

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 84/TT/2011**

**Coram: Dr. Pramod Deo, Chairperson  
Shri S. Jayaraman, Member  
Shri M. Deena Dayalan, Member**

**Date of Hearing: 16.2.2012**

**Date of Order: 25.4.2012**

**In the matter of:**

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, for 400 kV Patiala – Ludhiana transmission line and LILO of Patiala-Hissar Line at Kaithal Sub-station alongwith associated bays under transmission system associated with Rampur HEP in Northern Region for the period from the date of commercial operation to 31.3.2014

**And**

**In the matter of:**

Power Grid Corporation of India Limited, Gurgaon

.....**Petitioner**

**Vs**

1. Rajasthan Power Procurement Centre, Jaipur
2. Ajmer Vidyut Vitaran Nigam Ltd., Ajmer
3. Jaipur Vidyut Vitaran Nigam Ltd, Jaipur
4. Jodhpur Vidyut Vitaran Nigam Ltd, Jodhpur
5. Himachal Pradesh State Electricity Board, Shimla
6. Punjab State Electricity Board, Patiala
7. Haryana Vidyut Prasaran Nigam Ltd, Panchkula
8. Power Development Department, Govt. of J&K, Jammu
9. Uttar Pradesh Power Corporation Ltd., Lucknow
10. Delhi Transco Ltd, New Delhi.
11. BSES Yamuna Power Ltd., New Delhi
12. BSES Rajdhani Power Ltd., New Delhi
13. North Delhi Power Ltd., New Delhi
14. Chandigarh Administration, Chandigarh
15. Uttarakhand Power Corporation Ltd., Dehradun
16. North Central Railway, Allahabad
17. New Delhi Municipal Council, New Delhi

... **Respondents**



**The following were present:**

1. Shri. Rajeev Gupta, PGCIL
2. Shri S S Raju, PGCIL
3. Shri R.B. Sharma, Advocate for BSES and JSEB
4. Shri Sanjay Srivastav, BRPL
5. Shri Padamjit Singh, PSPCL
6. Shri Tej Pal Singh Bawa, PSPCL

**ORDER**

This petition has been filed by PGCIL seeking approval of transmission tariff for 400 kV Patiala –Ludhiana transmission line and LILO of Patiala-Hissar Line at Kaithal Sub-station along with associated bays under transmission system associated with Rampur HEP in Northern Region (hereinafter referred to as “the transmission assets”) from the date of commercial operation to 31.3.2014 based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as “the 2009 regulations”).

2. Administrative approval and expenditure sanction to the transmission scheme was accorded by the Board of Directors of POWERGRID vide C/CP/Rampur HEP T.S. dated 20.2.2009 for ₹18419 lakh including an IDC of ₹1416 lakh based on 4<sup>th</sup> Quarter, 2008 price level. The scope of work covered under the project broadly includes construction of following transmission lines and Sub-stations:-

**Transmission Line**

- (i) Patiala –Ludhiana 400 kV D/C line -78 Km.
- (ii) LILO of 400 kV D/C Nathpa Jhakri- Nalagarh (Triple Snowbird) line at Rampur-4 Km.
- (iii) LILO of Patiala –Hissar 400 kV (Triple Snowbird) line at Kaithal -33 km.

## Sub station

- (i) Patiala 400/200 kV (POWERGRID) Sub-station (Extension).
- (ii) Ludhiana 400/200 kV (POWERGRID) Sub-station (Extension).
- (iii) Kaithal 400/200 kV (POWERGRID) Sub-station (Extension).

3. The petitioner initially, in the petition has submitted that the anticipated date of commercial operation of the transmission assets was 1.5.2011. Subsequently, vide affidavit dated 2.9.2011, the petitioner submitted that the anticipated date of commercial operation has been revised to 1.9.2011. The petitioner in its subsequent affidavit, dated 17.1.2012 submitted that the actual date of commercial operation of part of the asset i.e. "LILO of Patiala Hissar Line at Kaithal Sub-station (hereinafter referred as to "Asset-1") as 1.9.2011 and the actual date of commercial operation of the remaining part of asset i.e. "400kV Patiala Ludhiana Transmission Line (hereinafter referred to as "Asset-2") as 1.10.2011. Accordingly, the petitioner has submitted two separate sets of revised forms for both the assets as per actual dates of commercial operation.

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

	Asset 1			Asset 2		
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Depreciation	157.93	290.34	291.66	225.86	467.24	471.67
Interest on Loan	181.55	314.22	289.94	257.76	503.02	466.85
Return on equity	161.69	297.13	298.48	231.05	477.89	482.42
Interest on Working Capital	13.94	25.14	25.11	20.62	42.35	42.57
O & M Expenses	82.03	148.67	157.15	132.38	279.92	295.91
<b>Total</b>	<b>597.14</b>	<b>1075.50</b>	<b>1062.34</b>	<b>867.67</b>	<b>1770.42</b>	<b>1759.42</b>

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

(₹ in lakh)						
	Asset 1			Asset 2		
	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14
Maintenance Spares	21.09	22.30	23.57	39.71	41.99	44.39
O & M expenses	11.72	12.39	13.10	22.06	23.33	24.66
Receivables	170.61	179.25	177.06	289.22	295.07	293.24
<b>Total</b>	<b>203.42</b>	<b>213.94</b>	<b>213.73</b>	<b>350.99</b>	<b>360.39</b>	<b>362.29</b>
Rate of Interest	11.75%	11.75%	11.75%	11.75%	11.75%	11.75%
<b>Interest</b>	13.94	25.14	25.11	20.62	42.35	42.57

6. Reply to the petition has been filed by Respondent No.3, Jaipur Vidyut Vitran Nigam Ltd. (JVVNL), Respondent No.2, Ajmer Vidyut Vitran Nigam Ltd. (AVVNL), Respondent No.4, Jodhpur Vidyut Vitran Nigam Ltd. (Jd.VVNL), Respondent No.6, Punjab State Power Corporation Limited (PSPCL), Respondent No.9, Uttar Pradesh Power Corporation Ltd. (UPPCL) and Respondent No.12, BSES Rajdhani Power Ltd. (BRPL). JVVNL, AVVNL and Jd.VVNL have raised the issue of cost variation, additional RoE and O&M expenses in their replies. PSPCL, in its reply vide affidavit dated 1.8.2011, has raised the issue of high cost, additional RoE and O&M expenses. UPPCL, in its reply vide affidavit dated 27.12.2011, has raised the issue of additional RoE, service tax, floating rate of interest, licence fee and O&M expenses. BRPL, in its reply dated 11.1.2012, has raised the issue of additional RoE, filing fee and publication expenses, license fee, service tax, O&M expenses, etc.

7. Having heard the representatives of the parties and perused the material on records, we proceed to dispose of the petition. While doing so,

we also take care of the submissions of the respondents in their replies and address them in the relevant paragraphs.

## **COST VARIATION**

8. BRPL, in its reply, has submitted that the projected completion cost of the transmission assets is ₹14132 lakh as against the apportioned cost of ₹17240 lakh resulting in over-estimation of cost. There is also cost over-run in certain elements like Towers Steel, Insulators and Hardware fittings. PSPCL has also raised the issue of cost over-run in items like Towers Steel and miscellaneous civil works.

9. In response, the petitioner has submitted, vide affidavit dated 17.6.2011, that the cost estimates are based on the broad indicative cost worked out generally on the basis of average unit rates of recently awarded contracts. For procurement, Open Competitive Bidding route is followed and by providing equal opportunity to all eligible firms, lowest possible market prices for required product/ services is obtained and contracts are awarded on the basis of lowest evaluated eligible bidder. The best competitive bid prices obtained through tenders may happen to be lower or higher than the cost estimate depending upon prevailing market conditions. In the instant case, the reason for cost variation in certain elements is due to the variation in estimated price and awarded price plus price variation.

10. We have considered the cost variation of some individual items based on the information submitted by the petitioner. It is observed that there is

negative cost variation of 28% in sub-station equipment, 100% in construction and pre-commissioning expenses, 88% in over-head expenses, 56% in IDC and 18% in overall expenses. After taking into account the escalation factor, the cost estimate is not realistic. In our view the petitioner should adopt a prudent procedure to make cost estimates of different elements of the transmission projects more realistic.

### **CAPITAL COST**

11. As regards the capital cost, Regulation 7 (1) of the 2009 regulations provides as under:-

*“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.”*

12. Petitioner has claimed capital cost of ₹4776.46 lakh for Asset-1 and ₹8328.32 lakh for Asset-2, vide management certificate dated 29.9.2011 and dated 22.11.2011, respectively as on the date of commercial operation. In this regard it is noticed that the above stated capital cost, as on the date of commercial operation, is inclusive of initial spares of ₹ 55.81 lakh and ₹ 85.37 lakh pertaining to sub-station for Asset-1 and Asset-2 respectively. No Initial spares have been claimed for transmission line.

13. Admissible amount of initial spares pertaining to the Sub-station has been determined considering the rates specified in Regulation 8 of 2009 regulations. Accordingly, excess initial spares of ₹38.74 lakh and ₹60.44 lakh for Asset-1 and Asset-2 have been deducted from the cost of sub-station as

on date of commercial operation of respective assets, as per details given below:-

(₹ in lakh)					
Description	Project Cost pertaining to Sub-station inclusive of PLCC as on cut-off date	Initial spares claimed	Ceiling limits as per Regulation 8 of 2009 regulations	Initial spares worked out	Excess initial spares claimed
	(a)	(b)	(c)	(d)=*((a-b)*c)/(100-c)%	(e)=(b)-(d)
<b>Asset-1</b>	721.71	55.81	2.50%	17.07	<b>38.74</b>
<b>Asset-2</b>	1057.77	85.37	2.50%	24.93	<b>60.44</b>

14. Based on the above, capital expenditure of ₹4737.72 lakh for Asset-1 (excluding excess initial spares claimed) and ₹8267.88 lakh for Asset-2 (excluding excess initial spares claimed) as on date of commercial operation has been considered for the purpose of tariff calculation.

### **PROJECTED ADDITIONAL CAPITAL EXPENDITURE**

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

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

- (i) Undischarged liabilities;
- (ii) XXX
- (iii) XXX
- (iv) XXX
- (v) XXX”

16. The 2009 regulations further define 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 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”.*

17. As per the above definition, cut-off date in respect of the transmission assets is 31.3.2014.

18. Petitioner has claimed additional capital expenditure of ₹686.82 lakh and ₹50.00 lakh for 2011-12 and 2012-13 period respectively for Asset-1 and ₹415.94 lakh and ₹167.65 lakh for 2011-12 and 2012-13 period respectively for Asset-2. As the additional capital expenditure claimed falls within cut-off date, the same has been considered for the purpose of tariff calculation.

19. The details of the capital cost as on the actual date of commercial operation and projected additional capital expenditure for the assets covered in the instant petition are as follows:-

(₹ in lakh)

Particulars	Cost as on DOCO	Projected additional capital expenditure		Estimated completion cost
		2011-12	2012-13	
Asset-1	4737.72	686.82	50.00	5474.54
Asset-2	8267.88	415.94	167.65	8851.47

### **DEBT- EQUITY RATIO**

20. Regulation 12 of the 2009 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.”

21. Details of debt-equity in respect of the transmission assets as on the date of commercial operation are as follows:-

Particulars	Asset 1		Asset 2	
	Amount (₹ in lakh)	%	Amount (₹ in lakh)	%
Debt	3316.41	70.00	5787.52	70.00
Equity	1421.32	30.00	2480.37	30.00
<b>Total</b>	<b>4737.72</b>	<b>100.00</b>	<b>8267.88</b>	<b>100.00</b>

22. Debt equity ratio of the assets as on 31.3.2014 is as follows:-

Capital cost as on 31.3.2014				
	Asset-1		Asset-2	
	Amount (₹ in lakh)	%	Amount (₹ in lakh)	%
Debt	3832.18	70.00	6196.03	70.00
Equity	1642.36	30.00	2655.44	30.00
<b>Total</b>	<b>5474.54</b>	<b>100.00</b>	<b>8851.47</b>	<b>100.00</b>

23. As regards the additional capital expenditure, the debt-equity details are as under:-

Asset-1		
Particulars	(₹ in lakh)	%
<b>Add Cap for 2011-12</b>		
Normative		
Debt	480.77	70.00
Equity	206.05	30.00
<b>Total</b>	<b>686.82</b>	<b>100.00</b>
<b>Add Cap for 2012-13</b>		
Normative		
Debt	35.00	70.00
Equity	15.00	30.00
<b>Total</b>	<b>50.00</b>	<b>100.00</b>

Asset-2		
Particulars	Add Cap for 2011-12	
	Normative	
Debt	291.16	70.00
Equity	124.78	30.00
<b>Total</b>	<b>415.94</b>	<b>100.00</b>
Particulars	Add Cap for 2012-13	
	Normative	
Debt	117.36	70.00
Equity	50.30	30.00
<b>Total</b>	<b>167.65</b>	<b>100.00</b>

## RETURN ON EQUITY

24. Regulation 15 of the 2009 regulations provides that,-

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

*(2) Return on equity shall be computed on pre-tax basis at the base rate of 15.5% to be grossed up as per clause (3) of this regulation:*

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

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

*(3) The rate of return on equity shall be computed by grossing up the base rate with the normal tax rate for the year 2008-09 applicable to the concerned generating company or the transmission licensee, as the case may be:*

*Provided that return on equity with respect to the actual 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 separately for each year of the tariff period along with the tariff petition filed for the next tariff period.*

*(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 tried up in accordance with Regulation 6 of these regulations"

25. The following amount of equity has been considered for the purpose of calculating return on equity:-

(₹ in lakh)

Description	Equity on DOCO	Notional equity due to ACE for the period 2011-12	Total equity considered for tariff calculations for the period 2011-12	Notional equity due to ACE for the period 2012-13	Total equity considered for tariff calculations for the period 2012-13	Notional equity due to ACE for the period 2013-14	Total equity considered for tariff calculations for the period 2013-14
<b>Asset-1</b>	1421.32	206.05	1524.34	15.00	1634.86	0.00	1642.36
<b>Asset-2</b>	2480.37	124.78	2542.76	50.30	2630.29	0.00	2655.44

26. The petitioner has claimed additional return on equity amounting to 0.5% under the proviso to clause 15(2) of the 2009 regulations, extracted hereinabove, for completion of 400 kV D/C Line (triple sub-conductor) in 30 months from the date of investment approval.

27. PSPCL, in its reply has submitted that additional ROE claimed by the petitioner may not be allowed as the 400 kV D/C line (triple sub-conductor) has been executed as per the decision taken in 29th meeting of Standing Committee held on 29.12.2010 and additional return on equity is allowed only if the whole scheme is completed as per Regulation 15 (2) of the 2009 regulations.

28. The petitioner, vide affidavit dated 17.6.2011, has submitted as under:-

a) The additional RoE is claimed for the assets which are commissioned within the timeline specified in the 2009 regulations. As per Regulation 15(2) of 2009 regulations additional return of 0.5% shall be allowed if projects are completed within the timeline specified in Appendix-II. Regulation 15(2) does not stipulate that the additional RoE would be applicable only when the whole scheme is completed within the stipulated time schedule. However, Para-1 of the Appendix-II to the 2009 regulations indicates that the completion time schedule for units or block or element of transmission project shall be applicable. Thus, the additional RoE is applicable for the individual elements of the transmission system.

b) If part of the project is completed within the specified time lines, the beneficiaries would be benefitted by the reduced IDC & IEDC components of the project cost and the Utility would also be incentivized for early completion of the given asset(s).

c) The additional return of 0.5% has been claimed for the 400 kV D/C line (triple sub conductor) as it has been completed in 29 months against the 30 months specified in the 2009 regulations.

d) Though investment approval is for the whole project, the tariff is approved for the individual element/system, as the case may be, as per Regulation 4(1) and 4(2) of the 2009 regulations. The additional RoE is being claimed only for those assets which are commissioned within the qualifying time.

29. In response to the query, whether the commissioned elements of the scheme would provide intended benefit even though other elements are not commissioned, the petitioner has submitted that in the 29<sup>th</sup> meeting of the Standing Committee on Transmission System planning of Northern Region held on 29.12.2010, it was agreed that the LILO of Nathpa Jhakri- Nalagarh 400 kV D/C line at Rampur would be commissioned matching with commissioning schedule of Rampur HEP while Patiala- Ludhiana 400 kV D/C line and LILO of Patiala- Hissar 400 kV line at Kaithal may be commissioned at the earliest by delinking them with the commissioning of Rampur HEP. There is over loading on Ludhiana- Malerkotla section, which is required to be strengthened. The 400 kV line between Patiala and Ludhiana would provide the required strengthening optimally and LILO of Patiala- Hissar line at Kaithal would ensure balanced loading on Patiala- Kaithal- Hissar 400 kV corridor. In view of this 400 kV Patiala- Ludhiana Transmission Line and LILO of Patiala- Hissar line at Kaithal Sub-station along with associated bays has been de-linked from commissioning of Rampur HEP.

30. In the main petition, the petitioner had considered the qualifying time line of 30 months, for claiming additional return on equity, on the basis of timeline for LILO of Patiala- Hissar 400 kV transmission line at Kaithal (Triple snowbird) i.e. 400 kV D/C triple conductor transmission line in plain area. However, vide affidavit dated 6.2.2012, the petitioner has requested to consider qualifying time line as 36 months, on the basis of LILO of Nathpa Jhakri- Nalagarh 400 kV D/C line at Rampur i.e. 400 kV D/C triple conductor line in hilly region.

31. Details of the timeline specified in the 2009 regulations and the actual date of commercial operation of the transmission assets under the scheme are as follows:-

<b>Transmission Line</b>	<b>Individual qualifying time schedule for additional RoE (in months)</b>	<b>DOC/ Actual completion time ( in months)</b>
Patiala- Ludhiana 400 kV D/C Tr. line (Twin Moose) 76.215 km.	28	1.10.2011 / 31 Months 11 days
LILO of Patiala- Hissar 400 kV Tr. line at Kaithal (Triple Snowbird) 33.505 km.	30	1.9.2011 / 30 Months 11 days
LILO of Nathpa Jhakri- Nalagarh 400 kV D/C line at Rampur (Not Covered in this petition) 4 km.	36	Yet to be Commissioned (Anticipated in 2012-13) / More than 36 months

32. As mentioned above, the commissioning of the transmission lines covered in the petition has been delinked from commissioning of LILO of Nathpa Jhakri- Nalagarh 400 kV D/C line at Rampur. Hence, the petitioner's claim for considering the qualifying time line of 36 months based on the timeline for LILO of Nathpa Jhakri- Nalagarh 400 kV D/C line at Rampur (in Hilly region) is not justified. As the transmission lines covered in the petition have been commissioned beyond the specified timeline of 30 months, the petitioner's prayer for additional Return on Equity is not allowed.

33. Accordingly, the following amount of return on equity has been allowed:-

(₹ in lakh)

Particulars	Asset 1			Asset 2		
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Opening Equity	1421.32	1627.36	1642.36	2480.37	2605.15	2655.44
Addition due to additional capital expenditure	206.05	15.00	0.00	124.78	50.30	0.00
Closing Equity	1627.36	1642.36	1642.36	2605.15	2655.44	2655.44
Average Equity	1524.34	1634.86	1642.36	2542.76	2630.29	2655.44
Return on Equity (Base Rate )	<b>15.50%</b>	<b>15.50%</b>	<b>15.50%</b>	<b>15.50%</b>	<b>15.50%</b>	<b>15.50%</b>
Tax rate for the year 2008-09	11.33%	11.33%	11.33%	11.33%	11.33%	11.33%
Rate of Return on Equity (Pre Tax)	17.481%	17.481%	17.481%	17.481%	17.481%	17.481%
<b>Return on Equity (Pre-Tax)</b>	<b>155.44</b>	<b>285.79</b>	<b>287.10</b>	<b>222.25</b>	<b>459.80</b>	<b>464.20</b>

### **INTEREST ON LOAN**

34. Regulation 16 of the 2009 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.”*

35. In these calculations, interest on loan has been worked out as follows:-
- (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 has been deemed to be equal to the depreciation allowed for that period.
  - (c) As regards the 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.
  - (e) The methodology followed for the calculation of weighted average Rate of Interest in case of floating interest loans in Petition 132/2010, has been adopted in the instant petition. Accordingly, the



interest on loan has been calculated on the basis of rate prevailing as on 1.4.2009/date of commercial operation. Any change in rate of interest subsequent to the above will be considered at the time of truing up.

36. Detailed calculation of the weighted average rate of interest has been given in Annexure1 and 2 to this order.

37. Details of the interest on loan worked on the above basis are as under:-

Particulars	Asset 1			Asset 2		
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Gross Normative Loan	3316.41	3797.18	3832.18	5787.52	6078.68	6196.03
Cumulative Repayment upto Previous Year	0.00	156.73	445.03	0.00	224.27	688.32
Net Loan-Opening	3316.41	3640.45	3387.15	5787.52	5854.41	5507.71
Addition due to additional capital expenditure	480.77	35.00	0.00	291.16	117.36	0.00
Repayment during the year	156.73	288.30	289.62	224.27	464.05	468.48
Net Loan-Closing	3640.45	3387.15	3097.53	5854.41	5507.71	5039.24
Average Loan	3478.43	3513.80	3242.34	5820.96	5681.06	5273.47
Weighted Average Rate of Interest on Loan	8.8800%	8.8800%	8.8802%	8.7937%	8.7937%	8.7929%
<b>Interest</b>	<b>180.18</b>	<b>312.03</b>	<b>287.93</b>	<b>255.94</b>	<b>499.58</b>	<b>463.69</b>

## DEPRECIATION

38. Regulation 17 of the 2009 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.”

39. Asset 1 and Asset 2 were put under commercial operation on 1.9.2011 and 1.10.2011 respectively. Accordingly, the same 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 to the 2009 regulations.

40 Details of the depreciation worked out are as under:-

(₹ in lakh)						
	Asset 1			Asset 2		
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Opening Gross Block	4737.72	5424.54	5474.54	8267.88	8683.82	8851.47
Addition during 2009-14 due to projected additional capital expenditure	686.82	50.00	0.00	415.94	167.65	0.00
Closing Gross Block	5424.54	5474.54	5474.54	8683.82	8851.47	8851.47
Average Gross Block	5081.13	5449.54	5474.54	8475.85	8767.65	8851.47
Rate of Depreciation	5.2879%	5.2903%	5.2903%	5.2919%	5.2928%	5.2926%
Depreciable Value	4573.02	4904.59	4927.09	7628.27	7890.88	7966.33
Remaining Depreciable Value	4573.02	4747.86	4482.06	7628.27	7666.62	7278.01
Depreciation	<b>156.73</b>	<b>288.30</b>	<b>289.62</b>	<b>224.27</b>	<b>464.05</b>	<b>468.48</b>

## **OPERATION & MAINTENANCE EXPENSES**

41. The petitioner submitted that the 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 would 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%.

42. The respondents PSPCL and Jd.VVNL, AVVNL and JVVNL have submitted that the O&M expenses should be allowed only as norms specified in the 2009 regulations. BRPL has submitted that the increase in the employee cost due to wage revision must be taken care by the petitioner by improving their productivity level and the beneficiaries should not be unduly burdened over and above the provisions made in the 2009 regulations.

43. The UPPCL in its reply has submitted that once the O&M norms have been defined the question of the actuals does not arise. The O&M norms have been prescribed after detailed consultations, discussions and public hearing and sanctity of the same should be maintained.

44. In the instant petition O&M expenses are allowed on the basis of existing norms. It is clarified that, if any, application for revision of norms of

O&M expenditure is filed by the petitioner in future, it will be dealt with in accordance with law.

45. Clause (9) of Regulation 19 of the 2009 regulations prescribes the norms for operation and maintenance expenses based on the type of sub-station and line. The norms for the assets covered in this petition are as follows:-

Element	2011-12	2012-13	2013-14
400 kV D/C, twin conductor T/L (₹ lakh / km)	0.701	0.741	0.783
400 kV S/C, twin conductor T/L (₹lakh / km)	0.400	0.423	0.447
400 kV, bay (₹ lakh / bay)	58.57	61.92	65.46

46. Based on the above norms, the petitioner has calculated the following operation and maintenance expenses which are allowed:-

(₹ in lakh)

Element	2011-12	2012-13	2013-14
<b>400 kV D/C, twin conductor Patial- Ludhiana T/L</b>			
76.215 km, 400 kV S/C, twin conductor Patial- Ludhiana transmission line (₹ lakh / km)	15.24	32.24	34.07
4 Nos, 400 kV bays	117.14	247.68	261.84
<b>Sub Total</b>	<b>132.38</b>	<b>279.92</b>	<b>295.91</b>
<b>LILO of Patiala- Hissar 400 kV Tr. line at Kaithal</b>			
33.505 Km LILO of Patiala- Hissar 400 kV D/C Transmission line at Kaithal, Triple conductor Transmission line	13.70	24.83	26.23
2 Nos., 400 kV, bays	68.33	123.84	130.92
<b>Sub Total</b>	<b>82.03</b>	<b>148.67</b>	<b>157.15</b>
<b>Total O&amp;M Expenditure</b>	<b>214.41</b>	<b>428.59</b>	<b>453.06</b>

## **INTEREST ON WORKING CAPITAL**

47. As per the 2009 regulations the components of the working capital and the interest thereon are discussed hereunder:-

### **(i) Receivables**

As per Regulation 18 (1) (c) (i) of the 2009 regulations, receivables will be equivalent to two months of fixed cost. The petitioner has claimed the receivables on the basis of 2 months transmission charges claimed in the petition. In the tariff being allowed, receivables have been worked out on the basis of 2 months transmission charges.

### **(ii) Maintenance spares**

Regulation 18(1)(c)(ii) of the 2009 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 regulations provides for operation and maintenance expenses for one month as a component of working capital. The petitioner has claimed O&M expenses for one month of the respective year as claimed in the petition. This has been considered in the working capital.

### **(iv) Rate of interest on working capital**

As per Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2011 dated

21.06.2011, SBI Base Rate (8.25%) Plus 350Bps i.e. 11.75% has been considered as the rate of interest on working capital.

48. Necessary computations in support of interest on working capital are as follows:-

(₹ in lakh)						
	Asset 1			Asset 2		
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Maintenance Spares	21.09	22.30	23.57	39.71	41.99	44.39
O & M expenses	11.72	12.39	13.10	22.06	23.33	24.66
Receivables	168.04	176.60	174.43	285.07	290.87	289.06
Total	200.86	211.29	211.10	346.85	356.18	358.10
Rate of Interest	11.75%	11.75%	11.75%	11.75%	11.75%	11.75%
<b>Interest</b>	<b>13.77</b>	<b>24.83</b>	<b>224.80</b>	<b>20.38</b>	<b>41.85</b>	<b>42.08</b>

### **TRANSMISSION CHARGES**

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

(₹ in lakh)						
	Asset 1			Asset 2		
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Depreciation	156.73	288.30	289.62	224.27	464.05	468.48
Interest on Loan	180.18	312.03	287.93	255.94	499.58	463.69
Return on Equity	155.44	285.79	287.10	222.25	459.80	464.20
Interest on Working Capital	13.77	24.83	24.80	20.38	41.85	42.08
O & M Expenses	82.03	148.67	157.15	132.38	279.92	295.91
<b>Total</b>	<b>588.15</b>	<b>1059.61</b>	<b>1046.60</b>	<b>855.22</b>	<b>1745.20</b>	<b>1734.35</b>

### **FILING FEE AND THE PUBLICATION EXPENSES:-**

50. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. UPPCL and BRPL submitted that the filing fee shall be governed as per the Commission's order. In accordance with the Commission's order dated 11.1.2010 in Petition No. 109/2009, the petitioner shall be entitled to recover the filing fee directly from the beneficiaries on *pro-*

*rata* basis. The petitioner shall also be entitled for reimbursement of the publication expenses in connection with the present petition, directly from the beneficiary on *pro-rata* basis.

### **LICENCE FEE**

51. The petitioner has submitted that they be allowed to bill and recover the licence fee separately from the respondents. The petitioner further submitted that in O&M norms for tariff block 2009-14, the cost associated with license fees had not been captured and hence the license fee may be allowed to be recovered separately from the Respondents.

52. The respondents, UPPCL and BRPL have 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. It is clarified that the petitioner's prayer for licence fee shall be dealt with in accordance with our order dated 25.10.2011 in Petition No. 21/2011 and 22/2011.

### **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. The respondent BRPL and UPPCL objected to levying of service tax on the beneficiaries. We consider the prayer of the petitioner pre-mature and accordingly it is rejected.

## **SHARING OF TRANSMISSION CHARGES**

54. The transmission charges allowed shall be recovered on monthly basis in accordance with Regulation 23 and shared by the beneficiaries in accordance with Regulation 33 of the 2009 regulation up to 30.6.2011. With effect from 1.7.2011, the billing, collection & disbursement of the transmission charges shall be governed by the provision of Central Electricity Regulatory Commission (sharing of inter-state transmission charges and losses) Regulations, 2010 as amended.

55. This order disposes of Petition No. 84/TT/2011.

Sd/-

**(M. Deena Dayalan)**  
Member

Sd/-

**(S. Jayaraman)**  
Member

Sd/-

**(Dr. Pramod Deo)**  
Chairperson



<b>ASSET 1</b>				
<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>				
(₹ in lakh)				
	<b>Details of Loan</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
<b>1</b>	<b>Bond XXX</b>			
	Gross loan opening	<b>300.00</b>	<b>300.00</b>	<b>300.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	300.00	300.00	300.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	25.00
	Net Loan-Closing	300.00	300.00	275.00
	Average Loan	300.00	300.00	287.50
	Rate of Interest	8.80%	8.80%	8.80%
	Interest	26.40	26.40	25.30
	Rep Schedule	12 annual installments from 29.09.2013		
<b>2</b>	<b>Bond XXXI</b>			
	Gross loan opening	<b>600.00</b>	<b>600.00</b>	<b>600.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	600.00	600.00	600.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	50.00
	Net Loan-Closing	600.00	600.00	550.00
	Average Loan	600.00	600.00	575.00
	Rate of Interest	8.90%	8.90%	8.90%
	Interest	53.40	53.40	51.18
	Rep Schedule	12 annual installments from 25.02.2014		
<b>3</b>	<b>Bond XXXIII</b>			
	Gross loan opening	<b>1000.00</b>	<b>1000.00</b>	<b>1000.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	1000.00	1000.00	1000.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	1000.00	1000.00	1000.00
	Average Loan	1000.00	1000.00	1000.00
	Rate of Interest	8.64%	8.64%	8.64%
	Interest	86.40	86.40	86.40
	Rep Schedule	12 annual installments from 08.07.2014		

<b>4</b>	<b>Bond XXXIV</b>			
	Gross loan opening	<b>1056.00</b>	<b>1056.00</b>	<b>1056.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	1056.00	1056.00	1056.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	1056.00	1056.00	1056.00
	Average Loan	1056.00	1056.00	1056.00
	Rate of Interest	8.84%	8.84%	8.84%
	Interest	93.35	93.35	93.35
	Rep Schedule	12 annual installments from 21.10.2014.		
<b>5</b>	<b>Bond XXXV</b>			
	Gross loan opening	<b>387.30</b>	<b>387.30</b>	<b>387.30</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	387.30	387.30	387.30
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	387.30	387.30	387.30
	Average Loan	387.30	387.30	387.30
	Rate of Interest	9.64%	9.64%	9.64%
	Interest	37.34	37.34	37.34
	Rep Schedule	12 annual installments from 31.05.2015		
	<b>Total Loan</b>			
	Gross loan opening	3343.30	3343.30	3343.30
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	3343.30	3343.30	3343.30
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	75.00
	Net Loan-Closing	3343.30	3343.30	3268.30
	Average Loan	3343.30	3343.30	3305.80
	Rate of Interest	<b>8.8800%</b>	<b>8.8800%</b>	<b>8.8802%</b>
	<b>Interest</b>	296.89	296.89	293.56

<b>ASSET 2</b>				
<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>				
(₹ in lakh)				
	<b>Details of Loan</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
<b>1</b>	<b>Bond XXX</b>			
	Gross loan opening	<b>405.00</b>	<b>405.00</b>	<b>405.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	405.00	405.00	405.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	33.75
	Net Loan-Closing	405.00	405.00	371.25
	Average Loan	405.00	405.00	388.13
	Rate of Interest	8.80%	8.80%	8.80%
	Interest	35.64	35.64	34.16
	Rep Schedule	12 annual installments from 29.09.2013		
<b>2</b>	<b>Bond XXXI</b>			
	Gross loan opening	<b>1042.00</b>	<b>1042.00</b>	<b>1042.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	1042.00	1042.00	1042.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	86.83
	Net Loan-Closing	1042.00	1042.00	955.17
	Average Loan	1042.00	1042.00	998.58
	Rate of Interest	8.90%	8.90%	8.90%
	Interest	92.74	92.74	88.87
	Rep Schedule	12 annual installments from 25.02.2014		
<b>3</b>	<b>Bond XXXIII</b>			
	Gross loan opening	<b>2094.00</b>	<b>2094.00</b>	<b>2094.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	2094.00	2094.00	2094.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	2094.00	2094.00	2094.00
	Average Loan	2094.00	2094.00	2094.00
	Rate of Interest	8.64%	8.64%	8.64%
	Interest	180.92	180.92	180.92
	Rep Schedule	12 annual installments from 08.07.2014		

<b>4</b>	<b>Bond XXXIV</b>			
	Gross loan opening	<b>2144.00</b>	<b>2144.00</b>	<b>2144.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	2144.00	2144.00	2144.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	2144.00	2144.00	2144.00
	Average Loan	2144.00	2144.00	2144.00
	Rate of Interest	8.84%	8.84%	8.84%
	Interest	189.53	189.53	189.53
	Rep Schedule	12 annual installments from 21.10.2014.		
<b>5</b>	<b>Bond XXXV</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	9.64%	9.64%	9.64%
	Interest	9.64	9.64	9.64
	Rep Schedule	12 annual installments from 31.05.2015		
<b>6</b>	<b>Bond XXXVI</b>			
	Gross loan opening	<b>44.80</b>	<b>44.80</b>	<b>44.80</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	44.80	44.80	44.80
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	44.80	44.80	44.80
	Average Loan	44.80	44.80	44.80
	Rate of Interest	9.35%	9.35%	9.35%
	Interest	4.19	4.19	4.19
	Rep Schedule	12 annual installments from 29.08.2016		
	<b>Total Loan</b>			
	Gross loan opening	5829.80	5829.80	5829.80
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	5829.80	5829.80	5829.80
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	120.58
	Net Loan-Closing	5829.80	5829.80	5709.22
	Average Loan	5829.80	5829.80	5769.51
	Rate of Interest	<b>8.7937%</b>	<b>8.7937%</b>	<b>8.7929%</b>
	<b>Interest</b>	512.66	512.66	507.31