

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 95/TT/2012

Coram:

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

Date of Hearing : 27.03.2014

Date of Order : 06.01.2015

In the matter of:

Approval for determination of transmission tariff for Asset-1: LILO of 400 kV D/C Vindhyachal-Jabalpur Ckt-3 & 4 TL at Sasan, Asset-2: 765 kV S/C Sasan-Satna Ckt-1 TL (initially charged at 400 kV level) along with associated bays at Satna (under contingency plan for power evacuation of NTPC-VSTPP #4 Generation Project), Asset-3: 765 kV S/C Satna-Bina Ckt-1 TL (initially charged at 400 kV level) along with associated bays at Satna & Bina S/S (under contingency plan evacuation of NTPC-VSTPP #4 Generation Project), Asset-4: 765 kV S/C Bina-Indore TL (initially charged at 400 kV level) along with associated bays at Bina S/S (Bypassing Indore (new-POWERGRID) SS {under contingency plan for evacuation of NTPC-VSTPP #4 Generation Project}) and Asset-5: 400 D/C kV (quad) Indore (New)-Indore (MPPTCL) TL along with associated bays at Indore (MPPTCL) S/S Bypassing Indore (New POWERGRID) S/S for interconnection with Bina-Indore Line {under contingency plan for power evacuation of NTPC-VSTPP #4 Generation Project} associated with Sasan UMPP TS in Western Region for tariff block 2009-14 period 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.

And in the matter of:

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

.....**Petitioner**

Vs

1. Madhya Pradesh Power Trading Company Limited
Shakti Bhawan, Rampur
Jabalpur-482 008.
2. Maharashtra State Electricity Distribution Company Limited,
Prakashgad, 4th floor
Andehri (East), Mumbai-400 052



3. Gujarat Urja Vikas Nigam Ltd.,
Sardar Patel Vidyut Bhawan,
Race Course Road, Vadodara-390 007
4. Electricity Department, Government of Goa,
Vidyut Bhawan, Panaji,
Near Mandvi Hotel, Goa-403 001
5. Electricity Department,
Administration of Daman and Diu,
Daman-396 210
6. Electricity Department,
Administration of Dadra Nagar Haveli,
U.T., Silvassa-396 230
7. Chhattisgarh State Electricity Board,
P.O. Sunder Nagar, Dangania, Raipur
Chhattisgarh-492 013
8. Madhya Pradesh Audyogik Kendra Vikas Nigam (Indore) Ltd.,
3/54, Press Complex, Agra-Bombay Road
Indore-452 008.
9. Rajasthan Rajya Vidyut Prasaran Nigam Ltd.,
Vidyut Bhawan, Vidyut Marg,
Jaipur- 302 005
10. Ajmer Vidyut Vitran Nigam Ltd.,
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur
11. Jaipur Vidyut Vitran Nigam Ltd.,
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur
12. Jodhpur Vidyut Vitran Nigam Ltd.,
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur
13. Punjab State Electricity Board
The Mall, Patiala-147 001
14. Haryana Power Purchase Centre
Shakti Bhawan, Sector-6
Panchkula-134 109

15. UP Power Corporation Ltd.,
Shakti Bhawan, 14, Ashok Marg,
Lucknow-226 001
16. Delhi Transco Ltd.,
Shakti Sadan, Kotla Road,
New Delhi-110 002
17. BSES Yamuna Power Ltd.,
BSES Bhawan, Nehru Place,
New Delhi
18. BSES Rajdhani Power Ltd.,
BSES Bhawan, Nehru Place,
New Delhi
19. North Delhi Power Ltd.,
Power Trading & Load Dispatch Group,
Cennet Building, Adjacent to 66/11kV Pitampura-3,
Grid Building, Near PP Jewellers,
Pitampura, New Delhi-110 034
20. Chandigarh Administration,
Sector-9, Chandigarh
21. Uttarakhand Power Corporation Ltd.,
Urja Bhawan, Kanwali Road,
Dehradun
22. North Central Railway,
Allahabad
23. New Delhi Municipal Council,
Palika Kendra, Sansad Marg,
New Delhi-110 002
24. NTPC Ltd.
NTPC Bhawan
SCOPE Complex
7, Institutional Area, Lodhi Road
New Delhi-110 003
25. Sasan Power Ltd.
1st Floor, 1 Block
Dhirubhai Ambani Knowledge City (DACK)
Thanke-Belapur Road, Koparkhairane
Navi Mumbai

..... Respondents



For petitioner : Shri S. S. Raju, PGCIL
Ms. Sangeeta Edwards, PGCIL
Shri R. V. M. M. Rao, PGCIL
Shri S. K. Venkatesan, PGCIL

For respondent : Shri Padamjit Singh, PSPCL
Shri T. P. S. Bawa, PSPCL

ORDER

This petition has been filed by Power Grid Corporation of India Limited seeking approval for determination of transmission tariff for Asset-1: LILO of 400 kV D/C Vindhyachal-Jabalpur Ckt-3 & 4 TL at Sasan, Asset-2: 765 kV S/C Sasan-Satna Ckt-1 TL (initially charged at 400 kV level) along with associated bays at Satna (under contingency plan for power evacuation of NTPC-VSTPP #4 Generation Project), Asset-3: 765 kV S/C Satna-Bina Ckt-1 TL (initially charged at 400 kV level) along with associated bays at Satna & Bina S/S (under contingency plan evacuation of NTPC-VSTPP #4 Generation Project), Asset-4: 765 kV S/C Bina-Indore TL (initially charged at 400 kV level) along with associated bays at Bina S/S (Bypassing Indore (new-POWERGRID) SS{under contingency plan for evacuation of NTPC-VSTPP #4 Generation Project}) and Asset-5: 400 D/C kV (quad) Indore (New)-Indore (MPPTCL) TL along with associated bays at Indore (MPPTCL) SS Bypassing Indore (New POWERGRID) SS for interconnection with Bina-Indore Line {under contingency plan for power evacuation of NTPC-VSTPP #4 Generation Project} (hereinafter referred to as “transmission assets”) for the period from the respective dates of commercial operation to 31.3.2014, 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 of the project was accorded by Board of Directors of the petitioner vide letter dated 10.12.2008 at an estimated cost of ₹703188 lakh including IDC of ₹ 76782 lakh (based on 2nd Qtr, 2008 price level).
3. The scope of work covered under the project is as follows:-

Part-A Transmission System of Sasan (4000 MW) UMPP

Transmission Lines

- i) Sasan- Satna 765 kV 2xS/C line : Ckt-I-268 km & Ckt-II-279 km
- ii) Satna-Bina 765 kV 2xS/C line : Ckt-I-272 km & Ckt II-274 km
- iii) LILO of both circuits of one of Vindhyanchal-Jabalpur 400 kV D/C line at Sasan-8 km
- iv) Bina-Bina (MPPTCL) 400 kV D/C line-5 km
- v) Sasaram-Fatehpur 765 kV S/C line-352 km
- vi) Fatehpur-Agra 765 kV S/C line-340 km

Substations

- i) Establishment of 765/400 kV, 2x1000 MVA substation at Satna
- ii) Line bays for operation of Agra-Gwalior-Bina-Seoni S/C lines at 765 kV level

Part-B Regional System Strengthening in WR for Sasan UMPP

Transmission Lines

- i) Bina-Indore 765 KV S/C line: 320 km
- ii) Indore-Indore (MPPTCL) 400 kV D/C (Quad) line: 60 km

Substations

- i) Establishment of 765/400 kV, 2x1500 MVA substation at Indore
- ii) Upgrading Bina & Gwalior substation to 765/400 kV, 2x1000MVA 765/400 kV at Bina and 2x1500 MVA, 765/400 kV at Gwalior

4. The assets for which the tariff was initially claimed was modified by the petitioner subsequently. The details of the assets for which petitioner had initially preferred this petition for determination of transmission tariff, and the assets for which tariff has been claimed subsequently vide the petitioner's affidavit dated 19.9.2013 as per the actual dates of commercial operation (hereinafter 'DOCOCO') are as follows:-

S. No.	As per the Petition	As per the affidavit dated 19.9.2013 along with actual DOCOCO	
1	LILO of 400 kV D/C Vindhyachal-Jabalpur Ckt-3&4 TL at Sasan Anticipated DOCOCO-1.3.2012	LILO of 400 kV D/C Vindhyachal-Jabalpur Ckt-3&4 TL at Sasan. Asset-1	1.4.2012
2	765 kV S/C Sasan-Satna Ckt-1 TL (was to be charged initially at 400 kV level, charged at 765 kV only) with bays at Satna (under contingency plan for power evacuation of NTPC-VSTPP #4 Generation Project) Anticipated DOCOCO-1.3.2012	765 kV S/C Sasan-Satna Ckt-1 TL (as per original scheme) with bays at Satna. Asset-2	1.1.2013
3	765 kV S/C Satna-Bina Ckt-1 TL (initially charged at 400 kV level, upgraded to 765 kV at a later date) with bays at Satna & Bina S/S (under contingency plan for power evacuation of NTPC-VSTPP #4 Generation Project) Anticipated DOCOCO- 1.3.2012	765 kV S/C Satna-Bina Ckt-1 TL (initially charged at 400 kV level, upgraded to 765 kV at a later date) with bays at Satna & Bina S/S (under contingency plan for power evacuation of NTPC-VSTPP #4 Generation Project). Asset-3	1.2.12/ 1.10.12
4	765 kV S/C Bina-Indore TL (initially charged at 400 kV level) with bays at Bina S/S (Bypassing Indore(New-POWERGRID) SS {under contingency plan for power evacuation of NTPC-VSTPP #4 Generation Project}) Anticipated DOCOCO- 1.4.2012	765 kV S/C Bina-Indore TL (initially charged at 400 kV level) with bays at Bina S/S (Bypassing Indore(new-POWERGRID) SS {under contingency plan for power evacuation of NTPC-VSTPP #4 Generation Project}) Asset-4	1.4.2012
5	400 kV D/C (quad) Indore(New)-Indore (MPPTCL)TL with one line bay 1* at Indore(MPPTCL) SS Bypassing Indore(New POWERGRID) SS for interconnection with Bina-Indore Line { under contingency plan for power evacuation of NTPC-VSTPP #4 Generation Project}	400 kV D/C (quad) Indore(New)-Indore (MPPTCL)TL with one line bay 1 at Indore(MPPTCL) SS Bypassing Indore(New POWERGRID) SS for interconnection with Bina-Indore Line {under contingency plan for power	1.4.2012

	Anticipated DOCO- 1.4.2012	evacuation of NTPC-VSTPP #4 Generation Project} Asset-5(a)	
		400 kV Line bay 2 at Indore(MPPTCL) SS. Asset-5(b)	1.7.2013

5. From the documents submitted by the petitioner it emerged that out of Asset 5, 400 kV D/C Indore-Indore (MPPTCL) line was initially commissioned as single circuit line on 1.4.2012 along with bay 1. Subsequently, 2nd single circuit line was commissioned along with bay 2 on 1.7.2013. However, the capital cost given in the Management Certificate is for 400kV D/C (Quad) Indore (PG)-Indore (MPPTCL) line along with bay 1 as on actual DOCO-1.4.2012. In view of the difference in the dates of commissioning, which is fifteen months, tariff had to be considered separately for both these elements. However, the capital cost was not available for these two lines separately. Accordingly it has been decided to treat 50% of the available cost figures of the D/C transmission line as that of Circuit-1 and remaining 50% that of Circuit-2. Accordingly, Asset-5 for which tariff was claimed in the petition has been segregated as “Asset-5(a) Rev” comprising Ckt-1 of 400 kV D/C Indore-Indore (MPPTCL) line along with bay 1 and “Asset-5(b) Rev” comprising Ckt-2 of 400 kV D/C Indore-Indore (MPPTCL) line along with bay 2. Tariff is being allowed accordingly.

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

(₹ in lakh)

Particulars	Asset 1		Asset 2	
	2012-13	2013-14	2012-13 (Pro-rata)	2013-14
Depreciation	49.38	59.95	807.75	3334.01
Interest on Loan	57.51	65.38	964.01	3772.13
Return on equity	48.43	58.87	802.17	3310.95
Interest on Working Capital	3.84	4.53	62.61	254.01
O & M Expenses	4.89	5.17	60.92	257.52
Total	164.05	193.90	2697.46	10928.62

(₹ in lakh)

Particulars	Asset - 3		
	2011-12 (Pro-rata)	2012-13	2013-14
Depreciation	398.12	2549.18	2592.26
Interest on Loan	467.17	2867.86	2689.40
Return on equity	395.34	2531.24	2573.84
Interest on Working Capital	28.74	177.20	180.79
O & M Expenses	74.27	384.61	498.16
Total	1363.64	8510.09	8534.45

(₹ in lakh)

Particulars	Asset 4		Asset 5(a)		Asset 5(b)
	2012-13	2013-14	2012-13	2013-14	2013-14 (Pro-rata)
Depreciation	2082.22	2175.57	584.11	601.76	39.37
Interest on Loan	2470.39	2387.44	638.17	607.11	44.11
Return on equity	2067.93	2160.47	579.78	597.20	38.59
Interest on Working Capital	163.31	166.30	46.64	48.07	5.40
O & M Expenses	197.59	208.80	93.50	117.59	49.10
Total	6981.44	7098.58	1942.20	1971.73	176.57

7. The details submitted by the petitioner in support of its claim for Interest on Working Capital are as given overleaf:-

(₹ in lakh)

Particulars	Asset 1		Asset 2	
	2012-13	2013-14	2012-13 (Pro-rata)	2013-14
Maintenance Spares	0.73	0.78	36.55	38.63
O & M expenses	0.41	0.43	20.31	21.46
Receivables	27.34	32.32	1798.31	1821.44
Total	28.48	33.53	1855.17	1881.53
Interest	3.84	4.53	62.61	254.01
Rate of Interest	13.50%	13.50%	13.50%	13.50%

(₹ in lakh)

Particulars	Asset - 3		
	2011-12 (Pro-rata)	2012-13	2013-14
Maintenance Spares	66.84	57.69	74.72
O & M expenses	37.14	32.05	41.51
Receivables	1363.64	1418.35	1422.41
Total	1467.62	1508.09	1538.64
Interest	28.74	177.20	180.79
Rate of Interest	11.75%	11.75%	11.75%

(₹ in lakh)

Particulars	Asset 4		Asset 5(a)		Asset 5(b)
	2012-13	2013-14	2012-13	2013-14	2013-14 (Pro-rata)
Maintenance Spares	29.64	31.32	14.02	17.64	9.82
O & M expenses	16.47	17.40	7.79	9.80	5.46
Receivables	1163.57	1183.10	323.70	328.62	39.24
Total	1209.68	1231.82	345.51	356.06	54.52
Interest	163.31	166.30	46.64	48.07	5.40
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.20%

8. No comments have been received from the general public in response to the notices published in news papers by the petitioner under Section 64 of the Electricity Act, 2003. None of the respondents have filed any reply to the petition. However, the petitioner has filed, vide affidavit dated 9.6.2014, rejoinder to the reply filed by Punjab State Power Company Limited (PSPCL). We presume that PSPCL has served a copy of its reply on the petitioner without filing with the Commission. The clarifications given by the petitioner in the rejoinder are similar to the clarifications given to the issues raised by

PSPCL during the hearing on 27.3.2014. The clarifications given by the petitioner are given in the following paragraph.

9. The petitioner has submitted, vide its affidavit dated 9.6.2014, that Satna Sub-station and Bina Sub-station is inter-connected with 400 kV integrated system. Under Sasan UMPP, both Satna and Bina Sub-stations are upgraded to 765 kV along with the 765/400 kV ICTs. As per the approved interim contingency scheme, 765 kV Sasan-Satna Ckt-1, Satna-Bina Ckt-1 and Bina-Indore bypassing Indore Sub-station and connecting with Indore-Indore line was to be made. Satna-Bina Ckt-1 was initially charged at 400 kV w.e.f. 1.2.2012 and upgraded to 765 kV level w.e.f. 1.10.2012 along with line reactor (240 MVAR) at both ends. The charging of the line at 400 kV level initially has helped the system reliability between Satna and Bina Sub-station. Upgradation to 765 kV level has enhanced the system reliability level since Satna and Bina Sub-station is integrated electrical system. Sasan-Satna Ckt - 1 final forest clearance was obtained on 1.12.2012 and line was made ready within one month and commissioned at rated voltage level of 765 kV w.e.f. 1.1.2013 (around 15 km line stretch was inside the forest and completed within one month time). The petitioner has further submitted that the assets have been commissioned keeping in view the contingency arrangement for Vindhyachal-4 and as per the commissioning schedule. The contingency arrangement integrated with the Sasan UMPP scheme has been deliberated and agreed in 29th, 32nd, 33rd, 35th and 36th Standing Committee Meetings of Western Region Constituents. The contingency arrangement has undergone changes as per the progress of various transmission lines.

10. Having heard the representatives of the parties and perused the material on records, we proceed to dispose of the petition.

Capital Cost

11. As regards the capital cost, regulation 7(1) of the 2009 Tariff Regulations provides as under:-

“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.”

12. The details of apportioned approved cost, actual expenditure incurred as on DOCO and details of additional capital expenditure (hereinafter “add cap”) incurred/ projected to be incurred for the assets covered in the petition are summarized below:-

(₹ in lakh)

Assets	Apportioned approved cost	Cost incurred as on actual DOCO	Projected Additional Capitalization				TOTAL Estimated completion Cost
			2011-12	2012-13	2013-14	2014-15	
Asset-1	2081.99	894.64	-	57.76	340.47	226.98	1519.85
Asset-2	71479.32	59869.95	-	2627.71	1273.28	370.22	64141.16
Asset-3	59104.74	42318.06	5826.26	244.26	1380.45	433.15	50202.18
Asset-4	60065.46	38658.64	-	1546.80	1982.15	1321.43	43509.02
Asset-5(a)	17547.43	10822.68	-	465.61	198.68	111.13	11598.10
Asset-5(b)		966.38	-	-	29.58	19.72	1015.68
Total	210278.94	153530.35	5826.26	4942.14	5204.61	2482.63	171985.99

13. As per the information submitted by the petitioner, expenditure up to 31.3.2013 has been verified on the basis of the information drawn from the

audited statement of Accounts of the petitioner. Projected expenditure is on the basis of statement of accounts furnished by the Management.

Cost over-run

14. Though the estimated completion cost of all the assets, except for Asset 5 {5 (a) and (b) put together}, is lesser than the apportioned approved cost, there is increase in cost of certain items like Hardware Fittings, PLCC, Tower Steel, Erection, stringing & civil works, Bus Bars/Conductors/Insulators, Structure for Switchyard, Auxiliary System, Outdoor Lighting, etc. The petitioner was directed to give reasons for increase in cost of these items. In response, the petitioner vide affidavit dated 19.9.2013 has submitted that the increase in cost is due to increase in quantity of hardware items i.e. tension fittings of angle Towers for ROW areas. The petitioner has submitted that PLCC was not envisaged initially but was required for the actual execution and thus included later on in the actual implementation stage. The petitioner has further submitted that the estimates are prepared as per well defined procedures for cost estimate. The cost estimate is a broad indicative cost worked out generally on the basis of average unit rates of recently awarded contracts. For procurement, open competitive bidding route is followed and by providing equal opportunity to all eligible firms, lowest possible market prices for required product/services is obtained and contracts are awarded on the basis of lowest evaluated eligible bidder. The best competitive bid prices against tenders may happen to be lower or higher than the cost estimate depending upon prevailing market conditions. In the instant case the reason of cost variation for the above cases in form 5B is due to the increase in



awarded price of the items.

15. We have considered the submissions made by the petitioner regarding the increase in cost of some of the items. It has been observed that though the overall cost of the assets in some of the petitions filed by the petitioner 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. Therefore, the petitioner was directed to adopt prudent procedure while estimating the cost of the assets and the overall cost of the project. The situation is no different in the instant petition. Further, the petitioner has not submitted the details of estimation of FR cost as directed by us in Petition No. 112/TT/2012. We are constrained to observe that instead of giving the cost details of projects which formed the basis of preparation of FR, the petitioner has been giving the standard reply that the estimates are prepared as per well defined procedure and the best competitive bid price against the tenders may vary as compared to the cost estimates depending upon prevailing market conditions. The petitioner is therefore, directed to submit specific cost details in respect of items which have exhibited significant variation with reference to FR cost in all future cases without fail.

Time Over-Run

16. The project was scheduled to be commissioned within 48 months from the date of investment approval i.e. 10.12.2008. Based on the above, the scheduled commissioning works out to 10.12.2012 i.e. 1.1.2013. It is seen from the actual DOCO(s) of the assets, as mentioned above, that all the

assets were commissioned within the scheduled time except asset-5(b) wherein there is a delay of six months in commissioning of Bay-2 at Indore.

17. The petitioner has attributed this delay to non-readiness of 765 kV sub-station at Indore (POWERGRID) due to which Bina-Indore line could not be charged at 765 kV level. The bay-2 at Indore (MPPTCL) sub-station was installed matching with commissioning of 765 kV Indore (POWERGRID) sub-station on 1.7.2013. No further detail / documentary proof has been submitted by the petitioner. However, details on the issue of delay in commissioning of Indore Sub-station have been submitted by the petitioner under Petition No.108/TT/2013, which is yet to be heard and decided. The petitioner has stated in Petition No. 108/TT/2013 that the delay in commissioning of the assets included therein was due to forest clearance. Decision in this regard, as and when taken in Petition No. 108/TT/2012 will apply to Asset-5 (b) of the instant petition. For the present we are not allowing IDC for the delay in Asset-5 (b). The issue will be considered on merit at the time of truing-up, based on the decision of time over run in Petition No. 108/TT/2013.

18. Accordingly, while allowing tariff, ₹131.14 lakh towards IDC has been reduced from capital cost of Asset-5(b) (Rev).

Initial Spares

19. 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%

20. The petitioner has submitted that the Investment Approval of this project was accorded in December, 2008, which is during the tariff block 2004-09. Accordingly, initial spares were also procured as per Regulation 2004. Entitlement of initial spares may therefore be calculated as per the tariff regulations in vogue when the investment approval was accorded. The petitioner submitted that the present petition is in respect of only one element of the project. Ceiling limits of initial spares are to be worked out based on the total project cost as observed by the Commission in its order dated 19.8.2011 in Petition no. 306/2010. Excess initial spares may be allowed by invoking the power to relax under Regulation 44 of the 2009 Tariff Regulations.

21. We are constrained to hold that none of the above submissions help the petitioner at this stage. Although project was conceived during the tariff period 2004-09, the assets in question were commissioned during 2009-14 tariff period. Accordingly, the norms under the 2009 Tariff Regulations shall apply for determining the entitlement of initial spares. We do not find any justification for invoking the powers to relax. The petitioner, however, is not wholly without any remedy. Entitlement of initial spares for the entire project may be considered in accordance with law, if the petitioner makes a claim to that effect on completion of the entire project. For the present we restrict the quantum of initial spares as per the norms prescribed in the 2009 Tariff Regulations. Initial spares (corresponding to sub-station equipment) claimed

for Asset-4 and Asset-5(a) exceed the ceiling limit of 2009 Tariff Regulations. Accordingly, excess spares have been reduced from the capital cost of Asset-4 and Asset-5(a) as on DOCO.

22. With reference to Para 5, Capital cost for transmission line and initial spares claimed have been reduced to 50%. Accordingly details of the Initial spares allowed for all the assets are summarized in the table below:-

(₹ in lakh)

Assets	Description (a)	Cost as on Cut-off date (b)	Initial Spares Claimed (c)	Ceiling Limits as per clause 8 Regulation 2009 (d)	Initial Spares worked out (e) (b)-(c)*(d)/(100%-(d))	Excess Initial Spares Claimed (f) (c)-(e)
Asset-1	Substation	-	-	-	-	-
	Transmission line.	-	-	-	-	-
Asset-2	Substation	7624.51	156.97	2.50%	191.48	-34.51
	Transmission line.	56146.43	0.00	0.75%	424.28	-424.28
Asset-3	Substation	9935.64	243.33	2.50%	248.52	-5.19
	Transmission line.	39833.39	0.00	0.75%	301.01	-301.01
Asset-4	Substation	4363.03	129.68	2.50%	108.55	21.13
	Transmission line.	37824.56	269.43	0.75%	283.79	-14.36
Asset-5(a) (Rev)	Substation	714.71	17.98	2.50%	17.86	0.12
	Transmission line.	5386.13	10.99	0.75%	40.62	-29.63
Asset-5(b) (Rev)	Substation	995.96	17.98	2.50%	25.08	-7.10
	Transmission line.	-	-	-	-	-

23. Based on the above, details of the capital cost as on the date of commercial operation, considered for the purpose of calculation of tariff, after making necessary adjustment on account of excess initial spares, and IDC is as overleaf:-

(₹ in lakh)				
Assets	Capital cost claimed by the Petitioner	Excess spares reduced	IDC disallowed	Capital cost allowed on DOCO
Asset-1	894.64	-	-	894.64
Asset-2	59869.95	-	-	59869.95
Asset-3	42318.06	-	-	42318.06
Asset-4	38658.64	21.13	-	38637.51
Asset-5(a) Rev	5610.87	0.12	-	5610.75
Asset-5(b) Rev	6273.07	-	131.14	6141.93

Additional Capital Expenditure

24. As regards Additional Capital Expenditure clause 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;
- (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.”

25. Further, the 2009 Tariff regulations 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”.

26. Based on the above provision, cut-off date for the above mentioned assets is 31.3.2015 and 31.3.2016.

27. It is seen that the additional capital expenditure claimed by the petitioner falls within the cut-off date and is on account of balance and retention payment. Additional capital expenditure for financial year 2014-15 claimed by the petitioner falls beyond the tariff period i.e. 2009-14 and is not being allowed for calculation of tariff for the period up to 31.3.2014. Thus, additional capital expenditure upto 31.3.2014 has been considered for tariff computation.

28. Details of the projected additional capital expenditure allowed for the purpose of computation of tariff are given hereunder:-

Assets	Capital cost as on DOCO after restricting Initial spares and IDC	Additional capital expenditure			Total estimated completion cost
		2011-12	2012-13	2013-14	
Asset-1	894.64	-	57.76	340.47	1292.87
Asset-2	59869.95	-	2627.71	1273.28	63770.94
Asset-3	42318.06	5826.26	244.26	1380.45	49769.03
Asset-4	38637.51	-	1546.80	1982.15	42166.46
Asset-5(a) Rev	5610.75	-	370.75	119.23	6100.72
Asset-5(b) Rev	6141.93	-	-	109.03	6250.96

Debt- Equity Ratio

29. 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.”

30. Details of debt-equity in respect of the assets covered in this petition as on date of commercial operation are as under:-

(₹ in lakh)

Particulars	Cost as on Date of commercial operation	
	Amount	%
Asset-1		
Debt	626.25	70.00
Equity	268.39	30.00
Total	894.64	100.00
Asset- 2		
Debt	41908.97	70.00
Equity	17960.99	30.00
Total	59869.96	100.00
Asset 3		
Debt	29622.64	70.00
Equity	12695.42	30.00
Total	42318.06	100.00
Asset 4		
Debt	27046.26	70.00
Equity	11591.25	30.00
Total	38637.51	100.00

Asset 5 (a) Rev	Amount	%
Debt	3927.53	70.00
Equity	1683.22	30.00
Total	5610.75	100.00
Asset 5 (b) Rev	Amount	%
Debt	4299.37	70.00
Equity	1842.55	30.00
Total	6141.92	100.00

31. Debt-equity ratio in respect of the projected additional capital expenditure is 70:30 for all the assets.

32. Detail of debt-equity ratio of assets as on 31.3.2014 is as given under:-

(₹ in lakh)

Particulars	Cost as on 31.3.2014	
Asset-1	Amount	%
Debt	905.01	70.00
Equity	387.86	30.00
Total	1292.87	100.00
Asset- 2	Amount	%
Debt	44639.66	70.00
Equity	19131.28	30.00
Total	63770.94	100.00
Asset 3	Amount	%
Debt	34838.32	70.00
Equity	14930.71	30.00
Total	49769.03	100.00
Asset 4	Amount	%
Debt	29516.52	70.00
Equity	12649.94	30.00
Total	42166.46	100.00
Asset 5(a) Rev	Amount	%
Debt	4270.51	70.00
Equity	1830.22	30.00
Total	6100.73	100.00
Asset 5(b) Rev	Amount	%
Debt	4375.69	70.00
Equity	1875.26	30.00
Total	6250.95	100.00

33. The above stated debt-equity ratios have been applied for the purpose of tariff calculation in this order.

Return on Equity

34. 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:

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”.

35. In this order, Return on Equity has been calculated as per Regulation 15 of the 2009 Tariff Regulations with pre-tax ROE of 17.481% based on the tax rate of 11.330% for the year 2008-09.

36. Details of return on equity calculated are as given under:-

(₹ in lakh)

Particulars	Asset 1		Asset 2	
	2012-13	2013-14	2012-13 (Pro-rata)	2013-14
Opening Equity	268.39	285.72	17960.99	18749.30
Addition due to Additional Capitalisation	17.33	102.14	788.31	381.98
Closing Equity	285.72	387.86	18749.30	19131.28
Average Equity	277.05	336.79	18355.14	18940.29
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)	48.43	58.87	802.17	3310.95

(₹ in lakh)

Particulars	Asset - 3		
	2011-12 (Pro-rata)	2012-13	2013-14
Opening Equity	12695.42	14443.30	14516.57
Addition due to Additional Capitalisation	1747.88	73.28	414.14
Closing Equity	14443.30	14516.57	14930.71
Average Equity	13569.36	14479.94	14723.64
Return on Equity (Base Rate)	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	11.33%	11.33%	11.33%
Rate of Return on Equity (Pre Tax)	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)	395.34	2531.24	2573.84

(₹ in lakh)

Particulars	Asset 4		Asset 5(a) Rev		Asset 5(b) Rev
	2012-13	2013-14	2012-13	2013-14	2013-14 (Pro-rata)
Opening Equity	11597.59	12061.63	1683.26	1794.48	1881.89
Addition due to Additional Capitalisation	464.04	594.65	111.22	35.77	32.71
Closing Equity	12061.63	12656.28	1794.48	1830.25	1914.60
Average Equity	11829.61	12358.95	1738.87	1812.37	1898.25
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)	2067.93	2160.47	303.97	316.82	248.87



Interest on Loan

37. 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.”

38. In these calculations, interest on loan has been worked out as follows:-

(a) Gross amount of loan, repayment of instalments & rate of interest and weighted average rate of interest on actual average loan have been considered as per affidavit dated 18.09.2013

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

(c) 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 Annexure 1 to 6 to this order.

40. Details of Interest on Loan calculated are as under:-

Particulars	(₹ in lakh)			
	Asset 1		Asset 2	
	2012-13	2013-14	2012-13 (Pro-rata)	2013-14
Gross Normative Loan	626.25	666.68	41908.97	43748.36
Cumulative Repayment upto Previous Year	0.00	49.38	0.00	807.75
Net Loan-Opening	626.25	617.30	41908.97	42940.61
Addition due to Additional Capitalisation	40.43	238.33	1839.40	891.30
Repayment during the year	49.38	59.95	807.75	3334.01
Net Loan-Closing	617.30	795.68	42940.61	40497.90
Average Loan	621.78	706.49	42424.79	41719.26
Weighted Average Rate of Interest on Loan	9.2485%	9.2542%	9.0891%	9.0417%
Interest	57.51	65.38	964.01	3772.13

(₹ in lakh)

Particulars	Asset - 3		
	2011-12 (Pro-rata)	2012-13	2013-14
Gross Normative Loan	29622.64	33701.02	33872.01
Cumulative Repayment upto Previous Year	0.00	398.12	2947.30
Net Loan-Opening	29622.64	33302.90	30924.70
Addition due to Additional Capitalisation	4078.38	170.98	966.32
Repayment during the year	398.12	2549.18	2592.26
Net Loan-Closing	33302.90	30924.70	29298.76
Average Loan	31462.77	32113.80	30111.73
Weighted Average Rate of Interest on Loan	8.9090%	8.9294%	8.9295%
Interest	467.17	2867.56	2688.83

(₹ in lakh)

Particulars	Asset 4		Asset 5(a) Rev		Asset 5(b) Rev
	2012-13	2013-14	2012-13	2013-14	2013-14 (Pro-rata)
Gross Normative Loan	27046.26	28129.02	3927.53	4187.05	4299.37
Cumulative Repayment upto Previous Year	0.00	2081.10	0.00	306.42	0.00
Net Loan-Opening	27046.26	26047.91	3927.53	3880.63	4299.37
Addition due to Additional Capitalisation	1082.76	1387.51	259.52	83.46	76.32
Repayment during the year	2081.10	2174.45	306.42	319.47	245.83
Net Loan-Closing	26047.91	25260.97	3880.63	3644.62	4129.86
Average Loan	26547.08	25654.44	3904.08	3762.63	4214.62
Weighted Average Rate of Interest on Loan	9.3007%	9.3014%	8.5742%	8.5761%	8.9895%
Interest	2469.06	2386.22	334.74	322.69	284.16

Depreciation

41. 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.”

42. Dates of commercial operation of assets covered in the petition fall in the years 2011-12, 2012-13 and 2013-14. Accordingly, the assets will complete 12 years beyond 2013-14 and thus depreciation has been calculated annually based on Straight Line Method and at rates specified in Appendix-III of the 2009 Tariff Regulations.

43. Details of the depreciation allowed are as overleaf:-

(₹ in lakh)

Particulars	Asset 1		Asset 2	
	2012-13	2013-14	2012-13 (Pro-rata)	2013-14
Opening Gross Block	894.64	952.40	59869.95	62497.66
Addition during 2009-14 due to Projected Additional Capitalisation	57.76	340.47	2627.71	1273.28
Closing Gross Block	952.40	1292.87	62497.66	63770.94
Average Gross Block	923.52	1122.64	61183.81	63134.30
Rate of Depreciation	5.3469%	5.3404%	5.2808%	5.2808%
Depreciable Value	831.17	1010.37	55065.42	56820.87
Remaining Depreciable Value	831.17	960.99	55065.42	56013.12
Depreciation	49.38	59.95	807.75	3334.01

(₹ in lakh)

Particulars	Asset - 3		
	2011-12 (Pro-rata)	2012-13	2013-14
Opening Gross Block	42318.06	48144.32	48388.58
Addition during 2009-14 due to Projected Additional Capitalisation	5826.26	244.26	1380.45
Closing Gross Block	48144.32	48388.58	49769.03
Average Gross Block	45231.19	48266.45	49078.81
Rate of Depreciation	5.2812%	5.2815%	5.2818%
Depreciable Value	40708.07	43439.81	44170.92
Remaining Depreciable Value	40708.07	43041.68	41223.62
Depreciation	398.12	2549.18	2592.26

(₹ in lakh)

Particulars	Asset 4		Asset 5(a) Rev		Asset 5(b) Rev
	2012-13	2013-14	2012-13	2013-14	2013-14 (Pro-rata)
Opening Gross Block	38637.51	40184.31	5610.75	5981.49	6141.93
Addition during 2009-14 due to Projected Additional Capitalisation	1546.80	1982.15	370.75	119.23	109.03
Closing Gross Block	40184.31	42166.46	5981.49	6100.72	6250.96
Average Gross Block	39410.91	41175.38	5796.12	6041.11	6196.44
Rate of Depreciation	5.2805%	5.2810%	5.2866%	5.2882%	5.2897%
Depreciable Value	35469.82	37057.84	5216.51	5437.00	5576.80
Remaining Depreciable Value	35469.82	34976.74	5216.51	5130.58	5576.80
Depreciation	2081.10	2174.45	306.42	319.47	245.83

Operation & Maintenance Expenses (O&M Expenses)

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

Elements	2011-12	2012-13	2013-14
400 kV D/C twin conductor T/L (₹ lakh per km)	0.701	0.741	0.783
765 kV S/C four conductor T/L (₹ lakh per km)	0.600	0.635	0.671
765 kV bays (₹ lakh per bay)	81.99	86.68	91.64
400 kV bays (₹ lakh per bay)	58.57	61.92	65.46



45. As regards Asset-3, the same was initially charged at 400 kV level and upgraded to 765 kV level at a later date. Accordingly, we allow O&M Expenses for 2 Nos. 765 kV bays for Satna-Bina 1 (one each at Satna & Bina w.e.f. 1.10.2012 to 2013-14. O&M Expenses for 2 Nos. 400 kV bays are allowed from 1.2.2012 to 30.9.2012 in the instant petition. Utilization of these bays is considered in Petition No. 215/TT/2012 and 214/TT/2012 respectively. The petitioner is directed to submit utilization certificate of Satna-Bina ckt-1 and all other assets ascertained with Sasan UMPP at the time of truing-up.

46. Accordingly, O&M Expenses allowed in respect of the assets covered in this petition are as overleaf:-

(₹ in lakh)			
Element	2011-12	2012-13	2013-14
Asset-I			
6.6 km 400 kV, D/C, twin conductor T/L	---	4.89	5.17
Total (Asset-I)	----	4.89	5.17
Asset-II			
		(Pro-rata)	
247.22 km, 765 kV quad conductor S/C T/L	---	39.25	165.88
1 no. 765kV bay	---	21.67	91.64
Total (Asset-II)	---	60.92	257.52
Asset-III			
	(Pro-rata)		
274.164 km 765 kV quad conductor S/C T/L	27.42	174.09	183.96
2 nos. 765 kV bays	---	(Pro-rata) 86.68	183.28
2 nos. 400 kV bays at Bina and Satna sub-stations	19.52	(Pro-rata) 61.92	---
Total (Asset-III)	46.94	322.69	367.24
Asset-IV			
311.17 km 765 kV quad conductor S/C T/L	---	197.59	208.80
Total (Asset-IV)	---	197.59	208.80
Asset-V (a)			
49.73 km 400 kV quad conductor D/C T/L	----	31.58	33.37
1 no. 400 kV bay	---	61.92	65.46
Total (Asset-V) (a)	----	93.50	98.83
Asset-V (b)			
			(Pro-rata)
1 no. 400 kV bay	---	---	49.10
Total (Asset-V) (b)	----	---	49.10

47. The petitioner has submitted that O & M Expenses for the period 2009-14 were 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 Expenses for the tariff period 2009-14. The petitioner has further submitted that it reserves the right to approach the Commission for additional manpower cost on account of wage revision (if any) during the tariff block 2009-14 for claiming in the tariff.

48. The Commission has given effect to 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. In this order, we have allowed O&M Expenses as per the existing norms.

Interest on Working Capital

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

(i) Receivables

As per Regulation 18(1) (c) (i) of the 2009 Tariff Regulations, receivables will be equivalent to two months average billing calculated on target availability level. The petitioner has claimed the receivables on the basis of 2 months transmission charges claimed in the petition.

In the tariff being allowed, receivables have been worked out on the basis of 2 months transmission charges.

(ii) Maintenance spares

Regulation 18(1)(c)(ii) of the 2009 Tariff Regulations provides for maintenance spares @ 15% per annum of the O & M Expenses from 1.4.2009. The value of maintenance spares has accordingly been worked out.

(iii) O & M Expenses

Regulation 18(1) (c) (iii) of the 2009 Tariff Regulations provides for O&M 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

As provided under 18(3) of the 2009 Tariff Regulations, SBI Base rate of 8.25%, 9.70%, 10.00% as on 1.4.2011, 1.4.2013 and 1.4.2012 respectively plus 350 Bps i.e. 11.75%, 13.20% and 13.50% have been considered for the purpose of working out the interest on working capital.

50. Necessary computations in support of interest on working capital are appended herein below:-

(₹ in lakh)

Particulars	Asset 1		Asset 2	
	2012-13	2013-14	2012-13 (Pro-rata)	2013-14
Maintenance Spares	0.73	0.78	36.55	38.63
O & M expenses	0.41	0.43	20.31	21.46
Receivables	27.34	32.32	1798.30	1821.44
Total	28.48	33.52	1855.16	1881.52
Rate of Interest	13.50%	13.50%	13.50%	13.50%
Interest	3.85	4.53	62.61	254.01

(₹ in lakh)

Particulars	Asset - 3		
	2011-12 (Pro-rata)	2012-13	2013-14
Maintenance Spares	42.25	48.40	55.09
O & M expenses	23.47	26.89	30.60
Receivables	1335.00	1407.48	1399.45
Total	1400.72	1482.78	1485.13
Rate of Interest	11.75%	11.75%	11.75%
Interest	27.43	174.23	174.50

(₹ in lakh)

Particulars	Asset 4		Asset 5(a) Rev		Asset 5(b) Rev
	2012-13	2013-14	2012-13	2013-14	2013-14 (Pro-rata)
Maintenance Spares	29.64	31.32	14.03	14.82	9.82
O & M expenses	16.46	17.40	7.79	8.24	5.46
Receivables	1163.15	1182.70	177.59	180.89	188.47
Total	1209.25	1231.42	199.41	203.95	203.75
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.20%
Interest	163.25	166.24	26.92	27.53	20.17

Transmission Charges

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

(₹ in lakh)

Particulars	Asset 1		Asset 2	
	2012-13	2013-14	2012-13 (Pro-rata)	2013-14
Depreciation	49.38	59.95	807.75	3334.01
Interest on Loan	57.51	65.38	964.01	3772.13
Return on equity	48.43	58.87	802.17	3310.95
Interest on Working Capital	3.85	4.53	62.61	254.01
O & M Expenses	4.89	5.17	60.92	257.52
Total	164.05	193.90	2697.45	10928.61

(₹ in lakh)

Particulars	Asset - 3		
	2011-12 (Pro-rata)	2012-13	2013-14
Depreciation	398.12	2549.18	2592.26
Interest on Loan	467.17	2867.56	2688.83
Return on equity	395.34	2531.24	2573.84
Interest on Working Capital	27.43	174.23	174.50
O & M Expenses	46.94	322.69	367.24
Total	1335.00	8444.89	8396.67

(₹ in lakh)

Particulars	Asset 4		Asset 5(a) Rev		Asset 5(b) Rev
	2012-13	2013-14	2012-13	2013-14	2013-14 (Pro-rata)
Depreciation	2081.10	2174.45	306.42	319.47	245.83
Interest on Loan	2469.06	2386.22	334.74	322.69	284.16
Return on equity	2067.93	2160.47	303.97	316.82	248.87
Interest on Working Capital	163.25	166.24	26.92	27.53	20.17
O & M Expenses	197.57	208.80	93.50	98.83	49.10
Total	6978.92	7096.19	1065.55	1085.34	848.13

Filing Fee and the Publication Expenses

52. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. 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 42A (1) (a) of the 2009 Tariff Regulations.



Licence Fee

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

Service Tax

54. 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 premature and accordingly this prayer is rejected.

55. 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.

56. This order disposes of Petition No. 95/TT/2012.

sd/-
(A. K. Singhal)
Member

sd/-
(Gireesh B. Pradhan)
Chairperson

Annexure 1

Calculation of Weighted Average Rate of Interest on Actual Loans of Asset 1			
			(₹ in lakh)
	Details of Loan	2012-13	2013-14
1	Bond XXXIII		
	Gross loan opening	82.00	82.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	82.00	82.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	82.00	82.00
	Average Loan	82.00	82.00
	Rate of Interest	8.64%	8.64%
	Interest	7.08	7.08
	Rep Schedule	12 annual installments from 08.07.2014	
2	BOND-XXIX		
	Gross loan opening	97.00	97.00
	Cumulative Repayment upto DOCO/previous year	0.00	8.08
	Net Loan-Opening	97.00	88.92
	Additions during the year	0.00	0.00
	Repayment during the year	8.08	8.08
	Net Loan-Closing	88.92	80.83
	Average Loan	92.96	84.88
	Rate of Interest	9.20%	9.20%
	Interest	8.55	7.81
	Rep Schedule	12 Equal Annual Installments from 12.03.2013	
3	Bond XXXIV		
	Gross loan opening	25.00	25.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	25.00	25.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	25.00	25.00
	Average Loan	25.00	25.00
	Rate of Interest	8.84%	8.84%
	Interest	2.21	2.21
	Rep Schedule	12 Equal Annual Installments from 21.10.2014	
4	Bond XL (Add cap for 2012-13)		
	Gross loan opening	0.00	40.43
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	40.43
	Additions during the year	40.43	0.00

	Repayment during the year	0.00	0.00
	Net Loan-Closing	40.43	40.43
	Average Loan	20.22	40.43
	Rate of Interest	9.30%	9.30%
	Interest	1.88	3.76
	Rep Schedule	12 Equal Annual Installments from 28.06.2016	
5	Bond XXXII		
	Gross loan opening	19.00	19.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	19.00	19.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	1.58
	Net Loan-Closing	19.00	17.42
	Average Loan	19.00	18.21
	Rate of Interest	8.84%	8.84%
	Interest	1.68	1.61
	Rep Schedule	12 Equal Annual Installments from 27.03.2014	
6	Bond XXX		
	Gross loan opening	103.00	103.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	103.00	103.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	8.58
	Net Loan-Closing	103.00	94.42
	Average Loan	103.00	98.71
	Rate of Interest	8.80%	8.80%
	Interest	9.06	8.69
	Rep Schedule	12 Annual Installments from 29.09.2013	
7	Bond XXXV		
	Gross loan opening	300.25	300.25
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	300.25	300.25
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	300.25	300.25
	Average Loan	300.25	300.25
	Rate of Interest	9.64%	9.64%
	Interest	28.94	28.94
	Rep Schedule	12 Annual Installments from 31.05.2015	
	Total Loan		
	Gross loan opening	626.25	666.68
	Cumulative Repayment upto DOCO/previous year	0.00	8.08
	Net Loan-Opening	626.25	658.60

Additions during the year	40.43	0.00
Repayment during the year	8.08	18.25
Net Loan-Closing	658.60	640.35
Average Loan	642.42	649.47
Rate of Interest	9.2485%	9.2542%
Interest	59.41	60.10

Annexure 2

Calculation of Weighted Average Rate of Interest on Actual Loans of Asset 2			
			(₹ in lakh)
	Details of Loan	2012-13	2013-14
1	Bond XXXIII		
	Gross loan opening	6162.00	6162.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	6162.00	6162.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	6162.00	6162.00
	Average Loan	6162.00	6162.00
	Rate of Interest	8.64%	8.64%
	Interest	532.40	532.40
	Rep Schedule	12 annual installments from 08.07.2014	
2	Bond XLIII		
	Gross loan opening	0.00	0.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	0.00
	Additions during the year	0.00	3354.89
	Repayment during the year	0.00	0.00
	Net Loan-Closing	0.00	3354.89
	Average Loan	0.00	1677.45
	Rate of Interest	7.93%	7.93%
	Interest	0.00	133.02
	Rep Schedule	12 Equal Annual Installments from 20.5.2017	
3	BOND-XXIX		
	Gross loan opening	1472.00	1472.00
	Cumulative Repayment upto DOCO/previous year	0.00	122.67
	Net Loan-Opening	1472.00	1349.33
	Additions during the year	0.00	0.00
	Repayment during the year	122.67	122.67
	Net Loan-Closing	1349.33	1226.67
	Average Loan	1410.67	1288.00
	Rate of Interest	9.20%	9.20%
	Interest	129.78	118.50
	Rep Schedule	12 Equal Annual Installments from 12.03.2013	
4	Bond XXXIV		
	Gross loan opening	7859.00	7859.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	7859.00	7859.00
	Additions during the year	0.00	0.00



	Repayment during the year	0.00	0.00
	Net Loan-Closing	7859.00	7859.00
	Average Loan	7859.00	7859.00
	Rate of Interest	8.84%	8.84%
	Interest	694.74	694.74
	Rep Schedule	12 Equal Annual Installments from 21.10.2014	
5	Bond XXXVII		
	Gross loan opening	2340.16	2340.16
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	2340.16	2340.16
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	2340.16	2340.16
	Average Loan	2340.16	2340.16
	Rate of Interest	9.25%	9.25%
	Interest	216.46	216.46
	Rep Schedule	12 Equal Annual Installments from 26.12.2015	
7	Bond XXXVI		
	Gross loan opening	3814.25	3814.25
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	3814.25	3814.25
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	3814.25	3814.25
	Average Loan	3814.25	3814.25
	Rate of Interest	9.35%	9.35%
	Interest	356.63	356.63
	Rep Schedule	15 Equal Annual Installments from 29.08.2016	
8	Bond XXXII		
	Gross loan opening	4986.00	4986.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	4986.00	4986.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	415.50
	Net Loan-Closing	4986.00	4570.50
	Average Loan	4986.00	4778.25
	Rate of Interest	8.84%	8.84%
	Interest	440.76	422.40
	Rep Schedule	12 Equal Annual Installments from 27.03.2014	
9	Bond XXXIX		
	Gross loan opening	2500.66	2500.66
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	2500.66	2500.66



	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	2500.66	2500.66
	Average Loan	2500.66	2500.66
	Rate of Interest	9.40%	9.40%
	Interest	235.06	235.06
	Rep Schedule	Bullet Payment on 29.3.2027	
10	Bond XXX		
	Gross loan opening	1820.00	1820.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	1820.00	1820.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	151.67
	Net Loan-Closing	1820.00	1668.33
	Average Loan	1820.00	1744.17
	Rate of Interest	8.80%	8.80%
	Interest	160.16	153.49
	Rep Schedule	12 Annual Installments from 29.09.2013	
11	Bond XXXV		
	Gross loan opening	7600.00	7600.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	7600.00	7600.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	7600.00	7600.00
	Average Loan	7600.00	7600.00
	Rate of Interest	9.64%	9.64%
	Interest	732.64	732.64
	Rep Schedule	12 Annual Installments from 31.05.2015	
	Total Loan		
	Gross loan opening	38554.07	38554.07
	Cumulative Repayment upto DOCO/previous year	0.00	122.67
	Net Loan-Opening	38554.07	38431.40
	Additions during the year	0.00	3354.89
	Repayment during the year	122.67	689.83
	Net Loan-Closing	38431.40	41096.46
	Average Loan	38492.74	39763.93
	Rate of Interest	9.0891%	9.0417%
	Interest	3498.64	3595.33

Annexure 3

Calculation of Weighted Average Rate of Interest on Actual Loans of Asset 3				
(₹ in lakh)				
	Details of Loan	2011-12	2012-13	2013-14
1	Bond XXXIII			
	Gross loan opening	15306.00	15306.00	15306.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	15306.00	15306.00	15306.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	15306.00	15306.00	15306.00
	Average Loan	15306.00	15306.00	15306.00
	Rate of Interest	8.64%	8.64%	8.64%
	Interest	1322.44	1322.44	1322.44
	Rep Schedule	12 annual instalments from 08.07.2014		
2	BOND-XXIX			
	Gross loan opening	688.00	688.00	688.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	57.33
	Net Loan-Opening	688.00	688.00	630.67
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	57.33	57.33
	Net Loan-Closing	688.00	630.67	573.33
	Average Loan	688.00	659.33	602.00
	Rate of Interest	9.20%	9.20%	9.20%
	Interest	63.30	60.66	55.38
	Rep Schedule	12 Equal Annual Installments from 12.03.2013		
3	Bond XXXIV			
	Gross loan opening	2210.00	2210.00	2210.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	2210.00	2210.00	2210.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	2210.00	2210.00	2210.00
	Average Loan	2210.00	2210.00	2210.00
	Rate of Interest	8.84%	8.84%	8.84%
	Interest	195.36	195.36	195.36
	Rep Schedule	12 Equal Annual Installments from 21.10.2014		
4	Bond XXXVII			
	Gross loan opening	1440.03	1440.03	1440.03
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	1440.03	1440.03	1440.03
	Additions during the year	0.00	0.00	0.00



	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	1440.03	1440.03	1440.03
	Average Loan	1440.03	1440.03	1440.03
	Rate of Interest	9.25%	9.25%	9.25%
	Interest	133.20	133.20	133.20
	Rep Schedule	12 Equal Annual Installments from 26.12.2015		
5	Bond XXXVI			
	Gross loan opening	1700.00	1700.00	1700.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	1700.00	1700.00	1700.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	1700.00	1700.00	1700.00
	Average Loan	1700.00	1700.00	1700.00
	Rate of Interest	9.35%	9.35%	9.35%
	Interest	158.95	158.95	158.95
	Rep Schedule	15 Equal Annual Installments from 29.08.2016		
6	Bond XXXII			
	Gross loan opening	3230.00	3230.00	3230.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	3230.00	3230.00	3230.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	269.17
	Net Loan-Closing	3230.00	3230.00	2960.83
	Average Loan	3230.00	3230.00	3095.42
	Rate of Interest	8.84%	8.84%	8.84%
	Interest	285.53	285.53	273.63
	Rep Schedule	12 Equal Annual Installments from 27.03.2014		
7	Bond XXXVIII (add cap for FY 2011-12)			
	Gross loan opening	0.00	4078.38	4078.38
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	4078.38	4078.38
	Additions during the year	4078.38	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	4078.38	4078.38	4078.38
	Average Loan	2039.19	4078.38	4078.38
	Rate of Interest	9.25%	9.25%	9.25%
	Interest	188.63	377.25	377.25
	Rep Schedule	Bullet Payment on 29.3.2027		
8	Bond XXX			
	Gross loan opening	1590.00	1590.00	1590.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	1590.00	1590.00	1590.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	132.50
	Net Loan-Closing	1590.00	1590.00	1457.50
	Average Loan	1590.00	1590.00	1523.75



	Rate of Interest	8.80%	8.80%	8.80%
	Interest	139.92	139.92	134.09
	Rep Schedule	12 Annual Installments from 29.09.2013		
9	Bond XXXV			
	Gross loan opening	3458.61	3458.61	3458.61
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	3458.61	3458.61	3458.61
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	3458.61	3458.61	3458.61
	Average Loan	3458.61	3458.61	3458.61
	Rate of Interest	9.64%	9.64%	9.64%
	Interest	333.41	333.41	333.41
	Rep Schedule	12 Annual Installments from 31.05.2015		
	Total Loan			
	Gross loan opening	29622.64	33701.02	33701.02
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	57.33
	Net Loan-Opening	29622.64	33701.02	33643.69
	Additions during the year	4078.38	0.00	0.00
	Repayment during the year	0.00	57.33	459.00
	Net Loan-Closing	33701.02	33643.69	33184.69
	Average Loan	31661.83	33672.35	33414.19
	Rate of Interest	8.9090%	8.9294%	8.9295%
	Interest	2820.74	3006.73	2983.72

Annexure 4

Calculation of Weighted Average Rate of Interest on Actual Loans of Asset 4			
(₹ in lakh)			
	Details of Loan	2012-13	2013-14
1	Bond XXXIII		
	Gross loan opening	5000.00	5000.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	5000.00	5000.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	5000.00	5000.00
	Average Loan	5000.00	5000.00
	Rate of Interest	8.64%	8.64%
	Interest	432.00	432.00
	Rep Schedule	12 annual installments from 08.07.2014	
2	Bond XXXIV		
	Gross loan opening	2210.00	2210.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	2210.00	2210.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	2210.00	2210.00
	Average Loan	2210.00	2210.00
	Rate of Interest	8.84%	8.84%
	Interest	195.36	195.36
	Rep Schedule	12 Equal Annual Installments from 21.10.2014	
3	Bond XXXVII		
	Gross loan opening	2651.05	2651.05
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	2651.05	2651.05
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	2651.05	2651.05
	Average Loan	2651.05	2651.05
	Rate of Interest	9.25%	9.25%
	Interest	245.22	245.22
	Rep Schedule	12 Equal Annual Installments from 26.12.2015	
4	Bond XXXVI		
	Gross loan opening	2000.00	2000.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	2000.00	2000.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00



	Net Loan-Closing	2000.00	2000.00
	Average Loan	2000.00	2000.00
	Rate of Interest	9.35%	9.35%
	Interest	187.00	187.00
	Rep Schedule	15 Equal Annual Installments from 29.08.2016	
5	Bond XXXII		
	Gross loan opening	1000.00	1000.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	1000.00	1000.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	83.33
	Net Loan-Closing	1000.00	916.67
	Average Loan	1000.00	958.33
	Rate of Interest	8.84%	8.84%
	Interest	88.40	84.72
	Rep Schedule	12 Equal Annual Installments from 27.03.2014	
6	Bond XXXV		
	Gross loan opening	14200.00	14200.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	14200.00	14200.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	14200.00	14200.00
	Average Loan	14200.00	14200.00
	Rate of Interest	9.64%	9.64%
	Interest	1368.88	1368.88
	Rep Schedule	12 Annual Instalments from 31.05.2015	
	Total Loan		
	Gross loan opening	27061.05	27061.05
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	27061.05	27061.05
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	83.33
	Net Loan-Closing	27061.05	26977.72
	Average Loan	27061.05	27019.38
	Rate of Interest	9.3007%	9.3014%
	Interest	2516.87	2513.18

Annexure 5

Calculation of Weighted Average Rate of Interest on Actual Loans of Asset 5 (a) Rev			
			(₹ in lakh)
	Details of Loan	2012-13	2013-14
1	Bond XXXIII		
	Gross loan opening	834.94	834.94
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	834.94	834.94
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	834.94	834.94
	Average Loan	834.94	834.94
	Rate of Interest	8.64%	8.64%
	Interest	72.14	72.14
	Rep Schedule	12 annual installments from 08.07.2014	
2	Bond XLII		
	Gross loan opening	0.00	325.93
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	325.93
	Additions during the year	325.93	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	325.93	325.93
	Average Loan	162.97	325.93
	Rate of Interest	8.80%	8.80%
	Interest	14.34	28.68
	Rep Schedule	Bullet Payment on 13.3.2023	
3	BOND-XXIX		
	Gross loan opening	324.98	324.98
	Cumulative Repayment upto DOCO/previous year	0.00	27.08
	Net Loan-Opening	324.98	297.89
	Additions during the year	0.00	0.00
	Repayment during the year	27.08	27.08
	Net Loan-Closing	297.89	270.81
	Average Loan	311.44	284.35
	Rate of Interest	9.20%	9.20%
	Interest	28.65	26.16
	Rep Schedule	12 Equal Annual Installments from 12.03.2013	
4	Bond XXXIV		
	Gross loan opening	199.99	199.99
	Cumulative Repayment upto DOCO/previous year	0.00	0.00



	Net Loan-Opening	199.99	199.99
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	199.99	199.99
	Average Loan	199.99	199.99
	Rate of Interest	8.84%	8.84%
	Interest	17.68	17.68
	Rep Schedule	12 Equal Annual Installments from 21.10.2014	
5	Bond XXXVII		
	Gross loan opening	144.00	144.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	144.00	144.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	144.00	144.00
	Average Loan	144.00	144.00
	Rate of Interest	9.25%	9.25%
	Interest	13.32	13.32
	Rep Schedule	12 Equal Annual Installments from 26.12.2015	
6	Bond XXXVI		
	Gross loan opening	199.99	199.99
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	199.99	199.99
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	199.99	199.99
	Average Loan	199.99	199.99
	Rate of Interest	9.35%	9.35%
	Interest	18.70	18.70
	Rep Schedule	15 Equal Annual Installments from 29.08.2016	
7	Bond XXXII		
	Gross loan opening	799.94	799.94
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	799.94	799.94
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	66.66
	Net Loan-Closing	799.94	733.28
	Average Loan	799.94	766.61
	Rate of Interest	8.84%	8.84%
	Interest	70.71	67.77
	Rep Schedule	12 Equal Annual Installments from 27.03.2014	
8	Bond XXX		
	Gross loan opening	299.98	299.98
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	299.98	299.98
	Additions during the year	0.00	0.00

	Repayment during the year	0.00	25.00
	Net Loan-Closing	299.98	274.98
	Average Loan	299.98	287.48
	Rate of Interest	8.80%	8.80%
	Interest	26.40	25.30
	Rep Schedule	12 Annual Installments from 29.09.2013	
9	Bond XXXV		
	Gross loan opening	849.93	849.93
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	849.93	849.93
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	849.93	849.93
	Average Loan	849.93	849.93
	Rate of Interest	9.64%	9.64%
	Interest	81.93	81.93
	Rep Schedule	12 Annual Installments from 31.05.2015	
10	IBRD-V		
	Gross loan opening	273.86	273.86
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	273.86	273.86
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	273.86	273.86
	Average Loan	273.86	273.86
	Rate of Interest	2.08%	2.08%
	Interest	5.70	5.70
	Rep Schedule	15 half yearly installments from 15.01.2015	
	Total Loan		
	Gross loan opening	3927.60	4253.53
	Cumulative Repayment upto DOCO/previous year	0.00	27.08
	Net Loan-Opening	3927.60	3952.58
	Additions during the year	325.93	0.00
	Repayment during the year	27.08	118.74
	Net Loan-Closing	4226.45	4107.71
	Average Loan	4077.02	4167.08
	Rate of Interest	8.5742%	8.5761%
	Interest	349.57	357.37

Annexure 6

Calculation of Weighted Average Rate of Interest on Actual Loans of Asset 5 (b) Rev		
		(₹ in lakh)
	Details of Loan	2013-14
1	Bond XXXIII	
	Gross loan opening	940.06
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	940.06
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	940.06
	Average Loan	940.06
	Rate of Interest	8.64%
	Interest	81.22
	Rep Schedule	12 annual installments from 08.07.2014
2	Bond XLIII	
	Gross loan opening	9.45
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	9.45
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	9.45
	Average Loan	9.45
	Rate of Interest	7.93%
	Interest	0.75
	Rep Schedule	12 Equal Annual Installments from 20.5.2017
3	BOND-XXIX	
	Gross loan opening	340.02
	Cumulative Repayment upto DOCO/previous year	28.34
	Net Loan-Opening	311.69
	Additions during the year	0.00
	Repayment during the year	28.34
	Net Loan-Closing	283.35
	Average Loan	297.52
	Rate of Interest	9.20%
	Interest	27.37
	Rep Schedule	12 Equal Annual Installments from 12.03.2013
4	Bond XXXIV	
	Gross loan opening	207.01
	Cumulative Repayment upto DOCO/previous year	0.00



	Net Loan-Opening	207.01
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	207.01
	Average Loan	207.01
	Rate of Interest	8.84%
	Interest	18.30
	Rep Schedule	12 Equal Annual Installments from 21.10.2014
5	Bond XXXII	
	Gross loan opening	1081.06
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	1081.06
	Additions during the year	0.00
	Repayment during the year	90.09
	Net Loan-Closing	990.97
	Average Loan	1036.02
	Rate of Interest	8.84%
	Interest	91.58
	Rep Schedule	12 Equal Annual Installments from 27.03.2014
6	Bond XXX	
	Gross loan opening	362.02
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	362.02
	Additions during the year	0.00
	Repayment during the year	30.17
	Net Loan-Closing	331.85
	Average Loan	346.94
	Rate of Interest	8.80%
	Interest	30.53
	Rep Schedule	12 Annual Instalments from 29.09.2013
7	Bond XXXV	
	Gross loan opening	811.20
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	811.20
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	811.20
	Average Loan	811.20
	Rate of Interest	9.64%
	Interest	78.20
	Rep Schedule	12 Annual Instalments from 31.05.2015
8	Bond XXXVII	
	Gross loan opening	133.76
	Cumulative Repayment upto DOCO/previous year	0.00

	Net Loan-Opening	133.76
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	133.76
	Average Loan	133.76
	Rate of Interest	9.25%
	Interest	12.37
	Rep Schedule	12 Equal Annual Installments from 26.12.2015
9	Bond XXXVI	
	Gross loan opening	185.76
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	185.76
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	185.76
	Average Loan	185.76
	Rate of Interest	9.35%
	Interest	17.37
	Rep Schedule	15 Equal Annual Installments from 29.08.2016
10	IBRD-V	
	Gross loan opening	254.39
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	254.39
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	254.39
	Average Loan	254.39
	Rate of Interest	2.08%
	Interest	5.29
	Rep Schedule	15 half yearly installments from 15.01.2015
	Total Loan	
	Gross loan opening	3750.82
	Cumulative Repayment upto DOCO/previous year	28.34
	Net Loan-Opening	3722.49
	Additions during the year	0.00
	Repayment during the year	148.59
	Net Loan-Closing	3573.89
	Average Loan	3648.19
	Rate of Interest	8.9895%
	Interest	327.96