CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 97/TT/2013

Coram:

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

Date of Hearing : 27.03.2014
Date of Order : 02.07.2014

In the matter of: Approval of transmission tariff for 125 MVAR Bus Reactor at Roorkee Sub-station under Northern Region System Strengthening Scheme XXI in Northern Region for tariff block 2009-14 under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations 1999 and Central Electricity Regulatory Commission (Terms & Conditions of tariff) Regulations 2009.

And In the matter of:

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

………Petitioner

Vs

1. Rajasthan Rajya Vidyut Prasaran Nigam Ltd.,
   Vidyut Bhawan, Vidyut Marg,
   Jaipur- 302 005.

2. Ajmer Vidyut Vitran Nigam Ltd.,
   400 kV GSS Building (Ground Floor), Ajmer Road,
   Heerapura, Jaipur.

3. Jaipur Vidyut Vitran Nigam Ltd.,
   400 kV GSS Building (Ground Floor), Ajmer Road,
   Heerapura, Jaipur.

4. Jodhpur Vidyut Vitran Nigam Ltd.,
   400 kV GSS Building (Ground Floor), Ajmer Road,
   Heerapura, Jaipur.

5. Himachal Pradesh State Electricity Board
   Vidyut Bhawan
   Kumar House Complex Building II
   Shimla-171 004.

6. Punjab State Electricity Board
   The Mall, Patiala-147 001.

7. Haryana Power Purchase Centre,
   Shakti Bhawan, Sector-6,
   Panchkula (Haryana)-134 109.

8. Power Development Deptt.
   Govt. of Jammu & Kashmir
   Mini Secretariat, Jammu

9. UP Power Corporation Ltd.,
   Shakti Bhawan, 14, Ashok Marg,
   Lucknow-226 001.

10. Delhi Transco Ltd.,
    Shakti Sadan, Kotla Road,
    New Delhi-110 002.

11. BSES Yamuna Power Ltd.,
    BSES Bhawan, Nehru Place,
    New Delhi.

12. BSES Rajdhani Power Ltd.,
    BSES Bhawan, Nehru Place,
    New Delhi.

13. North Delhi Power Ltd.,
    Power Trading & Load Dispatch Group,
    Cennet Building, Adjacent to 66/11kV Pitampura-3,
    Grid Building, Near PP Jewellers,
    Pitampura, New Delhi-110 034.

14. Chandigarh Administration,
    Sector-9, Chandigarh.

15. Uttarakhand Power Corporation Ltd.,
    Urja Bhawan, Kanwali Road,
    Dehradun.

16. North Central Railway,
    Allahabad.

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

For petitioner : Shri S.S. Raju, PGCIL
Ms. Sangeeta Edwards, PGCIL

		Shri M.M. Mondal, PGCIL Shri S.K. Venkatasan, PGCIL Shri R.V.M.M. Rao, PGCIL
For respondent	:	Shri R. B. Sharma, Advocate, BRPL Shri Padamjit Singh, PSPCL Shri T.P.S. Bawa, PSPCL

ORDER

The instant petition is filed by Power Grid Corporation of India Limited (PGCIL) seeking approval of transmission tariff in respect of 125 MVAR Bus Reactor at Roorkee Substation under Northern Region System strengthening scheme XXI in Northern Region from the date of commercial operation (hereinafter "DOCO") to 31.3.2014 for tariff block 2009-14 based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as "the 2009 regulations").

2. The administrative approval and expenditure sanction to the transmission project was accorded by the petitioner's Board of Directors vide letter dated 26 August, 2010 for ₹167757 lakh including an IDC of ₹12198 lakh based on 1st Quarter, 2010 price level.

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

Transmission Lines

(i) Lucknow – Bareilly 765 kV S/C line
(ii) Bareilly 765/400 kV (New) – Bareilly (400 kV – Existing) 400 kV D/C line (Quad)
(iii) Bareilly – Kashipur kV D/C line (Quad)
(iv) Kashipur – Roorkee 400 kV D/C line (Quad)
(v) Roorkee – Saharanpur 400 kV D/C line (Quad)

Sub-stations

i) New 2X1500 MVA, 765/400 kV Substation at Bareilly
ii) Extension of 765/400 kV substation at Lucknow (POWERGRID)
iii) Extension of 400 kV substation at Bareilly (POWERGRID)
iv) Extension of 400 kV substation at Kashipur (PTCUL)
v) Extension of 400 kV substation at Roorkee (POWERGRID)
vi) Extension of 400 kV substation at Saharanpur (POWERGRID)

Reactive compensation

(i) Lucknow – Bareilly 765kV S/C line 270 km (1X240 MVAR switchable line reactor)

Bus reactors

(i) Bareilly 765 kV 1X240MVAR
(ii) Roorkee – 1X125 MVAR

4. In the instant petition, transmission tariff is being determined in respect of 125 MVAR 400kV Bus Reactor at Roorkee Substation, (hereinafter referred to as "the transmission Asset") which was commissioned on 1.2.2013. All other assets of the scheme are under construction.

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

(₹ in lakh)

Particulars	2012-13 (Pro-rata)	2013-14
Depreciation	4.44	38.94
Interest on Loan	5.35	44.90
Return on equity	4.45	38.92
Interest on Working Capital	0.90	6.44
O & M Expenses	10.32	65.46
Total	**25.46**	**194.66**

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

(₹ in lakh)

Particulars	2012-13 (Pro-rata)	2013-14
Maintenance Spares	9.29	9.82
O & M expenses	5.16	5.46
Receivables	25.46	32.44
Total	**39.91**	**47.72**
Interest	0.90	6.44
Rate of Interest	13.50%	13.50%

7. Reply to the petition has been filed by BSES Rajdhani Power Limited (BRPL) vide affidavit dated 18.3.2014, Punjab State Power Corporation Limited (PSPCL) vide affidavit dated 25.6.2013 and Ajmer Vidyut Vitran Nigam Limited (AVVNL) vide affidavit dated 23.5.2013.

8. PSPCL has raised certain issues which are of general in nature and we would like to deal with them before we take up the issues related to tariff determination. PSPCL has pointed out that the present petition is for 1X125 MVAR 400 kV bus reactor at Roorkee and the utilization of bus reactor at Roorkee is possible only if the scheme as a whole is commissioned within the prescribed period of 32 months. PSPCL has sought the date of commercial operation of (i) 765 kV Lucknow–Bareilly line and 2X1500 MVA ICTs at Bareilly, (ii) 400 kV D/C quad line Bareilly- Kashipur- Roorkee and (iii) Roorkee- Saharanpur line, whose commissioning is necessary along with the bus reactor at Roorkee. PSPCL has pointed out that the bus reactor is to absorb the reactive power of the system connected to 400 kV Roorkee. The utility or purpose of 125 MVAR 400 kV bus reactor at Roorkee would be ensured, only if the above assets are commissioned and put into operational

use. PSPCL has also pointed out that in the DOCO letter, it is stated that the bus reactor was charged on 31.1.2013 at 18.20 hours. It is not possible to achieve the pre-condition of trial operation and regular service in order to achieve commissioning with effect from 0000 hours of 1.2.2013 in the short time duration available between 18.20 hours and 24.00 hours.

9. In response, the petitioner has submitted that under bus reactor scheme in Northern region, 10 number of bus reactors were approved and have been executed. The petitioner has further submitted that the constituents of Northern Region (NR) approved another seven bus reactors in NR (Phase-II). In both the schemes there are no transmission lines. A bus reactor is planned to compensate for the capacitive MVAR and for controlling the voltage of the grid. The capacitive MVAR being compensated would depend on grid conditions. Regarding utilization, the petitioner submitted that during January, 2013 Roorkee Bus voltage had touched 435 kV. Under such condition, Roorkee bus reactor would be utilized gainfully. The maximum bus voltage of Roorkee had crossed 420 kV in February and March, 2013. In the absence of the bus reactor the voltage would have been higher and commissioning of the instant reactor has helped the grid. The petitioner has further submitted that reactors are planned in such a way that reactive requirement is met locally. It is neither desirable nor technically possible to transfer reactive MVAR over long distances. In the present case a 125MVAR bus reactor was envisaged at 400kV Roorkee as it would help in compensation of Capacitive MVAR at vicinity of Roorkee. Regarding the respondent's claim that "765kV Lucknow-Bareilly and 765/400kV ICTs Bareilly are not commissioned then it would not

be justified to claim DOCO of bus reactor at Roorkee", the petitioner has clarified that Bareilly is to be connected to Roorkee via Bareilly-Kashipur-Roorkee 400kV D/C line. The line is about 250 km. Reactors are never planned that MVAR generated at a point would transfer over 250 km and then compensated. As regards regular service, the petitioner has submitted that the Bus Reactor at Roorkee is in regular service after charging as per the system requirement. Regarding trial operation, successful charging and declaration of date of commercial operation, the petitioner has submitted that AC transmission elements are such that once successfully test charged the elements are immediately available for transmission of power @100% of its rated capacity. Power flow through any AC element is dependent on grid condition and demand-supply situation of the grid which is beyond the control of the petitioner. Transmission elements are generally static in transmission system while in service and no rotation is involved. Unlike generation stations where one unit is connected with the grid at a certain load and with further additional input the load is increased to its rated capacity, in case of AC transmission elements no additional input is required for transmission of power at rated capacity. All the relevant tests/checks are carried out before charging and once successfully test charged the transmission elements are available for regular service @ 100% of its rated capacity, hence declared for commercial operation for 1st day of next calendar month. Since trial run is not defined in the Regulations, in respect of transmission element, successful test charging is considered as completion of trial run.

10. We have considered the issues raised by PSPCL and the clarifications given by the petitioner regarding the commissioning of the instant

transmission asset. We are of the view that the commissioning of the instant bus reactor has helped in controlling the voltage at Roorkee.

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

Capital Cost

12. As regards the capital cost, Regulation 7 (1) 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.

13. The details of apportioned approved cost, actual expenditure incurred as on date of commercial operation as per Auditor Certificate dated 19.3.2013 and details of estimated additional capital expenditure projected to be incurred for the period from 1.2.2013 i.e. date of commercial operation to 31.3.2014 for the transmission asset covered in the petition are as follows:-

(₹ in lakh)

	Apportioned Cost	Cost* incurred as on DOCO (01.02.2013)	Total Estimated Expenditure		Total Estimated Completion Cost
			DOCO to 31.03.13	2013-14	
Asset	1059.73	500.46	18.00	447.27	965.73

* including initial spares

14. The expenditure up to 31.12.2012 has been verified on the basis of the information drawn from the audited statement of accounts of the petitioner for the period upto 31.12.2012. The expenditure from 1.1.2013 to 31.1.2013 i.e. up to the date of commercial operation has been verified from the books of accounts of the project for the period. The estimated expenditure is on the basis of details furnished by the Management.

Cost over-run

15. BRPL has submitted that there is major cost variation in certain items and the reasons mentioned for the variations are very casual reasons like lower award price and higher award price. In the absence of the proper reasoning, the cost over-run in the items mentioned above may not be allowed by the Commission. In response, the petitioner has clarified that the cost variation is due to higher tendered cost. The petitioner has submitted that under the open competitive bidding route, the best competitive bid prices against tenders may vary as compared to the cost estimate depending upon prevailing market conditions, design and site requirements. It is contended that the estimates are prepared by the petitioner as per well defined procedures for cost estimate. The FR cost estimate is broad indicative cost worked out generally on the basis of average unit rates of recently awarded contracts.

16. We are of the view that item-wise cost variation is not within the petitioner's control and accordingly the variation in cost of certain items is allowed. However, we observe that the total estimated completion cost of instant asset is lower than the estimated cost. We direct the petitioner to adopt a prudent procedure to make cost estimates of different elements of the transmission projects more realistic.

Time over-run

17. BRPL has submitted that as per Form 5C, the instant transmission asset was planned to be commissioned by 31.10.2012, whereas the asset was commissioned on 1.2.2013. BRPL has further submitted that the contractor delayed the completion of the asset by three months and no justification for this delay has been given by the petitioner and hence IDC and IEDC for this period may be recovered from the contractor and consequent relief granted to the beneficiaries.

18. We have considered the submissions of BRPL. We would like to clarify that timeline for a project is detailed in the respective investment approval and the same is considered for the purpose of calculating the transmission tariff, including the IDC and IEDC. As per the investment approval dated 26.8.2010, the project was scheduled to be commissioned within 32 months from the date of investment approval. The scheduled commissioning works out to be 1.5.2013. The asset was actually commissioned on 1.2.2013. Thus, there is no time over-run in the instant case.

Initial spares

19. The petitioner has claimed initial spares pertaining to sub-station which are in excess of the ceiling limit specified in Regulation 8 of the 2009 Tariff Regulations. BRPL has submitted that initial spares should be allowed as specified in the 2009 Tariff Regulations.

20. We would like to clarify that initial spares are allowed in accordance with Regulation 8 of the 2009 Tariff Regulations and excess initial spares claimed by the petitioner is not allowed. Details of the initial spares claimed by the petitioner and the actual spares allowed are as follows:-

(₹ in lakh)

Particulars	**Cost as on cut-off date**	**Initial spares claimed**	**Ceiling limits as per 2009 Tariff Regulations**	**Initial spares worked out**	**Excess initial spares claimed**
(a)	(b)	(c)	(d)	(e)=((b)-(c))*(d)/(100%-(d))	(f)=(c)-(e)
Sub-station (Inclusive of Building)	965.73	46.87	2.50%	23.56	**23.31**

21. Needless to add that the quantum of spares shall be reviewed on submission of actual capital cost certified by the Auditor at the time of truing up.

22. The capital cost considered as on the actual date of commercial operation for tariff calculations after excluding excess initial spares is given below:-

(₹ in lakh)

Capital cost claimed by the petitioner	**Excess initial spares deducted**	**Capital cost as on DOCO considered for computing tariff**
500.46	23.31	477.15

Additional capital expenditure

23. With regard to additional capital expenditure, clause 9(1) of the 2009 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:"

24. The 2009 Tariff Regulations further 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".

25. Based on the above, cut-off date of the transmission assets is 31.3.2016.

26. The petitioner claimed projected additional capital expenditure amounting to ₹18.00 lakh and ₹447.27 lakh for the financial year 2012-13 and 2013-14 respectively. The petitioner was directed, vide letter dated 16.5.2013, to clarify details of balance and retention payment which amounts to around 48% of anticipated completion cost. In response, the petitioner vide affidavit dated 8.7.2013 submitted that the actual expenditure has been taken upto 31.1.2013 as per the books. As on 31.1.2013, the supply and erection contractor had not raised the bill for the supply as well as erection work.

According to the petitioner, the amount is towards deferred liabilities, all the work is complete and the asset has been commissioned on 1.2.2013.

27. We notice that the add-cap claimed by the petitioner falls not only within the cut-off date but also within the tariff period. Therefore, the projected additional capital expenditure has been considered for the purpose of tariff calculation.

28. Based on the above, the estimated capital cost as on 31.3.2014 after adjusting initial spares and allowing additional capital expenditure, is as follows:-

(₹ in lakh)

Capital Cost as on DOCO after adjusting initial spares	Add cap for 2012-13	Add cap for 2013-14	Total capital cost
477.15	18.00	447.27	942.42

Debt-equity ratio

29. Regulation 12 of the 2009 Tariff Regulations provides that,-

"12. **Debt-Equity Ratio**. (1) For a project declared under commercial operation on or after 1.4.2009, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff:

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.

Explanation.- The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.

(2) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2009, debt-equity ratio allowed by the

Commission for determination of tariff for the period ending 31.3.2009 shall be considered.

(3) Any expenditure incurred or projected to be incurred on or after 1.4.2009 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation."

30. The details of debt-equity as on date of commercial operation of the transmission assets are as follows:-

Capital cost as on date of commercial operation		
Particulars	**Amount (₹ in lakh)**	**%**
Debt	334.01	70.00
Equity	143.15	30.00
Total	**477.15**	**100.00**

31. The debt-equity ratio corresponding to add cap mentioned in para 28 has been considered in the ratio of 70:30.

32. Details of debt–equity as on 31.3.2014 are as under:-

Capital cost as on 31.3.2014		
Particulars	**Amount (₹ in lakh)**	**%**
Debt	659.69	70.00
Equity	282.73	30.00
Total	**942.42**	**100.00**

Return on Equity

33. Regulation 15 of the 2009 Tariff Regulations as amended 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% to 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 year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations."

34. The petitioner's prayer to recover the shortfall or refund the excess Annual Fixed Charges, on account on return on equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 of the respective financial year directly without making any application before the Commission shall be dealt under Regulation 15(3) as state above. Return on equity has been computed as per Regulation 15 of the 2009 Tariff Regulations. Pre-tax return on equity of 17.481% has been considered.

35. Details of the return on equity allowed are as under:-

(₹ in lakh)

Particulars	2012-13 (Pro-rata)	2013-14
Opening Equity	143.15	148.55
Addition due to Additional Capitalisation	5.40	134.18
Closing Equity	148.55	282.73
Average Equity	145.85	215.64
Return on Equity (Base Rate)	***15.50%***	***15.50%***
Tax rate for the year 2008-09 (MAT)	11.33%	11.33%
Rate of Return on Equity (Pre Tax)	17.481%	17.481%
Return on Equity (Pre Tax)	**4.25**	**37.70**

Interest on loan

36. 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."

37. AVVNL has submitted that interest on loan should be allowed on actual basis as on the date of commercial operation.

38. In these calculations, interest on loan has been computed on the following basis:-

(a) Gross amount of loan, repayment of instalments and rate of interest on actual loans have been considered.

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

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

39. Detailed calculations in support of the weighted average rate of interest have been given in Annexure.

40. Based on the above, interests on loan has been calculated as follows:-

(₹ in lakh)

Particulars	2012-13 (Pro-rata)	2013-14
Gross Normative Loan	334.01	346.61
Cumulative Repayment upto Previous Year	0.00	4.24
Net Loan-Opening	334.01	342.37
Addition due to Additional Capitalisation	12.60	313.09
Repayment during the year	4.24	37.71
Net Loan-Closing	342.37	617.74
Average Loan	338.19	480.06
Weighted Average Rate of Interest on Loan	9.0572%	9.0572%
Interest	**5.11**	**43.48**

Depreciation

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

> "17. **Depreciation** (1) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.
>
> (2) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.
>
> Provided that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site;
>
> Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff.
>
> (3) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.
>
> (4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-III to these regulations for the assets of the generating station and transmission system:
>
> Provided that, the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the assets.

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

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

42. The assets covered in the instant petition were put on commercial operation on 1.7.2012 and accordingly will complete 12 years beyond 2013-14 and thus depreciation has been calculated annually based on Straight Line Method and at rates specified in Appendix-III of the 2009 Tariff Regulations.

43. Accordingly, depreciation has been worked out on the basis of capital expenditure as on date of commercial operation wherein depreciation for the first year has been calculated on pro-rata basis for the part of year.

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

(₹ in lakh)

Particulars	**2012-13 (Pro-rata)**	**2013-14**
Opening Gross Block	477.15	495.15
Addition during 2009-14 due to Projected Additional Capitalisation	18.00	447.27
Gross Block	495.15	942.42
Average Gross Block	486.15	718.79
Rate of Depreciation	5.2307%	5.2466%
Depreciable Value	437.54	646.91
Remaining Depreciable Value	437.54	642.67
Depreciation	**4.24**	**37.71**

<u>Operation & Maintenance Expenses (O&M Expenses)</u>

45. AVVNL has submitted that the petitioner's request for O&M Expenses higher than the norms specified in the 2009 Tariff Regulations should not be allowed. BRPL has submitted that the increase in the employee cost of the

PSUs on account of pay revision has already been taken by the Commission while specifying the O&M norms for the 2009 Tariff Regulations. Any further increase in the employee cost should be taken care by the petitioner by improving their productivity levels.

46. As per the 2009 Tariff Regulations, applicable for 2009-14, norms for O&M Expenses for transmission system have been specified under Regulation 19(g). The norms for the transmission asset covered in this petition are as follows:-

(₹ lakh per bay)

Element	2009-10	2010-11	2011-12	2012-13	2013-14
400 kV	52.40	55.40	58.57	61.92	65.46

47. Based on the above norms, the O&M expenses in respect of the transmission asset is as follows:-

(₹ in lakh)

Element	2009-10	2010-11	2011-12	2012-13 (pro-rata)	2013-14
125 MVAR Bus Reactor at Roorkee Sub-station (One Reactor Bay)	-	-	-	**10.32**	**65.46**

48. The petitioner has submitted that O&M expenses for the year 2009-14 had been arrived at on the basis of normalized actual O&M Expenses during the period 2003-04 to 2007-08 and by escalating it by 5.72% per annum for arriving at the norms for the years of tariff period. The wage hike of 50% on account of pay revision of the employees of public sector undertaking has also been considered while calculating the O & M Expenses for the tariff period 2009-14. The petitioner has further submitted that it would approach

the Commission for suitable revision in the norms for O & M Expenses in case the impact of wage hike with effect from 1.1.2007 is more than 50%.

49. While specifying the norms for the O & M Expenses, the Commission has, in the 2009 Tariff Regulations, already factored 50% of wage hike 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. However, in case the petitioner approaches the Commission by making an appropriate application, the same shall be dealt with in accordance with law.

Interest on Working Capital

50. As per the 2009 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 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 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 operation and maintenance expenses for one month as a component of working capital. The petitioner has claimed O&M Expenses for 1 month of the respective year as claimed in the petition. This has been considered in the working capital.

(iv) Rate of interest on working capital

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 of 10.00% as on 1.4.2012 plus 350Bps i.e. 13.50% has been considered as the rate of interest on working capital for the instant transmission assets.

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

(₹ in lakh)

Particulars	**2012-13 (pro-rata)**	**2013-14**
Maintenance Spares	9.29	9.82
O & M expenses	5.16	5.46
Receivables	24.80	31.78
Total	39.24	47.06
Rate of Interest	13.50	13.50
Interest	**0.88**	**6.35**

Transmission charges

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

(₹ in lakh)

Particulars	2012-13 (pro-rata)	2013-14
Depreciation	4.24	37.71
Interest on Loan	5.11	43.48
Return on equity	4.25	37.70
Interest on Working Capital	0.88	6.35
O & M Expenses	10.32	65.46
Total	**24.80**	**190.70**

53. Transmission charges allowed are subject to truing up in accordance with the 2009 Tariff Regulations.

Other Issues

54. The petitioner has sought approval for the reimbursement of fee paid by it for filing the petition and the publication expenses. BRPL has requested to reject the petitioner's prayer in terms of order dated 11.9.2008 in Petition No.129/2005. We would like to clarify that the petitioner shall be entitled for reimbursement of the filing fees 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.

55. The petitioner has made a specific prayer to be allowed to bill and recover the service tax on transmission charges separately from the respondents if the exemption granted to it is withdrawn and transmission of power is made a taxable service. BRPL has submitted that the petitioner's

prayer is premature. We also consider the prayer pre-mature. The petitioner is at liberty to approach the Commission for any relief at appropriate time as per law.

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

57. 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.

58. This order disposes of Petition No. 97/TT/2013.

sd/-	sd/-
(A. K. Singhal) **Member**	**(Gireesh B. Pradhan)** **Chairperson**

Annexure

	CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN		
			(₹ in lakh)
	Details of Loan	**2012-2013**	**2013-2014**
1	**Bond XLI**		
	Gross loan opening	**237.32**	**237.32**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**
	Net Loan-Opening	237.32	237.32
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	237.32	237.32
	Average Loan	237.32	237.32
	Rate of Interest	8.85%	8.85%
	Interest	21.00	21.00
	Rep Schedule	12 annual installments from 19.10.2016	
2	**Bond XXXVIII**		
	Gross loan opening	**8.00**	**8.00**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**
	Net Loan-Opening	8.00	8.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	8.00	8.00
	Average Loan	8.00	8.00
	Rate of Interest	9.25%	9.25%
	Interest	0.74	0.74
	Rep Schedule	Repayment on 09.03.2027	
3	**SBI**		
	Gross loan opening	**24.00**	**24.00**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**
	Net Loan-Opening	24.00	24.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	24.00	24.00
	Average Loan	24.00	24.00
	Rate of Interest	10.45%	10.45%
	Interest	2.51	2.51
	Rep Schedule	22 semi annual installments from 31.08.2016	
4	**Bond XXXVI**		
	Gross loan opening	**8.00**	**8.00**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**
	Net Loan-Opening	8.00	8.00

	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	8.00	8.00
	Average Loan	8.00	8.00
	Rate of Interest	9.35%	9.35%
	Interest	0.75	0.75
	Rep Schedule	12 annual installments from 29.08.2016	
5	**Bond XXXVII**		
	Gross loan opening	**29.00**	**29.00**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**
	Net Loan-Opening	29.00	29.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	29.00	29.00
	Average Loan	29.00	29.00
	Rate of Interest	9.25%	9.25%
	Interest	2.68	2.68
	Rep Schedule	12 annual installments from 26.12.2015	
6	**Bond XXXIV**		
	Gross loan opening	**17.00**	**17.00**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**
	Net Loan-Opening	17.00	17.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	17.00	17.00
	Average Loan	17.00	17.00
	Rate of Interest	8.84%	8.84%
	Interest	1.50	1.50
	Rep Schedule	12 annual installments from 21.10.2014	
7	**Bond XXXV**		
	Gross loan opening	**3.00**	**3.00**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**
	Net Loan-Opening	3.00	3.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	3.00	3.00
	Average Loan	3.00	3.00
	Rate of Interest	9.64%	9.64%
	Interest	0.29	0.29
	Rep Schedule	12 annual installments from 31.05.2015	
8	**Bond XXXIX**		
	Gross loan opening	**24.00**	**24.00**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**
	Net Loan-Opening	24.00	24.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	24.00	24.00

	Average Loan	24.00	24.00
	Rate of Interest	9.40%	9.40%
	Interest	2.26	2.26
	Rep Schedule	Repayment on 29.03.2027	
	Total Loan		
	Gross loan opening	350.32	350.32
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	350.32	350.32
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	350.32	350.32
	Average Loan	350.32	350.32
	Rate of Interest	**9.0572%**	**9.0572%**
	Interest	31.73	31.73