life for transmission line and sub-station is 35 years and 25 years, respectively. The actual COD of the instant assets is during 2012-13 and 2013-14. Hence, the instant assets will complete their useful life beyond 31.3.2014. Accordingly, The depreciation for the period 2009-14 has been worked out in accordance with Regulation 17 of the 2009 Tariff Regulations based on admitted capital expenditure as under:-

Particulars	(₹ in lakh)				
	Asset-A		Asset-B		Asset-C
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14	2013-14
Opening Gross Block	8857.68	9260.24	1115.71	1138.44	472.66
Addition during 2013-14	402.56	305.08	22.73	74.16	123.92
Closing Gross Block	9260.24	9565.32	1138.44	1212.60	596.58
Average Gross Block	9058.96	9412.78	1127.08	1175.52	534.62
Rate of Depreciation	5.2800%	5.2800%	5.2800%	5.2800%	5.2800%
Depreciable Value	8153.06	8471.50	1014.37	1057.97	481.16
Remaining Depreciable Value	8153.06	8351.92	1014.37	1043.09	481.16
Depreciation	119.58	496.99	14.88	62.07	28.23



Particulars	(₹ in lakh)			
	Asset-D 2013-14 (pro-rata)	Asset-E 2013-14 (pro-rata)	Asset-F 2013-14 (pro-rata)	Asset-G 2013-14 (pro-rata)
Opening Gross Block	11120.52	59853.66	2714.46	2575.63
Addition during 2013-14	152.20	1459.21	98.94	41.19
Closing Gross Block	11272.72	61312.87	2813.40	2616.82
Average Gross Block	11196.62	60583.27	2763.93	2596.22
Rate of Depreciation	5.2894%	5.2808%	5.2800%	5.2800%
Depreciable Value	10076.96	54524.94	2487.53	2336.60
Remaining Depreciable Value	10076.96	54524.94	2487.53	2336.60
Depreciation	148.06	266.61	36.48	34.27

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

61. The O&M Expenses claimed by the petitioner vide affidavit dated 7.9.2017 at the time of true-up for the assets covered under the instant petition is as under:-

(₹ in lakh)		
Assets	2012-13	2013-14
Asset A	8.13	34.37
Asset B	0.97	4.10
Asset C	0.00	65.46
Asset D	0.00	46.82
Asset E	0.00	34.10
Asset F	0.00	45.82
Asset G	0.00	15.27

62. MPPMCL has submitted that there is no provision in the 2009 Tariff Regulations for revising the normative O&M charges based on actual. The Commission has arrived at the O&M rates based on past five years actual O&M expenses which includes the wage hikes during the previous five years and 10% margin over and above the effective CAGR of O&M Expenses has been allowed. The beneficiaries are over-burdened due to the exorbitant O&M rates when compared to the rates of State transmission utilities. Therefore, the request for revision of O&M rates should not be allowed.



63. In response, petitioner has submitted that wage revision of the employees of the petitioner company is due during 2014-19 and actual impact of wage hike which will be effective from a future date has also not been factored in fixation of the normative O&M rates prescribed for the tariff block 2014-19. The scheme of wage revision applicable to CPSUs being binding on the petitioner, the petitioner would approach the Commission for suitable revision in the norms for O&M Expenses for claiming the impact of wage hike during 2014-19 onwards. Accordingly, prayer has been made by petitioner for approaching Commission for suitable revision in the norms for O&M Expenses for claiming the impact of wage hike, if any, during 2014-19 period. Hence the same may be considered.

64. We have considered the submissions of the petitioner and respondents. The O&M Expenses are allowed as provided under the 2009 Tariff Regulations. The O&M Expenses allowed for the instant assets are as under:-

(₹ in lakh)		
	2012-13	2013-14
Asset-A	8.13	34.37
Asset-B	0.97	4.10
Asset-C	0.00	65.46
Asset-D	0.00	46.82
Asset-E	0.00	34.10
Asset-F	0.00	45.82
Asset-G	0.00	15.27

Interest on working capital(IWC)

65. Sub-clause (c) of clause (1) of Regulation 18 of the 2009 Tariff Regulations provides 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.



(i) Maintenance Expenses

Maintenance spares have been worked out based on 15% of Operation and Maintenance expenses specified in Regulation 19.

(ii) O & M Expenses

O&M Expenses have been considered for one month of the allowed O&M Expenses as per order dated 7.10.2015 in Petition No. 112/TT2013.

(iii) Receivables

The receivables have been worked out on the basis of 2 months' of annual transmission charges as worked out above.

(iv) Rate of Interest on Working Capital

As per the 2009 Tariff Regulations rate of interest on working capital has been computed as follows:-

Particular	SBI Base Rate	Basis Point	Rate of Interest on Working Capital
Asset-A	10.00%	350	13.50%
Asset-B	10.00%	350	13.50 %
Asset-C	9.70%	350	13.20 %
Asset-D	9.70%	350	13.20 %
Asset-E	9.70%	350	13.20 %
Asset-F	9.70%	350	13.20 %
Asset-G	9.70%	350	13.20

66. The IWC trued up is asunder:-

Particulars	(₹ in lakh)				
	Asset-A		Asset-B		Asset-C
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14	2013-14
Maintenance Spares	4.88	5.16	0.58	0.62	9.82
O & M expenses	2.71	2.86	0.32	0.34	5.46
Receivables	275.33	282.25	34.38	35.38	27.20
Total	282.92	290.27	35.28	36.34	42.47
Interest	9.55	39.19	1.19	4.91	5.61



(₹ in lakh)

Particulars	Asset-D	Asset-E	Asset-F	Asset-G
	2013-14 (pro-rata)	2013-14 (pro-rata)	2013-14 (pro-rata)	2013-14 (pro-rata)
Maintenance Spares	28.09	61.38	27.49	9.16
O & M expenses	15.61	34.10	15.27	5.09
Receivables	340.18	1798.22	113.02	91.42
Total	383.88	1893.70	155.78	105.67
Interest	12.67	20.83	5.14	3.49

ANNUAL TRANSMISSION CHARGES FOR 2009-14 TARIFF PERIOD

67. The detailed computation of the various components of the trued up annual transmission charges for the assets for the tariff period 2009-14 is summarized below:-

(₹ in lakh)

Particulars	Asset-A		Asset-B		Asset-C
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14	2013-14
Depreciation	119.58	496.99	14.88	62.07	28.23
Interest on Loan	144.09	569.18	18.15	72.06	32.45
Return on Equity	131.65	553.75	16.38	69.16	31.45
Interest on Working Capital	9.55	39.19	1.19	4.91	5.61
O & M Expenses	8.13	34.37	0.97	4.10	65.46
Total	413.00	1693.49	51.57	212.29	163.20

(₹ in lakh)

Particulars	Asset-D	Asset-E	Asset-F	Asset-G
	2013-14 (pro-rata)	2013-14 (pro-rata)	2013-14 (pro-rata)	2013-14 (pro-rata)
Depreciation	148.06	266.61	36.48	34.27
Interest on Loan	138.04	280.55	41.43	45.91
Return on Equity	164.68	297.02	40.65	38.19
Interest on Working Capital	12.67	20.83	5.14	3.49
O & M Expenses	46.82	34.10	45.82	15.27
Total	510.27	899.11	169.53	137.12

Determination of Annual Transmission Charges for 2014-19

68. The tariff for the instant transmission assets up to 2009-14 tariff period has been trued-up based on the actual COD of individual elements. To avoid multiplicity



of petitions and granting multiple tariffs for the assets covered under the single project/transmission system for 2014-19 tariff period, the Commission, vide Regulation 6 of the 2014 Tariff Regulations, has brought in the concept of a single consolidated petition wherein a single petition is required to be filed by a petitioner in case of all the assets which have been put under commercial operation prior to 31.3.2014, so that a single tariff can be granted for all the assets covered under such a single project/transmission system. 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 also been introduced in Regulation 27 of the 2014 Tariff Regulations.

69. The consolidation of individual assets for single tariff has been done by adding up of the admitted capital cost as on 31.3.2017 of individual assets. The AFC for the consolidated cost has been allowed as given below:-

i. **Return on Equity:** The admitted gross normative equity as on 31.3.2014 of individual assets are added to arrive at the gross equity as on 1.4.2014 for the combined assets.

ii. **Interest on Loan:** The admitted gross normative loan and cumulative re-payment of loan as on 31.3.2014 of individual assets are added to get the gross normative loan and cumulative re-payment of loan as on 1.4.2014 for the combined assets.

iii. **Depreciation:** The admitted gross capital cost and cumulative depreciation as on 31.3.2014 of individual assets are added to get the gross capital cost and cumulative depreciation as on 1.4.2014 for the combined assets. Lapsed life of the combined assets as on 1.4.2014 has been worked out by the concept of Effective COD and Weighted Average life as provided in Regulation 27 of 2014



Tariff Regulations.

iv. **Interest on Working capital:** Since, the normative working capital is derived from the O&M Expenses and Receivables; it is being worked out accordingly.

v. **O&M Expenses:** The entitled O&M Expenses as per 2014 Tariff Regulations of individual assets are worked out and added together to consider as O&M Expenses of the consolidated assets.

70. Though the instant assets are consolidated into one combined asset and single tariff is allowed, the petitioner has to maintain the identity of the individual assets. In future tariff petitions, the petitioner has to provide the details of individual assets like description, actual COD, effective COD, admitted capital cost, O&M Expenses claimed, etc. The petitioner is directed to make all future claims of additional capital expenditure or de-capitalization for the project, along with Auditor certificate by clearly mentioning the individual assets to which the claim has been made.

Effective Date of Commercial Operation (E-COD)

71. The Effective Date of Commercial Operation (E-COD) for the combined assets 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 combined assets has been worked out as shown below:-

(₹ in lakh)						
Assets	Actual DOCO	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 A	1-Jan-13	9565.32	10.70%	424.00	45.37	28.12.2013
Asset B	1-Jan-13	1212.60	1.36%	424.00	5.75	
Asset C	1-Apr-13	596.58	0.67%	334.00	2.23	
Asset D	1-Jan-14	11272.72	12.61%	59.00	7.44	



Assets	Actual DOCO	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 E	1-Mar-14	61312.87	68.59%	0.00	0.00	
Asset F	1-Jan-14	2813.40	3.15%	59.00	1.86	
Asset G	1-Mar-14	2616.82	2.93%	0.00	0.00	
Total		89390.31	100.00%		62.65	

72. The above determined effective COD is represented only for the asset commissioned during the 2009-14 tariff period. Since the instant Project is partially put into commercial operation during 2009-14 period and remaining during the 2014-19 period, the petitioner is directed to submit a combined petition at the time of truing-up for the period 2014-19 for all the assets covered under the scope of the project. Accordingly, the effective COD for the project as whole shall be re-determined at the time of truing-up of 2014-19 period. The E-COD as determined above, shall be used to determine the lapsed life for combined assets as whole as on 1.4.2014 (i.e. the number of completed years as on 1.4.2014 from E-COD). The lapsed life (in completed years) of the instant project as on 1.4.2014 has been worked out as 0 years.

Weighted Average Life (WAL)

73. The combined asset, have multiple elements (i.e. Land, Building, Transmission line, Substation and PLCC) and each element may have different span of life. Therefore, in 2014 Tariff Regulations, the concept of Weighted Average Life (WAL) has been introduced which has been used as the useful life of the project as whole. The WAL has been determined based on the admitted capital cost of individual elements of assets as on 31-03-2014 and their respective life as stipulated in 2014-19 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 2014 Regulation has been considered for determination of WAL. Accordingly, the WAL of the combined assets has been worked out as 34 years as under:-

Determination of Weighted Average Life of the Project Assets commissioned during 2009-14 tariff period										
Particulars	Admitted Capital Cost as on 01-04-2014							Combined cost (a)	Life as per 2014 Regulation (b)	Weight (a) x (b)
	Asset A	Asset B	Asset C	Asset D	Asset E	Asset F	Asset G			
Freehold Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00
Leasehold Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25	0.00
Building & Other Civil Works	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25	0.00
Transmission Line	9565.32	1212.60	0.00	10470.56	58971.95	0.00	0.00	80220.43	35	2807715.10
Sub-Station Equipment	0.00	0.00	596.58	702.13	2293.81	2813.40	2616.82	9022.73	25	225568.37
PLCC	0.00	0.00	0.00	100.03	47.11	0.00	0.00	147.14	15	2207.16
Total	9565.32	1212.60	596.58	11272.72	61312.87	2813.40	2616.82	89390.31	34	3035490.63
Weighted Average life									34	Years

74. Accordingly, the remaining useful life of the project as on 1.4.2014 has been worked out as 0 years. It is assumed that, the weighted average life of combined assets 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. The Cumulative Depreciation as on 1.4.2014 for the assets put into commercial operation during 2009-14 period has been computed as shown below:-

(₹ in lakh)							
Asset-A	Asset-B	Asset-C	Asset-D	Asset-E	Asset-F	Asset-G	Total
616.57	76.94	28.23	148.06	266.61	36.48	34.27	1207.16

75. The capital cost, E-COD, WAL and lapsed life for the combined assets as determined in above paragraphs are considered for computation of depreciation for the period 2014-19. The 12 years from the effective date of commercial operation is



completing beyond the tariff period 2014-19. Hence, the depreciation for entire tariff period (i.e. 2014-19) has been worked out based on Straight Line Method and at rates specified in Appendix-II to 2014 Tariff Regulations. The petitioner has claimed the transmission charges for combined asset for the 2014-19 tariff period as under:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	4835.72	4995.61	5130.97	5216.43	5216.43
Interest on Loan	4785.13	4616.77	4440.09	4144.65	3699.53
Return on equity	5386.17	5564.07	5714.76	5809.98	5809.98
Interest on Working Capital	399.41	405.12	409.47	408.76	400.48
O & M Expenses	977.21	1009.91	1043.16	1077.99	1113.69
Total	16383.64	16591.48	16738.45	16657.81	16240.11

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

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	146.58	151.49	156.47	161.70	167.05
O & M expenses	81.43	84.16	86.93	89.83	92.81
Receivables	2730.61	2765.25	2789.74	2776.30	2706.69
Total	2958.62	3000.90	3033.14	3027.83	2966.55
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	399.41	405.12	409.47	408.76	400.48

Capital Cost

77. The capital cost claimed by the petitioner vide affidavit dated 7.9.2017 and auditor certificate dated 22.5.2017 for Asset-A, dated 22.5.2017 for Asset-B, dated 23.2.2017 for Asset-C, dated 30.11.2016 for Asset-D, dated 4.6.2016 for Asset-E, dated 4.6.2016 for Asset-F, dated 23.2.2017 for Asset-G is as under:-

(₹ in lakh)						
Asset	Approved Cost (RCE)	Capital cost as on 31.3.2014	Add Cap 2014-15	Add Cap 2015-16	Estimated Add Cap 2016-17	Total Estimated Cost
A	10353.94	9565.33	66.09	178.79	0.00	9810.21
B	1382.7	1212.60	1.31	21.41	0.00	1235.35
C	777.39	596.58	48.84	31.17	0.00	676.59
D	13033.93	11555.54	623.46	1.25	356.08	12536.33
E	69285.34	61312.87	2475.61	1548.08	2143.97	67480.53
F	4270.46	2845.05	396.00	78.59	543.59	3863.23



G	3566.58	2645.03	464.03	26.12	193.54	3328.72
Total	102670.34	89733.00	4075.34	1885.41	3237.18	98930.93

Cost over-run

78. Against the revised apportioned approved cost as per RCE of ₹102670.34 lakh, the capital cost as on 31.3.2014 is ₹89733.00 lakh and estimated capital cost is ₹98930.93 lakh. Further, the completion cost of the individual assets is also within the revised apportioned approved cost as per RCE. Hence, overall and individually there is no cost over-run for all the assets covered in the instant petition as per RCE.

Capital Cost as on 1.4.2014

79. The capital cost allowed as on 31.3.2014, for the instant assets are clubbed together and the combined capital cost of the combined asset, as on 31.3.2014, has been considered as an Opening Gross Block of capital cost as on 1.4.2014 for the period 2014-19. The details are given below:-

Asset	Capital cost allowed as on 31.3.2014.
Asset-A	9565.32
Asset-B	1212.60
Asset-C	596.58
Asset-D	11272.72
Asset-E	61312.87
Asset-F	2813.40
Asset-G	2616.82
Total	89390.31

Treatment of IDC liability

80. The admitted IDC liability has been considered as discussed in the IDC portion pertaining to the 2009-14 period. Accordingly, IDC is included in ACE in the respective years.



Initial Spares

81. The initial spare were determined as per 2009 Tariff Regulations since the instant assets were put into commercial operation during 2009-14 period. The petitioner has submitted the year-wise discharge details of the initial spares for all the assets. Accordingly, initial spares are adjusted in additional capital expenditure in the respective years. The excess initial spare, if any, has been adjusted against the additional capital expenditure based on the discharge details provided by the petitioner.

Additional Capital Expenditure (ACE)

82. The details of the asset-wise ACE claimed by the petitioner vide affidavit dated 7.9.2017 and Auditor certificate dated 22.5.2017 for Asset-A, dated 22.5.2017 for Asset-B, dated 23.2.2017 for Asset-C, dated 30.11.2016 for Asset-D, dated 4.6.2016 for Asset-E, dated 4.6.2016 for Asset-F, dated 23.2.2017 for Asset-G is as under:-

(₹ in lakh)				
Assets	ACE for 2014-15	ACE for 2015-16	ACE for 2016-17	Total ACE claimed
Asset-A	66.09	178.79	0.00	244.88
Asset-B	1.31	21.41	0.00	22.72
Asset-C	48.84	31.17	0.00	80.01
Asset-D	623.46	1.25	356.08	980.79
Asset-E	2475.61	1548.08	2143.97	6167.66
Asset-F	396.00	78.59	543.59	1018.18
Asset-G	464.03	26.12	193.54	683.69
Total	4075.34	1885.41	3237.18	9197.93

83. The petitioner has claimed the following additional capital expenditure for the instant assets:-



(₹ in lakh)

Particulars	2014-15				2015-16			
	Addition into Gross Block	Discharge of other liability	Discharge of IDC liability	Total claimed	Addition into Gross Block	Discharge of other liability	Discharge of IDC liability	Total claimed
Asset-A	66.09	0.00	0.00	66.09	178.79		0.00	178.79
Asset-B	1.31	0.00	0.00	1.31	21.41		0.00	21.41
Asset-C	48.84	0.00	0.00	48.84	31.17		0.00	31.17
Asset-D	623.45	0.00	25.94	649.39	1.25		0.00	1.25
Asset-E	0.00	2475.61	0.00	2475.61	0.00	1548.08	0.00	1548.08
Asset-F	396.00	0.00	30.57	426.57	78.59	0.00	0.00	78.59
Asset-G	306.02	158.01	30.69	494.72	26.12		0.00	26.12
Total	1441.71	2633.62	87.20	4162.53	337.33	1548.08	0.00	1885.41

(₹ in lakh)

Particulars	2016-17			
	Addition into Gross Block	Discharge of Other liability	Discharge of IDC liability	Total Claimed
Asset-A	0.00	0.00	0.00	0.00
Asset-B	0.00	0.00	0.00	0.00
Asset-C	0.00	0.00	0.00	0.00
Asset-D	356.08	0.00	0.00	356.08
Asset-E	2143.97	0.00	0.00	2143.97
Asset-F	543.59	0.00	0.00	543.59
Asset-G	193.54	0.00	0.00	193.54
Total	3237.18	0.00	0.00	3237.18

84. The additional capital expenditure claimed above have the following gaps:-

Particulars	Gaps in ACE claimed
Asset-A	As per Form 4A, the liability as on 1.4.2014 is nil, however, the petitioner has claimed entire ACE in Form 7 under 14(1)(i) which refers the liability discharge before cut-off date.
Asset-B	
Asset-C	
Asset-D	Form 4A Not submitted, Hence the regulation wise ACE claim is not possible.
Asset-E	As per Form 4A, the liability as on 1.4.2014 is ₹6025.55 lakh and the Addition into Gross block for 2017-18 is ₹142.11 lakh. But the ACE claimed in Auditor Certificate for 2014-15 is ₹2475.61 lakh, for 2015-16 is ₹1548.08 lakh and for 2016-17 is ₹2143.97 lakh totaling ₹6167.66 lakh. In Form-7 the entire amount is claimed as liability under 14(1)(i). There is a mismatch in the ACE claim between the Form 4A, Auditor Certificate and Form 7.
Asset-F	As per Form 4A, the liability as on 01.04.2014 is ₹30.57 lakh. Addition into Gross block for 2014-15 (₹396 lakh), 2015-16 (₹78.59 lakh), 2016-17 (₹402.93 lakh) and 2017-18 (₹140.65 lakh). But claimed entire ACE under 14(1)(i) which meant for discharge of liability



Asset-G	As per Form 4A, the liability as on 1.4.2014 is ₹188.70 lakh. Addition into Gross block for 2014-15 (₹306.02 lakh), 2015-16 (₹26.12 lakh) and 2016-17 (₹193.54 lakh). But claimed entire ACE under 14(1)(i).
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85. The above gaps indicate that the ACE claimed 2014-19 towards liability are in excess of the liability amount as on 1.4.2014 and the addition into gross block are not explained under which regulation these are claimed. The petitioner has submitted Form 7 for 2014-19 period without showing the asset wise break-up. Therefore, the petitioner is directed to clarify these deviations and submit corrected Form 7 by clearly mentioning the asset wise breakup duly reconciled with Form 4A, at the time of truing up of the 2014-19 tariff. However, in the instant petition the ACE claimed as per Auditor Certificate for the period 2014-19 are provisionally allowed after adjusting the IDC liability and excess initial spare, which is subject to true up. The details of the ACE allowed for the instant assets are given below:-

(₹ in lakh)

Particulars	2014-15				
	Addition into Gross Block	Discharge of Other liability	IDC liability	Less: Excess Initial Spare	Total Allowed
	Reg. 14(1)(ii)	Reg. 14(1)(i)	Reg. 14(1)(i)		
Asset-A	66.09	0.00	0.00	0.00	66.09
Asset-B	1.31	0.00	0.00	0.00	1.31
Asset-C	48.84	0.00	0.00	0.00	48.84
Asset-D	623.45	0.00	0.00	-24.87	598.58
Asset-E	0.00	2475.61	0.00	0.00	2475.61
Asset-F	396.00	0.00	29.52	0.00	425.52
Asset-G	306.02	158.01	4.48	0.00	468.51
Total	1441.71	2633.62	34.00	-24.87	4084.46



(₹ in lakh)

Particulars	2015-16			2016-17			
	Addition into Gross Block	Discharge of other liability	Total allowed	Addition into Gross Block	Discharge of other liability	Less: Excess Initial Spare	Total allowed
	Reg. 14(1)(ii)	Reg. 14(1)(i)		Reg. 14(1)(ii)	Reg. 14(1)(i)		
Asset-A	178.79	0.00	178.79	0.00	0.00	0.00	0.00
Asset-B	21.41	0.00	21.41	0.00	0.00	0.00	0.00
Asset-C	31.17	0.00	31.17	0.00	0.00	0.00	0.00
Asset-D	1.25	0.00	1.25	356.08	0.00	0.00	356.08
Asset-E	0.00	1548.08	1548.08	2143.97	0.00	0.00	2143.97
Asset-F	78.59	0.00	78.59	543.59	0.00	0.00	543.59
Asset-G	26.12	0.00	26.12	193.54	0.00	-10.79	182.75
Total	337.33	1548.08	1885.41	3237.18	0.00	-10.79	3226.39

Summary of capital cost considered for tariff for the period from 1.4.2014 to 31.3.2019

86. Based on the above, the capital cost as on 31.3.2014 and the additional capital expenditure considered for tariff computation for the project as whole are as under:-

(₹ in lakh)

Particulars	Combined admitted capital cost as on 31.3.2014	Projected Additional Capitalisation						Admitted cost as 31.3.2019
		2014-15	2015-16	2016-17	2017-18	2018-19	Total	
Freehold Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Leasehold Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building & Other Civil Works	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Transmission Line	80220.43	3033.13	1403.80	1114.03	0.00	0.00	5550.96	85771.39
Sub-Station Equipment	9022.73	1032.76	459.66	2111.11	0.00	0.00	3603.53	12626.26
PLCC	147.14	18.57	21.95	1.25	0.00	0.00	41.77	188.91
Total	89390.31	4084.46	1885.41	3226.39	0.00	0.00	9196.26	98586.57

Debt:Equity Ratio

87. The petitioner has considered debt:equity ratio as 70:30 as on 31.3.2014. The admitted debt:equity ratio of 70:30 after true-up for the tariff period ending 31.3.2014 has been considered as opening debt:equity ratio as on 1.4.2014. The details of the



debt:equity as on 1.4.2014 and as on 31.3.2019 considered for the purpose of tariff for the period 2014-19 is as under:-

(₹ in lakh)

Particulars	As on 1.4.2014		As on 31.3.2019	
	Amount	%	Amount	%
Debt	62573.23	70.00	69010.61	70.00
Equity	26817.08	30.00	29575.96	30.00
Total	89390.31	100.00	98586.57	100.00

Return on Equity (“ROE”)

88. The petitioner has claimed ROE at the rate of 19.61% for the 2017-19 period after grossing up the ROE of 20.961% with MAT rate as per the above said Regulation. 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.

89. The ROE has been worked out in accordance with Regulations 24 and 25 of the 2014 Tariff Regulations. The rate of pre-tax return on equity for all the financial year during 2014-19 period has been determined by grossing up the base rate of 15.50% with effective tax rate of 20.961%. This rate of pre-tax return on equity is subject to true up based on the effective tax rate of respective financial year applicable to the petitioner company. Accordingly, the RoE allowed is as follows:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	26817.08	28042.42	28608.04	29575.96	29575.96
Additional Capitalization	1225.34	565.62	967.92	0.00	0.00
Closing Equity	28042.42	28608.04	29575.96	29575.96	29575.96
Average Equity	27429.75	28325.23	29092.00	29575.96	29575.96
Return on Equity (Base Rate) (%)	15.50%	15.50%	15.50%	15.50%	15.50%
MAT rate for the year(%)	20.961%	20.961%	20.961%	20.961%	20.961%



Rate of Return on Equity (Pre Tax) (%)	19.611%	19.611%	19.611%	19.611%	19.611%
Return on Equity (Pre Tax)	5379.25	5554.86	5705.23	5800.14	5800.14

Interest on Loan (“IOL”)

90. We have considered the weighted average rate of IOL on the basis of rate prevailing as on 1.4.2014. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations as detailed below:-

(i) It is observed that the actual loan portfolio of individual assets as considered for the true up purpose has been added together for the balance as on 1.4.2014 not matching with the balance mentioned in form 9C. The loan portfolio as submitted by the petitioner has been considered for determining WAROI. The petitioner is directed to submit the revised form 9C by tallying the loan wise balance of individual assets as considered as part of true up purpose at the time of true up of 2014-19.

(ii) Now, the gross amount of loan, repayment of instalments and rate of interest on actual loans as mentioned in Form 9C have been considered which is subject to true up.

(iii) The yearly repayment for the tariff period 2014-19 has been considered to be equal to the depreciation allowed for that year.

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

91. The details of weighted average rate of interest are placed at **Annexure-VIII**



and the IOL has been worked out and allowed as follows:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	62573.23	65432.35	66752.14	69010.61	69010.61
Cumulative Repayment up	1207.16	6036.45	11023.54	16145.71	21353.07
Net Loan-Opening	61366.06	59395.90	55728.59	52864.90	47657.54
Additions during the year	2859.12	1319.79	2258.47	0.00	0.00
Repayment during the year	4829.28	4987.10	5122.17	5207.35	5207.35
Net Loan-Closing	59395.90	55728.59	52864.90	47657.54	42450.19
Average Loan	60380.98	57562.25	54296.74	50261.22	45053.86
Rate of Interest (%)	7.911%	8.003%	8.160%	8.228%	8.192%
Interest	4776.85	4606.83	4430.40	4135.33	3690.99

Depreciation

92. 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.

93. 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	89390.31	93474.77	95360.18	98586.57	98586.57
Additional Capitalization	4084.46	1885.41	3226.39	0.00	0.00
Closing Gross block	93474.77	95360.18	98586.57	98586.57	98586.57
Average gross block	91432.54	94417.48	96973.38	98586.57	98586.57
Rate of Depreciation (%)	5.28%	5.28%	5.28%	5.28%	5.28%
Depreciable Value	82289.29	84975.73	87276.04	88727.91	88727.91
Remaining Depreciable Value	81082.12	78939.28	76252.49	72582.20	67374.84
Depreciation	4829.28	4987.10	5122.17	5207.35	5207.35

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

94. The O&M Expenses claimed by the petitioner are as under:-



(₹ in lakh)

Asset	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Combined assets under transmission system of Vindhyachal-IV & Rihand-III(1000 MW) Generation project	O&M Expenses	977.21	1009.91	1043.16	1077.99	1113.69

95. The petitioner has submitted that O&M Expenses for the period 2014-19 have been arrived on the basis of normalized actual O&M Expenses during the period 2008-13. The petitioner has further submitted that the wage revision of the employees of the Petitioner Company is due during the period 2014-19 and actual impact of wage hike, which will be effective at a future date, has not been factored in fixation of the normative O&M rate specified for the tariff period 2014-19. The petitioner has prayed to be allowed to approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase.

96. MPPMCL has submitted that there is no order for wage revision has been passed for 2017 by the Ministry of heavy Industries and Public Enterprises therefore the said demand for the wage revision is premature and not justified and further, the petitioner should bear the burden of wage revision of its employees and no blanket approval may be accorded for enhancement in O&M Expenses at a later stage.

97. In response, petitioner has submitted that the wage revision of the employees of the petitioner company is due during 2014-19 and actual impact of wage hike which will be effective from a future date has also not been factored in fixation of the normative O&M rates prescribed for the tariff block 2014-19. The scheme of wage revision applicable to CPUs being binding on the petitioner, the petitioner would approach the Commission for suitable revision in the norms for O&M Expenses for claiming the impact of wage hike during 2014-19 onwards.



98. BRPL has submitted that the increase in the employee cost, if any, due to wage revision must be taken care by improvement in their productivity levels by the petitioner company so that the beneficiaries are not unduly burdened over and above the provisions made in the 2014 Tariff Regulations.

99. We have considered the submissions of the petitioner and respondents. The O&M Expenses have been worked out as per the norms of O&M Expenses as per 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. The petitioner has claimed O&M Expenses as specified in Regulation 29(4) of the 2014 Tariff Regulations and accordingly, the same is considered for the purpose of computation of tariff. The details of O&M Expenses allowed are as follows:-

	(₹ in lakh)				
Combined Asset	2014-15	2015-16	2016-17	2017-18	2018-19
O & M Expenses claimed	977.21	1009.91	1043.16	1077.99	1113.69
O & M Expenses allowed	977.21	1009.91	1043.16	1077.99	1113.69

Interest on Working Capital (“IWC”)

100. The petitioner is entitled to claim IWC as per the 2014 Tariff Regulations. The components of the working capital and the petitioner’s entitlement to interest thereon are discussed hereunder:-

(i) Maintenance spares:

Maintenance spares @ 15 % of Operation and Maintenance expenses specified in Regulation 28.

(ii) O & M expenses:

O&M expenses have been considered for one month of the O&M expenses.



(iii) Receivables:

The receivables have been worked out on the basis of 2 months' of annual transmission charges as worked out above.

(iv) Rate of interest on working capital: As per Clause 28 (3) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014, SBI Base Rate (10.00%) as on 01.04.2014 Plus 350 Bps i.e. 13.50 % have been considered as the rate of interest on working capital.

101. The interest on working capital as determined is shown in the table given below:-

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	146.58	151.49	156.47	161.70	167.05
O & M Expenses	81.43	84.16	86.93	89.83	92.81
Receivables	2726.92	2760.53	2784.96	2771.49	2702.00
Total	2954.93	2996.18	3028.37	3023.02	2961.87
Interest	398.92	404.48	408.83	408.11	399.85

Annual Transmission Charges

102. The detailed computation of the various components of the annual fixed charges for the transmission asset for the tariff period 2014-19 is summarized below:-

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	4829.28	4987.10	5122.17	5207.35	5207.35
Interest on Loan	4776.85	4606.83	4430.40	4135.33	3690.99
Return on Equity	5379.25	5554.86	5705.23	5800.14	5800.14
Interest on Working Capital	398.92	404.48	408.83	408.11	399.85
O & M Expenses	977.21	1009.91	1043.16	1077.99	1113.69
Total	16361.50	16563.19	16709.79	16628.93	16212.03



Filing Fee and Publication Expenses

103. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 52 of the 2014 Tariff Regulations. The petitioner is entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with clause (1) of Regulation 52 of the 2014 Tariff Regulations.

Licence Fee and RLDC Fees and Charges

104. 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.

FERV

105. The petitioner has sought to recover FERV on foreign loans deployed under Regulation 50 of the 2014 Tariff Regulations. The petitioner shall be entitled to recover the FERV as provided under Regulations 50 and 51 of the 2014 Tariff Regulations.

Service Tax

106. The petitioner has sought to recover Service Tax on transmission charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list in future. We have considered the submission of the petitioner. Service tax is not levied on transmission. Further, service tax is subsumed by GST and hence petitioner's prayer is infructuous.



Goods and Services Tax

107. The petitioner has prayed for reimbursement of tax, if any, on account of proposed implementation of GST. The petitioner has submitted that the Commission should allow to recover GST from the beneficiaries, if imposed on transmission charges under the proposed GST when implemented by Government of India. GST is not levied on transmission service at present and we are of the view that petitioner's prayer is premature.

Sharing of Transmission Charges

108. Tariff for Transmission of Electricity (Annual Fixed Cost) shall be recovered on monthly basis in accordance with Regulation 43 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and shall be shared by the beneficiaries and long term transmission customers in Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) Regulations, 2010 dated 15.6.2010 and amendment to these Regulations issued vide order dated 30.11.2012 or as amended from to time. However, the transmission charges for 2009-14 period upto 30.6.2011 shall be recovered on monthly basis in accordance with Regulation 23 and shall be shared by the respondents in accordance with Regulation 33 of the 2009 Tariff Regulations.

109. This order disposes of Petition No.9/TT/2018.

sd/-
(Dr. M. K. Iyer)
Member

sd/-
(A. K. Singhal)
Member

sd/-
(P. K. Pujari)
Chairperson



Annexure-I**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR
TARIFF PERIOD 2012-13 and 2013-14 FOR ASSET-A**

		(₹in lakh)	
	Details of Loan	2012-13	2013-14
1	Bond - XXXII		
	Gross loan opening	125.00	125.00
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	125.00	125.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	10.42
	Net Loan-Closing	125.00	114.58
	Average Loan	125.00	119.79
	Rate of Interest	8.84%	8.84%
	Interest	11.05	10.59
	Rep Schedule	12 annual installments from 29.3.2014	
2	Bond XXXIV		
	Gross loan opening	1955.00	1955.00
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	1955.00	1955.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	1955.00	1955.00
	Average Loan	1955.00	1955.00
	Rate of Interest	8.84%	8.84%
	Interest	172.82	172.82
	Rep Schedule	12 annual installments from 21.10.2014	
3	Bond XXXV		
	Gross loan opening	500.00	500.00
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	500.00	500.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	500.00	500.00
	Average Loan	500.00	500.00
	Rate of Interest	9.64%	9.64%
	Interest	48.20	48.20
	Rep Schedule	12 annual installments from 31.5.2015.	
4	Bond XXXVI		
	Gross loan opening	1000.00	1000.00



	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	1000.00	1000.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	1000.00	1000.00
	Average Loan	1000.00	1000.00
	Rate of Interest	9.35%	9.35%
	Interest	93.50	93.50
	Rep Schedule	15 annual installments from 29.8.2016.	
5	Bond XXXVII		
	Gross loan opening	1475.40	1475.40
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	1475.40	1475.40
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	1475.40	1475.40
	Average Loan	1475.40	1475.40
	Rate of Interest	9.25%	9.25%
	Interest	136.47	136.47
	Rep Schedule	15 annual installments from 29.8.2016.	
6	Bond XXXIX		
	Gross loan opening	800.00	800.00
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	800.00	800.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	800.00	800.00
	Average Loan	800.00	800.00
	Rate of Interest	9.40%	9.40%
	Interest	75.20	75.20
	Rep Schedule	29.3.2027 Bullet Payment	
7	Bond XL		
	Gross loan opening	344.98	390.96
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	344.98	390.96
	Additions during the year	45.98	2.58
	Repayment during the year	0.00	0.00
	Net Loan-Closing	390.96	393.54
	Average Loan	367.97	392.25
	Rate of Interest	9.30%	9.30%



	Interest	34.22	36.48
	Rep Schedule	12 annual installments from 28.6.2016	
8	Bond XLII		
	Gross loan opening	0.00	235.81
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	0.00	235.81
	Additions during the year	235.81	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	235.81	235.81
	Average Loan	117.91	235.81
	Rate of Interest	8.80%	8.80%
	Interest	10.38	20.75
	Rep Schedule	13.3.2023 Bullet Payment	
9	Bond XLIII		
	Gross loan opening	0.00	0.00
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	0.00	0.00
	Additions during the year	0.00	210.98
	Repayment during the year	0.00	0.00
	Net Loan-Closing	0.00	210.98
	Average Loan	0.00	105.49
	Rate of Interest	7.93%	7.93%
	Interest	0.00	8.37
	Rep Schedule	12 annual installments from 20.5.2017	
	Total Loan		
	Gross loan opening	6200.38	6482.17
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	6200.38	6482.17
	Additions during the year	281.79	213.56
	Repayment during the year	0.00	10.42
	Net Loan-Closing	6482.17	6685.31
	Average Loan	6341.28	6583.74
	Weighted Average Rate of Interest	9.1755%	9.1495%
	Interest	581.84	602.38



Annexure-II**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR
TARIFF PERIOD 2012-13 AND 2013-14 FOR ASSET-B**

		(₹in lakh)	
	Details of Loan	2012-13	2013-14
1	Bond - XXXII		
	Gross loan opening	50.00	50.00
	Cumulative Repayment upto COD/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	4.17
	Net Loan-Closing	50.00	45.83
	Average Loan	50.00	47.92
	Rate of Interest	8.84%	8.84%
	Interest	4.42	4.24
	Rep Schedule	12 annual installments from 29.3.2014	
2	Bond XXXIV		
	Gross loan opening	50.00	50.00
	Cumulative Repayment upto COD/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 installments from 21.10.2014	
3	Bond XXXV		
	Gross loan opening	100.00	100.00
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	100.00	100.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	100.00	100.00
	Average Loan	100.00	100.00
	Rate of Interest	9.64%	9.64%
	Interest	9.64	9.64
	Rep Schedule	12 annual installments from 31.5.2015.	
4	Bond XXXVI		
	Gross loan opening	100.00	100.00



	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	100.00	100.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	100.00	100.00
	Average Loan	100.00	100.00
	Rate of Interest	9.35%	9.35%
	Interest	9.35	9.35
	Rep Schedule	15 annual installments from 29.8.2016.	
5	Bond XXXVII		
	Gross loan opening	201.50	201.50
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	201.50	201.50
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	201.50	201.50
	Average Loan	201.50	201.50
	Rate of Interest	9.25%	9.25%
	Interest	18.64	18.64
	Rep Schedule	15 annual installments from 29.8.2016.	
6	Bond XXXIX		
	Gross loan opening	100.00	100.00
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	100.00	100.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	100.00	100.00
	Average Loan	100.00	100.00
	Rate of Interest	9.40%	9.40%
	Interest	9.40	9.40
	Rep Schedule	29.3.2027 Bullet Payment	
7	Bond XL		
	Gross loan opening	179.49	186.86
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	179.49	186.86
	Additions during the year	7.37	11.88
	Repayment during the year	0.00	0.00
	Net Loan-Closing	186.86	198.74
	Average Loan	183.18	192.80
	Rate of Interest	9.30%	9.30%



	Interest	17.04	17.93
	Rep Schedule	12 annual installments from 28.6.2016	
8	Bond XLII		
	Gross loan opening	0.00	8.54
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	0.00	8.54
	Additions during the year	8.54	40.03
	Repayment during the year	0.00	0.00
	Net Loan-Closing	8.54	48.57
	Average Loan	4.27	28.56
	Rate of Interest	8.80%	8.80%
	Interest	0.38	2.51
	Rep Schedule	13.3.2023 Bullet Payment	
9	Bond XLIII		
	Gross loan opening	0.00	0.00
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	0.00	0.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	0.00	0.00
	Average Loan	0.00	0.00
	Rate of Interest	7.93%	7.93%
	Interest	0.00	0.00
	Rep Schedule	12 annual installments from 20.5.2017	
	Total Loan		
	Gross loan opening	780.99	796.90
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	780.99	796.90
	Additions during the year	15.91	51.91
	Repayment during the year	0.00	4.17
	Net Loan-Closing	796.90	844.64
	Average Loan	788.95	820.77
	Weighted Average Rate of Interest	9.2883%	9.2752%
	Interest	73.28	76.13



Annexure-III**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR
TARIFF PERIOD 2013-14 FOR ASSET-C**

(₹in lakh)

	Details of Loan	2013-14
1	Bond XL	
	Gross loan opening	152.25
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	152.25
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	152.25
	Average Loan	152.25
	Rate of Interest	9.30%
	Interest	14.16
	Rep Schedule	12 annual installments from 28.6.2016
2	Bond XLI	
	Gross loan opening	65.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	65.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	65.00
	Average Loan	65.00
	Rate of Interest	8.8500%
	Interest	5.75
	Rep Schedule	12 annual installments from 19.10.2016
3	Bond XLII	
	Gross loan opening	113.56
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	113.56
	Additions during the year	86.74
	Repayment during the year	0.00
	Net Loan-Closing	200.30
	Average Loan	156.93
	Rate of Interest	8.80%
	Interest	13.81
	Rep Schedule	13.3.2023 Bullet Payment



4	Bond XLIII	
	Gross loan opening	0.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	0.00
	Average Loan	0.00
	Rate of Interest	7.93%
	Interest	0.00
	Rep Schedule	12 annual installments from 20.5.2017
13	Bond XLIV	
	Gross loan opening	0.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	0.00
	Average Loan	0.00
	Rate of Interest	8.70%
	Interest	0.00
	Rep Schedule	3 equal annual installments 15.7.2018, 15.7.2023, 15.7.2028
14	Bond XLV - ADD CAP FOR 2013-14	
	Gross loan opening	0.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	0.00
	Average Loan	0.00
	Rate of Interest	7.93%
	Interest	0.00
	Rep Schedule	12 annual installments from 20.5.2017
	Total Loan	
	Gross loan opening	330.81



Cumulative Repayment upto COD/previous year	0.00
Net Loan-Opening	330.81
Additions during the year	86.74
Repayment during the year	0.00
Net Loan-Closing	417.55
Average Loan	374.18
Weighted Average Rate of Interest	9.0121%
Interest	33.72



Annexure-IV**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR
TARIFF PERIOD 2013-14 FOR ASSET-D**

(₹in lakh)

	Details of Loan	2013-14
1	Bond - XXXII	
	Gross loan opening	74.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	74.00
	Additions during the year	0.00
	Repayment during the year	6.17
	Net Loan-Closing	67.83
	Average Loan	70.92
	Rate of Interest	8.84%
	Interest	6.27
	Rep Schedule	12 annual installments from 29.3.2014
2	Bond XXXIV	
	Gross loan opening	800.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	800.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	800.00
	Average Loan	800.00
	Rate of Interest	8.84%
	Interest	70.72
	Rep Schedule	12 annual installments from 21.10.2014
3	Bond XXXVI	
	Gross loan opening	160.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	160.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	160.00
	Average Loan	160.00
	Rate of Interest	9.35%
	Interest	14.96
	Rep Schedule	15 annual installments from 29.8.2016.



4	Bond XXXVII	
	Gross loan opening	3117.82
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	3117.82
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	3117.82
	Average Loan	3117.82
	Rate of Interest	9.25%
	Interest	288.40
	Rep Schedule	15 annual installments from 29.8.2016.
5	Bond XXXVIII	
	Gross loan opening	80.00
	Cumulative Repayment upto COD/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	9.25%
	Interest	7.40
	Rep Schedule	9.3.2027 Bullet Payment
6	Bond XXXIX	
	Gross loan opening	167.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	167.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	167.00
	Average Loan	167.00
	Rate of Interest	9.40%
	Interest	15.70
	Rep Schedule	29.3.2027 Bullet Payment
7	Bond XL	
	Gross loan opening	45.37
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	45.37
	Additions during the year	4.63



	Repayment during the year	0.00
	Net Loan-Closing	50.00
	Average Loan	47.69
	Rate of Interest	9.30%
	Interest	4.43
	Rep Schedule	12 annual installments from 28.06.2016
8	Bond XLI	
	Gross loan opening	0.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	41.96
	Repayment during the year	0.00
	Net Loan-Closing	41.96
	Average Loan	20.98
	Rate of Interest	8.8500%
	Interest	1.86
	Rep Schedule	12 annual installments from 19.10.2016
9	Bond XLII	
	Gross loan opening	0.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	106.49
	Repayment during the year	0.00
	Net Loan-Closing	106.49
	Average Loan	53.25
	Rate of Interest	8.80%
	Interest	4.69
	Rep Schedule	13.3.2023 Bullet Payment
10	Bond XLIII	
	Gross loan opening	0.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	0.00
	Average Loan	0.00
	Rate of Interest	7.93%
	Interest	0.00
	Rep Schedule	12 annual installments from



		20.5.2017
13	Bond XLIV	
	Gross loan opening	0.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	0.00
	Average Loan	0.00
	Rate of Interest	8.70%
	Interest	0.00
	Rep Schedule	3 equal annual installments 15.7.2018, 15.7.2023, 15.7.2028
14	Bond XLV - ADD CAP FOR 2013-14	
	Gross loan opening	0.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	0.00
	Average Loan	0.00
	Rate of Interest	7.93%
	Interest	0.00
	Rep Schedule	12 annual installments from 20.5.2017
8	SBI (21.03.2012)-COD	
	Gross loan opening	400.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	400.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	400.00
	Average Loan	400.00
	Rate of Interest	10.25%
	Interest	41.00
	Rep Schedule	21 (227 cr.) Half yearly equal installments + 1 half yearly left (233 Cr) from 31.8.2016
	IFC (IFC-A Loan) (31419-00) COD-62.41	



	Gross loan opening	250.01
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	250.01
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	250.01
	Average Loan	250.01
	Rate of Interest	3.28%
	Interest	8.20
	Rep Schedule	
	IFC (IFC-B Loan) (31419-01) COD-62.41	
	Gross loan opening	680.02
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	680.02
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	680.02
	Average Loan	680.02
	Rate of Interest	2.43%
	Interest	16.52
	Rep Schedule	
	IFC (ICFF Loan) (31419-02) COD-62.41	
	Gross loan opening	380.01
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	380.01
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	380.01
	Average Loan	380.01
	Rate of Interest	3.28%
	Interest	12.46
	Rep Schedule	
	FC Bond (17.1.2013) COD-62.41	
	Gross loan opening	1650.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	1650.00
	Additions during the year	0.00
	Repayment during the year	0.00



	Net Loan-Closing	1650.00
	Average Loan	1650.00
	Rate of Interest	4.10%
	Interest	67.65
	Rep Schedule	
	Total Loan	
	Gross loan opening	7804.23
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	7804.23
	Additions during the year	153.08
	Repayment during the year	6.17
	Net Loan-Closing	7951.14
	Average Loan	7877.69
	Weighted Average Rate of Interest	7.1120%
	Interest	560.26



Annexure-V**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR
TARIFF PERIOD 2013-14 FOR ASSET-E**

		(₹in lakh)
Details of Loan		2013-14
1	Bond - XXXII	
	Gross loan opening	80.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	80.00
	Additions during the year	0.00
	Repayment during the year	6.67
	Net Loan-Closing	73.33
	Average Loan	76.67
	Rate of Interest	8.84%
	Interest	6.78
	Rep Schedule	12 annual installments from 29.3.2014
2	Bond XXXIV	
	Gross loan opening	2495.38
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	2495.38
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	2495.38
	Average Loan	2495.38
	Rate of Interest	8.84%
	Interest	220.59
	Rep Schedule	12 annual installments from 21.10.2014
3	Bond XXXVI	
	Gross loan opening	680.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	680.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	680.00
	Average Loan	680.00
	Rate of Interest	9.35%
	Interest	63.58
	Rep Schedule	15 annual installments from 29.8.2016.



4	Bond XXXVII	
	Gross loan opening	6431.28
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	6431.28
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	6431.28
	Average Loan	6431.28
	Rate of Interest	9.25%
	Interest	594.89
	Rep Schedule	15 annual installments from 29.8.2016.
5	Bond XXXVIII	
	Gross loan opening	420.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	420.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	420.00
	Average Loan	420.00
	Rate of Interest	9.25%
	Interest	38.85
	Rep Schedule	9.3.2027 Bullet Payment
6	Bond XXXIX	
	Gross loan opening	3833.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	3833.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	3833.00
	Average Loan	3833.00
	Rate of Interest	9.40%
	Interest	360.30
	Rep Schedule	29.3.2027 Bullet Payment
7	Bond XL	
	Gross loan opening	6095.07
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	6095.07
	Additions during the year	4.63
	Repayment during the year	0.00
	Net Loan-Closing	6099.70



	Average Loan	6097.39
	Rate of Interest	9.30%
	Interest	567.06
	Rep Schedule	12 annual installments from 28.6.2016
8	Bond XLI	
	Gross loan opening	2891.73
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	2891.73
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	2891.73
	Average Loan	2891.73
	Rate of Interest	8.8500%
	Interest	255.92
	Rep Schedule	12 annual installments from 19.10.2016
9	Bond XLII	
	Gross loan opening	888.77
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	888.77
	Additions during the year	1020.85
	Repayment during the year	0.00
	Net Loan-Closing	1909.62
	Average Loan	1399.20
	Rate of Interest	8.80%
	Interest	123.13
	Rep Schedule	13.3.2023 Bullet Payment
10	Bond XLIII	
	Gross loan opening	0.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	0.60
	Repayment during the year	0.00
	Net Loan-Closing	0.60
	Average Loan	0.30
	Rate of Interest	7.93%
	Interest	0.02
	Rep Schedule	12 annual installments from 20.5.2017
11	SBI (21.3.2012)-COD	



	Gross loan opening	7882.29
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	7882.29
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	7882.29
	Average Loan	7882.29
	Rate of Interest	10.25%
	Interest	807.93
	Rep Schedule	21 (227 cr.) Half yearly equal installments + 1 half yearly left (233 Cr) from 31.8.2016
12	IFC (IFC-A Loan) (31419-00) COD-62.65	
	Gross loan opening	1050.01
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	1050.01
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	1050.01
	Average Loan	1050.01
	Rate of Interest	3.26%
	Interest	34.23
	Rep Schedule	
13	IFC (IFC-B Loan) (31419-01) COD-62.65	
	Gross loan opening	3450.01
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	3450.01
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	3450.01
	Average Loan	3450.01
	Rate of Interest	2.41%
	Interest	83.15
	Rep Schedule	
14	IFC (ICFF Loan) (31419-02) COD-62.65	
	Gross loan opening	1550.02
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	1550.02
	Additions during the year	0.00



	Repayment during the year	0.00
	Net Loan-Closing	1550.02
	Average Loan	1550.02
	Rate of Interest	3.26%
	Interest	50.53
	Rep Schedule	
15	FC Bond (17.01.2013) COD-62.65	
	Gross loan opening	4150.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	4150.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	4150.00
	Average Loan	4150.00
	Rate of Interest	4.10%
	Interest	170.15
	Rep Schedule	
	Total Loan	
	Gross loan opening	41897.56
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	41897.56
	Additions during the year	1026.08
	Repayment during the year	6.67
	Net Loan-Closing	42916.97
	Average Loan	42407.27
	Weighted Average Rate of Interest	7.9635%
	Interest	3377.11



Annexure-VI**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR
TARIFF PERIOD 2013-14 FOR ASSET-F**

		(₹in lakh)
Details of Loan		2013-14
1	Bond - XXXII	
	Gross loan opening	15.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	15.00
	Additions during the year	0.00
	Repayment during the year	1.25
	Net Loan-Closing	13.75
	Average Loan	14.38
	Rate of Interest	8.84%
	Interest	1.27
	Rep Schedule	12 annual installments from 29.3.2014
2	Bond XXXIV	
	Gross loan opening	1517.51
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	1517.51
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	1517.51
	Average Loan	1517.51
	Rate of Interest	8.84%
	Interest	134.15
	Rep Schedule	12 annual installments from 21.10.2014
3	Bond XXXVI	
	Gross loan opening	10.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	10.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	10.00
	Average Loan	10.00
	Rate of Interest	9.35%
	Interest	0.94
	Rep Schedule	15 annual installments from 29.8.2016.
4	Bond XXXVII	
	Gross loan opening	60.00



	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	60.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	60.00
	Average Loan	60.00
	Rate of Interest	9.25%
	Interest	5.55
	Rep Schedule	15 annual installments from 29.8.2016.
5	Bond XXXVIII	
	Gross loan opening	10.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	10.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	10.00
	Average Loan	10.00
	Rate of Interest	9.25%
	Interest	0.93
	Rep Schedule	9.3.2027 Bullet Payment
6	Bond XXXIX	
	Gross loan opening	65.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	65.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	65.00
	Average Loan	65.00
	Rate of Interest	9.40%
	Interest	6.11
	Rep Schedule	29.3.2027 Bullet Payment
7	Bond XL	
	Gross loan opening	80.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	80.00
	Additions during the year	5.23
	Repayment during the year	0.00
	Net Loan-Closing	85.23
	Average Loan	82.62
	Rate of Interest	9.30%



	Interest	7.68
	Rep Schedule	12 annual installments from 28.6.2016
8	Bond XLI	
	Gross loan opening	3.38
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	3.38
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	3.38
	Average Loan	3.38
	Rate of Interest	8.8500%
	Interest	0.30
	Rep Schedule	12 annual installments from 19.10.2016
9	Bond XLIV	
	Gross loan opening	0.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	64.03
	Repayment during the year	0.00
	Net Loan-Closing	64.03
	Average Loan	32.02
	Rate of Interest	8.70%
	Interest	2.79
	Rep Schedule	3 equal annual installments 15.7.2018, 15.7.2023, 15.7.2028
10	SBI (21.03.2012)-COD	
	Gross loan opening	45.00
	Cumulative Repayment upto COD/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	10.25%
	Interest	4.61
	Rep Schedule	21 (227 cr.) Half yearly equal installments + 1 half yearly left (233 Cr) from 31.8.2016
11	IFC (IFC-A Loan) (31419-00) COD-62.41	
	Gross loan opening	12.98
	Cumulative Repayment upto COD/previous year	0.00



	Net Loan-Opening	12.98
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	12.98
	Average Loan	12.98
	Rate of Interest	3.28%
	Interest	0.43
	Rep Schedule	
12	IFC (IFC-B Loan) (31419-01) COD-62.41	
	Gross loan opening	40.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	40.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	40.00
	Average Loan	40.00
	Rate of Interest	2.43%
	Interest	0.97
	Rep Schedule	
13	IFC (ICFF Loan) (31419-02) COD-62.41	
	Gross loan opening	14.98
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	14.98
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	14.98
	Average Loan	14.98
	Rate of Interest	3.26%
	Interest	0.49
	Rep Schedule	
14	FC Bond (17.1.2013) COD-62.41	
	Gross loan opening	27.02
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	27.02
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	27.02
	Average Loan	27.02
	Rate of Interest	4.10%



	Interest	1.11
	Rep Schedule	
	Total Loan	
	Gross loan opening	1900.87
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	1900.87
	Additions during the year	69.26
	Repayment during the year	1.25
	Net Loan-Closing	1968.88
	Average Loan	1934.88
	Weighted Average Rate of Interest	8.6472%
	Interest	167.31



Annexure-VII**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR
TARIFF PERIOD 2013-14 FOR ASSET-G**

		(₹in lakh)
Details of Loan		2013-14
1	Bond XL	
	Gross loan opening	71.47
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	71.47
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	71.47
	Average Loan	71.47
	Rate of Interest	9.30%
	Interest	6.65
	Rep Schedule	12 annual installments from 28.6.2016
2	Bond XLIV	
	Gross loan opening	0.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	25.70
	Repayment during the year	0.00
	Net Loan-Closing	25.70
	Average Loan	12.85
	Rate of Interest	8.70%
	Interest	1.12
	Rep Schedule	3 equal annual installments 15.7.2018, 15.7.2023, 15.7.2028
3	SBI (21.03.2012)-COD	
	Gross loan opening	1725.83
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	1725.83
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	1725.83
	Average Loan	1725.83
	Rate of Interest	10.25%
	Interest	176.90
	Rep Schedule	21 (227 cr.) Half yearly equal installments + 1 half yearly left (233 Cr) from 31.8.2016
	Total Loan	



Gross loan opening	1797.30
Cumulative Repayment upto COD/previous year	0.00
Net Loan-Opening	1797.30
Additions during the year	26.30
Repayment during the year	0.00
Net Loan-Closing	1823.60
Average Loan	1810.45
Weighted Average Rate of Interest	10.2011%
Interest	184.69



Annexure-VIII

**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR
TARIFF PERIOD 2014-19 FOR COMBINED ASSETS**

		(₹in lakh)				
	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	Bond - XXXII					
	Gross loan opening	344.00	344.00	344.00	344.00	344.00
	Cumulative Repayment upto COD/previous year	28.67	57.33	86.00	114.67	143.33
	Net Loan-Opening	315.33	286.67	258.00	229.33	200.67
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	28.67	28.67	28.67	28.67	28.67
	Net Loan-Closing	286.67	258.00	229.33	200.67	172.00
	Average Loan	301.00	272.33	243.67	215.00	186.33
	Rate of Interest	8.84%	8.84%	8.84%	8.84%	8.84%
	Interest	26.61	24.07	21.54	19.01	16.47
	Rep Schedule	12 annual installments from 29.3.2014				
2	Bond XXXIV					
	Gross loan opening	6817.89	6817.89	6817.89	6817.89	6817.89
	Cumulative Repayment upto COD/previous year	0.00	568.16	1136.32	1704.47	2272.63
	Net Loan-Opening	6817.89	6249.73	5681.58	5113.42	4545.26
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	568.16	568.16	568.16	568.16	568.16
	Net Loan-Closing	6249.73	5681.58	5113.42	4545.26	3977.10
	Average Loan	6533.81	5965.65	5397.50	4829.34	4261.18
	Rate of Interest	8.84%	8.84%	8.84%	8.84%	8.84%
	Interest	577.59	527.36	477.14	426.91	376.69
	Rep Schedule	12 annual installments from 21.10.2014				
3	Bond XXXV					
	Gross loan opening	600.00	600.00	600.00	600.00	600.00
	Cumulative Repayment upto COD/previous year	0.00	0.00	50.00	100.00	150.00
	Net Loan-Opening	600.00	600.00	550.00	500.00	450.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	50.00	50.00	50.00	50.00
	Net Loan-Closing	600.00	550.00	500.00	450.00	400.00
	Average Loan	600.00	575.00	525.00	475.00	425.00
	Rate of Interest	9.64%	9.64%	9.64%	9.64%	9.64%
	Interest	57.84	55.43	50.61	45.79	40.97
	Rep Schedule	12 annual installments from 31.5.2015.				



4	Bond XXXVI					
	Gross loan opening	1950.00	1950.00	1950.00	1950.00	1950.00
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	130.00	260.00
	Net Loan-Opening	1950.00	1950.00	1950.00	1820.00	1690.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	130.00	130.00	130.00
	Net Loan-Closing	1950.00	1950.00	1820.00	1690.00	1560.00
	Average Loan	1950.00	1950.00	1885.00	1755.00	1625.00
	Rate of Interest	9.35%	9.35%	9.35%	9.35%	9.35%
	Interest	182.33	182.33	176.25	164.09	151.94
	Rep Schedule	15 annual installments from 29.8.2016.				
5	Bond XXXVII					
	Gross loan opening	11286.00	11286.00	11286.00	11286.00	11286.00
	Cumulative Repayment upto COD/previous year	0.00	0.00	940.50	1881.00	2821.50
	Net Loan-Opening	11286.00	11286.00	10345.50	9405.00	8464.50
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	940.50	940.50	940.50	940.50
	Net Loan-Closing	11286.00	10345.50	9405.00	8464.50	7524.00
	Average Loan	11286.00	10815.75	9875.25	8934.75	7994.25
	Rate of Interest	9.25%	9.25%	9.25%	9.25%	9.25%
	Interest	1043.96	1000.46	913.46	826.46	739.47
	Rep Schedule	12 annual installments from 26.12.2015				
6	Bond XXXVIII					
	Gross loan opening	510.00	510.00	510.00	510.00	510.00
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	510.00	510.00	510.00	510.00	510.00
	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	510.00	510.00	510.00	510.00	510.00
	Average Loan	510.00	510.00	510.00	510.00	510.00
	Rate of Interest	9.25%	9.25%	9.25%	9.25%	9.25%
	Interest	47.18	47.18	47.18	47.18	47.18
	Rep Schedule	9.3.2027 Bullet Payment				
7	Bond XXXIX					
	Gross loan opening	4965.00	4965.00	4965.00	4965.00	4965.00
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	4965.00	4965.00	4965.00	4965.00	4965.00
	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	4965.00	4965.00	4965.00	4965.00	4965.00
	Average Loan	4965.00	4965.00	4965.00	4965.00	4965.00



	Rate of Interest	9.40%	9.40%	9.40%	9.40%	9.40%
	Interest	466.71	466.71	466.71	466.71	466.71
	Rep Schedule	29.3.2027 Bullet Payment				
6	Bond SBI (21.3.2012)					
	Gross loan opening	2170.83	2636.67	2654.95	2654.95	2654.95
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	241.36	482.72
	Net Loan-Opening	2170.83	2636.67	2654.95	2413.59	2172.23
	Additions during the year	465.84	18.28	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	241.36	241.36	241.36
	Net Loan-Closing	2636.67	2654.95	2413.59	2172.23	1930.87
	Average Loan	2403.75	2645.81	2534.27	2292.91	2051.55
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	246.38	271.20	259.76	235.02	210.28
	Rep Schedule	22 annual installments from 31.8.2016				
6	Bond XL					
	Gross loan opening	7041.07	7062.55	7062.55	7062.55	7062.55
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	588.55	1177.09
	Net Loan-Opening	7041.07	7062.55	7062.55	6474.00	5885.46
	Additions during the year	21.48	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	588.55	588.55	588.55
	Net Loan-Closing	7062.55	7062.55	6474.00	5885.46	5296.91
	Average Loan	7051.81	7062.55	6768.28	6179.73	5591.19
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	655.82	656.82	629.45	574.72	519.98
	Rep Schedule	12 annual installments from 28.6.2016				
7	Bond XLI					
	Gross loan opening	3007.30	3031.73	3031.73	3031.73	3031.73
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	252.64	505.29
	Net Loan-Opening	3007.30	3031.73	3031.73	2779.09	2526.44
	Additions during the year	24.43	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	252.64	252.64	252.64
	Net Loan-Closing	3031.73	3031.73	2779.09	2526.44	2273.80
	Average Loan	3019.52	3031.73	2905.41	2652.76	2400.12
	Rate of Interest	8.85%	8.85%	8.85%	8.85%	8.85%
	Interest	267.23	268.31	257.13	234.77	212.41
	Rep Schedule	12 annual installments from 19.10.2016				
8	Bond XLII					
	Gross loan opening	2460.76	2475.88	2475.88	2475.88	2475.88
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	2460.76	2475.88	2475.88	2475.88	2475.88



	Additions during the year	15.12	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	2475.88	2475.88	2475.88	2475.88	2475.88
	Average Loan	2468.32	2475.88	2475.88	2475.88	2475.88
	Rate of Interest	8.80%	8.80%	8.80%	8.80%	8.80%
	Interest	217.21	217.88	217.88	217.88	217.88
	Rep Schedule	Redeemable at par on 13.3.2023				
9	Bond XLIII					
	Gross loan opening	251.61	251.61	251.61	251.61	251.61
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	20.97
	Net Loan-Opening	251.61	251.61	251.61	251.61	230.64
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	20.97	20.97
	Net Loan-Closing	251.61	251.61	251.61	230.64	209.68
	Average Loan	251.61	251.61	251.61	241.13	220.16
	Rate of Interest	7.93%	7.93%	7.93%	7.93%	7.93%
	Interest	19.95	19.95	19.95	19.12	17.46
	Rep Schedule	12 annual installments from 20.5.2017				
10	Bond XLIV					
	Gross loan opening	7972.02	7972.02	7972.02	7972.02	7972.02
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	7972.02	7972.02	7972.02	7972.02	7972.02
	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	2657.34
	Net Loan-Closing	7972.02	7972.02	7972.02	7972.02	5314.68
	Average Loan	7972.02	7972.02	7972.02	7972.02	6643.35
	Rate of Interest	8.70%	8.70%	8.70%	8.70%	8.70%
	Interest	693.57	693.57	693.57	693.57	577.97
	Rep Schedule	3 equal annual installments 15.7.2018, 15.7.2023, 15.7.2028				
11	Bond XLVII					
	Gross loan opening	0.00	306.26	306.26	306.26	306.26
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	306.26	306.26	306.26	306.26
	Additions during the year	306.26	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	25.52
	Net Loan-Closing	306.26	306.26	306.26	306.26	280.74
	Average Loan	153.13	306.26	306.26	306.26	293.50
	Rate of Interest	8.93%	8.93%	8.93%	8.93%	8.93%
	Interest	13.67	27.35	27.35	27.35	26.21
	Rep Schedule	12 annual installments from 20.10.2018.				



12	Bond XLVIII					
	Gross loan opening	0.00	247.58	247.58	247.58	247.58
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	247.58	247.58	247.58	247.58
	Additions during the year	247.58	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	247.58	247.58	247.58	247.58	247.58
	Average Loan	123.79	247.58	247.58	247.58	247.58
	Rate of Interest	8.20%	8.20%	8.20%	8.20%	8.20%
	Interest	10.15	20.30	20.30	20.30	20.30
	Rep Schedule	Redeemable at par in 4 equal installments on 23.1.2020, 23.1.2022, 23.1.2025 & 23.1.2030				
13	Bond XLIX					
	Gross loan opening	0.00	1833.06	1833.06	1833.06	1833.06
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	1833.06	1833.06	1833.06	1833.06
	Additions during the year	1833.06	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	1833.06	1833.06	1833.06	1833.06	1833.06
	Average Loan	916.53	1833.06	1833.06	1833.06	1833.06
	Rate of Interest	8.15%	8.15%	8.15%	8.15%	8.15%
	Interest	74.70	149.39	149.39	149.39	149.39
	Rep Schedule	Redeemable at par in 3 equal installments on 9.3.2020, 9.3.2025 & 9.3.2030				
14	Bond LI					
	Gross loan opening	0.00	0.00	1301.51	1301.51	1301.51
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.00	1301.51	1301.51	1301.51
	Additions during the year	0.00	1301.51	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	1301.51	1301.51	1301.51	1301.51
	Average Loan	0.00	650.76	1301.51	1301.51	1301.51
	Rate of Interest	8.40%	8.40%	8.40%	8.40%	8.40%
	Interest	0.00	54.66	109.33	109.33	109.33
	Rep Schedule	12 Equal Annual installments from 14.9.2019				
15	IFC-(A Loan) (31419-00) 62.65					
	Gross loan opening	1050.01	1050.01	1050.01	1050.01	1050.01
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	105.00
	Net Loan-Opening	1050.01	1050.01	1050.01	1050.01	945.01
	Additions during the year	0.00	0.00	0.00	0.00	0.00



	Repayment during the year	0.00	0.00	0.00	105.00	105.00
	Net Loan-Closing	1050.01	1050.01	1050.01	945.01	840.01
	Average Loan	1050.01	1050.01	1050.01	997.51	892.51
	Rate of Interest	3.23%	3.23%	3.23%	3.23%	3.23%
	Interest	33.92	33.92	33.92	32.22	28.83
	Rep Schedule	20 Half yearly equal installments from 15.9.2017				
16	IFC-(A Loan) (31419-00) 62.41					
	Gross loan opening	263.00	263.00	263.00	263.00	263.00
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	26.30
	Net Loan-Opening	263.00	263.00	263.00	263.00	236.70
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	26.30	26.30
	Net Loan-Closing	263.00	263.00	263.00	236.70	210.40
	Average Loan	263.00	263.00	263.00	249.85	223.55
	Rate of Interest	3.23%	3.23%	3.23%	3.23%	3.23%
	Interest	8.49	8.49	8.49	8.07	7.22
	Rep Schedule	20 Half yearly equal installments from 15.9.2017				
17	IFC-(B Loan) (31419-01) 62.65					
	Gross loan opening	3450.01	3450.01	3450.01	3450.01	3450.01
	Cumulative Repayment upto COD/previous year	0.00	0.00	1725.01	3450.01	3450.01
	Net Loan-Opening	3450.01	3450.01	1725.01	0.00	0.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	1725.01	1725.01	0.00	0.00
	Net Loan-Closing	3450.01	1725.01	0.00	0.00	0.00
	Average Loan	3450.01	2587.51	862.50	0.00	0.00
	Rate of Interest	2.38%	2.38%	2.38%	2.38%	2.38%
	Interest	82.11	61.58	20.53	0.00	0.00
	Rep Schedule	4 Half yearly equal installments from 15.9.2015				
18	IFC-(B Loan) (31419-01) 62.41					
	Gross loan opening	720.02	720.02	720.02	720.02	720.02
	Cumulative Repayment upto COD/previous year	0.00	0.00	360.01	720.02	720.02
	Net Loan-Opening	720.02	720.02	360.01	0.00	0.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	360.01	360.01	0.00	0.00
	Net Loan-Closing	720.02	360.01	0.00	0.00	0.00
	Average Loan	720.02	540.02	180.01	0.00	0.00
	Rate of Interest	2.38%	2.38%	2.38%	2.38%	2.38%
	Interest	17.14	12.85	4.28	0.00	0.00
	Rep Schedule	4 Half yearly equal installments from 15.9.2015				



19	IFC-(ICFF Loan) (31419-02) 62.65					
	Gross loan opening	1550.02	1550.02	1550.02	1550.02	1550.02
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	155.00
	Net Loan-Opening	1550.02	1550.02	1550.02	1550.02	1395.02
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	155.00	155.00
	Net Loan-Closing	1550.02	1550.02	1550.02	1395.02	1240.02
	Average Loan	1550.02	1550.02	1550.02	1472.52	1317.52
	Rate of Interest	3.23%	3.23%	3.23%	3.23%	3.23%
	Interest	50.07	50.07	50.07	47.56	42.56
	Rep Schedule	20 Half yearly equal installments from 15.9.2017				
20	IFC-(ICFF Loan) (31419-02) 62.41					
	Gross loan opening	394.99	394.99	394.99	394.99	394.99
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	39.50
	Net Loan-Opening	394.99	394.99	394.99	394.99	355.49
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	39.50	39.50
	Net Loan-Closing	394.99	394.99	394.99	355.49	315.99
	Average Loan	394.99	394.99	394.99	375.24	335.74
	Rate of Interest	3.23%	3.23%	3.23%	3.23%	3.23%
	Interest	12.76	12.76	12.76	12.12	10.84
	Rep Schedule	20 Half yearly equal installments from 15.9.2017				
21	FCBond - 62.65					
	Gross loan opening	4150.00	4150.00	4150.00	4150.00	4150.00
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	4150.00	4150.00	4150.00	4150.00	4150.00
	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	4150.00	4150.00	4150.00	4150.00	4150.00
	Average Loan	4150.00	4150.00	4150.00	4150.00	4150.00
	Rate of Interest	4.10%	4.10%	4.10%	4.10%	4.10%
	Interest	170.15	170.15	170.15	170.15	170.15
	Rep Schedule					
22	FCBond - 62.41					
	Gross loan opening	1677.02	1677.02	1677.02	1677.02	1677.02
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	1677.02	1677.02	1677.02	1677.02	1677.02
	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	1677.02	1677.02	1677.02	1677.02	1677.02
	Average Loan	1677.02	1677.02	1677.02	1677.02	1677.02
	Rate of Interest	4.10%	4.10%	4.10%	4.10%	4.10%
	Interest	68.76	68.76	68.76	68.76	68.76
	Rep Schedule					
	Total Loan					
	Gross loan opening	62631.55	65545.32	66865.11	66865.11	66865.11
	Cumulative Repayment upto COD/previous year	28.67	625.49	4297.83	9182.72	12329.36
	Net Loan-Opening	62602.88	64919.83	62567.28	57682.39	54535.75
	Additions during the year	2913.77	1319.79	0.00	0.00	0.00
	Repayment during the year	596.82	3672.34	4884.89	3146.64	5829.50
	Net Loan-Closing	64919.83	62567.28	57682.39	54535.75	48706.24
	Average Loan	63761.36	63743.55	60124.84	56109.07	51621.00
	Rate of Interest	7.9112%	8.0032%	8.1596%	8.2277%	8.1924%
	Interest	5044.27	5101.54	4905.94	4616.48	4228.99

