

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 534/TT/2014

Coram:

**Shri Gireesh B Pradhan, Chairperson
Shri A.K. Singhal, Member
Shri A.S. Bakshi, Member
Dr. M.K. Iyer, Member**

**Date of Hearing: 09.02.2016
Date of Order : 12.05.2016**

In the matter of:

Approval of Transmission Tariff for **Asset-I:** Kurnool-Thiruvalam 765 kV D/C line (Anticipated COD: 1.12.2014), **Asset-II:** Extension of 765 kV Sub-station at Kurnool and Upgradation of 400 kV Sub-station at Thiruvalam to 765/400 kV with 2x1500 MVA, 765/400 kV transformers (Anticipated COD: 1.12.2014) and **Asset-III:** 1x240 MVAR line reactor at both ends of each circuit of Kurnool-Thiruvalam 765 kV D/C line (Anticipated COD: 1.12.2014), under "System Strengthening-XIX in Southern Regional grid" in Southern Region for tariff block 2014-19 under Regulation-86 of Central Electricity Regulatory Commission (Conduct of Business) Regulation 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2014.

And in the matter of:

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

....Petitioner

Vs

1. Karnataka Power Transmission Corporation Limited,
(KPTCL), Kaveri Bhawan,
Bangalore-560 009
2. Transmission Corporation of Andhra Pradesh Limited,
(APTRANCO), Vidyut Soudha,
Hyderabad-500 082



3. Kerala State Electricity Board (KSEB),
Vaidyuthi Bhavanam,
Pattom, Thiruvananthapuram-695 004
4. Tamil Nadu Electricity Board,
NPKRR Maaligai, 800, Anna Salai,
Chennai-600 002
5. Electricity Department,
Government of Goa,
Vidyuti Bhawan, Panaji, Goa-403001
6. Electricity Department,
Government of Pondicherry,
Pondicherry-605 001
7. Eastern Power Distribution Company of Andhra Pradesh Limited,
(APEPDCL), APEPDCL, P&T Colony,
Seethmmadhara, Vishakhapatnam,
Andhra Pradesh
8. Southern Power Distribution Company of Andhra Pradesh Limited,
(APSPDCL), Srinivasasa Kalyana Mandapam Backside,
Tiruchanoor Road, Kesavayana Gunta,
Tirupati-517 501
9. Central Power Distribution Company of Andhra Pradesh Limited,
(APCPDCL), Corporate Office, Mint Compound,
Hyderabad-500 063
10. Northern Power Distribution Company of Andhra Pradesh Limited,
(APNPDCL), Opp. NIT Petrol Pump,
Chaitanyapuri, Kazipet,
Warangal-506 004
11. Bangalore Electricity Supply Company Limited,
(BESCOM), Corporate Office, K. R. Circle,
Bangalore-560 001, Karnataka
12. Gulbarga Electricity Supply Company Limited,
(GESCOM), Station Main Road,
Gulbarga, Karnataka



13. Hubli Electricity Supply Company Limited,
(HESCOM), Navanagar, PB Road,
Hubli, Karnataka
14. MESCOM Corporate Office,
Paradigm Plaza, AB Shetty Circle,
Mangalore-575 001, Karnataka
15. Chamundeswari Electricity Supply Corporation Limited,
(CESC), # 927, L J Avenue, Ground Floor,
New Kantharaj Urs Road,
Saraswatipuram, Mysore-570009, Karnataka

.....Respondents

For petitioner : Shri M.M. Mondal, PGCIL
Shri S.S. Raju, PGCIL
Shri Jasbir Singh, PGCIL
Shri Rakesh Prasad, PGCIL

For respondents: Shri S. Vallinayagam, Advocate for TANGEDCO

ORDER

The present petition has been filed by Power Grid Corporation of India Limited (PGCIL) seeking approval of transmission charges for **Asset-I:** Kurnool-Thiruvalam 765 kV D/C line, **Asset-II:** Extension of 765 kV Sub-station at Kurnool and Upgradation of 400 kV Sub-station at Thiruvalam to 765/400 kV with 2x1500 MVA, 765/400 kV transformers and **Asset-III:** 1x240 MVAR line reactor at both ends of each circuit of Kurnool-Thiruvalam 765 kV D/C line (hereinafter referred to as “transmission assets”) under “System Strengthening-XIX in Southern Regional grid” in Southern Region, from the date of commercial operation to 31.3.2019 based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”).



2. This order has been issued after considering PGCIL's affidavit dated 31.8.2015.

3. The petitioner was entrusted with the implementation of "System Strengthening- XIX in Southern Regional Grid". The system requirements have been pointed out by CEA in order to relieve S1-S2 congestion and discussed in the 27th Empowered Committee meeting dated 6.9.2011. The Investment Approval (IA) for the project was accorded by the Board of Directors of the petitioner vide Memorandum No. C/CP/SRSS dated 4.9.2012 for 276th meeting held on 31.8.2012 at an estimated cost of ₹193535 lakh including an IDC of ₹11417 lakh (based on June, 2012 price level). The project was scheduled to be commissioned within 27 months from the date of IA of Board of Directors i.e. 31.8.2012. Therefore, the scheduled date of commissioning of the transmission system was 1.12.2014. The scope of work covered under the project is broadly as follows:-

Transmission Lines:

- (i) Kurnool-Thiruvalam 765 D/C line;
- (ii) LILO of existing Kolar-Sriperumbudur 400 kV S/C line at Thiruvalam;

Sub-stations:

- (i) Extension of 765/400 kV Sub-station at Kurnool;
- (ii) Upgradation of 400 kV Sub-station at Thiruvalam to 765/400 kV with 2x1500 MVA, 765/400 kV transformers (765 kV portion-GIS and 400 kV portion-AIS);

Reactive Compensation

Line Reactors (765 kV)



- (i) 1x240 MVAR line reactors at both ends of each circuit of Kurnool-Thiruvalam 765 kV D/C line;

4. The petitioner has claimed tariff for the element “LILO of existing Kolar-Sriperumbudur 400 kV S/C line at Thiruvalam”, commissioned on 1.4.2014, in Petition No. 102/TT/2014. The petitioner has claimed tariff for all the remaining assets under the scheme in the instant petition, initially as a single asset from the anticipated date of commercial operation (COD). The petitioner vide affidavit dated 31.8.2015 has submitted the actual dates of commercial operation of the instant transmission assets. The actual dates of commercial operation of the instant assets is as under:-

Particulars	Anticipated COD	Actual COD
Asset-I: Kurnool-Thiruvalam 765 kV D/C line alongwith associated bays and equipments both at Kurnool and Thiruvalam Sub-stations (charged at 400 kV) and 2x240 MVAR, 765 kV line reactor at both Kurnool and Thiruvalam Sub-stations alongwith associated bays and equipment	1.12.2014	29.11.2014
Asset-II: Upgradation of 400 kV Sub-station at Thiruvalam to 765/400 kV with 2x1500 MVA, 765/400 kV transformers	1.12.2014	21.3.2015

5. The petitioner, vide affidavit dated 31.8.2015, has submitted the revised tariff forms for Asset-I from actual COD i.e. 29.11.2014 upto 20.3.2015 and thereafter has combined the Asset-I with Asset-II and has claimed tariff for combined asset from 21.3.2015 upto 31.3.2019. As such, the transmission tariff has been considered accordingly and allowed in this order.

6. Annual Fixed Charges for the instant assets was approved by the Commission vide its order dated 15.4.2015, subject to adjustment as per Regulation



7 (7) (iii) and (iv) of the 2014 Tariff Regulations.

7. The details of the transmission charges claimed by the petitioner are as under:-

Particulars	(₹ in lakh)
	Asset-I 2014-15 (pro-rata)
Depreciation	2092.28
Interest on Loan	2528.08
Return on Equity	2409.32
Interest on Working Capital	172.34
O & M Expenses	190.77
Total	7392.79

Particulars	(₹ in lakh)				
	Combined Asset-21.3.2015 to 31.3.2019				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	258.34	9094.56	9467.65	9562.90	9562.90
Interest on Loan	306.37	10389.58	10017.00	9276.99	8408.06
Return on Equity	296.13	10379.52	10834.08	10961.51	10961.51
Interest on Working Capital	21.43	743.71	756.04	746.07	728.07
O & M Expenses	29.17	1019.27	1052.99	1088.06	1124.22
Total	911.44	31626.64	32127.76	31635.53	30784.76

8. The details submitted by the petitioner in support of its claim for interest on working capital are as follows:-

Particulars	(₹ in lakh)
	Asset-I 2014-15 (pro-rata)
Maintenance Spares	92.73
O & M expenses	51.52
Receivables	3992.86
Total	4137.11
Interest Rate	13.50%
Interest	171.38



(₹ in lakh)

Particulars	Combined Asset-21.3.2015 to 31.3.2019				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	147.99	152.89	157.95	163.21	168.63
O & M expenses	82.22	84.94	87.75	90.67	93.69
Receivables	5137.75	5271.11	5354.63	5272.59	5130.79
Total	5367.96	5508.94	5600.33	5526.47	5393.11
Interest Rate	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	21.84	743.71	756.04	746.07	728.07

9. 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. Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO), Respondent No. 4 has filed reply dated 3.2.2016. TANGEDCO has raised the issue of over-estimation of cost, additional capital expenditure, additional ROE, O&M Expenses, license fee and service tax, etc. The petitioner has filed rejoinder to the reply of TANGEDCO vide affidavit dated 8.3.2016. The issues raised by TANGEDCO and the clarification given by the petitioner are addressed in the relevant paragraphs of this order.

10. Having heard the representatives of the petitioner and perused the material available on record we proceed to dispose of the petition.

Capital cost

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

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



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

- (a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014;
- (b) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and
- (c) expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 15.”

12. The petitioner vide affidavit dated 31.8.2015 has submitted the Auditors’ Certificate dated 28.8.2015 alongwith the revised tariff forms. The details of the apportioned approved capital cost, capital cost as on the date of commercial operation and estimated additional capital expenditure incurred or projected to be incurred for the instant transmission assets and considered for the purpose of tariff are as given hereinafter:-

Particulars	Apportioned approved cost	Claimed by the petitioner				Additional capital expenditure Incurred/Projected			Total estimated completion cost
		Hard cost as on COD	IDC	IEDC	Cost upto actual COD	2014-15	2015-16	2016-17	
Asset-I	189636.00	105057.86	6904.22	1528.46	113490.54	32351.32	4432.56	1604.00	151878.42
Asset-II		19401.87	972.49	300.59	20674.95	837.88	6341.14	2592.45	30446.42

As per auditors’ certificate the expenditure upto 31.3.2015 has been verified from the books of account of the project and the balance expenditure is on the basis of details furnished by the management.

Cost over-run

13. TANGEDCO has submitted that the petitioner’s claim of completion cost of ₹204952 lakh is exorbitant and it is without proper details or explanation. The petitioner in its rejoinder has submitted that it has claimed completion cost of ₹182325 lakh against the approved cost of ₹193535 lakh (including IDC of ₹11417 lakh) and there is no claim of completed cost at ₹204952 lakh.



14. We have considered the submissions of TANGEDCO and the petitioner. The total estimated completion cost of the combined asset is ₹182324.84 lakh against the apportioned approved cost of ₹189636.00 lakh. Thus, there is no cost over-run in the case of instant transmission assets.

Time over-run

15. The project was scheduled to be commissioned within 27 months from the date of investment approval of 31.8.2012. Accordingly, the scheduled date of commercial operation works out to 1.12.2014 against which, Asset-I and Asset-II have been commissioned on 29.11.2014 and 21.3.2015 respectively. Thus, there is no time over-run in case of Asset-I but there is time over-run of 3 months and 22 days in the commissioning of Asset-II.

16. The petitioner has not submitted the reasons for delay in the commissioning of the Asset-II. As such, we are not inclined to condone the delay in the commissioning of Asset-II.

Treatment of IDC and IEDC

17. The petitioner has claimed Interest During Construction (IDC) of ₹6904.22 lakh and ₹972.49 lakh for Asset-I and Asset-II respectively. The petitioner has submitted the statement showing IDC discharged up to COD for both the assets indicating the loan wise drawl date. However, the date of infusion of debt fund is not available. As such, the loan wise drawl date as provided by the petitioner has been assumed as date of infusion of debt fund for the concerned loan for the



purpose of determining the IDC. Further, the petitioner has submitted that the balance amount of accrued IDC shall be discharged during 2014-15 and 2015-16 and in Form-7 (i.e. Statement of additional capital expenditure) has claimed additional capital expenditure (ACE) towards balance/retention payment. However, it is not clear, whether the amount of ACE claimed in Form-7 is inclusive of the un-discharged IDC as on COD.

18. In view of above, based on available information, IDC amounting to ₹4444.13 lakh and ₹735.10 lakh has been considered and allowed on cash basis for Asset-I and Asset-II respectively after considering disallowed IDC for the delayed period of 3 months 22 days in the case of Asset-I. The IDC allowed is subject to true up.

19. The un-discharged liability pertaining to IDC would be considered once it is paid, subject to submission of adequate information and prudence check at the time of truing-up. The petitioner is directed to submit loan wise date of infusion of debt, distinguish the ACE claim towards the discharge of liability whether it pertains to the liability as on COD and the ACE claim towards cash expenditure pertains to the addition of Gross Block added into books of account after COD and submit Auditor certified details of capital cost on cash basis as on COD along with liability flow statement duly reconciled with the capital cost as per books of account at the time of truing-up.



20. The petitioner has claimed ₹1528.46 lakh and ₹300.59 lakh for Asset-I and Asset-II respectively as Incidental Expenditure During Construction (IEDC). However, the petitioner vide affidavit dated 31.8.2015 has submitted Form-12A for Combined Asset, indicating that the entire IEDC of ₹1829.05 lakh (₹1528.46 lakh+₹300.59 lakh) has been discharged on 21.3.2015 i.e. the COD of Combined Asset. As such, in the case of Asset-I, the IEDC have been presumed to have been discharged on 21.3.2015 as a part of Combined Asset and no IEDC has been considered separately on COD of Asset-I as on 29.11.2014. Further, the IEDC amount claimed is within the percentage on Hard Cost as submitted in the Abstract Cost Estimate. Therefore, the amount of ₹300.59 lakh has been disallowed, after pro-rata deduction for the delay, which has not been condoned in the case of Asset-II. Thus, the amount of IEDC of ₹1528.46 lakh has been considered as on the COD of Combined Asset i.e.21.3.2015 for the purpose of tariff in this order.

Initial Spares

21. Regulation 13 of the 2014 Tariff Regulations specifies ceiling norms for capitalization of initial spares in respect of transmission system as under:-

“13. Initial Spares

Initial spares shall be capitalised as a percentage of the Plant and Machinery cost upto cut-off date, subject to following ceiling norms:

(d) Transmission system

(i) Transmission line - 1.00%

(ii) Transmission Sub-station (Green Field) - 4.00%

(iii) Transmission Sub-station (Brown Field) - 6.00%

(iv) Series Compensation devices and HVDC Station - 4.00%



(v) Gas Insulated Sub-station (GIS)-5.00%

(vi) Communication system-3.5%

Provided that:

(i) where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost by the Commission, such norms shall apply to the exclusion of the norms specified above:

(ii) -----

(iii) Once the transmission project is commissioned, the cost of initial spares shall be restricted on the basis of plant and machinery cost corresponding to the transmission project at the time of truing up:

(iv) for the purpose of computing the cost of initial spares, plant and machinery cost shall be considered as project cost as on cut-off date excluding IDC, IEDC, Land Cost and cost of civil works. The transmission licensee shall submit the breakup of head wise IDC & IEDC in its tariff application.

22. The petitioner has not submitted any details regarding initial spares for the assets in affidavit dated 31.8.2015, although, the petitioner had claimed spares for sub-station and transmission line on anticipated basis in the original petition. As such, in the absence of the required information, initial spares have not been considered for final tariff in this order. However, the petitioner is directed to clarify the claim of spares at the time of the truing-up.

23. Accordingly, capital cost as on the date of commercial operation for the instant transmission assets after adjustment of IDC/IEDC is considered as per Regulation 9 (2) of the 2014 Tariff Regulations, as given under:-



(₹ in lakh)

Particulars	Capital cost claimed as on COD	Un-discharged		Capital cost on cash basis allowed as on COD-29.11.2014
		IDC	IEDC	
1	2	3	4	5=2-(3+4)
Asset-I	113490.54	2460.09	1528.46	109501.99
Particulars	Capital cost claimed as on COD	Un-discharged		Capital cost on cash basis allowed as on COD-21.3.2015
1	2	IDC	IEDC	5=2-(3+4)
Asset-II	20674.95	237.39	300.59	20136.97

24. In view of above, the tariff for Asset-I has been allowed from COD i.e. 29.11.2014 till the COD of Asset-II i.e. 20.03.2015 separately. Thereafter, the Asset-I has been combined with Asset-II as on COD of the Asset-II i.e. 21.3.2015 and the tariff for Combined Asset has been considered w.e.f. 21.3.2015. The capital cost for Combined Asset has been determined by adding-up the allowed capital cost as on COD of Asset-I, the additional capital cost allowed for Asset-I up to 20.3.2015, the discharge of IEDC in respect of Asset-I and the allowed capital cost of Asset-II on standalone basis.

25. Accordingly, capital cost of the Combined Asset as on the date of commercial operation is considered for tariff purpose as given under:-

(₹ in lakh)

Particulars	Capital cost allowed as on COD for Asset-I	ACE allowed for Asset-I upto 20.3.2015	Discharge of IEDC of as on 21.3.2015	Capital cost allowed as on COD for Asset-II (21.3.2015)	Capital cost on cash basis allowed as on COD (21.3.2015)
1	2	3	4	5	6=(2+3+4+5)
Combined Asset	109501.99	30150.36	1528.46	20136.97	161317.78



Additional Capitalisation

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

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

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

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

27. Clause (13) of Regulation 3 of the 2014 Tariff Regulations defines “cut-off” date as under:

“cut-off date” means 31st March of the year closing after two years of the year of commercial operation of whole or part of the project, and in case the whole or part of the project is declared under commercial operation in the last quarter of the year, the cut-off date shall be 31st March of the year closing after three years of the year of commercial operation”.

28. The cut-off date in the case of instant transmission assets is 31.3.2018.

29. The additional capital expenditure during 2014-15, 2015-16 and 2016-17 claimed by the petitioner is as discussed at para-12 above. The additional capital expenditure incurred or projected to be incurred and claimed by the petitioner in respect of the instant transmission assets totaling for Asset-I and Asset-II is within



the cut-off date and is on account of balance payments. Thus, the additional capital expenditure claimed in respect of the instant transmission assets is allowed. The additional capital expenditure approved for the purpose of tariff is as follows:-

Particulars	(₹ in lakh)		
	2014-15	2015-16	2016-17
Asset-I upto 20.3.2015	30150.36	-	-
Combined Asset	3038.84	10773.70	4196.95

30. Based on the above, gross block has been considered as per details given below:-

Particulars	Capital cost allowed as on COD (21.3.2015)	Additional Capital Expenditure Incurred/Projected			Total estimated completion capital cost as on 31.3.2019
		(₹ in lakh)			
		2014-15	2015-16	2016-17	
Combined Asset	161317.78	3038.84	10773.70	4196.45	179326.77

31. TANGEDCO has submitted that petitioner's should confirm that additional capital expenditure is mainly on account of balance and retention payments. The petitioner has submitted that the claim for add-cap is on account of balance and retention payments and is claimed within the cut-off date. However, the petitioner is directed to submit the actual capital expenditure by clearly bifurcating the cost towards new addition to the gross block (i.e. additional capitalisation made during the year in books of account) and the cost towards the discharge of liability out of the liability as on COD in respect of Asset-I, Asset-II separately at the time of truing-up.



Debt- Equity ratio

32. Clause 1 of Regulation 19 of the 2014 Tariff Regulations specifies as follows:-

“(1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

- (i) where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
- (ii) the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
- (ii) any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio.

Explanation.-The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.

33. The capital cost on the dates of commercial operation arrived at as above and additional capitalization allowed have been considered in the normative debt-equity ratio of 70:30. The details of debt-equity in respect of Asset-I as on the date of commercial operation as on 29.11.2014 and 20.3.2015 and of Combined Asset as on 21.3.2015 and 31.3.2019 considered on normative basis are as follows:-



(₹ in lakh)

Asset-I	As on COD (29.11.2014)		As on 20.3.2015	
	Amount	% age	Amount	% age
Debt	76651.39	70.00	97756.64	70.00
Equity	32850.59	30.00	41895.70	30.00
Total	109501.99	100.00	139652.35	100.00
Combined Asset	As on COD (21.3.2015)		As on 31.3.2019	
	Amount	% age	Amount	% age
Debt	112922.44	70.00	125528.74	70.00
Equity	48395.33	30.00	53798.03	30.00
Total	161317.78	100.00	179326.77	100.00

Return on equity

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

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

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system....

.....
Provided that:

- (i) In case of projects commissioned on or after 1st April, 2014, an additional return of 0.505 shall be allowed, if such projects are completed within the timeline specified in Appendix-I:
- (ii) The additional return of 0.505 shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:
- (iii) Additional RoE may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid: -----“

“25. Tax on Return on Equity:

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



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

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

35. The petitioner has submitted that RoE has been calculated at the rate of 20.243% after grossing up the RoE with MAT rate of 20.961% based on the rate prescribed as per illustration under Regulation 25 (2) (i) of the 2014 Tariff Regulations. The petitioner has further submitted that the grossed up RoE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up RoE after truing up shall be recovered or refunded to the beneficiaries on year to year basis.

36. 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.

37. We have considered the submissions made by the petitioner. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on equity. It



further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. The petitioner has submitted that MAT rate is applicable to the petitioner's company. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. Accordingly, the RoE determined is as given under:-

(₹ in lakh)

Particulars	Asset-I	Combined Asset				
	2014-15 (29.11.2014 to 20.3.2015)	2014-15 (21.3.2015 to 31.3.2015)	2015-16	2016-17	2017-18	2018-19
Opening Equity	32850.59	48395.33	49306.98	52539.09	53798.03	53798.03
Addition due to Additional Capitalization	9045.11	911.65	3232.11	1258.94	-	-
Closing Equity	41895.70	49306.98	52539.09	53798.03	53798.03	53798.03
Average Equity	37373.15	48851.16	50923.04	53168.56	53798.03	53798.03
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	19.610%	19.610%	19.610%	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	2248.86	288.70	9986.01	10426.36	10549.79	10549.79

38. The petitioner has also claimed additional RoE of 0.5% for both Asset-I and Combined Asset. TANGEDCO has submitted that the Kurnool-Thiruvalam 765 kV line was not commissioned at 765 kV level but at 400 kV level and declared commercial on 1.11.2014 whereas it was charged at 765 kV level on 20.3.2015.



TANGEDCO has submitted that the petitioner has also not submitted approval of the SRPC for commissioning the line at lower voltage level so that it could benefit the system and as such additional RoE may not to be allowed. The petitioner in its rejoinder has reiterated its claim for additional RoE on account of having completed the project within the time line of 40 months.

39. We have considered the submissions of TANGEDCO and the petitioner. It is observed that although all the elements, except for ICT bays of 400 kV and 765 kV bays, which are the parts/elements of both Asset-I and Asset-II, have been completed within timeline specified in 2014 Tariff Regulations. As per Regulation 24(2)(i) of the 2014 Tariff Regulations, additional RoE is to be considered only if the project as a whole has been commissioned within the timeline specified in Appendix-I, but with an exception vide Regulation 24(2)(iii) which specifies that it can be considered in a case wherein it has been certified by RPC/NPC that the element of a project completed within the time specified will benefit the system operation in the regional/national grid. However, the petitioner has not submitted any such certificate as specified and hence we are not inclined to allow the petitioner's claim for additional RoE.

Interest on loan

40. Clause (5) & (6) of Regulation 26 of the 2014 Tariff Regulations are reproduced as under:-



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

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

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

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

41. In keeping with the provisions of Regulation 16 of the 2009 Tariff Regulations, the petitioner’s entitlement to interest on loan has been calculated on the following basis:-

(a) Gross amount of loan, repayment of instalments and rate of interest have been considered as per Form-9C submitted vide affidavit dated 31.8.2015;

(b) The normative repayment for the tariff period 2014-19 has been considered to be equal to the depreciation allowed for that period;

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

42. The petitioner has submitted that the interest on loan has been considered on the basis of rate prevailing as on COD and the change in interest due to floating rate of interest applicable, if any, for the project needs to be claimed/ adjusted over



the tariff block 2014-19 directly from the beneficiaries. We would like to clarify that the interest on loan has been calculated on the basis of rate prevailing as on the date of commercial operation. Any change in rate of interest subsequent to the date of commercial operation will be considered at the time of truing-up.

43. Detailed calculations in support of interest on loan have been given at Annexure I to Annexure II of this order.

44. The details of Interest on Loan calculated are as under:-

Particulars	Asset-I	Combined Asset				
	2014-15 (29.11.2014 to 20.3.2015)	2014-15 (21.3.2015 to 31.3.2015)	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	76651.39	112922.44	115049.63	122591.22	125528.74	125528.74
Cumulative Repayment upto Previous Year	-	2015.92	2276.92	11133.02	19791.56	28324.50
Net Loan-Opening	76651.39	110906.52	112772.71	111458.20	105737.17	97204.24
Addition due to Additional Capitalisation	21105.25	2127.19	7541.59	2937.52	-	-
Repayment during the year	2015.92	261.00	8856.09	8658.55	8532.93	8532.93
Net Loan-Closing	95740.72	112772.71	111458.20	105737.17	97204.24	88671.31
Average Loan	86196.06	111839.61	112115.46	108597.69	101470.71	92937.77
Weighted Average Rate of Interest on Loan	9.2209%	9.0788%	9.0684%	9.0629%	9.0524%	9.0489%
Interest on Loan	2438.84	306.00	10167.03	9842.15	9185.52	8409.85

(₹ in lakh)



Depreciation

45. Clause (2), (5) and (6) of Regulation 27 of the 2014 Tariff Regulations provide as follows:-

"27. Depreciation:

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

...

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

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

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

46. In view of Regulation 27 of the 2014 Tariff Regulations, in case of the tariff of all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the transmission system. The effective date of commercial operation needs to be worked out by considering the actual date of commercial operation and the capital cost of all elements of a transmission system. However, the scope of instant project (i.e. System Strengthening-XIX in Southern Regional Grid) has been covered partially in the instant petition and partially in the Petition No. 102/TT/2014 but the entire scope of the project shall be completed with commissioning of the asset in the instant petition. Thus, capital cost



allowed for all elements of the transmission system are covered in different petitions, determination of effective date of commercial operation would be required at the time of truing-up to determine the weighted average life of all assets covered in the project for the claim of the petitioner as a single tariff for the clubbed assets. Thereafter, the final method of depreciation for clubbed asset shall need to be determined based on the effective date of commercial operation.

47. Accordingly, the depreciation for the assets covered in the instant petition has been calculated annually based on Straight Line Method and at rates specified in Appendix-II to the 2014 Tariff Regulations. The petitioner is directed to submit a single consolidated True-up petition for all the assets covered under the project scope after determining the effective date of commercial operation based on the capital cost allowed by the commission against each such asset.

48. The details of the depreciation worked out are as under:-

Particulars	(₹ in lakh)					
	Asset-I	Combined Asset				
	2014-15 (29.11.2014 to 20.3.2015)	2014-15 (21.3.2015 to 31.3.2015)	2015-16	2016-17	2017-18	2018-19
Gross Block as on COD	109501.99	161317.78	161317.78	161317.78	161317.78	161317.78
Addition during 2014-19 due to Projected Additional Capitalisation	30150.36	3038.84	10773.70	4196.45	-	-
Gross Block as on 31 st March	139652.35	164356.62	172091.48	165514.23	161317.78	161317.78
Average Gross Block	124577.17	162837.20	166704.63	163416.00	161317.78	161317.78
Rate of Depreciation	5.2736%	5.3185%	5.3124%	5.2985%	5.2895%	5.2895%
Depreciable Value	112119.45	145177.86	167676.32	158130.07	160018.48	160018.48



Remaining Depreciable Value	112119.45	143161.94	142900.94	134044.85	125386.30	116853.37
Depreciation	2015.92	261.00	8856.09	8658.55	8532.93	8532.93

Operation & Maintenance Expenses (O&M Expenses)

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

Elements	2014-15	2015-16	2016-17	2017-18	2018-19
D/C bundled conductor T/L (₹ lakh per km)	1.062	1.097	1.133	1.171	1.210
765 kV bay (₹ lakh per bay)	84.42	87.22	90.12	93.11	96.20
400 kV bays (₹ lakh per bay)	60.30	62.30	64.37	66.51	68.71
400 kV GIS bay (₹ lakh per bay)	51.54	53.25	55.02	56.84	58.73

50. Accordingly, the petitioner's entitlement to O&M Expenses has been worked out and the allowable O&M expenses for the instant transmission assets are as under:-

(₹ in lakh)

Asset-I	
Elements	2014-15 (pro-rata)
355.01 km, 400 kV D/C six conductor Kurnool-Thiruvalam T/L	115.69
2 nos. 400 kV bays at Kurnool-Thiruvalam-I & II and 2 nos. 400 kV bays at Thiruvalam-Kurnool-I & II	74.01
Total	189.70

(₹ in lakh)

Combined Asset					
Elements	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
355.01 km, 765 kV D/C six conductor Kurnool- Thiruvalam T/L	11.36	389.45	402.23	415.72	429.56
2 nos. 400 kV ICT-1 & II GIS bays at Thiruvalam	3.11	106.50	110.04	113.68	117.46
2 nos. 765 kV bays at Kurnool-	15.27	523.32	540.72	558.66	577.20



Thiruvalem bays I & II, 2 nos. 765 kV bays at Thiruvalem-Kurnool I & II and 2 nos. 765 kV bays at Thiruvalem ICT-I & II					
Total	29.74	1019.27	1052.99	1088.06	1124.22

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

52. TANGEDCO has submitted that the petitioner has stated that the wage revision of the employees is due w.e.f. 1.1.2017 and has reserved the right to approach the Commission as the actual impact of the wage hike was not factored in fixation of the normative O&M Expenses for the tariff block 2014-19. However, there is no provision for revision of O&M Expenses based on the actuals in the 2014 Tariff Regulations. The petitioner has submitted that being a CPSU, the scheme of wage revision is binding on it and the O&M rates prescribed for tariff block 2014-19 were fixed without factoring the wage revision due from 1.1.2017. Thus, the prayer has been made in line with the provision of Regulation 19(f)(ii) of the 2009 Tariff Regulations for suitable revision in the norms for O&M Expenditure for claiming the impact of wage hike, if any, during 2014-19.



53. We have considered the submissions of TANGEDCO and the petitioner. The O&M Expenses have been worked out as per the norms specified in the 2014 Tariff Regulations. Any application filed by the petitioner with regard to the impact of wage revision will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.

Interest on working capital

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

“28. Interest on Working Capital

- (c)(i) Receivables equivalent to two months of fixed cost;
- (ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 29; and
- (iii) Operation and maintenance expenses for one month”

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

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

Particulars	Asset-I	Combined Asset				(₹ in lakh)
	2014-15 (29.11.2014 to 20.3.2015)	2014-15 (21.3.2015 to 31.3.2015)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	92.73	148.02	152.89	157.95	163.21	168.63



O & M expenses	51.52	82.24	84.94	87.75	90.67	93.69
Receivables	3833.65	5014.77	5125.41	5117.34	5011.18	4885.29
Total	3977.90	5245.03	5363.24	5363.04	5265.06	5147.61
Interest Rate	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	164.78	21.34	724.04	724.01	710.78	694.93

Transmission charges

56. The transmission charges allowed for the instant transmission assets are summarized as under:-

(₹ in lakh)

Particulars	Asset-I	Combined Asset				
	2014-15 (29.11.2014 to 20.3.2015)	2014-15 (21.3.2015 to 31.3.2015)	2015-16	2016-17	2017-18	2018-19
Depreciation	2015.92	261.00	8856.09	8658.55	8532.93	8532.93
Interest on Loan	2438.84	306.00	10167.03	9842.15	9185.52	8409.85
Return on Equity	2248.86	288.70	9986.01	10426.36	10549.79	10549.79
Interest on Working Capital	164.78	21.34	724.04	724.01	710.78	694.93
O & M Expenses	189.70	29.74	1019.27	1052.99	1088.06	1124.22
Total	7058.11	906.78	30752.43	30704.05	30067.09	29311.73

Filing Fee and the Publication Expenses

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



Licence Fee and RLDC fees and Charges

58. The petitioner has requested to allow it to bill and recover License fee and RLDC fees and charges, separately from the respondents. TANGEDCO has submitted that the petitioner is not entitled to claim license fee from the beneficiaries as the parties are on commercial terms and the petitioner being a CPSU cannot be permitted to put every financial burden on the beneficiaries. The petitioner has submitted that as per Regulation 52 of the 2014 Tariff Regulations, application filing fee, expenses incurred on publication of notices in newspapers and license fee are recoverable separately from the beneficiaries. We have considered the submissions of TANGEDCO and the petitioner. The petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a), respectively, of Regulation 52 of the 2014 Tariff Regulations.

Service Tax

59. The petitioner has made a prayer to be allowed to bill and recover the service tax on transmission charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list at any time in future. TANGEDCO has submitted that the Government of India has exempted transmission services from the purview of levy of service tax and hence the petitioner is not entitled to any claim in this regard. The petitioner has further prayed that if any taxes and duties including cess etc. are imposed by any statutory/Government/municipal authorities, it shall be allowed to be recovered from the beneficiaries. We have considered the submissions of the petitioner and



TANGEDCO and consider petitioner's prayer pre-mature and accordingly this prayer is rejected.

Sharing of Transmission Charges

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

61. This order disposes of Petition No. 534/TT/2014.

sd/-
(M.K. Iyer)
Member

sd/-
(A.S. Bakshi)
Member

sd/-
(A.K. Singhal)
Member

sd/-
(Gireesh B Pradhan)
Chairperson



Annexure-I

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN						
	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	SBI (21.03.2012)					
	Gross loan opening	10688.63	10688.63	10688.63	10688.63	10688.63
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	971.69	1943.39
	Net Loan-Opening	10688.63	10688.63	10688.63	9716.94	8745.24
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	971.69	971.69	971.69
	Net Loan-Closing	10688.63	10688.63	9716.94	8745.24	7773.55
	Average Loan	10688.63	10688.63	10202.78	9231.09	8259.40
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	1095.58	1095.58	1045.79	946.19	846.59
	Rep Schedule	22 Annual Instalment from 31.08.2016				
2	Bond-XL					
	Gross loan opening	5800.00	5800.00	5800.00	5800.00	5800.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	483.33	966.67
	Net Loan-Opening	5800.00	5800.00	5800.00	5316.67	4833.33
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	483.33	483.33	483.33
	Net Loan-Closing	5800.00	5800.00	5316.67	4833.33	4350.00
	Average Loan	5800.00	5800.00	5558.33	5075.00	4591.67
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	539.40	539.40	516.93	471.98	427.03
	Rep Schedule	12 Annual Instalment from 28.06.2016				
3	BOND XLII					
	Gross loan opening	5718.00	5718.00	5718.00	5718.00	5718.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	5718.00	5718.00	5718.00	5718.00	5718.00
	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	5718.00	5718.00	5718.00	5718.00	5718.00
	Average Loan	5718.00	5718.00	5718.00	5718.00	5718.00
	Rate of Interest	8.80%	8.80%	8.80%	8.80%	8.80%
	Interest	503.18	503.18	503.18	503.18	503.18
	Rep Schedule	Final Payment on 13.03.2023				



4	BOND XLIII					
	Gross loan opening	5103.00	5103.00	5103.00	5103.00	5103.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	425.25
	Net Loan-Opening	5103.00	5103.00	5103.00	5103.00	4677.75
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	425.25	425.25
	Net Loan-Closing	5103.00	5103.00	5103.00	4677.75	4252.50
	Average Loan	5103.00	5103.00	5103.00	4890.38	4465.13
	Rate of Interest	7.93%	7.93%	7.93%	7.93%	7.93%
	Interest	404.67	404.67	404.67	387.81	354.08
	Rep Schedule	12 Annual Instalment from 20.05.2017				
5	BOND XLIV					
	Gross loan opening	12095.00	12095.00	12095.00	12095.00	12095.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	12095.00	12095.00	12095.00	12095.00	12095.00
	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	4031.67
	Net Loan-Closing	12095.00	12095.00	12095.00	12095.00	8063.33
	Average Loan	12095.00	12095.00	12095.00	12095.00	10079.17
	Rate of Interest	8.70%	8.70%	8.70%	8.70%	8.70%
	Interest	1052.27	1052.27	1052.27	1052.27	876.89
	Rep Schedule	3 instalments 15.07.2018,15.07.2023 and 15.07.2028				
6	BOND XLV					
	Gross loan opening	7385.15	7385.15	7385.15	7385.15	7385.15
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	615.43
	Net Loan-Opening	7385.15	7385.15	7385.15	7385.15	6769.72
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	615.43	615.43
	Net Loan-Closing	7385.15	7385.15	7385.15	6769.72	6154.29
	Average Loan	7385.15	7385.15	7385.15	7077.44	6462.01
	Rate of Interest	9.65%	9.65%	9.65%	9.65%	9.65%
	Interest	712.67	712.67	712.67	682.97	623.58
	Rep Schedule	12 Annual Instalment from 28.02.2018				
7	SBI 2014-15					
	Gross loan opening	4260.00	4260.00	4260.00	4260.00	4260.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	4260.00	4260.00	4260.00	4260.00	4260.00



	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	4260.00	4260.00	4260.00	4260.00	4260.00
	Average Loan	4260.00	4260.00	4260.00	4260.00	4260.00
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	436.65	436.65	436.65	436.65	436.65
8	BOND XLVI					
	Gross loan opening	27353.32	27353.32	27353.32	27353.32	27353.32
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	27353.32	27353.32	27353.32	27353.32	27353.32
	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	27353.32	27353.32	27353.32	27353.32	27353.32
	Average Loan	27353.32	27353.32	27353.32	27353.32	27353.32
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	2543.86	2543.86	2543.86	2543.86	2543.86
	Rep Schedule	3 instalments on 04.09.2019, 04.09.2024 and 04.09.2029				
9	BOND XLVII					
	Gross loan opening	1040.28	14497.80	14497.80	14497.80	14497.80
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	1040.28	14497.80	14497.80	14497.80	14497.80
	Additions during the year	13457.52	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	1208.15
	Net Loan-Closing	14497.80	14497.80	14497.80	14497.80	13289.65
	Average Loan	7769.04	14497.80	14497.80	14497.80	13893.73
	Rate of Interest	8.93%	8.93%	8.93%	8.93%	8.93%
	Interest	693.78	1294.65	1294.65	1294.65	1240.71
	Rep Schedule	12 Annual Instalment from 20.10.2018				
10	BOND XLVIII					
	Gross loan opening	0.00	7099.90	7099.90	7099.90	7099.90
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	7099.90	7099.90	7099.90	7099.90
	Additions during the year	7099.90	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	7099.90	7099.90	7099.90	7099.90	7099.90
	Average Loan	3549.95	7099.90	7099.90	7099.90	7099.90
	Rate of Interest	8.20%	8.20%	8.20%	8.20%	8.20%



	Interest	291.10	582.19	582.19	582.19	582.19
	Rep Schedule	4 instalments 23.01.2020,23.01.2022,23.01.2025 and 23.01.2030				
	Total Loan					
	Gross loan opening	79443.38	100000.80	100000.80	100000.80	100000.80
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	1455.03	3950.73
	Net Loan-Opening	79443.38	100000.80	100000.80	98545.77	96050.07
	Additions during the year	20557.42	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	1455.03	2495.71	7735.52
	Net Loan-Closing	100000.80	100000.80	98545.77	96050.07	88314.54
	Average Loan	89722.09	100000.80	99273.29	97297.92	92182.31
	Rate of Interest	9.2209%	9.1650%	9.1594%	9.1490%	9.1501%
	Interest	8273.15	9165.12	9092.85	8901.74	8434.76



Annexure-II

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN						
	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	SBI (21.03.2012)					
	Gross loan opening	10688.63	10688.63	10688.63	10688.63	10688.63
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	971.69	1943.39
	Net Loan-Opening	10688.63	10688.63	10688.63	9716.94	8745.24
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	971.69	971.69	971.69
	Net Loan-Closing	10688.63	10688.63	9716.94	8745.24	7773.55
	Average Loan	10688.63	10688.63	10202.78	9231.09	8259.40
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	1095.58	1095.58	1045.79	946.19	846.59
	Rep Schedule	22 Annual Instalment from 31.08.2016				
2	Bond-XL					
	Gross loan opening	5800.00	5800.00	5800.00	5800.00	5800.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	483.33	966.67
	Net Loan-Opening	5800.00	5800.00	5800.00	5316.67	4833.33
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	483.33	483.33	483.33
	Net Loan-Closing	5800.00	5800.00	5316.67	4833.33	4350.00
	Average Loan	5800.00	5800.00	5558.33	5075.00	4591.67
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	539.40	539.40	516.93	471.98	427.03
	Rep Schedule	12 Annual Instalment from 28.06.2016				
3	BOND XLII					
	Gross loan opening	10348.00	10348.00	10348.00	10348.00	10348.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	10348.00	10348.00	10348.00	10348.00	10348.00
	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	10348.00	10348.00	10348.00	10348.00	10348.00
	Average Loan	10348.00	10348.00	10348.00	10348.00	10348.00
	Rate of Interest	8.80%	8.80%	8.80%	8.80%	8.80%
	Interest	910.62	910.62	910.62	910.62	910.62
	Rep Schedule	Final Payment on 13.03.2023				



4	BOND XLIII					
	Gross loan opening	5103.00	5103.00	5103.00	5103.00	5103.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	425.25
	Net Loan-Opening	5103.00	5103.00	5103.00	5103.00	4677.75
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	425.25	425.25
	Net Loan-Closing	5103.00	5103.00	5103.00	4677.75	4252.50
	Average Loan	5103.00	5103.00	5103.00	4890.38	4465.13
	Rate of Interest	7.93%	7.93%	7.93%	7.93%	7.93%
	Interest	404.67	404.67	404.67	387.81	354.08
	Rep Schedule	12 Annual Instalment from 20.05.2017				
5	BOND XLIV					
	Gross loan opening	12095.00	12095.00	12095.00	12095.00	12095.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	12095.00	12095.00	12095.00	12095.00	12095.00
	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	4031.67
	Net Loan-Closing	12095.00	12095.00	12095.00	12095.00	8063.33
	Average Loan	12095.00	12095.00	12095.00	12095.00	10079.17
	Rate of Interest	8.70%	8.70%	8.70%	8.70%	8.70%
	Interest	1052.27	1052.27	1052.27	1052.27	876.89
	Rep Schedule	3 instalments 15.07.2018,15.07.2023 and 15.07.2028				
6	BOND XLV					
	Gross loan opening	7385.15	7385.15	7385.15	7385.15	7385.15
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	615.43
	Net Loan-Opening	7385.15	7385.15	7385.15	7385.15	6769.72
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	615.43	615.43
	Net Loan-Closing	7385.15	7385.15	7385.15	6769.72	6154.29
	Average Loan	7385.15	7385.15	7385.15	7077.44	6462.01
	Rate of Interest	9.65%	9.65%	9.65%	9.65%	9.65%
	Interest	712.67	712.67	712.67	682.97	623.58
	Rep Schedule	12 Annual Instalment from 28.02.2018				
7	SBI 2014-15					
	Gross loan opening	4830.00	4830.00	4830.00	4830.00	4830.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	4830.00	4830.00	4830.00	4830.00	4830.00



	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	4830.00	4830.00	4830.00	4830.00	4830.00
	Average Loan	4830.00	4830.00	4830.00	4830.00	4830.00
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	495.08	495.08	495.08	495.08	495.08
	Rep Schedule	22 Annual Instalment from 31.08.2016				
8	BOND XLVI					
	Gross loan opening	27353.32	27353.32	27353.32	27353.32	27353.32
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	27353.32	27353.32	27353.32	27353.32	27353.32
	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	27353.32	27353.32	27353.32	27353.32	27353.32
	Average Loan	27353.32	27353.32	27353.32	27353.32	27353.32
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	2543.86	2543.86	2543.86	2543.86	2543.86
	Rep Schedule	3 instalments on 04.09.2019, 04.09.2024 and 04.09.2029				
9	BOND XLVII					
	Gross loan opening	16347.17	16347.17	16347.17	16347.17	16347.17
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	16347.17	16347.17	16347.17	16347.17	16347.17
	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	1362.26
	Net Loan-Closing	16347.17	16347.17	16347.17	16347.17	14984.91
	Average Loan	16347.17	16347.17	16347.17	16347.17	15666.04
	Rate of Interest	8.93%	8.93%	8.93%	8.93%	8.93%
	Interest	1459.80	1459.80	1459.80	1459.80	1398.98
	Rep Schedule	12 Annual Instalment from 20.10.2018				
10	BOND XLVIII					
	Gross loan opening	14136.17	15676.84	15676.84	15676.84	15676.84
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	14136.17	15676.84	15676.84	15676.84	15676.84
	Additions during the year	1540.67	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	15676.84	15676.84	15676.84	15676.84	15676.84
	Average Loan	14906.51	15676.84	15676.84	15676.84	15676.84



	Rate of Interest	8.20%	8.20%	8.20%	8.20%	8.20%
	Interest	1222.33	1285.50	1285.50	1285.50	1285.50
	Rep Schedule	4 instalments 23.01.2020,23.01.2022,23.01.2025 and 23.01.2030				
11	BOND XLIX					
	Gross loan opening	386.83	1521.18	1521.18	1521.18	1521.18
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	386.83	1521.18	1521.18	1521.18	1521.18
	Additions during the year	1134.35	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	1521.18	1521.18	1521.18	1521.18	1521.18
	Average Loan	954.01	1521.18	1521.18	1521.18	1521.18
	Rate of Interest	8.15%	8.15%	8.15%	8.15%	8.15%
	Interest	77.75	123.98	123.98	123.98	123.98
	Rep Schedule	3 instalments 09.03.2020,09.03.2025 and 09.03.2030				
	Total Loan					
	Gross loan opening	114473.27	117148.29	117148.29	117148.29	117148.29
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	1455.03	3950.73
	Net Loan-Opening	114473.27	117148.29	117148.29	115693.26	113197.56
	Additions during the year	2675.02	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	1455.03	2495.71	7889.64
	Net Loan-Closing	117148.29	117148.29	115693.26	113197.56	105307.92
	Average Loan	115810.78	117148.29	116420.78	114445.41	109252.74
	Rate of Interest	9.0786%	9.0684%	9.0629%	9.0524%	9.0489%
	Interest	10514.03	10623.42	10551.15	10360.04	9886.18

