

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram:

1. Dr. Pramod Deo, Chairperson
2. Shri R.Krishnamoorthy, Member
3. Shri V.S.Verma, Member

Petition No.131/2009

In the matter of

Approval of transmission tariff for Stage-I of 400 kV Thyristor controlled series compensation project (FACTS Device) on Kanpur-Ballabgarh 400 kV S/C line at Ballabgarh in Northern 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. Rajasthan Rajya Vidyut Prasaran Nigam Ltd., Jaipur
2. Ajmer Vidyut Vitran Nigam Ltd., Ajmer
3. Jaipur Vidyut Vitran Nigam, Jaipur
4. Jodhpur Vidyut Vitran Nigam Ltd., Jodhpur
5. Himachal Pradesh State Electricity Board, Shimla
6. Punjab State Electricity Board, Patiala
7. Haryana Power Purchase Centre, 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. New Delhi Municipal Council, New Delhi
15. Chief Engineer, Chandigarh Administration, Chandigarh
16. Uttranchal Power Corporation Ltd, Dehradun
17. North Central Railway, Allahabad

.....Respondents

The following were present:

1. Shri Umesh Chandra, PGCIL
2. Shri U.K.Tyagi, PGCIL
3. Shri M.M. Mondal, PGCIL

**ORDER
(DATE OF HEARING: 25.8.2009)**

The petition has been filed for approval of tariff for Stage-I of 400 kV Thyristor controlled series compensation project (FACTS Device) on Kanpur-Ballabgarh 400 kV S/C line (hereinafter referred to as "the transmission asset") at Ballabgarh in Northern Region for the period 1.4.2009 to 31.3.20014 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 prayed for the reimbursement of expenditure from the beneficiaries towards publishing of notices in newspapers and petition filing fee be approved. The petitioner has further prayed for inclusion of service tax as one of the components to be covered in transmission charges.

2. The investment approval for the transmission asset was accorded by the Board of Directors of the petitioner company under Memorandum dated 12.5.2000 at an estimated cost of Rs. 1476 lakh, including IDC of Rs. 83 lakh. The date of commercial operation of the transmission asset is 1.7.2002

3. The annual transmission charges for the period from 1.4.2004 to 31.3.2009 were decided by the Commission in its order dated 9.5.2006 in Petition No. 60/2005 at a gross block of Rs.1499.18 lakh as on 31.3.2004.

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

	(Rs. in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	79.16	79.16	79.16	79.16	79.16
Interest on Loan	65.25	56.45	47.65	38.82	30.09
Return on Equity	65.16	65.16	65.16	65.16	65.16
Interest on Working Capital	6.99	6.96	6.93	6.92	6.91
O & M Expenses	52.40	55.40	58.57	61.92	65.46
Total	268.96	263.13	257.47	251.98	246.78

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

	(Rs. in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	7.86	8.31	8.79	9.29	9.82
O & M expenses	4.37	4.62	4.88	5.16	5.46
Receivables	44.83	43.86	42.91	42.00	41.13
Total	57.06	56.79	56.58	56.45	56.41
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
Interest	6.99	6.96	6.93	6.92	6.91

6. Reply to the petition has been filed by Ajmer Vidyut Vitran Nigam Ltd. and Jaipur Vidyut Vitran Nigam Limited. 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

7. 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.

8. The petitioner has claimed the capital expenditure of Rs. 1499.18 lakh. The petitioner has not claimed any additional capitalization.

9. Accordingly, gross block of Rs. 1499.18 lakh as on 31.3.2009 has been considered by us for the purpose of tariff.

DEBT- EQUITY RATIO

10. 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.”

11. The petitioner has claimed tariff based on debt-equity ratio of 75.14:24.86 as considered by the Commission in its order dated 9.5.2006 *ibid*. The same debt-equity ratio has been considered for the purpose of tariff.

RETURN ON EQUITY

12. 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 = $15.50 / (1 - 0.3399) = 23.481\%$."

13. 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 Rs. 65.16 lakh each year during the tariff period @ 17.481% against equity of Rs. 372.25 lakh. This has been found to be in order. Accordingly, the petitioner shall be entitled to return on equity @ Rs. 65.16 lakh each year during the tariff period, as claimed.

INTEREST ON LOAN

14. 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.”

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

(i) Details of net outstanding loan as on 31.3.2009, cumulative repayment up to 31.3.2009, repayment schedule for the loans, rate of interest have

been taken from the order dated 9.5.2006 in Petition No. 60/2005 for working out weighted average rate of interest.

- (ii) Tariff has been worked out considering normative loan and normative repayments. Deprecation allowed has been taken as normative repayment.
- (iii) Weighted average rate of interest on actual loan worked out as per (i) above is applied on the average loan during the year to arrive at the interest on loan.

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

(Rs. in lakh)						
Details of loan	Up to 31.3.2009	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Notional loan	1126.43					
Addition due to additional capitalisation	0.00					
Gross Normative Loan	1126.43	1126.43	1126.43	1126.43	1126.43	1126.43
Cumulative Repayment up to Previous Year		494.19	573.35	652.50	731.66	810.82
Net Loan-Opening		632.24	553.08	473.93	394.77	315.61
Addition due to Additional Capitalisation		0.00	0.00	0.00	0.00	0.00
Repayment during the year		79.16	79.16	79.16	79.16	79.16
Net Loan-Closing		553.08	473.93	394.77	315.61	236.46
Average Loan		592.66	513.50	434.35	355.19	276.03
Weighted Average Rate of Interest on Loan		11.0096%	10.9937%	10.9700%	10.9309%	10.9000%
Interest		65.25	56.45	47.65	38.83	30.09

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

DEPRECIATION

18. 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."

19. The deprecation has been worked out on the admitted capital expenditure of Rs. 1499.18 lakh as on 31.3.2009 as the spent life of the transmission assets as on 31.3.2009 from the date of the commercial was less than 12 years. Cumulative depreciation up to 31.3.2009 has been taken as per order dated 9.5.2006 in Petition No. 60/2005.

20. For the period 1.4.2009 to 31.3.2014 the depreciation works out to Rs. 79.16 lakh each year by applying rate of depreciation of 5.2800% as shown below:

		(Rs. in lakh)					
Details of Depreciation		Up to 31.3.2009	2009-10	2010-11	2011-12	2012-13	2013-14
As per order dated 9.5.2006		1499.18	1499.18	1499.18	1499.18	1499.18	1499.18
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			1499.18	1499.18	1499.18	1499.18	1499.18
Average gross block			1499.18	1499.18	1499.18	1499.18	1499.18
Rate of Depreciation			5.2800%	5.2800%	5.2800%	5.2800%	5.2800%
Depreciable Value	90%		1349.26	1349.26	1349.26	1349.26	1349.26
Elapsed Life			7	8	9	10	11
Balance Useful life of the asset			-	-	-	-	-
Remaining Depreciable Value			855.07	775.92	696.76	617.60	538.45
Depreciation			79.16	79.16	79.16	79.16	79.16

OPERATION & MAINTENANCE EXPENSES

21. In accordance with clause (g) of Regulation 19 the 2009 regulations, the following norms for 400 kV sub-station bay are prescribed for O & M expenses:

	Year				
	2009-10	2010-11	2011-12	2012-13	2013-14
O&M expenses (Rs in lakh per bay)	52.40	55.40	58.57	61.92	65.46

22. The petitioner has claimed O & M expenses for 1 bay, which has been allowed. Accordingly, the petitioner's entitlement to O & M expenses has been worked out as given hereunder:

(Rs. in lakh)

	Year				
	2009-10	2010-11	2011-12	2012-13	2013-14
O&M expenses for 1 bay	52.40	55.40	58.57	61.92	65.46

INTEREST ON WORKING CAPITAL

23. 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 Rs.7.86 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.

24. The necessary computations in support of interest on working capital are appended hereinbelow:

(Rs. in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	7.86	8.31	8.79	9.29	9.82
O & M expenses	4.37	4.62	4.88	5.16	5.46
Receivables	44.83	43.85	42.91	42.00	41.13
Total	57.05	56.78	56.58	56.44	56.40
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
Interest	6.99	6.96	6.93	6.91	6.91

TRANSMISSION CHARGES

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

(Rs.in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	79.16	79.16	79.16	79.16	79.16
Interest on Loan	65.25	56.45	47.65	38.83	30.09
Return on Equity	65.16	65.16	65.16	65.16	65.16
Interest on Working Capital	6.99	6.96	6.93	6.91	6.91
O & M Expenses	52.40	55.40	58.57	61.92	65.46
Total	268.95	263.12	257.46	251.98	246.77

26. In addition to the transmission charges, the petitioner shall be entitled to other charges like income-tax, incentive, surcharge and other cess and taxes in accordance with the 2009 regulations. These transmission charges shall be included in the regional transmission tariff for Northern Region and shall be shared by the regional beneficiaries in accordance with the 2009 regulations.

27. The petitioner has sought approval for the reimbursement of expenditure of Rs. 2,98,920/- incurred on publication of notices in the newspapers. The petitioner shall claim reimbursement of the said expenditure directly from the respondents in one installment in the ratio applicable for sharing of transmission charges.

28. This order disposes of Petition No.131/2009.

Sd/-
(V.S.VERMA)
MEMBER

sd/-
(R.KRISHNAMOORTHY)
MEMBER

sd/-
(DR.PRAMOD DEO)
CHAIRPERSON

New Delhi dated the 14th September 2009

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	Bond-IX					
	Net Loan-Opening	53.60	40.20	26.80	13.40	0.00
	Repayment during the year	13.40	13.40	13.40	13.40	0.00
	Net Loan-Closing	40.20	26.80	13.40	0.00	0.00
	Average Loan	46.90	33.50	20.10	6.70	0.00
	Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
	Interest	5.75	4.10	2.46	0.82	0.00
	Rep Schedule	10 Annual instalments from 22.8.2003				
2	Bond-X					
	Net Loan-Opening	571.66	489.99	408.32	326.65	244.98
	Repayment during the year	81.67	81.67	81.67	81.67	81.67
	Net Loan-Closing	489.99	408.32	326.65	244.98	163.31
	Average Loan	530.83	449.16	367.49	285.82	204.15
	Rate of Interest	10.90%	10.90%	10.90%	10.90%	10.90%
	Interest	57.86	48.96	40.06	31.15	22.25
	Rep Schedule	12 Annual Instalments from 21.6.2004				
	Total Loan					
	Net Loan-Opening	625.26	530.19	435.12	340.05	244.98
	Repayment during the year	95.07	95.07	95.07	95.07	81.67
	Net Loan-Closing	530.19	435.12	340.05	244.98	163.31
	Average Loan	577.73	482.66	387.59	292.52	204.15
	Rate of Interest	11.0096%	10.9937%	10.9700%	10.9309%	10.9000%
	Interest	63.61	53.06	42.52	31.97	22.25