

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 69/TT/2012**

**Coram:**

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

**Date of Hearing : 11.03.2014**

**Date of Order : 02.12.2014**

**In the matter of:**

Approval of transmission tariff for Combined Asset-I+II: (I) 400 kV D/C Manesar-Neemrana Line along with associated bays and (II) 400 kV D/C Bhiwadi-Neemrana Line; and Asset-III: 2X315 MVA 400/220 kV ICTs (ICT-I & ICT-II) at Neemrana under the Transmission System associated with Northern Region System Strengthening Scheme- XV, under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 for tariff block 2009-14 in Northern Region

**And in the matter of:**

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

**.....Petitioner**

**Vs**

1. Rajasthan Rajya Vidyut Prasaran Nigam Ltd.,  
Vidyut Bhawan, Vidyut Marg,  
Jaipur- 302 005
2. Ajmer Vidyut Vitran Nigam Ltd.,  
400 kV GSS Building (Ground Floor), Ajmer Road,  
Heerapura, Jaipur
3. Jaipur Vidyut Vitran Nigam Ltd.,  
400 kV GSS Building (Ground Floor), Ajmer Road,  
Heerapura, Jaipur



4. Jodhpur Vidyut Vitran Nigam Ltd.,  
400 kV GSS Building (Ground Floor), Ajmer Road,  
Heerapura, Jaipur
5. Himachal Pradesh State Electricity Board,  
Vidyut Bhawan, Kumar House Complex Building II,  
Shimla-171 004
6. Punjab State Electricity Board  
The Mall, Patiala-147 001
7. Haryana Power Purchase Centre,  
Shakti Bhawan, Sector-6,  
Panchkula (Haryana)-134 109
8. Power Development Department,  
Govt. of Jammu and Kashmir,  
Mini Secretariat, Jammu
9. UP Power Corporation Ltd.,  
Shakti Bhawan, 14, Ashok Marg,  
Lucknow-226 001
10. Delhi Transco Ltd.,  
Shakti Sadan, Kotla Road,  
New Delhi-110 002
11. BSES Yamuna Power Ltd.,  
BSES Bhawan, Nehru Place,  
New Delhi
12. BSES Rajdhani Power Ltd.,  
BSES Bhawan, Nehru Place,  
New Delhi
13. 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
14. Chandigarh Administration,  
Sector-9, Chandigarh
15. Uttarakhand Power Corporation Ltd.,  
Urja Bhawan, Kanwali Road,  
Dehradun

16. North Central Railway,  
Allahabad

17. New Delhi Municipal Council,  
Palika Kendra, Sansad Marg,  
New Delhi-110 002

....Respondents

**For petitioner** : Shri P. Saraswat, PGCIL  
Ms. Sangeeta Edwards, PGCIL  
Shri S.S. Raju, PGCIL  
Ms. Seema Gupta, PGCIL  
Sh. S. K. Venkatesan, PGCIL  
Shri M. M. Mondal, PGCIL

**For respondents** : Shri R. B. Sharma, Advocate, BRPL and Gridco  
Shri Padamjit Singh, PSPCL  
Shri T. P. S. Bawa, PSPCL

### **ORDER**

The petition has been filed by Power Grid Corporation of India Limited (PGCIL) seeking approval of the transmission tariff for Combined Asset-I+II: (I) 400 kV D/C Manesar- Neemrana Line along with associated bays and (II) 400 kV D/C Bhiwadi- Neemrana Line, and Asset-III: 2X315 MVA 400/220 kV ICTs (ICT-I & ICT-II) at Neemrana (hereinafter referred to as "transmission assets"), under the Transmission System associated with Northern Region System Strengthening Scheme- XV (NRSS- XV), in Northern Region for tariff block 2009-14, based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as "the 2009 Tariff Regulations").

2. The Investment Approval for the transmission project was accorded by Board of Directors of the petitioner vide C/CP/NRSS-XV dated 20.2.2009 at an



estimated cost of ₹52048 lakh, including IDC of ₹3445 lakh, based on 4<sup>th</sup> quarter, 2008 price level. The project was scheduled to be commissioned within 33 months from the date of investment approval, i.e. by 1.12.2011. The scope of work covered under the project is as follows:-

**Transmission Lines:**

- (i) Manesar- Neemrana 400 kV D/C line- 90 km
- (ii) Bhiwadi- Neemrana 400 kV D/C line- 60 km
- (iii) LILO of Bhiwadi- Bassi (Jaipur) 400 kV S/C line at New 400/220 kV Kotputli sub-station- 15 km

**Sub-stations:**

- (i) New 2x315 MVA, 400/220 kV Neemrana sub-station
- (ii) New 2x315 MVA, 400/220 kV Kotputli sub-station
- (iii) Extension of 400/220 kV Bhiwadi sub-station
- (iv) Extension of 400/220 kV Manesar Gas Insulated sub-station
- (v) Extension of 400/220 kV Bassi (Jaipur) sub-station

**Reactive Compensation:**

1. LILO of Bhiwadi- Bassi (Jaipur) 400 kV S/C line at New 400/220 kV Kotputli sub-station
  - (a) Bihwadi- Kotputli section- 70 km
  - (b) Kotpuli- Jaipur section- 160 km
2. 80 MVAR Bus Reactor at Kotputli
3. 80 MVAR Bus Reactor at Neemrana

3. The assets for which transmission tariff was initially claimed in the instant petition and the anticipated dates of their commercial operation is as under:-

Asset	Tariff claimed	Anticipated DOCO
<b>Asset-I</b> 400 kV D/C Manesar-Neemrana Line along with associated bays	<b>1. Combined Asset-I and II</b>	1.1.2012
<b>Asset-II</b> 400 kV D/C Bhiwadi-Neemrana Line		1.1.2012
<b>Asset-III</b> 2x315MVA 400/220 kV ICTs(ICT-I &II) at Neemrana	<b>2. Asset-III</b>	1.1.2012

4. The petitioner has, vide affidavit dated 20.9.2013, submitted the actual dates of commercial operation as under:-

S. No.	Assets	Actual DOCO
1.	<b>Asset-I:</b> 400 kV D/C Manesar- Neemrana Line along with associated bays	1.6.2012
2.	<b>Asset-II:</b> 400 kV D/C Bhiwadi- Neemrana Line	1.1.2012
3.	<b>Asset-III (A):</b> 500 MVA 400/200kV ICT-I at Neemrana	1.4.2012
4.	<b>Asset-III (B):</b> 315 MVA 400/200kV ICT-II at Neemrana	1.1.2012

5. The petitioner has also submitted in the above said affidavit that tariff for Asset-II has already been allowed by the Commission, vide order dated 26.6.2013 in Petition No. 182/TT/2011, and requested the Commission to allow tariff for Asset-I, Asset-III (a) and Asset-III (b), based on the element wise revised tariff forms submitted therewith. Accordingly, tariff for the following assets is being considered in the instant petition:-

S. No.	Assets	Actual DOCO	Tariff period
1.	<b>Asset-I:</b> 400 kV D/C Manesar- Neemrana Line along with associated bays	1.6.2012	1.6.2012-31.3.2013 and 2013-14
2.	<b>Asset-III (A):</b> 500MVA 400/200kV ICT-I at Neemrana	1.4.2012	2012-13 and 2013-14
3.	<b>Asset-III (B):</b> 315 MVA 400/200kV ICT-II at Neemrana	1.1.2012	1.1.2012-31.3.2012, 2012-13 and 2013-14

6. The transmission charges claimed by the petitioner, based on the actual dates of commercial operation, are as under:-

(₹ in lakh)

Particulars	Asset-I		Asset-III (A)		Asset-III (B)		
	2012-13	2013-14	2012-13	2013-14	2011-12	2012-13	2013-14
Depreciation	400.56	545.54	150.88	188.10	31.12	143.39	162.24
Interest on Loan	487.08	620.91	251.66	281.03	56.30	241.40	251.16
Return on equity	418.02	566.21	214.16	251.80	46.80	206.72	226.13
Interest on Working Capital	43.74	57.25	27.19	30.34	5.35	23.09	24.70
O & M Expenses	247.80	314.33	235.28	248.74	55.64	235.28	248.74
<b>Total</b>	<b>1597.20</b>	<b>2104.24</b>	<b>879.17</b>	<b>1000.01</b>	<b>195.21</b>	<b>849.88</b>	<b>912.97</b>



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

(₹ in lakh)							
	Asset-I		Asset-III (A)		Asset-III (B)		
Particulars	2012-13	2013-14	2012-13	2012-13	2013-14	2012-13	2012-13
Maintenance Spares	44.60	47.15	35.29	37.31	33.38	35.29	37.31
O & M Expenses	24.78	26.19	19.61	20.73	18.55	19.61	20.73
Receivables	319.44	350.71	146.53	166.67	130.14	141.65	152.16
<b>Total</b>	<b>388.82</b>	<b>424.05</b>	<b>201.43</b>	<b>224.71</b>	<b>182.07</b>	<b>196.55</b>	<b>210.20</b>
Rate of Interest	13.50%	13.50%	13.50%	13.50%	11.75%	11.75%	11.75%
Interest	43.74	57.25	27.19	30.34	5.35	23.09	24.70

8. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act, 2003 (hereinafter referred to as "the Act"). Ajmer Vidyut Vitran Nigam Ltd (AVVNL), Respondent No. 2, has filed reply vide affidavit dated 16.12.2012. BSES Rajdhani Power Ltd (BRPL), Respondent No. 12, has filed its reply vide affidavit dated 28.11.2013. PSPCL, Respondent No. 6, has also filed its reply vide letter dated 29.5.2012. The petitioner has filed rejoinders to the replies of PSPCL, and BRPL vide affidavits dated 25.6.2013 and 19.6.2014 respectively. The respondents have broadly raised the issues like cost variation, time over-run, date of commercial operation certificates, etc. The objections raised by the respondents in their reply and the clarifications given by the petitioner in its rejoinder are addressed in the relevant paragraphs of this order.

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

## **Capital Cost**

10. 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) capitalised initial spares subject to the ceiling rates specified in regulation 8; and
- (c) additional capital expenditure determined under regulation 9:

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

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

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

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

11. Details of apportioned approved cost, capital cost as on actual date of commercial operation and estimated additional capital expenditure projected to be incurred for the assets covered under the petition are summarized overleaf:-

(₹ in lakh)

Particulars	Apportioned approved cost	Cost incurred as on actual DOCO	Projected additional capital expenditure			Total estimated completion cost
			2011-12	2012-13	2013-14	
Asset-I	14506.48	8941.73	-	1246.85	1216.27	11404.85
Asset-III (A)	4565.14	3620.14	-	927.22	508.21	5055.57
Asset-III (B)	4565.14	3224.67	689.14	55.96	684.22	4653.99

12. In case of Asset-I and Asset-III (A), the 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, and expenditure from 1.4.2013 to 30.6.2013 is on the basis of statement of accounts furnished by the Management of the petitioner company. For Asset-III (B), the expenditure is as certified by the Management of the petitioner company.

### **Cost over-run and variation**

13. BRPL in its reply has stated that the estimated completion cost of the instant assets is less than the apportioned approved cost thereby resulting in savings to the order of 13% of the total cost. BRPL has further submitted that because of the savings, it is difficult to determine the cost over-run. BRPL has also submitted that 2X500 MVA, 400/220 kV ICTs have been provided at Neemrana as against the approved scheme of 2X315 MVA, 400/220 kV ICTs and still there is savings which indicates that there is huge over-estimation. In response, the petitioner has submitted in its rejoinder dated 19.6.2014 that the cost variation is due to higher tender cost. For procurement, open competitive bidding route is followed by providing equal opportunity to all eligible firms. Through this process, lowest possible market prices for required



product/services/as per detailed designing is obtained and contracts are awarded on the basis of lowest evaluated eligible bidder. The best competitive bid prices against tenders may vary as compared to the cost estimate depending upon prevailing market conditions, design and site requirements. The petitioner submitted that the estimates are prepared as per well defined procedures. The FR cost estimate is broad indicative cost worked out generally on the basis of average unit rates of recently awarded contracts/general practice. The petitioner further submitted that detailed justification for the cost variation is already submitted along with the affidavit filed on 15.2.2013. As regards installation of higher capacity of ICTs at Neemrana, the petitioner clarified that two 315 MVA ICTs were approved in the Investment Approval. As against that, one no. 315 MVA ICT and one no. 500 MVA ICT were installed at Neemrana. Since the type test of 2<sup>nd</sup> ICT of 315 MVA failed, the contractor supplied 500 MVA ICT at the cost of 315 MVA ICT.

14. The total estimated completion cost of Asset-I is within the apportioned approved cost as stated by BRPL, but there is a cost over-run of 10.74% and 1.95% in case of Asset-III (A) and Asset-III (B) respectively. The petitioner has submitted that there is variation in cost of certain items, namely Tower steel, Earth wire, Hardware fittings, Conductor & earth wire accessories, Erection stringing & civil works, including Foundations, control room & office building including HVAC and Land, Total preliminary works & land, Control room & office building, including HVAC, Switchgear (CT, PT, circuit breakers & isolators etc.) and PLCC due to higher tendered cost.

15. The petitioner has, vide affidavit 15.2.2013, submitted the following justification for price variation:-

**Manesar- Neemrana line:**

(₹ in lakh)			
Item	FR Cost	Actual Cost	Justification for variation
<b>Transmission line</b>			
Tower	3020.65	3209.83	As lower rates are envisaged in FR and price variation.
Earth-wire	89.49	107.93	
Conductor & Earthwire	187.14	235.99	
Hardware fittings	205.48	303.42	
Erection stringing & civil works	1387.84	1700.91	
<b>Sub-station</b>			
Control room & office building including HVAC	32.67	40.85	Estimated cost envisaged in FR on lower side
Land	466.67	463.81	As per actuals
Switchgear	2234.32	1378.09	Estimated cost envisaged in FR on higher side
<b>ICT-I:</b>			
<b>Sub-station:</b>			
Control room & office building including HVAC	49.33	124.10	Estimated cost envisaged in FR on lower side
Land	933.33	1159.52	As per actuals
Switchgear	914.69	1077.57	Estimated cost envisaged in FR on lower side
PLCC	Included in sub-station cost	54.06	Estimated cost envisaged in FR on lower side
<b>ICT-II:</b>			
<b>Sub-station:</b>			
Control room & office building including HVAC	49.33	124.10	Estimated cost envisaged in FR on lower side
Land	933.33	1159.52	As per actuals
Switchgear	914.69	1077.57	Estimated cost envisaged in FR on lower side
PLCC	Included in sub-station cost	54.06	Estimated cost envisaged in FR on lower side

16. We have considered the submissions of the petitioner and the respondents. In case of Asset-I, the estimated completion cost is lesser than the apportioned approved cost and hence it is difficult to understand the cost over-run as pointed out by BRPL. Hence, the petitioner is directed to adopt a prudent procedure to make cost estimates of different elements of the transmission projects more realistic. As regards Asset-III (A) and Asset-III (B), there is cost

over-run. The cost over-run is due to higher awarded cost and hence the cost over-run is allowed. However, the capital cost is restricted to the apportioned approved cost and excess capital cost of Asset-III (A) and Asset- III (B) has been reduced from additional capital expenditure for the financial year 2013-14. However, the expenditure figures in case of Asset-III (A) and Asset-III (B) shall be reconciled at the time of truing-up, if the petitioner files RCE. This approach is in line with the order of the Appellate Tribunal for Electricity dated 28.11.2013 in Appeal No. 165 of 2012, and subsequent order of this Commission, dated 18.2.2014, in Petition No. 216/TT/2012.

### **Time Over-run**

17. As per the investment approval, the project was scheduled to be commissioned by 1.12.2011. Asset-I was commissioned in 1.6.2012, Asset- III (A) was commissioned on 1.4.2012 and Asset III-(B) was commissioned on 1.1.2012. Thus, the delay in commissioning of the transmission assets is one to six months.

18. The petitioner has vide affidavit dated 15.2.2013 submitted the details of commissioning of the assets as under:-

### **Asset-wise actual DOCO**

S.N.	Name of the Asset	Scheduled completion	Actual/ Anticipated DOCO as per petition	Actual DOCO	Delay
1	Asset-I		Anticipated 1.1.2012	1.6.2012	6 months
2	Asset-II,		1.1.2012 (Actual)	1.1.2012	1 month

3	Asset-III (A) and Asset III(B)	1.12.2011	Anticipated 1.1.2012	1.4.2012	4 months
				1.1.2012	1 month

19. The petitioner in the aforesaid affidavit has submitted reasons for delay in the commissioning of the assets. As regards Asset-I, the delay is on account of forest clearance. The petitioner approached the forest authorities on 8.4.2011 and clearance of the proposal was accorded on 16.5.2012, i.e. after approximately 13 months. The line was test charged and put under commercial operation on 1.6.2012. As regards Asset-III: 2x315 MVA ICT-I & II at Neemrana, there is a delay of one month in the commissioning of ICT-II and four months in the commissioning of ICT-I. As per L-2 Network, the land was supposed to be handed over to contractor by 4.1.2010, but revenue authorities handed over the land to the petitioner on 24.6.2010. This resulted in delay in the completion of the above asset.

20. AVVNL has submitted that since there is a delay of 4 months in completing the project, no IDC for the period should be allowed. BRPL has submitted that all the assets have a time over-run. Since the petitioner has not given any justification for time over-run, the time over-run of the assets covered in the instant petition should not be allowed. In its rejoinder the petitioner reiterated the submissions made vide affidavits dated 15.2.2013 and 16.6.2014

21. The petitioner has vide affidavit dated 16.6.2014 submitted that the delay in the commissioning of the subject assets was on account of forest clearance.

After the Investment Approval the process of awarding the contract was started and the contract award was placed in May, 2009 and survey was done to identify the route alignment by 7.9.2009. Subsequently, the petitioner approached DFO, Rewari and DFO, Gurgaon for survey to identify forest area in November, 2009. Concerned forest authorities initiated the survey process vide letter dated 24.9.2010. The survey was done in presence of representative of the petitioner. The whole process of detailed survey by the Forest authorities took almost 15 months. The proposal got final approval in May, 2012. The whole process of getting forest clearance took almost 30 months. Therefore, the delay of 6 months in commissioning of the transmission assets was for reasons beyond the control of the petitioner. Regarding the delay of one month in commissioning of ICT-II and four months delay in Neemrana Sub-station, the petitioner has submitted that simultaneous commissioning of more than one ICTs at a single location depends upon availability of skilled commissioning experts at site. In addition to this, more than one set of T&P and manpower for such activities would lead to an extra cost burden on the beneficiaries.

22. Regarding coordination with STU, the petitioner has submitted that in 12<sup>th</sup> TCC and 13<sup>th</sup> NRPC meeting held on 26.6.2009 and 27.6.2009, the petitioner informed that the third 315 MVA ICT at Bhiwadi and sub-station at Neemrana would be completed in about 30 months to meet the load growth in Rajasthan resulting in overloading of ICTs at Bassi and Bhiwadi during winters. Further, in 21<sup>st</sup> TCC and 24<sup>th</sup> NRPC meeting held on 17.11.2011 and 18.11.2011, the petitioner intimated that the sub-station at Neemrana would be commissioned by

February, 2012. The petitioner in the aforesaid affidavit also submitted that the date of commercial operation is the actual date of loading of ICTs i.e. 1.1.2012 and 1.4.2012.

23. We have considered the submissions of petitioner and the respondents regarding delay in commissioning of the transmission assets. It is observed that in case of Asset-I, approximately 15 months has been taken by forest authority to conduct survey (November, 2009 to February, 2011). Forest clearance took about 13 months from April, 2011 to May, 2012. Thereafter Asset-I was commissioned on 1.6.2012. In case of Asset- III (A) and Asset-III (B), the delay was on account of revenue authorities taking lot of time in handing over land. Consequent commissioning of two ICTs at one site also takes time. We are of the view that the situations are beyond the control of the petitioner. Hence, delay of 6 months in case of Asset-I, delay of 4 months in case of Asset-III (A) and delay of one month in case of Asset III (B) is being condoned.

### **Initial Spares**

24. The petitioner has claimed initial spares pertaining to substation in all the three assets. Details of the claim made by the petitioner and allowed are given hereunder:-

(₹ in lakh)					
<b>Particulars (a)</b>	<b>Cost as on cut off date (b)</b>	<b>Initial spares claimed (c)</b>	<b>Ceiling limits as per Regulation 8 of the 2009 Regulations (d)</b>	<b>Initial spares worked out (e) (b)-(c)*(d)/(100%-(d))</b>	<b>Excess initial spares claimed (f) (c)-(e)</b>
Asset-I	2938.41	139.22	2.50%	71.77	<b>67.45</b>
Asset-III (A)	5055.57	33.94	2.50%	128.76	<b>-94.82</b>
Asset-III (B)	4654.00	45.74	2.50%	118.16	<b>-72.42</b>

25. Initial spares (corresponding to Sub-station equipment) claimed for Asset-I exceed the ceiling limit of 2009 Tariff Regulations. Accordingly, initial spares for Asset-I have been restricted and excess spares have been reduced from the capital cost as on their dates of commercial operation. Capital cost considered for tariff calculations is as per the details given below:-

(₹ in lakh)			
Assets	Capital cost claimed by the Petitioner	Excess spares reduce	Capital cost allowed on DOCO
Asset-I	8941.73	67.45	8874.28
Asset-III (A)	3620.14	-	3620.14
Asset-III (B)	3224.67	-	3224.67

### **Projected Additional Capital Expenditure**

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

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

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

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

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

Therefore, cut-off date for the above mentioned assets is 31.3.2015.

28. Details of the additional capital expenditure claimed by the petitioner for the financial year 2011-12, 2012-13 and 2013-14 are as under:-

(₹ in lakh)				
S. No.	Assets	2011-12	2012-13	2013-14
1	Asset-I	-	1246.85	1216.27
2	Asset-III (A)	-	927.22	508.21
3	Asset-III (B)	689.14	55.96	684.22

29. Additional capital expenditure claimed falls within the cut-off date and is on account of balance and retention payment as per forms submitted vide affidavit dated 20.9.2013. Thus, the additional capital expenditure claimed for Asset-I for financial year 2012-13 and 2013-14 is considered for tariff computation. However, additional capital expenditure for Asset-III (A) and Asset- III (B) is being reduced by ₹490.43 lakh and ₹88.86 lakh respectively from the additional capital expenditure pertaining to 2013-14 due to cost over-run. The capital cost and additional capital expenditure being considered as on 31.3.2014 is as under:-

(₹ in lakh)					
Assets	Capital cost as on DOCO after restricting initial spares	Additional capital expenditure			Total estimated completion cost
		2011-12	2012-13	2013-14	
Asset-I	8874.28	-	1246.85	1216.27	11337.40
Asset-III (A)	3620.14	-	927.22	17.78	4565.14
Asset-III (B)	3224.67	689.14	55.96	595.36	4565.13

### **Debt- Equity Ratio**

30. 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.”

31. Debt-equity ratio after adjusting excess initial spares as on actual date of commercial operation is given below:-

(₹ in lakh)		
As on date of commercial operation		
Particulars	Asset-I	
	Amount	%
Debt	6211.98	70.00
Equity	2662.28	30.00
<b>Total</b>	<b>8874.26</b>	<b>100.00</b>
Particulars	Asset-III (A)	
	Amount	%
Debt	2534.10	70.00
Equity	1086.04	30.00
<b>Total</b>	<b>3620.14</b>	<b>100.00</b>
Particulars	Asset-III (B)	
	Amount	%
Debt	2257.28	70.00
Equity	967.40	30.00
<b>Total</b>	<b>3224.68</b>	<b>100.00</b>

32. Debt equity ratio for additional capital expenditure being considered is 70:30 for all the assets.

33. Details of debt-equity ratio as on 31.3.2014 are as follows:-

(₹ in lakh)

As on 31.3.2014		
Particulars	Asset-I	
	Amount	%
Debt	7936.17	70.00
Equity	3401.22	30.00
<b>Total</b>	<b>11337.39</b>	<b>100.00</b>
Particulars	Asset-III (A)	
	Amount	%
Debt	3195.60	70.00
Equity	1369.54	30.00
<b>Total</b>	<b>4565.14</b>	<b>100.00</b>
Particulars	Asset-III (B)	
	Amount	%
Debt	3195.60	70.00
Equity	1369.54	30.00
<b>Total</b>	<b>4565.14</b>	<b>100.00</b>

### Return on Equity

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

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

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

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

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

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

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

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

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

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

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

35. The petitioner's prayer to recover the shortfall or refund the excess Annual Fixed Charges, on account on return on equity due to change in applicable Minimum Alternate Tax/Corporate Income Tax rate as per the Income Tax Act, 1961 of the respective financial year directly without making any application before the Commission shall be dealt under Regulation 15(5) as stated above. Return on equity has been computed @ 17.481% p.a on average equity as per Regulation 15 of the 2009 Tariff Regulations.

36. Based on the above, return on equity has been considered as per details given hereunder:-

Particular	Asset-I		Asset-III (A)		Asset-III (B)		
	2012-13	2013-14	2012-13	2013-14	2011-12	2012-13	2013-14
Opening Equity	2662.28	3036.33	1086.04	1364.21	967.40	1174.14	1190.93
Addition due to Additional Capital Expenditure	374.06	364.88	278.17	5.33	206.74	16.79	178.61
Closing Equity	3036.33	3401.22	1364.21	1369.54	1174.14	1190.93	1369.54
Average Equity	2849.31	3218.77	1225.12	1366.87	1070.77	1182.54	1280.24
Return on Equity (Base Rate)	15.50%	15.50%	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%	11.33%	11.33%
Rate of Return on Equity (Pre Tax)	17.481%	17.481%	17.481%	17.481%	17.481%	17.481%	17.481%
<b>Return on Equity (Pre Tax)</b>	<b>415.07</b>	<b>562.67</b>	<b>214.16</b>	<b>238.94</b>	<b>46.80</b>	<b>206.72</b>	<b>223.80</b>



## **Interest on Loan**

37. Regulation 16 of the 2009 Tariff Regulations provides as follows:-

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

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

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

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

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

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

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

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

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

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

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

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

38. The petitioner's entitlement to interest on loan has been calculated as per the provisions of Regulation 16 of the 2009 Tariff Regulations, on the following basis:-

(a) Gross amount of loan, repayment of instalments and rate of interest on loan have been considered as per affidavit dated 20.9.2013.

(b) The repayment for the tariff period 2009-14 has been considered to be equal to the depreciation allowed for that period.

(c) Weighted average rate of interest on actual average loan worked out as per (a) above is applied on the notional average loan during the year to arrive at the interest on loan.

39. Accordingly, the interest on loan has been calculated on the basis of prevailing rate as on the date of commercial operation. Any change in rate of interest subsequent to date of commercial operation will be considered at the time of truing up.

40. Detailed calculations in support of the weighted average rates of interest have been given in Annexures- 1 to 3 to this order.

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

(₹ in lakh)

Particulars	Asset-I		Asset-III (A)		Asset-III (B)		
	2012-13	2013-14	2012-13	2013-14	2011-12	2012-13	2013-14
Gross Normative Loan	6211.98	7084.78	2534.10	3183.15	2257.28	2739.68	2778.85
Cumulative Repayment upto previous year	0.00	397.59	0.00	150.88	0.00	31.12	174.51
Net Loan-Opening	6211.98	6687.19	2534.10	3032.28	2257.28	2708.55	2604.33
Addition due to additional capital expenditure	872.80	851.39	649.05	12.45	482.40	39.17	416.75
Repayment during the year	397.59	541.98	150.88	175.34	31.12	143.39	159.92
Net Loan-Closing	6687.19	6996.59	3032.28	2869.39	2708.55	2604.33	2861.17
Average Loan	6449.59	6841.89	2783.19	2950.83	2482.91	2656.44	2732.75
Weighted Average Rate of Interest on Loan	8.9988%	9.0191%	9.0423%	9.0188%	9.0701%	9.0874%	9.0911%
Interest	483.66	617.08	251.66	266.13	56.30	241.40	248.44

### **Depreciation**

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

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

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

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

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

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

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

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

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

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

43. The petitioner has claimed actual depreciation as a component of Annual Fixed Charges. Depreciation has been worked out as per clause 17 (4) of the 2009 Tariff Regulations. Dates of commercial operation of the transmission assets fall in financial years 2011-12 and 2012-13, and accordingly will complete 12 years beyond 2013-14. Accordingly, depreciation has been calculated annually, based on Straight Line Method and at rates specified in Appendix-III to the 2009 Tariff Regulation, as per details given hereunder:-

(₹ in lakh)

Particulars	Asset-I		Asset-III(A)		Asset-III (B)		
	2013-14	2012-13	2013-14	2013-14	2012-13	2013-14	2013-14
Opening Gross Block	8874.26	10121.11	3620.14	4547.36	3224.68	3913.82	3969.78
Addition due to Projected Additional Capital Expenditure	1246.85	1216.27	927.22	17.78	689.14	55.96	595.36
Closing Gross Block	10121.11	11337.38	4547.36	4565.14	3913.82	3969.78	4565.14
Average Gross Block	9497.69	10729.25	4083.75	4556.25	3569.25	3941.80	4267.46
Rate of Depreciation	5.0235%	5.0514%	3.6945%	3.8483%	3.4881%	3.6376%	3.7473%
Depreciable Value	8130.49	9238.90	2631.81	3057.06	2168.76	2504.05	2797.15
Remaining Depreciable Value	8130.49	8841.30	2631.81	2906.18	2168.76	2472.93	2622.63
Depreciation	397.59	541.98	150.88	175.34	31.12	143.39	159.92
Cumulative Depreciation	397.59	939.58	150.88	326.21	31.12	174.51	334.43

### **Operation & Maintenance Expenses (O&M Expenses)**

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

(₹ in lakh)

Elements	2011-12	2012-13	2013-14
400 kV D/C twin conductor T/L (₹ lakh per km)	0.701	0.741	0.783
400 kV bays (₹ lakh per bay)	58.57	61.92	65.46
220 kV bays (₹ lakh per bay)	41.00	43.34	45.82

45. The assets covered in the petition are listed below:-

Sr. No	Asset-1	DOCO	Length (in km)
	400 kV D/C Manesar – Neemrana line alongwith bays DOCO: 1.6.2012		
	<b>Transmission line: :</b>		
1	400 kV D/C twin conductor Manesar- Neemrana T/L	1.6.2012	67.037
	<b>Manesar- Neemrana sub-stations:</b>		
1	Neemrana Line-I & II, 400 kV bay	1.6.2012	2
2	Manesar Line-I & II, 400 kV bay	1.6.2012	2
	<b>Asset-III (I)</b>		
	400 kV D/C 500 MVA ICT-I, with 3 nos 220 kV bays at Neemrana S/S : DOCO: 01.04.2012		
	<b>Neemrana sub-station:</b>		
1	ICT-I, 400 kV bay	1.4.2012	1
2	ICT-I, 220 kV bay	1.4.2012	1
3	220 kV bay Line bays	1.4.2012	3
	<b>Asset-III (II)</b>		
	400 kV D/C 500 MVA ICT-II, with 3 nos 220 kV bays at Neemrana S/S : DOCO: 01.04.2012		
	<b>Neemrana sub-station:</b>		
1	ICT-II, 400 kV bay	1.1.2012	1
2	ICT-II, 220 kV bay	1.1.2012	1
3	220 kV bay Line bays	1.1.2012	3



46. As per the norms of the 2009 Tariff Regulations, allowable O&M Expenses for the assets covered in the petition are as under:-

(₹ in lakh)

Element	2011-12	2012-13 (Pro-rata)	2013-14
<b>Asset-I</b>			
67.037 km 400 kV, D/C, twin conductor T/L	---	41.40	52.49
4 nos. 400 kV bays	---	206.40	261.84
<b>Total (Asset-I)</b>	----	<b>247.80</b>	<b>314.33</b>
<b>Asset-III (I)</b>			
1 no 400 kV bay	---	61.92	65.46
4 nos 220 kV bays	---	173.36	183.28
<b>Total (Asset-III)-(I)</b>	---	<b>235.28</b>	<b>248.74</b>
<b>Asset-III (II)</b>	<b>(Pro-rata)</b>		
1 no 400 kV bay	14.64	61.92	65.46
4 nos 220 kV bays	41.00	173.36	183.28
<b>Total (Asset-III)-(II)</b>	<b>55.64</b>	<b>235.28</b>	<b>248.74</b>

47. The petitioner has submitted that O & M Expenses for the year 2009-14 had been arrived at on the basis of normalized actual O & M Expenses during the period 2003-04 to 2007-08. The wage hike of 50% on account of pay revision of the employees of public sector undertaking has also been considered while calculating the O & M Expenses for the tariff period 2009-14. The petitioner has further submitted that it would approach the Commission for suitable revision in the norms for O & M Expenses in case the impact of wage hike with effect from 1.1.2007 is more than 50%. AVVNL has submitted that tariff should be allowed as specified in the 2009 Tariff Regulations and additional manpower cost should not be considered. BRPL has submitted that any further increase in the employee cost due to wage revision should be taken care of by the petitioner by improving its productivity levels. The petitioner in its rejoinder has reiterated the submissions made in the petition.

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.

### **Interest on Working Capital**

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

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

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

### **(iv) Rate of Interest on Working Capital**

As per 2009 Tariff regulations (Second Amendment) Regulations, 2011 dated 21.6.2011, SBI Base rate (10.00%) as on 1.4.2012 plus 350 bps i.e. 13.50% have been considered for Asset-I and Asset-III (A) and SBI Base Rate (8.25%) as on 1.4.2011 plus 350 bps i.e. 11.75 % have been considered for Asset-III (B) as the rate of interest on working capital.

50. Necessary computations in support of interest on working capital are given hereunder:-

Particulars	(₹ in lakh)						
	Asset-I		Asset-III(A)		Asset-III(B)		
	2013-14	2012-13	2013-14	2013-14	2012-13	2013-14	2013-14
Maintenance Spares	44.60	47.15	35.29	37.31	33.38	35.29	37.31
O & M Expenses	24.78	26.19	19.61	20.73	18.55	19.61	20.73
Receivables	317.53	348.84	146.53	159.76	130.14	141.65	150.91
Total	386.91	422.19	201.43	217.80	182.07	196.55	208.95
Rate of Interest	43.53	57.00	27.19	29.40	5.35	23.09	24.55

### **Transmission charges**

51. The transmission charges being allowed for the assets are given hereunder:-

Particulars	(₹ in lakh)						
	Asset-I		Asset-III (A)		Asset-III (B)		
	2013-14	2012-13	2013-14	2013-14	2012-13	2013-14	2013-14
Depreciation	397.59	541.98	150.88	175.34	31.12	143.39	159.92
Interest on Loan	483.66	617.08	251.66	266.13	56.30	241.40	248.44
Return on Equity	415.07	562.67	214.16	238.94	46.80	206.72	223.80
Interest on Working Capital	43.53	57.00	27.19	29.40	5.35	23.09	24.55
O & M Expenses	247.80	314.33	235.28	248.74	55.64	235.28	248.74
Total	1587.65	2093.06	879.18	958.55	195.21	849.88	905.44

### **Filing Fee and the Publication Expenses**

52. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. BRPL has submitted that the filing fee shall be governed as per the Commission's order. The petitioner has clarified that reimbursement of expenditure has been claimed in terms of Regulation 42 of the 2009 Tariff Regulations. 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.

54. 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**

55. 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. BRPL has objected to recovery of service tax from the beneficiaries in future as service tax on transmission service is exempted. The petitioner has clarified that if notifications regarding granting of exemption to transmission service are withdrawn at a later date, the beneficiaries shall have to share the service tax paid by the petitioner. We consider petitioner's prayer pre-mature and accordingly this prayer is rejected.

### **Sharing of Transmission Charges**

56. 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.

57. This order disposes of Petition No. 69/TT/2012.

sd/-  
**(A. K. Singhal)**  
**Member**

sd/-  
**(M. Deena Dayalan)**  
**Member**

sd/-  
**(Gireesh B. Pradhan)**  
**Chairperson**

**Annexure 1**

<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>			
<b>(₹ in lakh)</b>			
	<b>Details of Loan</b>	<b>2012-13</b>	<b>2013-14</b>
<b>1</b>	<b>Bond XXX</b>		
	Gross loan opening	<b>380.00</b>	<b>380.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	380.00	380.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	31.67
	Net Loan-Closing	380.00	348.33
	Average Loan	380.00	364.17
	Rate of Interest	8.80%	8.80%
	Interest	33.44	32.05
	Rep Schedule	12 annual installments from 29.09.2013	
<b>2</b>	<b>Bond XXXI</b>		
	Gross loan opening	<b>2020.00</b>	<b>2020.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	2020.00	2020.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	168.33
	Net Loan-Closing	2020.00	1851.67
	Average Loan	2020.00	1935.83
	Rate of Interest	8.90%	8.90%
	Interest	179.78	172.29
	Rep Schedule	12 annual installments from 25.02.2014	
<b>3</b>	<b>Bond XXXIII</b>		
	Gross loan opening	<b>1600.00</b>	<b>1600.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	1600.00	1600.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	1600.00	1600.00
	Average Loan	1600.00	1600.00
	Rate of Interest	8.64%	8.64%
	Interest	138.24	138.24
	Rep Schedule	12 annual installments from 08.07.2014	
<b>4</b>	<b>Bond XXXIV</b>		
	Gross loan opening	<b>850.00</b>	<b>850.00</b>

	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	850.00	850.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	850.00	850.00
	Average Loan	850.00	850.00
	Rate of Interest	8.84%	8.84%
	Interest	75.14	75.14
	Rep Schedule	12 annual installments from 21.10.2014	
<b>5</b>	<b>Bond XXXV</b>		
	Gross loan opening	<b>1260.00</b>	<b>1260.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	1260.00	1260.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	1260.00	1260.00
	Average Loan	1260.00	1260.00
	Rate of Interest	9.64%	9.64%
	Interest	121.46	121.46
	Rep Schedule	12 annual installments from 31.05.2015	
<b>6</b>	<b>Bond XL( Add cap for 2012-13 Drawl on 31.03.2013</b>		
	Gross loan opening	<b>0.00</b>	<b>872.80</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	872.80
	Additions during the year	872.80	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	872.80	872.80
	Average Loan	436.40	872.80
	Rate of Interest	9.30%	9.30%
	Interest	40.59	81.17
	Rep Schedule	12 annual installments from 28.06.2016	
<b>7</b>	<b>Bond XL</b>		
	Gross loan opening	<b>149.19</b>	<b>149.19</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	149.19	149.19
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	149.19	149.19
	Average Loan	149.19	149.19
	Rate of Interest	9.30%	9.30%
	Interest	13.87	13.87

	Rep Schedule	12 annual installments from 28.06.2016	
	<b>Total Loan</b>		
	Gross loan opening	<b>6259.19</b>	<b>7131.99</b>
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	6259.19	7131.99
	Additions during the year	872.80	0.00
	Repayment during the year	0.00	200.00
	Net Loan-Closing	7131.99	6931.99
	Average Loan	6695.59	7031.99
	Rate of Interest	<b>8.9988%</b>	<b>9.0191%</b>
	<b>Interest</b>	602.52	634.22



**Annexure 2**

<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>			
<b>(₹ in lakh)</b>			
	<b>Details of Loan</b>	<b>2012-13</b>	<b>2013-14</b>
<b>1</b>	<b>Bond XXX</b>		
	Gross loan opening	<b>109.00</b>	<b>109.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	109.00	109.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	9.08
	Net Loan-Closing	109.00	99.92
	Average Loan	109.00	104.46
	Rate of Interest	8.80%	8.80%
	Interest	9.59	9.19
	Rep Schedule	12 annual installments from 29.09.2013	
<b>2</b>	<b>Bond XXXI</b>		
	Gross loan opening	<b>573.00</b>	<b>573.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	573.00	573.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	47.75
	Net Loan-Closing	573.00	525.25
	Average Loan	573.00	549.13
	Rate of Interest	8.90%	8.90%
	Interest	51.00	48.87
	Rep Schedule	12 annual installments from 25.02.2014	
<b>3</b>	<b>Bond XXXIII</b>		
	Gross loan opening	<b>455.00</b>	<b>455.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	455.00	455.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	455.00	455.00
	Average Loan	455.00	455.00
	Rate of Interest	8.64%	8.64%
	Interest	39.31	39.31
	Rep Schedule	12 annual installments from 08.07.2014	
<b>4</b>	<b>Bond XXXIV</b>		
	Gross loan opening	<b>238.00</b>	<b>238.00</b>

	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	238.00	238.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	238.00	238.00
	Average Loan	238.00	238.00
	Rate of Interest	8.84%	8.84%
	Interest	21.04	21.04
	Rep Schedule	12 annual installments from 21.10.2014	
<b>5</b>	<b>Bond XXXV</b>		
	Gross loan opening	<b>300.00</b>	<b>300.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	300.00	300.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	300.00	300.00
	Average Loan	300.00	300.00
	Rate of Interest	9.64%	9.64%
	Interest	28.92	28.92
	Rep Schedule	12 annual installments from 31.05.2015	
<b>6</b>	<b>Bond XLII (Add cap for 2012-13 Drawl on 31.3.2013)</b>		
	Gross loan opening	<b>0.00</b>	<b>649.05</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	649.05
	Additions during the year	649.05	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	649.05	649.05
	Average Loan	324.53	649.05
	Rate of Interest	8.80%	8.80%
	Interest	28.56	57.12
	Rep Schedule	Bullet payment on 13.03.2023	
<b>7</b>	<b>Bond XXXVIII</b>		
	Gross loan opening	<b>259.10</b>	<b>259.10</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	259.10	259.10
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	259.10	259.10
	Average Loan	259.10	259.10
	Rate of Interest	9.25%	9.25%
	Interest	23.97	23.97

	Rep Schedule	Bullet payment on 09.03.2027	
<b>8</b>	<b>Bond XXXVI</b>		
	Gross loan opening	<b>600.00</b>	<b>600.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	600.00	600.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	600.00	600.00
	Average Loan	600.00	600.00
	Rate of Interest	9.35%	9.35%
	Interest	56.10	56.10
	Rep Schedule	12 annual installments from 29.08.2016	
	<b>Total Loan</b>		
	Gross loan opening	<b>2534.10</b>	<b>3183.15</b>
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	2534.10	3183.15
	Additions during the year	649.05	0.00
	Repayment during the year	0.00	56.83
	Net Loan-Closing	3183.15	3126.32
	Average Loan	2858.63	3154.73
	Rate of Interest	<b>9.0423%</b>	<b>9.0188%</b>
	<b>Interest</b>	258.49	284.52

**Annexure 3**

<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>				
<b>(₹ in lakh)</b>				
	<b>Details of Loan</b>	<b>2011-2012</b>	<b>2012-13</b>	<b>2013-14</b>
<b>1</b>	<b>Bond XXX</b>			
	Gross loan opening	<b>109.00</b>	<b>109.00</b>	<b>109.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	109.00	109.00	109.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	9.08
	Net Loan-Closing	109.00	109.00	99.92
	Average Loan	109.00	109.00	104.46
	Rate of Interest	8.80%	8.80%	8.80%
	Interest	9.59	9.59	9.19
	Rep Schedule	12 annual installments from 29.09.2013		
<b>2</b>	<b>Bond XXXI</b>			
	Gross loan opening	<b>573.00</b>	<b>573.00</b>	<b>573.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	573.00	573.00	573.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	47.75
	Net Loan-Closing	573.00	573.00	525.25
	Average Loan	573.00	573.00	549.13
	Rate of Interest	8.90%	8.90%	8.90%
	Interest	51.00	51.00	48.87
	Rep Schedule	12 annual installments from 25.02.2014		
<b>3</b>	<b>Bond XXXIII</b>			
	Gross loan opening	<b>455.00</b>	<b>455.00</b>	<b>455.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	455.00	455.00	455.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	455.00	455.00	455.00
	Average Loan	455.00	455.00	455.00
	Rate of Interest	8.64%	8.64%	8.64%
	Interest	39.31	39.31	39.31
	Rep Schedule	12 annual installments from 08.07.2014		
<b>4</b>	<b>Bond XXXIV</b>			
	Gross loan opening	<b>238.00</b>	<b>238.00</b>	<b>238.00</b>

	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	238.00	238.00	238.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	238.00	238.00	238.00
	Average Loan	238.00	238.00	238.00
	Rate of Interest	8.84%	8.84%	8.84%
	Interest	21.04	21.04	21.04
	Rep Schedule	12 annual installments from 21.10.2014		
<b>5</b>	<b>Bond XXXV</b>			
	Gross loan opening	300.00	300.00	300.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	300.00	300.00	300.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	300.00	300.00	300.00
	Average Loan	300.00	300.00	300.00
	Rate of Interest	9.64%	9.64%	9.64%
	Interest	28.92	28.92	28.92
	Rep Schedule	12 annual installments from 31.05.2015		
<b>6</b>	<b>Bond XL( Add cap for 2012-13 Drawl on 31.03.2013)</b>			
	Gross loan opening	0.00	0.00	39.17
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.00	39.17
	Additions during the year	0.00	39.17	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	0.00	39.17	39.17
	Average Loan	0.00	19.59	39.17
	Rate of Interest	9.30%	9.30%	9.30%
	Interest	0.00	1.82	3.64
	Rep Schedule	12 annual installments from 28.06.2016		
<b>7</b>	<b>Bond XXXVIII (Add cap for 2011-12 Drawl on 31.03.2012)</b>			
	Gross loan opening	0.00	482.40	482.40
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	482.40	482.40
	Additions during the year	482.40	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	482.40	482.40	482.40
	Average Loan	241.20	482.40	482.40
	Rate of Interest	9.25%	9.25%	9.25%

	Interest	22.31	44.62	44.62
	Rep Schedule	Bullet payment on 09.03.2027		
<b>8</b>	<b>Bond XXXVI</b>			
	Gross loan opening	<b>582.27</b>	<b>582.27</b>	<b>582.27</b>
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	582.27	582.27	582.27
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	582.27	582.27	582.27
	Average Loan	582.27	582.27	582.27
	Rate of Interest	9.35%	9.35%	9.35%
	Interest	54.44	54.44	54.44
	Rep Schedule	12 annual installments from 29.08.2016		
	<b>Total Loan</b>			
	Gross loan opening	<b>2257.27</b>	<b>2739.67</b>	<b>2778.84</b>
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	2257.27	2739.67	2778.84
	Additions during the year	482.40	39.17	0.00
	Repayment during the year	0.00	0.00	56.83
	Net Loan-Closing	2739.67	2778.84	2722.01
	Average Loan	2498.47	2759.26	2750.42
	Rate of Interest	<b>9.0701%</b>	<b>9.0874%</b>	<b>9.0911%</b>
	<b>Interest</b>	226.61	250.75	250.04