

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 80/TT/2012**

**Coram**

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

**Date of Hearing: 13.11.2014  
Date of Order : 09.01.2015**

**In the matter of**

Approval of transmission tariff 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, from DOCO to 31.3.2014 for 50% series compensation at Meerut (Extension) on Tehri Pooling Point (Koteshwar) – Meerut 765 kV 2\* S/C Lines (Charged at 400 kV) under Transmission System associated with Koteshwar HEP, for Tariff block 2009-14 in Northern Region

**And in the matter of:**

Power Grid Corporation of India Limited  
Soudamini, Plot No 2, Sector 29  
Gurgaon - 122001

**....Petitioner**

**Vs**

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited,  
Vidyut Bhawan, Vidyut Marg, Jaipur-302005
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-171004.
6. Punjab State Electricity Board,  
The Mall, Patiala-147001
7. Haryana Power Purchase Centre,  
Shakti Bhawan, Sector-6, Panchkula (Haryana) 134109.
8. Power Development Department,  
Govt. of Jammu & Kashmir, Mini Secretariat, Jammu
9. Uttar Pradesh Power Corporation Limited,  
Shakti Bhawan, 14, Ashok Marg, Lucknow-226001.
10. Delhi Transco Limited,  
Shakti Sadan, Kotla Road, New Delhi-110002.
11. BSES Yamuna Power Limited,  
BSES Bhawan, Nehru Place, New Delhi.
12. BSES Rajdhani Power Limited,  
BSES Bhawan, Nehru Place, New Delhi
13. North Delhi Power Limited,  
Power Trading & Load Dispatch Group,  
CENNET Building, Adjacent to 66/11 kV Pitampura-3 GRID Building,  
Near PP Jewelers, Pitampura, New Delhi-110034.
14. Chandigarh Administration,  
Sector-9, Chandigarh
15. Uttarakhand Power Corporation Limited,  
Urja Bhawan, Kasnwali Road, Dehradun.
16. North Central Railway, Allahabad.
17. New Delhi Municipal Council, Palika Kendra,  
Sansad Marg, New Delhi-110001.

.....Respondents

**For petitioner** : Shri M.M. Mondal, PGCIL  
Shri Kalyana Venkatesan, PGCIL  
Shri Rakesh Prasad, PGCIL  
Ms. Sangeeta Edwards, PGCIL



**For respondent** : None

## **ORDER**

The petition has been filed for approval of transmission charges for 50% series compensation (the transmission asset) at Meerut (Extension) on Tehri Pooling Point (Koteshwar) – Meerut 765 kV 2\* S/C transmission lines (Charged at 400 kV) under Transmission System associated with Koteshwar HEP on Northern Region (the transmission system), from the date of commercial operation to 31.3.2014 in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (the 2009 Tariff Regulations).

2. Investment approval and expenditure sanction for the transmission system was accorded by the Board of Directors of the petitioner company vide Memorandum dated 1.6.2005 at ₹26034 lakh including IDC of ₹1334 lakh based on 4<sup>th</sup> Qtr.2004 price level. The scope of work included the following assets:

### **Transmission lines**

- (a) Koteshwar- Tehri Pooling Station (Koteshwar) 400 kV D/C line,
- (b) LILO of Tehri- Meerut 765 kV lines (charged at 400 kV level) at Tehri Pooling Point (Koteshwar) (Loop in with 400 kV D/C Triple Snowbird line & Loop out with 765 kV S/C Lines)

### **Sub-stations**

- (a) 400 kV Tehri Pooling Station (Koteshwar) Gas Insulated Sub-Station (GIS)-  
New



(b) 50% series compensation at existing sub-station of POWERGRID at Meerut (Extension) on Tehri Pooling Point (Koteshwar)- Meerut 765 kV 2\*S/C lines (charged at 400 kV level).

3. In accordance with the Investment Approval (IA), the transmission system was scheduled to be commissioned within 27 months from the date of Letter of Award (LoA) for GIS package. The LoA for GIS package was issued on 17.6.2006. Therefore, the scheduled date of commissioning of the transmission asset was 1.10.2008.

4. The petition for approval of the transmission charges for the transmission asset was filed with 1.1.2012 as the date of commercial operation. The petitioner subsequently filed affidavit dated 3.7.2014 stating that the transmission asset was put under commercial operation on 1.2.2012. Accordingly, the petitioner revised its claim for the transmission charges based on the actual date of commercial operation as under:-

(₹ in lakh)

Particulars	2011-12 (Pro-rata)	2012-13	2013-14
Depreciation	38.75	261.54	282.23
Interest on Loan	45.84	296.25	298.02
Return on Equity	38.49	259.77	280.32
Interest on Working Capital	3.77	24.64	25.97
O & M Expenses	27.33	173.36	183.28
<b>Total</b>	<b>154.18</b>	<b>1015.56</b>	<b>1069.82</b>

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

(₹ in lakh)

Particulars	2011-12 (Pro-rata)	2012-13	2013-14
Maintenance Spares	24.60	26.00	27.49
O & M Expenses	13.67	14.45	15.27
Receivables	154.18	169.26	178.30
<b>Total</b>	<b>192.45</b>	<b>209.71</b>	<b>221.06</b>
Rate of Interest	11.75%	11.75%	11.75%
<b>Interest</b>	<b>3.77</b>	<b>24.64</b>	<b>25.97</b>

6. No comments or suggestions have been received from the general public in response to the notice published by the petitioner under Section 64 of the Electricity Act, 2003. Uttar Pradesh Power Corporation Limited (UPPCL), Respondent No.9, vide affidavit dated 7.8.2014 has filed its reply to the petition.

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

### **Capital cost**

8. 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.”

9. The details of the apportioned approved capital cost, capital cost as on the dates of commercial operation and estimated additional capital expenditure projected to be incurred for the transmission assets as submitted by the petitioner are given hereunder:

(₹ in lakh)

Apportioned approved cost	Actual cost on date of commercial operation	Projected Additional Capital Expenditure				Estimated completion cost
		2011-12	2012-13	2013-14	2014-15	
4200.66	4011.79	784.20	314.92	468.74	311.16	5890.81

10. The actual cost on the date of commercial operation includes ₹191.26 lakh on account of cost of initial spares. The petitioner’s claim for capitalization of projected expenditure to be incurred during 2014-15 has not been considered in the present petition because the claim pertains to the period beyond the control period of 2009-14.

### **Time over-run**

11. Against the scheduled date of commercial operation of 1.10.2008, the transmission asset has been declared under commercial operation on 1.2.2012, with

delay of 40 months. During technical validation, the Commission under letter dated 6.7.2012 sought the following information from the petitioner:-

(a) Justification along with documentary evidence for condoning the delay which was stated to be on account of delay in supply of the equipment by the supplier.

(b) Details of liquidated damages leviable on contractor in accordance with provisions of contract, along with documentary evidence.

12. The petitioner vide affidavit dated 7.1.2013 has submitted as under:

**“Reply to point – (a)”**

It is submitted that 765 kV FSC to be installed at Meerut end on Tehri Pooling Point (Koteshwar) – Meerut 765 kV 2\* S/C line, is first 765 kV level installation in the country and there are very few such 765 kV level installation worldwide. Due to specific design, 765 kV Bypass Switch exclusively used for 765 kV FSC installation is very rare and not commonly available. During global competitive bidding in 2006, hardly few vendors like SIEMENS, NOKIAN & ABB were understood to have the technology and capability of 765 kV FSC. Accordingly, with this backdrop and in line with the procurement policy and procedure in vogue, for transparency, fairness and competitiveness in process, Global Competitive Bids for the subject package were invited in September, 2006. As two out of three firms were falling short of meeting the qualification criteria stipulated in the Bidding Documents, the bidding process was annulled.

The bids under re-bidding were invited on 27/09/2007 after incorporation of revised Qualifying Requirements (QR) in the Bidding Documents and were opened on 14/12/2007. Again the bidding process against the said invitation was annulled due to deviation taken by the bidders on design of the MOV for high order of contingency stipulated in the Bidding Documents.

In view of the technical complexity involved and the fact that POWERGRID had no previous experience with 765 kV FSC and also the experience across the global for such supply was rare, it was considered prudent to review the technical specification by suitably adjusting the contingency level which inter-alia had no impact on performance requirement of petitioner, bids were re-invited after necessary modifications.

Subsequently, fresh bids were invited in May, 2008 on global basis and were opened on 25.07.2008. Finally LOA was issued to the successful bidder i.e. M/S SIEMENS on 17.06.2009 on turnkey contract basis for 765 kV FSC installation at Meerut. It is therefore to be clarified that the Bids had to be invited three times (after they failed twice) only because of the uniqueness of work to be carried out. It is to be emphasized that this being the first 765 kV FSC installation in the country and constraints in availability of experienced manufactures worldwide, forced the bidding process to be delayed by about 34 months w.r.t investment approval date.

As far as the time-line of execution of these works are concerned, it is to be clarified that the period of its execution of 27 months was indicated to begin along with the date of award of Tehri Pooling Station (GIS). This was mainly due to the reason that both these were required at the same time and as per FR, were expected to be awarded simultaneously. Though the Tehri Pooling Point (GIS) substation got awarded, the FSC could not be awarded due to the reasons stated above which involved a delay of about 3 years. The project also got delayed during execution stage since the by-pass switch was not meeting the technical requirements stipulated by the petitioner.

It needs to be mentioned that at the stage of selecting a bidder during a procurement process, the finer aspects of design of FSC were not known in completeness. After the contracting stage is completed, the detailed engineering is normally done to determine the final parameter of the equipment based on which the type test is carried out. This being a unique project, required a detailed set of calculation based on which the series of type-test was carried out at CERDA, France and completed in Jan 2012 and accordingly the FSC was commissioned in Feb 2012.

It may be appreciated from above that the delay in procurement and subsequent execution of this work was entirely beyond the control of the petitioner. This may therefore be condoned.”

13. The petitioner has not submitted the details of Liquidated Damages (LD) recovered or recoverable, though in the affidavit dated 7.1.2013 it was stated that the details of LD levied on contractor would be submitted separately after closing of contract.



14. The chronology of activities culled out from the petitioner's affidavit dated 7.1.2013 is summarized as under:-

Srl. No.	Date of Activity	Activity	Remarks
1	1.6.2005	Grant of Investment Approval	
2	11.9.2006	Global competitive bidding	2 out of 3 firms did not meet qualification criteria - Bid Process annulled
3	27.9.2007	Re-bidding (Global)	After revised qualifying requirement
4	14.12.2007	Bids opened	Deviation by bidders on design of MOV for higher order of contingency stipulated in bid. Bid process annulled
5	12.5.2008	Re-bidding (Global)	After revising technical specifications by suitably adjusting contingency level
6	25.7.2008	Bids opened	
7	1.10.2008	Scheduled commissioning	27 months from LoA
8	17.6.2009	Letter of Award issued	34 months (from starting of bidding process September, 2006 to LoA)
9	1.2.2012	Date of commercial operation	Delay of 40 months

15. From the details furnished by the petitioner it is seen that the petitioner had revised qualifying requirements twice. This makes it obvious that the petitioner had not properly prepared the technical specifications before undertaking the bidding process. In case of uniqueness of the project, a pre-bid conference is generally held to finalize the specifications and assess the availability of vendors. Non-finalization of complete specifications before bidding shows imprudence on the part of petitioner in proceeding with calling bids, which caused the inordinate delay of 34 months.

16. The petitioner has admitted that this being a unique project required a detailed set of calculations. The petitioner has failed to furnish any information to show that it took timely action for carrying out the detailed calculations. The petitioner has further submitted that a series of type tests were carried out at CERDA, France, which were

completed in January, 2012. However, the details of the activities undertaken and time taken for each activity have not been provided.

17. The petitioner has further stated that during execution stage the project was delayed since bypass switch was not meeting the technical requirement stipulated by it. Thus, according to the petitioner, a part of the delay was caused because of the fault of the vendor. It was the responsibility of the vendor to supply equipment in accordance with prescribed specification under the contract. As the vendor had failed to supply the equipment as per the agreed specifications, the petitioner can recover damages from the vendor/supplier in accordance with the terms of the contract. There can be no justification, whatsoever, to saddle the consumers with additional costs for the failure of the vendor/supplier to supply the proper equipment.

18. Accordingly, in the light of above discussion, the delay of 40 months is not condoned.

### **IDC and IEDC**

19. As held above, delay in commercial operation of the transmission asset is on account of inefficiency of the petitioner or the failure of the vendor/supplier to supply the equipment of the agreed technical specifications. The inefficiency cost on part of the petitioner or the supplier cannot be passed to the consumers. Therefore, IDC and IEDC for the period of delay of 40 months are not being allowed. The amounts of account of IDC and IEDC disallowed are being deducted from capital cost as given overleaf:-

(₹ in lakh)

<b>Detail of IDC and IEDC as per Management Certificate dated 30.6.2012</b>		
	<b>IDC</b>	<b>IEDC</b>
IDC and IEDC up to 31.3.2011	246.15	130.12
IDC and IEDC from 1.4.2011 to 31.1.2012	276.26	78.81
<b>Total IDC and IEDC Claimed</b>	<b>522.41</b>	<b>208.93</b>
<b>Detail of IDC and IEDC disallowed for 40 months</b>		
IDC and IEDC from October 2008 to March 2011 (30 months)	129.55	68.48
IDC and IEDC from April 2011 to Jan 2012 (for 10 months)	276.26	78.81
<b>Total Disallowed IDC and IEDC(for 40 months)</b>	<b>405.81</b>	<b>147.29</b>

### **Cost over-run**

20. The total estimated completion cost of the transmission asset is stated to be ₹5890.81 lakh (including additional capital expenditure of ₹311.16 lakh for 2014-15) against apportioned approved cost of ₹4200.66 lakh. The estimated completion cost up to 31.3.2014 is ₹5579.65 lakh which exceeds the apportioned approved cost. In the light of the judgment of the Appellate Tribunal dated 28.11.2013 in Appeal No 165/ 2012, the capital cost as on 31.3.2014 has been restricted to the apportioned approved cost of ₹4200.66 lakh.

### **Initial spares**

21. The actual cost on the date of commercial operation claimed by the petitioner is inclusive of the cost of initial spares. Regulation 8 of the 2009 Tariff Regulations provide for ceiling norms for capitalization of initial spares in respect of 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.

22. The initial spares claimed by the petitioner are in excess of the ceiling limit of 3.5% for the Series Compensation. Accordingly, initial spares have been restricted up to 3.5% after taking into account disallowed IDC/IEDC due to time over-run and cost over-run. In view of the restriction of capital cost, the claim of the petitioner in respect of cost of the initial spares has been rationalized as under:-

(₹ in lakh)				
Particulars	Capital Cost up to cut off date	Initial Spares claimed	Capital cost up to cut-off date reducing disallowed IDC & IEDC	Proportionate Initial Spares
Sub-station	5579.65	191.26	4203.80	144.10

23. The excess initial spares have been worked out as given hereunder:-

(₹ in lakh)					
Particulars	Capital Cost up to cut off date	Initial Spares Claimed	Ceiling Limit,	Initial Spares worked out	Excess Initial Spares
Sub-station	4203.80	144.10	3.50%	147.24	3.14

24. The excess initial spares worked out as above have been adjusted against the capital cost as on the date of commercial operation.

25. Accordingly, the details of the capital cost considered as on the date of commercial operation after adjustment of IDC and IEDC disallowed and reduced cost of initial spares are as follows:-

<b>Particulars</b>	<b>₹ in lakh</b>
Capital cost claimed as on the date of commercial operation	4011.79
<b>Less:</b> Disallowed IDC & IEDC	553.11
<b>Less:</b> Excess initial spares claimed	3.14
Capital cost considered as on the date of commercial operation	<b>3455.54</b>

### **Projected additional capital expenditure**

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

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

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

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

“cut-off date” means 31<sup>st</sup> March of the year closing after 2 years of the year of commercial operation of the project, and in case 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”.

28. After taking into account the date of commercial operation of the transmission asset, cut-off date arrived at is 31.3.2015.

29. The additional capital expenditure during 2011-12, 2012-13 and 2013-14 claimed by the petitioner, as at para 9 above, is within the cut-off date and is on account of balance payments. However, as already noted, the capital cost as on 31.3.2014 has been restricted to the apportioned approved cost. Accordingly, the additional capital expenditure from the date of commercial operation to 31.3.2014 has been restricted to the extent of apportioned approved cost to work out the tariff. The additional capital expenditure claimed and that considered for the purpose of tariff determination is as follows:-

(₹ in lakh)				
Particulars	2011-12	2012-13	2013-14	Total
Claimed	784.20	314.92	468.74	1567.86
Considered	745.12	0.00	0.00	745.12

30. Projected additional capital expenditure so considered shall be reviewed at the time of truing up or submission of the Revised Cost Estimates, as the case may be.

31. Based on the above, gross block as given overleaf has been considered for the purpose of computation of the transmission charges for the transmission assets, after allowing additional capitalization as above, within the limits of apportioned approved cost:-

(₹ in lakh)

AppORTIONED APPROVED COST	COST ON DATE OF COMMERCIAL OPERATION AFTER DEDUCTING IDC/IEDC	ADDITIONAL CAPITAL EXPENDITURE ALLOWED			CAPITAL COST ON 31.3.2014
		2011-12	2012-13	2013-14	
4200.66	3455.54	745.12	0.00	0.00	4200.66

### Debt- equity ratio

32. 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.”

33. The capital cost on the dates of commercial operation arrived at as above and additional capitalization allowed have been considered in the normative debt-equity ratio

of 70:30. Details of debt-equity as on dates of commercial operation and 31.3.2014 considered on normative basis are as follows:-

(₹ in lakh)

	Cost on Date of Commercial Operation	Cost on 31.3.2014
Debt	2418.88	2940.46
Equity	1036.66	1260.20
<b>Total</b>	<b>3455.54</b>	<b>4200.66</b>

### Return on equity

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

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

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

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

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

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

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

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

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

(5) The generating company or the transmission licensee as the case may be, shall recover the shortfall or refund the excess Annual Fixed charge on account of Return on Equity due to change in applicable Minimum Alternate/ Corporate Income Tax



Rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission;

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

35. The petitioner has claimed RoE at the rate of 15.5% in accordance with clause (2) of Regulation 15 of 2009 Tariff Regulations which has been allowed. RoE allowed for the years 2011-12, 2012-2013 and 2013-2014 is given hereunder:-

(₹ in lakh)

Particulars	2011-12 (Pro- rata)	2012-13	2013-14
Opening Equity	1036.66	1260.20	1260.20
Addition due to Additional Capitalisation	223.54	0.00	0.00
Closing Equity	1260.20	1260.20	1260.20
Average Equity	1148.43	1260.20	1260.20
Return on Equity (Base Rate )	15.50%	15.50%	15.50%
Tax rate for 2008-09 (MAT)	11.33%	11.33%	11.33%
Rate of Return on Equity (Pre-tax )	17.481%	17.481%	17.481%
<b>Return on Equity (Pre Tax)</b>	<b>33.46</b>	<b>220.30</b>	<b>220.30</b>

### Interest on loan

36. 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.”

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

(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.

38. Detailed calculations in support of the weighted average rate of interest have been given in Annexure to this order.

39. Based on the above, interest on loan has been calculated as given below:-

Particulars	(₹ in lakh)		
	2011-12 (Pro-rata)	2012-13	2013-14
Gross Normative Loan	2418.88	2940.46	2940.46
Cumulative Repayment upto previous year	0.00	33.69	255.48
Net Loan-Opening	2418.88	2906.77	2684.98
Addition due to additional capital expenditure	521.59	0.00	0.00
Repayment during the year	33.69	221.79	221.79
Net Loan-Closing	2906.77	2684.98	2463.19
Average Loan	2662.83	2795.88	2574.08
Weighted Average Rate of Interest on Loan	8.9785%	8.9831%	9.0294%
<b>Interest</b>	<b>39.85</b>	<b>251.16</b>	<b>232.42</b>

## Depreciation

40. Regulation 17 of the 2009 Tariff Regulations provides as follows:-

“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.”

41. The petitioner has claimed actual depreciation. In our calculations, depreciation has been calculated in accordance with clause (4) of Regulation 17 extracted above.

42. The transmission asset was put under commercial operation during the last quarter of 2011-12. Accordingly, it will complete 12 years after 2013-14. As such,

depreciation has been calculated annually based on Straight Line Method at the rates specified in Appendix-III to the 2009 Tariff Regulations, as per details given hereunder:-

**(₹ in lakh)**

<b>Particulars</b>	<b>2011-12 (Pro-rata)</b>	<b>2012-13</b>	<b>2013-14</b>
Opening Gross Block	3455.54	4200.66	4200.66
Addition due to Projected Additional Capitalisation	745.12	0.00	0.00
Closing Gross Block	4200.66	4200.66	4200.66
Average Gross Block	3828.10	4200.66	4200.66
Rate of Depreciation	5.2800%	5.2800%	5.2800%
Depreciable Value	3445.29	4281.22	4281.22
Remaining Depreciable Value	3445.29	3411.60	3189.81
<b>Depreciation</b>	<b>33.69</b>	<b>221.79</b>	<b>221.79</b>

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

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

<b>Element</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
765 kV bay (₹ lakh per bay)	81.99	86.68	91.64

44. The allowable O&M Expenses for the assets are as under:-

**(₹ in lakh)**

<b>Element</b>	<b>No of Bays</b>	<b>2011-12 (Pro-rata)</b>	<b>2012-13</b>	<b>2013-14</b>
765 kV Bay at Meerut substation	2	27.33	173.36	183.28

45. The petitioner has stated 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 submitted that it reserved the right to approach the Commission for suitable revision in the norms for O&M Expenses in case the impact of wage hike w.e.f 1.1.2007 is more than 50%.

46. While specifying the norms for O&M Expenses, the Commission has in the 2009 Tariff Regulations already factored 50% on account of pay revision of the employees of 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 separately approaches the Commission by making an appropriate application, the same shall be dealt with in accordance with law.

### **Interest on working capital**

47. 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 operation and maintenance 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 in case of transmission assets declared under commercial operation after 1.4.2009 shall be equal to State Bank of India Base Rate as applicable on 1<sup>st</sup> April of the year of commercial operation plus 350 bps. State Bank of India base interest rate on 1.4.2011 was 8.25%. Therefore, interest rate of 11.75% has been considered. The interest on working capital for the assets covered in the petition has been worked out accordingly.

48. Necessary computations of interest on working capital are appended overleaf:-

(₹ in lakh)

Particulars	2011-12 (Pro- rata)	2012-13	2013-14
Maintenance Spares	24.60	26.00	27.49
O & M Expenses	13.67	14.45	15.27
Receivables	137.77	148.13	146.68
<b>Total</b>	<b>176.03</b>	<b>188.58</b>	<b>189.44</b>
Rate of Interest	11.75%	11.75%	11.75%
<b>Interest</b>	<b>3.45</b>	<b>22.16</b>	<b>22.26</b>

### Transmission charges

49. The transmission charges being allowed for the transmission assets are summarized hereunder:-

(₹ in lakh)

Particulars	2011-12 (Pro-rata)	2012-13	2013-14
Depreciation	33.69	221.79	221.79
Interest on Loan	39.85	251.16	232.42
Return on Equity	33.46	220.30	220.30
Interest on Working Capital	3.45	22.16	22.26
O & M Expenses	27.33	173.36	183.28
<b>Total</b>	<b>137.77</b>	<b>888.76</b>	<b>880.05</b>

50. The transmission charges approved for the year 2011-12 are on *pro-rata* basis. The transmission charges allowed are on the lower as compared to those claimed by the petitioner. This is for the reason of reduction in capital cost on account of time and cost over-run and restricting the cost of initial spares.

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



### **Filing fee, licence fee and publication expenses**

52. The petitioner has sought reimbursement of fee paid by it for filing the petition, licence fee and also the publication expenses. BRPL has opposed the prayers of the petitioner. The petitioner shall be entitled for reimbursement of fee and licence fee directly from the beneficiaries in accordance with Regulation 42A of the 2009 Tariff Regulations. Similarly, the petitioner shall also be entitled to recover the publication expenses incurred in connection with the present petition. The reimbursement of filing fee, licence fee and the publication expenses shall be on *pro-rata* basis in the same ratio as the transmission charges.

### **Service tax**

53. 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. We consider petitioner's prayer pre-mature and accordingly this prayer is rejected.

### **Sharing of transmission charges**

54. 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.

55. This order disposes of Petition No. 80/TT/2012.

sd/-

**(A. S. Bakshi)**  
**Member**

sd/-

**(A.K. Singhal)**  
**Member**

sd/-

**(M. Deena Dayalan)**  
**Member**

sd/-

**(Gireesh B Pradhan)**  
**Chairperson**



## Annexure

### CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

	Details of Loan	2011-12	2012-13	2013-14
<b>1</b>	<b>Bond XXIV</b>			
	Gross loan opening	48.00	<b>48.00</b>	<b>48.00</b>
	Cumulative Repayment upto DOCO/previous year	4.00	<b>8.00</b>	<b>12.00</b>
	Net Loan-Opening	44.00	40.00	36.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	4.00	4.00	4.00
	Net Loan-Closing	40.00	36.00	32.00
	Average Loan	42.00	38.00	34.00
	Rate of Interest	9.95%	9.95%	9.95%
	Interest	4.18	3.78	3.38
	Rep Schedule	12 Annual installments from 26.3.2011		
<b>2</b>	<b>Bond XXVIII</b>			
	Gross loan opening	77.00	<b>77.00</b>	<b>77.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>6.42</b>
	Net Loan-Opening	77.00	77.00	70.58
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	6.42	6.42
	Net Loan-Closing	77.00	70.58	64.17
	Average Loan	77.00	73.79	67.38
	Rate of Interest	9.33%	9.33%	9.33%
	Interest	7.18	6.88	6.29
	Rep Schedule	12 Annual installments from 31.3.2012		
<b>3</b>	<b>Bond XXIX</b>			
	Gross loan opening	66.00	<b>66.00</b>	<b>66.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>5.50</b>
	Net Loan-Opening	66.00	66.00	60.50
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	5.50	5.50
	Net Loan-Closing	66.00	60.50	55.00
	Average Loan	66.00	63.25	57.75
	Rate of Interest	9.20%	9.20%	9.20%
	Interest	6.07	5.82	5.31
	Rep Schedule	12 equal installments from 12.3.2013		
<b>4</b>	<b>BOND XXX</b>			
	Gross loan opening	39.00	<b>39.00</b>	<b>39.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	39.00	39.00	39.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	3.25



	Net Loan-Closing	39.00	39.00	35.75
	Average Loan	39.00	39.00	37.38
	Rate of Interest	8.80%	8.80%	8.80%
	Interest	3.43	3.43	3.29
	Rep Schedule	12 equal installments from 29.9.2013		
<b>5</b>	<b>BOND XXXI</b>			
	Gross loan opening	93.00	<b>93.00</b>	<b>93.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	93.00	93.00	93.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	93.00	93.00	93.00
	Average Loan	93.00	93.00	93.00
	Rate of Interest	8.90%	8.90%	8.90%
	Interest	8.28	8.28	8.28
	Rep Schedule	12 equal installments from 25.2.2014		
<b>6</b>	<b>BOND XXXIV</b>			
	Gross loan opening	2062.75	<b>2062.75</b>	<b>2062.75</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	2062.75	2062.75	2062.75
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	2062.75	2062.75	2062.75
	Average Loan	2062.75	2062.75	2062.75
	Rate of Interest	8.84%	8.84%	8.84%
	Interest	182.35	182.35	182.35
	Rep Schedule	12 equal installments from 21.10.2014		
<b>7</b>	<b>BOND XXXV</b>			
	Gross loan opening	52.41	<b>52.41</b>	<b>52.41</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	52.41	52.41	52.41
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	52.41	52.41	52.41
	Average Loan	52.41	52.41	52.41
	Rate of Interest	9.64%	9.64%	9.64%
	Interest	5.05	5.05	5.05
	Rep Schedule	12 Annual Installment from 31.5.2015		
<b>8</b>	<b>BOND XXXVI</b>			
	Gross loan opening	181.09	<b>181.09</b>	<b>181.09</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	181.09	181.09	181.09
	Additions during the year	0.00	0.00	0.00



	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	181.09	181.09	181.09
	Average Loan	181.09	181.09	181.09
	Rate of Interest	9.35%	9.35%	9.35%
	Interest	16.93	16.93	16.93
	Rep Schedule	15 Annual Installment from 29.8.2016		
<b>9</b>	<b>BOND XXVII</b>			
	Gross loan opening	189.00	<b>189.00</b>	<b>189.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>15.75</b>	<b>31.50</b>
	Net Loan-Opening	189.00	173.25	157.50
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	15.75	15.75	15.75
	Net Loan-Closing	173.25	157.50	141.75
	Average Loan	181.13	165.38	149.63
	Rate of Interest	9.47%	9.47%	9.47%
	Interest	17.15	15.66	14.17
	Rep Schedule	12 Annual Installment from 31.3.2012		
<b>10</b>	<b>BOND XXXVI(ADDCAP 2011-12)</b>			
	Gross loan opening	0.00	<b>274.46</b>	<b>274.46</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	274.46	274.46
	Additions during the year	274.46	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	274.46	274.46	274.46
	Average Loan	137.23	274.46	274.46
	Rate of Interest	9.35%	9.35%	9.35%
	Interest	12.83	25.66	25.66
	Rep Schedule	15 Annual Installment from 29.8.2016		
<b>11</b>	<b>BOND XXX(ADDCAP 2011-12)</b>			
	Gross loan opening	0.00	<b>274.48</b>	<b>274.48</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	274.48	274.48
	Additions during the year	274.48	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	274.48	274.48	274.48
	Average Loan	137.24	274.48	274.48
	Rate of Interest	8.80%	8.80%	8.80%
	Interest	12.08	24.15	24.15
	Rep Schedule	12 Annual Installment from 29.9.2013		
<b>12</b>	<b>BOND XL1(ADDCAP 2012-13)</b>			
	Gross loan opening	0.00	<b>0.00</b>	<b>145.44</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	0.00	145.44
	Additions during the year	0.00	145.44	0.00



	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	0.00	145.44	145.44
	Average Loan	0.00	72.72	145.44
	Rate of Interest	8.85%	8.85%	8.85%
	Interest	0.00	6.44	12.87
	Rep Schedule	12 Annual Installment from 19.10.2016		
<b>13</b>	<b>BOND XL(ADDCAP 2012-13)</b>			
	Gross loan opening	0.00	<b>0.00</b>	<b>75.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	0.00	75.00
	Additions during the year	0.00	75.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	0.00	75.00	75.00
	Average Loan	0.00	37.50	75.00
	Rate of Interest	9.30%	9.30%	9.30%
	Interest	0.00	3.49	6.98
	Rep Schedule	12 Annual Installment from 28.6.2016		
<b>14</b>	<b>SBI(ADDCAP 2013-14)</b>			
	Gross loan opening	0.00	<b>0.00</b>	<b>0.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	0.00	0.00
	Additions during the year	0.00	0.00	291.56
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	0.00	0.00	291.56
	Average Loan	0.00	0.00	145.78
	Rate of Interest	10.25%	10.25%	10.25%
	Interest	0.00	0.00	14.94
<b>15</b>	<b>BOND XL1 (ADDCAP 2013-14)</b>			
	Gross loan opening	0.00	<b>0.00</b>	<b>0.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	0.00	0.00
	Additions during the year	0.00	0.00	36.56
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	0.00	0.00	36.56
	Average Loan	0.00	0.00	18.28
	Rate of Interest	8.85%	8.85%	8.85%
	Interest	0.00	0.00	1.62
	Rep Schedule	12 Annual Installment from 19.10.2016		
	Gross loan opening	2808.25	3357.19	3577.63
	Cumulative Repayment upto DOCO/previous year	4.00	23.75	55.42
	Net Loan-Opening	2804.25	3333.44	3522.21
	Additions during the year	548.94	220.44	328.12
	Repayment during the year	19.75	31.67	34.92
	Net Loan-Closing	3333.44	3522.21	3815.42



Average Loan	3068.85	3427.83	3668.82
Rate of Interest	<b>8.9785%</b>	<b>8.9831%</b>	<b>9.0294%</b>
<b>Interest</b>	275.54	307.93	331.27

