

**Central Electricity Regulatory Commission  
New Delhi**

**Petition No. 111/TT/2011**

**Coram:**

**Shri V.S. Verma, Member  
Shri M. Deena Dayalan, Member**

**Date of Hearing: 18.6.2013**

**Date of Order : 20.1.2014**

**In the matter of**

Approval under Regulation 86 Central Electricity Regulatory Commission for determination of transmission tariff for 2<sup>nd</sup> Spare Converter Transformer at Kolar (anticipated DOCO-1.5.2011) & Talcher (anticipated DOCO-1.9.2011) HVDC Terminals (One each at Talcher & Kolar) from anticipated DOCO to 31.3.2014 in SR for tariff block 2009-14.

**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 Ltd.,  
Kaveri Bhawan,  
Banglore-560 009.
2. Transmission Corporation of Andhra Pradesh Ltd.,  
Vidyut Soudha,  
Hyderabad-500 082.
3. Kerala State Electricity Board,  
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-403 001.

6. Electricity Department  
Government of Pondicherry,  
Pondicherry – 605 001.
7. Eastern Power Distribution Company of Andhra Pradesh Ltd. (APEPDCL),  
P&T Colony, Seethmmadhara,  
Vishakhapatnam.
8. Southern Power Distribution Company of Andhra Pradesh Ltd. (APSPDCL),  
Srinivasasa Kalyana Mandapam Backside, Tiruchanoor Road,  
Kesavayana Gunta,  
Tirupati-517 501.
9. Central Power Distribution Company of Andhra Pradesh Ltd. (APCPDCL),  
Corporate Office, Mint Compound,  
Hyderabad-500 063.
10. Northern Power Distribution Company of Andhra Pradesh Ltd. (APNPDCL),  
Opp. NIT Petrol Pump, Chaitanayapuri,  
Kazipet, Warangal-506 004
11. Bangalore Electricity Supply Company Limited (BESCOM)  
Corporate Office, K.R. Circle,  
Bangalore-560 001.
12. Gulbarga Electricity Supply Company Limited (GESCOM)  
Station Main Road,  
Gulbarga.
13. Hubli Electricity supply Company Limited (HESCOM)  
Navanagar, PB Road,  
Hubli.
14. Mescom Corporate Office  
Paradigm Plaza, AB Shetty Circle,  
Mangalore-575 001
15. Chamundeswari Electricity Supply Corporation Ltd. (CESC)  
# 927, LJ Avenue Ground Floor,  
New Kantharaj Urs Road,  
Saraswatipuram, Mysore-570 009

.....Respondents

**For petitioner** : Shri S. S. Raju, PGCIL  
Shri Prashant Sharad

**For Respondents** : None



## ORDER

The petition has been filed by Power Grid Corporation of India Limited for approval of transmission charges for 2<sup>nd</sup> Spare (Additional) Converter Transformers at Kolar and Talcher of Talcher-Kolar HVDC Link in Southern Region for the period from the anticipated date of commercial operation to 31.3.2014 in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (the 2009 Tariff Regulations).

2. Southern Regional Electricity Board (SREB), in its meeting held on 10.8.2004, agreed for procurement of two additional converter transformers for Talcher – Kolar HVDC Bi-pole, one each at Talcher and Kolar terminal. Accordingly, the administrative approval and expenditure sanction for the procurement of two nos. 397 MVA Converter Transformers (the Converter Transformers) was accorded by the Board of Directors of the petitioner company in its 170<sup>th</sup> meeting held on 1.8.2005 at an estimated cost of ₹6525 lakh, including Interest During Construction (IDC) of ₹104 lakh. The Board of Directors of the petitioner subsequently accorded approval for the revised estimated cost of ₹13553 lakh, including IDC of ₹527 lakh based on the 1<sup>st</sup> Quarter, 2011 price level. The revised approval was conveyed under No C/CP/Spare Conv. Talcher & Kolar dated 20.12.2011.

3. In accordance with the administrative approval accorded by the Board of Directors, the Converter Transformers were to be commissioned within 24 months from the date of Letter of Award (LOA). LOA was placed on Siemens AG, Germany (Siemens) on 17.5.2007. Therefore, the Converter Transformers were scheduled to be commissioned by 1.6.2009. The petition has been filed for approval of the transmission charges for the

Converter Transformer at Kolar (**Transformer I**) with anticipated date of commercial operation as 1.5.2011 and for the Converter Transformer at Talcher (**Transformer II**) with 1.9.2011 as the anticipated date of commercial operation. Transformer - I and Transformer - II were actually declared under commercial operation at Kolar and Talcher on 1.6.2011 and 1.10.2011, respectively as stated by the petitioner in its affidavits dated 21.7.2011 and 19.3.2012. The scheduled, anticipated and actual dates of commercial operation of the respective asset are thus tabulated hereunder:-

Particulars	Scheduled DOCO	Anticipated DOCO	Actual DOCO
<b>Transformer-I</b>	1.6.2009	1.5.2011	1.6.2011
<b>Transformer-II</b>	1.6.2009	1.9.2011	1.10.2011

4. The petitioner has claimed the transmission charges from the anticipated date of commercial operation to 31.3.2014 as under:-

(₹ In lakh)

Particulars	Transformer - I	Transformers - I and II		
	2011-12 (Pro-rata)	2011-12 (Pro-rata)	2012-13	2013-14
Depreciation	281.49	374.31	695.75	698.40
Interest on Loan	317.77	422.76	740.79	682.41
Return on Equity'	279.59	371.78	691.04	693.68
Interest on Working Capital	19.46	25.89	47.12	45.94
O & M Expenses	0.00	0.00	0.00	0.00
<b>Total</b>	<b>898.31</b>	<b>1194.74</b>	<b>2174.70</b>	<b>2120.43</b>

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

(₹ in lakh)

Particulars	Transformer - I	Transformers - I and II		
	2011-12 (Pro-rata)	2011-12 (Pro-rata)	2012-13	2013-14
Maintenance Spares	0.00	0.00	0.00	0.00
O & M Expenses	0.00	0.00	0.00	0.00
Receivables	163.33	341.35	362.45	353.41
<b>Total</b>	<b>163.33</b>	<b>341.35</b>	<b>362.45</b>	<b>353.41</b>
Rate of Interest	13.00%	13.00%	13.00%	13.00%
<b>Interest</b>	<b>19.46</b>	<b>25.89</b>	<b>47.12</b>	<b>45.94</b>

6. 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. The reply to the petition has been filed by TANGEDCO, the successor of Tamil Nadu Electricity Board (Respondent No 4), who has filed its written submissions also.

7. We have heard the representatives/counsel for the parties present at the hearing and have perused the material available on record.

8. TANGEDCO has made a preliminary submission that the petitioner be directed to claim the tariff for the Converter Transformers along with the tariff for Talcher – Kolar HVDC Bi-pole. It may be pointed out that the additional Converter Transformers have been commissioned independently of Talcher – Kolar HVDC Bi-pole and as such it is advisable to club these transformers with the bi-pole for the purpose of tariff at this stage.

### **Capital Cost**

9. Regulation 7 of the 2009 Tariff Regulations provides as under:-

**“(1) Capital cost for a project shall include:-**

- (a) The expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan – (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 fund deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check.
- (b) capitalised initial spares subject to the ceiling rates specified in regulation 8; and
- (c) additional capital expenditure determined under regulation 9:

Provided that the assets forming part of the project, but not in use shall be taken out of the capital cost.

(2) The capital cost admitted by the Commission after prudence check shall form the basis for determination of tariff:

Provided that in case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out based on the benchmark norms to be specified by the Commission from time to time:

Provided further that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the reasonableness of the capital expenditure, financing plan, interest during construction, use of efficient technology, cost over-run and time over-run, and such other matters as may be considered appropriate by the Commission for determination of tariff.”

10. The details of the original and revised apportioned approved capital cost, capital cost as on the dates of commercial operation and estimated additional capital expenditure projected to be incurred are given hereunder:-

Particulars	(₹ in lakh)	
	Transformer-1 (DOCO-1.6.2011)	Transformer-II (DOCO-1.10.2011)
<b>Original Apportioned Approved Cost</b>	<b>3262.50</b>	<b>3262.50</b>
<b>Revised Apportioned Approved Cost</b>	<b>6496.00</b>	<b>7057.00</b>
As on 1.6.2011	5588.89	3716.91
Expenditure from 1.6.2011 to 30.9.2011	202.78	
Expenditure from 1.10.2011 to 31.3.2012	309.09	3275.99
Expenditure from 1.4.2012 to 31.3.2013	203.69	374.15
<b>Total Expenditure</b>	<b>6304.45</b>	<b>7367.05</b>

### **Initial Spares**

11. Regulation 8 of the 2009 Tariff Regulations provide for ceiling norms for capitalization of initial spares in respect of transmission system as under:-

**“8. Initial Spares.** Initial spares shall be capitalised as a percentage of the original project cost, subject to following ceiling norms:

- (iv) Transmission system
  - (a) Transmission line - 0.75%
  - (b) Transmission Sub-station - 2.5%
  - (c) Series Compensation devices and HVDC Station - 3.5%

Provided that where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost under first proviso to clause (2) of regulation 7, such norms shall apply to the exclusion of the norms specified herein.”

12. The petitioner has not claimed initial spares.

### **Cost over-run**

13. The administrative approval and expenditure sanction for the Converter Transformers was accorded by the Board of Directors for ₹6525 lakh. The Board of Directors on 20.12.2012 accorded approval for the revised cost estimate of ₹13553 lakh. It was submitted on behalf of the petitioner the estimated completion cost was ₹13227 lakh and as such there was no cost over-run.

14. In response to a query, the petitioner has submitted the details of cost increases as summarized hereunder:-

(₹ in lakh)

Sr. No.	Factor	Increase	Increase (%)
1.	Price Increase	4380	67.12
2.	Taxes & Duties (Customs duty)	1310	20.08
3.	FERV (Contracts)	1118	17.13
4.	Other Reasons (IEDC and IDC)	220	3.37
	(i) IEDC	(-)203	
	(ii) IDC	423	
	<b>TOTAL</b>	<b>7028</b>	<b>107.70</b>

15. The details of under the head 'Price Increase' are as given below:-

Sr. No.	Factor	Amount (₹ in lakh)
1	Supply (including Marine Transport & Insurance)	2560
2	Services (Including Erection & civil works and Inland Freight & Insurance)	1820
	<b>Total</b>	<b>4380</b>

16. The petitioner has explained the factors leading to cost over-run as discussed in the paras that follow.

### **Price increase**

17. Letter of Award for procurement of Converter Transformers (including bushings) was placed on Siemens on 17.5.2007 on FOB delivery basis as extension of original Contract Agreement dated 14.3.2000 for 2000 MW Talcher - Kolar HVDC Bi-pole Terminal Package. The petitioner has submitted that for the remaining services such as taking delivery of equipment at German Seaport, marine transportation and insurance, port handling and custom clearance, inland transport and insurance, erection testing and commissioning and over-all co-ordination with Siemens for providing services including fulfillment of warranty obligation, Letter of Award was placed on single tender basis in February 2010. The petitioner has also stated that price increase of ₹4380 lakh is as per the provisions for price variation in the contracts.

### **Rates and Taxes**

18. In regard to increase in Rates and Taxes (Customs Duty) the petitioner has stated at the stage of preparation of the Feasibility Report, it was proposed to procure main transformer (except bushing) through World Bank funding. However, in view of change in funding to domestic funding since funding through World Bank did not materialize, it became liable to an additional amount of ₹1310 lakh on account of payment of Customs Duty on the imported Converter Transformers, applicable for procurement through domestic funding.



## **FERV**

19. The petitioner has stated that the contracts entered into with Siemens envisaged payments in foreign currency. On account of increase in exchange rate on the date of actual execution of work over the exchange rate prevalent at the time of preparation of the Feasibility Report, there has been increase in liability to the extent of ₹1118 lakh.

## **Other Reasons (IEDC & IDC)**

20. As per the Feasibility Report, IDC was estimated at ₹104 lakh whereas, based on the actual and anticipated funds flow, IDC worked out to ₹527 lakh. Thus, there is an increase of ₹423 lakh in IDC. The main reason of increase in IDC is increase in cost and also increase in period of execution.

21. We have considered the petitioner's explanation in support of cost over-run. The cost over-run on account of Rates and Taxes and FERV cannot be attributed to the petitioner. Increase in IDC is consequential to cost increase and delay. Therefore, the reason given for increase in price has been examined in detail under the head 'Time Over-run' hereunder. We are satisfied that price increase claimed is in accordance with the contractual obligations incurred by the petitioner.

## **Time over-run**

22. The events relating to commissioning of the Converter Transformers are tabulated overleaf:-

<b>Event</b>	<b>Date</b>	<b>Delay</b>
Approval by Southern Regional Electricity Board (SREB)	10.8.2004	-
Investment Approval by the Board of Directors	1.8.2005	1 year after approval by SREB
Date of Letter of Award	17.5.2007	1 year 9 months after Investment Approval
Completion schedule as per Investment Approval - Within 24 months from date of letter of award	16.5.2009 (say 1.6.2009)	
Commissioning of Kolar Converter Transformer	1.6.2011	2 years
Commissioning of Talcher Converter Transformer	1.10.2011	2 years 4 months

23. It has been submitted by the petitioner that work relating to procurement of Talcher- Kolar HVDC system commissioned in the year 2003 was awarded to Siemens in the year 2000. Talcher - Kolar HVDC system has 14 Converter Transformers, supplied by Siemens. The Converter Transformers being proprietary item, the petitioner approached Siemens for supply of second set of spare Converter Transformers as no Indian firm was manufacturing Converter Transformers matching with Siemens' design. It has been stated that BHEL, the partner of Siemens in execution of Balia - Bhiwadi HVDC Bi-pole was to supply 4 nos. of Converter Transformers for Balia- Bhiwadi Pole-I, but failed to do so. Thereafter, a decision was taken in the national interest to ask Siemens to supply these transformers also. As Balia- Bhiwadi HVDC Pole-I was to evacuate more power and Talcher- Kolar HVDC line was already operational with one spare transformer, raw material for the second set of spare Converter Transformers was utilized for transformer at Balia- Bhiwadi HVDC Pole-I, considering the overall national perspective. The petitioner has stated that if the large investment on Balia- Bhiwadi (2500 MW) HVDC Bi-pole remained idle for a long time, it would have enhanced IDC & IEDC, etc. and would thus have proved prejudicial to the consumers' interest.

24. In response to the queries raised by the Commission during technical validation of the tariff petition, the petitioner, vide affidavits dated 21.7.2011 and 8.2.2012, has explained the reasons. The petitioner has stated that LOA was placed on Siemens for supply of 2 Converter Transformers on 17.5.2007 with a delivery target of 27 months. Thus, in accordance with LOA, the Converter Transformers were to be delivered by Siemens by August, 2009. Siemens informed the petitioner that there was a lead time for procurement of key raw materials due to demand supply gap and requested for time extension upto October 2010. Considering the availability of one dedicated spare Converter Transformer at each terminal and the satisfactory performance of the available transformers, the petitioner extended the delivery period upto October, 2010 to accommodate the request by Siemens.

25. Transformer identified for Kolar HVDC terminal was delivered at German Seaport in October, 2010 as per extended schedule. Siemens requested for further time extension. The request was considered and extension upto December, 2010 and thereafter upto February, 2011 was granted because of prohibition of the usage of waterways by German authorities for some period due to melting of snow. The Converter Transformer for Talcher HVDC was delivered at German Sea Port in February, 2011.

26. For transportation and erection of the Converter Transformers, a separate LOA was placed with a completion target of 6 months from the date of delivery at German Sea Port. Siemens requested for time extension up to April, 2011 due to the non-availability of erection specialists of Converter Transformer at Transformer Factory of Siemens in Germany. The request was considered and extension upto April, 2011 was allowed.

27. The petitioner claims to have followed the provision of clause GCC 47.11 of General Conditions of Contract, Volume-I of the Contract Agreement dated 14.3.2000 executed for 2000 MW HVDC bi-pole terminal package associated with East-South Inter-connector-II, reproduced below:-

"The prices of all future requirement of item of spares beyond three years operational requirement will be derived from the corresponding ex-works price at which the order for such spares has been placed by the owner as part of the mandatory spares or availability spares. Ex-works order price of future spares shall be computed in accordance with the price adjustment provisions covered under the main contract and there will be no ceiling of the amount of variation in the prices in applying the price adjustment provisions. The base indices will be counted from the schedule date of successful completion of trial operation of last plant/ equipment under the main project if the ordered spares are on firm price basis and in case where the order spares are on variable price basis, the base indices shall remain same as those in the original contract. The above option for procuring future recommended spares by the owner shall remain valid for the period of 8 years from the date of successful completion of trial operation of the plant/equipment".

28. Keeping in view the supply on FOB basis as aforesaid, separate package was awarded for sea transport, insurance and other incidental services (including port clearance charges etc.) and local transportation of the Converter Transformers.

29. TANGEDCO in its reply has pointed out that there is an abnormal delay of more than 5 years from the date of investment approval in the commissioning of the Converter Transformers and has prayed the Commission to exercise due prudence check in restricting the capital cost so that the beneficiaries are not burdened with higher tariff, for no fault of theirs.

30. In the rejoinder to the reply by TANGEDCO, the petitioner has submitted that supplier has not been allowed any price increase because of time over-run as under the provision of contract price variation was allowed as per contractual schedule of supply or

actual delivery whichever was lower. In the instant case, the price variation for the delayed period worked out up to the date of shipment of the Converter Transformers was found to be higher than for the contractual price variation. Therefore, the contractual price variation was allowed and there was no cost escalation on account of delay in supply of transformer.

31. We have considered the rival submissions on time over-run. The issue of delay up to the date of placement of Letter of Award has lost its significance in the present case as the investment approval stipulates commissioning schedule to be two years from the date of LOA. It is also pointed out that at the SREB meeting held in August, 2004 when the need for the second set of spare Converter Transformers was agreed to, the completion schedule was not decided. Accordingly, delay is to be considered with reference to scheduled completion time from the date of LOA. Accordingly, the delay comes to 2 years in case of Transformer - I and 2 years 4 months in case of Transformer - II.

32. The petitioner has explained the reason for agreeing to the delivery period of 27 months under LOA. It has stated that during pre-award discussions the petitioner insisted for delivery period of 24 months. However, Siemens did not agree to the said delivery period considering non-availability of manufacturing slots. Since the Converter Transformers were to be procured from Siemens, the Original Equipment Manufacturer (OEM), the petitioner had no option but to agree to the delivery period of 27 months as offered by OEM. In view of the explanation, delay of 3 months is found to be beyond the control of petitioner. As such, the delay of three months is condoned.

33. The petitioner had granted extension of time for delivery of the Converter Transformers from August 2009 to October 2010 and further to December 2010 for Transformer -II and again till February 2011. The reason stated for grant of extension was the requests received from Siemens.

34. We first examined whether delay in commissioning had any cost implication. As per price adjustment clause 5.4 placed on record by petitioner under its response dated 3.8.2012, for extended period of delivery no price variation was allowed to the supplier beyond original delivery date and further that the petitioner would be entitled to decrease, if any, due to lower price adjustment. Clause 5.4 is extracted below:-

“5.4 No price increase shall be allowed beyond the original delivery dates unless specifically stated in the Time Extension letter that may be issued by POWERGRID, POWERGRID will however, be entitled to any decrease in the Contract Price which may be caused due to lower price adjustment amount in case of delivery of Spare Converter transformer beyond the original delivery dates. Therefore, in case of delivery of goods beyond the original delivery dates, the liability of POWERGRID shall be limited to the lower of the price adjustment amount which may work out either on scheduled date or actual date of dispatch of Spare Converter Transformer”.

35. From the above provision, it is clear that for delay beyond scheduled date of delivery, the liability of the petitioner was limited to the lower of the price adjustment amount which may work out either on scheduled date or actual date of dispatch of the Converter Transformers. The petitioner has clarified that the impact of Price Variation was lower on the actual date of shipment than the contractual shipment date and Price Variation has been restricted to actual date of shipment. As such, it is concluded that delay in supply, that is, up to the date of delivery, did not have cost implication.

36. Transformer – I was delivered in Germany in October, 2010. The petitioner has not pointed out any difficulties in transportation. We therefore proceed on the basis that

Transformer – I could be immediately transported in India. The petitioner has stated that six months period was needed for transportation and commissioning from the date of delivery. Therefore, period of six months needed for transportation and commissioning is condoned.

37. The delay in shipment and transport Transformer – II was due to prohibition on usage of waterways. The petitioner has placed on record the documentary evidence in support of the plea. This is considered to be an unusual occurrence over which the petitioner had no control. Therefore, delay of 2 months in transportation of Transformer–II, caused by the prohibition of usage of waterways is condoned. Similarly, six months for transportation and commissioning is allowed in case of Transformer – II as done in the case of Transformer - I.

38. The total delay condoned is summarized as under:-

Transformer–I     **9 months** (3 months in schedule of delivery + 6 months for transportation and commissioning) against total delay of 24 months

Transformer–II    **11 months** (3 months in schedule of delivery + 2 months for prohibition in waterways + 6 months for transportation and commissioning) against total delay of 28 months.

39. As already concluded, these delays do not have impact on hard cost due to price variation clause in LOA. However, delay had implication on IDC and IEDC. Therefore, IDC and IEDC for the period of delay are to be deducted from the capital cost.

40. The Appellate Tribunal in its order dated 24.5.2011 in Appeal No. 99 of 2012 observed as under:-

“7.12....” ... excess IDC and overhead cost for time over run from scheduled date of commissioning to actual date of commissioning has to be worked on prorata basis w.r.t. total actual time taken in commissioning of the unit. **50% of the excess IDC and overheads costs will have to be disallowed.** Deduction on account of 50% of the liquidated damages received by the appellant from its supplier /contractor has also to be allowed from the capital cost, to give due credit for LDs to the consumers....”

41. In view of above observations of Appellate Tribunal, 50 % IDC, IEDC has been considered. Accordingly, after condoning delay of nine months in case Transformer – I and 11 months in case of Transformer - II, 50% of IDC and IEDC for fifteen months and seventeen months respectively has been deducted from the capital cost of the Converter Transformers as on the dates of commercial operation. Details of the disallowed IDC and IEDC adjusted against the capital cost are as follows:-

<b>Details of IDC and IEDC as per Management Certificate dated 15.3.2012</b>				
Particulars	Transformer- I		Transformer - II	
	IDC	IEDC	IDC	IEDC
Up to 31.5.2011/30.9.2011	122.60	142.13	214.70	147.93
IDC and IEDC for 15/17 months	38.31	44.42	70.19	48.36
IDC and IEDC to be disallowed (50% of 15/17 months IDC & IEDC)	<b>19.16</b>	<b>22.21</b>	<b>35.10</b>	<b>24.18</b>

42. It is noted that the petitioner is entitled to claim liquidated damages on account of the delay in supply of transformers by Siemens. The petitioner has not furnished the details of the liquidated damages, if any, recovered, though in its rejoinder to the reply filed by TANGEDCO it stated that the claim for liquidated damages was being processed in accordance with the terms of the contract. Therefore, presently the capital cost has been worked out by adjusting IDC/ IEDC only and liquidated damages, if any, recovered



by the petitioner will be adjusted in accordance with law at the time of truing up.

**Projected additional capital expenditure**

43. Clause (1) of Regulation 9 of the 2009 Tariff Regulations provides as under:-

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

- (i) Undischarged liabilities;
- (ii) Works deferred for execution;
- (iii) Procurement of initial capital Spares within the original scope of work, subject to the provisions of Regulation 8;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and
- (v) Change in Law:”

44. Clause (11) of Regulation 3 of Tariff Regulations defines “cut-off” date as under:

“cut-off date” means 31<sup>st</sup> March of the year closing after 2 years of the year of commercial operation of the project, and in case the project is declared under commercial operation in the last quarter of the year, the cut-off date shall be 31<sup>st</sup> March of the year closing after 3 years of the year of commercial operation”.

45. After taking into account the dates of commercial operation of the Converter Transformers, cut-off date arrived at is 31.3.2014.

46. The additional capital expenditure during 2011-12 and 2012-13 claimed by the petitioner, the details of which are tabulated overleaf, is within the cut-off date. Capital cost has been restricted due to cost over-run.

(₹ in lakh)

	Transformer – I	Transformer -II	Transformers – I and II
Date of Commercial Operation to 30.9.2011	202.78	--	--
1.10.2011 to 31.3.2012	309.09	3275.99	3585.08
2012-13	203.69	374.15	577.84

47. As noticed above, total estimated completion cost of the Converter Transformers exceeds the revised approved cost. As such, completion cost of the Converter Transformers has been restricted to revised apportioned approved cost after allowing the projected additional capital expenditure, as per details given below:-

Particulars	Transformers – I and II (Notional DOCO:1.10.2011)		
Revised Cost Estimate	₹13553.00 lakh		
Estimated completion cost after deducting disallowed IDC and IEDC	₹13671.50 lakh - ₹100.6 lakh = ₹13570.80 lakh		
Excess claim disallowed	₹17.85 lakh		
Capital cost considered as on Notional DOCO (A)	₹5750.30 lakh + ₹3657.63 lakh = ₹9407.93 lakh		
Projected Additional Capital Expenditure	Claimed	Disallowed	Additional Capital Expenditure Allowed
2011-12 (B)	₹3585.08 lakh	--	₹3525.08 lakh
2012-13 (C)	₹577.84 lakh	₹17.85 lakh	₹559.99 lakh
Sub-total (D)= (B)+(C)	₹4162.92 lakh	₹17.85 lakh	₹4145.07 lakh
Capital Cost Considered (E)=(A)+(D)	₹13553.00 lakh		

### Debt- Equity Ratio

48. Regulation 12 of the 2009 Tariff Regulations provides as under:-

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

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

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.

**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, provided

such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.

(2) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2009, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2009 shall be considered.

(3) Any expenditure incurred or projected to be incurred on or after 1.4.2009 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.”

49. The detail of opening debt-equity ratio of assets considered for the purpose of tariff calculation is as follows:-

(₹ in lakh)

Capital Cost as on DOCO		
Transformer I		
Particulars	Amount	%
Debt	3883.27	70.00
Equity	1664.26	30.00
<b>Total</b>	<b>5547.53</b>	<b>100.00</b>
Transformer I and II		
Particulars	Amount	%
Debt	6585.56	70.00
Equity	2822.38	30.00
<b>Total</b>	<b>9407.94</b>	<b>100.00</b>

50. Detail of debt-equity ratio of assets as on 31.3.2014 is as follows:-

(₹ in lakh)

Capital Cost as on 31.3.2014		
Part-A	Amount	%
Debt	9487.10	70.00
Equity	4065.90	30.00
<b>Total</b>	<b>13553.00</b>	<b>100.00</b>

51. The debt equity ratio for projected additional capitalisation considered is as given overleaf:-

(₹ in lakh)

Transformer I		
Particulars	2011-12	
	Amount	%
	Normative	
Debt	358.31	70.00
Equity	153.56	30.00
<b>Total</b>	<b>511.87</b>	<b>100.00</b>
Transformer I and II		
Particulars	2011-12	
	Amount	%
	Normative	
Debt	2509.56	70.00
Equity	1075.52	30.00
<b>Total</b>	<b>3585.08</b>	<b>100.00</b>
Particulars	2012-13	
	Amount	%
	Normative	
Debt	391.99	70.00
Equity	167.99	30.00
<b>Total</b>	<b>559.98</b>	<b>100.00</b>

### Return on equity

52. Regulation 15 of the 2009 Tariff Regulations provides as under:-

“15. (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 12.

(2) Return on equity shall be computed on pre-tax basis at the base rate of 15.5% for thermal generating stations, transmission system and run of the river generating station, and 16.5% for the storage type generating stations including pumped storage hydro generating stations and run of river generating station with pondage and shall be grossed up as per clause (3) of this regulation:

Provided that in case of projects commissioned on or after 1st April, 2009, an additional return of 0.5% shall be allowed if such projects are completed within the timeline specified in **Appendix-II**:

Provided further that the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever.

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

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

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

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

(5) The generating company or the transmission licensee as the case may be, shall recover the shortfall or refund the excess Annual Fixed charge on account of Return on Equity due to change in applicable Minimum Alternate/ Corporate Income Tax Rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission;

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

53. The petitioner has claimed RoE at the rate of 15.5% in accordance with clause (2) of Regulation 15, which has been allowed. RoE allowed for the years 2011-12, 2012-2013 and 2013-2014 is given below:-

(₹ in lakh)

Particulars	Transformer-I	Transformers - 1 and II		
	2011-12 (Pro-rata)	2011-12 (Pro-rata)	2012-13	2013-14
Opening Equity	1664.26	2822.38	3897.90	4065.90
Addition due to Additional Capitalisation	153.56	1075.52	167.99	0.00
Closing Equity	1817.82	3897.90	4065.90	4065.90
Average Equity	1741.04	3360.14	3981.90	4065.90
Return on Equity (Base Rate )	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	11.33%	11.330%	11.330%	11.330%
Rate of Return on Equity (Pre-Tax )	17.481%	17.481%	17.481%	17.481%
<b>Return on Equity (Pre-Tax)</b>	<b>253.63</b>	<b>293.69</b>	<b>696.08</b>	<b>710.76</b>

54. The petitioner's request to allow grossing up the base rate of return with the applicable tax rate as per the relevant Finance Act for the relevant year and direct settlement of tax liability between the transmission licensee and the beneficiaries on year to year basis, shall be settled in accordance with the provisions of Regulation 15 of the 2009 Tariff Regulations.

## **Interest on loan**

55. Regulation 16 of the 2009 Tariff Regulations provides as under:-

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

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

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

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

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

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

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

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

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

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

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

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

56. In keeping with the provisions of Regulation 16, 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 and weighted average rate of interest on actual average loan have been considered as per the petition.

(b) The repayment for the tariff period 2009-14 shall be deemed to be equal to the depreciation allowed for that period.

(c) Notwithstanding moratorium period availed by the transmission licensee, the repayment of the loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.

(d) 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.

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

58. Based on the above, interest on loan has been calculated as given overleaf:-

(₹ in lakh)

Particulars	Transformer - I	Transformers - I and II		
	2011-12 (Pro-rata)	2011-12 (Pro-rata)	2012-13	2013-14
Gross Normative Loan	3883.27	6585.56	9095.12	9487.10
Cumulative Repayment upto previous year	0.00	102.14	397.83	1098.65
Net Loan-Opening	3883.27	6483.42	8697.28	8388.45
Addition due to additional capital expenditure	358.31	2509.56	391.99	0.00
Repayment during the year	255.35	295.69	700.81	715.60
Net Loan-Closing	3986.22	8697.28	8388.45	7672.86
Average Loan	3934.75	7590.35	8542.87	8030.66
Weighted Average Rate of Interest on Loan	8.8381%	8.8854%	8.8854%	8.8855%
<b>Interest</b>	<b>289.80</b>	<b>337.22</b>	<b>759.07</b>	<b>713.56</b>

## Depreciation

59. Regulation 17 of the 2009 Tariff Regulations provides as under:-

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

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

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

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

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

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

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



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

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

60. The petitioner has claimed actual depreciation. In our calculations, depreciation has been calculated in accordance with clause (4) of Regulation 17 extracted above.

61. Transformer – I and Transformer - II were put under commercial operation on 1.6.2011 and 1.10.2011 respectively. Accordingly, these assets will complete 12 years beyond 2013-14 and hence depreciation has been calculated annually based on Straight Line Method at the rates specified in Appendix-III to the 2009 Tariff Regulations, as per details given hereunder:-

(₹ in lakh)

Particulars	Transformer - I	Transformers - I and II		
	2011-12 (Pro-rata)	2011-12 (Pro-rata)	2012-13	2013-14
Opening Gross Block	5547.53	9407.94	12993.02	13553.00
Addition due to Projected Additional Capitalisation	511.87	3585.08	559.98	0.00
Closing Gross Block	6059.40	12993.02	13553.00	13553.00
Average Gross Block	5803.46	11200.48	13273.01	13553.00
Rate of Depreciation	5.2800%	5.2800%	5.2800%	5.2800%
Depreciable Value	5223.11	10080.43	11945.71	12197.70
Remaining Depreciable Value	5223.11	9978.29	11547.88	11099.05
<b>Depreciation</b>	<b>255.35</b>	<b>295.69</b>	<b>700.81</b>	<b>715.60</b>

### Operation & Maintenance Expenses

62. Clause (g) of Regulation 19 of the 2009 Tariff Regulations prescribes the norms for operation and maintenance expenses for the transmission system based on the type of sub-station and the transmission line. Since the assets are spare in nature, O&M is

not applicable. Also the petitioner has not claimed O & M expenses and as such its entitlement to O & M expenses is 'nil'.

### **Interest on working capital**

63. The petitioner is entitled to claim interest on working capital as per the 2009 Tariff Regulations. The components of the working capital and the petitioner's entitlement to interest thereon are discussed hereunder.

#### **(i) Receivables**

As per Regulation 18(1) (c) (i) of the 2009 Tariff Regulations, receivables as a component of working capital will be equivalent to two months' of fixed cost. The petitioner has claimed the receivables on the basis of 2 months' of annual transmission charges claimed in the petition. In the tariff being allowed, receivables have been worked out on the basis of 2 months' transmission charges.

#### **(ii) Maintenance spares**

Regulation 18 (1) (c) (ii) of the 2009 Tariff Regulations provides for maintenance spares @ 15% per annum of the O & M expenses as part of the working capital from 1.4.2009. As the assets are spare in nature, the O&M expenses and maintenance spare are not applicable. As such, maintenance spares component of working capital is 'nil'.

#### **(iii) O & M expenses**

Regulation 18(1) (c) (iii) of the 2009 Tariff Regulations provides for operation and maintenance expenses for one month to be included in the working capital. The

assets are spare in nature and O&M expenses are not applicable. As such, O & M expenses component of working capital is 'nil'.

**(iv) Rate of interest on working capital**

In accordance with clause (3) of Regulation 18 of the 2009 Tariff Regulations, as amended, rate of interest on working capital shall be on normative basis and shall be equal to State Bank of India Base Rate of 8.25% plus 350 bps as on 1.4.2011 (11.75%). The interest on working capital for the assets covered in the petition has been worked out accordingly.

64. Necessary computations in support of interest on working capital are appended hereunder:-

(₹ in lakh)

Particulars	Transformer - I	Transformers - I and II		
	2011-12 (Pro-rata)	2011-12 (Pro-rata)	2012-13	2013-14
Maintenance	0.00	0.00	0.00	0.00
O & M Expenses	0.00	0.00	0.00	0.00
Receivables	162.95	315.04	366.50	363.78
<b>Total</b>	162.95	315.04	366.50	363.78
Rate of Interest	11.75%	11.75%	11.75%	11.75%
Interest	<b>15.96</b>	<b>18.51</b>	<b>43.06</b>	<b>42.74</b>

**Transmission Charges**

65. The transmission charges being allowed for the transmission assets are summarized overleaf:-

(₹ in lakh)

Particulars	Transformer - I		Transformers - I and II		
	2011-12 (Pro-rata)	1.6.2011 to 30.9.2011	2011-12 (Pro-rata)	2012-13	2013-14
Depreciation	255.35	102.14	295.69	700.81	715.60
Interest on Loan	289.80	115.92	337.22	759.07	713.56
Return on Equity	253.63	101.45	293.69	696.08	710.76
Interest on	15.96	6.38	18.51	43.06	42.74
O & M Expenses	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>814.73</b>	<b>325.89</b>	<b>945.11</b>	<b>2199.03</b>	<b>2182.6</b>

66. The transmission charges for the year 2011-12 for Transformer – I are payable for four months from 1.6.2011 to 30.9.2011 and for Transformers – I and II combined Pro-rata for six months from 1.10.2011 to 31.3.2012.

67. The actual depreciation being approved for Transformer -1 for the period from 1.6.2011 to 30.9.2011 has been considered as cumulative depreciation for the Transformers–I and II.

68. The transmission charges allowed are lower as compared to those claimed by the petitioner. This is for the reason of reduction in capital cost on account of adjustment of IDC and IEDC for the time over-run and also because of delay in actual date of commercial operation as compared to anticipated date of commercial operation considered by the petitioner and cost over-run.

69. The transmission charges allowed are subject to truing up in accordance with the Tariff Regulations.

### **Normative annual transmission system availability factor**

70. In accordance with Regulation 28 of the 2009 Tariff Regulations, Normative Annual Transmission System Availability Factor (NATSAF) for recovery of the Annual Transmission Charges is as under:

(1)	AC system	:	98%
(2)	HVDC bi-pole links	:	92%
(3)	HVDC back-to-back Stations	:	95%

71. TANGEDCO has submitted that Talcher – Kolar HVDC system had achieved the following availability during 2004-09 period:=-

2004-05	96.17%
2005-06	97.81%
2006-07	96.98%
2008-09	99.23%

72. TANGEDCO has submitted that after commissioning of the Converter Transformers, the percentage availability should be increased to 98%, as was applicable during 2001-04 period. The petitioner has submitted that with the exception of Talcher – Kolar HVDC Bi-pole, two spare Converter Transformers were already provided at each HVDC Bi-pole in the country. It has been clarified by the petitioner that the commissioning of 2<sup>nd</sup> set of spare Converter Transformers at Talcher – Kolar HVDC Bi-pole has brought it at par with the HVDC stations and as such there is no case for increase in NATSAF. We find merit in the submission of the petitioner. However, TANGEDCO may, if so desired, approach the Commission for upward revision of NATSAF by filing the separate petition, with proper justification and supporting details.

### **Filing Fee, Licence Fee and Publication Expenses**

73. The petitioner has sought reimbursement of fee paid by it for filing the petition, licence fee and also the publication expenses. The petitioner shall be entitled for reimbursement of fee and licence fee directly from the beneficiaries in accordance with Regulation 42A of the Tariff Regulations. Similarly, the petitioner shall also be entitled to recover the publication expenses incurred in connection with the present petition. The reimbursement of filing fee, licence fee and the publication expenses shall be on *Pro-rata* basis in the same ratio as the transmission charges.

### **Service tax**

74. The petitioner has made a prayer to be allowed to bill and recover the service tax on transmission charges separately from the respondents, if it is subjected to such service tax in future. We consider petitioner's prayer pre-mature and accordingly this prayer is rejected.

### **Sharing of transmission charges**

75. The billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of the 2009 Tariff Regulations for the month of June 2011 for Transformer - I and thereafter in accordance with the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010, as amended from time to time.

76. With the above, the petition stands disposed of.

sd/-

**(M. DEENA DAYALAN)**  
**MEMBER**

sd/-

**(V. S. VERMA)**  
**MEMBER**

## Annexure

## CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

	Details of Loan	Transformer - I	Transformers – I and II		
		2011-12	2011-12	2012-13	2013-14
<b>1</b>	<b>Bond XXXII</b>				
	Gross loan opening	50.00	84.00	84.00	84.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	50.00	84.00	84.00	84.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	7.00
	Net Loan-Closing	50.00	84.00	84.00	77.00
	Average Loan	50.00	84.00	84.00	80.50
	Rate of Interest	8.840%	8.840%	8.840%	8.840%
	Interest	4.42	7.43	7.43	7.12
	Rep Schedule	12 Equal Annual Installments w.e.f 29.03.2014			
<b>2</b>	<b>Bond XXXIII</b>				
	Gross loan opening	400.00	797.00	<b>797.00</b>	<b>797.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	400.00	797.00	797.00	797.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	400.00	797.00	797.00	797.00
	Average Loan	400.00	797.00	797.00	797.00
	Rate of Interest	8.64%	8.640%	8.640%	8.640%
	Interest	34.56	68.86	68.86	68.86
	Rep Schedule	12 annual Installments from 08.07.2014			
<b>3</b>	<b>Bond XXXIV</b>				
	Gross loan opening	3417.00	4900.00	4900.00	4900.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	3417.00	4900.00	4900.00	4900.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	3417.00	4900.00	4900.00	4900.00
	Average Loan	3417.00	4900.00	4900.00	4900.00
	Rate of Interest	8.84%	8.84%	8.84%	8.84%
	Interest	302.06	433.16	433.16	433.16
	Rep Schedule	12 annual Installments from 21.10.2014			
<b>4</b>	<b>Bond XXXV</b>				
	Gross loan opening	45.20	53.90	53.90	53.90
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00



	Net Loan-Opening	45.20	53.90	53.90	53.90
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	45.20	53.90	53.90	53.90
	Average Loan	45.20	53.90	53.90	53.90
	Rate of Interest	9.64%	9.64%	9.64%	9.64%
	Interest	4.36	5.20	5.20	5.20
	Rep Schedule	12 annual Installments from 31.05.2015			
<b>5</b>	<b>Bond XXXVI (Drawl on 29.8.2011)</b>				
	Gross loan opening	0.00	821.09	821.09	821.09
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	821.09	821.09	821.09
	Additions during the year	141.95	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	141.95	821.09	821.09	821.09
	Average Loan	70.98	821.09	821.09	821.09
	Rate of Interest	9.35%	9.35%	9.35%	9.35%
	Interest	6.64	76.77	76.77	76.77
	Rep Schedule	15 annual Installments from 29.08.2016			
	<b>Total Loan</b>				
	Gross loan opening	3912.20	6655.99	6655.99	6655.99
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	3912.20	6655.99	6655.99	6655.99
	Additions during the year	141.95	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	7.00
	Net Loan-Closing	4054.15	6655.99	6655.99	6648.99
	Average Loan	3983.18	6655.99	6655.99	6652.49
	Rate of Interest	<b>8.8381%</b>	<b>8.8854%</b>	<b>8.8854%</b>	<b>8.8855%</b>
	<b>Interest</b>	352.04	591.41	591.41	591.10