

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 206/TT/2012

Coram:

**Shri Gireesh B. Pradhan, Chairperson
Shri M. Deena Dayalan, Member
Shri A. K. Singhal, Member**

**Date of Hearing: 22.04.2014
Date of Order : 06.01.2015**

In the matter of:

Approval of transmission tariff of **Asset I:** 160 MVA Transformer (1st) and associated bays at Malda Sub-station, **Asset II:** 160MVA Transformer (2nd) and associated bays at Malda Sub-station, **Asset III:** 01 no. 400 kV bay at Malda Sub-station, **Asset IV:** 160 MVA Transformer and associated bays at 220/132 kV Birpara Sub-station, **Asset V:** 160 MVA Transformer and associated bays at 220/132 kV Siliguri Sub-station under ERSS-IV in Eastern Region from anticipated DOCO (1.12.2012) to 31.3.2014 for tariff block 2009-14 under Regulation-86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009.

And in the matter of:

Power Grid Corporation of India Limited,
"Saudamani", Plot No.2,
Sector-29, Gurgaon -122 001.

.....**Petitioner**

Vs

West Bengal State Electricity Distribution Company Ltd.
Bidyut Bhawan, Bidhan Nagar,
Block DJ, SectorII, Salt Lake City,
Calcutta-700091.

.....**Respondent**

For petitioner : Shri S.S. Raju, PGCIL
Shri S.K. Venkatesan, PGCIL
Ms. Sangeeta Edwards, PGCIL
Ms. Seema Gupta, PGCIL

For respondent : None



ORDER

This petition has been filed by Power Grid Corporation of India Limited (PGCIL) for determination of transmission tariff of Asset I: 160 MVA Transformer (1st) and associated bays at Malda Sub-station, Asset II: 160 MVA Transformer (2nd) and associated bays at Malda Sub-station, Asset III: 01 no. 400 kV bay at Malda Sub-station, Asset IV: 160 MVA Transformer and associated bays at 220/132 kV Birpara Sub-station, Asset V: 160 MVA Transformer and associated bays at 220/132 kV Siliguri Sub-station under ERSS-IV in Eastern Region for the period from the actual date of commercial operation of respective assets to 31.3.2014, based on Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2009 (hereinafter referred to as “the 2009 Tariff Regulations”).

2. The petition was heard on 22.4.2014. During the hearing, representative of the petitioner submitted that as per the Investment Approval (IA) dated 13.7.2011 and having the estimated cost of ₹24500 lakh based on the April 2011 price level, the scheme was scheduled to be commissioned within 21 months from the date of IA. Accordingly, the schedule of completion works out to 1.5.2013.

3 The Scope of work covered under the ERSS-IV scheme includes:-

- i. Additional 1X160 MVA, 220/132 kV transformer with associated bays at Siliguri Sub-station
- ii. Replacement of 1X50 MVA, 220/132 kV transformer by 1X160 MVA, 220/132 kV transformer with associated bays at 220/132 kV Birpara Sub-station.

- iii. Installation of additional bay /breaker against 400kV Malda-Farakka –I feeder at Malda Sub-station.
- iv. Replacement of 2X50 MVA, 220/132 kV transformer by 2X160 MVA, 220/132 kV transformer with associated bays at 220/132 kV Malda Sub-station.
- v. 125 MVAR Bus Reactor along with associated bays at Ranchi 400/220 k V Sub-station
- vi. 125 MVAR Bus reactor along with associated bays at Patna 400/220 kV Sub-station

The instant petition covers the assets from (i) to (iv) above.

4. The assets covered under this petition and their actual date of commercial is as under:-

Name of the Asset	Scheduled DOCO as per IA	Anticipated DOCO as submitted in the Petition	Actual DOCO	Delay from Scheduled DOCO
Asset I: 160 MVA Transformer (1 st) and associated bays at Malda Sub-station	1.5.2013	1.12.12	1.3.2013	No delay
Asset II: 160 MVA Transformer (2 nd) and associated bays at Malda Sub-station		1.12.12	1.2.2013	No delay
Asset III: 1 No. 400kV bay at Malda Sub-station		1.12.12	1.11.2013	6 months delay
Asset IV: 160 MVA Transformer and associated bays at 220/132kV Birpara Sub-station		1.12.12	1.2.2013	No delay
Asset V: 160MVA Transformer and associated bays at 220/132kV Siliguri Sub-station		1.12.12	1.1.2013	No delay

Transmission tariff for remaining two assets under the ERSS–IV scheme has been allowed vide order dated 15.10.2014 in Petition No. 40/TT/2013.

5. The petitioner initially claimed transmission tariff based on anticipated date of commercial operation. Subsequently, based on the actual date of commercial operation, the petitioner vide affidavit dated 24.7.2013, revised the transmission tariff claim for Asset I, II, IV and V. The revised tariff claim for Asset III was submitted by the petitioner vide affidavit dated 2.5.2014. The details of Annual Transmission Tariff claimed for assets covered under instant petition for the period from actual the actual date of commercial operation of the instant assets to 31.3.2014 are as under:-

(₹ in lakh)

Particulars	Asset I		Asset II	
	2012-13	2013-14	2012-13	2013-14
Depreciation	1.77	28.53	3.47	31.78
Interest on loan	2.06	31.97	4.04	35.41
Return on Equity	1.76	28.34	3.45	31.56
Interest on working capital	0.27	3.85	0.54	4.08
O&M expenses	2.58	32.73	5.16	32.73
Total	8.44	125.42	16.66	135.56

(₹ in lakh)

Particulars	Asset III	Asset IV		Asset V	
	2013-14	2012-13	2013-14	2012-13	2013-14
Depreciation	6.90	3.99	31.51	3.58	29.83
Interest on loan	8.68	4.64	35.08	4.15	33.24
Return on Equity	6.85	3.97	31.30	3.56	29.63
Interest on working capital	0.50	0.29	2.25	1.29	6.47
O&M expenses	-	0.00	0.00	18.58	78.55
Total	22.93	12.89	100.14	31.16	177.72

6. The details submitted by the petitioner in support of the claim on Interest on Working Capital are as follows:-

(₹ in lakh)

Particulars	2012-13	2013-14	2012-13	2013-14	2013-14
	Asset I		Asset II		Asset III
Maintenance Spares	4.64	4.91	4.64	4.91	0.00
O & M Expenses	2.58	2.73	2.58	2.73	0.00
Receivables	23.74	25.84	23.85	25.98	9.17
Total	30.96	33.48	31.07	33.62	9.17
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.20%
Interest	4.18	4.52	1.75	4.54	0.50

(₹ in lakh)

Particulars	2012-13	2013-14	2012-13	2013-14
	Asset IV		Asset V	
Maintenance Spares	0.00	0.00	11.14	11.78
O & M Expenses	0.00	0.00	6.19	6.55
Receivables	20.30	21.38	34.26	36.40
Total	20.30	21.38	51.59	54.73
Rate of Interest	13.50%	13.50%	13.50%	13.50%
Interest	2.74	2.89	3.48	7.39

7. No comments have been received from the general public in response to the notices published in newspapers by the petitioner under Section 64 of the Electricity Act, 2003. No reply has been filed by the respondents as well. The petitioner has filed further information vide affidavits dated 24.7.2013, 30.1.2014, 2.5.2014 and 2.6.2014.

8. Having heard the representatives of the parties and perused the material on records, we proceed to determine the tariff in the transmission assets covered in the petition.

Capital Cost

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

“(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) capitalized 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 petitioner has claimed the capital cost based on the anticipated date of commercial operation as under:-

(₹ in lakh)

Assets	Apportioned approved cost	Projected cost incurred as on DOCO	Projected additional capital expenditure		Total estimated completion cost claimed
			DOCO to 31.3.13	2013-14	
Asset-I	976.46	550.63	100.00	47.59	698.22
Asset-II	976.46	553.76	100.00	47.59	701.35
Asset-III	313.15	402.71	50.00	25.77	478.48
Asset-IV	1008.81	628.56	75.00	27.56	731.12
Asset-V	919.71	657.79	75.00	50.01	782.80
Total	4194.59	2793.45	400.00	198.52	3391.97

11. The petitioner has submitted the revised capital cost based on the actual the date of commercial operation of the assets vide Management Certificate dated 19.7.2013,

23.7.2013 and 2.4.2014. The capital cost claimed as per these Management Certificates are summarized below:-

(₹ in lakh)

Assets	AppORTIONED approved cost	Actual cost claimed as on Actual DOCO	Projected additional. capital expenditure claimed for 2012-13	Projected additional. capital expenditure claimed for 2013-14	Total estimated completion cost claimed as on 31.3.2014
Asset-I	976.46	367.53	68.50	208.54	644.57
Asset-II	976.46	216.65	356.45	57.51	630.61
Asset-III	313.15	294.77	0.00	37.76	332.53
Asset-IV	1008.81	363.62	180.19	106.11	649.92
Asset-V	919.71	54.88	432.85	154.65	642.38
Total	4194.59	1297.45	1037.99	564.57	2900.01

*Capital cost as on the date of commercial operation is inclusive of initial spares.

Time over-run

12. As per the IA, the project was scheduled to be commissioned by April, 2013, i.e DOCO by 1.5.2013. Assets I, II, III, IV and V were commissioned on 1.3.2013, 1.2.2013, 1.11.2013, 1.2.2013 and 1.1.2013 respectively. All the assets except Asset III were commissioned within the timeline specified in the IA. Asset-III was commissioned on 1.11.2013). Thus, there is time over-run of six months in commissioning of Asset-III.

13. The petitioner vide affidavit dated 3.1.2014 has explained the reasons of time over-run and they are as follows:-

- (a) Six nos. HBPI (High Bus – Post Insulator) foundation were falling in the existing cable trench route for LT cable. As mechanical excavation could damage the existing cables, the excavation was carried out manually and therefore the foundation took nearly one month to complete (i.e from 15.3.2013-15.4.2013). Consequently, all connected activities got delayed.

(b) New cable trench passes through an area which contains power cable for Lighting, Colony supply and Office supply. As mechanical excavation could damage the existing cables, the excavation was carried out manually which took a lot of time, and the foundation took almost one month to complete (i.e from 15.4.2013-15.5.2013).

(c) In this package no new panel is considered for 400 kV. The old panel has been modified for new equipments. Control room of Malda Sub-station is at ground floor only and there is no cable alley. New cables from field side have been routed through old cable trench only, to be fitted in the old panel. These require ultimate attention and care so that while doing this job no running feeder should trip. This entire job is very precarious in nature and took nearly one month to complete (i.e from 15.5.2013-15.6.2013).

(d) The position for new LM (Lighting Mast) foundation is nearer to existing DG room and 11 kV receiving station. As all the power cables for auxiliary system are passing through that area excavation was not possible by mechanical excavator. The excavation has been carried out by manual means to avoid any damage to the neighboring equipments of the running system. The excavation took almost one month (i.e from 15.6.2013-15.7.2013).

(e) After completion of excavation, PLCC was about to start but excavation soil collapsed near the base of existing DG room. As that collapse could lead to major disturbance in a charged Switch Yard, protection work was carried out

immediately for arresting further failure. Thereafter, time was required for settlement of the soil where protection work was carried out. This activity delayed the work by about one month (i.e from 15.7.2013-15.8.2013).

(f) Dismantling job of Lightening mast only took one month time. The position of the LM was very near to the 400 kV Bus-I. Dismantling LM with bus charged, was very tough job. To carry out the things properly, dismantling was carried out slowly in electrically charged system with full precaution and safety. To complete the LM dismantling job, one month time has been taken (i.e from 15.8.2013-15.9.2013). Without LM dismantling, 400 KV Bus-I stringing was not possible.

(g) After overcoming the above hurdles, the balance construction work including pre-commissioning tests was completed in October, 2013.

(h) It is to inform that construction work was carried out in a charged 400 kV switchyard. As such work had to be done with complete safety and without disturbing the adjacent charged equipment due to this the pace of work was sometimes slow.

14. On perusal of Form 5-C of the petition, it is observed that the work for Malda Sub-station was awarded on 14.9.2011 for supply and erection to be completed by 17.12.2012. From the submissions of the petitioner, it is observed that the work actually started on 15.3.2013 and was completed in October, 2013. The petitioner has not given any reason/documentary evidence for starting the work so late i.e. after planned date of completion of the work by the contractor (17.12.2012). As per the petitioner, the work

was to be carried out in the existing charged sub-station manually which takes more time. However, this must have been known to petitioner at the time of IA. Further, the work at Malda Sub-station did not start as scheduled but started approximately two months before scheduled completion date 17.12.2012 and the petitioner has not furnished any reason for the same. In view of the above, delay of six months is not condoned. Accordingly, IDC and IEDC for six months in case of Asset III are disallowed.

Cost over-run

15. There is no overall cost over-run. However, there is cost over-run in case of Asset-III. The petitioner was directed to furnish the detailed reason for variation in cost. In response, petitioner vide affidavit 30.1.2014 has submitted as under:-

(a) The award of contract for these items was made on turnkey basis for various items under the sub-station package. Number of bids was received from different vendors through Domestic competitive Bidding. It is further submitted that the award was made to the lowest evaluated bidder. The item wise comparison of different items under the turnkey package with respective cost estimates may not lead us to comparable values since the actual prices solely depend on how the bifurcation of the total price has been made by the vendor while quoting for different items under complete turnkey package.

(b) The bid for a particular package containing many small components (items) are invited on overall basis and comparison of bidder's prices, hence decision of the successful bidder is done on the basis of the total bid price of

each bidder. Price comparison of any individual items is not done for the above purpose. The package, based on the above overall comparison is awarded as a whole based on the lowest cost of complete package which may include many small items. The rates of individual items are asked only for the purpose of on Account payment and not for any comparison.

16. On perusal of the documents submitted by the petitioner, it is observed that details of estimation of FR cost have not been submitted. The petitioner has been submitting that the estimates are prepared as per well defined procedure and the best competitive bid price against the tender may vary as compared to the cost estimates depending upon prevailing market conditions. The Commission has observed in the past that though overall cost of the project is within the apportioned approved cost, there is substantial variation in the actual cost of a number of items as compared to the FR estimates. In the instant case also it is observed that the cost estimate of the petitioner is not realistic. The petitioner was directed in some cases to adopt a prudent procedure to make cost estimates of different elements of the transmission projects on more realistic basis. The petitioner is, therefore, directed to submit in future specific cost details in respect of items which have exhibited significant variation with reference to FR cost.

17. In case of Asset III, the actual capital cost of ₹332.53 lakh up to 31.3.2014 is exceeding the apportioned approved cost of ₹313.15 lakh. Therefore, the excess capital cost claimed over and above the apportioned cost, i.e. ₹19.38 lakh has been disallowed. This is in line with the judgment of the Appellate Tribunal dated 28.11.2013 in

Appeal No 165/ 2012, wherein the capital cost as on 31.3.2014 has been restricted to the apportioned approved cost. Accordingly, the disallowed cost has been reduced from the additional capital expenditure for the period 2013-14.

18. As already mentioned in para 11, capital cost as on the date of commercial operation has been considered as per the management certificates. However, the capital cost has been adjusted in respect of the following parameters:-

- 1) Cost over-run corresponding to IDC & IEDC due to time over-run
- 2) De-capitalization of replaced asset
- 3) Adjustment of excess initial spares

These have been discussed in the following paragraphs.

IDC & IEDC

19. In case of Assets I, II, III and IV, the IDC & IEDC has been allowed based on the Management Certificate submitted by the petitioner. The time over-run of six months in case of Asset III has not been condoned, accordingly the IDC & IEDC for six months time is disallowed.

De-capitalization of replaced asset.

20. As per the project scope, 50 MVA transformers are being replaced by 160 MVA transformers. Accordingly, the petitioner was directed to submit since when the existing transformers are in use at Birpara Sub-station and Malda Sub-station and whether any tariff for them has been approved by the Commission in the past for these transformers. In response, the petitioner vide affidavit dated 24.7.2013, has submitted that the existing 50 MVA transformers at Birpara Sub-station (1 No) and Malda Sub-station (2 Nos) have

been in use since commissioning on 1.10.1987 and 1.10.1986 respectively and the tariff for both has been claimed under Chukha Transmission System in Petition No. 331/2010. However, as discussed and approved in 16th ERPC held at Kolkata, it was agreed that replaced transformers shall not be disposed and instead would be added to the inventory of spare transformers.

21. Subsequently, during the hearing on 22.4.2014, the Commission directed the petitioner to submit the details of gross block corresponding to decapitalised asset and its cumulative depreciation as on the date of decapitalisation. The petitioner vide affidavit dated 20.6.2014, submitted as follows:-

“Replaced ICTs at Malda & Birpara S/s have been kept as spares as discussed in the 16th ERPC & TCC, the relevant minutes of which were also submitted in the subject petition. Therefore, there is no need for decapitalization of the ICTs which had been replaced at Malda & Birpara S/s by the Assets I, II & IV of the subject petition.”

22. The petitioner has not submitted the details of gross block and accumulated depreciation value of replaced asset sought by the Commission. Instead, by referring the discussion of 16th ERPC & TCC meeting to keep these replaced assets as spare, the petitioner has proposed that there is no need for de-capitalization. As the petitioner did not clearly reply to the queries made in the Record of Proceedings dated 22.4.2014, a reminder was issued on 1.10.2014 to the petitioner as a last and final opportunity to file the details. No information has been furnished by the petitioner.

23. As per proviso to Regulation 7(1) of the 2009 Tariff Regulations, the assets forming part of the project, but not in use shall be taken out of the capital cost. It is to be noted that, all three assets have completed their useful life of 25 years and their

capital costs were included in Chukha Transmission System for which the tariff up to 31.3.2014 was granted vide order dated 6.8.2013 in Petition No. 331/2010. The new assets in the instant petition are established under the ERSS-IV by replacing the old assets. As such, the replaced assets have to be de-capitalized by reducing the net value of replaced asset from the capital cost of new asset.

24. In a similar case, the assets not in use were de-capitalized by the Commission. The relevant portion of order dated 7.2.2013 in Petition No. 305/2010 is given as under:-

“ 19. Xxxxx

Xxxxxx

The porcelain insulators which have been taken out of service shall be de-capitalized and the polymer insulators which have been put into service in their place shall be capitalized in accordance with 2009 Tariff Regulations. The porcelain insulators which have been taken out of service shall be treated as spares and shall be allowed carrying cost on the written down value of the assets at the weighted average rate of interest of the loans availed by the petitioner till these insulators are put to use and capitalized."

xxxxx

xxxxx”

25. Therefore, in accordance with the decision of the Commission in Petition no. 305/2010, the replaced asset should be de-capitalised from the date of replacement. In Petition No. 305/2010, the assets had remaining useful life and hence allowed carrying cost while being treated as spares. In the present case, the assets have already completed their useful life, hence, in this case the carrying cost need not be considered. Accordingly, in the absence of the original gross block and accumulated depreciation of the replaced asset, for the purpose of de-capitalization, 10% value of the new asset being capitalized (i.e. the claimed capital cost up to 31.3.2014) has been considered as Net value of replaced asset (i.e. old asset). The consideration of 10% as discussed above, is a onetime measure and it shall not be quoted as a precedent.

26. As discussed above, the net value of decapitalized asset are computed as follows:-

(₹ in lakh)					
Asset No.	Management Certificate dated	Sub-station Cost claimed as on DOCO	Projected Add-Cap claimed up to 31.3.2014	Estimated completion cost	10% of estimated completion cost as on 31.3.2014 considered as net value of old asset
Asset-I	23.7.2013	367.53	277.04	644.57	64.46
Asset-II	23.7.2013	216.65	413.96	630.61	63.06
Asset-IV	19.7.2013	363.62	286.30	649.92	64.99

27. The petitioner is directed to submit the original gross block and accumulated depreciation of the replaced assets while filing the petition for true-up.

Initial spares

28. Regulation 8 of 2009 Tariff Regulations provides that initial spares shall be capitalised as a percentage of the original project cost , subject to following ceiling norms:-

Transmission line	0.75%
Transmission Sub-station	2.5%
Series compensation devices & HVDC Station	3.5%

29. Initial spares claimed by the petitioner are within the ceiling limits of the 2009 Tariff Regulations for the Asset I, II and III. However, in case of Asset IV and Asset V, the initial spares claimed by the petitioner are more than the norms specified in the

2009 Tariff Regulations. Accordingly, excess initial spares have been deducted from the capital cost claimed for the Asset-IV and Asset V.

30. Accordingly, as discussed above, the capital cost allowed as on the date of commercial operation of the instant assets are as follows:-

(₹ in lakh)

1	2	3	4	5	6 =(2-3-4-5)
Assets	Capital cost as on DOCO	Excess Initial spares dis-allowed	IDC & IEDC dis-allowed	De-capitalisation of re-placed asset	Capital cost as on DOCO allowed for tariff calculation
Asset-I	367.53	0.00	0.00	64.46	303.07
Asset-II	216.65	0.00	0.00	63.06	153.59
Asset-III	294.77	0.00	11.04	0.00	283.73
Asset-IV	363.62	5.79	0.00	64.99	292.84
Asset-V	54.88	4.32	0.00	0.00	50.56
Total	1297.45	10.11	11.04	192.51	1083.79

Projected additional capital expenditure

31. As regards Additional Capital Expenditure clause 9(1) of the 2009 Tariff Regulations provides as follows:-

“Additional Capitalization: (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.”

32. Clause (11) of Regulation 3 of the 2009 Tariff Regulations defines “cut-off” date as under:-

“cut-off date” means 31st 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 31st March of the year closing after 3 years of the year of commercial operation”.

33. The additional capital expenditure claimed by the petitioner for the instant assets, except Asset III, up to 31.3.2014 are within the cut-off date and are to be incurred for balance and retention payment. Hence, the same has been considered for the purpose of tariff calculation. However, in case of Asset III, the excess capital cost claimed over and above the apportioned cost (i.e. ₹19.38 lakh) has been reduced from the projected additional capital expenditure for the year 2013-14. Accordingly, the additional capital expenditure of ₹18.38 lakh in case of Asset III for the year 2013-14 is considered for the purpose of tariff calculations.

34. The capital cost considered for the purpose of tariff computation from the date of commercial operation to 31.3.2014 is as follows:-

(₹ in lakh)

Capital Cost considered for tariff from DOCO to 31.3.2014				
Assets	Capital cost as on DOCO	Additional capitalization for 2012-2013	Additional capitalization for 2013-2014	Capital cost as on 31.3.2014
Asset-I	303.07	68.50	208.54	580.11
Asset-II	153.59	356.45	57.51	567.55
Asset-III	283.73	0.00	18.38	302.11
Asset-IV	292.84	180.19	106.11	579.14
Asset-V	50.56	432.85	154.65	638.06
Total	1083.79	1037.99	545.19	2666.97

Debt- equity ratio

35. 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 modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”

36. Details of debt-equity considered in respect of the assets covered in this petition are as follows:-

(₹ in lakh)

Asset I						
Particulars	Apportioned approved cost		as on DOCO		As on 31.3.2014	
	Amount	%	Amount	%	Amount	%
Debt	683.52	70.00	212.15	70.00	406.08	70.00
Equity	292.94	30.00	90.92	30.00	174.03	30.00
Total	976.46	100.00	303.07	100.00	580.11	100.00

(₹ in lakh)

Asset II						
Particulars	Apportioned Approved Cost		as on DOCO		As on 31.03.2014	
	Amount	%	Amount	%	Amount	%
Debt	683.52	70.00	107.52	70.00	397.29	70.00
Equity	292.94	30.00	46.07	30.00	170.26	30.00
Total	976.46	100.00	153.59	100.00	567.55	100.00

(₹ in lakh)

Asset III						
Particulars	AppORTIONED Approved Cost		as on DOCO		As on 31.03.2014	
	Amount	%	Amount	%	Amount	%
Debt	219.20	70.00	198.61	70.00	211.48	70.00
Equity	93.95	30.00	85.12	30.00	90.63	30.00
Total	313.15	100.00	283.73	100.00	302.11	100.00

(₹ in lakh)

Asset IV						
Particulars	AppORTIONED Approved Cost		as on DOCO		As on 31.03.2014	
	Amount	%	Amount	%	Amount	%
Debt	706.17	70.00	204.99	70.00	405.40	70.00
Equity	302.64	30.00	87.85	30.00	173.74	30.00
Total	1008.81	100.00	292.84	100.00	579.14	100.00

(₹ in lakh)

Asset V						
Particulars	AppORTIONED Approved Cost		as on DOCO		As on 31.03.2014	
	Amount	%	Amount	%	Amount	%
Debt	643.80	70.00	35.40	70.02	446.65	70.00
Equity	275.91	30.00	15.16	29.98	191.41	30.00
Total	919.71	100.00	50.56	100.00	638.06	100.00

37. The add-cap has been considered in the debt-equity ratio of 70:30. The above stated debt–equity ratios have been applied for the purpose of tariff calculation in this order.

Return on Equity (RoE)

38. 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 financial year during the tariff period shall be tried up in accordance with Regulation 6 of these regulations".

39. The petitioner has claimed ROE @ 17.481% ($15.50/(1-11.33\%)$) per annum on the normative equity for all the assets by considering the base rate of 15.50%. In line with the regulation stated above, the base rate has been grossed up with Minimum Alternate Tax rate @ 11.33% as applicable to the petitioner company for the year 2008-09. Accordingly, the rate of ROE for all the assets has been worked out @ 17.481% per annum on the normative equity.

40. Details of return on equity calculated are as follows:-

(₹ in lakh)

Return on Equity	Asset I		Asset II	
	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Opening Equity	90.92	111.47	46.07	153.01
Addition due to Additional Capitalisation	20.55	62.56	106.94	17.25
Closing Equity	111.47	174.03	153.01	170.26
Average Equity	101.20	142.75	99.54	161.63
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	11.33%	11.33%	11.33%	11.33%
Rate of Return on Equity (Pre-tax)	17.481%	17.481%	17.481%	17.481%
Return on Equity (Pre-tax)	1.47	24.95	2.90	28.26

(₹ in lakh)

Return on Equity	Asset III	Asset IV		Asset V	
	2013-14 (Pro-rata)	2012-13 (Pro-rata)	2013-14	2012-13	2013-14
Opening Equity	85.12	87.85	141.91	15.16	145.02
Addition due to Additional Capitalisation	5.51	54.06	31.83	129.86	46.40
Closing Equity	90.63	141.91	173.74	145.02	191.41
Average Equity	87.88	114.88	157.82	80.09	168.22
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	11.33%	11.33%	11.33%	11.33%	11.33%
Rate of Return on Equity (Pre Tax)	17.481%	17.481%	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)	6.40	3.35	27.59	3.50	29.41

Interest on loan

41. 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.”

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

- (i) The gross normative loan of concerned assets has been arrived based on the allowed capital cost and the Debt-equity ratio discussed in earlier paragraph.
- (ii) The normative repayment for the tariff period 2009-14 has been considered to be equal to the depreciation allowed for that period.
- (iii) Details of actual loans, their interest rates and repayment schedules have been considered as per the petition.

- (iv) Weighted average rate of interest on actual average loan as per the petition has been applied on the normative average loan during the year to arrive at the interest on loan.

43. Detailed calculation of the weighted average rate of interest has been given in Annexure 1 to 5 to this order.

44. Interest on loan has been worked out as detailed below:-

Interest on loan	(₹ in lakh)			
	Asset I		Asset II	
	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Gross Normative Loan	212.15	260.10	107.52	357.03
Cumulative Repayment up to Previous Year	0.00	1.48	0.00	2.92
Net Loan-Opening	212.15	258.62	107.52	354.11
Addition due to Additional Capitalisation	47.95	145.98	249.52	40.26
Repayment during the year	1.48	25.12	2.92	28.45
Net Loan-Closing	258.62	379.47	354.11	365.92
Average Loan	235.38	319.04	230.81	360.02
Weighted Average Rate of Interest on Loan	8.8294%	8.8271%	8.8137%	8.8094%
Interest	1.73	28.16	3.39	31.72

Interest on loan	(₹ in lakh)				
	Asset III	Asset IV		Asset V	
	2013-14 (Pro-rata)	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Gross Normative Loan	198.61	204.99	331.12	35.40	338.39
Cumulative Repayment upto Previous Year	0.00	0.00	3.37	0.00	3.52
Net Loan-Opening	198.61	204.99	327.75	35.40	334.87
Addition due to Additional Capitalisation	12.87	126.13	74.28	303.00	108.26
Repayment during the year	6.44	3.37	27.78	3.52	29.61
Net Loan-Closing	205.03	327.75	374.25	334.87	413.52
Average Loan	201.82	266.37	351.00	185.13	374.19
Weighted Average Rate of Interest on Loan	9.6388%	8.8156%	8.8130%	8.8284%	8.8158%
Interest	8.11	3.91	30.93	4.09	32.99

Depreciation

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

“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.”

46. The depreciation for all assets has been computed in accordance with the above regulation. The assets will complete 12 years beyond the tariff period 2013-14 and thus depreciation have been calculated annually based on Straight Line Method at rates specified in Appendix-III of the 2009 Tariff Regulations. Accordingly, depreciation has been worked out on the basis of capital expenditure as on the date of commercial

operation wherein depreciation for the first year has been calculated on pro-rata basis for the part of year.

47. Details of depreciation worked out are given as under:-

(₹ in lakh)

Depreciation	Asset I		Asset II		Asset III
	2012-13 (Pro-rata)	2013-14	2013-14 (Pro-rata)	2013-14	2013-14 (Pro-rata)
Opening Gross Block	303.07	371.57	283.73	510.04	283.73
Addition during 2009-14 due to projected additional capitalisation	68.50	208.54	18.38	57.51	18.38
Gross Block	371.57	580.11	302.11	567.55	302.11
Average Gross Block	337.32	475.84	292.92	538.79	292.92
Rate of Depreciation	5.2800%	5.2800%	5.2800%	5.2800%	5.2800%
Depreciable Value	303.59	428.26	263.63	484.91	263.63
Remaining Depreciable Value	303.59	426.77	263.63	481.99	263.63
Depreciation	1.48	25.12	6.44	28.45	6.44

(₹ in lakh)

Depreciation	Asset IV		Asset V	
	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Opening Gross Block	292.84	473.03	292.84	473.03
Addition during 2009-14 due to Projected Additional Capitalisation	180.19	106.11	180.19	106.11
Gross Block	473.03	579.14	473.03	579.14
Average Gross Block	382.93	526.08	382.93	526.08
Rate of Depreciation	5.2800%	5.2800%	5.2800%	5.2800%
Depreciable Value	344.64	473.47	240.29	504.66
Remaining Depreciable Value	344.64	470.10	240.29	501.14
Depreciation	3.37	27.78	3.52	29.61

Operation & Maintenance Expenses (O&M Expenses)

48. As per Regulation 19 (g) of the 2009 Tariff Regulations, norms for O&M Expenses for the assets covered in this petition are as follows:-

Elements	2009-10	2010-11	2011-12	2012-13	2013-14
220 kV bays (₹ lakh per bay)	36.68	38.78	41.00	43.34	45.82
132 kV & below bays (₹ lakh per bay)	26.20	27.70	29.28	30.96	32.73

49. The assets covered in the petition and the claims preferred by the petitioner are listed below:-

Sr. No	Particulars	DOCO	No. of bays
	Asset-1 160 MVA Transformer (1 st) and associated bays at Malda Sub-station (Replacement)		
	Malda Sub-station :		
1	ICT-I , 132 kV bay	1.3.2013	1
	Asset-II 160 MVA Transformer (2 nd) and associated bays at Malda Sub-station (Replacement)		
	Malda Sub-station :		
1	ICT-I , 132 kV bay	1.2.2013	1
	Asset-III 01 No. 400 kV bay at Malda Sub-station :	1.11.2012	O&M not claimed
	Asset-IV 160 MVA Transformer and associated bays at 220/132 kV Birpara Sub-station (Replacement):	1.2.2013	O&M claimed in Pet. No. 331/2010
1	Asset-V 160 MVA Transformer and associated bays at 220/132 kV Siliguri Sub-station (New)		
	Siliguri Sub-station:		
1	220 kV ICT-II bay	1.1.2013	1
2	132 kV & below, ICT-II, bay	1.1.2013	1

50. As per the norms specified in the 2009 Tariff Regulations, O&M Expenses allowed for the assets covered in this petition are as under:-

(₹ in lakh)

Element	2012-13 (pro-rata)	2013-14
Asset-I:		
1 no. 132 kV & below bay	2.58	32.73
Total (Asset-I)	2.58	32.73
Asset-II:	(pro-rata)	
1 no. 132 kV & below bay	5.16	32.73

Total (Asset-II)	5.16	32.73
Asset-III:	O&M Expenses not claimed	
Asset-IV:	O&M Expenses not claimed (claimed in Pet. No. 331/2010)	
Asset-V:	(pro-rata)	
1 no. 220 kV bay	10.84	45.82
1 no. 132 kV & below bay	7.74	32.73
Total (Asset-V)	18.58	78.55

51. The petitioner vide affidavit 30.1.2014 has submitted that the existing scheme at Malda Sub-station for Farakka- Malda-I line was One Main and Bus Coupler scheme. The scheme was modified to Two Main and Bus Coupler scheme. Hence, one additional breaker was installed for transferring the line from one Bus to second Bus. As per the Statement of Reason for the 2009 Tariff Regulations, the Bus Coupler and the Bus Transfer breaker shall not be considered for O&M Expenses in tariff. Therefore, the O&M Expenses for 400 kV bay at Malda (Asset-III) has not been claimed.

52. The petitioner submitted that O&M Expenses for 2009-14 tariff block had been arrived on the basis of normalized actual O&M Expenses of the petitioner during the year 2003-04 to 2007-08. The wage hike of 50% on account of pay revision of the employees of public sector undertaking was also considered while calculating the O&M Expenses for tariff period 2009-14. The petitioner has submitted that it would approach the Commission for suitable revision in the norms for O&M expenditure due to impact of wage revision.

53. 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.

Interest on Working Capital

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

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

(iii) O & M Expenses

Regulation 18(1) (c) (iii) of the 2009 Tariff Regulations provides for O&M Expenses for one month to be included in the working capital. The petitioner has claimed O&M Expenses for 1 month of the respective year. This has been considered in the working capital.

(i) Rate of interest on working capital:

In accordance with clause (3) of Regulation 18 of the 2009 Tariff Regulations, the rate of Interest on Working Capital for Asset I, II, IV and V has been considered @ 13.50% (i.e. SBI Base rate 10% as on 1.4.2012 + 350 basis points) whereas the rate considered for Asset III is 13.20% (i.e. SBI Base rate @ 9.7% as on 1.4.2013 + 350 basis points).

55. Necessary computation in support of interest on working capital is as follows:-

(₹ in lakh)

Particulars	Asset I		Asset II		Asset III
	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14	2013-14 (Pro-rata)
Maintenance Spares	4.64	4.91	4.64	4.91	0.00
O & M expenses	2.58	2.73	2.58	2.73	0.00
Receivables	15.04	19.10	14.87	20.83	8.57
Total	22.27	26.73	22.09	28.47	8.57
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.20%
Interest	0.25	3.61	0.50	3.84	0.47

(₹ in lakh)

Particulars	Asset IV		Asset V	
	2012-13 (Pro-rata)	2013-14	2013-14 (Pro-rata)	2013-14
Maintenance Spares	0.00	0.00	11.15	11.78
O & M expenses	0.00	0.00	6.19	6.55
Receivables	10.88	14.71	20.65	29.50
Total	10.88	14.71	37.99	47.83
Rate of Interest	13.50%	13.50%	13.50%	13.50%
Interest	0.24	1.99	1.28	6.46

Transmission charges

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

(₹ in lakh)

Particulars	Asset I		Asset II		Asset III
	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14	2013-14 (Pro-rata)
Depreciation	1.48	25.12	2.92	28.45	6.44
Interest on Loan	1.73	28.16	3.39	31.72	8.11
Return on equity	1.47	24.95	2.90	28.26	6.40
Interest on Working Capital	0.25	3.61	0.50	3.84	0.47
O & M Expenses	2.58	32.73	5.16	32.73	-
Total	7.52	114.58	14.87	124.99	21.42

(₹ in lakh)

Particulars	Asset IV		Asset V	
	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Depreciation	3.37	27.78	3.52	29.61
Interest on Loan	3.91	30.93	4.09	32.99
Return on equity	3.35	27.59	3.50	29.41
Interest on Working Capital	0.24	1.99	1.28	6.46
O & M Expenses	0.00	0.00	18.58	78.55
Total	10.88	88.29	30.97	177.01

Filing fee and the publication expenses

57. The petitioner had sought approval for the reimbursement of fee paid by it for filing the petition. The petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on *pro-rata* basis in accordance with Regulation 42 A (1) (a) of the 2009 Tariff Regulations.

Licence fee

58. The petitioner has submitted that the petitioner may be allowed to bill and recover license fee separately from the respondents as provided in the 2009 Tariff Regulations. The petitioner shall be entitled for reimbursement of license fee in accordance with Regulation 42A (1) (b) of the 2009 Tariff Regulations.

Service tax

59. The petitioner has made a specific prayer to be allowed to bill and recover the service tax on transmission charges separately from the respondents if the exemption granted to it is withdrawn and transmission of power is made a taxable service. We consider the petitioner's prayer pre-mature and accordingly, this prayer is rejected.

Sharing of transmission charges

60. 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.

61. This order disposes of Petition No. 206/TT/2012.

sd/-

(A. K. Singhal)
Member

sd/-

(M. Deena Dayalan)
Member

sd/-

(Gireesh B. Pradhan)
Chairperson

Calculation of Weighted Average Rate of Interest on Actual Loans

		(₹ in lakh)	
	Details of Loan	2012-13	2013-14
1	Bond XLI		
	Gross loan opening	90.00	90.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	90.00	90.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	90.00	90.00
	Average Loan	90.00	90.00
	Rate of Interest	8.85%	8.85%
	Interest	7.97	7.97
	Rep Schedule	12 annual installments from 19.10.2016	
2	Bond XLII		
	Gross loan opening	158.87	158.87
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	158.87	158.87
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	158.87	158.87
	Average Loan	158.87	158.87
	Rate of Interest	8.80%	8.80%
	Interest	13.98	13.98
	Rep Schedule	Bullet payment on 13.03.2023	
3	Bond XXXVII		
	Gross loan opening	8.40	8.40
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	8.40	8.40
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	8.40	8.40

	Average Loan	8.40	8.40
	Rate of Interest	9.25%	9.25%
	Interest	0.78	0.78
	Rep Schedule	12 annual installments from 26.12.2015	
4	Bond XLII (Add cap for 2012-2013 drawl on 31-03-2013))		
	Gross loan opening	0.00	47.95
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	47.95
	Additions during the year	47.95	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	47.95	47.95
	Average Loan	23.98	47.95
	Rate of Interest	8.80%	8.80%
	Interest	2.11	4.22
	Rep Schedule	Bullet payment on 13.03.2023	
	Total Loan		
	Gross loan opening	257.27	305.22
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	257.27	305.22
	Additions during the year	47.95	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	305.22	305.22
	Average Loan	281.25	305.22
	Rate of Interest	8.8294%	8.8271%
	Interest	24.83	26.94

Calculation of Weighted Average Rate of Interest on Actual Loans

		(₹ in lakh)	
	Details of Loan	2012-13	2013-14
1	Bond XLII		
	Gross loan opening	143.26	143.26
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	143.26	143.26
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	143.26	143.26
	Average Loan	143.26	143.26
	Rate of Interest	8.80%	8.80%
	Interest	12.61	12.61
	Rep Schedule	Bullet payment on 13.03.2023	
2	Bond XXXVII		
	Gross loan opening	8.40	8.40
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	8.40	8.40
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	8.40	8.40
	Average Loan	8.40	8.40
	Rate of Interest	9.25%	9.25%
	Interest	0.78	0.78
	Rep Schedule	12 annual installments from 26.12.2015	
3	Bond XLII (Add cap for 2012-2013 drawl on 31-03-2013)		
	Gross loan opening	0.00	249.52
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	249.52
	Additions during the year	249.52	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	249.52	249.52

Average Loan	124.76	249.52
Rate of Interest	8.80%	8.80%
Interest	10.98	21.96
Rep Schedule	Bullet payment on 13.03.2023	
Total Loan		
Gross loan opening	151.66	401.18
Cumulative Repayment upto DOCO/previous year	0.00	0.00
Net Loan-Opening	151.66	401.18
Additions during the year	249.52	0.00
Repayment during the year	0.00	0.00
Net Loan-Closing	401.18	401.18
Average Loan	276.42	401.18
Rate of Interest	8.8137%	8.8094%
Interest	24.36	35.34

Calculation of Weighted Average Rate of Interest on Actual Loans

(₹ in lakh)

	Details of Loan	2013-14
1	Bond XXXVII	
	Gross loan opening	20.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	20.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	20.00
	Average Loan	20.00
	Rate of Interest	9.25%
	Interest	1.85
	Rep Schedule	12 annual installments from 26.12.2015
2	SBI (21.03.2012)	
	Gross loan opening	105.34
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	105.34
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	105.34
	Average Loan	105.34
	Rate of Interest	10.05%
	Interest	10.59
	Rep Schedule	12 annual installments from 19.10.2016
3	Bond XL	
	Gross loan opening	63.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	63.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	63.00
	Average Loan	63.00
	Rate of Interest	9.30%
	Interest	5.86

	Rep Schedule	12 annual installments from 28.06.2016
4	Bond XLI	
	Gross loan opening	18.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	18.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	18.00
	Average Loan	18.00
	Rate of Interest	8.85%
	Interest	1.59
	Rep Schedule	12 annual installments from 19.10.2016
	Total Loan	
	Gross loan opening	206.34
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	206.34
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	206.34
	Average Loan	206.34
	Rate of Interest	9.6388%
	Interest	19.89

Calculation of Weighted Average Rate of Interest on Actual Loans

(₹ in lakh)

	Details of Loan	2012-13	2013-14
1	Bond XLII		
	Gross loan opening	243.53	243.53
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	243.53	243.53
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	243.53	243.53
	Average Loan	243.53	243.53
	Rate of Interest	8.80%	8.80%
	Interest	21.43	21.43
	Rep Schedule	Bullet payment on 13.03.2023	
2	Bond XXXVII		
	Gross loan opening	11.00	11.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	11.00	11.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	11.00	11.00
	Average Loan	11.00	11.00
	Rate of Interest	9.25%	9.25%
	Interest	1.02	1.02
	Rep Schedule	12 annual installments from 26.12.2015	
3	Bond XLII (Add cap for 2012-2013 drawl on 31-03-2013)		
	Gross loan opening	0.00	126.13
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	126.13
	Additions during the year	126.13	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	126.13	126.13

Average Loan	63.07	126.13
Rate of Interest	8.80%	8.80%
Interest	5.55	11.10
Rep Schedule	Bullet payment on 13.03.2023	
Total Loan		
Gross loan opening	254.53	380.66
Cumulative Repayment upto DOCO/previous year	0.00	0.00
Net Loan-Opening	254.53	380.66
Additions during the year	126.13	0.00
Repayment during the year	0.00	0.00
Net Loan-Closing	380.66	380.66
Average Loan	317.60	380.66
Rate of Interest	8.8156%	8.8130%
Interest	28.00	33.55

Annexure-5**Calculation of Weighted Average Rate of Interest on Actual Loans**

(₹ in lakh)

	Details of Loan	2012-13	2013-14
1	Bond XLII		
	Gross loan opening	26.42	26.42
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	26.42	26.42
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	26.42	26.42
	Average Loan	26.42	26.42
	Rate of Interest	8.80%	8.80%
	Interest	2.32	2.32
	Rep Schedule	Bullet payment on 13.03.2023	
2	Bond XXXVII		
	Gross loan opening	12.00	12.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	12.00	12.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	12.00	12.00
	Average Loan	12.00	12.00
	Rate of Interest	9.25%	9.25%
	Interest	1.11	1.11
	Rep Schedule	12 annual installments from 26.12.2015	
3	Bond XLII (Add cap for 2012-2013 drawl on 31-03-2013)		
	Gross loan opening	0.00	303.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	303.00
	Additions during the year	303.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	303.00	303.00

Average Loan	151.50	303.00
Rate of Interest	8.80%	8.80%
Interest	13.33	26.66
Rep Schedule	Bullet payment on 13.03.2023	
Total Loan		
Gross loan opening	38.42	341.42
Cumulative Repayment upto DOCO/previous year	0.00	0.00
Net Loan-Opening	38.42	341.42
Additions during the year	303.00	0.00
Repayment during the year	0.00	0.00
Net Loan-Closing	341.42	341.42
Average Loan	189.92	341.42
Rate of Interest	8.8284%	8.8158%
Interest	16.77	30.10