

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 38/TT/2013**

**Coram:**

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

**Date of Hearing : 25.02.2014  
Date of Order : 17.07.2014**

Approval of transmission tariff for 125 MVAR Bus Reactor along with associated bays at Lucknow from date of commercial operation to 31.3.2014 under Common Scheme for 765 kV Pooling Stations and Network for NR, Import by NR from ER and Common scheme for network for WR and Import by WR from ER and from NER/SR/WR via ER 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** : Smt. Seema Gupta, PGCIL  
Shri A.M. Pavgi, PGCIL  
Shri S.S. Raju, PGCIL  
Smt. Sangeeta Edwards, PGCIL  
Shri P. Saraswath, PGCIL  
Shri M.M. Mondal, PGCIL  
Shri S.K. Venkatesan, PGCIL

**For respondent** : Shri R. B. Sharma, Advocate, BRPL  
Shri Rajiv Srivastava, Advocate, UPPCL

### **ORDER**

This petition has been filed by Power Grid Corporation of India Limited (PGCIL) seeking approval of transmission tariff in respect of 125 MVAR Bus Reactor along with associated bays at Lucknow from the date of commercial operation (hereinafter "DOCO") to 31.3.2014 under Common Scheme for 765 kV Pooling Stations and Network for NR, Import by NR from ER and Common scheme for network for WR and Import by WR from ER and from NER/SR/WR via ER in Northern Region for tariff block 2009-14 based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, (hereinafter referred to as "the 2009 Tariff Regulations").

2. The Investment Approval (IA) for the project was accorded by Board of Directors of the petitioner vide letter dated 29.8.2008 at an estimated cost of ₹707533 lakh including IDC of ₹71360 lakh (based on 1st Quarter, 2008 price level). The project was scheduled to be commissioned within 48 months from the date of investment approval i.e. by 29.8.2012.

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

**Transmission Lines**

- a. Maithon-Gaya 400 kV Quad D/C Line.
- b. Gaya-Sasaram 765 kV S/C Line.
- c. Gaya-Balia 765 kV S/C Line.
- d. Balia-Lucknow 765 kV S/C Line.
- e. Ranchi-WR Pooling Station 765 kV S/C Line.
- f. Lucknow 765/400 kV new substation-Lucknow 400/220 kV existing substation 400 kV Quad 2xD/C Line.
- g. Ranchi 765/400 kV new substation-Ranchi 400/220 kV existing substation 400 kV Quad D/C Line.
- h. LILO of Both circuits of Allahabad-Mainpuri 400 kV D/C Line at Fatehpur 765/400 kV substation of POWERGRID.
- i. LILO of Barh-Balia 400 kV Quad D/C Line at Patna.

**Sub Stations**

- (a) Augmentation of Maithon 400/220 kV sub-station
  - a. 2 nos. of 400 kV line bays (for determining Maithon-Gaya D/C line)
  - b. 2 nos. of 400 kV line bays (for determining Mejia- Maithon D/C line)
- (b) New 765/400 kV Sub-station at Gaya
  - a. 3x1500 MVA, 765/400 kV Transformer alongwith associated bays

- b. 2 nos. of 765 kV line bays (for Gaya-Sasaram & Gaya-Balia 765 kV lines)
  - c. 4 nos. of 400 kV line bays (for Maithon-Gaya line & Koderma-Gaya line)
- (c) New 765/400 kV Sub-station at Sasaram
- a. 2x1500MVA,765/400 kV Transformer alongwith associated bays
  - b. 2 nos of 765 kV line bays (for Gaya-Sasaram 765 kV S/C & Sasaram-Fatehpur 765 kV S/C)
  - c. 2 nos of 400kV bays (for Biharshariff-Sasaram 400 kV quad D/C line)
- Note: New 765/400 kV sub-station at Sasaram is to be accommodated in the premises of existing Sasaram sub-station.
- (d) Augmentation of Biharshariff 400/220 kV sub-station
- a. 2 nos. of 400kV bays (for Biharshariff-Sasaram 400kV quad D/C line)
- (e) New 765/400 kV Sub-station at Fatehpur
- a. 2x1500MVA, 765/400 kV Transformer alongwith associated bays
  - b. 2 nos. of 765 kV line bays (for Sasaram-Fatehpur & Fatehpur-Agra 765 kV lines)
  - c. 4 nos. of 400 kV line bays(for LILO of Allahabad-Mainpuri 400 kV D/C line)
- (f) Augmentation of 400 kV Agra sub-station to 765 kV

- a. 2x1500MVA,765/400 kV Transformer alongwith associated bays
  - b. 1 nos of 765 kV line bays(for Fatehpur-Agra 765 kV line)
- (g) Augmentation of 400 kV Balia sub-station to 765 kV
- a. 2x1500MVA,765/400 kV Transformer alongwith associated bays
  - b. 2 nos. of 765 kV line bays(for Gaya-Balia & Balia-Lucknow 765 kV lines)
- (h) New 765/400 kV Sub-station at Lucknow
- a. 2x1500MVA,765/400 Transformer with associated bays
  - b. 1 no of 765 kV line bays(for Balia-Lucknow 765 kV lines)
  - c. 2 nos. of 400kV bays(for Lucknow 765/400 kV new sub-station Lucknow 400/220 kV existing sub-station 400kV quad D/C line)
- (i) Augmentation of existing Lucknow 400/220 kV sub-station
- a. 2 nos. of 400kV bays(for Lucknow 765/400 kV new sub-station Lucknow 400/220 kV existing sub-station 400kV quad D/C line)
- (j) New 2x1500 MVA,765/400 kV sub-station at Ranchi
- a. 1 no of 765 kV line bays( for Ranchi-WR Pooling 765kV S/C line)
  - b. 4 nos. of 400 kV line bays(for Ranchi 400 kV new sub-station-Ranchi 400/220kV existing sub-station 400 kV quad 2xD/C line)
- (k) Augmentation of Ranchi 400/220 kV Sub-Station

a. 6 nos. of 400 kV bays(4 nos. for Ranchi 765/400 kV new sub-station-Ranchi 400/220 kV existing sub-station 400 kV quad 2xD/C line and 2 nos for Raghunathpur TPS-Ranchi line)

(l) 765/400 kV WR Pooling sub-station

a. 1 no of 765 kV line bays( for Ranchi –WR Pooling 765 kV S/C line)

(m) Augmentation of Patna 400/220 kV sub-station

a. 4 nos. of 400 kV line bays(for LILO of Barh-Balia 400 kV Quad line)

4. It is noticed that the IA does not contain the details about the Reactors covered in the Project. We are of the view that the IA should include the details of the Reactors covered under the Project. Accordingly, we direct the petitioner to include the details of all the assets including Reactors covered in the Project in the IA in future.

5. In this petition, transmission tariff has been computed in respect of 125 MVAR Bus Reactor at Lucknow Sub-station, (herein after referred to as “the transmission asset”) which was commissioned on 1.3.2012

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

(₹ in lakh)

Particulars	2011-12 (Pro-rata)	2012-13	2013-14
Depreciation	5.81	83.01	93.66
Interest on Loan	7.79	106.73	112.59
Return on equity	6.38	90.82	102.20
Interest on Working Capital	0.63	8.57	9.30
O & M Expenses	4.88	61.92	65.46
<b>Total</b>	<b>25.49</b>	<b>351.05</b>	<b>383.21</b>

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

(₹ in lakh)

Particulars	2011-12 (Pro-rata)	2012-13	2013-14
Maintenance Spares	8.78	9.29	9.82
O & M expenses	4.88	5.16	5.46
Receivables	50.98	58.51	63.87
<b>Total</b>	<b>64.64</b>	<b>72.96</b>	<b>79.15</b>
Interest	0.63	8.57	9.30
Rate of Interest	11.75%	11.75%	11.75%

8. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act. The Respondent No. 2, Ajmer Vidyut Vitran Nigam Ltd (AVVNL), Respondent No. 3, Jaipur Vidyut Vitran Nigam Ltd (JVVNL) and Respondent No. 4, Jodhpur Vidyut Vitran Nigam Ltd (Jd.VVNL) have filed a combined reply vide affidavit dated 15.4.2013, Respondent No. 6, Punjab State Power Corporation Limited (PSPCL), has filed its reply affidavit dated 5.11.2013, Respondent No. 9, Uttar Pradesh Power Corporation Limited (UPPCL), has filed reply vide affidavit dated 21.2.2014 and Respondent No. 12, BSES Rajdhani Power Ltd (BRPL), has filed its reply affidavit dated 11.11.2013. The petitioner has filed rejoinders to the replies filed by PSPCL and BRPL, vide affidavits dated 14.2.2014 and 17.2.2014 respectively. The



respondents have broadly raised the issue of additional capital expenditure, O&M Expenses, approval of the scheme, cost variation, time over-run, petition filing fee, service tax. The objections raised by the respondents in their reply and the clarifications given by the petitioner in its rejoinder are addressed in the relevant paragraphs of this order.

9. PSPCL in its reply has submitted that 400 kV 125 MVAR bus reactor at Lucknow is a part of the 765 kV transmission scheme, which consist of the elements such as 765 kV Gaya-Balia transmission line, 765 kV Balia-Lucknow transmission line and augmentation of Lucknow sub-station. Only after these elements are put into service, the petitioner can claim tariff for 400 kV 125 MVAR bus reactor at Lucknow. PSPCL has submitted that 765 kV Gaya-Balia line has not been commissioned. Moreover, the transmission scheme for Gaya has been amended, whereby instead of Gaya-Balia 765 kV line, the revised scheme proposed for one line from Gaya to Varanasi and second line from Varanasi to Balia and both these lines have not been commissioned. PSPCL has submitted that it would not be justified to claim tariff for the bus reactor at Lucknow unless the 765 kV Gaya-Varanasi-Balia line is completed.

10. In response to the reply of PSPCL, the petitioner in its rejoinder has clarified that the Lucknow 125 MVAR bus reactor cannot be linked to the MVAR absorption of Gaya-Balia 765 kV line, as it would mean that MVAR would first flow on Gaya-Balia 230 km line then over Balia-Lucknow 320 km line and thereafter it would be stepped down over the 765/400 kV ICT to be compensated by the 125 MVAR reactor at Lucknow. For compensation of MVAR generated by Gaya-Balia 765 kV line, 240 MVAR line reactor has been

planned at Balia end in addition to the bus reactors proposed at Gaya and Balia. PGCIL has further submitted that 400 kV reactor at Lucknow was planned to facilitate compensation of surplus MVAR of Balia-Lucknow line and also keeping in view the system requirement at Lucknow. It is a general and widely accepted practice to provide for reactive compensation in such a manner that the reactive power is compensated locally in an optimal manner and is not made to travel over long distances. The petitioner has further clarified that the 125 MVAR, 400 kV Bus Reactor at Lucknow was planned as a part of "Common Scheme for 765 kV Pooling Stations and Network for NR", whereas that Gaya-Varanasi-Balia line was planned as a part of scheme namely "Transmission System for Phase-I Generation projects in Jharkhand and West-Bengal Part-A2". PGCIL has submitted that the Gaya-Balia 765 kV line has no relevance to the present petition and therefore, the commissioning of Varanasi Sub-station and lines connected to Varanasi are also not relevant. The elements are commissioned progressively to meet the reliable transmission requirement from time to time. PGCIL has submitted that the commissioning of this Bus reactor has helped in ensuring grid security. As regards the commissioning test, PGCIL has submitted that the AC Transmission elements once successfully test charged are immediately available for transmission of power @100% of its rated capacity. Therefore, the asset was test charged on 28.2.2012 and was declared under commercial operation on 1.3.2012. PGCIL has submitted that the asset has been declared under commercial operation in line with the 2009 Tariff Regulations.

11. We have considered the submissions made by PSPCL and the petitioner. We are of the view that the petitioner has commissioned the instant

transmission asset as per the provisions of the 2009 Tariff Regulations. Further, commissioning of the instant asset has helped in controlling the high voltage problem in eastern Uttar Pradesh and ensuring grid security. Accordingly, the date of commercial operation with effect from 1.3.2012 is approved.

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

### **Capital Cost**

13. Regulation 7 of the 2009 Tariff Regulations provides as follows:-

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

- (a) The expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan – (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the fund deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check.
- (b) capitalised initial spares subject to the ceiling rates specified in regulation 8; and
- (c) additional capital expenditure determined under regulation 9:

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

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

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

Provided further that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the reasonableness of the capital expenditure, financing plan, interest during construction, use of

efficient technology, cost over-run and time over-run, and such other matters as may be considered appropriate by the Commission for determination of tariff.”

14. Based on the above, following capital cost up to date of commercial operation of the transmission asset and additional capital expenditure during the tariff period have been claimed by the petitioner for the purpose of tariff:-

(₹ in lakh)

Particulars	Apportioned approved cost	Cost incurred upto actual DOCO*	Additional capital expenditure		Total estimation completion cost
			2011-2012	2012-2013	
Asset	2316.29	1407.16	107.73	433.97	1948.86

### **Cost Variation**

15. BRPL has pointed out that as against the apportioned cost of ₹2316.29 lakh, the estimated completion cost of the asset in question as per petition is ₹1948.86 lakh resulting in a net savings of 18.85%. BRPL has also submitted that there is huge cost variation in some of the items. In the absence of the proper reasoning the cost variation in some of the items may not be allowed. In response, the petitioner has submitted that the estimates are prepared as per well defined procedures for cost estimate. The cost estimate is broad indicative cost worked out generally on the basis of average unit rates of recently awarded contracts. For procurement, open competitive bidding route is followed and by providing equal opportunity to all eligible firms, lowest possible market prices for required product/services is obtained and contracts are awarded on the basis of lowest evaluated eligible bidder. The best

competitive bid price against tenders is lower as compared to the cost estimate depending upon prevailing market conditions.

16. We have considered the submissions of both PSPCL and the petitioner. The reasons given by the petitioner for the cost variation in some of the items is justified and accordingly the cost variation is allowed. However, it is observed that the completion cost of instant asset is lower than the apportioned approved cost and it is difficult to assess the exact increase in the cost of the instant asset. As such, the petitioner is directed 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 the work of 125 MVAR Bus Reactor was to be completed by 6.11.2010 as per Form 5C filed along with the petition and the instant asset was commissioned on 1.3.2012 and there is a delay of 15 months and this delay should not be condoned. In response, the petitioner has submitted that the time period given in Form 5C is as per LOA and the timeline given in the Investment Approval is to be considered for the purpose of working out the scheduled date of commissioning. We have considered the submissions of PSPCL and the petitioner. We are of the view that the timeline of 48 months given in the Investment Approval is to be considered for the purpose of working out the scheduled date of commissioning. The project was scheduled to be commissioned in progressive manner upto August, 2012 as per the Investment Approval. The transmission asset was actually

commissioned on 1.3.2012. Thus, there is no delay in commissioning of the instant assets.

### **Initial Spares**

18. The petitioner has claimed initial spares pertaining to sub-station which are within the ceiling limit specified in Regulation 8 of the 2009 Tariff Regulations. The quantum of spares shall be reviewed on submission of actual capital cost certified by the Auditor at the time of truing up.

19. Accordingly, the capital cost claimed by the petitioner i.e. ₹1407.17 lakh, as on the date of commercial operation, is considered for tariff calculations.

### **Additional Capital Expenditure**

20. With regard to additional capital expenditure, clause 9(1) of the 2009 Tariff Regulations provides as under:-

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

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

21. The 2009 Tariff Regulations further defines cut-off date as follows:-

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

shall be 31<sup>st</sup> March of the year closing after 3 years of the year of commercial operation”.

22. Based on the above, cut-off date of the transmission assets is 31.3.2015.

23. The petitioner has claimed projected additional capital expenditure amounting to ₹107.73 lakh and ₹433.97 lakh for the financial year 2012-13 and 2013-2014 respectively. Additional capital expenditure claimed falls within the cut-off date. Therefore, additional capital expenditure claimed by the petitioner has been considered for the purpose of tariff calculation.

### **Debt- Equity Ratio**

24. 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.”

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

Capital cost as on the date of commercial operation		
Particulars	Amount (₹ in lakh)	%
Debt	985.02	70.00
Equity	422.14	30.00
<b>Total</b>	<b>1407.16</b>	<b>100.00</b>

26. The details of debt-equity considered for additional capital expenditure 2011-12 and 2013-14 are as follows:-

Add-Cap during 2011-12		
Particulars	Amount (₹ in lakh)	%
Debt	75.41	70.00
Equity	32.32	30.00
<b>Total</b>	<b>107.73</b>	<b>100.00</b>
Add-Cap during 2012-13		
Particulars	Amount (₹ in lakh)	%
Debt	303.78	70.00
Equity	130.19	30.00
<b>Total</b>	<b>433.97</b>	<b>100.00</b>

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

Capital Cost as on 31.3.2014		
Particulars	Amount (₹ in lakh)	%
Debt	1364.21	70.00
Equity	584.65	30.00
<b>Total</b>	<b>1948.86</b>	<b>100.00</b>

### **Return on Equity**

28. 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% 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 year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations."

29. The petitioner's prayer to recover the shortfall or refund the excess Annual Fixed Charges, on account on return on equity due to change in applicable Minimum Alternate Tax/Corporate Income Tax rate as per the Income Tax Act, 1961 of the respective financial year directly without making any application before the Commission shall be dealt under Regulation 15(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.

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

(₹ in lakh)

Particulars	2011-12 (Pro-rata)	2012-13	2013-14
Opening Equity	422.14	454.46	584.65
Addition due to Additional Capitalisation	32.32	130.19	0.00
Closing Equity	454.46	584.65	584.65
Average Equity	438.30	519.55	584.65
Return on Equity (Base Rate )	<b>15.50%</b>	<b>15.50%</b>	<b>15.50%</b>
Tax rate for the year 2008-09 (MAT)	11.33%	11.33%	11.33%
Rate of Return on Equity (Pre Tax )	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)	<b>6.38</b>	<b>90.82</b>	<b>102.20</b>

### Interest on Loan

31. 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.”

32. 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 as per affidavit of the Petitioner.

(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.

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

34. Based on the above, interests on loan has been calculated as under:-

(₹ in lakh)

Particulars	2011-12 (Pro-rata)	2012-13	2013-14
Gross Normative Loan	985.02	1060.43	1364.21
Cumulative Repayment upto Previous Year	0.00	5.81	88.82
Net Loan-Opening	985.02	1054.62	1275.39
Addition due to Additional Capitalisation	75.41	303.78	0.00
Repayment during the year	5.81	83.01	93.66
Net Loan-Closing	1054.62	1275.39	1181.73
Average Loan	1019.82	1165.01	1228.56
Weighted Average Rate of Interest on Loan	9.1616%	9.1612%	9.1641%
Interest	<b>7.79</b>	<b>106.73</b>	<b>112.59</b>

### Depreciation

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

“17. (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.

xxxx  
xxxx

(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.”

36. Assets 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.

37. 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.

38. Details of the depreciation worked out are as under:-

Particulars	(₹ in lakh)		
	2011-12 (Pro-rata)	2012-13	2013-14
Opening Gross Block	1407.16	1514.89	1948.86
Addition during 2009-14 due to Projected Additional Capitalisation	107.73	433.97	0.00
Gross Block	1514.89	1948.86	1948.86
Average Gross Block	1461.03	1731.88	1948.86
Rate of Depreciation	4.7713%	4.7931%	4.8060%
Depreciable Value	1243.05	1486.81	1682.10
Remaining Depreciable Value	1243.05	1481.00	1593.28
Depreciation	<b>5.81</b>	<b>83.01</b>	<b>93.66</b>

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

39. As per the 2009 Tariff Regulations, applicable for 2009-14 period, 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 bay	52.40	55.40	58.57	61.92	65.46

40. Based on the above norms, the O&M Expenses in respect of the transmission asset is computed as under:-

(₹ in lakh)

Element	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Asset-1:</b> 400 kV bay for Line Reactor at Lucknow S/s	-	-	4.88 (pro-rata)	61.92	65.46

41. 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%.

42. UPPCL, vide affidavit dated 25.3.2014, has contended that O&M Expenses should be allowed as per Regulation 19 (g) of Tariff Regulations.

43. 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**

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

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

As per Regulation 18(1) (c) (i) of the 2009 Tariff Regulations, receivables will be equivalent to two months' 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 O & M Expenses for one month as a component of working capital. The petitioner has claimed O&M Expenses for 1 month of the respective year as claimed in the petition. This has been considered in the working capital.

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

As per Regulation 18(3) of the 2009 Tariff Regulations, SBI Base Rate of 8.25% as on 1.4.2011 plus 350Bps i.e. 11.75% has been considered as the rate of interest on working capital for the assets involved in the petition.

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

(₹ in lakh)

Particulars	2011-12 (Pro-rata)	2012-13	2013-14
Maintenance Spares	8.78	9.29	9.82
O & M Expenses	4.88	5.16	5.46
Receivables	50.99	58.51	63.87
<b>Total</b>	<b>64.65</b>	<b>72.96</b>	<b>79.14</b>
Rate of Interest	11.75%	11.75%	11.75%
Interest	<b>0.63</b>	<b>8.57</b>	<b>9.30</b>

#### Transmission Charges

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

(₹ in lakh)

Particulars	2011-12 (Pro-rata)	2012-13	2013-14
Depreciation	5.81	83.01	93.66
Interest on Loan	7.79	106.73	112.59
Return on equity	6.38	90.82	102.20
Interest on Working Capital	0.63	8.57	9.30
O & M Expenses	<b>4.88</b>	<b>61.92</b>	<b>65.46</b>
<b>Total</b>	<b>25.49</b>	<b>351.06</b>	<b>383.21</b>

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



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

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

49. 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 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 42 A (1) (b) of the 2009 Tariff Regulations

### **Service tax**

50. The petitioner has made a prayer to be allowed to bill and recover the service tax on transmission charges separately from the respondents, if it is

subjected to such service tax in future. BRPL has objected to recovery of service tax from the beneficiaries in future as 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**

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

52. This order disposes of Petition No. 38/TT/2013.

sd/-	sd/-	sd/-	sd/-
<b>(Neerja Mathur)</b>	<b>(A. K. Singhal)</b>	<b>(M. Deena Dayalan)</b>	<b>(Gireesh B. Pradhan)</b>
<b>Member (EO)</b>	<b>Member</b>	<b>Member</b>	<b>Chairperson</b>

**Annexure 1**

<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>				
(₹ in lakh)				
	<b>Details of Loan</b>	<b>2011-2012</b>	<b>2012-2013</b>	<b>2013-14</b>
<b>1</b>	<b>Bond XXX</b>			
	Gross loan opening	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	100.00	100.00	100.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	8.33
	Net Loan-Closing	100.00	100.00	91.67
	Average Loan	100.00	100.00	95.83
	Rate of Interest	8.80%	8.80%	8.80%
	Interest	8.80	8.80	8.43
	Rep Schedule	12 annual installments from 29.09.2013		
<b>2</b>	<b>Bond XXXI</b>			
	Gross loan opening	<b>200.00</b>	<b>200.00</b>	<b>200.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	200.00	200.00	200.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	16.67
	Net Loan-Closing	200.00	200.00	183.33
	Average Loan	200.00	200.00	191.67
	Rate of Interest	8.90%	8.90%	8.90%
	Interest	17.80	17.80	17.06
	Rep Schedule	12 annual installments from 25.02.2014		
<b>3</b>	<b>Bond XXIX</b>			
	Gross loan opening	<b>50.00</b>	<b>50.00</b>	<b>50.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>4.17</b>
	Net Loan-Opening	50.00	50.00	45.83
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	4.17	4.17
	Net Loan-Closing	50.00	45.83	41.67
	Average Loan	50.00	47.92	43.75
	Rate of Interest	9.20%	9.20%	9.20%
	Interest	4.60	4.41	4.03
	Rep Schedule	12 annual installments from 12.03.2013		
<b>4</b>	<b>Bond XXXVI</b>			
	Gross loan opening	<b>230.02</b>	<b>230.02</b>	<b>230.02</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	230.02	230.02	230.02
	Additions during the year	0.00	0.00	0.00

	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	230.02	230.02	230.02
	Average Loan	230.02	230.02	230.02
	Rate of Interest	9.35%	9.35%	9.35%
	Interest	21.51	21.51	21.51
	Rep Schedule	12 annual installments from 29.08.2016		
<b>5</b>	<b>Bond XXXIII</b>			
	Gross loan opening	<b>55.00</b>	<b>55.00</b>	<b>55.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	55.00	55.00	55.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	55.00	55.00	55.00
	Average Loan	55.00	55.00	55.00
	Rate of Interest	8.64%	8.64%	8.64%
	Interest	4.75	4.75	4.75
	Rep Schedule	12 annual installments from 08.07.2014		
<b>6</b>	<b>Bond XXXIV</b>			
	Gross loan opening	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	100.00	100.00	100.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	100.00	100.00	100.00
	Average Loan	100.00	100.00	100.00
	Rate of Interest	8.84%	8.84%	8.84%
	Interest	8.84	8.84	8.84
	Rep Schedule	12 annual installments from 21.10.2014		
<b>7</b>	<b>Bond XXXV</b>			
	Gross loan opening	<b>200.00</b>	<b>200.00</b>	<b>200.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	200.00	200.00	200.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	200.00	200.00	200.00
	Average Loan	200.00	200.00	200.00
	Rate of Interest	9.64%	9.64%	9.64%
	Interest	19.28	19.28	19.28
	Rep Schedule	12 annual installments from 31.05.2015		
<b>8</b>	<b>Bond XXVIII</b>			
	Gross loan opening	<b>50.00</b>	<b>50.00</b>	<b>50.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>4.17</b>
	Net Loan-Opening	50.00	50.00	45.83
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	4.17	4.17
	Net Loan-Closing	50.00	45.83	41.67
	Average Loan	50.00	47.92	43.75

Rate of Interest	9.33%	9.33%	9.33%
Interest	4.67	4.47	4.08
Rep Schedule	12 annual installments from 15.12.2012		
<b>Total Loan</b>			
Gross loan opening	985.02	985.02	985.02
Cumulative Repayment upto DOCO/previous year	0.00	0.00	8.33
Net Loan-Opening	985.02	985.02	976.69
Additions during the year	0.00	0.00	0.00
Repayment during the year	0.00	8.33	33.33
Net Loan-Closing	985.02	976.69	943.35
Average Loan	985.02	980.85	960.02
Rate of Interest	<b>9.1616%</b>	<b>9.1612%</b>	<b>9.1641%</b>
<b>Interest</b>	90.24	89.86	87.98