

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 82/TT/2012

Coram:

**Shri Gireesh B Pradhan, Chairperson
Shri M. Deena Dayalan, Member
Shri A. K. Singhal, Member
Smt. Neerja Mathur, Member (EO)**

**Date of Hearing: 4.3.2014
Date of Order : 3.7.2014**

In the matter of:

Approval of transmission tariff for Asset I : 765 kV Moga-Bhiwani T/L and Asset II : 765 kV Jatikalan-Bhiwani T/L associated with 765 kV system for Central Part of Northern Grid Part-I for tariff block 2009-14 under Regulation-86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2009 for determination.

And in the matter of:

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

..... Petitioner

Vs

- 1 Rajasthan Rajya Vidyut Prasaran Nigam Ltd
Vidyut Bhawan, Vidyut Marg, Jaipur – 302005
2. Ajmer Vidyut Vitran Nigam Ltd
400 KV GSS Buildig (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 Buildig (Ground Floor) Ajmer Road,
Heerapura, Jaipur
5. Himachal Pradesh State Electricity Board



Vidyut Bhawan, Kumar House Complex Building,
Shimla – 171004

6. Punjab State Electricity Board
The Mall, Patiala – 147001
7. Haryana Power Purchase Centre
Shakti Bhawan, Sector 6,
Panchkula – 134109
8. Power Development Deptt, Govt of Jammu and Kashmir
Mini Secretariat, Jammu
9. Uttar Pradesh Power Corporation Ltd
Shakti Bhawan,
14, Ashok Marg,
Lucknow – 266001
10. Delhi Transco Ltd
Shakti Sadan, Kotla Road,
New Delhi – 110002
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 and Load Despatch Group
Cennet Building
Adjacent to 66/11 KV Pitampura – 3
Grid Building, Near PP Jewellers
Pitampura Delhi 110034
14. Chandigarh Administration
Sector 9, Chandigarh
15. Uttarakhand Power Corporation Ltd
Urja Bhawan, Kanwali Road,
Dehradun
16. Chief Electrical Engineer,
North Central Railway
Allahabad
17. New Delhi Municipal Council
Palika Kendra, Sansad Marg,
New Delhi – 110001

Respondents

For petitioner : Shri S.S Raju, PGCIL
Shri A. M. Pavgi, PGCIL



Shri M. M. Mondal, PGCIL
Ms. Sangeeta Edwards, PGCIL
Shri S.K. Venkatesan, PGCIL
Shri P. Saraswat, PGCIL

For respondent : Shri R.B. Sharma, Advocate, BRPL
Shri Padamjit Singh, PSPCL

ORDER

The instant petition has been filed seeking approval for the transmission charges in respect of 765 kV Moga-Bhiwani transmission line (Asset-I) (and 765 KV Jatikalan-Bhiwani transmission line (Asset-II) associated with 765 kV system for the Central Part of Northern Grid Part-I (the transmission project) for 2009-14 period based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (the 2009 Tariff Regulations).

2. The administrative approval and expenditure sanction for the transmission project was accorded by the Board of Directors of the petitioner company vide letter No C/CP/765kV System in Northern Grid dated 20.2.2009 at an estimated cost of ₹134732 lakh including an IDC of ₹10270 lakh. The scope of work covered under the transmission project is as follows:-

- (i) Agra-Meerut 765 kV S/C transmission line – 260 km
- (ii) Agra-Jatikalan 765 kV S/C transmission line – 240 km
- (iii) Jatikalan-Bhiwani-Moga 765 kV S/C transmission line – 355 km
- (iv) LILO of both circuits of Mundka/Bawana-Bamnouli 400 kV D/C transmission line (quad) at Jatikalan – 5 km

3. The petitioner has filed the instant petition for approval of the transmission charges for the two assets, namely Asset-I and Asset-II (collectively referred to as

“the transmission assets”) based on the anticipated dates of commercial operation. However, the petitioner in its affidavit dated 13.9.2012 has stated that Asset-I was put under commercial operation on 1.6.2012. Similarly, the petitioner filed another affidavit dated 22.7.2012 informing that the date of commercial operation of Asset-II was 1.10.2012. The petitioner has revised its claim for the transmission charges considering the actual dates of commercial operation.

4. The revised transmission charges claimed by the petitioner based on the actual dates of commercial operation are given below:-

(₹ in lakh)

Particulars	Asset-I		Asset-II	
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Depreciation	1521.41	1863.38	285.50	588.82
Interest on Loan	1757.86	2003.13	336.08	654.03
Return on Equity	1511.12	1850.79	283.57	584.84
Interest on Working Capital	118.25	141.72	22.33	45.22
O & M Expenses	144.46	183.18	26.99	57.04
Total	5053.10	6042.20	954.47	1929.95

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

(₹ in lakh)

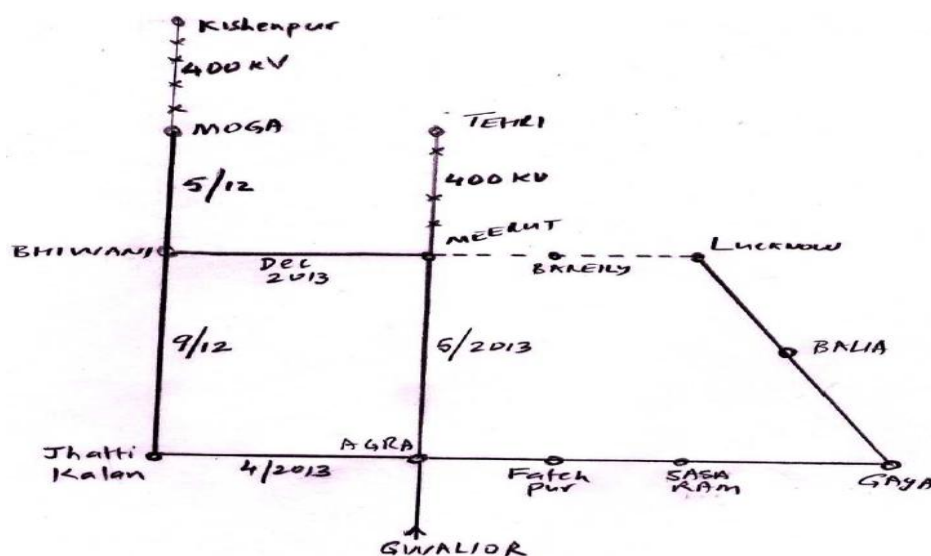
Particulars	Asset-I		Asset-II	
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Maintenance Spares	26.00	27.48	8.10	8.56
O & M expenses	14.45	15.27	4.50	4.75
Receivables	1010.62	1007.03	318.16	321.66
Total	1051.07	1049.77	330.76	334.97
Rate of Interest	13.50%	13.50%	13.50%	13.50%
Interest	118.25	141.72	22.33	45.22

6. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act. Respondent No.1 - Ajmer Vidyut Vitran Nigam Ltd. (AVVNL), Respondent No. 3 - Jaipur Vidyut Vitran Nigam Ltd (JVVNL), Respondent No. 4 - Jodhpur Vidyut Vitran Nigam Ltd (Jd.VVNL) have filed replies vide affidavits dated 17.5.2012. Punjab State Power Corporation Limited (PSPCL), Respondent No. 6, has filed its reply affidavit dated 19.9.2013, Uttar Pradesh Power Corporation Limited (UPPCL), Respondent No.9 has filed reply vide affidavit dated 12.12.2013, BSES Rajdhani Power Limited (BRPL), Respondent No. 12, has filed reply vide affidavit dated 9.12.2013. The petitioner has filed separate rejoinders to the reply filed by AVVNL, JVVNL, Jd.VVNL PSPCL, UPPCL and BRPL, vide affidavits dated 11.9.2013, 8.11.2013, 9.12.2013, 18.2.2014 and 11.4.2014 respectively. The objections raised by the respondents in their reply and the clarifications given by the petitioner are addressed in the relevant paragraphs of this order.

7. We have heard the representatives of the parties present at the hearing and have perused the material available on record.

8. PSPCL has pointed out that the injection point at 765 kV voltage level being Agra, the investment approval indicated the sequence of execution of the different elements of the transmission project. PSPCL has submitted that according to the investment approval Agra-Jatikanan transmission line was to be commissioned first, followed by Jatikanan-Bhiwani transmission line and further followed by Bhiwani - Moga transmission line. However, PSPCL pointed out that

the actual order of commissioning was reversed by the petitioner. PSPCL has submitted the following single line diagram of 765 kV system.



9. On the basis of the above single line diagram, it has been urged that 765kV supply received at Agra from (a) Gwalior and (b) Gaya-Sasaram – Fatehpur, is to be transmitted over Agra-Meerut transmission line and Agra-Jatikalán transmission line for further transmission. PSPCL has argued that Agra-Jatikalán transmission line was commissioned in March 2013 and Agra -Meerut transmission line in April 2013. Therefore, according to PSPCL, 765 kV supply from Agra on Jatikalán-Bhiwani-Moga transmission lines commenced only in April 2013.

10. PSPCL has submitted that the transmission project is meant for setting up a 765 kV ring main around Delhi / NCR and 765 kV spur line is Bhiwani-Moga transmission line (Asset-I). According to PSPCL, the scheme envisages 765 kV power injection at Agra and Meerut. The power injected at 765 kV voltage level at Agra is to be stepped down to 400 kV ring main through 765/400 kV ICTs to feed the 400 kV ring main and the grid sub-stations connected thereto, such as

Jatikan, Bhiwani and Moga and not *vice versa*, that is, the scheme does not envisage taking power at 400 kV voltage level and then stepping it up to 765 kV. It has been urged that after commissioning of Bhiwani-Moga transmission line (Asset-I), power from the existing sub-stations of 400 kV at Moga and Bhiwani was stepped up to 765 kV to charge and put in operation. Similarly, Jatikan-Bhiwani transmission line (Asset-II) was commissioned in September 2012 by stepping up 400 kV supply of Bhiwani to 765 kV and charging the transmission line in radial mode, in unloaded condition. Based on these submissions, it was urged on behalf of PSPCL that the tariff is being claimed on an idle/unloaded transmission line. PSPCL has pointed out that 765/400 kV ICTs at Bhiwani are 2x1000 MVA whereas the ICTs at Jatikan are 4x1500 MVA. Loading of Jatikan ICTs could be achieved in April 2013 after commissioning of Agra-Jatikan transmission line. Therefore, it is clear that Jatikan-Bhiwani transmission line (Asset-II) was charged on no load from Bhiwani. The functional requirement of giving power at 765 kV from Agra to Jatikan to Bhiwani to Moga could be achieved only after commissioning of Agra-Jatikan transmission line.

11. It was urged on behalf of PSPCL that by commissioning the transmission assets in reverse order the petitioner, as the Central Transmission Utility, has not executed the project in accordance with statutory requirement of Section 38 of the Electricity Act, 2003 which inter alia enjoins upon the Central Transmission Utility to discharge all functions of planning and coordination relating to inter-State transmission system and has to ensure the development of an efficient, coordinated and economical system of inter-State transmission lines for smooth flow of electricity from generating stations to the load centers.

12. In the above circumstances, according to PSPCL, the beneficiaries have been benefitted from the scheme only w.e.f. from April, 2013 with the commissioning of Agra-Jatikan transmission line. Therefore, in its view the petitioner's claim for the tariff from the dates of commissioning claimed is not justified. Therefore, it was argued that the date of commissioning of Asset-I and Asset-II should be taken as 1.4.2013.

13. The petitioner in its rejoinder has clarified the issues raised by respondent PSPCL. The petitioner has made the following submissions:-

(a) The investment approval merely lists the transmission lines to be commissioned and does not refer to the sequence in which these were to be commissioned. During discussions held in 26th Standing Committee Meeting of Northern Region constituents there was no such consideration made that 765 kV ring was to carry power injection from Western Region through Seoni-Bina-Gwalior section as claimed by PSPCL. On the other hand, load flow studies indicated that 80 MW power flowed from Agra (Northern Region) to Gwalior (Western Region). Charging of Seoni-Bina-Gwalior-Agra transmission line was envisaged as the associated transmission system for Sasan UMPP.

(b) Bhiwani 765/400 kV sub-station is connected (directly/indirectly) to many sources of power like 2500 MW HVDC of M/s Adani at Mohindergarh, Bawana CCGT, Jhajjar CLP and Aravalli Jhajjar (NTPC). Moga is a load center and is also connected to other load centers in the vicinity. A 765 kV transmission line offers lower impedance as compared to 400 kV

transmission lines. As such, Bhiwani-Moga transmission line (Asset-I) carries power from Bhiwani to Moga independent of other 765 kV transmission lines, depending on load generation scenario. Also even after commissioning of the entire system power can flow from 400 kV to 765 kV depending on pattern of load and generation balance. In this regard it has been observed that even after April, 2013 i.e. after commissioning of Agra-Jatikan transmission line many times power continues to flow from 400 kV to 765 kV at Bhiwani.

(c) Bhiwani-Moga transmission line (Asset-I) was put under operation on 1.6.2012, and Jatikan - Bhiwani transmission line (Asset-II) on 1.10.2012. Jatikan is part of Northern Grid with 400 kV connectivity by LILO of both circuits of Mundka/Bawana-Bamnauli 400 kV D/C transmission line (quad) at Jatikan. 400 kV system was also commissioned on 1.10.2012 matching with Jatikan - Bhiwani transmission line (Asset-II). Hence there was no radial unloaded line as claimed by PSPCL.

(d) 765/400 kV, 1500 MVA ICT-I, II, III and IV have been declared under commercial operation on 1.10.2012 matching with the date of commercial operation of Jatikan - Bhiwani transmission line (Asset-II). The date of commercial operation of LILO of both circuits of Mundka/Bawana-Bamnauli 400 kV D/C transmission line (quad) at Jatikan declared on 1.10.2012 and thereby connectivity of Bhiwani sub-station to both 765 kV & 400 kV side was completed. From the date of commercial operation, power is flowing on Jatikan – Bhiwani transmission line (Asset-II) depending upon grid conditions.

- (e) A transmission scheme consists of number of elements. Even though desirable, all the elements cannot be commissioned on the same day. The scheme is commissioned progressively and while commissioning, care is taken that the elements being commissioned strengthen the Grid. Bhiwani-Moga transmission line (Asset-I) was envisaged for supplying power to Punjab. From the day of commissioning of 765 kV Agra-Jatikan-Bhiwani transmission line (Asset-II) most of the time power is injected from 400 kV to 765 kV at Bhiwani. Hence the functional requirement of giving power at 765 kV from Agra to Jatikan to Bhiwani, as claimed by PSPCL did not happen even after commissioning of Agra-Jatikan transmission line. Also, strengthening schemes are evolved not specific to any identified source of power but are implemented to take care of anticipated power transfer requirements and to avoid transmission constraints that may arise in future. Further, with materialization of more generation in Punjab the power scenarios may change.
- (f) From the date of commercial operation, the transmission assets have been carrying power which has resulted in increase in power transfer capacity. The beneficiaries have benefitted from the commissioning of the transmission assets.
- (g) Delhi ring had high short circuit level and to restrict the short circuit the short circuit level; splitting was proposed at various locations including Jatikan. The same has also been discussed in the 26th Northern Region Standing Committee Meeting held on 13.10.2008

14. We have considered the issue of sequence of commissioning of the transmission assets raised on behalf of PSPCL. Though PSPCL has vehemently claimed that a particular sequencing was necessary for smooth transfer of power, the petitioner has with equal vehemence denied the PSPCL's contention. In this particular case, we are unable to uphold the contention to PSPCL for the reason that the investment approval does not speak of the sequence to be followed in the commissioning of various elements of the scheme. Neither has any other kind of evidence been produced on behalf of PSPCL. Therefore, we accept the petitioner's plea and examine its proposal for determination of tariff from the actual dates of commissioning of the transmission assets.

15. However, in our opinion, for implementation of any transmission scheme involving multiple assets, there must be an agreed sequencing plan, whether that is finally achieved or not is another issue. The execution sequence of transmission scheme may change at later stage because of certain constraints like RoW, changing power scenario, delay by supplier etc not foreseen at the planning stage, but to state that there was no agreed upon sequencing plan is not a proper project management practice and is not in spirit of Section 38 of the Electricity Act, according to which the responsibility for planning and coordination of the inter-State transmission system falls on the Central Transmission Utility, the petitioner. Accordingly, we hereby direct that henceforth while agreeing to the necessity of any transmission scheme having multiple elements, sequencing of commissioning of these elements should also be formulated. The sequencing plan must enable meeting the intended objective/use. The petitioner in its capacity as the Central Transmission Utility has an added responsibility to

execute the project with proper planning. It will be responsibility of the Regional Power Committees to monitor implementation of projects as per sequencing plan agreed upon at the Standing Committee. We make it clear that though all efforts need to be made for execution of the transmission scheme in accordance with agreed sequencing, for valid reasons the transmission licensee may deviate from the agreed sequencing plan. However, such deviations needs to be discussed and agreed upon in at Regional Power Committee forum.

Capital cost

16. Regulation 7 of the 2009 Tariff Regulations so far as relevant 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.”

17. The details of original apportioned approved capital cost, actual capital cost, as on the dates of commercial operation, and estimated additional capital expenditure projected to be incurred for the assets as indicated by the petitioner are given hereunder:-

	Apportioned approved cost	Actual Cost on DOCO	Projected additional capital expenditure		Estimated completion cost
			DOCO to 31.3.2013	2013-14	
Asset-I	40136.59	34006.36	1142.23	285.56	35434.15
Asset-II	13341.88	10670.91	287.12	387.79	11345.82

The petitioner has claimed opening capital cost of ₹34006.36 lakh and ₹10670.91 lakh as on date of commercial operation vide separate management certificates dated 3.7.2012 and 20.12.2012 for Asset-I and Asset-II respectively.

Initial spares

18. Regulation 8 of the 2009 Tariff Regulations provides for ceiling norms for capitalization of initial spares in respect of the transmission system as under:

“8. Initial Spares. Initial spares shall be capitalised as a percentage of the original project cost, subject to following ceiling norms:

(iv) Transmission system

(a) Transmission line - 0.75%

(b) Transmission Sub-station - 2.5%

(c) Series Compensation devices and HVDC Station - 3.5%

Provided that where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost under first proviso to clause (2) of regulation 7, such norms shall apply to the exclusion of the norms specified herein.

19. The actual cost on the date of commercial operation claimed by the petitioner is inclusive of the cost of initial spares. The petitioner has submitted the cost of initial spares included in the capital cost as follows:-

(₹ in lakh)			
Particulars	Initial Spares	Capital Cost as on 31.3.2014	Percentage
Asset-I	35434.15	256.57	0.72%
Asset-II	11345.82	72.63	0.64%

20. The cost of initial spares is within the ceiling limits specified under the 2009 Tariff Regulations and hence the claim on that account is in order. However, the same will be reviewed at the time of truing up on submission of actual capital expenditure incurred.

Time Over-run

21. As per the investment approval dated 20.2.2009, the assets were scheduled to be commissioned within 36 months from the date of investment approval, i.e. by 1.3.2012. Asset-I and Asset-II were put under commercial operation on 1.6.2012 and 1.10.2012 respectively after a delay of 3 months and 7 months. In its affidavit dated 13.9.2012 the petitioner has explained the reasons for delay.

22. The petitioner has submitted that land acquisition award for Bhiwani was given to it on 13.1.2011. However, the actual land was handed over in May 2011

for 765 kV switchyard and November 2011 for 400 kV switchyard. There was a delay of 4 to 10 months in handing over possession of land, because of agitation by local people and non-acceptance of land compensation. It has been further stated that in many tower locations the villagers created hindrance and obstructed construction of the transmission line. The resistance/obstruction by the villagers/land owners was so strong that the petitioner had to approach the authorities and the police for protection of its officials who carried out construction activities. Accordingly, the District Magistrate issued order for protection of the petitioner's officials. It was only with police protection coupled with meticulous planning and full effort that the petitioner was able to commission the transmission assets, though with marginal delay. Under the circumstances the petitioner has explained, the delay in completion of the transmission assets was beyond its control. The petitioner has also submitted copy of correspondences with the State authorities in this regard. It has been further explained that the request for acquisition of land was submitted to Financial Commissioner & Principal Secretary (Power), Chandigarh in August 2009 based on which notification under Section 4 of the Land Acquisition Act was issued in October 2009 and notifications under Sections 6 and 7 were issued in December 2009. However, land acquisition award under Sec-11 was promulgated on 13.1.2011; final possession of land was taken on 15.5.2011. The petitioner has submitted chronology of events in the affidavit dated 13.9.2012. The petitioner under the circumstances has sought condonation of delay in commissioning of transmission assets as it was for the reasons beyond its control.

23. AVVNL, JVVNL, Jd.VVNL, UPPCL and BRPL have submitted that there is delay of about four months in completing the works and any additional financial burden due to delay should be to the petitioner's account only. The petitioner in its rejoinder has clarified that reasons for delay are mainly due to delay in land acquisition in the initial stage and ROW problems during implementation. PSPCL has also opposed the petitioner's plea for condonation of delay, since, as per PSPCL's submissions already taken note of, the transmission assets were actually available for use by the beneficiaries only in April 2013.

24. The petitioner was directed to submit PERT chart. The petitioner in response stated that it was not maintaining PERT chart and has submitted L2 network instead. As per L2 network, the petitioner was to hand over leveled land to its contractor during 10.3.2010 to 13.4.2010. Land was to be acquired by State Government and then handed over to the petitioner. The acquisition of land was not in control of petitioner. Land acquisition award was promulgated on 13.01.2011 i.e. after 10 months. Because of delay in acquisition of land, the petitioner could not start other construction activities. As such, in our opinion delay in land acquisition has caused delay in commissioning of the transmission assets. Accordingly, we condone the delay of 3 months and 7 months in commissioning of Asset-I and Asset-II respectively. The plea of PSPCL for considering April 2013 as the date of commercial operation of the transmission assets has already been rejected.

Cost-variation

25. The AVVNL, JVVNL, Jd.VVNL, UPPCL and BRPL have submitted that estimated completion cost is much less than apportioned approved cost. The

petitioner has in its rejoinder clarified that the estimates are prepared as per well defined procedure for cost estimates. 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 may happen to be lower or higher than the cost estimate depending upon prevailing market conditions. In the instant case the awarded price was above the estimated FR rates in Sub-station items like Switchgear (CT, PT, Circuit Breaker, and Isolators) and auxiliary system. However, it is submitted that the overall estimated expenditure of ₹855.77 lakh is within the approved cost as per FR of ₹936.52 lakh. We have considered the submission made by the petitioner regarding cost-variation and it appears that the cost variation is beyond the petitioner's control and hence the cost variation is allowed.

26. The completion cost is lower than the estimated cost. As it has been observed by us in other petitions, the cost estimates of the petitioner are not realistic. We direct the petitioner to adopt a prudent procedure to make cost estimates of different elements of the transmission projects more realistic.

27. The petitioner has claimed capital cost of ₹34006.36 lakh and ₹10670.91 lakh for Asset-I and Asset-II respectively and the same has been considered for the purpose of determination of tariff.

Projected additional capital expenditure

28. 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.”

29. Clause (11) of Regulation 3 of tariff regulations defines “cut-off” date as under:

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

30. After taking in to account the dates of commercial operation of the assets, cut-off date arrived at is 31.3.2015.

31. The projected additional capital expenditure claimed by the petitioner, as at para 17 above, is stated to be on account of balance/retention payments. The expenditure claimed is within the cut-off date. Accordingly, the projected

additional capital expenditure is within the scope of Regulation 9 and is hereby allowed.

Gross Block

32. Based on the above, the gross block considered for the purpose of computation of the transmission charges is given hereunder:

Description	Apportioned approved cost	Gross block on DOCO	(₹ in lakh)		Gross block as on 31.3.2014
			Projected capital expenditure pertaining to DOCO to 31.3.2013	additional expenditure on sub-station 2013-14	
Asset-I	40136.59	34006.36	1142.23	285.56	35434.15
Asset-II	13341.88	10670.91	287.12	387.79	11345.82

Debt- equity ratio

33. 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.”

34. Details of debt-equity ratio as on respective date of commercial operation of the assets is as follows:-

(₹ in lakh)

Asset-I	Apportioned approved cost		Cost as on DOCO	
	Amount	%	Amount	%
Debt	28095.61	70.00	23804.45	70.00
Equity	12040.98	30.00	10201.91	30.00
Total	40136.59	100.00	34006.36	100.00
Asset-II	Amount		Amount	
	% %		% %	
Debt	9339.32	70.00	7469.64	70.00
Equity	4002.56	30.00	3201.27	30.00
Total	13341.88	100.00	10670.91	100.00

35. The debt-equity ratio for projected additional capital expenditure considered is as follows:-

(₹ in lakh)

	Asset-I		Asset-II	
	Amount	%	Amount	%
Particulars	Normative		Normative	
	2012-13		2012-13	
Debt	799.56	70.00	200.98	70.00
Equity	342.67	30.00	86.14	30.00
Total	1142.23	100.00	287.12	100.00
Particulars	2013-14		2013-14	
Debt	199.89	70.00	271.45	70.00
Equity	85.67	30.00	116.34	30.00
Total	285.56	100.00	387.79	100.00

36. Details of debt-equity ratio of the assets as on 31.3.2014 are given overleaf:-

(₹ in lakh)

	Apportioned approved cost		As on 31.3.2014	
Asset-I	Amount	%	Amount	%
Debt	28095.61	70.00	24803.91	70.00
Equity	12040.98	30.00	10630.25	30.00
Total	40136.59	100.00	35434.15	100.00
Asset-II	Amount	%	Amount	%
Debt	9339.32	70.00	7942.08	70.00
Equity	4002.56	30.00	3403.74	30.00
Total	13341.88	100.00	11345.82	100.00

Return on equity

37. 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".

38. The petitioner has claimed return on equity at the rate of 15.5% in accordance with clause (2) of Regulation 15 of the 2009 Tariff Regulations which has been allowed. The detailed calculations in support of RoE allowed are given below:-

(₹ in lakh)				
	Asset-I		Asset-II	
Return on Equity	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Opening Equity	10201.91	10544.58	3201.27	3287.41
Addition due to Additional Capitalisation	342.67	85.67	86.14	116.34
Closing Equity	10544.58	10630.25	3287.41	3403.74
Average Equity	10373.24	10587.41	3244.34	3345.57
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)	1511.12	1850.79	283.57	584.84

Interest on loan

39. Regulation 16 of the 2009 Tariff Regulations provides as under:-

"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.”

40. In keeping with the provisions of Regulation 16, the petitioner’s entitlement to interest on loan has been calculated on the following basis:-

(a) Gross amount of loan, repayment of instalments and rate of interest and weighted average rate of interest on actual average loan have been considered as per the petition.

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

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

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

Accordingly , the interest on loan has been calculated on the basis of prevailing rate available as on 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.

41. Detailed calculations in support of the weighted average rates of interest have been given in **Annexure I**.

42. Based on the weighted average rates of interest considered, interest on loan has been calculated as given overleaf:-

(₹ in lakh)

Particulars	Asset-I		Asset-II	
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Gross Normative Loan	23804.45	24604.01	7469.64	7670.62
Cumulative Repayment upto previous year	0.00	1521.41	0.00	285.50
Net Loan-Opening	23804.45	23082.60	7469.64	7385.12
Addition due to additional capital expenditure	799.56	199.89	200.98	271.45
Repayment during the year	1521.41	1863.38	285.50	588.82
Net Loan-Closing	23082.60	21419.11	7385.12	7067.75
Average Loan	23443.53	22250.86	7427.38	7226.44
Weighted Average Rate of Interest on Loan	8.9979%	9.0025%	9.0497%	9.0505%
Interest	1757.86	2003.13	336.08	654.03

Depreciation

43. 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.”

44. The petitioner’s entitlement to depreciation has been considered in accordance with clause (4) of Regulation 17 extracted above. The assets were put under commercial operation during 2012 and will complete 12 years beyond 2013-14 and hence depreciation has been calculated annually based on Straight Line Method at the rates of depreciation specified in Appendix-III to the 2009 Tariff Regulations for sub-station, as per details given in **Annexure VI**.

(₹ in lakh)

Particulars	Asset-I		Asset-II	
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Opening Gross Block	34006.36	35148.59	10670.91	10958.03
Addition due to Projected Additional Capitalisation	1142.23	285.56	287.12	387.79
Closing Gross Block	35148.59	35434.15	10958.03	11345.82
Average Gross Block	34577.48	35291.37	10814.47	11151.93
Rate of Depreciation	5.2800%	5.2800%	5.2800%	5.2800%
Depreciable Value	31119.73	31762.23	9733.02	10036.73
Remaining Depreciable Value	31119.73	30240.82	9733.02	9751.23
Depreciation	1521.41	1863.38	285.50	588.82

Operation & Maintenance Expenses (O&M Expenses)

45. Clause (g) of Regulation 19 of the 2009 Tariff Regulations prescribes the norms for O&M Expenses for the transmission system based on the type of sub-station and the transmission line. Norms prescribed in respect of 765 kV transmission line covered in the instant petition are as given overleaf:-

(₹ in lakh/km)					
Element	2009-10	2010-11	2011-12	2012-13	2013-14
Single Circuit (Bundled conductor with four or more sub conductors)	0.537	0.568	0.600	0.635	0.671

46. The allowable O&M Expenses for the assets covered in the petition are as under:-

(₹ in lakh)		
Particulars	2012-13 (pro-rata)	2013-14
Asset-I (273 km)	144.46	183.18
Asset-II (85 km)	26.99	57.04
Total	171.45	240.22

47. AVVNL, JVVNL and Jd.VVNL have submitted that the tariff should be determined only as per the 2009 Tariff Regulations.

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

49. The Commission has given effect to the impact of pay revision in the 2009 Tariff Regulations by factoring 50% on account of pay revision of the employees of PSUs after extensive stakeholders' consultation. We do not see any reason why the admissible amount is inadequate to meet the requirement of the

employee cost. However, in case the petitioner approaches with any such application, the same shall be dealt with in accordance with law.

Interest on Working Capital

50. 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' 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

In accordance with clause (3) of Regulation 18 of the 2009 Tariff Regulations, as amended, rate of interest on working capital shall be on normative basis and shall be equal to State Bank of India Base Rate as on 1st April of the year in which the asset is put under commercial operation plus 350 bps. The State Bank of India Base Rate was 10% as on 1.4.2012. Therefore, rate of interest works out to 13.50%. The interest on working capital for the assets covered in the petition has been worked out accordingly.

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

(₹ in lakh)

Particulars	Asset-I		Asset-II	
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Maintenance Spares	26.00	27.48	8.10	8.56
O & M expenses	14.45	15.27	4.50	4.75
Receivables	1010.62	1007.03	318.16	321.66
Total	1051.07	1049.77	330.75	334.97
Rate of Interest	13.50%	13.50%	13.50%	13.50%
Interest	118.25	141.72	22.33	45.22

Transmission charges

52. The transmission charges allowed are given overleaf:-

(₹ in lakh)

Particulars	Asset-I		Asset-II	
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Depreciation	1521.41	1863.38	285.50	588.82
Interest on Loan	1757.86	2003.13	336.08	654.03
Return on Equity	1511.12	1850.79	283.57	584.84
Interest on Working Capital	118.25	141.72	22.33	45.22
O & M Expenses	144.46	183.18	26.99	57.04
Total	5053.10	6042.20	954.47	1929.95

53. The transmission charges allowed for the first year of commercial operation of the respective asset are on proportionate basis, depending upon the number of months of commercial operation in the year.

54. The transmission charges allowed are subject to truing up in accordance with the 2009 Tariff Regulations.

Filing fee and the publication expenses

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

56. 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. BRPL and UPPCL 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. The petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 42A (1) (b) of the 2009 Tariff Regulations.

Service tax

57. 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. The BRPL and UPPCL have objected to recovery of service tax from the beneficiaries in future as CBEC has exempted service tax on transmission. Vide notification No. 11/2010-service tax dated 20.7.2010. The petitioner 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

58. The billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010, as amended from time to time.

59. This order disposes of Petition No. 82/TT/2012.

sd/-

(Neerja Mathur)
Member (EO)

sd/-

(A. K. Singhal)
Member

sd/-

(M. Deena Dayalan)
Member

sd/-

(Gireesh B. Pradhan)
Chairperson

Annexure I

Calculation of Weighted Average Rate of Interest on Actual Loans (₹ in lakh)

		Asset-I		Asset-II	
	Details of Loan	2012-13	2013-14	2012-13	2013-14
1	Bond XXIX				
	Gross loan opening	1050.00	1050.00	300.00	300.00
	Cumulative Repayment upto DOCO/previous year	0.00	87.50	0.00	25.00
	Net Loan-Opening	1050.00	962.50	300.00	275.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	87.50	87.50	25.00	25.00
	Net Loan-Closing	962.50	875.00	275.00	250.00
	Average Loan	1006.25	918.75	287.50	262.50
	Rate of Interest	9.20%	9.20%	9.20%	9.20%
	Interest	92.58	84.53	26.45	24.15
	Rep Schedule	12 annual installments from 12.3.2013			
2	Bond XXX				
	Gross loan opening	1540.00	1540.00	450.00	450.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	1540.00	1540.00	450.00	450.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	128.33	0.00	37.50
	Net Loan-Closing	1540.00	1411.67	450.00	412.50
	Average Loan	1540.00	1475.83	450.00	431.25
	Rate of Interest	8.80%	8.80%	8.80%	8.80%
	Interest	135.52	129.87	39.60	37.95
	Rep Schedule	12 Equal Annual Installments from 29.9.2013			
3	BOND-XXXI				
	Gross loan opening	4040.00	4040.00	1270.00	1270.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	4040.00	4040.00	1270.00	1270.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	336.67	0.00	105.83
	Net Loan-Closing	4040.00	3703.33	1270.00	1164.17
	Average Loan	4040.00	3871.67	1270.00	1217.08
	Rate of Interest	8.90%	8.90%	8.90%	8.90%
	Interest	359.56	344.58	113.03	108.32
	Rep Schedule	12 Equal Annual Installments from 25.2.2014			
4	Bond XXXIII				

	Gross loan opening	3470.00	3470.00	1100.00	1100.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	3470.00	3470.00	1100.00	1100.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	3470.00	3470.00	1100.00	1100.00
	Average Loan	3470.00	3470.00	1100.00	1100.00
	Rate of Interest	8.640%	8.640%	8.640%	8.640%
	Interest	299.81	299.81	95.04	95.04
	Rep Schedule	12 Equal Annual Installments from 8.7.2014			
5	Bond XXXIV				
	Gross loan opening	6200.00	6200.00	1950.00	1950.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	6200.00	6200.00	1950.00	1950.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	6200.00	6200.00	1950.00	1950.00
	Average Loan	6200.00	6200.00	1950.00	1950.00
	Rate of Interest	8.84%	8.84%	8.84%	8.84%
	Interest	548.08	548.08	172.38	172.38
	Rep Schedule	12 Equal Annual Installments from 21.10.2014			
6	Bond XXXVI				
	Gross loan opening	5696.79	5696.79	1022.80	1022.80
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	5696.79	5696.79	1022.80	1022.80
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	5696.79	5696.79	1022.80	1022.80
	Average Loan	5696.79	5696.79	1022.80	1022.80
	Rate of Interest	9.350%	9.35%	9.350%	9.35%
	Interest	532.65	532.65	95.63	95.63
	Rep Schedule	15 Equal Annual Installments from 29.8.2016			
7	Bond XXXV				
	Gross loan opening	780.00	780.00	320.00	320.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	780.00	780.00	320.00	320.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	780.00	780.00	320.00	320.00
	Average Loan	780.00	780.00	320.00	320.00
	Rate of Interest	9.640%	9.64%	9.640%	9.64%
	Interest	75.19	75.19	30.85	30.85

	Rep Schedule	12 Equal Annual Installments from 31.5.2015			
8	Bond XXVIII				
	Gross loan opening	340.00	340.00	110.00	110.00
	Cumulative Repayment upto DOCO/previous year	0.00	28.33	0.00	9.17
	Net Loan-Opening	340.00	311.67	110.00	100.83
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	28.33	28.33	9.17	9.17
	Net Loan-Closing	311.67	283.33	100.83	91.67
	Average Loan	325.83	297.50	105.42	96.25
	Rate of Interest	9.330%	9.330%	9.330%	9.330%
	Interest	30.40	27.76	9.84	8.98
	Rep Schedule	12 Equal Annual Installments from 15.12.2012			
9	Bond XL				
	Gross loan opening	0.00	687.66	650.00	650.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	687.66	650.00	650.00
	Additions during the year	687.66	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	687.66	687.66	650.00	650.00
	Average Loan	343.83	687.66	650.00	650.00
	Rate of Interest	9.30%	9.30%	9.30%	9.30%
	Interest	31.98	63.95	60.45	60.45
	Rep Schedule	12 annual installments from 28.6.2016			
10	SBI (21.03.2012)	0.00	0.00	296.84	296.84
	Gross loan opening	0.00	0.00	0.00	0.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	296.84	296.84
	Net Loan-Opening	0.00	0.00	0.00	0.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	296.84	296.84
	Net Loan-Closing	0.00	0.00	296.84	296.84
	Average Loan	0.00	0.00	10.50%	10.50%
	Rate of Interest	0.00	0.00	31.17	31.17
	Rep Schedule	22 Annual Installments from 31.8.2016			
	Total Loan				
	Gross loan opening	23116.79	23804.45	7469.64	7469.64
	Cumulative Repayment upto DOCO/previous year	0.00	115.83	0.00	34.17
	Net Loan-Opening	23116.79	23688.62	7469.64	7435.47
	Additions during the year	687.66	0.00	0.00	0.00
	Repayment during the year	115.83	580.83	34.17	177.50
	Net Loan-Closing	23688.62	23107.78	7435.47	7257.97
	Average Loan	23402.70	23398.20	7452.56	7346.72
	Rate of Interest	8.9979%	9.0025%	9.0497%	9.0505%
	Interest	2105.76	2106.42	674.43	664.92