

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 100/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 : 20.01.2015

In the matter of:

Approval of transmission tariff of transmission assets (Group-2) associated with 765 kV System for Central Part of Northern Grid Part-II in Northern Region for the period from date of commercial operation to 31.3.2014 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
"Saudamani", Plot No.2,
Sector-29, Gurgaon -122 001 (Haryana)

.....Petitioner

Vs

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited,
Vidyut Bhawan, Vidyut Marg,
Jaipur- 302 005
2. Ajmer Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur
3. Jaipur Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur
4. Jodhpur Vidyut Vitran Nigam Limited,
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 Limited,
Shakti Bhawan, 14, Ashok Marg,
Lucknow-226 001
10. Delhi Transco Limited,
Shakti Sadan, Kotla Road,
New Delhi-110 002
11. BSES Yamuna Power Limited,
BSES Bhawan, Nehru Place,
New Delhi
12. BSES Rajdhani Power Limited,
BSES Bhawan, Nehru Place,
New Delhi
13. North Delhi Power Limited,
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 Limited,
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 S. K. Venkatesan, PGCIL
Shri M. M. Mondal, PGCIL
Ms. Sangeeta Edwards, PGCIL
Shri S.S Raju, PGCIL
Shri P. Saraswat, PGCIL

For respondent : Shri R. B. Sharma, Advocate, BRPL
Shri Padamjit Singh, PSPCL
Shri T.P.S. Bawa, PSPCL

ORDER

This petition has been filed by Power Grid Corporation of India Limited (PGCIL) seeking approval of transmission tariff for transmission assets (Group-2) associated with 765 KV System for Central Part of Northern Grid Part-II in Northern Region (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 (IA) of the project was accorded by Board of Directors of POWERGRID vide letter No. C/CP/765KV System in Northern Grid dated 30.7.2009 for ₹173636 lakh including IDC of ₹11662 lakh (based on 1st Quarter, 2009 price level).

3. The scope of work covered under the project is as follows:-

Sub-stations



- (a) New 4x1500 MVA. 765/400 kV Sub-station at Jhatikara
- (b) Augmentation of 400/220 kV Meerut Sub-station to 2x1500 MVA, 765/400 kV Sub-station
- (c) Augmentation of 400/220 kV Moga Sub-station to 2x1500 MVA, 765/400 kV Sub-station
- (d) Extension of Agra 765/400 kV Sub-station

Reactive Compensation

<u>Line Reactors</u>	Line Reactor-From Bus	Line Reactor-to bus
Agra-Jhatikara 765 kV S/C line	--	240 MVAR (Switchable)
Meerut-Agra 765 kV s/c line	240 MVAR (Switchable)	--
Bhiwani-Moga 765 kV S/c line	--	240 MVAR (Switchable)

Bus Reactors

- (a) 1x 240 MVAR Bus Reactor at Jhatikara
- (b) 1x 240 MVAR Bus Reactor at Meerut
- (c) 1x 240 MVAR Bus Reactor at Moga

4. Details of the assets for which the petitioner has claimed tariff through this petition and their respective scheduled and actual dates of commercial operation are as follows: -

S. No	Name of the Asset	Scheduled completion date as per investment approval	Actual dates of commercial operation
(a)	Asset-I: 765/400/33 kV, 1500 MVA ICT-I at Jhatikara Sub-station	1.2.2012	1.10.2012
(b)	Asset-II: 765/400/33 kV, 1500 MVA ICT-II at Jhatikara Sub-station		
(c)	Asset-III: 765/400/33 kV, 1500 MVA ICT-III at Jhatikara Sub-station		
(d)	Asset-IV: 765/400/33 kV, 1500 MVA ICT-IV at Jhatikara Sub-station		
(e)	Asset-V: 765/400/33 kV, 1500 MVA ICT-I at Meerut Sub-station		1.2.2013
(f)	Asset-VI: 765/400/33 kV, 1500 MVA ICT-II at Meerut Sub-station		

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

(₹ in lakh)

Particulars	Combined Asset I to IV		Combined Asset V and VI	
	2012-13	2013-14	2012-13	2013-14
Depreciation	844.46	1,941.16	177.54	1,201.53
Interest on Loan	1,093.29	2,365.31	191.64	1,247.57
Return on equity	952.63	2,156.69	176.34	1,193.43
Interest on Working Capital	82.95	183.48	15.29	101.20
O & M Expenses	297.20	628.40	49.53	314.20
Total	3270.53	7275.04	610.34	4057.93

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

(₹ in lakh)

Particulars	Combined Asset I to IV		Combined Asset V and VI	
	2012-13	2013-14	2012-13	2013-14
Maintenance Spares	89.16	94.26	44.58	47.13
O & M expenses	49.53	52.37	24.77	26.18
Receivables	1090.18	1212.51	610.34	676.32
Total	1228.87	1359.14	679.69	749.63
Interest	82.95	183.48	15.29	101.20
Rate of Interest	13.50%	13.50%	13.50%	13.50%

7. 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. Punjab State Power Corporation Ltd. (PSPCL), Respondent No. 6 and BSES Rajdhani Power Ltd. (BRPL), Respondent No. 12 have filed reply in response to the petition. The averments of the respondents in their replies and the response of the petitioner thereto are discussed in the respective paragraphs of this order herein below.

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

Capital cost

9. As regards the capital cost, Regulation 7 of the 2009 Tariff Regulations provides as under:-

“(1) Capital cost for a project shall include:-

- (a) The expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan – (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the fund deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check.
- (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.”

10. The details of apportioned approved cost, actual expenditure incurred as on date of commercial operation (hereinafter referred to as “DOCO”) and

details of additional capital expenditure (hereinafter referred to as “add cap”) incurred/projected to be incurred for the assets covered in the petition based on Auditor Certificate, as submitted by the petitioner vide its affidavit dated 7.10.2013 are as follows:-

Asset Element	Apportioned approved cost as per FR	Expenditure up to DOCO*	Projected additional capital expenditure		Total estimated completion cost
			2012-13	2013-14	
Combined Assets-I to IV	57444.28	33097.04	6466.12	3122.60	42685.76
Combined Assets-V & VI	27953.50	18702.60	2945.06	2218.04	23865.70
Total	85397.78	51799.64	9411.18	5340.64	66551.46

*Inclusive of initial spares of ₹629.60 lakh for sub-station of Assets I to IV and ₹474.12 lakh for sub-station of assets V and VI.

Cost over-run

11. It is seen from the details submitted by the petitioner that the total estimated completion cost of the assets up to 31.3.2014 is ₹42685.76 lakh against apportioned approved cost of ₹57444.28 lakh in respect of combined assets I to IV. Likewise, the estimated completion cost upto 31.3.2014 in respect of Assets V and VI is ₹23865.70 lakh against approved cost of ₹27953.50 lakh. Evidently, the estimated completion cost of the transmission assets is within the apportioned approved cost.

12. As regards the details of cost furnished by the petitioner, PSPCL vide affidavit dated 13.7.2012 as well as during hearing on 11.3.2014 pointed out that as against the approved cost of ₹8046 lakh towards transformer at Jhatikara, the actual cost incurred is ₹3578 lakh as per Form 5B of the petition. As per Form 5C, the petitioner has purchased 1500 MVA ICTs from Hyosung Corporation, a Chinese/ Korean company at about 45% of the

approved cost which implies that the quality aspects need to be examined. Representative of PSPCL sought details of quality control measures to ensure that the low cost equipment would be able to give full service for 25 years; provisions for warranty in the contract; and whether any spare 500 MVA ICT has been procured as spare/ standby for the 12 Nos. 500 MVA single phase ICTs.

13. BRPL has also raised the issue of huge over estimation in the approval of the project scheme by the petitioner's Board.

14. In response to the above, the representative of the petitioner submitted during the hearing that overall cost is within apportioned approved cost and revised management certificate based on actual date of commercial operation has already been submitted vide affidavit dated 7.10.2013.

15. During hearing, the Commission directed the petitioner to submit the following, on affidavit, with copy to the respondents:-

- (a) Memorandum of IA;
- (b) Details of quality control measures to ensure that the low cost equipment would be able to give full service for 25 years; provisions for warranty in the contract; and whether any spare 500 MVA ICT has been procured as spare/ standby for the 12 Nos. 500 MVA single phase ICTs.

16. In response to the above, the petitioner, vide affidavit dated 5.5.2014 has submitted the following:-

- (a) Copy of IA.

(b) Quality Assurance Test of all these 10 transformers has been carried out as per the Standard Manufacturing Quality Plan (MQP). The Sub vendor approval, stage inspection, process record reviews, final routine inspections etc. have been carried out in line with the approved MQP. All these transformers have been accepted after satisfactory tests in accordance with IEC. DGA & Oil Parameters are also being monitored regularly to check the field performance which has been found satisfactory.

17. As regards huge over-estimation of cost raised by BRPL, the petitioner has submitted that the estimates are prepared as per well defined procedures for cost estimate. The cost estimate is 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 are lower as compared to the cost estimate depending upon prevailing market conditions. Further, it is submitted that the cost estimate is on the basis of 1st Quarter, 2009 price level, whereas the contract date is 3rd/4th Quarter' 2009 price level.

18. Having considered the rival submissions in the matter of capital cost of the assets, we are convinced that the claim of the petitioner is in order. Accordingly, the capital cost as on 31.3.2014 has been considered as

₹42685.76 lakh and ₹23865.70 lakh for Combined Assets I to IV and Combined Assets V and VI respectively.

Time over-run

19. As per the investment approval, the project was scheduled to be commissioned by 1.2.2012. Against this Combined Assets I to IV was commissioned on 1.10.2012 and Combined Assets V and VI was commissioned on 1.2.2013. Thus, there is a delay of 8 months in the case of Combined Assets I to IV and 12 months in the case of Combined Assets V and VI.

20. The following reasons have been mentioned in the petition, by way of explaining the delay:-

(a) **Sub-Station Land:** Possession of land for Jhatikara Sub-station was received on 22.9.2009. Work delayed in some part of land, as forest clearance was received on 24.6.2010, for which application was moved by the petitioner in October, 2009. Work of Jhatikara also hampered by the villagers on issue of disbursement of payment which was cleared in June, 2011.

(b) **Supply of ICT:** Delay in supply of ICTs was attributable to the fact that the vessel containing transformers shipped from Korea took 3 months to be delivered at Haldia and; Unloading of transformers from barage got delayed due to heavy flood in Ganga River.

21. Time over-run has been objected to by both PSPCL and BRPL. PSPCL has pointed out vide its affidavit dated 3.7.2012 that cost escalation attributable to the delay in the matter of delivery of ICTS cannot be loaded on the beneficiaries. It has been suggested that the petitioner ought to recover the charges/penalty/LD from the Supplier. BRPL has also prayed vide its affidavit of 23.12.2013 that the IDC and IEDC be not allowed for the period of time over-run

22. Subsequent to the commissioning of the assets, the petitioner vide affidavit dated 7.3.2014 has submitted the following information pertaining to time over-run:-

ICT-I & II for Meerut Sub-station:

(a) The commissioning of 765 kV S/C Agra-Meerut line (NCR-Part-I) and 765/400 kV ICTs at Meerut were planned to be completed simultaneously. However due to severe RoW issues, Agra-Meerut line could not be completed in time. Consequently, ICTs could not be charged due to non availability of 765 kV Voltage at Meerut. Details of court cases filed by affected parties which delayed the completion of Agra-Meerut line have also been submitted.

(b) Subsequently high voltage problem was encountered at Meerut Sub-station during light load conditions. In order to mitigate this problem, CEA accorded concurrence to commission line reactors at Meerut end (for associated 765 kV lines) vide letter dated 31.1.2013.

Accordingly, the ICTs at Meerut along with reactors were commissioned on 1.2.2013.

ICT-I, II, III & IV for Jhatikara Sub-station:-

(c) Due to severe RoW issues, Jhatikara-Bhiwani 765 kV S/C line and LILO of both Ckts of Mundka/Bawana-Bamnouli 400 kV D/C line at Jhatikara Sub-station could not be completed in time. Consequently, 765/ 400 kV ICTs could not be charged at Jhatikara due to non-availability of 765 kV voltage. Details of court case filed by affected parties which delayed the completion of these assets have been submitted. After disposal of court cases 4x1500 MVA ICTs at Jhatikara Sub-station were commissioned on 1.10.2012 along with above transmission line.

23. Alongside the issue of time over-run, the respondents have raised one more moot question relating to the date of commissioning of the assets. PSPCL vide affidavits dated 3.7.2012 and 11.2.2013 as well as during hearing on 11.3.2014 has emphasized the non-utility of the assets covered in this petition due to delay in related projects. Gist of the submissions by PSPCL are as under :-

(a) The 1500 MVA ICTs at Jhatikara or at Meerut are of no use unless there is a 765 kV line which gives power into the network. The petitioner should claim COD only when the 765 kV lines which are to feed power into the 765 kV ring main are commissioned and in a position to transmit

power corresponding to the capacity of the ICTs, for which the transmission charges are being claimed.

(b) The petitioner should submit the DOCO certificates of each of the 1500 MVA ICTs at Jhatikara and Meerut giving necessary details of trial operation and regular service; regular service can commence only when the 765 kV lines Agra-Jhatikara and Agra-Meerut are commissioned.

(c) Investment approval appended to the petition stipulates that the commissioning schedule of Part II assets (including ICTs at Jhatikara and Meerut) should be matched with commissioning schedule of transmission lines at Part I of the project. The petitioner is required to ensure compliance of this condition stated in the approval.

(d) The CEA letter dated 31.2.2013 is from System Planning and Project Appraisal Division whereas Inspector gives clearance for charging assets.

24. BRPL has also, vide reply dated 23.12.2013, pointed out that the assets covered in this petition were to be commissioned along with the transmission lines of Part I.

25. In response to the above, the representative of the petitioner clarified during the hearing that Agra-Jhatikara line was nowhere stated to be a pre-condition for the system. He further stated that Hyosung Corporation was awarded the contract as it quoted less in International Competitive Bidding.

26. During hearing, the Commission directed the petitioner to submit an affidavit, with copy to the respondents, the DOCO certificates of each of the

1500 MVA ICTs at Jhatikara and Meerut giving details of trial operation and regular service.

27. In response to it, petitioner vide affidavit dated 5.5.2014 has submitted the copy of DOCO letters along with date of commissioning of assts covered under NCR Part-1 and NCR Part-2. Following is the gist of the submissions by the petitioner:

(a) The 4x1500 MVA ICT at Jhatikara has been commissioned along with 765 kV S/C Jhatikara-Bhiwani Transmission line and LILO of 400 kV D/C Mundka/Bawana-Bamnouli line at Jhatikara Sub-station on 1.10.2012 and thereby power flow commenced between 400 kV and 765 kV NCR ring feeder.

(b) The A.C transmission elements are such that once successfully test charged the elements are immediately available for transmission of power 100 % of its rated capacity.

(c) All the relevant checks are carried out before charging and once successfully test charged the transmission elements are available for regular service at the rate of 100% of its rated capacity and hence declared for commercial operation.

28. Regarding PSPCL query in respect of clearance for charging assets from Inspector, petitioner submitted that CEA letter dated 31.1.2013 issued from System Planning & Project Appraisal Division is for in-principle technical approval for charging assets. The letter issued from Regional Inspectorial

Organization (North) to commission the ICTs at Meerut and Jhatikara Sub-station has been submitted.

29. Thereupon, the following information was sought from the petitioner, RIO (North) CEA and POSOCO vide letter dated 11.11.2014:-

(a) The petitioner had submitted that temporary approval was obtained for Test energization of 765 kV equipment at Meerut (RIO letter: NRIO/PGCIL-233/Meerut/UP/2940-941 dated 31.1.2013), under Regulation 43 (2) of CEA (Measures Related to Safety and Electricity Supply) Regulations, 2010. Whether this temporary energization under Regulation 43 (2) of CEA (Measures related to Safety and Electricity Supply) is sufficient for trial operation and Regular service of 765 kV ICTs, bays and reactors?

(b) When final approval of energization under Regulation 43, read with 46 and other Regulations of CEA (Measures Related to Safety and Electricity Supply) Regulations, 2010, was given by CEA? A copy of the same to be furnished.

(c) How 765 kV ICTs, its bays and reactors were used without being connected with any 765 kV line?

30. In response to it, petitioner vide affidavit dated 10.12.2014 has submitted as under:-

(a) Based on clearance of CEA, charging of ICT-I was done on 31.1.2013 after carrying out all the necessary pre-commissioning tests

and after obtaining charging clearance from OS department POWERGRID as desired by CEA

(b) The assets are in service since then and hence declared under commercial operation w.e.f. 1.2.2013. 765 kV reactor was put into service through 765/400 kV ICTs to contain high voltage in the 400 kV network around Meerut area which remained 420 kV and above for around 16% of the time during December, 2012 and January, 2013. This clearly justifies the requirement and utilization of these assets.

31. We are at pains to note the petitioner has not responded to our query as to when the final approval of energization was issued by CEA, who had issued the certificate for temporary charging for conducting pre-commissioning tests. It is our view that system should not be declared under commercial operation based on temporary energization certificate. Further, ICTs remain unused without connection to 765 kV side. The 765 kV line (Agra-Meerut line) which was also to be built by the petitioner. Charging of 765 kV line reactor through ICT for controlling 400 kV Voltage is not proper. They are designed for controlling voltage of 765 kV line. For the sake of obtaining approval for transmission tariff the petitioner has provided trivial justification. We cannot load the beneficiaries without substantive utilization of the assets. Accordingly we hold that the date of commercial operation of Combined Assets V and VI should be 1.6.2013 i.e. aligned with the commissioning of 765 kV Meerut-Agra Line. The petitioner is at liberty to submit revised cost as on 1.6.2013 for the assets at Meerut which will be considered at the time of truing-up in accordance with law.

32. As regards the delay in commissioning Combined Assets I to IV, the petitioner, vide its affidavit dated 7.3.2014, has attributed the same to RoW issues in commissioning Jhatikara-Bhiwani 765 kV S/C line and LILO of both Ckts of Mundka/Bawana-Bamnouli 400 kV D/C line at Jhatikara Sub-station. We notice that no documentary evidence such as letters to concerned authorities such as DC/ Police etc have been submitted substantiating the quantum of time lost in resolving the RoW issues. We therefore hold that the delay of 8 months in commissioning of Combined Assets I to IV, cannot be condoned. Same is the case with the delay in commissioning of Combined Assets V and VI, which is also attributed to RoW issues pertaining to the delay in commissioning of 765 kV S/C Agra-Meerut line (NCR-Part-I). In the absence of documentary evidence in support of the averments of the petitioner, we hold that there is no justification for condoning the delay of 12 months in commissioning of the Combined Asset V and VI.

33. Based on the above, the following adjustments are made by way of disallowing IDC and IEDC:-

(₹ in lakh)

Combined Assets I to IV		
As per Management Certificate dated 11.9.2013	IEDC	IDC
IEDC/IDC upto 31.03.2012 (32 months)	340.72	922.68
IEDC/IDC for the period 1.4.2012 to 30.9.2012 (6 months)	94.44	1488.28
Total IDC and IEDC Claimed for the total period of Completion (38 Months)	435.16	2410.96
Detail of IEDC/IDC Disallowed for 8 months		
IEDC/IDC for the period 1.4.2012 to 30.9.2012 (6 months)	23.61	372.07
Pro-Rata IEDC/IDC Disallowed (2 months)	5.32	14.42
Total disallowed (8 months)	115.74	1545.95

(₹ in lakh)

Combined Assets V and VI		
As per Management Certificate dated 25.7.2013	IEDC	IDC
IEDC/IDC upto 31.03.2012 (32 months)	70.66	145.74
IEDC/IDC for the period 01.04.2012 to 31.1.2013 (10 months)	180.68	1246.72



Total IDC and IEDC Claimed for the total period of Completion (42 Months)	251.34	1392.46
Detail of IEDC/IDC Disallowed for 12 months		
Pro-rata for 2 months	4.42	9.11
IEDC/IDC for the period 01.04.2012 to 31.1.2013 (10 months)	180.68	1246.72
Total disallowed (12 months)	185.10	1255.83

Initial Spares

34. 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%

35. Details of the initial spares claimed for all the assets and the percentage thereof are summarized in the table below:-

Assets	Sub-station cost	Initial spares claimed	(₹ in lakh)
			% age
Asset-I	10671.44	157.40	1.47
Asset-II	10671.44	157.40	1.47
Asset-III	10671.44	157.40	1.47
Asset-IV	10671.44	157.40	1.47
Asset-V	11932.85	237.06	1.98
Asset-VI	11932.85	237.06	1.98

36. It is seen from the above that the cost of initial spares in respect of all the assets is within the ceiling limit specified in Regulation 8 of the 2009 Tariff Regulations. Accordingly, the same are allowed.

37. 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 disallowed IDC and IEDC is as

follows:-

(₹ in lakh)

Particular	Combined Assets I to IV	Combined Assets V and VI
Freehold Land	4,094.88	-
Leasehold Land	-	-
Building and other civil works	596.05	1.22
Transmission Line	-	-
Sub-Station Equipments	26,744.42	17,260.46
PLCC	-	-
Capital Cost considered as on COD*	31,435.36	17,261.68

*Inclusive of admissible initial spares of respective sub-station.

Additional Capital Expenditure

38. 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.”

39. 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”.

40. The additional capital expenditure claimed for the period 2012-13 and 2013-14 is towards balance and retention payment which is admissible under

Regulation 9(1) of the 2009 Tariff Regulations. Accordingly, the additional capital expenditure from date of commercial operation to 31.3.2014 has been considered to work out the tariff.

41. Based on the foregoing, the capital cost after making necessary adjustments towards IDC and IEDC and taking into account the admissible additional capital expenditure is as follows:-

(₹ in lakh)

Combined Assets I to IV					
Capital Cost	Capital Cost as on COD after disallowing IDC, IEDC	Projected Additional Capitalisation			Admitted Cost as 31.3.2014
		2012-13	2013-14	Total	
Freehold Land	4,094.88	-	-	-	4,094.88
Leasehold Land	-	-	-	-	-
Building & Other Civil Works	596.05	85.88	7.64	93.52	689.57
Transmission Line	-	-	-	-	-
Sub-Station Equipments	26,744.42	6,380.24	3,114.96	9,495.20	36,239.62
PLCC	-	-	-	-	-
Total	31,435.36	6,466.12	3,122.60	9,588.72	41,024.08

(₹ in lakh)

Combined Assets V and VI					
Capital Cost	Capital Cost as on COD after disallowing IDC, IEDC	Projected Additional Capitalisation			Admitted Cost as 31.3.2014
		2012-13	2013-14	Total	
Freehold Land	-	-	-	-	-
Leasehold Land	-	-	-	-	-
Building & Other Civil Works	1.22	-	-	-	1.22
Transmission Line	-	-	-	-	-
Sub-Station Equipments	17,260.46	2,945.06	2,218.04	5,163.10	22,423.56
PLCC	-	-	-	-	-
Total	17,261.68	2,945.06	2,218.04	5,163.10	22,424.78

Debt- equity ratio

42. 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.”

43. The debt-equity ratio claimed by the petitioner in respect of the capital cost as on respective COD(s) of the assets as well as in respect of the additional capitalization is 70:30. The same has been allowed being in accordance with the above regulations.

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

Return on equity (RoE)

45. 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".

46. The petitioner has submitted that it may be allowed to recover the shortfall or refund the excess Annual Fixed Charges, on account of 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 under Regulation 15(5) of the 2009 Tariff Regulations. We would like to clarify that the petitioner is allowed to recover the shortfall or refund the excess Annual Transmission Charges under Regulation 15(5) of the 2009 Tariff Regulations. Accordingly, RoE has been computed @ 17.481% p.a on average equity as per Regulation 15(5) of the 2009 Tariff Regulations.

47. In this order, RoE 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.

48. Details of RoE calculated are as under:-

(₹ in lakh)

Particulars	Combined Asset I to IV		Combined Asset V and VI	
	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Opening Equity	9430.61	11370.44	5178.50	6062.02
Addition due to Additional Capitalisation	1939.84	936.78	883.52	665.41
Closing Equity	11370.44	12307.22	6062.02	6727.43
Average Equity	10400.53	11838.83	5620.26	6394.73
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)	909.06	2069.55	163.75	1117.86

Interest on loan

49. 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.”

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

(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 the petition;

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

(c) Notwithstanding moratorium period availed by the transmission licensee, the repayment of the loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed;

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

51. Detailed calculation of the weighted average rate of interest has been given in Annexure 1 and 2 of this order.

52. Details of interest on loan calculated are as follows:-

(₹ in lakh)

Particulars	Combined Asset I to IV		Combined Asset V and VI	
	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Gross Normative Loan	22004.75	26531.03	12083.17	14144.71
Cumulative Repayment upto Previous Year	0.00	800.94	0.00	164.86
Net Loan-Opening	22004.75	25730.09	12083.17	13979.86
Addition due to Additional Capitalisation	4526.28	2185.82	2061.54	1552.63
Repayment during the year	800.94	1854.12	164.86	1125.45
Net Loan-Closing	25730.09	26061.79	13979.86	14407.04
Average Loan	23867.42	25895.94	13031.51	14193.45
Weighted Average Rate of Interest on Loan	8.7432%	8.7695%	8.1934%	8.2340%
Interest	1043.39	2270.95	177.96	1168.68

Depreciation

53. 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.”

54. Dates of commercial operation of assets covered in the petition fall in the years 2012-13. Accordingly these 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.

55. Details of the depreciation worked out are as follows:-

(₹ in lakh)

Particulars	Combined Asset I to IV		Combined Asset V and VI	
	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Opening Gross Block	31435.36	37901.48	17261.68	20206.74
Addition during 2009-14 due to Projected Additional Capitalisation	6466.12	3122.60	2945.06	2218.04
Closing Gross Block	37901.48	41024.08	20206.74	22424.78
Average Gross Block	34668.42	39462.78	18734.21	21315.76
Rate of Depreciation	4.6206%	4.6984%	5.2799%	5.2799%
Depreciable Value	27516.18	31831.11	16860.78	19184.18
Remaining Depreciable Value	27516.18	31030.16	16860.78	19019.32
Depreciation	800.94	1854.12	164.86	1125.45

Operation & Maintenance Expenses (O&M Expenses)

56. Clause (g) of regulation 19 of the 2009 Tariff Regulations specifies the norms for O&M Expenses based on the type of sub-station and transmission line. Norms specified in respect of the elements covered in the instant petition are as under:-

Bays	2012-13	2013-14
765 kV (₹ lakh/bay)	86.68	91.64
400 kV (₹ lakh/bay)	61.92	65.46

57.

58. Based on the above norms, the following O & M Expenses are allowed in respect of the assets covered in this petition: -

(₹ in lakh)

Elements	2012-13 (pro-rata)	2013-14
Combined Asset-I to IV		
4 nos., 765 kV bays	173.36	366.56
4 nos., 400 kV bays	123.84	261.84
Total O&M of Combined	297.20	628.40

Asset-I to IV		
Combined Asset-IV to VI	(pro-rata)	
2 nos., 765 kV bays	28.89	183.28
2 nos., 400 kV bays	20.64	130.92
Total O&M of Combined Asset-IV to VI	49.53	314.20

59. 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 would 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.

60. While specifying the norms for the O & M Expenses, the Commission has, in the 2009 Tariff Regulations, already factored 50% on account of pay revision of the employees of the PSUs after extensive consultation with the stakeholders. At this stage there does not seem to be any justification for deviating from the norms.

Interest on Working Capital

61. 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 one 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 per Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2011 dated 21.06.2011, Interest on working capital has been worked out considering interest rate @ 13.50% (Base rate as on 1.4.2012 and 350 basis points) for the assets.

62. Necessary computations in support of interest on working capital are given overleaf:-

(₹ in lakh)

Particulars	Combined Asset I to IV		Combined Asset V and VI	
	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Maintenance Spares	89.16	94.26	44.58	47.13
O & M expenses	49.53	52.37	24.77	26.18
Receivables	1043.46	1166.72	570.48	637.01
Total	1182.16	1313.35	639.83	710.33
Rate of Interest	13.50%	13.50%	13.50%	13.50%
Interest	79.80	177.30	14.40	95.89

Transmission Charges

63. The transmission charges being allowed for the transmission assets are summarized below:-

(₹ in lakh)

Particulars	Combined Asset I to IV		Combined Asset V and VI	
	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Depreciation	800.94	1854.12	164.86	1125.45
Interest on Loan	1043.39	2270.95	177.96	1168.68
Return on equity	909.06	2069.55	163.75	1117.86
Interest on Working Capital	79.80	177.30	14.40	95.89
O & M Expenses	297.20	628.40	49.53	314.20
Total	3130.39	7000.32	570.48	3822.09

Filing Fee and the Publication Expenses

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

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

Service Tax

65. 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 submitted that the petitioner's request for reimbursement for licence fee should be rejected as license fee is the eligibility fee of a licence holder and it is the onus of the petitioner. The petitioner has clarified that the licence fee has been a new component of cost to the transmission licence under O&M stage of the project and has become incidental to the petitioner only from 2008-09. We consider petitioner's prayer pre-mature and accordingly this prayer is rejected.

Sharing of Transmission Charges

66. The billing collection and disbursement of transmission charges shall be governed by provision of the Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses) Regulations, 2010.

67. This order disposes of Petition No. 100/TT/2012.

sd/-
(A. K. Singhal)
Member

sd/-
(M. Deena Dayalan)
Member

sd/-
(Gireesh B. Pradhan)
Chairperson

Annexure 1

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR COMBINED ASSETS I TO IV			
	Details of Loan	2012-13	2013-14
1	IFC		
	Gross loan opening	1942.86	1942.86
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	1942.86	1942.86
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	1942.86	1942.86
	Average Loan	1942.86	1942.86
	Rate of Interest	3.58%	3.58%
	Interest	69.55	69.55
	Rep Schedule	49 half yearly installments from 15.1.2015	
2	Bond XXIX		
	Gross loan opening	200.00	200.00
	Cumulative Repayment upto DOCO/previous year	0.00	16.67
	Net Loan-Opening	200.00	183.33
	Additions during the year	0.00	0.00
	Repayment during the year	16.67	16.67
	Net Loan-Closing	183.33	166.67
	Average Loan	191.67	175.00
	Rate of Interest	9.20%	9.20%
	Interest	17.63	16.10
	Rep Schedule	12 annual installments from 12.3.2013	
3	Bond XXXI		
	Gross loan opening	3200.00	3200.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	3200.00	3200.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	266.67
	Net Loan-Closing	3200.00	2933.33
	Average Loan	3200.00	3066.67
	Rate of Interest	8.90%	8.90%
	Interest	284.80	272.93
	Rep Schedule	12 annual installments from 25.2.2014	
4	Bond XXXIV		
	Gross loan opening	4700.00	4700.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	4700.00	4700.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00



	Net Loan-Closing	4700.00	4700.00
	Average Loan	4700.00	4700.00
	Rate of Interest	8.84%	8.84%
	Interest	415.48	415.48
	Rep Schedule	12 annual installments from 21.10.2014	
5	Bond XXXV		
	Gross loan opening	1124.00	1124.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	1124.00	1124.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	1124.00	1124.00
	Average Loan	1124.00	1124.00
	Rate of Interest	9.64%	9.64%
	Interest	108.35	108.35
	Rep Schedule	12 annual installments from 31.5.2015.	
6	Bond XXXVI		
	Gross loan opening	10249.88	10249.88
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	10249.88	10249.88
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	10249.88	10249.88
	Average Loan	10249.88	10249.88
	Rate of Interest	9.35%	9.35%
	Interest	958.36	958.36
	Rep Schedule	15 annual installments from 29.8.2016.	
7	Bond XXXVII		
	Gross loan opening	105.80	105.80
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	105.80	105.80
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	105.80	105.80
	Average Loan	105.80	105.80
	Rate of Interest	9.25%	9.25%
	Interest	9.79	9.79
	Rep Schedule	12 annual installments from 26.12.2015.	
8	Bond XXXVIII		
	Gross loan opening	838.67	838.67
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	838.67	838.67
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00

	Net Loan-Closing	838.67	838.67
	Average Loan	838.67	838.67
	Rate of Interest	9.25%	9.25%
	Interest	77.58	77.58
	Rep Schedule	Bullet Payment as on 9.3.2027	
9	Bond XXXIX		
	Gross loan opening	806.56	806.56
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	806.56	806.56
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	806.56	806.56
	Average Loan	806.56	806.56
	Rate of Interest	9.40%	9.40%
	Interest	75.82	75.82
	Rep Schedule	Bullet Payment as on 29.3.2027	
10	Bond XL (Add Cap 2012-13 Drawl 31.03.2013)		
	Gross loan opening	0.00	2268.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	2268.00
	Additions during the year	2268.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	2268.00	2268.00
	Average Loan	1134.00	2268.00
	Rate of Interest	9.30%	9.30%
	Interest	105.46	210.92
	Rep Schedule	12 annual installments from 28.6.2016	
11	Bond XLI		
	Gross loan opening	0.00	2258.26
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	2258.26
	Additions during the year	2258.26	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	2258.26	2258.26
	Average Loan	1129.13	2258.26
	Rate of Interest	8.85%	8.85%
	Interest	99.93	199.86
	Rep Schedule	12 annual installments from 19.10.2016	
	Total Loan		
	Gross loan opening	23167.77	27694.03
	Cumulative Repayment upto DOCO/previous year	0.00	16.67
	Net Loan-Opening	23167.77	27677.37
	Additions during the year	4526.26	0.00
	Repayment during the year	16.67	283.33

	Net Loan-Closing	27677.37	27394.03
	Average Loan	25422.57	27535.70
	Rate of Interest	8.7432%	8.7695%
	Interest	2222.76	2414.75

Annexure 2

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR COMBINED ASSETS V AND VI			
	Details of Loan	2012-13	2013-14
1	IFC		
	Gross loan opening	2600.21	2600.21
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	2600.21	2600.21
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	2600.21	2600.21
	Average Loan	2600.21	2600.21
	Rate of Interest	3.58%	3.58%
	Interest	93.09	93.09
	Rep Schedule	49 half yearly installments from 15.1.2015	
2	Bond XXIX		
	Gross loan opening	108.00	108.00
	Cumulative Repayment upto DOCO/previous year	0.00	9.00
	Net Loan-Opening	108.00	99.00
	Additions during the year	0.00	0.00
	Repayment during the year	9.00	9.00
	Net Loan-Closing	99.00	90.00
	Average Loan	103.50	94.50
	Rate of Interest	9.20%	9.20%
	Interest	9.52	8.69
	Rep Schedule	12 annual installments from 12.3.2013	
3	Bond XXXI		
	Gross loan opening	100.00	100.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	100.00	100.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	8.33
	Net Loan-Closing	100.00	91.67
	Average Loan	100.00	95.83
	Rate of Interest	8.90%	8.90%
	Interest	8.90	8.53
	Rep Schedule	12 annual installments from 25.2.2014	
4	Bond XXXIV		
	Gross loan opening	100.00	100.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	100.00	100.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	100.00	100.00
	Average Loan	100.00	100.00
	Rate of Interest	8.84%	8.84%



	Interest	8.84	8.84
	Rep Schedule	12 annual installments from 21.10.2014	
5	Bond XXXV		
	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	0.00
	Net Loan-Closing	1000.00	1000.00
	Average Loan	1000.00	1000.00
	Rate of Interest	9.64%	9.64%
	Interest	96.40	96.40
	Rep Schedule	12 annual installments from 31.5.2015.	
6	Bond XXXVI		
	Gross loan opening	5190.00	5190.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	5190.00	5190.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	5190.00	5190.00
	Average Loan	5190.00	5190.00
	Rate of Interest	9.35%	9.35%
	Interest	485.27	485.27
	Rep Schedule	15 annual installments from 29.8.2016.	
7	Bond XXXVII		
	Gross loan opening	400.00	400.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	400.00	400.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	400.00	400.00
	Average Loan	400.00	400.00
	Rate of Interest	9.25%	9.25%
	Interest	37.00	37.00
	Rep Schedule	12 annual installments from 26.12.2015.	
8	Bond XL		
	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	9.30%	9.30%
	Interest	186.00	186.00
	Rep Schedule	12 annual installments from 28.6.2016	
9	Bond XLI		

	Gross loan opening	1593.82	1593.82
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	1593.82	1593.82
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	1593.82	1593.82
	Average Loan	1593.82	1593.82
	Rate of Interest	8.85%	8.85%
	Interest	141.05	141.05
	Rep Schedule	12 annual installments from 19.10.2016	
10	Bond XLII		
	Gross loan opening	0.00	2061.54
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	2061.54
	Additions during the year	2061.54	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	2061.54	2061.54
	Average Loan	1030.77	2061.54
	Rate of Interest	8.80%	8.80%
	Interest	90.71	181.42
	Rep Schedule	Bullet Payment as on 13.3.2023	
	Total Loan		
	Gross loan opening	13092.03	15153.57
	Cumulative Repayment upto DOCO/previous year	0.00	9.00
	Net Loan-Opening	13092.03	15144.57
	Additions during the year	2061.54	0.00
	Repayment during the year	9.00	17.33
	Net Loan-Closing	15144.57	15127.24
	Average Loan	14118.30	15135.90
	Rate of Interest	8.1934%	8.2340%
	Interest	1156.78	1246.28