CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

<u>Petition No. 109/TT/2012</u>

Coram:

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

Date of Hearing: 26.7.2013
Date of Order : 01.8.2013

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 (i) ICT III at 400/220 kV Pune S/S along with associated bays and (ii) Combined Assets of ICT III at 400/220 kV Pune S/S along with associated bays and ICT III at Wardha S/S along with associated bays under WRSS VI Scheme in Western Region for tariff block 2009-14

And

In the matter of:

Power Grid Corporation of India Limited, Gurgaon …**Petitioner**

Vs

Maharashtra State Electricity Distribution Company Limited, Mumbai **Respondent**

The following were present:

Shri S.S. Raju, PGCIL
Shri R. K. Sarkar, PGCIL
Shri A. K. Kakkar, PGCIL
Shri A. M. Pavgi, PGCIL
Shri A. Bhargava, PGCIL
Shri U.K. Tyagi, PGCIL
Shri M.M. Mondal, PGCIL
Shri B. K. Sahoo, PGCIL

ORDER

This petition has been filed by Power Grid Corporation of Indian Limited (PGCIL) seeking approval of transmission tariff in respect of (i) ICT III at 400/220 kV Pune Sub-station along with associated bays (hereinafter referred to as “Asset-1”) and (ii) Combined Assets of ICT III at 400/220 kV Pune Sub-station along with associated bays and ICT III at Wardha Sub-station along with associated bays (hereinafter referred to as “Asset-2”) under Western Region System Strengthening Scheme VI (hereinafter "the scheme") for tariff block 2009-14 period in Western Region based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as “the 2009 Tariff Regulations”).

2. Investment approval for the scheme was accorded by the Board of Directors of the petitioner vide letter Number C/CP/WRSSS-VI dated 25.2.2008 for ₹34072 lakh including IDC of ₹2617 lakh, based on 3rd Quarter, 2007 price level. The scope of work covered under the project is as follows:-

(a) Transmission Line

i) Dehgam- Pirana line

(b) Sub-station

i) Establishment of new 400/220 kV, 2x315 MVA sub-station at Pirana;

ii) Augmentation of 400/220 kV sub-stations of the petitioner at Wardha, Pune, Gwalior, Raipur and Bina, each by 1x315 MVA transformer capacity along with associated bays; and

iii) Extension of Dehgam (PGCIL) sub-station by 400 kV line bays.

3. Asset-1 was put under commercial operation on 1.11.2011. The petitioner had initially claimed transmission tariff for Asset-1 from date of commercial operation i.e. 1.11.2011 to 29.2.2012 and thereafter, Asset-1 has been clubbed with Asset-2 on anticipated date of commercial operation i.e. 1.3.2012 and transmission tariff for combined assets has been claimed from notional/anticipated date of commercial operation i.e. 1.3.2012 to 31.3.2014, based on actual/estimated capital expenditure incurred up to dates of commercial operation and estimated additional capital expenditure to be incurred from date of commercial operation (actual/anticipated) to 31.3.2014. The petitioner vide affidavit dated 2.1.2012 has submitted that Asset-2 has been put under commercial operation on 1.1.2012. Subsequently, the petitioner, vide affidavit dated 10.5.2012 furnished separate management certificate along with tariff forms and details of IDC & IEDC for the period of delay. The petitioner also prayed to allow separate tariff to avoid the complexities. Accordingly, transmission tariff has been worked out separately for Asset-1 and Asset-2 instead of combined tariff as originally requested.

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

(₹ in lakh)

Asset - 1			
Particulars	**2011-12 (Pro-rata)**	**2012-13**	**2013-14**
Depreciation	33.09	91.43	99.35
Interest on Loan	41.48	109.96	111.28
Return on equity	33.79	94.10	102.24
Interest on Working Capital	5.79	15.10	15.98
O & M Expenses	75.65	191.94	202.92
Total	**189.80**	**502.53**	**531.77**

Asset - 2			
Particulars	**2011-12 (Pro-rata)**	**2012-13**	**2013-14**
Depreciation	20.55	97.89	112.34
Interest on Loan	24.64	112.92	121.59
Return on equity	20.80	99.66	114.80
Interest on Working Capital	3.49	15.40	16.69
O & M Expenses	45.39	191.94	202.92
Total	**114.87**	**517.81**	**568.34**

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

(₹ in lakh)

Asset –I			
Particulars	**2011-12 (Pro-rata)**	**2012-13**	**2013-14**
Maintenance Spares	27.23	28.79	30.44
O & M expenses	15.13	16.00	16.91
Receivables	75.92	83.76	88.63
Total	**118.28**	**128.55**	**135.98**
Interest	5.79	15.10	15.98
Rate of Interest	11.75%	11.75%	11.75%

Asset - 2			
Particulars	**2011-12 (Pro-rata)**	**2012-13**	**2013-14**
Maintenance Spares	27.23	28.79	30.44
O & M expenses	15.13	16.00	16.91
Receivables	76.58	86.30	94.72
Total	**118.94**	**131.09**	**142.07**
Interest	3.49	15.40	16.69
Rate of Interest	11.75%	11.75%	11.75%

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, 2003. Maharashtra State Electricity Distribution Co. Ltd. (MSEDCL), the respondent, vide its affidavit dated 6.1.2012, has raised the issues regarding relaxation of norms in respect of initial spares, and has

requested the Commission to allow the cost of the colony only if it is part of the original project cost.

7. Having heard the representatives of the parties and perused the material on record, we proceed to dispose of the petition. While doing so, we also take care of the submissions of the respondent in its reply and address them in the relevant paragraphs.

Capital cost

8. 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."

9. The details of original apportioned approved cost, capital cost as on the dates of commercial operation and estimated additional capital expenditure projected to be incurred for the assets covered in this petition are given hereunder:-

(₹ in lakh)

Particulars	Apportioned approved cost as per FR	Actual cost incurred as on DOCO	Projected additional capital expenditure		Total estimated completion cost
			2011-12	2012-13	
Asset-1	2671.54	1453.18	185.96	310.51	1949.65
Asset-2	2829.24	1561.82*	50.06	577.06	2188.94

***** Inclusive of initial spares amounting to ₹86.78 lakh pertaining to Sub-station which has been dealt with under the head "Treatment of initial spares".

Time over-run

10. The instant petition covers ICT III at Pune Sub-station and Wardha Sub-station, covered under the WRSS VI in Western Region. The ICTs I and II at both Pune and Wardha Sub-stations are covered under WRSS-II, Set-B Project. WRSS Scheme VI includes Dehgam-Pirana line, establishment of new sub-station at Pirana, augmentation of sub-stations at Wardha, Pune, Gwalior, Raipur and Bina and extension of Dehgam sub-station.

11. As per the Investment Approval (I.A.) dated 25.2.2008, the transmission scheme is scheduled to be commissioned within 33 months from the date of I.A., i.e. December, 2010. However, the ICT-III at Pune was commissioned on 1.11.2011 and the ICT-III at Wardha was commissioned on 1.1.2012 and thus there was delay of 11 months and 13 months respectively.

12. The petitioner has submitted the detailed reasons for the time over-run in the main petition and in affidavits dated 10.5.2012 and 17.8.2012. The reasons submitted by the petitioner for time over-run in the petition and the affidavits have been dealt together. 315 MVA 400/220 kV Autotransformers used in its various sub-stations were subjected to various types of faults during operation including short circuit resulting in failure of transformers. In order to enhance system reliability and availability, it was decided by the petitioner to validate the design of 315 MVA Autotransformer for short circuit conditions once for each manufacturer. The petitioner has further submitted that short circuit withstand test has been included as the type test of its transformers as specified in IEC-60076-5 and as mandated under Central

Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2010. These tests are conducted to reduce the instances of transformer failures.

13. The test facilities for conducting Short Circuit Test (SCT) are not available in India. The facility to conduct the SCT is available only with CESI, Italy, and KEMA, Netherlands. M/s. AREVA was awarded the package for 3 nos. transformers for 400 kV sub-stations at Wardha, Pune and Raipur. The contract for the 400/220 kV, 315 MVA autotransformers at Pune and Wardha Sub-stations were awarded to AREVA on 2.5.2008. AREVA initially made enquiries with CESI, Italy for conducting the SCT of 315 MVA autotransformers. CESI, Italy expressed its inability, vide its e-mail dated 25.8.2009 to AREVA, to conduct the test at its facility as the weight of the transformer was 150 tons for which facility was not available. Thereafter AREVA contacted KEMA, Netherlands and the test was conducted by KEMA on 27.11.2010 after the matter was constantly pursued for an early test date. However, the transformer failed in the SCT and the transformer was shipped to AREVA for furthering testing. The petitioner was informed by AREVA in February, 2011 about the failure of the test. After receipt of information about failure of 315 kV autotransformer in SCT at KEMA in February, 2011, various options were explored by the petitioner for meeting the urgent requirement of transformers at Pune and Wardha. AREVA offered to supply 500 MVA autotransformer without any additional cost implication for Wardha and Pune Sub-stations in August and September, 2011 respectively from their manufacturing unit at Naini, Allahabad. After acceptance of the offer by the

petitioner, AREVA dispatched 500 MVA ICT for Wardha in August, 2011 which reached Wardha Sub-station in November, 2011 and was commissioned on 1.1.2012. The petitioner has further submitted that apprehending delay in supply of another unit of 500 MVA ICT for Pune Sub-station by AREVA, action was initiated for diverting the 315 MVA ICT of Siemens make meant for Subhashgram Sub-station in ER to Pune Sub-station. The diverted ICT was received at Pune Sub-station in August 2011 and was commissioned on 31.10.2011 and put under commercial operation on 1.11.2011. Though the ICT at Pune Sub-station and Wardha Sub-station were commissioned on 1.11.2011 and 1.1.2012 respectively, the downstream evacuation system to be developed by MSETCL was not ready in the case of Pune and Wardha Sub-stations. The petitioner has submitted that on account of delay in commissioning of the transformer at Pune and Wardha Sub-station there was no bottling up power. The petitioner has submitted that pro-active steps were taken by it to commission the ICTs and to minimize the delay resulting on account of conducting short circuit test. The petitioner has submitted the reasons for time over-run are non-availability of test bed and failure of the ICT in the short circuit test.

14. The petitioner has submitted that AREVA make 315 MVA transformer was tested again in April 2012 at KEMA and the same has passed the test in July 2012. The type test is covered in the delivery schedule and the supplier is responsible for the delay in delivery. In the present case, the supplier could not conduct the test due to non-availability of test bed at KEMA and therefore the supplier cannot be held responsible for the delay. The petitioner has also

submitted that the delay is due to reasons beyond the control of the petitioner and its supplier and hence requested to condone the delay.

15. We have considered the submissions made by the petitioner for the time over-run and the contention that the delay in commissioning of the assets did not lead to any bottling up of power, as the downstream evacuation system has not been developed by MSETCL. The Investment Approval (I.A.) for the project, which includes supply of 315 MVA, 400/220 kV autotransformers for Pune and Wardha, was accorded on 25.2.2008 and the assets were scheduled to be commissioned within 33 months from the date of I.A., i.e. 1.12.2010. However, the transformers were commissioned on 1.11.2011 and 1.1.2012 resulting in a delay of 11 months and 13 months respectively. The delay has been on account of non-availability of test bed and failure of the transformers in the SCT. The facility to conduct SCT is available with only CESI, Italy and KEMA, Netherlands. The availability of test bed is not within the control of either the petitioner or the supplier and hence they cannot be held responsible for the delay. However, the provision for SCT was included in the supply order and AREVA was aware of this while quoting for the supply for transformer and hence it must have taken sufficient steps to get the transformer tested within the stipulated time schedule. Further, AREVA being one of the major producers of transformers should have known that CESI, Italy does not have the facility to test the 315 MVA transformers weighing more than 150 tons. Precious time was lost by AREVA in pursuing the matter with CESI, Italy. Though the petitioner and AREVA are not responsible for the delay in conducting the SCT, we are of the view that they

should have taken sufficient care and acted prudently in getting the SCT done in time.

16. As regards the failure of the transformer in SCT, another SCT was conducted at KEMA, Netherlands on 27.11.2010 and the petitioner was informed by AREVA that the transformer failed the test in February, 2011. The failure of the transformer during the SCT indicates design deficiency and it does not meet the standards specified in IEC-60076-5 and by the CEA. We are of the view that AREVA and the petitioner are responsible for the delay due to failure in the SCT and that the beneficiaries should not be burdened with the cost of time over-run due to failure of the transformer in the SCT.

17. The Appellate Tribunal for Electricity in its judgement dated 27.4.2011 in Appeal No. 72/2010 (MSPGCL Vs. MERC & Ors.) has laid down the following principles for prudence check of time over-run related cost:-

> "7.4. The delay in execution of a generating project could occur due to following reasons:
>
> > i) due to factors entirely attributable to the generating company, e.g., imprudence in selecting the contractors/suppliers and in executing contractual agreements including terms and conditions of the contracts, delay in award of contracts, delay in providing inputs like making land available to the contractors, delay in payments to contractors/suppliers as per the terms of contract, mismanagement of finances, slackness in project management like improper co-ordination between the various contractors, etc.
> >
> > ii) due to factors beyond the control of the generating company e.g. delay caused due to force majeure like natural calamity or any other reasons which clearly establish, beyond any doubt, that there has been no imprudence on the part of the generating company in executing the project.
> >
> > iii) situation not covered by (i) & (ii) above.

> In our opinion in the first case the entire cost due to time over run has to be borne by the generating company. However, the Liquidated Damages (LDs) and insurance proceeds on account of delay, if any, received by the generating company could be retained by the generating company. In the second case the generating company could be given benefit of the additional cost incurred due to time over-run. However, the consumers should get full benefit of the LDs recovered from the contractors/suppliers of the generating company and the insurance proceeds, if any, to reduce the capital cost. In the third case the additional cost due to time overrun including the LDs and insurance proceeds could be shared between the generating company and the consumer. It would also be prudent to consider the delay with respect to some benchmarks rather than depending on the provisions of the contract between the generating company and its contractors/suppliers. If the time schedule is taken as per the terms of the contract, this may result in imprudent time schedule not in accordance with good industry practices."

18. In the light of the above principles, the issue of time over-run due to delay in obtaining the test bed and failure of the transformer in the SCT has been considered. As regards the delay in conducting the SCT, it has been observed that AREVA while requesting KEMA, Netherlands for early testing of the transformer, vide its e-mail dated 2.11.2009 has informed that the transformer was expected to reach KEMA by 15.3.2010. The SCT was conducted only on 27.11.2010 and thus there was a delay of 8 months in conducting the SCT. AREVA, who has been awarded the contract for supply of ICTs by the petitioner, is one of the major manufacturers of the energy equipments in the world. The case of the petitioner does not fall under the first category as the petitioner cannot be said to be imprudent in selecting AREVA to execute the project. The delay cannot be entirely attributed to the petitioner as the delay in getting the SCT done due to non-availability of test bed was beyond the control of the petitioner or its supplier as they had to depend on the third party to perform the test. The petitioner case also does not fall under the second category as the delay cannot be attributed to any force major event. In our view, the instant situation falls under the third

category of cases laid down by APTEL in the above said judgement. We are of the considered view that the burden of cost over-run due to delay in conducting the SCT should be shared by the petitioner and the beneficiaries in equal proportion. We direct that the petitioner and the beneficiaries shall share the IDC and IEDC for the period of 8 months delay in case of both Pune ICT-III and Wardha ICT-III. The transformer failed the Short Circuit Test conducted on 27.11.2010 due to design deficiency. The type test was covered in the delivery schedule and the supplier is responsible for delay in delivery. We are of the view that the cost of time over-run due to failure of the transformer in SCT cannot be passed on to the beneficiaries except for the period during which the type test bed was not available. Accordingly, we direct that 8 months period for which test bed was not available shall be shared by the petitioner and beneficiaries and the impact of balance period of time over-run i.e. 3 months in case of Pune ICT-III and 5 months in case of Wardha ICT-III shall be borne by the petitioner.

19. Accordingly, the time over-run of 11 months and 13 months in case of Pune and Wardha Sub-stations, respectively is not allowed and the IDC and IEDC for the said period is deducted from the capital cost.

(₹ in lakh)

Asset-1		
Details of IDC and IEDC as per Management Certificate dated 3.2.2012		
Particulars	**IEDC**	**IDC**
Up to 31.3.2011	13.63	22.12
From 1.4.2011 to 31.10.2011	2.85	28.53
Total IDC and IEDC Claimed	**16.48**	**50.65**

Details of IDC and IEDC Disallowed for 11 months		
	Delay for which 50% IDC & IEDC is deducted	
	IEDC	**IDC**
From 1.4.2010 to 30.11.2010	2.95	4.78
(A) 50% of above has been disallowed (for 8 months)*	**1.47**	**2.39**
	Delay for which 100% IDC and IEDC has been deducted	
	IEDC	**IDC**
(B) Disallowed IDC and IEDC (for 3 months)**	**1.11**	**1.79**
(A)+(B) Total IDC and IEDC disallowed for 11 months	**2.58**	**4.18**

***** IDC and IEDC from April 2010 to November 2010 has been calculated on pro-rata basis from the IDC and IEDC up to 31.3.2011;

******IDC and IEDC for remaining 3 months has been calculated on pro-rata basis from IDC and IEDC up to 31.3.2011 excluding IDC & IEDC of Period of 8 months i.e. April 10 to Nov10.

(₹ in lakh)

Asset-2		
Detail of IDC and IEDC as per Management Certificate dated 3.2.2012		
Particulars	**IEDC**	**IDC**
Up to 31.3.2011	27.13	44.05
From 1.4.2011 to 31.12.2011	1.42	18.82
Total IDC and IEDC Claimed	28.55	62.87
Details of IDC and IEDC disallowed for 13 months		
	Delay for which 50% IDC & IEDC is deducted	
	IEDC	IDC
From April 2010 to November 2010*	5.87	9.52
(A) 50% of above has been disallowed (for 8 months)	**2.93**	**4.76**
	Delay for which 100% IDC and IEDC has been deducted	
	IEDC	IEDC
From December 2010 to March 2011 (4 months)**	2.93	4.76
For April 2011 (1 month)***	0.16	2.09
(B) Disallowed IDC & IEDC (5 months)	**3.09**	**6.85**
(A)+(B) Total IDC &IEDC disallowed for 13 months	**6.02**	**11.62**

*IDC and IEDC from April 2010 to November 2010 has been calculated on pro-rata basis from the IDC and IEDC up to 31.3.2011;

**IDC and IEDC for 4 months has been calculated on pro-rata basis from the IDC and IEDC up to 31.3.2011 excluding IDC & IEDC for period of 8 months i.e. April 10 to Nov10;

*** IDC and IEDC for remaining 1 month has been calculated on pro-rata basis from the IDC & IEDC from April 2011 to December 2011.

20. The details of IDC and IEDC disallowed and deducted proportionately from the capital cost of elements, as on date of commercial operation are given hereunder:-

(₹ in lakh)

Asset-1			
Capital expenditure	**Cost as on DOCO as per Management Certificate dated 3.2.2012**	**IDC and IEDC disallowed pro-rata basis**	**Capital cost admitted after reducing IEDC & IDC**
Freehold Land	0.00	0.00	0.00
Leasehold Land	0.00	0.00	0.00
Building & Other Civil Works	89.29	0.42	88.87
Transmission Line	0.00	0.00	0.00
Sub-Station Equipments	1334.11	6.21	1327.90
PLCC	29.78	0.14	29.64
Total	**1453.18**	**6.76**	**1446.42**
Asset-2			
Capital Expenditure	**Cost as on DOOC as per Management Certificate dated 3.2.2012**	**IDC & IEDC disallowed pro-rata basis**	**Capital cost admitted after reducing IEDC & IDC**
Freehold Land	0.00	0.00	0.00
Leasehold Land	0.00	0.00	0.00
Building & Other Civil Works	87.59	0.99	86.60
Transmission Line	0.00	0.00	0.00
Sub-Station Equipments	1456.75	16.45	1440.30
PLCC	17.48	0.20	17.28
Total	**1561.82**	**17.64**	**1544.18**

21. As per management certificate, expenditure from 1.4.2011 to respective date of commercial operation has been verified from the books of

accounts of the project which are yet to be audited. The IDC and IEDC so deducted shall be reviewed at the time of truing up on presentation of capital cost as per audited accounts.

Cost variation

22. The estimated completion cost is lower than the apportioned approved cost in spite of time over-run. The cost estimates of the petitioner are not realistic not only in this petition but also in other similar petitions. In our view the petitioner should adopt a prudent procedure to make cost estimates of different elements of the transmission projects more realistic.

Treatment of initial spares

23. The petitioner has not claimed any amount of initial spares for Asset-1. The petitioner has claimed initial spares amounting to ₹86.78 lakh pertaining to sub-station for Asset-2, corresponding to capital cost as on cut-off date i.e. ₹2188.94 lakh. The petitioner has requested to allow higher initial spares by exercising its powers under Regulation 44 for relaxation of Regulation 8 of the 2009 Tariff Regulations. The petitioner has also prayed to account for the cost of PLCC, land, building, civil works and colony in the cost of sub-station for the purpose of determining the percentage of initial spares.

24. The respondent, MSEDCL has submitted that maintenance spares provided in the 2009 Tariff Regulations are sufficient to take care of mandatory and insured spares requirements. Regarding the prayer of considering civil works, colony, building as part of sub-station, MSEDCL has

raised the question whether the cost of colony falls under the original project cost as defined under the tariff regulations. MSEDCL has submitted that if colony is for purpose of employee, it may be considered as a part of sub-station. The petitioner has submitted, vide affidavit dated 7.2.2012, that the colony is for the purpose of employee of the petitioner and is part of original project cost.

25. The initial spares claimed for sub-station of Asset-2 by the petitioner exceeds the ceiling limit specified in Regulation 8 of the 2009 Tariff Regulations. The petitioner has not submitted suitable justification to relax the norms specified in the 2009 Tariff Regulations. We do not see any reason for relaxation of the norms. Accordingly, the initial spares are allowed as per the norms specified in the 2009 Tariff Regulations.

26. Capital cost pertaining to sub-station (including PLCC and building) has been restricted to ₹1537.42 lakh (excluding disallowed IDC & IEDC) for Asset-2, including initial spares as per Regulation 8 of the 2009 Tariff Regulations. Accordingly, excess initial spares has been worked out as follows:-

(₹ in lakh)

Particulars	**Capital cost as on DOCO after deducting disallowed IDC & IEDC**	**Excess initial spares claimed**	**Capital cost as on DOCO after deducting excess initial spares**
Asset-1			
Freehold Land	0.00	0.00	0.00
Leasehold Land	0.00	0.00	0.00
Building & Other Civil Works	88.87	0.00	88.87
Transmission Line	0.00	0.00	0.00
Sub-Station	1327.90	0.00	1327.90
PLCC	29.64	0.00	29.64
Total	**1446.42**	0.00	**1446.42**

Asset-2			
Freehold Land	0.00	0.00	0.00
Leasehold Land	0.00	0.00	0.00
Building & Other Civil Works	86.60	0.00	86.60
Transmission Line	0.00	0.00	0.00
Sub-Station	1440.30	32.61	1407.68
PLCC	17.28	0.00	17.28
Total	**1544.18**	32.61	**1511.57**

(₹ in lakh)

Asset-2							
Element	Capital cost upto cut- off date	Initial spares claimed	Proportionate capital cost after deducting corresponding IDC/IEDC	Proportionate initial spares claimed	Ceiling limits as per 2009 Tariff Regulations	Initial spares worked out	Excess initial spares
Sub-station	2188.94	86.78	2171.30	86.08	2.50%	53.47	32.61

<u>Projected additional capital expenditure</u>

27. 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:"

28. 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".

29. Based on the above, cut-off date for Asset-1 is 31.3.2014 and for Asset-2 is 31.3.2015.

30. The petitioner has claimed additional capital expenditure as per the following details, which is being allowed, being within the cut-off date:-

(₹ in lakh)

Year	Work proposed to be added after DOCO upto cut off date	Amount to be capitalized /proposed to be capitalized	Justification
Asset-1			
DOCO to 31.3.2012	Building & civil works	84.25	Balance /Retention Payments
	Sub Station	100.51	
	PLCC	1.20	
	Sub Total	**185.96**	
1.4.2012 to 31.3.2013	Building & civil works	28.14	
	Sub station	282.37	
	Sub Total	**310.51**	
Asset-2			
DOCO to 31.3.2012	Building & civil works	7.52	Balance /Retention Payments
	Sub Station	42.48	
	Sub Total	**50.06**	
1.4.2012 to 31.3.2013	Building & civil works	81.92	
	Sub station	493.49	
	PLCC	1.65	
	Sub Total	**577.06**	

DEBT- EQUITY RATIO

31. 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."

32. Details of debt-equity in respect of transmission assets as on dates of commercial operation are as follows:-

(₹ in lakh)

Capital cost as on 1.11.2011		
Asset-1	**Amount**	**%**
Debt	1012.49	70.00
Equity	433.92	30.00
Total	**1446.42**	**100.00**
Capital cost as on 1.1.2012		
Asset-2	**Amount**	**%**
Debt	1058.10	70.00
Equity	453.47	30.00
Total	**1511.57**	**100.00**

33. Details of Debt – Equity as on 31.3.2014 are as under:-

(₹ in lakh)

Capital cost as on 31.3.2014		
Asset-1	**Amount**	**%**
Debt	1360.02	70.00
Equity	582.87	30.00
Total	**1942.89**	**100.00**
Asset-2	**Amount**	**%**
Debt	1497.08	70.00
Equity	641.61	30.00
Total	**2138.69**	**100.00**

34. Debt-equity ratio for projected additional capital expenditure considered for the purpose of tariff calculations is given overleaf:-

(₹ in lakh)

	Asset-1		Asset-2	
	2011-12		2011-12	
	Normative		Normative	
	Amount	**%**	**Amount**	**%**
Debt	130.17	70.00	35.04	70.00
Equity	55.79	30.00	15.02	30.00
Total	**185.96**	**100.00**	**50.06**	**100.00**
	Asset-1		**Asset-2**	
	2012-13		**2012-13**	
	Amount	**%**	**Amount**	**%**
	Normative		**Normative**	
Debt	217.36	70.00	403.94	70.00
Equity	93.15	30.00	173.12	30.00
Total	**310.51**	**100.00**	**577.06**	**100.00**

Return on equity

35. 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 trued up in accordance with Regulation 6 of these regulations".

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

(₹ in lakh)

Asset - 1			
Particulars	**2011-12 (Pro-rata)**	**2012-13**	**2013-14**
Opening equity	433.92	489.71	582.87
Addition due to additional capital expenditure	55.79	93.15	0.00
Closing equity	489.71	582.87	582.87
Average equity	461.82	536.29	582.87
Return on equity (Base Rate)	15.50%	15.50%	15.50%
Tax rate for the year 2008-09	11.33%	11.33%	11.33%
Rate of return on equity (Pre Tax)	17.481%	17.481%	17.481%
Return on equity (Pre Tax)	**33.64**	**93.75**	**101.89**

Asset - 2			
	2011-12 (Pro-rata)	**2012-13**	**2013-14**
Opening equity	453.47	468.49	641.61
Addition due to additional capital expenditure	15.02	173.12	0.00
Closing equity	468.49	641.61	641.61
Average equity	460.98	555.05	641.61
Return on equity (Base Rate)	15.50%	15.50%	15.50%
Tax rate for the year 2008-09	11.33%	11.33%	11.33%
Rate of return on equity (Pre Tax)	17.481%	17.481%	17.481%
Return on equity (Pre Tax)	**20.15**	**97.03**	**112.16**

Interest on loan

37. Regulation 16 of the 2009 regulations provides as under:-

"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."

38. In these calculations, 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.

39. Detailed calculation of the weighted average rate of interest has been given in the Annexure I and II to this order.

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

(₹ in lakh)

Asset – 1			
Particulars	2011-12 **(Pro- rata)**	2012-13	2013-14
Gross Normative Loan	1012.49	1142.66	1360.02
Cumulative Repayment upto previous year	0.00	32.94	124.02
Net Loan-Opening	1012.49	1109.72	1236.00
Addition due to additional capital expenditure	130.17	217.36	0.00
Repayment during the year	32.94	91.08	99.00
Net Loan-Closing	1109.72	1236.00	1137.00
Average Loan	1061.11	1172.86	1186.50
Weighted Average Rate of Interest on Loan	9.3405%	9.3405%	9.3466%
Interest	**41.30**	**109.55**	**110.90**

Asset - 2			
Particulars	**2011-12 (Pro- rata)**	2012-13	2013-14
Gross Normative Loan	1058.10	1093.14	1497.08
Cumulative Repayment upto previous year	0.00	19.89	115.15
Net Loan-Opening	1058.10	1073.25	1381.93
Addition due to additional capital expenditure	35.04	403.94	0.00
Repayment during the year	19.89	95.26	109.71
Net Loan-Closing	1073.25	1381.93	1272.23
Average Loan	1065.67	1227.59	1327.08
Weighted Average Rate of Interest on Loan	8.9563%	8.9563%	8.9563%
Interest	**23.86**	**109.95**	**118.86**

<u>Depreciation</u>

41. Regulation 17 (4) of the 2009 Tariff Regulations provides as under:-

"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."

42. The petitioner has claimed actual depreciation as a component of Annual Fixed Charges. However, depreciation has been calculated as per clause 17 (4) of the 2009 Tariff Regulations extracted above.

43. Asset-1 and Asset-2 were put under commercial operation on 1.11.2011 and 1.1.2012 respectively. Accordingly, both the assets will complete 12 years beyond 2013-14 and hence depreciation has been calculated annually based on Straight Line Method and at rates specified in Appendix-III to the 2009 Tariff Regulations, as per details given overleaf:-

(₹ in lakh)

Asset - 1			
Particulars	**2011-12 (Pro-rata)**	**2012-13**	**2013-14**
As per previous tariff order	1446.42	1632.38	1942.89
Addition during 2009-14 due to Projected Additional Capitalisation	185.96	310.51	0.00
Gross Block	1632.38	1942.89	1942.89
Average Gross Block	1539.40	1787.63	1942.89
Rate of Depreciation	5.1355%	5.0950%	5.0957%
Depreciable Value	1385.46	1608.87	1748.60
Remaining Depreciable Value	1385.46	1575.93	1624.58
Depreciation	**32.94**	**91.08**	**99.00**
Cumulative depreciation	32.94	124.02	223.02

Asset - 2			
Particulars	**2011-12 (Pro-rata)**	**2012-13**	**2013-14**
As per previous tariff order	1511.57	1561.63	2138.69
Addition during 2009-14 due to Projected Additional Capitalisation	50.06	577.06	0.00
Gross Block	1561.63	2138.69	2138.69
Average Gross Block	1536.60	1850.16	2138.69
Rate of Depreciation	5.1777%	5.1486%	5.1296%
Depreciable Value	1382.94	1665.14	1924.82
Remaining Depreciable Value	1382.94	1645.25	1809.67
Depreciation	**19.89**	**95.26**	**109.71**
Cumulative depreciation	19.89	115.15	224.85

Operation & maintenance expenses

44. Regulation 19 (g) of the 2009 Tariff Regulations prescribes the norms for operation and maintenance expenses based on the type of sub-station and line. Norms prescribed in respect of the elements covered in the instant petition are as under:-

Element	2009-10	2010-11	2011-12	2012-13	2013-14
400 kV bays (₹ lakh per bay)	52.40	55.40	58.57	61.92	65.46
220 kV bays (₹ lakh per bay)	36.68	38.78	41.00	43.34	45.82

45. Based on the above norms, allowable O&M expenses for the assets covered in the petition have been calculated as under:-

(₹ in lakh)

Asset-1			
Element	**2011-12 (Pro-rata)**	**2012-13**	**2013-14**
1 No. 400 kV bay	24.40	61.92	65.46
3 Nos. 220 kV bays	51.25	130.02	137.46
Total O&M	75.65	191.94	202.92

Asset-2			
Element	**2011-12 (Pro-rata)**	**2012-13**	**2013-14**
1 No. 400 kV bay	14.64	61.92	65.46
3 Nos. 220 kV bays	30.75	130.02	137.46
Total O&M	45.39	191.94	202.92

46. The petitioner has submitted that O & M expenditure for the year 2009-14 had been arrived at on the basis of normalized actual O & M expenses during the period 2003-04 to 2007-08. The wage hike of 50% on account of pay revision of the employees of public sector undertaking has also been considered while calculating the O & M charges for the tariff period 2009-14. The petitioner has also submitted that it would approach Commission for suitable revision in the norms for O&M expenses in case the impact of wage hike with effect from 1.1.2007 is more than 50%.

47. The Commission has given effect to the impact of pay revision in the 2009 Tariff Regulations by factoring 50% on account of pay revision of the employees of PSUs after extensive stakeholders' consultation. We do not see any reason why the admissible amount is inadequate to meet the requirement of the employee cost. However, in case the petitioner approaches with any such application, the same shall be dealt with in accordance with law.

Interest on working capital

48. 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 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 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) O & M expenses

Regulation 18(1) (c) (iii) of the 2009 regulations provides for operation and maintenance expenses for one month as a component of working capital. The petitioner has claimed O&M expenses for 1 month of the respective year as claimed in the petition. This has been considered in the working capital.

(iv) Rate of interest on working capital

SBI Base Rate i.e. 8.25% plus 350 bps as on 1.4.2011 (i.e.11.75%) has been considered as the rate of interest on working capital for the assets covered in the petition.

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

(₹ in lakh)

Asset - 1			
	2011-12 (Pro-rata)	**2012-13**	**2013-14**
Maintenance Spares	27.23	28.79	30.44
O & M expenses	15.13	16.00	16.91
Receivables	75.72	83.57	88.44
Total	118.09	128.35	135.79
Rate of Interest	11.75%	11.75%	11.75%
Interest	**5.78**	**15.08**	**15.96**

Asset-2			
	2011-12 (Pro-rata)	**2012-13**	**2013-14**
Maintenance Spares	27.23	28.79	30.44
O & M expenses	15.13	16.00	16.91
Receivables	75.16	84.90	93.36
Total	117.52	129.69	140.71
Rate of Interest	11.75%	11.75%	11.75%
Interest	**3.45**	**15.24**	**16.53**

Transmission Charges

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

(₹ in lakh)

Asset - 1			
Particulars	**2011-12 (Pro-rata)**	**2012-13**	**2013-14**
Depreciation	32.94	91.08	99.00
Interest on Loan	41.30	109.55	110.90
Return on equity	33.64	93.75	101.89
Interest on Working Capital	5.78	15.08	15.96
O & M Expenses	75.65	191.94	202.92
Total	**189.31**	**501.40**	**530.67**

Asset - 2			
Particulars	**2011-12 (Pro-rata)**	**2012-13**	**2013-14**
Depreciation	19.89	95.26	109.71
Interest on Loan	23.86	109.95	118.86
Return on equity	20.15	97.03	112.16
Interest on Working Capital	3.45	15.24	16.53
O & M Expenses	45.39	191.94	202.92
Total	**112.74**	**509.41**	**560.18**

Filing fee and the publication expenses

51. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. 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

52. 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. We have considered the submissions of the petitioner. The petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 42 A (1) (b) of the 2009 Tariff Regulations.

Service tax

53. 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

54. The transmission tariff (Annual Fixed Cost) shall be recovered on monthly basis from MSEDCL in accordance with the order of this Commission dated 28.3.2008 in Petition No. 85/2007 (Suo-Motu). With effect from 1.7.2011, the 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.

55. This order disposes of Petition No. 109/TT/2011.

sd/-	sd/-
(M. Deena Dayalan)	**(V.S. Verma)**
Member	**Member**

Annexure I

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	**79.00**	**79.00**	**79.00**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**	**0.00**
	Net Loan-Opening	79.00	79.00	79.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	79.00	79.00	79.00
	Average Loan	79.00	79.00	79.00
	Rate of Interest	8.84%	8.84%	8.84%
	Interest	6.98	6.98	6.98
	Rep Schedule	12 annual installments from 21.10.2014		
2	**Bond XXXI**			
	Gross loan opening	**240.00**	**240.00**	**240.00**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**	**0.00**
	Net Loan-Opening	240.00	240.00	240.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	20.00
	Net Loan-Closing	240.00	240.00	220.00
	Average Loan	240.00	240.00	230.00
	Rate of Interest	8.90%	8.90%	8.90%
	Interest	21.36	21.36	20.47
	Rep Schedule	12 annual installments from 25.2.2014		
3	**Bond XXX**			
	Gross loan opening	**76.00**	**76.00**	**76.00**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**	**0.00**
	Net Loan-Opening	76.00	76.00	76.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	6.33
	Net Loan-Closing	76.00	76.00	69.67
	Average Loan	76.00	76.00	72.83
	Rate of Interest	8.80%	8.80%	8.80%
	Interest	6.69	6.69	6.41
	Rep Schedule	12 annual installments from 29.9.2013		
4	**Bond XXXV**			
	Gross loan opening	**622.23**	**622.23**	**622.23**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**	**0.00**
	Net Loan-Opening	622.23	622.23	622.23
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	622.23	622.23	622.23

	Average Loan	622.23	622.23	622.23
	Rate of Interest	9.64%	9.64%	9.64%
	Interest	59.98	59.98	59.98
	Rep Schedule	12 annual installments from 31.5.2015		
	Total Loan			
	Gross loan opening	1017.23	1017.23	1017.23
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	1017.23	1017.23	1017.23
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	26.33
	Net Loan-Closing	1017.23	1017.23	990.90
	Average Loan	1017.23	1017.23	1004.06
	Rate of Interest	**9.3405%**	**9.3405%**	**9.3466%**
	Interest	95.01	95.01	93.85

Annexure II

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	**71.85**	**71.85**	**71.85**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**	**0.00**
	Net Loan-Opening	71.85	71.85	71.85
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	71.85	71.85	71.85
	Average Loan	71.85	71.85	71.85
	Rate of Interest	8.84%	8.84%	8.84%
	Interest	6.35	6.35	6.35
	Rep Schedule	12 annual installments from 21.10.2014		
2	**Bond XXXIII**			
	Gross loan opening	**690.00**	**690.00**	**690.00**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**	**0.00**
	Net Loan-Opening	690.00	690.00	690.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	690.00	690.00	690.00
	Average Loan	690.00	690.00	690.00
	Rate of Interest	8.64%	8.64%	8.64%
	Interest	59.62	59.62	59.62
	Rep Schedule	12 annual installments from 08.07.2014		
4	**Bond XXXV**			
	Gross loan opening	**331.42**	**331.42**	**331.42**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**	**0.00**
	Net Loan-Opening	331.42	331.42	331.42
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	331.42	331.42	331.42
	Average Loan	331.42	331.42	331.42
	Rate of Interest	9.64%	9.64%	9.64%
	Interest	31.95	31.95	31.95
	Rep Schedule	12 annual installments from 31.5.2015		
	Total Loan			
	Gross loan opening	1093.27	1093.27	1093.27
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	1093.27	1093.27	1093.27
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	1093.27	1093.27	1093.27

	Average Loan	1093.27	1093.27	1093.27
	Rate of Interest	**8.9563%**	**8.9563%**	**8.9563%**
	Interest	97.92	97.92	97.92