

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 322/2010**

**Coram: Dr. Pramod Deo, Chairperson  
Shri S.Jayaraman, Member  
Shri V.S.Verma, Member**

**Date of Hearing: 26.4.2011**

**Date of Order: 23.5.2011**

**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 Tariff determination for the combined assets of Northern Region System Strengthening Scheme – I in Northern Region for the period from 1.4.2009 to 31.3.2014.

**And**

**In the matter of:**

PowerGrid Corporation of India Ltd., Gurgaon .....Petitioner

Vs

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited, Jaipur
2. Ajmer Vidyut Vitaran Nigam Ltd., Jaipur
3. Jaipur Vidyut Vitaran Nigam Ltd, Jaipur
4. Jodhpur Vidyut Vitaran Nigam Ltd, Jaipur
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. Uttaranchal Power Corporation Ltd., Dehradun
16. North Central Railway, Allahabad
17. New Delhi Municipal Council, New Delhi

..... Respondents

**The following was present:**

Shri. U K Tyagi, PGCIL  
Shri Rajeev Gupta, PGCIL  
Shri. S S Raju, PGCIL  
Shri B Vamsi



## ORDER

This petition has been filed seeking approval of transmission tariff in respect of combined assets of Northern Region System Strengthening Scheme – I in the Northern Region for the period from 1.4.2009 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”). The petitioner has also sought the following reliefs:

- (a) Approve reimbursement of expenditure towards petition filling fee and publishing of notices in newspapers in terms of regulation 42 of the 2009 regulations and other expenditure (if any) relating to filling of petition.
  
- (b) Allow the petitioner to bill and adjust the impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2009-14, if any, from the respondents.
  
- (c) Allow the petitioner to bill and recover Licence fee separately from the respondents
  
- (d) Allow the petitioner, in case of the assets being combined, to calculate the transmission charges to recover full depreciation (90% of the gross block) of the assets during the useful life (25 years for S/S and 35 years for Transmission lines) reckoning from the actual date of commissioning and permit the petitioner to treat the recovery of

depreciation after achieving the useful life by an asset in accordance with para 7.2 of the petition.

(e) Allow the petitioner to bill and recover Service Tax on transmission charges separately from the respondents if at any time exemption from Service Tax is withdrawn and transmission of power is notified as a taxable service.

(f) Pass such other relief as Hon'ble Commission deems fit and appropriate under the circumstances of the case and in the interest of justice.

2. The assets for which transmission charges are being calculated in this order comprise the following elements:

- a) 400 kV D/C Kanpur – Auraiya transmission line along with bays at Auraiya (Date of Commercial Operation: 1.10.2006),
- b) Two Nos. 400 kV bays at Kanpur Sub Station associated with 400 kV Kanpur- Auraiya transmission line (Date of Commercial Operation: 1.6.2007)
- c) LILO of 400 kV D/C Bareilly – Mandola transmission line at Bareilly & Bus Reactor at Bareilly (Date of Commercial Operation: 1.8.2007)
- d) LILO of 400KV S/c Lucknow – Moradabad transmission line at Bareilly (Date of Commercial Operation: 1.9.2007)
- e) LILO of 400 KV Lucknow (UPPCL) – Sultanpur (UPPCL) at Lucknow (Date of Commercial Operation: 1.1.2008)
- f) 80 MVAR, 420 KV Bus Reactor at Lucknow Substation (Date of Commercial Operation: 1.5.2008)
- g) 400KV Bareilly –Moradabad transmission line along with associated bays (Date of Commercial Operation: 1.6.2008)

3. Investment approval for the transmission scheme was accorded by the Board of Directors of the petitioner company vide their letter dated 25.2.2004 at an estimated cost of ₹ 27180 lakh including IDC of ₹ 1421 lakh. Subsequently, approval for revised cost estimate was accorded by Board of directors of the petitioner company vide letter dated 21.10.2008 at an estimated cost of ₹ 35084 lakh which included IDC of ₹ 1584 lakh based on 4<sup>th</sup> quarter, 2007 price level.

4. The final Transmission Tariff for the period up to 31.3.2009 has been approved by the Commission vide order dated 19.8.2010 in Petition No. 327/2009 for Assets (a) to (e) and order dated 22.10.2010 in Petition No. 161/2009 for Assets (f) and (g).

5. The petitioner has claimed the following transmission charges:

(₹ in lakh)					
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	1729.07	1755.37	1774.17	1774.17	1774.17
Interest on Loan	1854.30	1733.77	1600.48	1443.19	1285.71
Return on equity	1725.55	1751.67	1770.35	1770.35	1770.35
Interest on Working Capital	164.23	165.88	167.13	167.27	167.61
O & M Expenses	1071.20	1132.49	1197.34	1265.82	1338.12
<b>Total</b>	<b>6544.35</b>	<b>6539.18</b>	<b>6509.47</b>	<b>6420.80</b>	<b>6335.96</b>

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

(₹ in lakh)					
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	160.68	169.87	179.60	189.87	200.72
O & M expenses	89.27	94.37	99.78	105.49	111.51
Receivables	1090.73	1089.86	1084.91	1070.13	1055.99
<b>Total</b>	<b>1340.68</b>	<b>1354.10</b>	<b>1364.29</b>	<b>1365.49</b>	<b>1368.22</b>
Interest	164.23	165.88	167.13	167.27	167.61
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%

7. Reply to the petition has been filed only by Punjab State Power Corporation Ltd. (PSPC), successor-in-interest of Punjab State Electricity Board and Uttar Pradesh Power Corporation Ltd (UPPCL).

8. PSPC, in its short reply has raised only two points. Firstly, the respondent has objected to the request of the petitioner for allowing the additional capital expenditure after the cut-off date as the same is not permissible under the 2009 regulations. According to the respondent, additional capital expenditure incurred after the cut-off date cannot be admitted unless the regulations allow the same. Secondly, PSPC has prayed that O&M expenses be allowed in accordance with the regulations and any claim for excess provision not be allowed.

9. UPPCL in its reply has objected to the claim of the petitioner based on the following:

(a) As per Form 13 of the Petition, no loan has been negotiated on floating rate of interest. Besides, the 2009 regulations provides that refinancing of loan is to be made to the advantage of the beneficiaries. The petitioner may therefore be directed not to negotiate any loan at floating rate of interest, to the detriment of the respondents.

(b) Claim of the petitioner for reimbursement of licence fee is not tenable under the provisions of the 2009 regulations.

(c) Claim for reimbursement of Service Tax is premature and based on conjectures and surmises.

(d) As regards the treatment of depreciation in respect of combined assets, the Commission may issue detailed guidelines while amending the regulations.

(e) The request for revision of O&M expenses consequent to wage revision be negated

10. The petitioner in both the rejoinders has reiterated its submission in the petition and has prayed that the transmission tariff as prayed for in the petition be approved. Rival submissions of the parties have been addressed in the respective paragraphs hereunder.

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

### **CAPITAL COST**

12. Last proviso to clause 7(2) of the 2009 regulations provides as under:

*“Provided also that in case of the existing projects, the capital cost admitted by the Commission prior to 1.4.2009 and the additional capital expenditure projected to be incurred for the respective year of the tariff period 2009-14, as may be admitted by the Commission, shall form the basis for determination of tariff.”*

13. Asset wise details of the apportioned approved cost, capital cost admitted as on 31.3.2009, proposed additional capital expenditure (referred to as “Add-Cap” in the table below) during 2009-14 period and the estimated completion cost as on 31.3.2014 are given overleaf.

(₹ in lakh)

Particular	Apportioned Approved Cost	Admitted Capital Cost as on 31.03.2009	Add-Cap during 2009-10	Proposed Add-cap during 2010-11	Estimated completion Cost
Asset- (a)	8592.02	8295.39	0.00	0.00	8295.39
Asset- (b)	972.46	746.92	0.00	100.00	846.92
Asset- (c)	7357.02	6533.38	79.00	397.00	7009.38
Asset- (d)	4242.50	3902.30	41.65	154.25	4098.20
Asset- (e)	5742.39	5567.86	112.94	35.00	5715.80
Asset- (f)	696.69	627.70	0.00	0.00	627.70
Asset- (g)	7480.35	7134.71	50.62	25.87	7211.20
<b>Total</b>	<b>35083.43</b>	<b>32808.26</b>	<b>284.21</b>	<b>712.12</b>	<b>33804.59</b>

14. Total capital cost admitted as on 31.3.2009 amounting to ₹ 32808.26 lakh has been considered for the purpose of tariff calculation in this order.

#### **ADDITIONAL CAPITAL EXPENDITURE**

15. With regard to additional capital expenditure, Regulation 9 of the 2009 regulations prescribes as under:

*“(1) The capital expenditure incurred or projected to be incurred, on the following counts with in 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 regulating 8 ;*

*(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and*

*(v) Change in law;*

*Provided that the details of works included in the original scope of work along with estimates of expenditure, undischarged liabilities and the works deferred for execution shall be submitted along with the application for determination of the tariff.*

*(2) The capital expenditure incurred on the following counts after the cut-off date, in its discretion, be admitted by the Commission, subject to*

prudence check:

(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court;

(ii) Change in law;

(iii) \*\*\*\*\*

(iv) \*\*\*\*\*

(v) In case of transmission system any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement of switchyard equipment due to increase of fault level, emergency restoration system, insulators cleaning infrastructure, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of the transmission system.”

16. The petitioner has claimed the following additional capital expenditure during the year 2009-10 and 2010-11 towards balance and retention payments:

(₹ in lakh)

Year	Work/Equipment proposed to be added after COD upto cut off date / beyond cutoff date	Amount capitalized and proposed to be capitalized	Justification as per purpose
2009-10	Transmission line	156.59	Balance & retention payments
	Substation	127.62	Balance & retention payments
	<b>Subtotal</b>	<b>284.21</b>	
2010-11	Transmission line	73.87	Balance & retention payments
	Substation	638.25	Balance & retention payments
	<b>Subtotal</b>	<b>712.12</b>	

17. The assets covered in the instant petition were declared under commercial operation during 2004-09 block period, when the additional capital expenditure after cut-off dates on account of deferred liabilities was admissible as per clause 53(2) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2004. The petitioner has submitted that due to contractual exigencies and other reasons beyond the control of the petitioner, it had to make



provisions for release of balance/retention payment beyond 2008-09. As may be seen from clause 9(2) of the 2009 regulations, extracted hereinabove, only such undischarged liability which is disbursed within the cut-off date can be admitted for additional capital expenditure. The petitioner however, has submitted that the additional capital expenditure incurred/projected to be incurred during the year 2009-10 and 2010-11 are on account of balance and retention payment and is within the original scope of work. In view of this the petitioner has prayed to invoke the provisions of clause 44 (Power to relax) of the 2009 regulations, so that the additional capital expenditure incurred/to be incurred on account of undischarged liabilities after the cut-off date is allowed and considered for tariff fixation for the period 2009-14 block.

18. The Commission has in its order dated 8.2.2011 in Petition No. 176/2010 addressed this issue in depth and for the reasons stated therein, decided to exercise its power under regulation 44 of the 2009 regulations for admitting the additional capital expenditure incurred after the cut-off date towards balance payments within the original scope of work, in respect of the existing projects. In this connection, para 17 of the above stated order is extracted hereunder:

*“17. In case of existing projects, where the undischarged liabilities incurred after the cut-off date were admissible under the 2004 regulations have been rendered inadmissible under the 2009 regulations. The generating company and transmission licensee has a legitimate expectation that the undischarged liabilities incurred after the cut-off date which were allowed under the 2004 regulations would continue to be allowed under the 2009 regulations. By virtue of provision of Regulation 9 (2) of the 2009 regulations and in the absence of any saving provisions in respect of the existing projects, the generating companies and transmission licensees are not entitled to capitalization of undischarged liability incurred after the cut-off date in respect of the existing projects. Therefore, we consider it a fit case for exercise of our power under Regulation 44 of the 2009 regulations. Accordingly, in exercise of power under Regulation 44 of the 2009 regulations, we relax the provision of Regulation 9(2) of the 2009 regulations to allow capitalization of the*

*expenditure incurred /projected to be incurred for undischarged liability on account of balance and retention payments to contractors and any tax liability towards the contractor, etc. after the cut-off date. We direct that this relaxation will be applicable in case of tariff determination of existing projects.”*

19. In line with the above decision, we allow the additional capital expenditure claimed by the petitioner in this petition.

### **DEBT- EQUITY RATIO**

20. As regards debt equity ratio, Regulation 12 of the 2009 regulations provides that,-

(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.*

(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 claimed by the petitioner as on 1.4.2009 are as under:-

(₹ in lakh)

<b>Admitted Capital Cost as on 31.3.2009</b>		
<b>Combined Assets</b>		
	<b>Amount</b>	<b>%</b>
Debt	22979.89	70.04%
Equity	9828.37	29.96%
<b>Total</b>	<b>32808.26</b>	<b>100.00%</b>

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

**(₹ in lakh)**

<b>Normative</b>		
<b>Combined Assets</b>		
<b>2009-10</b>	<b>Amount</b>	<b>%</b>
Debt	198.95	70.00%
Equity	85.26	30.00%
<b>Total</b>	<b>284.21</b>	<b>100.00%</b>
<b>2010-11</b>	<b>Amount</b>	<b>%</b>
Debt	498.48	70.00%
Equity	213.64	30.00%
<b>Total</b>	<b>712.12</b>	<b>100.00%</b>

### **RETURN ON EQUITY**

23. 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 tried 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.”*

24. Return on Equity has been calculated as follows- Base rate/(1-t), where Base Rate is 15.5% and 't' is normal tax rate for the period 2008-09 applicable to the petitioner which is under MAT i.e. 10%+ surcharge @10% + 3% Education Cess.

25. Detailed calculation of the ROE in respect of the transmission assets is as under:

(₹ in lakh)					
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Equity	9828.37	9913.63	10127.27	10127.27	10127.27
Addition due to Additional Capitalisation	85.26	213.64	0.00	0.00	0.00
Closing Equity	9913.63	10127.27	10127.27	10127.27	10127.27
Average Equity	9871.00	10020.45	10127.27	10127.27	10127.27
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	11.330%	11.330%	11.330%	11.330%	11.330%
Rate of Return on Equity (Pre Tax)	17.481%	17.481%	17.481%	17.481%	17.481%
<b>Return on Equity (Pre Tax)</b>	<b>1725.55</b>	<b>1751.68</b>	<b>1770.35</b>	<b>1770.35</b>	<b>1770.35</b>

### **INTEREST ON LOAN**

26. 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."*

27. In these calculations, interest on loan has been worked out as detailed below:

(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) In respect of 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 as applied 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 subsequent change in rate of Interest will be considered at the time of truing up.

28. Detailed calculation of the weighted average rate of interest in respect of the two transmission assets are annexed to this order as Annexure –I and Annexure – II. Details of the calculation of Interest on Loan are as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Normative Loan	22979.89	23178.84	23677.32	23677.32	23677.32
Cumulative Repayment upto Previous Year	1463.02	3192.09	4947.46	6721.62	8495.79
Net Loan-Opening	21516.87	19986.75	18729.86	16955.70	15181.53
Addition due to Additional Capitalisation	198.95	498.48	0.00	0.00	0.00
Repayment during the year	1729.07	1755.37	1774.17	1774.17	1774.17
Net Loan-Closing	19986.75	18729.86	16955.70	15181.53	13407.36
Average Loan	20751.81	19358.31	17842.78	16068.61	14294.44
Weighted Average Rate of Interest on Loan	8.9356%	8.9562%	8.9699%	8.9814%	8.9945%
<b>Interest</b>	<b>1854.31</b>	<b>1733.78</b>	<b>1600.48</b>	<b>1443.19</b>	<b>1285.71</b>

## **DEPRECIATION**

29. 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.*

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*(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.”*

30. Notional date of commercial operation of the assets involved in the petition is 1.6.2008. Accordingly they 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**.

31. For the period 1.4.2009 to 31.3.2014 the depreciation worked out are as under:

**(₹ in lakh)**

	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Block as per Last Order	32808.26	33092.47	33804.59	33804.59	33804.59
Addition during 2009-14 due to Projected Additional Capitalisation	284.21	712.12	0.00	0.00	0.00
Gross Block	33092.47	33804.59	33804.59	33804.59	33804.59
Average Gross Blcok	32950.37	33448.53	33804.59	33804.59	33804.59
Rate of Depreciation	5.2475%	5.2480%	5.2483%	5.2483%	5.2483%
Depreciable Value	29655.33	30103.68	30424.13	30424.13	30424.13
Remaining Depreciable Value	28192.31	26911.59	25476.68	23702.51	21928.34
<b>Depreciation</b>	<b>1729.07</b>	<b>1755.37</b>	<b>1774.17</b>	<b>1774.17</b>	<b>1774.17</b>

### **OPERATION & MAINTENANCE EXPENSES**

32. Clause (g) of Regulation 19 the 2009 regulations prescribes the following norms for operation and maintenance expenses based on the type of sub-station and line.

Name of Elements	2009-10	2010-11	2011-12	2012-13	2013-14
<b>400 kV Transmission Line:</b>					
400 kV Twin conductor, D/C, transmission line(₹ lakh/ bay)	0.627	0.663	0.701	0.741	0.783
400 kV Twin conductor, S/C, transmission line ₹ lakh/ bay)	0.358	0.378	0.400	0.423	0.447
400 kV Bay (₹ lakh/ bay)	52.40	55.40	58.57	61.92	65.46

33. Based on the above, the petitioners has claimed the following O&M charges which has been allowed:

**(₹ In lakh)**

Name of Elements	2009-10	2010-11	2011-12	2012-13	2013-14
<b>400 kV Transmission Line:</b>					
400 kV Twin conductor, D/C, transmission line 148.163 k.ms (66.871+ 1 8.4+21.73+41.162)	92.90	98.23	103.86	109.79	116.01
400 kV Twin conductor, S/C, transmission line 98.040 k.m (91.732+6.308)	35.10	37.06	39.22	41.47	43.82
18 Nos. 400 kV Bays bay)	943.20	997.20	1054.26	1114.56	1178.28
<b>Total O&amp;M Expenditure</b>	<b>1071.20</b>	<b>1132.49</b>	<b>1197.34</b>	<b>1265.82</b>	<b>1338.12</b>



## **INTEREST ON WORKING CAPITAL**

34. 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' average billing calculated on target availability level. 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 as claimed in the petition. This has been considered in the working capital.

**(iv) Rate of interest on working capital:** As per Regulation 18(3) of the 2009 regulations, rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1.4.2009 or on 1st April of the year in which the project or part thereof (as the case may be) is declared

under commercial operation, whichever is later. The interest on working capital is payable on normative basis notwithstanding that the transmission licensee has not taken working capital loan from any outside agency. The petitioner has claimed interest on working capital @ 12.25% based on SBI PLR as on 1.4.2009, which is in accordance with the 2009 regulations and has been allowed.

35. Necessary computations in support of interest on working capital are appended hereinbelow:

(₹ in lakh)					
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	160.68	169.87	179.60	189.87	200.72
O & M expenses	89.27	94.37	99.78	105.49	111.51
Receivables	1090.73	1089.86	1084.91	1070.13	1055.99
<b>Total</b>	<b>1,340.67</b>	<b>1,354.11</b>	<b>1,364.29</b>	<b>1,365.49</b>	<b>1,368.22</b>
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
Interest	<b>164.23</b>	<b>165.88</b>	<b>167.13</b>	<b>167.27</b>	<b>167.61</b>

### **TRANSMISSION CHARGES**

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

(₹ in lakh)					
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	1729.07	1755.37	1774.17	1774.17	1774.17
Interest on Loan	1854.31	1733.78	1600.48	1443.19	1285.71
Return on equity	1725.55	1751.68	1770.35	1770.35	1770.35
Interest on Working Capital	164.23	165.88	167.13	167.27	167.61
O & M Expenses	1071.20	1132.49	1197.34	1265.82	1338.12
<b>Total</b>	<b>6544.35</b>	<b>6539.19</b>	<b>6509.46</b>	<b>6420.80</b>	<b>6335.96</b>

### **APPLICATION FEE AND THE PUBLICATION EXPENSES**

37. The petitioner has sought approval for the reimbursement of fee paid by it for filing the petition. In accordance with our decision in order dated 11.1.2010 in Petition No. 109/2009, the petitioner shall be entitled to recover the filing fee from the beneficiaries.

38. Accordingly, expenses incurred by the petitioner on application filing fees and publication of notices in connection with the present petition shall be directly recovered from the beneficiaries on pro rata basis.

**SERVICE TAX**

39. The petitioner has made a specific prayer to be allowed to bill and recover the Service tax on Transmission charges separately from the respondents if at any time exemption from Service tax is withdrawn and transmission of Power is notified as a taxable Service. This prayer of the petitioner is premature. If such a contingency as foreseen by the petitioner arises, the issue will be decided in accordance with law.

40. The transmission charges allowed in this order shall be recovered on monthly basis in accordance with Regulation 23 and shall be shared by the respondents in accordance with Regulation 33 of the 2009 regulations.

41. This order disposes of Petition No. 322/2010.

Sd/-

**V.S.Verma  
Member**

Sd/-

**S.Jayaraman  
Member**

Sd/-

**Dr. Pramod Deo  
Chairperson**

## Annexure – 1

(₹ In lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN						
	Details of Loan	2009-10	2010-11	2011-12	2012-13	2013-14
<b>1</b>	<b>Bond XVII</b>					
	Gross loan opening	<b>3761.00</b>	<b>3761.00</b>	<b>3761.00</b>	<b>3761.00</b>	<b>3761.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>376.10</b>	<b>752.20</b>	<b>1128.30</b>	<b>1504.40</b>
	Net Loan-Opening	3761.00	3384.90	3008.80	2632.70	2256.60
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	<b>376.10</b>	<b>376.10</b>	<b>376.10</b>	<b>376.10</b>	<b>376.10</b>
	Net Loan-Closing	3384.90	3008.80	2632.70	2256.60	1880.50
	Average Loan	3572.95	3196.85	2820.75	2444.65	2068.55
	Rate of Interest	7.39%	7.39%	7.39%	7.39%	7.39%
	Interest	264.04	236.25	208.45	180.66	152.87
	Rep Schedule	10 Annual instalments from 22.09.2009				
<b>2</b>	<b>Bond XIX</b>					
	Gross loan opening	<b>8854.00</b>	<b>8854.00</b>	<b>8854.00</b>	<b>8854.00</b>	<b>8854.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>737.83</b>	<b>1475.67</b>	<b>2213.50</b>
	Net Loan-Opening	8854.00	8854.00	8116.17	7378.33	6640.50
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	<b>0.00</b>	<b>737.83</b>	<b>737.83</b>	<b>737.83</b>	<b>737.83</b>
	Net Loan-Closing	8854.00	8116.17	7378.33	6640.50	5902.67
	Average Loan	8854.00	8485.08	7747.25	7009.42	6271.58
	Rate of Interest	9.25%	9.25%	9.25%	9.25%	9.25%
	Interest	819.00	784.87	716.62	648.37	580.12
	Rep Schedule	12 Annual instalments from 24.07.2010				
<b>3</b>	<b>Bond XXIII (ADD CAP FOR 2006-2007)</b>					
	Gross loan opening	<b>1703.00</b>	<b>1703.00</b>	<b>1703.00</b>	<b>1703.00</b>	<b>1703.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>141.92</b>	<b>283.83</b>	<b>425.75</b>
	Net Loan-Opening	1703.00	1703.00	1561.08	1419.17	1277.25
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	<b>0.00</b>	<b>141.92</b>	<b>141.92</b>	<b>141.92</b>	<b>141.92</b>
	Net Loan-Closing	1703.00	1561.08	1419.17	1277.25	1135.33
	Average Loan	1703.00	1632.04	1490.13	1348.21	1206.29
	Rate of Interest	9.25%	9.25%	9.25%	9.25%	9.25%
	Interest	<b>157.53</b>	<b>150.96</b>	<b>137.84</b>	<b>124.71</b>	<b>111.58</b>
	Rep Schedule	12 Annual instalments from 09.02.2011				
<b>4</b>	<b>Bond XXVIII @ from 15.12.2008 ( for Addcap 2008-09)</b>					
	Gross loan opening	<b>847.00</b>	<b>847.00</b>	<b>847.00</b>	<b>847.00</b>	<b>847.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>70.58</b>
	Net Loan-Opening	847.00	847.00	847.00	847.00	776.42
	Additions during the year	0.00	0.00	0.00	0.00	0.00



	Repayment during the year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>70.58</b>	<b>70.58</b>
	Net Loan-Closing	847.00	847.00	847.00	776.42	705.83
	Average Loan	847.00	847.00	847.00	811.71	741.13
	Rate of Interest	9.33%	9.33%	9.33%	9.33%	9.33%
	Interest	<b>79.03</b>	<b>79.03</b>	<b>79.03</b>	<b>75.73</b>	<b>69.15</b>
	Rep Schedule	12 Annual instalments from 15.12.2012				
<b>5</b>	<b>Bond XX</b>					
	Gross loan opening	<b>2560.00</b>	<b>2560.00</b>	<b>2560.00</b>	<b>2560.00</b>	<b>2560.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>213.33</b>	<b>426.67</b>	<b>640.00</b>
	Net Loan-Opening	2560.00	2560.00	2346.67	2133.33	1920.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	<b>0.00</b>	<b>213.33</b>	<b>213.33</b>	<b>213.33</b>	<b>213.33</b>
	Net Loan-Closing	2560.00	2346.67	2133.33	1920.00	1706.67
	Average Loan	2560.00	2453.33	2240.00	2026.67	1813.33
	Rate of Interest	8.93%	8.93%	8.93%	8.93%	8.93%
	Interest	<b>228.61</b>	<b>219.08</b>	<b>200.03</b>	<b>180.98</b>	<b>161.93</b>
	Rep Schedule	12 Annual instalments from 07-09-2010				
<b>6</b>	<b>Bond XXI</b>					
	Gross loan opening	<b>79.00</b>	<b>79.00</b>	<b>79.00</b>	<b>79.00</b>	<b>79.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>6.58</b>	<b>13.17</b>	<b>19.75</b>
	Net Loan-Opening	79.00	79.00	72.42	65.83	59.25
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	6.58	6.58	6.58	6.58
	Net Loan-Closing	79.00	72.42	65.83	59.25	52.67
	Average Loan	79.00	75.71	69.13	62.54	55.96
	Rate of Interest	8.73%	8.73%	8.73%	8.73%	8.73%
	Interest	6.90	6.61	6.03	5.46	4.89
	Rep Schedule	12 Annual instalments from 11.10.2010				
<b>7</b>	<b>Bond XXII</b>					
	Gross loan opening	<b>185.00</b>	<b>185.00</b>	<b>185.00</b>	<b>185.00</b>	<b>185.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>15.42</b>	<b>30.83</b>	<b>46.25</b>
	Net Loan-Opening	185.00	185.00	169.58	154.17	138.75
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	15.42	15.42	15.42	15.42
	Net Loan-Closing	185.00	169.58	154.17	138.75	123.33
	Average Loan	185.00	177.29	161.88	146.46	131.04
	Rate of Interest	8.68%	8.68%	8.68%	8.68%	8.68%
	Interest	16.06	15.39	14.05	12.71	11.37
	Rep Schedule	12 Annual instalments from 07-12-2010				
<b>8</b>	<b>Bond XXIX (Addcap for 2008-09 Drawl on 12-03.2009)</b>					
	Gross loan opening	<b>819.00</b>	<b>819.00</b>	<b>819.00</b>	<b>819.00</b>	<b>819.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>68.25</b>
	Net Loan-Opening	819.00	819.00	819.00	819.00	750.75
	Additions during the year	0.00	0.00	0.00	0.00	0.00



	Repayment during the year	0.00	0.00	0.00	68.25	68.25
	Net Loan-Closing	819.00	819.00	819.00	750.75	682.50
	Average Loan	819.00	819.00	819.00	784.88	716.63
	Rate of Interest	9.20%	9.20%	9.20%	9.20%	9.20%
	Interest	<b>75.35</b>	<b>75.35</b>	<b>75.35</b>	<b>72.21</b>	<b>65.93</b>
	Rep Schedule	12 Annual instalments from 12.03.2013				
<b>9</b>	<b>Bond XXVI</b>					
	Gross loan opening	<b>2315.00</b>	<b>2315.00</b>	<b>2315.00</b>	<b>2315.00</b>	<b>2315.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>192.92</b>	<b>385.83</b>
	Net Loan-Opening	2315.00	2315.00	2315.00	2122.08	1929.17
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	<b>0.00</b>	<b>192.92</b>	<b>192.92</b>	<b>192.92</b>
	Net Loan-Closing	2315.00	2315.00	2122.08	1929.17	1736.25
	Average Loan	2315.00	2315.00	2218.54	2025.63	1832.71
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	215.30	215.30	206.32	188.38	170.44
	Rep Schedule	12 Annual instalments from 07-03-2012				
<b>10</b>	<b>Bond XXVII</b>					
	Gross loan opening	<b>1661.00</b>	<b>1661.00</b>	<b>1661.00</b>	<b>1661.00</b>	<b>1661.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>138.42</b>	<b>276.83</b>
	Net Loan-Opening	1661.00	1661.00	1661.00	1522.58	1384.17
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	138.42	138.42	138.42
	Net Loan-Closing	1661.00	1661.00	1522.58	1384.17	1245.75
	Average Loan	1661.00	1661.00	1591.79	1453.38	1314.96
	Rate of Interest	9.47%	9.47%	9.47%	9.47%	9.47%
	Interest	157.30	157.30	150.74	137.63	124.53
	Rep Schedule	12 Annual instalments from 31-03-2012				
	<b>Total Loan</b>					
	Gross loan opening	22784.00	22784.00	22784.00	22784.00	22784.00
	Cumulative Repayment upto DOCO/previous year	0.00	376.10	1867.28	3689.80	5651.15
	Net Loan-Opening	22784.00	22407.90	20916.72	19094.20	17132.85
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	376.10	1491.18	1822.52	1961.35	1961.35
	Net Loan-Closing	22407.90	20916.72	19094.20	17132.85	15171.50
	Average Loan	22595.95	21662.31	20005.46	18113.53	16152.18
	<b>Weighted Average Rate of Interest</b>	<b>8.9356%</b>	<b>8.9562%</b>	<b>8.9699%</b>	<b>8.9814%</b>	<b>8.9945%</b>
	<b>Interest</b>	2019.09	1940.13	1794.47	1626.85	1452.80