

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 347/2010**

**Coram:**

**Dr. Pramod Deo, Chairperson  
Shri S. Jayaraman, Member  
Shri V.S. Verma, Member  
Shri M. Deena Dayalan, Member**

**Date of Hearing: 6.9.2011**

**Date of order: 28.12.2011**

**In the matter of**

Determination of Transmission tariff from DOCO to 31.3.2014 for Single Asset 160 MVA, 220/132 KV, 3-phase Auto Transformer at Kopili with associated bays (DOCO:1.2.2010) and combined Asset of **(a)** 160 MVA, 220/132 kV, 3-phase Auto Transformer at Kopili and **(b)** 132 kV, S/C Kopili-Khandong Transmission line with associated bays (DOCO: 1.11.2010) under Missing Link Transmission System in NER for Tariff block 2009-14 period.

**And**

**In the matter of**

Power Grid Corporation of India Limited, New Delhi

.....**Petitioner**

**Vs**

1. Assam State Electricity Board, Guwahati.
2. Meghalaya Energy Corporation Ltd., (Formerly Meghalaya State Electricity Board), Shillong.
3. Government of Arunachal Pradesh, Itanagar
4. Power & Electricity Department, Government of Mizoram, Aizwal
5. Electricity Department, Government of Manipur, Imphal
6. Department of Power, Government of Nagaland, Kohima
7. Tripura State Electricity Corporation Ltd., Tripura

**..Respondents**

**The following were present:**

1. M.M Mondal, PGCIL.
2. S.S. Raju, PGCIL.

**ORDER**

This petition has been filed by PGCIL seeking approval for determination of transmission tariff from the date of commercial operation to 31.3.2014 for Single Asset 160 MVA, 220/132 KV, 3-phase Auto Transformer at Kopili with associated bays (date of commercial operation : 1.2.2010) and combined Asset of **(a)** 160 MVA, 220/132 kV, 3-phase Auto Transformer at Kopili and **(b)** 132 kV, S/C Kopili-Khandong Transmission line with associated bays (date of commercial operation: 1.11.2010) (hereinafter referred to as “transmission assets”) under Missing Link Transmission System in NER for Tariff block 2009-14 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2009 (hereinafter referred to as “2009 regulations”).

2. The administrative/investment approval and expenditure sanction to the transmission project was accorded by Board of Directors of POWERGRID vide Memorandum ref.C/CP/MisLink-NER dated 29.5.2006 at an estimated cost of ₹ 5893 lakh including IDC of ₹ 222 lakh (based on 2<sup>nd</sup> Quarter, 2005 price level).

3. The details of the assets covered in the petition and their date of commercial operation are given overleaf:-

Sr. No.	Name of Element:	DOCO
	<b>Asset-I</b>	
	Sub Station:	
	Kopili Sub-Station:	
1	220 kV ICT-II bay	1.2.2010
2	1325 kV ICT-II bay	1.2.2010
	<b>Asset-II</b>	
	Transmission line	
1	132kV S/C single conductor, Kopili-Khandong-II T/L	1.11.2010
	Sub station:	
	Kopili Sub-Station:	
1	220 kV ICT-II bay	1.2.2010
2	132 kV ICT-II bay	1.2.2010
3	132 kV Khandong-II bay	1.11.2010
4	132 kV Khandong-I bay	1.11.2010
	Khandong Sub-Station:	
1	132 kV Kopili-II bay	1.11.2010

4. The assets covered in the petition are combined as per the Commission's letter of 23.10.2009. The instant petition covers determination of tariff for the Single Asset I from the date of commercial operation, i.e.1.2.2010 to 31.10.2010 and for the Combined Asset II from the notional date of commercial operation, i.e. 1.11.2010 to 31.3.2014, based on actual expenditure incurred up to the notional date of commercial operation and estimated additional capital expenditure projected to be incurred from the notional date of commercial operation to 31.3.2014.

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

(₹ in lakh)		
<b>Single Asset I</b>		
	<b>2009-10 (pro-rata: 1.2.2010 to 31.3.2010)</b>	<b>2010-11 (pro-rata: 1.4.2010 to 31.10.2011)</b>
Depreciation	16.52	60.77
Interest on Loan	19.76	69.42
Return on equity	16.41	60.36
Interest on Working Capital	1.62	5.91
O & M Expenses	10.48	38.78
<b>Total</b>	<b>64.79</b>	<b>235.24</b>

(₹ in lakh)

Combined Asset II				
	2010-11 (pro-rata: 1.11.2010 to 31.3.2011)	2011-12	2012-13	2013-14
Depreciation	79.14	206.52	218.46	221.05
Interest on Loan	90.31	223.70	218.69	201.81
Return on equity	78.43	204.69	216.55	219.12
Interest on Working Capital	7.98	20.37	21.19	21.42
O & M Expenses	63.24	160.43	169.63	179.33
<b>Total</b>	<b>319.10</b>	<b>815.71</b>	<b>844.52</b>	<b>842.73</b>

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

(₹ in lakh)

Single Asset I		
	2009-10 (pro-rata: 1.2.2010 to 31.3.2010)	2010-11 (pro-rata: 1.4.2010 to 31.10.2011)
Maintenance Spares	9.43	9.97
O & M expenses	5.24	5.54
Receivables	64.79	67.21
<b>Total</b>	<b>79.46</b>	<b>82.72</b>
Interest	1.62	5.91
Rate of Interest	12.25%	12.25%

(₹ in lakh)

Combined Asset II				
	2010-11 (pro-rata: 1.11.2010 to 31.3.2011)	2011-12	2012-13	2013-14
Maintenance Spares	22.77	24.06	25.44	26.90
O & M expenses	12.65	13.37	14.14	14.94
Receivables	127.64	135.95	140.75	140.46
<b>Total</b>	<b>163.06</b>	<b>173.38</b>	<b>180.33</b>	<b>182.30</b>
Interest	7.98	20.37	21.19	21.42
Rate of Interest	11.75%	11.75%	11.75%	11.75%

7. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under section 64 of the Electricity Act, 2003. None of the respondents have filed any reply to the petition.

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

### **CAPITAL COST**

9. As regards capital cost, Regulation 7(1) of the 2009 regulations provides that-

*“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.”*

10. The details of expenditure upto date of commercial expenditure and projected additional capital expenditure projected to be incurred during 2009-14 are given hereunder:-

(₹ in lakh)

Sl. No.	Apportioned approved cost	Revised cost estimates	Expenditure upto date of commercial operation	Projected expenditure from date of commercial operation to 31.3.10	Projected expenditure from 1.4.10 to 31.3.11	Projected expenditure from 1.4.11 to 31.3.12	Projected expenditure from 1.4.12 to 31.3.13	Total estimated completion cost
Asset-1 (Single Asset)	1217.89	3286.76	1848.38	58.58	131.93	78.38	98.09	2215.36

Sl. No.	Apportioned approved cost	Revised cost estimates	Expenditure upto date of commercial operation	Projected expenditure from date of commercial operation to 31.3.11	Projected expenditure from 1.4.10 to 31.3.12	Projected expenditure from 1.4.12 to 31.3.13 Projected expenditure from 1.4.12 to 31.3.13	Total estimated completion cost
Asset-2 (Combined Asset)	2736.39	4703.197	3452.15	274.00	354.01	98.09	4178.25

### **COST OVER-RUN**

11. As per the petitioner there has been a cost over-run in case of both the assets and the total completion cost is in excess of the apportioned approved cost. During the hearing on 6.9.2011, the petitioner submitted that the RCE has been approved by its Board. The petitioner has submitted, vide affidavit dated 28.10.2011, the Revised Cost Estimate. The revised apportioned approved cost of Single Asset I is ₹ 3286.760 lakh and of Combined Asset II is ₹ 4703.197 lakh. The total estimated cost of both the assets falls within the revised approved cost and hence they are considered for the purpose of tariff calculation.

### **TIME OVER-RUN**

12. As per the investment approval dated 29.5.2006, the transmission assets are scheduled to be commissioned within 24 months from the date of first letter of award. The first LOA was awarded on 24.9.2007. Accordingly, the schedule of completion works out to October, 2009 but, the Asset I was put under commercial operation on 1.2.2010 and the Asset II was put under commercial operation 1.11.2010.

13. The petitioner has submitted, vide affidavit dated 25.7.2011, that the bids for the package were invited on 6.10.2006 and on the request of prospective bidders the date was extended three times to get better competitive offers. As only one bid was received within the deadline the bid opening date was again extended to 10.1.2007. Higher prices, scattered multiple working sites, difficult work environment, lack of adequate infrastructure facilities, difficult terrain and militant threat are the various factors that have been attributed to poor response from the bidding community. The petitioner has submitted that the due to extreme adverse law and order conditions prevailing in the area there was delay in preliminary as well as erection work. It has also been submitted that clearance for route length of 10.36 km was accorded by Ministry of Environment & Forest on 18.5.2009 and the additional 1.2 km line was accorded on 11.10.2010.

14. There has been a delay of four months and thirteen months in commissioning of Asset I and Asset II, respectively. The delay was mainly due to inordinate delay in forest clearance and law and order problems. The line was commissioned immediately after getting the forest approval. The reasons for delay are beyond the control of the petitioner and hence the delay is condoned.

15. Accordingly, capital expenditure of ₹ 1848.38 lakh for Single Asset I and ₹ 3371.13 lakh for Combined Asset II, after deduction of excess initial spares, as on the date of commercial operation have been considered for the purpose of calculation of tariff.

## **TREATMENT OF INITIAL SPARES**

16. As per Regulation 82009 regulations, ceiling limit for initial spares capitalized is as follows:-

(₹ in lakh)

<b>Treatment of Initial Spares</b>					
Cost as on date of commercial operation restricted to apportioned approved cost	Rate as per Regulation 8 of 2009 regulations	Expenditure upto 31-3-2013	Claimed by the petitioner	Initial spares calculated as per Regulation	In excess
	(2)	(3)	(4)	(5)= [(3)-(4)]*(2)/[100%-(2)]	(6)=(4)-(5)
TL	0.75%	1291.13	0.34	0.10	0.25
S/S	2.50%	2887.12	81.47	0.70	80.77

17. The petitioner has claimed initial spares of ₹ 0.34 lakh for Transmission line and ₹ 81.47 lakh for Sub-Station. However, it works out to ₹ 0.10 lakh and 0.70 lakh respectively as per Regulation 8 of 2009 regulations and it exceeds the limit by ₹ 0.25 lakh and ₹ 80.77 lakh for Transmission line and Sub-station (including PLCC) respectively and the same has been deducted from the admitted cost as on the date of commercial operation.

## **PROJECTED ADDITIONAL CAPITAL EXPENDITURE**

18. As per Regulation 9(1) of 2009 regulations

*“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”

19. As per 2009 regulations,

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

Therefore, cut-off date of the transmission assets is 31.3.2013.

20. The petitioner has claimed additional capital expenditure of ₹ 58.58 lakh for 2009-10 (date of commercial operation: 1.2.2010), ₹ 131.93 lakh for 2010-11, ₹ 78.38 lakh for 2011-12 and ₹ 98.09 lakh for 2012-13 for Single Asset I and ₹ 274.00 lakh for 2010-11 (date of commercial operation 1.11.2010), ₹ 354.01 lakh for 2011-12, ₹ 98.09 lakh for 2012-13 for Combined Asset II which falls within the cut-off date and the same has been considered for the purpose of tariff calculation. The expenditure upto 31.3.2010 has been considered for working out the expenditure as on the notional date of commercial operation.

### **DEBT- EQUITY RATIO**

21. 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 utilized 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 modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation”

20. The details of debt-equity as on the date of commercial operation are as under:-

Single Asset 1	Admitted as on DOCO	
	Amount ( ₹ in lakh)	%
Debt	1293.87	70.00
Equity	554.41	30.00
<b>Total</b>	<b>1848.38</b>	<b>100.00</b>
Combined Asset 2	Admitted as on DOCO	
	Amount ( ₹ in lakh)	%
Debt	2359.80	70.00
Equity	1011.34	30.00
<b>Total</b>	<b>3371.13</b>	<b>100.00</b>

21. The details of debt-equity of asset considered for projected additional capital expenditure (referred to as “Add-Cap” herein below) are given below:-

Single Asset-1		
Projected Add-Cap		
2009-10	Amount ( ₹ in lakh)	%
Debt	41.01	70.01
Equity	17.57	29.99
<b>Total</b>	<b>58.58</b>	<b>100.00</b>
2010-11		
Debt	92.35	70.00
Equity	39.58	30.00
<b>Total</b>	<b>131.93</b>	<b>100.00</b>
Combined Asset-2		
Projected Add-Cap		
2010-11	Amount ( ₹ in lakh)	%
Debt	191.80	70.00
Equity	82.20	30.00
<b>Total</b>	<b>274.00</b>	<b>100.00</b>

<b>2011-12</b>		
Debt	247.81	70.00
Equity	106.20	30.00
Total	354.01	100.00
<b>2012-12</b>		
Debt	68.66	70.00
Equity	29.43	30.00
Total	98.09	100.00

22. Details of debt- equity as on 31.3.2014 are given below:-

<b>Combined Asset 2</b>	<b>Cost as on 31.3.2014</b>	
	<b>Amount ( ₹ in lakh)</b>	<b>%</b>
Debt	2868.07	70.00
Equity	1229.17	30.00
Total	4097.23	100.00

23. In accordance with Regulation 12(1) of the 2009 regulations, Debt-Equity ratio of 70.00:30.00 has been considered for tariff calculations.

### **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 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"*

25. In this order, Return on Equity has been calculated as per Regulation 15 of the 2009 regulations with pre-tax ROE of 17.481%.

26. Petitioner's prayer to allow grossing up the base rate of ROE based on the tax rates viz., MAT, surcharge, any other cess, charges, levies etc., as per the relevant Finance Act, shall be settled in accordance with the provisions of Regulation 15 of 2009 regulations as amended by Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2011.

27. The following amount of equity has been considered for calculation of return of equity:-

(₹ in lakh)

<b>Single Asset 1</b>	<b>2009-10 (pro-rata: 1.2.2010 to 31.3.2010)</b>	<b>2010-11 (pro-rata: 1.4.2010 to 31.10.2011)</b>
Opening Equity	554.51	572.08
Addition due to additional capital expenditure	17.57	39.68
Closing Equity	572.08	611.66
Average Equity	563.30	591.87
Return on Equity (Base Rate )	15.50%	15.50%
Tax rate for the year 2008-09	11.33%	11.33%
Rate of Return on Equity (Pre Tax )	17.48%	17.48%
<b>Return on Equity (Pre Tax)</b>	<b>16.41</b>	<b>60.35</b>

(₹ in lakh)

<b>Combined Asset II</b>	<b>2010-11 (pro-rata: 1.11.2010 to 31.3.2011)</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Opening Equity	1011.34	1093.54	1199.74	1229.17
Addition due to additional capital expenditure	82.20	106.20	29.43	0.00
Closing Equity	1093.54	1199.74	1229.17	1229.17
Average Equity	1052.44	1146.64	1214.45	1229.17
Return on Equity (Base Rate )	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09	11.330%	11.330%	11.330%	11.330%
Rate of Return on Equity (Pre Tax )	17.481%	17.481%	17.481%	17.481%
<b>Return on Equity (Pre Tax)</b>	<b>76.66</b>	<b>200.44</b>	<b>212.30</b>	<b>214.87</b>

## **INTEREST ON LOAN**

28. 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?"*

29. Interest on loan has been worked out as per Regulation 16 of 2009

regulations as detailed overleaf:-

(i) Gross amount of loan, repayment of installments and rate of interest on actual loan have been considered as per the petition to work out the weighted average rate of interest.

(ii) Tariff is worked out considering normative loan and normative repayments. Depreciation allowed has been taken as normative repayment for the tariff period 2009-14.

(iii) Weighted average rate of interest on actual loan worked out as above has been applied on the notional average loan during the year to arrive at the interest on loan.

(iv) Difference in interest on loan corresponding to Single Asset I for the period 1.4.2010 to 31.10.2010 is due to difference in repayment of notional loan. The petitioner has considered annualized depreciation as repayment, but as per the 2009 regulations the depreciation during period is considered as repayment.

30. Detailed calculations of the weighted average rate of interest are annexed to this order as Annexure I to III.

31. Detail of the interest on loan worked on the above basis is as under:-

(₹ in lakh)

<b>Single Asset I</b>		
	<b>2009-10 (pro-rata: 1.2.2010 to 31.3.2010)</b>	<b>2010-11 (pro-rata: 1.4.2010 to 31.10.2011)</b>
Gross Normative Loan	1293.87	1334.88
Cumulative Repayment upto Previous Year	0.00	16.52
Net Loan-Opening	1293.87	1318.35
Addition due to Additional Capitalisation	41.006	92.35
Repayment during the year	16.52	60.77
Net Loan-Closing	1318.35	1349.94
Average Loan	1306.11	1334.14
Weighted Average Rate of Interest on Loan	9.0751%	9.0681%
<b>Interest</b>	<b>19.76</b>	<b>70.57</b>

(₹ in lakh)

	<b>2010-11 (pro-rata: 1.11.2010 to 31.3.2011)</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Gross Normative Loan	2359.80	2551.60	2799.40	2868.07
Cumulative Repayment upto Previous Year	77.29	154.65	356.89	571.08
Net Loan-Opening	2282.51	2396.95	2442.51	2296.99
Addition due to Additional Capitalisation	191.80	247.81	68.66	0.00
Repayment during the year	77.36	202.24	214.19	216.78
Net Loan-Closing	2396.95	2442.51	2296.99	2080.22
Average Loan	2339.73	2419.73	2369.75	2188.60
Weighted Average Rate of Interest on Loan	9.0475%	9.0475%	9.0432%	9.0382%
<b>Interest</b>	<b>88.20</b>	<b>218.93</b>	<b>214.30</b>	<b>197.81</b>

## **DEPRECIATION**

32. 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.*

*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.”*

33. The notional date of commercial operation of the transmission assets covered in the petition is 1.11.2010. Accordingly, the same will complete 12 years beyond 2013-14. Depreciation, therefore, has been calculated annually based on Straight Line Method and at rates specified in Appendix III to the 2009 regulations.

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

(₹ in lakh)

<b>Single Asset I</b>		
	<b>2009-10 (pro-rata: 1.2.2010 to 31.3.2010)</b>	<b>2010-11 (pro-rata: 1.4.2010 to 31.10.2011)</b>
Gross Block	<b>1848.38</b>	<b>1906.96</b>
Addition due to Projected Additional Capitalisation	58.58	131.93
Closing Gross Block	1906.96	2038.89
Average Gross Block	1877.67	1972.93
Rate of Depreciation	5.2800%	5.2800%
Depreciable Value	1689.90	1775.63
Remaining Depreciable Value	1689.90	1759.11
<b>Depreciation</b>	<b>16.52</b>	<b>60.77</b>

(₹ in lakh)

<b>Combined Asset II</b>				
	<b>2010-11 (pro-rata: 1.11.2010 to 31.3.2011)</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Addition due to Projected Additional Capitalisation	274.00	354.01	98.09	0.00
Closing Gross Block	3645.13	3999.14	4097.23	4097.23
Average Gross Block	3508.13	3822.14	4048.19	4097.23
Rate of Depreciation	5.2922%	5.2914%	5.2909%	5.2908%
Depreciable Value	3157.32	3485.03	3643.37	3687.51
Remaining Depreciable Value	3080.03	3330.38	3286.48	3116.43
<b>Depreciation</b>	<b>77.36</b>	<b>202.24</b>	<b>214.19</b>	<b>216.78</b>

### **OPERATION & MAINTENANCE EXPENSES**

35. Clause (g) of Regulation 19 of the 2009 regulations prescribes the norms for operation and maintenance expenses based on the type of sub-station and line. Norms prescribed in respect of the elements covered in the instant petition are as under:-

(₹ in lakh)					
<b>Transmission Line/Bays:</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
0132kV, S/C, single conductor Tr. Line (₹ in lakh/km)	0.179	0.189	0.200	0.212	0.224
220 kV bay (₹ in lakh/bay)	36.68	38.78	41.00	43.34	45.82
132 kV bay (₹ in lakh/bay)	26.20	27.70	29.28	30.96	32.73

36. As per the above mentioned norms the allowable O&M expenses for the assets covered in the petition works out are given overleaf:-

(₹ in lakh)

<b>Asset-I: 160MVA, 220/132 kV, 3-phase Auto Transformer at Kopili with associated bays</b>					
Elements	2009-10 (pro-rata for two months)	2010-11	2011-12	2012-13	2013-14
1 no. 220 kV bay	6.11	22.62	41.00	43.34	45.82
1 no. 132 kV bay	4.37	16.60	29.28	30.96	32.73
Total O&M for Asset-I	10.48	38.78	70.28	74.30	78.55
<b>Asset-II: Combined Elements of 160 MVA, 220/132 kV, 3-phase Auto Transformer at Kopili and 132 kV, S/C Kopili- Khandong Transmission Line with associated bays</b>					
	2009-10	2010-11 (pro rata for five months)	2011-12	2012-13	2013-14
11.56 km, 132 kV Single Circuit, Single conductor transmission Line	----	0.91	2.31	2.45	2.59
1 No. 220kV bay	----	16.16	41.00	43.34	45.82
4 Nos. 132 kV bays	----	46.17	117.12	123.84	130.92
Total O&M for Asset-II	-----	63.24	160.43	169.43	179.33

37. The Petitioner has stated that O&M expenditure for 2009-14 tariff block has 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 charges for tariff period 2009-14. The petitioner has submitted that it would approach the Commission for suitable revision in the norms for O&M expenditure in case the impact of wage hike w.e.f 1.1.2007 is more than 50%.

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

39. It is clarified that, if any, application for revision in the norms for O&M expenditure is filed in future, it will be dealt with in accordance with law. As regards licence fee, it is clarified that licence fee will be dealt in accordance with order dated 25.10.2011 in Petition No.21/2011 and 22/2011.

### **INTEREST ON WORKING CAPITAL**

40. As per the 2009 regulations the components of the working capital and the interest thereon are discussed are given as under:-

**(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 1 month of the respective year. This has been considered in the working capital.

**(iv) Rate of interest on working capital:** In these calculations, interest rate of 12.25% has been considered in case of the Single Asset I. In case of the Combined Asset II, in accordance with the 2009 regulations, as amended vide the second amendment regulations notified in June 2011, interest rate of 11.00% (SBI Base Rate 7.50% as on 1.7.2010 plus 350 BPS) has been considered for calculating interest on working capital.

41. Necessary computations in support of interest on working capital are as under:-

(₹ in lakh)

<b>Single Asset I</b>		
	<b>2009-10 (pro-rata: 1.2.2010 to 31.3.2010)</b>	<b>2010-11 (pro-rata: 1.4.2010 to 31.10.2011)</b>
Maintenance Spares	9.43	9.97
O & M Expenses	5.24	5.54
Receivables	64.79	67.55
Total	79.46	83.06
Rate of Interest	12.25%	12.25%
<b>Interest</b>	<b>1.62</b>	<b>5.94</b>

(₹ in lakh)

<b>Combined Asset II</b>				
	<b>2010-11 (pro-rata: 1.11.2010 to 31.3.2011)</b>	<b>2010-11</b>	<b>2012-13</b>	<b>2013-14</b>
Maintenance Spares	22.77	24.06	25.44	26.90
O & M Expenses	12.65	13.37	14.14	14.94
Receivables	125.13	133.47	138.33	138.10
Total	160.54	170.91	177.91	179.94
Rate of Interest	11.00%	11.00%	11.00%	11.00%
<b>Interest</b>	<b>7.36</b>	<b>18.80</b>	<b>19.57</b>	<b>19.79</b>

## **TRANSMISSION CHARGES**

42. The transmission charges being allowed for the transmission lines are summarized below:-

(₹ in lakh)

<b>Single Asset I</b>		
	<b>2009-10 (pro-rata: 1.2.2010 to 31.3.2010)</b>	<b>2010-11 (pro-rata: 1.4.2010 to 31.10.2011)</b>
Depreciation	16.52	60.77
Interest on Loan	19.76	70.57
Return on equity	16.41	60.35
Interest on Working Capital	1.62	5.94
O & M Expenses	10.48	38.78
<b>Total</b>	<b>64.79</b>	<b>236.41</b>

(₹ in lakh)

<b>Combined Asset II</b>				
	<b>2010-11 (pro-rata: 1.11.2010 to 31.3.2011)</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Depreciation	77.36	202.24	214.19	216.78
Interest on Loan	88.20	218.93	214.30	197.81
Return on equity	76.66	200.44	212.30	214.87
Interest on Working Capital	7.36	18.80	19.57	19.79
O & M Expenses	63.24	160.43	169.63	179.33
<b>Total</b>	<b>312.82</b>	<b>800.84</b>	<b>829.99</b>	<b>828.58</b>

## **OTHER ISSUES**

43. The petitioner has sought approval for the reimbursement of fee paid by it for filling the petition. In accordance with the Commission's decision in order dated 11.1.2010 in petition No. 109/2009, the petitioner shall be entitled to recover the filling fee from the beneficiaries. Accordingly, expenses incurred by the petitioner on petition

filing fees and publication of notices in connection with the present petition shall be directly recovered from the beneficiary on *pro-rata* basis.

### **LICENCE FEE**

44. 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**

45. 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 the prayer pre-mature and therefore the petitioner's prayer is rejected.

46. 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 regulations upto 30.6.2011. With effect from 1.7.2011, the billing collection and disbursement of the transmission charges shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010 as amended.

Sd/-  
(M. Deena Dayalan)  
Member

Sd/-  
(V.S. Verma)  
Member

Sd/-  
(S. Jayaraman)  
Member

Sd/-  
(Dr. Pramod Deo)  
Chairperson

**ANNEXURE- I**

<b>Name of the Company:</b>		<b>PGCIL</b>				
<b>Name of the Tr. System:</b>		<b>Asset-1:- 160 MVA, 220/132 kV, 3-phase Auto Transformer at Kopili with associated bays.</b>				
<b>Notional DOCO:</b>		<b>01.02.2010</b>				
<b>Petition No.:</b>		<b>347/2010</b>				
<b>Tarrif setting Period:</b>		<b>2009-14</b>				
<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>						
(₹ in lakh)						
	<b>Details of Loan</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
<b>1</b>	<b>Bond- XXIX</b>					
	Gross loan opening	689.00	<b>689.00</b>	<b>689.00</b>	<b>689.00</b>	<b>689.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>57.42</b>
	Net Loan-Opening	689.00	689.00	689.00	689.00	631.58
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	57.42	57.42
	Net Loan-Closing	689.00	689.00	689.00	631.58	574.17
	Average Loan	689.00	689.00	689.00	660.29	602.88
	Rate of Interest	9.20%	9.20%	9.20%	9.20%	9.20%
	Interest	63.39	63.39	63.39	60.75	55.46
	Rep Schedule	12 Annual instalments from 12.03.2013				
<b>2</b>	<b>Bond XXVIII</b>					
	Gross loan opening	135.00	<b>135.00</b>	<b>135.00</b>	<b>135.00</b>	<b>135.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>11.25</b>
	Net Loan-Opening	135.00	135.00	135.00	135.00	123.75
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	11.25	11.25
	Net Loan-Closing	135.00	135.00	135.00	123.75	112.50
	Average Loan	135.00	135.00	135.00	129.38	118.13
	Rate of Interest	9.33%	9.33%	9.33%	9.33%	9.33%
	Interest	12.60	12.60	12.60	12.07	11.02
	Rep Schedule	12 Annual instalments from 15.12.2012				
<b>3</b>	<b>Bond XXXI</b>					
	Gross loan opening	0.00	<b>106.87</b>	<b>106.87</b>	<b>106.87</b>	<b>106.87</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	106.87	106.87	106.87	106.87



	Additions during the year	106.87	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	8.91
	Net Loan-Closing	106.87	106.87	106.87	106.87	97.96
	Average Loan	53.44	106.87	106.87	106.87	102.42
	Rate of Interest	8.90%	8.90%	8.90%	8.90%	8.90%
	Interest	4.76	9.51	9.51	9.51	9.12
	Rep Schedule	12 Annual instalments from 25.02.2014				
<b>4</b>	<b>Bond XXX</b>					
	Gross loan opening	404.00	<b>404.00</b>	<b>404.00</b>	<b>404.00</b>	<b>404.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	404.00	404.00	404.00	404.00	404.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	33.67
	Net Loan-Closing	404.00	404.00	404.00	404.00	370.33
	Average Loan	404.00	404.00	404.00	404.00	387.17
	Rate of Interest	8.80%	8.80%	8.80%	8.80%	8.80%
	Interest	35.55	35.55	35.55	35.55	34.07
	Rep Schedule	12 Annual instalments from 29.09.2013				
	<b>Total Loan</b>					
	Gross loan opening	1228.00	1334.87	1334.87	1334.87	1334.87
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	68.67
	Net Loan-Opening	1228.00	1334.87	1334.87	1334.87	1266.20
	Additions during the year	106.87	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	68.67	111.24
	Net Loan-Closing	1334.87	1334.87	1334.87	1266.20	1154.96
	Average Loan	1281.44	1334.87	1334.87	1300.54	1210.58
	<b>Weighted Average Rate of Interest</b>	<b>9.0751%</b>	<b>9.0681%</b>	<b>9.0681%</b>	<b>9.0640%</b>	<b>9.0594%</b>
	<b>Interest</b>	116.29	121.05	121.05	117.88	109.67

**ANNEXURE- II**

<b>Name of the Company:</b>	<b>PGCIL</b>
<b>Name of the Tr. System:</b>	<b>Combined Asset 2:- (i) 160 MVA, 220/132 kV, 3-phase Auto Transformer at Kopili and (ii) 132 kV, S/C Kopili-Khandong Transmission Line with associated bays.</b>
<b>Notional DOCO:</b>	<b>01.11.2010</b>
<b>Petition No.:</b>	<b>347/2010</b>
<b>Tarrif setting Period:</b>	<b>2009-14</b>

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

(₹ in lakh)

	<b>Details of Loan</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
<b>1</b>	<b>Bond- XXIX</b>				
	Gross loan opening	<b>1081.00</b>	<b>1081.00</b>	<b>1081.00</b>	<b>1081.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>90.08</b>
	Net Loan-Opening	1081.00	1081.00	1081.00	990.92
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	90.08	90.08
	Net Loan-Closing	1081.00	1081.00	990.92	900.83
	Average Loan	1081.00	1081.00	1035.96	945.88
	Rate of Interest	9.20%	9.20%	9.20%	9.20%
	Interest	99.45	99.45	95.31	87.02
	Rep Schedule	12 Annual instalments from 12.03.2013			
<b>2</b>	<b>Bond XXVIII</b>				
	Gross loan opening	<b>285.00</b>	<b>285.00</b>	<b>285.00</b>	<b>285.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>23.75</b>
	Net Loan-Opening	285.00	285.00	285.00	261.25
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	23.75	23.75
	Net Loan-Closing	285.00	285.00	261.25	237.50
	Average Loan	285.00	285.00	273.13	249.38
	Rate of Interest	9.33%	9.33%	9.33%	9.33%
	Interest	26.59	26.59	25.48	23.27
	Rep Schedule	12 Annual instalments from 15.12.2012			
<b>3</b>	<b>Bond XXXI</b>				
	Gross loan opening	<b>146.40</b>	<b>146.40</b>	<b>146.40</b>	<b>146.40</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	146.40	146.40	146.40	146.40
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	12.20
	Net Loan-Closing	146.40	146.40	146.40	134.20

	Average Loan	146.40	146.40	146.40	140.30
	Rate of Interest	8.90%	8.90%	8.90%	8.90%
	Interest	13.03	13.03	13.03	12.49
	Rep Schedule	12 Annual instalments from 25.02.2014			
<b>4</b>	<b>Bond XXX</b>				
	Gross loan opening	<b>904.00</b>	<b>904.00</b>	<b>904.00</b>	<b>904.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	904.00	904.00	904.00	904.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	75.33
	Net Loan-Closing	904.00	904.00	904.00	828.67
	Average Loan	904.00	904.00	904.00	866.33
	Rate of Interest	8.80%	8.80%	8.80%	8.80%
	Interest	79.55	79.55	79.55	76.24
	Rep Schedule	12 Annual instalments from 29.09.2013			
	<b>Total Loan</b>				
	Gross loan opening	2416.40	2416.40	2416.40	2416.40
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	113.83
	Net Loan-Opening	2416.40	2416.40	2416.40	2302.57
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	113.83	201.37
	Net Loan-Closing	2416.40	2416.40	2302.57	2101.20
	Average Loan	2416.40	2416.40	2359.48	2201.88
	Rate of Interest	9.0475%	9.0475%	9.0432%	9.0382%
	<b>Interest</b>	<b>218.62</b>	<b>218.62</b>	<b>213.37</b>	<b>199.01</b>