

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 258/TT/2013

Coram:

Shri Gireesh B. Pradhan, Chairman

Shri A.K. Singhal, Member

Shri A.S. Bakshi, Member

Dr. M. K. Iyer, Member

Date of Hearing : 09.02.2016

Date of Order : 05.04.2016

In the matter of:

Determination of transmission tariff for Tiruvelam (Powergrid) – Chittoor (APTRANSCO) 400 kV D/C (Quad) line along with associated bays and equipments under Supplementary Transmission system associated with Vallur TPS for the period from anticipated COD to 31.3.2014 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,
"Saudamani", Plot No.2,
Sector-29, Gurgaon -122 001

.....Petitioner

Vs

1. Karnataka Power Transmission Corporation Limited,
(KPTCL), Kaveri Bhawan,
Bangalore – 560009

2. Transmission Corporation of Andhra Pradesh Limited,
(APTRANSCO), Vidyut Soudha,
Hyderabad- 500082



3. Kerala State Electricity Board (KSEB),
Vaidyuthi Bhavanam,
Pattom, Thiruvananthapuram - 695 004
4. Tamil Nadu Generation and Distribution Corporation Limited,
NPKRR Maaligai, 800, Anna Salai,
Chennai - 600 002
5. Electricity Department
Government of Goa, Vidyuti Bhawan,
3rd Floor, Panaji, Goa-403001
6. Electricity Department,
Government of Pondicherry,
Pondicherry - 605001
7. Eastern Power Distribution Company of Andhra Pradesh Limited,
(APEPDCL) P&T Colony, Seethammadhara,
Vishakhapatnam, Andhra Pradesh
8. Southern Power Distribution Company of Andhra Pradesh Limited,
(APSPDCL), Srinivasasa Kalyana Mandapam Backside
Tiruchanoor Road, Kesavayana Gunta,
Tirupati-517 501, Chittoor District, Andhra Pradesh
9. Central Power Distribution Company of Andhra Pradesh Limited,
(APCPDCL), Corporate Office, Mint Compound,
Hyderabad - 500 063, Andhra Pradesh
10. Northern Power Distribution Company of Andhra Pradesh Limited,
(APNPDCL), Opp. NIT Petrol Pump,
Chaitanyapuri, Kazipet, Warangal - 506 004, Andhra Pradesh
11. Bangalore Electricity Supply Company Ltd. (BESCOM),
Corporate Office, KR.Circle
Bangalore - 560001, Karnataka
12. Gulbarga Electricity Supply Company Ltd (GESCOM)
Station Main Road, Gulbarga, Karnataka



13. Hubli Electricity Supply Company Ltd, (HESCOM)
Navanagar, PB Road, Hubli,
Karnataka

14. MESCOM Corporate Office,
Paradigm Plaza, AB Shetty Circle,
Mangalore – 575001, Karnataka

15. Chamundeswari Electricity Supply Corporation Ltd.,
(CESC), # 927, L J Avenue, Ground Floor,
New Kantharaj Urs Road, Saraswatipuram,
Mysore - 570 009, Karnataka

.....**Respondents**

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

For Respondents : Shri S. Vallinayagam, Advocate, APTRANSCO

ORDER

The instant petition has been filed by Power Grid Corporation of India Limited (hereinafter referred to as “the petitioner”) for determination of transmission tariff for Tiruvelam (Powergrid)-Chittoor (APTRANSCO) 400 kV D/C (Quad) line along with associated bays and equipments under Supplementary Transmission system associated with Vallur TPS for the period from anticipated COD to 31.3.2014 in Southern Region for tariff block 2009-14 in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter "the 2009 Tariff Regulations").



2. The investment approval for the transmission project was accorded by the Board of Directors of the petitioner company vide letter dated 26.8.2010 at an estimated cost of ₹17036 lakh including IDC of ₹1344 lakh (based on 1st Quarter, 2010 price level). The petitioner vide affidavit dated 12.2.2016 had submitted copy of Revised Cost Estimates (RCE) of the project dated 1.2.2016 as accorded by its Board of Director. As per the RCE, the estimated cost of supplementary Transmission System Associated with Vallur TPS is ₹16856 lakh including an IDC of ₹831 lakh as (based on June 2015 price level). As per the investment approval, the transmission asset was scheduled to be commissioned within 32 months from the date of investment approval, i.e. by 26.8.2010.

3. The scope of work covered under “Supplementary Transmission System associated with Vallur TPS” is as follows:-

Transmission lines:

- a) Vallur TPS- Alamathy 400 kV D/C line
- b) Vallur TPS-Melakottaiyur 400 kV D/C line
- c) Tiruvelam (POWERGRID) - Chitoor (APTRANSCO) 400 kV D/C (Quad) line

Sub-stations:

- a) Establishment of new 765/400 kV Sub-station at Tiruvelam (initially charged at 400 kV)
- b) Extension of 400/220 kV Sub-station at Chitoor (APTRANSCO)



4. The instant petition covers single asset i.e. Tirvalam (POWERGRID) – Chitoor (APTRANSCO 400 kV D/C (Quad) line along with associated bays and equipment. The instant asset was anticipated to be commissioned on 1.5.2013 and accordingly the petitioner claimed the tariff for the instant asset under the 2009 Tariff Regulations. The petitioner, vide affidavit dated 12.9.2014, has submitted that the instant asset was commissioned on 1.4.2014 and prayed to allow the transmission tariff for the instant asset under 2014 Tariff Regulations.

5. The petitioner has submitted that Vallur TPS-Alamathy 400 kV D/C line under the investment approval has already come into existence with LILO of Alamanthy-Sriperumbudur 400 kV D/C line at Vallur TPS (NTPC-TNEB JV) approved under the scheme "Transmission System associated with Chennai-NTPC-TNEB JVTPS". The COD of LILO was 1.8.2011. After completion of LILO of Alamathy-Sriperumbudur 400 kV D/C line at Vallur TPS (NTPC-TNEB JV) the original line was re-configured as below:-

- a) Vallur TPS- Alamathy 400 kV D/C line
- b) Vallur TPS- Sriperumbudur 400 kV D/C line

6. TANGEDCO vide affidavit dated 5.2.2016 has submitted that the transmission asset covered under the instant petition is the last element commissioned of the transmission project. The petitioner vide Form 5D has submitted that the apportioned approved cost pertaining to Vallur-Melakottaiyur 400 kV D/C and Tiruvelam-Chitoor 400 kV D/C line. The Vallur-Almathy 400 kV



D/C line covered under this investment approval is not shown. The petitioner should be directed to clarify the same.

7. The Commission in its orders dated 24.6.2013 and 26.3.2015 in Petition Nos. 73/TT/2011 and 48/TT/2013 has already determined the tariff of LILO of Alamathy-Sriperumbudur 400 kV D/C line at Vallur TPS (NTPC-TNEB JV) and Vallur TPS-Melakottaiyur 400 kV D/C line respectively. The petitioner has also submitted that on filing this petition the scope of the entire project "Supplementary Transmission System associated with Vallur TPS" in Southern Region shall be complete. Accordingly, the petitioner is directed to file a combined petition for all the assets covered in the project scope at the time of true-up of 2014-19 period.

8. Provisional tariff was approved vide order dated 16.12.2013, subject to adjustment as per Regulation 5 (4) of the 2009 Tariff Regulations. However, the asset was commissioned on 19.6.2014 i.e. beyond the 2009-14 tariff period. Accordingly, provisional tariff was subject to adjustment as per Regulation 7(7)(iii) and (iv) of the 2014 Tariff Regulations.

9. This order has been issued after considering the petitioner's affidavits dated 25.4.2014, 12.9.2014, 16.6.2015 and 12.2.2016.

10. The petitioner has claimed transmission charges for the instant assets are given overleaf:-



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	417.81	477.77	496.98	499.37	499.37
Interest on Loan	540.81	590.24	576.53	532.92	484.81
Return on equity	491.95	572.58	601.71	605.92	605.92
Interest on Working Capital	51.28	56.24	57.65	57.44	56.98
O & M Expenses	323.80	334.54	345.64	357.14	368.96
Total	1825.65	2031.37	2078.51	2052.79	2016.04

11. 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	48.57	50.18	51.85	53.57	55.34
O & M expenses	26.98	27.88	28.80	29.76	30.75
Receivables	304.28	338.56	346.42	342.13	336.01
Total	379.83	416.62	427.07	425.46	422.10
Interest	51.28	56.24	57.65	57.44	56.98
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%

12. 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. Reply has been filed by Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO), Respondent No. 4, vide affidavit dated 5.2.2016. TANGEDCO has raised the issues regarding time over-run cost-variation initial spares, O&M expenses, license fee and service tax. The objections raised by the TANGEDCO in his reply are addressed in the relevant paragraphs of this order.

13. Having heard the representatives of the petitioner present at the hearing and perused the material on record, we proceed to dispose of the petition.



Capital cost

14. Clause (2) of Regulation 9 of the 2014 Tariff Regulations provides as follows:-

"The Capital Cost of a new project shall include the following:

- (a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;
- (b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;
- (c) Increase in cost in contract packages as approved by the Commission;
- (d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;
- (e) capitalised Initial spares subject to the ceiling rates specified in Regulation of these regulations;
- (f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;
- (g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and
- (h) adjustment of any revenue earned by the transmission licensee by using the assets before COD."

15. The petitioner, vide affidavit dated 12.2.2016, has submitted details of capital cost claimed vide management certificate dated 22.5.2014. The details of the capital cost claimed as on COD(s) and additional capital expenditure incurred or to be incurred are as follows:-



(₹ in lakh)

Apportioned cost (as per RCE dated 1.2.16)	Cost on COD	Additional capital expenditure for 2014-15	Additional capital expenditure for 2015-16	Additional capital expenditure for 2016-17	Total estimated cost
10891.92	7415.15	1894.12	847.15	143.15	10299.56

According to Management Certificate, the expenditure up to 31.3.2014 has been verified from the books of accounts of the project. Balance expenditure is on the basis of estimation.

Cost over-run

16. TANGEDCO has submitted that price escalation as on April, 2012 claimed by the petitioner for most of the material is not matching with the market price corresponding to that period.

17. The total estimated completion cost of ₹10299.56 lakh of the instant asset is within the revised approved apportioned cost of ₹10891.92 lakh. Thus, there is no cost over-run.

Time over-run

18. As per the investment approval, the asset covered in the petition was scheduled to be commissioned within 32 months from the date of investment approval (i.e. 26.8.2010). The scheduled commissioning of the asset works out to 1.5.2013 against which the instant asset was commissioned on 1.4.2014. Accordingly, there is delay of 11 months in commissioning the asset.



19. The petitioner has submitted that the contract for execution of 400 kV transmission line was awarded in March, 2011 with completion schedule of 27 months for 400 kV Chitoor-Tiruvelam Line i.e. by June, 2013. The construction of Chitoor-Tiruvelam Line was delayed due to delay in acquisition of Tiruvelam Sub-station land and non-completion of 400 kV bay extension works at Chitoor end, being constructed by APTRANSCO under consultancy to PGCIL. The contract for construction of Tiruvelam Sub-station was awarded in November, 2011. However, the land for commencement of work was handed over to the executing agency in phased manner, i.e. June, 2012 and June, 2013 due to problems encountered during acquiring the land. Further, for completion of 400 kV bays at Chitoor Sub-station end (APTRANSCO) an MOU was signed between the petitioner and APTRANSCO on 17.2.2012 with a completion schedule of June, 2013. However, APTRANSCO has assured to complete the bays by October, 2013.

20. The petitioner was directed to submit the efforts made by it for land acquisition for sub-station and documentary proof of delay due to land acquisition and non-completion of bay extensions impacting scheduled completion of the assets covered in the petition. In this regard, documentary proof, maps of land and PERT chart are awaited to substantiate the claim of the petitioner that the activities which caused delay were critical for completion of work. How much portion of land was handed over to the executing agency at each stage and whether agency started work in that portion of land?



21. In response to it, petitioner vide affidavit dated 25.4.2014, has submitted that the total area of identified land for construction of Tiruvelam Sub-station is 115.35 acres consists of 105.92 acres of temple land. The details of efforts made the petitioner for land acquisition are given hereunder:-

a) **Patta Land:** It covers major portion of the construction area i.e. 105.92 Acres at Tiruvelam Sub-station site. For this portion of land 124 nos. of pattas were involved. The acquisition of patta land was done under Land Acquisition Act, for which the petitioner had approached the Government officials at Vellore district of Tamil Nadu state vide letter dated 19.5.2010. Various clarifications sought by the RDO, Vellore were provided and several meetings were held with farmers / land owners by authorities. During scrutiny, it was noticed by revenue authorities that some part of the land belong to Government and accordingly LA Dept directed DC, Vellore vide letter dated 17.3.2011 to obtain the revised LPS from the petitioner for acquisition of land under urgency provisions 17(1) of LA act 1984 along with 4(1) and (6) notification for Government approval. The revised LPS for acquisition of 106.88 acres of land was submitted by the petitioner to the District Collector vide letter dated 21.3.2011. Notification under Section 4(1) and declaration under section 6 was issued by DC Vellore on 7.9.2011 and 22.9.2011 respectively. There was stiff resistance and agitation by the land owners during the process of acquisition of land. Finally, the Revenue Authorities handed over the land to the petitioner vide letter dated 25.5.2012, It took 24



months for acquiring major portion of land of the said sub-station for starting construction activities. The total area of government land is 8.47 acres and the same was handed over by Government to the petitioner in July, 2013.

- b) Regarding proof of delay, due to land acquisition and impact on delay due to non-completion of bay and maps of land and PERT chart, the petitioner submitted that Tiruvelam (POWERGRID)-Chittoor (APTRANSCO) 400 kV D/C (Quad) line along with 400 kV Tiruvelam Sub-station under Vellur TPS was scheduled to be commissioned on 1.5.2013. However, the actual COD was 1.4.2014 with a delay of 11 months. The contract for construction of Tiruvelam Sub-station was awarded to M/S GET Power Ltd on 20.10.2011 with completion schedule of June, 2013 i.e. with completion period of 18 months. As per L2 Network, the petitioner was to hand over the leveled land to the agency in month of February, 2012. As stated above, the land acquisition was delayed and after receipt of land in May, 2012, activities like soil investigation, site development, site leveling etc were taken up and the 1st block of leveled land was then handed over to the execution agency in August, 2012 and the balance leveled land was handed over in September, 2012. Subsequently activities of design & engineering, procurement of equipment, civil works, installation of equipment/ materials, testing and commissioning were taken up.
- c) There was a delay of 7 months as per the L2 Network in handing over of land to the executing agency of Tiruvelam sub-station which brings the



completion schedule to January, 2014 i.e COD as 1.2.2014. However, the asset was commissioned on 1.4.2014 after a further delay of 2 months. Reasons for this delay in commissioning are attributable to the delay in completion of Chitoor Sub-station and bays and non-completion of downstream system by APTRANSCO.

d) Chitoor sub-station belong to APTRANSCO, therefore for commissioning of 400 kV Chitoor-Tiruvelam line, the corresponding bays at Chitoor were undertaken by APTRANSCO on deposit work. APTRANSCO completed the construction of bays in December, 2013. After completion of work by APTRANSCO, all the commissioning activities of other equipments were undertaken at both the ends i.e. at Tiruvelam and at Chitoor and the asset was commissioned on 1.4.2014.

e) Tiruvelam-Chitoor line along with Tiruvelam Sub-station and Chitoor extension could not be charged as downstream system to be built by APTRANSCO for evacuation of power was not available.

f) In order to facilitate transfer of power from Tiruvelam-Chitoor line, construction of LILO of Kolar-Sriperumbudur at Tiruvelam and Nellore-Tiruvelam line was preponed and the LILO line was commissioned in March 2014, 8 months ahead of schedule to enable charging of Tiruvelam-Chitoor line and associated sub-station. From the above, it is evident that due to delay in acquisition of land at Tiruvelam Sub-station and non-availability of



downstream system and delay in completion of bay extension works at Chittoor end by APTRANSCO, the commissioning of the asset was delayed.

(g) Regarding how much portion of land was handed over to the executing agency at each stage and whether agency started work in that portion of land, the petitioner submitted that the total land allotted for construction of 400 kV Tiruvelam Sub-station is approx 36.65 acres which covers construction of bays under SRSS- XVIII. However, land utilized for construction of Tiruvelam-Chittoor line under Vallur TPS was 17.15 acres. After undertaking site leveling work, the leveled land was handed over. The details of handing over of leveled Tiruvelam land in different phase as given below:-

Sr. No.	Date of handing-over of land to agency	Area of land handed-over in acres	Remarks
1	10.08.12	2.05	Leveled land handed-over for construction of control room building, Fire fighting pump house. Fire water tank, 11 kV station and man approach road
2	4.9.12	4.13	Leveled land handed-over for construction of 400 kV switchyard areas.
3	6.9.12	3.83	
4	15.9.12	7.14	
	Total	17.15	

The executing agency has mobilized and started the work on available land, but due to insufficient/inadequate portion of land, the entire work could not be started and full man power could not be deployed. At times the available land were at intermittent location and not continuous.



22. TANGEDCO vide affidavit dated 5.2.2016 has submitted that delay in execution of this transmission element is mainly due to the delay in acquiring land for the Tiruvelam 765/400 kV Sub-station. However, the petitioner has not furnished any documentary evidence for having completed the transmission line work except the bays extension work at Tiruvelam. Impact due to in efficient management and in proper phasing of execution project elements should not be passed on to the beneficiaries. The Commission should restrict the IEDC claimed by the petitioner up to scheduled COD.

23. The matter was heard on 9.2.2016. During the hearing the petitioner was directed to submit the RLDC certificate for charging of asset, CEA certificate under Regulation 43 of CEA (Measures Related to safety & Electricity Supply) Regulations, 2010; Single Line Diagram (SLD) of Chitoor and Tiruvelam Sub-stations and RPC/SCM approval of the asset. In response, the petitioner has submitted that the asset has been completed on 1.4.2014 charging of the asset has been completed in March, 2014 therefore, the RLDC certificate is not required. CEA certificate SLD and RPC approval has been submitted.

24. We have considered the reasons and documents submitted by the petitioner and objections raised by TANGEDCO regarding time over-run. As per L2 network, land was scheduled to be handed over to the contractor in the month of February, 2012. Due to delay in acquisition of land, a portion of the land could be handed over to the contractor in August, 2012 and remaining portion of land was handed over in



September, 2012 i.e. after a delay of 7 months (February 2012 to September 2012). Chittoor Sub-station belongs to APTRANSCO; therefore, for commissioning of 400 kV Chittoor-Tiruvelam line, the corresponding bays at Chittoor Sub-station were undertaken by APTRANSCO on deposit work basis which were completed in December, 2013 (3 months delay). After completion of work of bays, activities of other equipment were undertaken at both ends. In order to transfer power from Tiruvelam-Chittoor line, commissioning of Nellore-Tiruvelam line was pre-poned and LILO line was commissioned in March, 2014 (8 months ahead of schedule) to enable charging of Tiruvelam-Chittoor line. Thereafter, the petitioner commissioned the 400 kV Chittoor-Tiruvelam line on 1.4.2014.

25. Therefore, 400 kV Chittoor-Tiruvelam line was commissioned with a time over-run of 11 months i.e. 7 months due to land acquisition, 1 month due to late construction of bays by APTRANSCO and 3 months due to non-availability of downstream systems. The petitioner has submitted that bays at Chittoor by APTRANSCO were completed in December, 2013. There is an overlap period of delay due to land acquisition and delay due to above completion of bays by APTRANSCO. The delay due to non-completion of work by APTRANSCO (1 month i.e. December, 2013) is not condoned since the scope of work at Chittoor Sub-station was in scope of the petitioner who got it executed on deposit work by APTRANSCO. Hence, we are of the view that the delay of one month is attributable to the petitioner. The delay of 7 months (May, 2013-November, 2013) due to land acquisition is condoned as it is beyond the petitioner's control. As regards the time



over-run of 3 months due to unavailability of downstream system, the petitioner has stated that it preponed LILO of Kolar-Sriperumbudur at Tiruvelam to March, 2014 to facilitate commissioning of 400 kV Chitoor-Tiruvelam line. Since the documents regarding scheduled commissioning date of downstream network and co-ordination with downstream network owner by the petitioner have not been produced by the petitioner, three months time over-run on this account is not condoned. Therefore, 4 months time over-run has not been condoned.

Treatment of IDC and IEDC

26. The petitioner, vide management certificate dated 22.5.2014 filed alongwith affidavit dated 12.2.2016, has claimed Interest during Construction (IDC) amounting ₹500.17 lakh. The petitioner has submitted that the Management Certificate has been prepared on cash basis. The petitioner has further submitted a statement showing IDC discharged up to COD. According to this statement the entire amount i.e. ₹ 500.17 lakh has been discharged up to COD. The loan wise IDC as worked out by the petitioner is ₹621.76 lakh. However, petitioner in Management Certificate has claimed IDC of ₹500.17 lakh which is less than the loan wise IDC computed by the petitioner. Further, the petitioner has segregated the claimed IDC as follows:-

(₹ in lakh)		
IDC From the date of infusion of debt fund up to SCOD (i.e. 1.5.2013)	IDC from SCOD upto Actual COD (i.e. 1.4.2014)	Total IDC Claimed up to Actual COD
1	2	3=(1+2)
347.34	152.83	500.17



Out of time over-run of 11 months, 4 months delay is not condoned. Accordingly, the IDC for 4 months delayed period has been worked out as ₹55.57 lakh which is pro-rata of ₹152.83 lakh. Thus, IDC of ₹55.57 lakh has been disallowed from the capital cost as on COD. The IDC allowed is subject to true up after the submission of reconciliation of IDC claimed with loan wise IDC as worked out by the petitioner. The petitioner is directed to submit the calculation of IDC claimed at the time of true up.

Treatment of IEDC

27. The petitioner, vide management certificate dated 22.5.2014, has claimed Incidental Expenditure during Construction (IEDC) of ₹623.31 lakh which was discharged by the petitioner as on COD. As per Form12-A, submitted vide affidavit dated 12.2.2016, IEDC claimed upto 31.3.2013 is ₹435.05 lakh and from 1.4.2013 to 31.3.2014 is ₹188.26 lakh. As time over-run of 4 months is not condoned, IEDC of ₹62.75 lakh has been disallowed from the capital cost as on COD.

28. The details of IDC and IEDC claimed and disallowed is given in the table below:-

Calculation of disallowed IDC and IEDC		
Particulars	Amount	Amounts Disallowed
IDC		
IDC claimed upto SCOD	347.34	
IDC claimed upto COD	152.83	
Disallowed IDC		55.57
IEDC		
IEDC claimed upto 31.03.2013	435.05	
IEDC claimed upto COD	188.26	62.75
Total IDC and IEDC disallowed		118.33



Initial spares

29. 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) where the generating station has any transmission equipment forming part of the generation project, the ceiling norm for initial spares for such equipments shall be as per the ceiling norms specified for transmission system under these regulations:

(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 break-up of head wise IDC & IEDC in its tariff application.”



30. The details of initial spares claimed by the petitioner vide management certificate dated 22.5.2014 are as follows:-

(₹ in lakh)			
Cost of Plant & Machinery	Initial spares for sub-station	Total cost of transmission line	Initial spares of transmission line
2963.10	101.46 (3.42%)	4303.47	27.08 (0.63%)

31. TANGEDCO has submitted that the initial spares claimed by the petitioner should be restricted as per the 2014 Tariff Regulations.

32. The petitioner was directed to clarify whether the entire liability pertaining to initial spares was discharged on COD. In response, the petitioner vide affidavit dated 12.02.2016, has submitted that the year wise discharge of spares are included in projected additional capital expenditure. The initial spares for sub-station are within the normative limits of 6% for brown field sub-stations and the initial spares for transmission line is within the specified limit of 1% as per Regulation 13 of 2014 Tariff Regulations. Accordingly, the same is allowed. However, same will be reviewed at the time of truing up.

Capital cost as on COD

33. Detail of the capital cost considered as on COD after making the necessary adjustment in respect capital expenditure of IDC and IEDC is as follows:-

Capital cost as on COD claimed by Petitioner	IDC disallowed	IEDC disallowed	Initial spares disallowed	Capital Cost as on DOCO allowed for tariff calculation
7415.15	55.57	62.75	-	7296.82



Projected additional capital expenditure

34. 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.

35. 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”.

Accordingly, the cut-off date for the above mentioned asset is 31.3.2017.

36. The admissibility of additional capital expenditure incurred after COD is to be dealt in accordance with provision of Regulation 14(1) of 2014 Tariff Regulations.

The additional capital expenditure claimed by the petitioner is within the cut-off



date, it is within the approved apportioned cost and it is on account of balance and retention payment and hence it is allowed under Regulation 14(1) of 2014 Tariff Regulations.

37. TANGEDCO has submitted that the additional capital expenditure projected to be incurred is mainly on account of balance and retention payment. The reason for withholding and name of the contractors, in detailed has not been disclosed.

38. The admissibility of additional capital expenditure incurred after COD is to be dealt in accordance with provision of Regulation 14(1) of 2014 Tariff Regulations. The additional capital expenditure claimed by the petitioner is within the cut-off date, it is within the approved apportioned cost and it is on account of balance and retention payment and hence it is allowed under Regulation 14(1) of 2014 Tariff Regulations.

Capital cost as on 31.3.2019

39. Detail of the capital cost considered as on 31.3.2019 are as follows:-

Cost on COD	Additional capital expenditure for 2014-15	Additional capital expenditure for 2015-16	Additional capital expenditure for 2016-17	Total estimated cost
7296.82	1894.12	847.15	143.15	10181.24

Debt- equity ratio

40. Clause 1 and 5 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:
- iii. 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.”

“(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation”

41. Details of debt-equity in respect of the asset as on the date of commercial operation and as on 31.3.2019 are as follows:-

(₹ in lakh)

Particulars	%	As on COD	As on 31.3.2019
Debt	70.00	5107.78	7126.87
Equity	30.00	2189.04	3054.37
Total	100.00	7296.82	10181.24

Additional capital expenditure has been considered in the debt-equity ratio of 70:30.



Return on equity

42. 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 and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

Provided that:

- (i) in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:
- (ii) the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:
- (iii) additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:
- (iv) the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:
- (v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:
- (vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometers.”



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

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

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

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.”

43. Based on the above, the return on equity allowed are as follows:-

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	2189.04	2757.28	3011.42	3054.37	3054.37
Addition due to Additional Capitalisation	568.24	254.15	42.95	0.00	0.00
Closing Equity	2757.28	3011.42	3054.37	3054.37	3054.37
Average Equity	2473.16	2884.35	3032.90	3054.37	3054.37
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	19.610%	19.610%	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	484.99	565.62	594.75	598.96	598.96

44. The petitioner has submitted that it may be allowed to recover the shortfall or refund the excess Annual Fixed Charges, on account of return on equity due to



change in applicable Minimum Alternate Tax/Corporate Income Tax rate as per the Income Tax Act, 1961 of the respective financial year directly from the beneficiaries without making any application before the Commission under Regulation 25(2) of the 2009 Tariff Regulations. The petitioner is allowed to recover the shortfall or refund the excess annual transmission charges under Regulation 25(2) of the 2014 Tariff Regulations. Accordingly, RoE has been computed @ 19.610% p.a on average equity as per Regulation 25(2) of the 2009 Tariff Regulations

Interest on loan

45. Regulation 26 of the 2014 Tariff Regulations provides as under:-

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

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

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

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

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

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

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest



of the generating company or the transmission licensee as a whole shall be considered.

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

46. In keeping with the provisions of Regulation 26 of the 2014 Tariff Regulations, the petitioner’s entitlement to interest on loan has been calculated on the following basis:-

- (i) Gross amount of loan, repayment of instalments and rate of interest and weighted average rate of interest on actual average loan have been considered as per Form 9C given in the affidavit dated 12.9.2014;
- (ii) The normative repayment for the tariff period 2014-19 shall deemed to be equal to the depreciation allowed for that period;
- (iii) Weighted average rate of interest on actual average loan worked out as per (i) above is applied on the notional average loan during the year to arrive at the interest on loan.

47. Detailed calculations in support of the weighted average rates of interest have been given in Annexure to this order.

48. Based on the above, interest on loan has been calculated are given as follows:-



(₹ in lakh)

Particular	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	5107.78	6433.66	7026.67	7126.87	7126.87
Cumulative Repayment up to Previous year	0.00	405.87	871.80	1356.99	1844.58
Net Loan-Opening	5107.78	6027.80	6154.87	5769.88	5282.29
Addition due to Additional Capitalization	1325.88	593.01	100.21	0.00	0.00
Repayment during the year	405.87	465.93	485.19	487.59	487.59
Net Loan-Closing	6027.80	6154.87	5769.88	5282.29	4794.70
Average Loan	5567.79	6091.33	5962.38	5526.09	5038.50
Weighted Average Rate of Interest on Loan	9.5810%	9.5876%	9.5840%	9.5721%	9.5659%
Interest	533.45	584.01	571.43	528.96	481.98

Depreciation

49. Regulation 27 of the 2014 Tariff Regulations provide as follows:-

"27. Depreciation:

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

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

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



(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.”

50. The instant transmission assets were put under commercial operation during 2014-15. Accordingly, it will complete 12 years after 2018-19. As such, depreciation has been calculated annually based on Straight Line Method at the rates specified in Appendix-III to the 2014 Tariff Regulations.

51. Based on the above, the depreciation has been considered are as follows:-

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	7296.82	9190.94	10038.09	10181.24	10181.24
Addition during 2009-14 due to Projected Additional Capitalisation	1894.12	847.15	143.15	0.00	0.00
Closing Gross Block	9190.94	10038.09	10181.24	10181.24	10181.24
Average Gross Block	8243.88	9614.52	10109.67	10181.24	10181.24
Rate of Depreciation	4.9232%	4.8461%	4.7993%	4.7891%	4.7891%
Depreciable Value	7267.18	9373.75	8941.88	9006.30	9006.30
Remaining Depreciable Value	7267.18	6861.31	6395.38	5910.19	5422.60
Depreciation	405.87	465.93	485.19	487.59	487.59

Operation & Maintenance Expenses (O&M Expenses)

52. The elements covered in the petition are as under:-



S. No.	Element	No. of bays/Length of line
1	400 kV D/C quad Tiruvelam-Chittoor (APTRANSCO) T/L	21 km
2	Chittoor-Tiruvelam bay I at Chittoor	1
3	Chittoor-Tiruvelam bay II at Chittoor	1
4	Tiruvelam-Chittoor bay I at Tiruvelam	1
5	Tiruvelam-Chittoor bay II at Tiruvelam	1
6	Tiruvelam-Bus reactor bay at Tiruvelam	1

53. 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:-

Element	2014-15	2015-16	2016-17	2017-18	2018-19
D/C quad T/L (₹ in lakh/km)	1.062	1.097	1.133	1.171	1.210
400 kV bays (₹ in lakh/bay)	60.30	62.3	64.37	66.51	68.71

54. The petitioner has computed normative O&M Expenses as per sub-clause (a) of clause (4) of Regulation 29 of the 2014 Tariff Regulations. Accordingly, the petitioner's entitlement to O&M Expenses have been worked out as given hereunder:-

Element	2014-15	2015-16	2016-17	2017-18	2018-19
21 km D/C quad T/L	22.30	23.04	23.79	24.59	25.41
5 nos. 400 kV bays	301.50	311.50	321.85	332.55	343.55
Total	323.80	334.54	345.64	357.14	368.96



55. TANGEDCO has submitted that the Tariff Regulations do not provide for revising the normative O&M charges based on the actuals.

56. 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.

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

Interest on working capital

58. 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;”

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

(i) Receivables

Receivables as a component of working capital will be equivalent to two months fixed cost. The petitioner has claimed the receivables on the basis of 2 months' annual transmission charges. In the tariff being allowed, receivables have been worked out on the basis of 2 months' transmission charges.

(ii) Maintenance spares

Regulation 28 of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M expenses. The value of maintenance spares has accordingly been worked out.

(iii) O & M expenses

Operation and maintenance expenses have been considered for one month as a component of working capital. The petitioner has claimed O&M expenses for 1 month of the respective year as claimed in the petition. This has been considered in the working capital.



(iv) Rate of interest on working capital

The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points).

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

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	48.57	50.18	51.85	53.57	55.34
O & M expenses	26.98	27.88	28.80	29.76	30.75
Receivables	299.80	334.30	342.35	338.26	332.33
Total	375.35	412.36	423.00	421.59	418.42
Interest	50.67	55.67	57.11	56.92	56.49

Transmission charges

61. The transmission charges being allowed for the assets are as follows:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	405.87	465.93	485.19	487.59	487.59
Interest on Loan	533.45	584.01	571.43	528.96	481.98
Return on Equity	484.99	565.62	594.75	598.96	598.96
Interest on Working Capital	50.67	55.67	57.11	56.92	56.49
O & M Expenses	323.80	334.54	345.64	357.14	368.96
Total	1798.78	2005.78	2054.12	2029.57	1993.98

Filing fee and the publication expenses

62. 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

63. The petitioner has requested to allow the petitioner 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 licensee fee from the beneficiaries. We are of the view that 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

64. 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 Government of India vide their notification dated 27.2.2010 has exempted transmission services from the purview of levy of service tax and hence the petitioner is not entitled to 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 consider petitioner's prayer pre-mature and accordingly this prayer is rejected.

Sharing of Transmission Charges

65. 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.

66. This order disposes of Petition No. 258/TT/2013.

sd/-

(Dr. M.K. Iyer)
Member

sd/-

(A.S. Bakshi)
Member

sd/-

(A.K. Singhal)
Member

sd/-

(Gireesh B. Pradhan)
Chairperson



Annexure

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	SBI (21.03.2012)					
	Gross loan opening	2633.31	2633.31	2633.31	2633.31	2633.31
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	239.39	478.78
	Net Loan-Opening	2633.31	2633.31	2633.31	2393.92	2154.53
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	239.39	239.39	239.39
	Net Loan-Closing	2633.31	2633.31	2393.92	2154.53	1915.13
	Average Loan	2633.31	2633.31	2513.61	2274.22	2034.83
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	269.91	269.91	257.65	233.11	208.57
	Rep Schedule	22 Annual Installment from 31.08.2016				
2	Bond-XL					
	Gross loan opening	302.00	302.00	302.00	302.00	302.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	25.17	50.33
	Net Loan-Opening	302.00	302.00	302.00	276.83	251.67
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	25.17	25.17	25.17
	Net Loan-Closing	302.00	302.00	276.83	251.67	226.50
	Average Loan	302.00	302.00	289.42	264.25	239.08
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	28.09	28.09	26.92	24.58	22.23
	Rep Schedule	12 Annual Installment from 28.06.2016				
3	BOND XXXIV					
	Gross loan opening	314.00	314.00	314.00	314.00	314.00
	Cumulative Repayment upto DOCO/previous year	0.00	26.17	52.33	78.50	104.67
	Net Loan-Opening	314.00	287.83	261.67	235.50	209.33
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	26.17	26.17	26.17	26.17	26.17



	Net Loan-Closing	287.83	261.67	235.50	209.33	183.17
	Average Loan	300.92	274.75	248.58	222.42	196.25
	Rate of Interest	8.84%	8.84%	8.84%	8.84%	8.84%
	Interest	26.60	24.29	21.97	19.66	17.35
	Rep Schedule	12 Annual Installment from 21.10.2014				
4	BOND XLIII					
	Gross loan opening	478.00	478.00	478.00	478.00	478.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	39.83
	Net Loan-Opening	478.00	478.00	478.00	478.00	438.17
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	39.83	39.83
	Net Loan-Closing	478.00	478.00	478.00	438.17	398.33
	Average Loan	478.00	478.00	478.00	458.08	418.25
	Rate of Interest	7.93%	7.93%	7.93%	7.93%	7.93%
	Interest	37.91	37.91	37.91	36.33	33.17
	Rep Schedule	12 Annual Installment from 20.05.2017				
5	BOND XLII					
	Gross loan opening	127.29	127.29	127.29	127.29	127.29
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	127.29	127.29	127.29	127.29	127.29
	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	127.29	127.29	127.29	127.29	127.29
	Average Loan	127.29	127.29	127.29	127.29	127.29
	Rate of Interest	8.80%	8.80%	8.80%	8.80%	8.80%
	Interest	11.20	11.20	11.20	11.20	11.20
	Rep Schedule	13.3.2023 Bullet Payment				
6	BOND XLI					
	Gross loan opening	307.00	307.00	307.00	307.00	307.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	25.58	51.17
	Net Loan-Opening	307.00	307.00	307.00	281.42	255.83
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	25.58	25.58	25.58
	Net Loan-Closing	307.00	307.00	281.42	255.83	230.25
	Average Loan	307.00	307.00	294.21	268.63	243.04
	Rate of Interest	8.85%	8.85%	8.85%	8.85%	8.85%
	Interest	27.17	27.17	26.04	23.77	21.51
	Rep Schedule	12 Annual Installment from 19.10.2016				
7	BOND XXXVII					
	Gross loan opening	1029.00	1029.00	1029.00	1029.00	1029.00
	Cumulative Repayment upto	0.00	0.00	85.75	171.50	257.25



DOC0/previous year					
Net Loan-Opening	1029.00	1029.00	943.25	857.50	771.75
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	0.00	85.75	85.75	85.75	85.75
Net Loan-Closing	1029.00	943.25	857.50	771.75	686.00
Average Loan	1029.00	986.13	900.38	814.63	728.88
Rate of Interest	9.25%	9.25%	9.25%	9.25%	9.25%
Interest	95.18	91.22	83.28	75.35	67.42
Rep Schedule	12 Annual Installment from 26.12.2015				
Total Loan					
Gross loan opening	5190.60	5190.60	5190.60	5190.60	5190.60
Cumulative Repayment upto DOC0/previous year	0.00	26.17	138.08	540.14	982.03
Net Loan-Opening	5190.60	5164.43	5052.52	4650.46	4208.57
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	26.17	111.92	402.06	441.89	441.89
Net Loan-Closing	5164.43	5052.52	4650.46	4208.57	3766.67
Average Loan	5177.52	5108.48	4851.49	4429.51	3987.62
Rate of Interest	9.5810%	9.5876%	9.5840%	9.5721%	9.5659%
Interest	496.06	489.78	464.97	424.00	381.45

