

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No.110/2010

Coram:

**1.Shri V.S.Verma, Member
2.Shri M.Deena Dayalan, Member**

DATE OF HEARING: 22.6.2010

DATE OF ORDER: 22.9.2010

In the matter of

Approval of transmission tariff for transmission system associated with Kopli Hydroelectric Stage-I extension project (2x50 MW) in North Eastern Region for the period from 1.4.2009 to 31.3.2014.

And in the matter of

Power Grid Corporation of India Ltd.,Gurgaon **Petitioner**
Vs

1. Assam State Electricity Board, Guwahati
2. Meghalaya State Electricity Board, Shillong
3. Government of Arunachal Pradesh, Itanagar
4. Power and Electricity Department, Govt. of Mizoram, Aizawl
5. Electricity Department, Govt. of Manipur, Imphal
6. Department of Power, Govt. of Nagaland, Kohima
7. Tripura State Electricity Corporation Limited, Agartala**Respondents**

The following were present:

1. Shri U.K.Tyagi, PGCIL
2. Shri M.M. Mondal, PGCIL
3. Shri R.Prasad, PGCIL
4. Shri V.Vamsi, PGCIL

ORDER

The petition has been filed for approval of tariff transmission system associated with Kopli Hydroelectric Stage-I extension project (2x50 MW) (the transmission system) in North Eastern Region for the period 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 regulations 15 (3) of the 2009 regulations so that grossing up the base rate shall be considering the revised rate of MAT as per the Finance Act, 2009 for the year 2009-10 and as per the Finance Act, 2010 for the year 2010-11 and subsequent years and allow consequential impact on tariff for 2009-14 period accordingly;
- (b) To approve reimbursement of petition filing fee and publication of notices in the newspaper as per the 2009 regulations;
- (c) Allow to adjust impact on interest on loan due to floating rate of interest applicable during 2009-14;
- (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 for the period from 1.4.2004 to 31.3.2009 were decided by the Commission in its order dated 12.8.2009 in Petition No. 85/2006. The date of commercial operation of the transmission asset is 1.2.2000.

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

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	100.99	100.99	100.99	34.17	34.17
Interest on Loan	59.84	52.94	46.03	41.40	39.07
Return on Equity	49.83	49.83	49.83	49.83	49.83
Interest on Working Capital	8.74	8.84	8.96	7.75	8.00
O & M Expenses	86.93	91.88	97.16	102.75	108.62
Total	306.33	304.48	302.97	235.90	239.69

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	13.04	13.78	14.57	15.41	16.29
O & M expenses	7.24	7.66	8.10	8.56	9.05
Receivables	51.06	50.75	50.50	39.32	39.95
Total	71.34	72.19	73.17	63.29	65.29
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
Interest	8.74	8.84	8.96	7.75	8.00

5. No reply to the petition has been filed by any respondent. 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.

CAPITAL COST

6. As per clause (2) of Regulation 7 of the 2009 regulations, the project cost admitted by the Commission for determination of tariff prior to 1.4.2009 shall form the basis for determination of tariff.

7. The petitioner has claimed the capital expenditure of ₹1898.23 lakh, which was admitted vide order dated 12.8.2009 in Petition No. 85/2006. The petitioner has not claimed any additional capital expenditure.

8. Accordingly, gross block of ₹1898.23 lakh as on 31.3.2009 has been considered for the purpose of tariff.

DEBT- EQUITY RATIO

9. 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.”

10. The petitioner has claimed tariff based on debt-equity ratio of 84.98:15.02 as admitted as on 31.3.2009. The same debt-equity ratio has been considered for the purpose of tariff.

RETURN ON EQUITY

11. 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.

Illustration.-

(i) In case of the generating company or the transmission licensee paying Minimum Alternate Tax (MAT) @ 11.33% including surcharge and cess:

Rate of return on equity = $15.50 / (1 - 0.1133) = 17.481\%$

(ii) In case of generating company or the transmission licensee paying normal corporate tax @ 33.99% including surcharge and cess:

Rate of return on equity = $15.50 / (1 - 0.3399) = 23.481\%$."

12. The petitioner has computed return on equity on pre-tax basis on 11.33% MAT in accordance with tax rate applicable for the year 2008-09 and claimed return on equity of ₹49.83 lakh each year during the tariff period @ 17.481% against the equity base of ₹285.08 lakh. This has been found to be in order. Accordingly, the petitioner shall be entitled to return on equity @ ₹49.83 lakh each year during the tariff period, as claimed.

13. The Commission vide its order dated 3.8.2010 in Petition No. 17/2010 has already taken a decision to amend the 2009 regulations. The relevant portion of the said order is extracted as under:

"We are of the view that this issue of 'grossing up the base rate with the normal tax rate for the year 2008-09' is generic in nature and therefore, it will be appropriate to make suitable provisions in the 2009 regulations to cater to any future changes in the tax rate. Accordingly, we direct the staff of the Commission to prepare and submit draft amendment to the 2009 regulations for allowing grossing up of base rate of return with the applicable tax rate as per the Finance Act for the relevant year and direct settlement of tax liability between the generating company/transmission licensee and the beneficiaries/long term transmission customers on year to year basis. Any under/over recovery

on account of direct settlement of tax liability shall be subject to the final adjustment at the time of true up exercise.”

14. In view of the said order dated 3.8.2010 in Petition No. 17/2010, the prayer of the petitioner will be taken care of after amendment of the regulations.

INTEREST ON LOAN

15. 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."

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

- (i) Only ADB-I loan has been utilized for debt funding;
- (ii) Repayment instalments have been taken as per the ADB-I loan amortization schedule enclosed with Petition No. 85/2006. It is observed from the amortization schedule that the half yearly repayment instalments for 1.6.2015 and 1.12.2015 have already been prepaid and the instalments have been worked out taking into consideration this fact. Taking the closing balance of ADB-I loan as per order dated 12.8.2009 in Petition No. 85/2006 as the opening amount for 2009-10, for the purpose of calculation, we have considered the net loan outstanding as on 31.3.2009 as per the amortization schedule for working out the half yearly repayment instalment. Exchange rate as on 31.3.2014 has been considered for the purpose of calculation of interest on loan;
- (iii) Rate of interest as on 1.4.2009 has been considered for the ADB-I loan;

- (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.

17. The petitioner has submitted that the change in interest rate due to floating rate of interest applicable, if any needs to be claimed/adjusted over the tariff period 2009-14 directly from the beneficiaries. The weighted average rate of interest as on 1.4.2009 shall be basis for the purpose of calculation of interest as per the 2009 regulations. Therefore, interest of loan has been calculated based on the floating rate as on 1.4.2009.

18. Based on the above, the year-wise details of interest worked out are given hereunder:

(₹ in lakh)

Details of loan	Up to 31.3.2009	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Normative Loan	1613.15	1613.15	1613.15	1613.15	1613.15	1613.15
Cumulative Repayment up to Previous Year		687.76	788.76	889.75	990.75	1024.92
Net Loan-Opening		925.39	824.39	723.40	622.40	588.23
Addition due to Additional Capitalisation		0.00	0.00	0.00	0.00	0.00
Repayment during the year		101.00	101.00	101.00	34.17	34.17
Net Loan-Closing		824.39	723.40	622.40	588.23	554.06
Average Loan		874.89	773.90	672.90	605.32	571.14
Weighted Average Rate of Interest on Loan		6.8400%	6.8400%	6.8400%	6.8400%	6.8400%
Interest		59.84	52.93	46.03	41.40	39.07

19. The detailed calculations in support of the weighted revised average rate of interest are contained in **Annexure** attached.

DEPRECIATION

20. 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."

21. The transmission asset will complete 12 years as on 30.11.2011 and thus, the remaining depreciation value of transmission system as on 1.4.2012 has to be spread over the balance useful of the asset. The balance useful life of the assets has not been calculated in the order dated 12.8.2009 in Petition No. 85/2006. As per the Regulation 17 (4) of the 2009 regulations, useful life for transmission line and sub-station is 35 year and 25 year, respectively. For the purpose of calculation, the life of PLCC has been considered as 25 years. In

the present petition, weighted average value of asset as on 1.4.2009 has been considered to workout the weighted average life of the transmission system including sub-station works as 33 years.

22. Accordingly, asset covered in the present petition will complete 12 years as on 31.1.2012, and accordingly, the remaining depreciation value of the asset as on 1.4.2012 has been spread over the weighted average balance useful life of the transmission asset, i.e 21 years which has been calculated as per admitted capital cost as on 31.3.2009.

23. For the period 1.4.2009 to 31.3.2012 and 1.4.2012 to 31.3.2014 the depreciation works out to ₹101.00 lakh and ₹34.17 lakh, respectively by applying rate of depreciation of 5.3205% as shown below:

		(₹ in lakh)					
Details of Depreciation		Up to 31.3.2009	2009-10	2010-11	2011-12	2012-13	2013-14
As per last order 12.8.2009		1898.23	1898.23	1898.23	1898.23	1898.23	1898.23
Addition during 2009-14 due to projected Additional Capitalisation			0.00	0.00	0.00	0.00	0.00
Gross block as on 31.3.2009			1898.23	1898.23	1898.23	1898.23	1898.23
Average gross block			1898.23	1898.23	1898.23	1898.23	1898.23
Rate of Depreciation			5.3205%	5.3205%	5.3205%	5.3205%	5.3205%
Depreciable Value	90%		1708.41	1708.41	1708.41	1708.41	1708.41
Elapsed Life			9	10	11	12	13
Balance Useful life of the asset			24	23	22	21	20
Remaining Depreciable Value			1020.65	919.65	818.66	717.66	683.49
Depreciation			101.00	101.00	101.00	34.17	34.17

OPERATION & MAINTENANCE EXPENSES

24. In accordance with clause (g) of Regulation 19 the 2009 regulations, the following norms for 220 kV transmission line (twin conductor) and bays are prescribed for O & M expenses:

	Year				
	2009-10	2010-11	2011-12	2012-13	2013-14
220 kV D/C transmission line (₹ in lakh)	0.179	0.189	0.200	0.212	0.224
220 kV bays (₹ in lakh/bay)	36.68	38.78	41.00	43.34	45.82

25. The petitioner has claimed O & M expenses for 75.88 Ckt.km and 2 bays, which has been allowed. Accordingly, 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
220 kV Transmission lines (75.88 km)	13.57	14.32	15.16	16.07	16.98
2 Nos. 220 kV bays at Misa and Kopli generating station of NEEPCO	73.36	77.56	82.00	86.68	91.64

26. The petitioner has submitted that the transmission charges for the transmission asset is inclusive of O & M for the transmission asset derived based on the norms for O & M expenditure as specified under the Regulation 19 (g) of the 2009 regulation. The petitioner has further submitted that O & M expenditure for the year 2009-14 had been arrived at on the basis of normalized actual O & M expenses 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 has also been considered while calculating the O & M charges for the tariff period 2009-14. The petitioner has also submitted that it reserves the right to 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%. The petitioner has further submitted that O & M norms for the period 2009-14, the cost associated with license fees had not been captured and the licence fee be allowed to be recovered separately from the respondents.

INTEREST ON WORKING CAPITAL

27. 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 ₹31.24 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 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.

28. 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	13.04	13.78	14.57	15.41	16.29
O & M expenses	7.24	7.66	8.10	8.56	9.05
Receivables	51.06	50.75	50.50	39.32	39.95
Total	71.34	72.19	73.17	63.29	65.29
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
Interest	8.74	8.84	8.96	7.75	8.00

TRANSMISSION CHARGES

29. 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	101.00	101.00	101.00	34.17	34.17
Interest on Loan	59.84	52.93	46.03	41.40	39.07
Return on Equity	49.83	49.83	49.83	49.83	49.83
Interest on Working Capital	8.74	8.84	8.96	7.75	8.00
O & M Expenses	86.93	91.88	97.16	102.75	108.62
Total	306.34	304.49	302.98	235.92	239.69

Application fee and the publication expenses

30. 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.

31. 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

32. Presently, service tax on transmission service has been exempted by Government of India vide its notification No. 20/2010 dated 27.2.2010 read with notification No. 45/2010 dated 20.7.2010. Therefore, prayer made by the petitioner for recovery of service tax on transmission charges from the beneficiaries has become anfractuious.

33. In addition to the transmission charges, the petitioner shall be entitled to other charges like income-tax, surcharge and other cess and taxes in accordance with the 2009 regulations.

34. 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.

35. This order disposes of Petition No. 110/2010.

sd/-
(M.DEENA DAYALAN)
MEMBER

sd/-
(V.S.VERMA)
MEMBER

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(Rs. in Lakh)

	Details of Loan	2009-10	2010-11	2011-12	2012-13	2013-14
1	ADB I					
	Gross loan opening	1584.12	1584.12	1584.12	1584.12	1584.12
	Cumulative Repayment up to the date of commercial operation/previous year	667.52	785.57	915.72	1059.21	1217.41
	Net Loan-Opening	916.59	798.54	668.39	524.90	366.71
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	118.05	130.15	143.49	158.20	174.41
	Net Loan-Closing	798.54	668.39	524.90	366.71	192.29
	Average Loan	857.57	733.47	596.65	445.80	279.50
	Rate of Interest	6.84%	6.84%	6.84%	6.84%	6.84%
	Interest	58.66	50.17	40.81	30.49	19.12
	Rep Schedule	10 Annual Instalment from 22.8.2003				
	Total Loan					
	Gross loan opening	1584.12	1584.12	1584.12	1584.12	1584.12
	Cumulative Repayment up to the date of commercial operation /previous year	667.52	785.57	915.72	1059.21	1217.41
	Net Loan-Opening	916.59	798.54	668.39	524.90	366.71
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	118.05	130.15	143.49	158.20	174.41
	Net Loan-Closing	798.54	668.39	524.90	366.71	192.29
	Average Loan	857.57	733.47	596.65	445.80	279.50
	Rate of Interest	6.8400%	6.8400%	6.8400%	6.8400%	6.8400%
	Interest	58.66	50.17	40.81	30.49	19.12