

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 72/TT/2011

Coram:

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

**Date of Hearing: 20.6.2013
Date of Order : 21.6.2013**

In the matter of:

Approval under Regulation-86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2009 for determination of transmission tariff for the period 2009-14 for Spare Converter Transformer for Vizag Back-to-Back HVDC terminal (Ant. DOCO:1.4.2011) in Southern Region.

And

In the matter of:

Power Grid Corporation of India Limited, Gurgaon

.....**Petitioner**

Vs

1. Karnataka Power Transmission Corporation Ltd., Bangalore
2. Transmission Corporation of Andhra Pradesh Ltd., Hyderabad
3. Kerala State Electricity Board, Thiruvananthapuram
4. Tamilnadu State Electricity Board, Chennai
5. Electricity Department, Government of Goa, Goa
6. Electricity Department, Government of Pondicherry, Pondicherry
7. Eastern Power Distribution Company of Andhra Pradesh Ltd., Vishakhapatnam
8. Southern Power Distribution Company of Andhra Pradesh Ltd., Tirupati
9. Central Power Distribution Company of Andhra Pradesh Ltd., Hyderabad
10. Northern Power Distribution Company of Andhra Pradesh Ltd., Warangal
11. Bangalore Electricity Supply Company Ltd., Bangalore
12. Gulbarga Electricity Supply Company Ltd., Karnataka
13. Hubli Electricity Supply Company Ltd., Hubli

14. MESCOM, Mangalore
15. Chamundeshwari Electricity Supply Corporation Ltd., Mysore

....Respondents

The following were present:

1. Shri S.S Raju, PGCIL
2. Shri J. Mazumder, PGCIL
3. Shri Shashi Bhushan, PGCIL
4. Shri M.M. Mondal, PGCIL
5. Shri S. Vallinayagam, Advocate, TANGEDCO
6. Shri S. Balaguru, TANGEDCO

ORDER

This is a petition filed by Power Grid Corporation Limited (PGCIL) seeking approval of transmission tariff for the period 2009-14 for Spare Converter Transformer for Vizag Back-to-Back HVDC terminal (hereinafter referred to as "transmission asset") (Anticipated DOCO:1.4.2011) in Southern Region for tariff block 2009-14 period under Regulation 86 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as "2009 Tariff Regulations").

2. The consent of beneficiaries for procurement of the transmission asset was accorded in 137th SREB meeting held on 12.4.2005 in Chennai. The Investment approval for procurement of the transmission asset was accorded by the Board of Directors of the petitioner, vide letter dated 6.6.2006, at an estimated cost of ₹2559 lakh including Interest During Construction of ₹52 lakh.

3. Details of the transmission charges claimed by the petitioner are as under:-

(` in lakh)

Particulars	2011-12 (pro-rata)	2012-13	2013-14
Depreciation	91.85	99.84	99.84
Interest on Loan	103.59	104.48	95.66
Return on equity	91.23	99.17	99.17
Interest on Working Capital	6.35	6.72	6.53
O & M Expenses	0.00	0.00	0.00
Total	293.02	310.21	301.20

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

(` in lakh)

Particulars	2011-12 (pro-rata)	2012-13	2013-14
Maintenance Spares	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00
Receivables	48.84	51.70	50.20
Total	48.84	51.70	50.20
Interest	6.35	6.72	6.53
Rate of Interest	13.00%	13.00%	13.00%

5. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under section 64 of the Electricity Act, 2003. The reply has been filed by Respondent No. 4, Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO) (successor of Tamil Nadu Electricity Board), vide its affidavit dated 20.4.2011. PGCIL has filed its rejoinder to the reply filed by TANGEDCO, vide affidavit dated 2.4.2012. The

objections raised by the respondent and the clarifications given by the petitioner are dealt in relevant paragraphs of this order.

6. The matter was heard on 31.1.2013 and order was reserved. As one of the Members of the Commission demitted the office, the matter was heard again on 20.6.2013. During the hearing, the representative of the petitioner submitted since the parties have already made their submissions, the Commission may proceed to issue the order in the matter. None was present on behalf of the respondents. Having heard the representatives of the parties and perused the material on records, we proceed to dispose of the petition.

Capital cost

7. As regards the capital cost, Regulation 7 (1) (a) 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;”

8. The petitioner initially claimed tariff on the basis of anticipated date of commercial operation as 1.4.2011. However, vide affidavit dated 14.5.2012, the petitioner has submitted that the actual date of commercial operation of the transmission asset was 1.1.2012. The petitioner also submitted the downward

revised capital cost as on the date of commercial operation.

9. The details of the capital cost submitted by the petitioner, vide Auditor's certificate dated 31.3.2012, as on the date of commercial operation and estimated additional capital expenditure projected to be incurred for the transmission asset covered in the instant petition is summarized below. These are based on the audited statement of accounts up to 31.3.2011.

(₹ in lakh)					
Name of the Asset	Apportioned approved cost as per FR	Cost as on actual DOCO	Expenditure from DOCO to 31.3.2012	Estimated expenditure during 2012-13	Total estimated completion cost
Spare Converter Transformer for Vizag Back-to-Back HVDC terminal.	2559.00	983.02	788.25	327.21	2098.47

10. The petitioner has not claimed any initial spares for the transmission asset covered in the instant petition.

Time over-run

11. As per the investment approval dated 6.6.2006, the transmission asset was scheduled to be commissioned within 18 months from the date of Letter of Award. The Letter of Award was placed on 23.8.2007 and accordingly, the date of commissioning works out to 23.2.2009, i.e. by 1.3.2009. However, the transmission asset was commissioned on 1.1.2012. Thus, there has been a time over-run of about 34 months.

12. The petitioner has attributed the time over-run to the unusually long delivery period. The petitioner has submitted, in the petition, that even though the investment approval envisages 18 months delivery/ completion period, LOA was placed for a delivery period of 37 months. It has been submitted that during the pre-award discussions the petitioner insisted for delivery period of 18 months. However, M/s AREVA did not agree to the said delivery period because of non-availability of manufacturing slot. Since the spare converter transformer has to be procured only from the Original Equipment Manufacturer (OEM), the petitioner had no option but to agree to delivery period of 37 months.

13. It was observed that the LOA was placed on 23.8.2007, while the Investment Approval was accorded on 27.3.2006. Hence, the petitioner was directed to explain the delay in placing the LOA. The petitioner has submitted, vide affidavit dated 13.9.2011, that as the spares are to be procured from the OEM the investment approval was given on the cost estimation prepared based on the price of the existing system at Gazuwaka. However, after investment approval, further options were explored for a lower cost. In case of Sasaram HVDC, the cost of converter transformer was on lower side and the obligatory period of supply of additional spares (which was 5 years after date of successful operation) was still valid. Hence, the OEM was requested to supply the spare converter transformer for Vizag HVDC station as per contract of Sasaram HVDC station, with modification required to suit its

placement at Vizag station. Initially, OEM refused to supply spare transformer for Vizag as per the Sasaram contract. LOA was placed on 23.8.2007, but OEM agreed to supply the transformer only on 22.4.2008. The delay in placing the LOA was due to negotiations held with the OEM for a better price. These negotiations led to substantial reduction in the cost of the transformer and benefit to the beneficiaries. The petitioner has requested to condone the delay in placing the LOA for the transformer.

14. The petitioner has further submitted that the OEM has expressed its inability to supply the transformer in 18 months because of large number of orders for transformers and limitation of manufacturing slots. Accordingly, the delivery period was extended and the transformer was scheduled to be delivered on 30.9.2010. The manufacturing of the converter transformer was completed and the same was ready for dispatch by 30.9.2010, which is within the contractual schedule. The vendor while making efforts to identify a suitable vessel for dispatch of the transformer, requested the petitioner to raise the letter of credit in the name of Alstom Grid UK Limited, while the LOA was placed in the name of AREVA T&D, UK Limited. Owing to legalities involved in the change of name and availability of a suitable vessel, the transformer was finally dispatched on 10.11.2011. The petitioner has requested to condone the delay in commissioning of the transmission asset.

15. The petitioner has made a long series of correspondence with the OEM with regard to the delivery and cost of the transmission assets. The

details of the correspondence made by the petitioner are given hereunder:-

Date	Particulars
6.6.2006	Investment approval for Vizag HVDC Pole -I spare converter Transformer at ₹2559 lakh.
12.6.2006	Letter from PGCIL to M/s Areva (T&D) for discussion.
11.7.2006	Reminder to M/s Areva (T&D) for discussion.
21.8.2006	Reminder to M/s Areva (T&D) for discussion.
4.9.2006	Reminder to M/s Areva (T&D) for discussion.
22.9.2006	Reminder to M/s Areva (T&D) for discussion.
8.11.2006	Reminder to M/s Areva (T&D) for discussion.
15.12.2006	Proposal of Areva for Vizag Spare Converter transformer and showing inability to make an offer for Vizag HVDC S/S under Sasaram HVDC contract.
16.5.2007	PGCIL's request to Areva to send revised proposal.
18.5.2007	Areva again refused to supply under Sasaram contract claiming design difference.
1.6.2007	PGCIL rejected Areva's claim of a design difference between Vizag and Sasaram
12.6.2007 13.6.2007	Agreement reached to give converter transformer as per Sasaram contract cost but delivery period left undecided. The PGCIL insisted for 18 month delivery, Areva indicated last quarter of 2009 that too subject to confirmation as other orders commitment and huge orders.
23.8.2007	LOA placed with FOB delivery schedule of 30.9.2010

16. We have considered the submissions of the petitioner and examined the correspondence between the petitioner and the OEM. The reasons for time over-run cannot be considered purely a bilateral issue between the petitioner and the OEM in the instant case. It is a case of an Indian company, which is trying to be prudent in his procurement and a foreign supplier trying to impose its conditions. It is observed that the petitioner got its investment approval for procurement of a spare converter transformer at Vizag based on

original contract of Vizag HVDC in 1995 and after applying various Price Variation clauses (PV) the price of the transformer was estimated at ₹2559 lakh. In original contract, the spare converter transformer was deleted from mandatory spares and therefore the OEM tried to push the spare transformer at current market rate with different price variation formula. As the price quoted by the OEM was on a higher side the petitioner tried to procure one spare transformer under terms and conditions of Sasaram agreement and get it installed at Vizag. The OEM tried to sell the spare converter transformer at higher price stating design differences. The petitioner was able to convince the OEM to provide the spare transformer as per Sasaram agreement. However, the OEM did not agree to the delivery schedule desired by the petitioner. The estimated price of the spare converter transformer was ₹1891 lakh and the final completion cost is ₹2098 lakh. As per the details submitted by the petitioner in Form 5-C final FOB schedule for the transmission asset is 30.9.2010. No doubt there has been considerable delay in commissioning the transmission asset and this delay is due to long and winding negotiations the petitioner had with the OEM for a better price. These negotiations resulted in substantial reduction in the cost of the transmission asset, which benefitted the beneficiaries to a large extent. Taking into consideration the cost reduction, which has benefited the beneficiaries, we condone the time over-run upto the FOB schedule of 30.9.2010. We are of the view that the time over-run beyond 30.9.2010 and upto 10.11.2011, i.e. upto shipment from factory, was due to a bilateral issue between the petitioner and the OEM and hence we are not inclined to

condone this period of time over-run. However, as per the information given in Management Certificate, the petitioner has booked the IDC & IEDC only for nine months (i.e. 1.4.2011 to 31.12.2011). Accordingly, IDC & IEDC has been reduced proportionately for a common period of seven months from April, 2011 to October, 2011, from the capital cost as on the date of commercial operation.

17. The details of IDC and IEDC disallowed are as follows:-

(₹ in lakh)		
Detail of IDC and IEDC as per Auditor's certificate dated 31.3.2012		
	IDC	IEDC
Up to 31.3.2011	0.00	0.00
From 1.4.2011 to 31.12.2011	14.31	14.53
Total IDC and IEDC claimed	14.31	14.53
Detail of IDC and IEDC Disallowed for 7 months		
From 1.4.2011 to 1.10.2011	11.13	11.30
Total IDC and IEDC disallowed	11.13	11.30

Cost variation

18. TANGEDCO, vide its reply dated 20.4.2011, has requested the Commission to direct the petitioner to explain the reasons for obtaining approval for ₹2559 lakh for the spare transformer, while only ₹1500 lakh was approved in the 137th SREB meeting. TANGEDCO has further submitted that the spare convertor transformer should be claimed under additional capital expenditure and not through a separate petition.

19. In response, the petitioner, vide its rejoinder dated 2.4.2012, has explained that based on the price of the converter transformer procured during

1995, SRPC in the minutes of the 137th meeting recorded that "the estimated cost of above proposal was Rs.15 Crores." After in principle approval in SRPC, the petitioner calculated the estimated cost of spare converter based on off-shore contract agreement C-54701/1 dated 22.2.1995 in respect of 500MW HVDC Back to Back at Vizag with the applicable modified BEAMA (The British Electro technical and Allied Manufacturers Association) indices in 1998 and modified contract price adjustment formula after 2004. The cost so arrived out was ₹2559 lakh. The petitioner has submitted that it explored the technical and commercial alternatives available at the time of procurement and was able to procure the ICT at ₹1891 lakh, at the same rate as Sasaram project. As regards the second objection raised by TANGEDCO, the petitioner has submitted that the spare converter transformer for Gajuwaka was approved as a separate scheme and therefore separate petition has been filed in line with the 2009 Tariff Regulations.

20. We have considered the submissions of the petitioner and the respondent. We find that the petitioner had given a tentative cost of the spare converter at 1995 price level without accounting for the price variation and FERV variation. However, the petitioner has procured the spare converter at ₹1891 lakh, which is much less than the cost approved in the Investment Approval. The petitioner has followed prudent utility practices to minimize the cost of procurement of the spare converter by making the supplier to supply the converter at the comparable rate as that for the converter at Sasaram. We are of the view that the petitioner

should take the beneficiaries into confidence whenever there is any deviation from the decisions taken in the concerned RPC. Accordingly, the petitioner is directed to inform the beneficiaries, in all future cases, about any deviations in the approvals and also to obtain revised approvals of the concerned RPCs.

Projected additional capital expenditure

21. With regard to additional capital expenditure, Regulation 9(1) 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;
- (i) Works deferred for execution;
- (ii) Procurement of initial capital spares within the original scope of work, subject to the provisions of Regulation 8;
- (iii) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and
- (iv) Change in Law.”

22. The 2009 Tariff Regulations further defines cut-off date as-

“cut-off date means 31st march of the year closing after 2 years of the year of commercial operation of the project, and incase 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 3 years of the year of commercial operation”.

23. As per the above definition, cut-off date in respect of the transmission asset whose transmission tariff is being allowed in the instant petition is 31.3.2015.

24. The petitioner has claimed additional capital expenditure for the year 2011-12 and additional capital capital expenditure for the year 2012-13 amounting to ₹788.25 lakh and amounting to ₹327.21 lakh respectively and it falls within the cut-off date. Hence, the same has been considered for the purpose of tariff calculation.

Debt- equity ratio

25. Regulation 12 of the 2009 Tariff Regulations provides that:-

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

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

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.”

26. Details of debt-equity considered for the purpose of tariff calculation, as on the date of commercial operation, are given overleaf:-

	Apportioned approved cost		Admitted as on DOCO	
	Amount (` lakh)	%	Amount (` lakh)	%
Debt	1791.30	70.00	672.41	70.00
Equity	767.70	30.00	288.17	30.00
Total	2559.00	100.00	960.59	100.00

27. Detail of Debt-Equity Ratio of assets as on 31.3.2014 is as follows:-

	As on 31.3.2014	
	Amount (` lakh)	%
Debt	1453.24	70.00
Equity	622.81	30.00
Total	2076.05	100.00

28. Detail of additional capital claimed by the petitioner is as follows:-

	2011-12		2012-13	
	Amount (` lakh)	%	Amount (` lakh)	%
Debt	551.78	70.00	229.05	70.00
Equity	236.48	30.00	98.16	30.00
Total	788.25	100.00	327.21	100.00

Return on equity

29. Regulation 15 of the 2009 Tariff Regulations provides that:-

“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:

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

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

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

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

30. Following amount of equity has been considered for calculation of return of equity for the subject transmission asset:-

(` in lakh)

Equity as on DOCO	Average equity considered during 2011-12	Average equity considered during 2012-13	Average Equity considered during 2013-14
288.17	406.41	573.73	622.81

31. Based on the above, the following return on equity has been allowed:-

Particulars	(` in lakh)		
	2011-12 (pro-rata)	2012-13	2013-14
Opening Equity	288.17	524.65	622.81
Addition due to additional capitalisation	236.48	98.16	0.00
Closing Equity	524.65	622.81	622.81
Average Equity	406.41	573.73	622.81
Return on Equity (Base Rate)	15.50%	15.50%	15.50%
Tax rate for the year 2008-09	11.330%	11.330%	11.330%
Rate of Return on Equity (Pre Tax)	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)	17.76	100.29	108.87

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

Interest on loan

33. Regulation 16 of the 2009 Tariff Regulations provides that,-

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

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

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

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

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

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

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

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

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

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

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

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

34. In these calculations, interest on loan has been worked out as detailed hereunder:-

- (a) Gross amount of loan, repayment of instalments and rate of interest on loan have been considered as per the petition;
- (b) The repayment for the tariff period 2009-14 has been considered to be equal to the depreciation allowed for that period;

- (c) Weighted average rate of interest on actual average loan worked out as per (i) above is applied on the notional average loan during the year to arrive at the interest on loan; and
- (d) The petitioner, vide affidavit dated 14.5.2012 has submitted the revised capital cost as on the actual date of commercial operation. The petitioner has not submitted the revised forms. In the absence of revised funding pattern the corresponding loan amount has been reduced to the revised capital cost as on the actual date of commercial operation.

35. Detailed calculation of the weighted average rate of interest has been given in the Annexure to this order.

36. Details of the interest on loan worked on the above basis are as under:-

Particulars	(` in lakh)		
	2011-12 (pro-rata)	2012-13	2013-14
Gross Normative Loan	672.41	1224.19	1453.24
Cumulative Repayment upto Previous Year	0.00	17.88	118.86
Net Loan-Opening	672.41	1206.31	1334.38
Addition due to Additional Capitalisation	551.78	229.05	0.00
Repayment during the year	17.88	100.98	109.62
Net Loan-Closing	1206.31	1334.38	1224.76
Average Loan	939.36	1270.34	1279.57
Weighted Average Rate of Interest on Loan	8.8400%	8.8400%	8.8400%
Interest	20.76	112.30	113.11

Depreciation

37. Regulation 17 of the 2009 Tariff Regulations provides for computation of depreciation in the following manner, namely:

“17. (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.”

38. The transmission assets were put under commercial operation on 1.1.2012 and accordingly the transmission asset will complete 12 years beyond 2013-14. Thus, depreciation has been calculated annually based on Straight Line Method and at rates specified in Appendix-III of the 2009 Tariff Regulations.

39. Details of the depreciation worked out are given overleaf:-

Particulars	(` in lakh)		
	2011-12 (pro-rata)	2012-13	2013-14
As on date of commercial operation	960.59	1748.84	2076.05
Addition during 2009-14 due to Projected additional capital expenditure	788.25	327.21	0.00
Gross Block	1748.84	2076.05	2076.05
Average Gross Block	1354.71	1912.44	2076.05
Rate of Depreciation	5.2800%	5.2800%	5.2800%
Depreciable Value	1219.24	1721.20	1868.44
Remaining Depreciable Value	1219.24	1703.32	1749.58
Depreciation	17.88	100.98	109.62

40. The O&M expenses are not applicable for spare converter transformer and the petitioner has also not claimed the O&M expenses. Accordingly, O&M expenses are not allowed in the instant petition.

Interest on working capital

41. As per the 2009 Tariff Regulations the components of the working capital and the interest thereon are discussed hereunder:-

(i) Receivables

As per Regulation 18(1) (c) (i) of the 2009 Tariff Regulations, receivables 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 from

1.4.2009. The value of maintenance spares has accordingly been worked out.

(iii) Rate of interest on working capital

The interest rate of 11.75% (SBI Base Rate 8.25% as on 1.4.2011 plus 350 bps) has been considered for calculating interest on working capital.

42. Details of interest on working capital allowed are appended herein below:-

Particulars	(` in lakh)		
	2011-12 (pro-rata)	2012-13	2013-14
Maintenance Spares	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00
Receivables	38.35	53.31	56.37
Total	38.35	53.31	56.37
Interest	1.13	6.26	6.62

Transmission Charges

43. The transmission charges allowed for the transmission assets are summarized hereunder:-

Particulars	(` in lakh)		
	2011-12 (pro-rata)	2012-13	2013-14
Depreciation	17.88	100.98	109.62
Interest on Loan	20.76	112.30	113.11
Return on equity	17.16	100.29	108.87
Interest on Working Capital	1.13	6.26	6.62
O & M Expenses	0.00	0.00	0.00
Total	57.53	319.83	338.23

44. TANGEDCO, in its reply, has submitted that the approval for spare converter transformer was accorded by SRPC on the condition that the

availability for the purpose of incentive would be revised upwards from the present level of 95% and as the SRPC has no jurisdiction, the petitioner was directed to take up the issue with the Commission. TANGEDCO has requested to fix a higher percentage of target availability for the purpose of incentive in respect of HVDC system. In response, the petitioner has submitted that generally spares are procured to take care of any eventuality. In HVDC system also spares are procured and additional converter transformers are procured as spare to take care of any eventuality in converter transformers. As the converter transformers for HVDC back to back systems are imported and spare converter transformers has to be procured from the same manufacturer in order to have compatibility with the original system. The lead time of procurement is generally more than two years. If there is no spare converter transformer and in case of any failure of converter transformer, the huge investment in HVDC back to back system will be out of service for a long period just because of non-availability of spare converter transformer. Spare converter transformer have been procured for all HVDC back to back system except for Alstom make HVDC back to back system at Gazuwaka station. The target availability indicated in the 2009 Tariff Regulations is the normative target availability for all the HVDC System having spare converter transformer and hence higher target availability cannot be fixed in the instant case.

45. We have considered the submissions of the petitioner and TANGEDCO. Spares are usually procured to meet eventualities, if any, and to minimize the hardship to both the beneficiaries and the consumers. In the instant case, the

spare converter transformer at Gazuwaka would reduce the failure time, if any, and increase the availability of the HVDC system. The 2009 Tariff Regulations provides for normative target availability for all HVDC System having spare converter transformers and we are of the opinion that existing norms take care of instant case. As such, there is no necessity for providing higher target availability in the present case.

Filing fee and the publication expenses

46. The petitioner has sought reimbursement of fee paid by it for filing the petition and expenses related to publication of notices. In accordance with the Commission's order dated 11.1.2010 in Petition No. 109/2009, the petitioner shall be entitled to recover the filing fee directly from the beneficiaries on *pro-rata* basis. The petitioner shall also be entitled for reimbursement of the publication expenses in connection with the present petition, directly from the beneficiaries on *pro-rata* basis.

Licence fee

47. The petitioner has submitted that in O&M norms for tariff block 2009-14 the cost associated with license fees had not been captured and the license fee may be allowed to be recovered separately from the respondents. The petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 42A (1)(b) of the 2009 Tariff Regulations.

Service tax

48. 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 the prayer of the petitioner pre-mature and accordingly it is rejected.

Sharing of transmission charges

49. Billing, collection & disbursement of the transmission charges 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.

50. This order disposes of Petition No.72/TT/2011.

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	2011-12	2012-13	2013-14
1	Bond XXXIV			
	Gross loan opening	688.12	688.12	688.12
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	688.12	688.12	688.12
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	688.12	688.12	688.12
	Average Loan	688.12	688.12	688.12
	Rate of Interest	8.84%	8.84%	8.84%
	Interest	60.83	60.83	60.83
	Rep Schedule	12 Annual instalments from 21.10.2014		
	Total Loan			
	Gross loan opening	688.12	688.12	688.12
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	688.12	688.12	688.12
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	688.12	688.12	688.12
	Average Loan	688.12	688.12	688.12
	Weighted Average Rate of Interest	8.8400%	8.8400%	8.8400%
	Interest	60.83	60.83	60.83