

**CENTRAL ELECTRICITY REGULATORY COMMISSION**

**NEW DELHI**

**Petition No. 191/2010**

**Coram: Shri S.Jayaraman, Member  
Shri V.S.Verma, Member  
Shri M.Deena Dayalan, Member**

**Date of Hearing: 23.12.2010**

**Date of Order: 5.5.2011**

**In the matter of**

Approval of transmission tariff for combined elements for (i) 400 kV Vindhyachal-Satna Bina transmission line; (ii) 400 kV S/C Korba-Raipur and Korba Bhilai ckt-III; and (iii) 315 MVA ICT and LILO of Bhilai-Chandrapur of transmission system associated with Vindhyachal stage-II in Western Region for the period from 1.4.2009 to 31.3.2014.

**And**

**In the matter of**

Power Grid Corporation of India Limited, Gurgaon

**..Petitioner**

Vs

- 1 Madhya Pradesh Power Trading Company Ltd., Jabalpur
- 2 Maharashtra State Electricity Distribution Co. Ltd., Mumbai
- 3 Gujarat Urja Vikas Nigam Ltd., Vadodara
- 4 Electricity Deptt., Govt., of Goa, Panaji
- 5 Electricity Department, Administration of Daman and Diu, Daman
- 6 Electricity Department, Administration of Dadra Nagar Haveli, Silvassa
- 7 Chhattisgarh State Electricity Board, Raipur
- 8 Madhya Pradesh Audyogik Kendra Vikas Nigam (Indore) Ltd. Indore

**.....Respondents**

**The following were present:**

- 1 Shri M.M.Mondal, PGCIL
- 2 Shri Rajeev Gupta, PGCIL
- 3 Shri R.Prasad, PGCIL
- 4 Shri Manoj Dubey, Advisor(Law)MP. Tradeco



## ORDER

The petition has been filed for determination of tariff for combined elements of (i) 400 kV Vindhyachal-Satna Bina transmission line (Asset-I); (ii) 400 kV S/C Korba-Raipur and Korba Bhilai ckt-III (Asset-II); and (iii) 315 MVA ICT and LILO of Bhilai-Chandrapur circuit-II and associated bays at Raipur (Asset-III) of Vindhyachal stage-II transmission system in Western Region (hereinafter collectively referred to as 'the transmission assets') 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 made the following additional prayers:-

- (a) To invoke the provision of Regulation 44 of the 2009 regulations for relaxation of regulation 15 (3) of the 2009 regulations so that the grossing up the base rate of ROE may be allowed considering the tax rates viz, MAT, surcharge, any other cess, charges, levies etc. as per the relevant Finance Act and accordingly, consequential impact of tariff on account of truing up may be allowed to be billed and settled directly with the beneficiaries every year in the tariff block;
  
- (b) In case of the assets being combined to calculate the transmission charges, allow to recover full depreciation (90% of the gross block) of the asset during its useful life (25 years for sub-station and 35



years for transmission lines) reckoning from its actual date of the commercial operation and also permit to treat the recovery of depreciation after achieving the useful life by an asset ( to be reckoned from the actual date of commercial operation);

(c) To approve reimbursement of petition filing fee and publication of notices in the newspaper as per the 2009 regulations;

(d) Allow to recover the service tax on transmission charges separately from the respondents, if the petitioner is subjected to such service tax; and

(e) Allow reimbursement of licence fee separately from the respondents.

2. The annual transmission charges of the transmission assets up to 31.3.2009 were determined by the Commission vide its order dated 14.2.2006 in Petition No. 73/2004 as amended vide order dated 29.4.2008, based on admitted capital cost of (i) ₹ 43947.27 lakh for Asset-I; (ii) ₹ 15862.86 lakh for Asset-II; and (iii) ₹ 2533.09 lakh for Asset-III including additional capital expenditure for the period 2004-09. The notional date of commercial operation of the transmission system has been taken as on 1.4.2000.



3. The petitioner has claimed the transmission charges as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	3240.11	3240.11	3250.63	820.80	830.59
Interest on Loan	1818.81	1578.79	1350.26	1219.90	1165.80
Return on Equity	892.64	892.64	903.09	924.38	935.21
Interest on Working Capital	189.86	188.62	188.27	139.57	143.30
O & M Expenses	1315.67	1390.95	1470.65	1554.74	1643.39
<b>Total</b>	<b>7457.09</b>	<b>7291.11</b>	<b>7162.90</b>	<b>4659.39</b>	<b>4718.29</b>

4. 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	197.35	208.64	220.60	233.21	246.51
O & M expenses	109.64	115.91	122.55	129.56	136.95
Receivables	1242.85	1215.19	1193.82	776.57	786.39
<b>Total</b>	<b>1549.84</b>	<b>1539.74</b>	<b>1536.97</b>	<b>1139.34</b>	<b>1169.85</b>
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
<b>Interest on Working Capital</b>	<b>189.86</b>	<b>188.62</b>	<b>188.28</b>	<b>139.57</b>	<b>143.31</b>

5. In response to the public notice issued by the petitioner on 15.7.2010 as required under Section 64 of the Electricity Act, 2003 (the Act) read with Regulation 3 (6) of the Central Electricity Regulatory Commission (Procedure for making of application for determination of tariff, publication of the application and other related matters) Regulations, 2004, no comments or suggestions have been received from the general public in response to the public notice.



6. Reply to the petition has been filed by Maharashtra State Electricity Distribution Company Limited (MSEDCL). MSEDCL in its reply has submitted as under:-

(a) Total amount of ₹ 811.82 lakh @ 0.77 lakh/MT for galvanised steel claimed by the petitioner is on the higher side compared to the prevailing market rates of steel. The petitioner should be directed to submit the details of steel requirements and justify the rate;

(ii) The petitioner should be asked to clarify the claim towards recovery of depreciation after achieving the useful life by an asset, since it is not in line with the 2009 regulations;

(iii) The service tax is not applicable to transmission services, the claim of petitioner be rejected;

(iv) The petitioner may be asked about the provision under which licence fee is being claimed; and

(v) Reimbursement of expenditure towards filing fee should be rejected in the light of the decision in order dated 11.9.12009 in Petition No. 129/2005



7. The petitioner in its rejoinder has submitted as under:
- (i) The tower strengthening is to be carried out on 560 nos suspension towers of 400 kV Satna-Bina D/C line by providing additional bracings in the towers. Approximately, total weight of additional towers members is 504 MT and strengthening work includes supply of the tower members and its installation in charged transmission line. The tower strengthening is also to be carried out on 540 nos suspension towers of 400 kV Vindhyanchal-Satna D/C line by providing additional bracings in the towers. The approximate weight of additional tower members is 486 MT and the strengthening work includes supply of the tower members and its installation changed transmission lines. It has been submitted that the type of steel used for this strengthening work will be mild steel. However, the supply and installation cost are proposed to be undertaken through competitive bidding process and the petitioner shall approach the Commission with actual cost based on the market conditions prevailing at the time of procurement. The petitioner has further submitted that total cost of strengthening work for the transmission asset has been estimated as ₹ 811.82 lakh wherein supply and F & I cost and erection cost for Vindhyachal-Satna transmission line are ₹ 374.23 lakh and ₹ 24.30 lakh and for Satna Bina transmission line, F & I cost and erection cost are ₹388.09 lakh and ₹25.20 lakh, respectively.

(ii) As regard the depreciation, the petitioner has clarified that the deprecation of individual assets being combined continue to be governed by the respective actual date of commercial operation of the asset. The depreciation is calculated annually as per Regulation 17 of the 2009 regulations;

(iii) The expenditure on filing fee and reimbursement of expenditure is being claimed as per Regulations 42 of 2009 regulations;

(iv) As regards the service tax, the petitioner has prayed to be allowed to recover the service tax on transmission charged directly if the exemption is withdrawn and transmission is notified as a taxable service; and

(v) Licence fee is a new component of cost to the transmission licensee which has not been considered in the normative O & M expenses provided in 2009 regulations.

8. We have considered the objections of MSEDCL and the reply of the petitioner. The petitioner has furnished the detailed requirement of steel and its prices required for strengthening of towers. The expenditure will be the subject to prudence check of the Commission. As regard depreciation, the



same is being reckoned with reference to actual date of commercial operation of the asset and is determined as per Regulation 17 of the 2009 regulations. The issues of filing fee, publication expenses, service tax and licence fee have been dealt with in later part of this order.

9. During the hearing, the representative of the MPPTCL was permitted to file a reply to the petition within two weeks. No reply has been filed by the MPPTCL.

### **CAPITAL COST**

10. The last proviso to clause (2) of Regulation 7 of the 2009 regulations provides as under:

*“Provided that in case of the existing projects, 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”.*

11. The capital expenditure approved by the Commission vide order dated 14.2.006 in Petition No. 73/2004 as amended vide order dated 29.4.2008, which has been considered for determination of tariff, are as under:

**(₹ in lakh)**

<b>Assets</b>	<b>Admitted capital cost as on 31.3.2009</b>
Asset-I	43947.27
Asset-II	15862.86
Asset-III	2533.09
<b>Total</b>	<b>62343.23</b>





## ADDITIONAL CAPITAL EXPENDITURE

12. Regulation 9 of the 2009 regulations provides 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.

13. The petitioner has projected additional capital expenditure in respect of Asset-I for the years 2011-12 and 2012-13 as under:

Years	Nature and details of expenditure	Amount (₹ in lakh)
2011-12	Transmission line - Tower Strengthening	398.53
2012-13	Transmission line - Tower Strengthening	413.19
	<b>Total</b>	<b>811.82</b>

14. The petitioner vide its affidavit dated 11.11.2010 has explained the necessity of tower strengthening as under:

(a) Designing of the transmission line towers was being carried out as per IS 802 prevalent at the time of design;

(b) Earlier towers were designed on the basis of the provisions on IS:802-1977 which was based on the deterministic approach i.e. factor of safety was being applied on working load. However, in line with the international practice and as per the provisions of IEC 826-1991, major changes were incorporated in revised IS:802-1995 which is now based on the probabilistic approach with different reliability load;

(c) Wind patterns in the country have changed over the years and earlier concept of three wind zones as per IS 875 (light, medium and heavy) have been changed to six wind zones as per IS 875:1987 with enhanced wind pressure as per provisions of revised IS.



(d) Design Practice IS 802: 1995 New Code (with 0% wind in broken wire condition) was being followed from 1992 to 1998 and 20 incidents of tower failures on 400 kV transmission lines have occurred in Power Grid.

(e) The design of the towers of the transmission lines of Vindhychal Stage-II was carried out as per IS 802:1995 which is based on 0% wind in broken wire conditions. As per the petitioner, there were three incidents of tower failure on 400 kV Vindhachal-Satna I and II line in 2003 and 2005 (3 towers failed on 2.6.2003, 1 tower failed on 29.4.2005 and 1 tower failed on 2.7.2005).

(f) The Standing Committee of Experts constituted by CEA has recommended as under:

(a) In order to minimize the failure in existing lines, hip bracings up to bottom cross arm level, in all the suspension tower of all the transmission lines, designed after 1995 should be provided, in different phases keeping in view the priority of the lines; and

(b) In future, PGCIL will make provision for hip bracings on all the suspension.



(g) Accordingly, the petitioner has proposed tower strengthening to be carried out on 560 Nos suspension towers of 400 kV Satna-Bina D/C line and 540 Nos of tower on 400 kV Vindhyachal-Satna D/C line by providing additional bracing in charged transmission lines. The total cost of strengthening of lines has been estimated as ₹ 811.82 lakh.

15. Vindhyachal-Satna transmission line and Satna-Bina transmission lines were designed using IS:802-1995 code for 0% wind in broken wire conditions. Therefore, there is a need for tower strengthening in this type of tower design (IS 802:1995) in view of experience of tower failure in Vindhyachal-Satna line and keeping in view the recommendations of the Standing Committee. Accordingly, we allow the additional capital expenditure of ₹ 811.82 lakh.

**TOTAL CAPITAL COST**

16. Based on the above, gross block as given below has been considered for the purpose of tariff for the transmission asset, after allowing additional capital expenditure on works as claimed by the petitioner:

(₹ in lakh)			
Admitted capital cost as on 1.4.2009 as per order dated 29.4.2008	Projected additional capital expenditure during 2011-12	Projected additional capital expenditure during 2012-13	Total capital expenditure as on 31.3.2014
62343.23	398.53	413.29	63155.05



## DEBT- EQUITY RATIO

17. Clause (2) of Regulation 12 of the 2009 regulations *inter alia* provides that,-

“ (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.”

18. The petitioner has claimed tariff based on debt-equity ratio of 91.81:8.19 as considered by the Commission in its order dated 29.4.2008 in Petition No. 73/2004. The petitioner has further claimed the amount of additional capital expenditure in the debt-equity ratio of 70:30 for the year 2011-12 and 2012-13. For the purpose of tariff, equity considered for the transmission asset is as under:

(₹ in lakh)

Equity as on 1.4.2009	Notional equity due to additional capital expenditure for the period 2011-12	Average equity for 2011-12	Notional equity due to additional capital expenditure for the period 2012-13	Average equity for 2012-13	Equity for the period 2013-14	Average equity for 2013-14
5106.38	119.56	5166.15	123.99	5287.93	5349.92	5349.92

## RETURN ON EQUITY

19. 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."

20. The Commission vide its order dated 3.8.2010 in Petition No. 17/2010 has already taken a decision to amend the 2009 regulations for allowing grossing up of the base rate of return with the applicable tax rate as per the Finance Act for the relevant year and for direct settlement of tax holidays of between the generating company/transmission licensee and the beneficiaries/long-term transmission customers on year to year basis. The process of amendment to the 2009 regulations is under way and same will address the grievance of the petitioner with regard to the MAT rate. Accordingly, the return on equity

has been computed as per the existing provision of Regulation 15 (3) of 2009 regulation as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Equity as on 1.4.2009	5106.38	5106.38	5106.38	5225.93	5349.92
Addition due to Additional Capitalisation	0.00	0.00	119.56	123.99	0.00
Closing Equity	5106.38	5106.38	5225.93	5349.92	5349.92
Average Equity	5106.38	5106.38	5166.15	5287.93	5349.92
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09	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>892.65</b>	<b>892.65</b>	<b>903.10</b>	<b>924.38</b>	<b>935.22</b>

### **INTEREST ON LOAN**

21. 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."

22. In our calculation, the interest on loan has been worked out as detailed below:

(i) ADB-I loan has been utilised for debt funding apart from various domestic loans;



- (ii) Repayment instalments have been taken as per the ADB-I loan amortization schedule. Taking the closing balance of ADB-I loan as per the order dated 29.4.2008 in Petition No. 73/2004 as the opening amount for 2009-10, the net outstanding loan as on 31.3.2009 as per the amortization schedule for working out the half yearly repayment instalments have been considered for the purpose of calculations. Exchange rate as on 31.3.2004 has been also considered;
- (iii) For loans with floating rate of interest, rates of interest as on 1.4.2009 have been considered;
- (iv) Tariff has been worked out considering normative loan and normative repayments. Depreciation allowed has been taken as normative repayment for the period 2009-14;
- (v) 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;

- (vi) Proposed domestic loan for the years 2011-12 and 2012-13 taken for the additional capital expenditure has not been taken into considered for working out the weighted average rate of interest.

23. It can be seen that the petitioner has worked out weighted average rate of interest for original assets and additional capital expenditure. For the purpose of tariff, additional capital expenditure with original transmission assets have been combined. Therefore, there is difference in weighted average interest rate as claimed by the petitioner and considered by us and interest in normative loan.

24. The detailed calculations in support of the weighted revised average rate of interest are contained in **Annexure** attached to this order. Based on the above, the year-wise details of interest worked out are given hereunder:

**(₹ in lakh)**

<b>Details of loan</b>	<b>Up to 31.3.2009</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Gross Normative Loan	57236.85	57236.85	57236.85	57236.85	57515.82	57805.13
Cumulative Repayment up to Previous Year		29991.13	33231.24	36471.35	39721.98	40542.78
Net Loan-Opening		27245.72	24005.61	20765.50	17793.84	17262.34
Addition due to Additional Capitalisation		0.00	0.00	278.97	289.30	0.00
Repayment during the year		3240.11	3240.11	3250.63	820.80	830.59
Net Loan-Closing		24005.61	20765.50	17793.84	17262.34	16431.76
Average Loan		25625.67	22385.56	19279.67	17528.09	16847.05
Weighted Average Rate of Interest on Loan		7.0976%	7.0527%	6.9906%	6.9157%	6.8596%
<b>Interest</b>		<b>1818.81</b>	<b>1578.78</b>	<b>1347.76</b>	<b>1212.19</b>	<b>1155.64</b>

## **DEPRECIATION**

25. 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

(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.”

26. The asset covered in the present petition will complete 12 years as on 31.3.2012. Thus, the remaining depreciation value of the transmission asset as on 1.4.2012 has to be spread over the balance useful life (20 years) of the transmission asset as on 1.4.2009. The balance useful life of the asset has not been calculated in order dated 29.4.2009 in Petition No.73/2004. As per the



2009 regulations, transmission line and sub-station have useful life of 35 years and 25 years, respectively. In our calculations, the life of building and Power Line Carrier Communication have been considered as 25 years as these are not specified in the 2009 regulations. Accordingly, depreciation works out is as under:

		(₹ in lakh)					
Details of Depreciation		Up to 31.3.2009	2009-10	2010-11	2011-12	2012-13	2013-14
Gross block as per last order		62343.23	62343.23	62343.23	62343.23	62741.76	63155.05
Addition during 2009-14 due to projected Additional Capitalisation			0.00	0.00	398.53	413.29	0.00
Gross block as on 31.3.2009			62343.23	62343.23	62741.76	63155.05	63155.05
Average gross block			62343.23	62343.23	62542.50	62948.41	63155.05
Rate of Depreciation			5.1972%	5.1972%	5.1975%	5.1980%	5.1983%
Depreciable Value	90%		55593.31	55593.31	55772.64	56137.96	56323.94
Elapsed Life (Beginning of the year)			9	10	11	12	13
Weighted Balance Useful life			23	22	21	20	19
Remaining Depreciable Value			25602.18	22362.07	19301.29	16415.98	15781.16
<b>Depreciation</b>			<b>3240.11</b>	<b>3240.11</b>	<b>3250.63</b>	<b>820.80</b>	<b>830.59</b>

### OPERATION & MAINTENANCE EXPENSES

27. In accordance with clause (g) of Regulation 19 the 2009 regulations, the following norms for 400 kV D/C, Twin conductor transmission line and 400 kV bays are prescribed for O & M expenses:

	Year				
	2009-10	2010-11	2011-12	2012-13	2013-14
400 kV D/C, Twin conductor transmission line (₹ lakh.ckt km)	0.627	0.663	0.701	0.741	0.783
400 kV S/C, Twin conductor transmission line (₹ lakh.ckt km)	0.358	0.378	0.400	0.423	0.447
400 kV bays (₹ in lakh/ bay)	52.40	55.40	58.57	61.92	65.46



28. The petitioner's entitlement to O & M expenses has been worked out as given hereunder:

	(₹ in lakh)				
	Year				
	2009-10	2010-11	2011-12	2012-13	2013-14
400 kV D/C, Twin conductor transmission line (267+276+9+12=564 ckt km)	353.63	373.93	395.36	417.92	441.61
400 kV S/C, Twin conductor transmission line (199 ckt km)	71.24	75.22	79.60	84.18	88.95
400 kV bays (17 bays)	890.80	941.80	995.69	1052.64	1112.82
<b>Total</b>	<b>1315.67</b>	<b>1390.95</b>	<b>1470.65</b>	<b>1554.74</b>	<b>1643.39</b>

29. The petitioner has submitted that transmission charges claimed for the year 2009-14 is inclusive of O & M expenses for project derived based on the norms for expenditure as specified under Regulation 19 (g) of the 2009 regulation. Accordingly, O & M expenses for the transmission assets have been considered as per Regulation 19 (g) of the 2009 regulations. The petitioner has further submitted that it would approach the Commission for suitable revision in the norms of O & M expense in case the impact of wage hike w.e.f 1.1.2007 is more than 50%. With reference to the submission of the petitioner, it is clarified that if any such application is made, it will be dealt with in accordance with law.

#### **INTEREST ON WORKING CAPITAL**

30. 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 2 months' transmission charges claimed in the petition. In the tariff being allowed, receivables have been worked out on the basis 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 works out to ₹62.49 lakh as on 1.4.2009.

**(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 O&M expenses 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 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.



31. The 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	197.35	208.64	220.60	233.21	246.51
O & M expenses	109.64	115.91	122.55	129.56	136.95
Receivables	1242.85	1215.18	1193.39	775.25	784.65
Total	1,549.84	1,539.74	1,536.55	1,138.03	1,168.11
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
<b>Interest</b>	<b>189.86</b>	<b>188.62</b>	<b>188.23</b>	<b>139.41</b>	<b>143.09</b>

### TRANSMISSION CHARGES

32. The transmission charges being allowed for the transmission asset are summarised below:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	3240.11	3240.11	3250.63	820.80	830.59
Interest on Loan	1818.81	1578.78	1347.76	1212.19	1155.64
Return on Equity	892.65	892.65	903.10	924.38	935.22
Interest on Working Capital	189.86	188.62	188.23	139.41	143.09
O & M Expenses	1315.67	1390.95	1470.65	1554.74	1643.39
<b>Total</b>	<b>7457.09</b>	<b>7291.10</b>	<b>7160.36</b>	<b>4651.51</b>	<b>4707.93</b>

### **Application fee and the publication expenses**

33. The petitioner has sought approval for the reimbursement of fee paid by it for filing the petition. MSEDCL has submitted that the filing fee should be allowed as per Hon`ble Commission`s order dated 11.9.2008 in Petition No. 129/2005. It is clarified that the said decision was applicable to the tariff period 2004-09. However, Regulation 42 of the 2009 regulation provides for reimbursement of filing fees and expenses on publication of notices as may

be allowed at the discretion of the Commission. We have decided the following in our order dated 11.1.2010 in Petition No. 109/2009:

*"85. The Commission after careful consideration has decided that filing fee will be reimbursed in the following cases:*

- (a) Main petitions for determination of tariff;*
- (b) Petitions for revisions of tariff due to additional capital expenditure.;*
- (c) Petitions for truing up of expenditure.*

*Filing fees paid for filing the Review Petitions, Interlocutory Applications and other Miscellaneous Applications will not be reimbursed in tariff. The Commission has decided to reimburse the expenses on publication of notices as such expenses are incurred to meet the statutory requirement of transparency in the process of determination of tariff."*

34. In accordance with the said decision, the petitioner shall be entitled to recover the filing fee from the beneficiaries on pro rata basis. The petitioner shall also be entitled for reimbursement of publication expenses from the beneficiaries on pro-rata basis.

#### **Service Tax**

35. The petitioner has prayed for reimbursement of service tax, if it is subjected to such tax in future. MSEDCL has objected the prayer of the petitioner. It is clarified that as the petitioner has no liability for service tax at present, the prayer is infructuous and is accordingly rejected.

#### **Licence fee**

36. The petitioner has prayed for reimbursement of licence fee as it is an extra cost on the petitioner. MSEDCL has objected the prayer of the petitioner.





In this connection, it is clarified that , a view in the matter is yet to be taken by the Commission.

37. The transmission charges allowed 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.

38. This order disposes of Petition No.191/2010.

Sd/-  
**(M.Deena Dayalan)**  
Member

sd/-  
**(V.S.Verma)**  
Member

sd/-  
**(S.Jayaraman)**  
Member



## Annexure

## CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

	Details of Loan	2009-10	2010-11	2011-12	2012-13	2013-14
<b>1</b>	<b>Bond VI</b>					
	Gross loan opening	1079.00	<b>1079.00</b>	<b>1079.00</b>	<b>1079.00</b>	<b>1079.00</b>
	Cumulative Repayment up to the date of commercial operation/previous year	755.30	<b>863.20</b>	<b>971.10</b>	<b>1079.00</b>	<b>1079.00</b>
	Net Loan-Opening	323.70	215.80	107.90	0.00	0.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	107.90	107.90	107.90	0.00	0.00
	Net Loan-Closing	215.80	107.90	0.00	0.00	0.00
	Average Loan	269.75	161.85	53.95	0.00	0.00
	Rate of Interest	13.13%	13.13%	13.13%	13.13%	13.13%
	Interest	35.42	21.25	7.08	0.00	0.00
	Rep Schedule	10 Annual Instalments from 6.12.2002				
<b>2</b>	<b>Bond VII</b>					
	Gross loan opening	2660.00	<b>2660.00</b>	<b>2660.00</b>	<b>2660.00</b>	<b>2660.00</b>
	Cumulative Repayment upto DOCO/previous year	2660.00	<b>2660.00</b>	<b>2660.00</b>	<b>2660.00</b>	<b>2660.00</b>
	Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
	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	0.00
	Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
	Average Loan	0.00	0.00	0.00	0.00	0.00
	Rate of Interest	0.00%	0.00%	0.00%	0.00%	0.00%
	Interest	0.00	0.00	0.00	0.00	0.00
	Rep Schedule	5 Annual Instalments from 4.8.2003				
<b>3</b>	<b>Bond-XI-Option -II</b>					
	Gross loan opening	2159.00	<b>2159.00</b>	<b>2159.00</b>	<b>2159.00</b>	<b>2159.00</b>
	Cumulative Repayment up to the date of commercial operation /previous year	2159.00	<b>2159.00</b>	<b>2159.00</b>	<b>2159.00</b>	<b>2159.00</b>
	Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
	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	0.00
	Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
	Average Loan	0.00	0.00	0.00	0.00	0.00
	Rate of Interest	9.20%	9.20%	9.20%	9.20%	9.20%
	Interest	0.00	0.00	0.00	0.00	0.00
	Rep Schedule	6 Annual Instalments from 07.12.2003				
<b>4</b>	<b>Bond-XIII-Option-II</b>					
	Gross loan opening	2062.00	<b>2062.00</b>	<b>2062.00</b>	<b>2062.00</b>	<b>2062.00</b>
	Cumulative Repayment up to DOCO/previous year	2062.00	<b>2062.00</b>	<b>2062.00</b>	<b>2062.00</b>	<b>2062.00</b>
	Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
	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	0.00



	Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
	Average Loan	0.00	0.00	0.00	0.00	0.00
	Rate of Interest	7.85%	7.85%	7.85%	7.85%	7.85%
	Interest	0.00	0.00	0.00	0.00	0.00
	Rep Schedule	6 Annual Instalments from 31.07.2003				
<b>5</b>	<b>Corporation bank</b>					
	Gross loan opening	1330.00	<b>1330.00</b>	<b>1330.00</b>	<b>1330.00</b>	<b>1330.00</b>
	Cumulative Repayment up to the date of commercial operation /previous year	731.50	<b>864.50</b>	<b>997.50</b>	<b>1130.50</b>	<b>1263.50</b>
	Net Loan-Opening	598.50	465.50	332.50	199.50	66.50
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	133.00	133.00	133.00	133.00	66.50
	Net Loan-Closing	465.50	332.50	199.50	66.50	0.00
	Average Loan	532.00	399.00	266.00	133.00	33.25
	Rate of Interest	11.40%	11.40%	11.40%	11.40%	11.40%
	Interest	60.65	45.49	30.32	15.16	3.79
	Rep Schedule	20 half yearly Instalments from 10.03.2004				
<b>6</b>	<b>Punjab National Bank-I</b>					
	Gross loan opening	2660.00	<b>2660.00</b>	<b>2660.00</b>	<b>2660.00</b>	<b>2660.00</b>
	Cumulative Repayment up to the date of commercial operation /previous year	1596.00	<b>1862.00</b>	<b>2128.00</b>	<b>2394.00</b>	<b>2660.00</b>
	Net Loan-Opening	1064.00	798.00	532.00	266.00	0.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	266.00	266.00	266.00	266.00	0.00
	Net Loan-Closing	798.00	532.00	266.00	0.00	0.00
	Average Loan	931.00	665.00	399.00	133.00	0.00
	Rate of Interest	9.41%	9.41%	9.41%	9.41%	9.41%
	Interest	87.61	62.58	37.55	12.52	0.00
	Rep Schedule	10 annual Instalments from 30.03.2004				
<b>7</b>	<b>ADB-I</b>					
	Gross loan opening	44860.33	<b>44860.33</b>	<b>44860.33</b>	<b>44860.33</b>	<b>44860.33</b>
	Cumulative Repayment up to the date of commercial operation /previous year	19682.29	<b>22922.08</b>	<b>26490.89</b>	<b>30425.48</b>	<b>34763.39</b>
	Net Loan-Opening	25178.04	21938.25	18369.44	14434.85	10096.94
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	3239.79	3568.81	3934.60	4337.91	4782.54
	Net Loan-Closing	21938.25	18369.44	14434.85	10096.94	5314.40
	Average Loan	23558.15	20153.85	16402.15	12265.90	7705.67
	Rate of Interest	6.84%	6.84%	6.84%	6.84%	6.84%
	Interest	1611.38	1378.52	1121.91	838.99	527.07
	Rep Schedule	half yearly instalments from 1st June and 1st December				
	<b>Total Loan</b>					
	Gross loan opening	56810.33	56810.33	56810.33	56810.33	56810.33
	Cumulative Repayment up to the date of commercial operation /previous year	29646.09	33392.78	37468.49	41909.98	46646.89



Net Loan-Opening	27164.24	23417.55	19341.84	14900.35	10163.44
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	3746.69	4075.71	4441.50	4736.91	4849.04
Net Loan-Closing	23417.55	19341.84	14900.35	10163.44	5314.40
Average Loan	25290.90	21379.70	17121.10	12531.90	7738.92
<b>Weighted Average Rate of Interest</b>	<b>7.0976%</b>	<b>7.0527%</b>	<b>6.9906%</b>	<b>6.9157%</b>	<b>6.8596%</b>
<b>Interest</b>	1795.05	1507.84	1196.86	866.66	530.86

