

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram:

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

Petition No. 69/2009

In the matter of

Revision of transmission tariff due to additional capital expenditure incurred during 2007-08 for 400 kV Kishenpur-Wagoora transmission line along with associated bays at Kishenpur and Wagoora sub-stations under Dulshasti combined transmission system in Northern Region.

And in the matter of

Power Grid Corporation of India Limited

....Petitioner

Vs

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited, Jaipur
2. Ajmer Vidyut Vitaran Nigam Ltd., Ajmer
3. Jaipur Vidyut Vitaran Nigam Ltd, Jaipur
4. Jodhpur Vidyut Vitaran 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., Delhi
12. BSES Rajdhani Power Ltd., New Delhi
13. North Delhi Power Ltd., New Delhi
14. Chief Engineer, Chandigarh Administration, Chandigarh
15. Uttarakhand Power Corporation Ltd, Dehradun
16. North Central Railway, Allahabad

..Respondents

The following were present:

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

**ORDER
(DATE OF HEARING: 25.6.2009)**

This petition has been filed for revision of transmission tariff on account of additional capital expenditure incurred during 2007-08 in respect of

400 kV Kishenpur-Wagoora transmission line along with associated bays at Kishenpur and Wagoora sub-stations (the transmission line) under Dulhasti Combined Transmission System (the transmission system) in Northern Region from 1.4.2007 to 31.3.2009, based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004, (hereinafter referred to as “the 2004 regulations”). The petitioner has also prayed for reimbursement of the petition filing fee and other expenditure .in connection with the filing of the petition.

2. The administrative approval and expenditure sanction for the transmission system was accorded by Government of India vide letter dated 2.7.2002 at a total capital investment of Rs. 56705 lakh, which included IDC of Rs. 14204 lakh. The transmission line was declared under commercial operation on 1.11.2006.

3. The transmission charges for the transmission line were approved by the Commission in its order dated 1.12.2008 in Petition No. 138/2007 for the period from the date of commercial operation to 31.3.2009 based on capital cost of Rs. 27291.04 lakh as on the date of commercial operation and Rs. 28131.17 lakh as on 31.3.2007, after considering additional capital expenditure of Rs. 840.13 lakh for the period 1.11.2006 to 31.3.2007. The summary of the transmission charges approved by the said order dated 1.12.2008 is extracted hereunder:

(Rs. in lakh)

	2006-07(Pro rata)	2007-08	2008-09
Depreciation	300.43	732.51	732.51
Interest on Loan	680.52	1618.05	1551.52
Return on Equity	300.01	737.67	737.67
Advance against Depreciation	0.00	26.11	359.09
Interest on Working Capital	36.75	89.85	96.50
O & M Expenses	100.80	251.26	261.62
Total	1418.51	3455.45	3738.91

4. The relevant details of the completion cost etc. of the transmission line claimed by the petitioner are as under:

(Rs. in lakh)

Capital Expenditure as on 1.4.2007	Additional Capital Expenditure during 2007-08	Capital expenditure as on 1.4.2008
28131.17 (As per order dated 1.12.2008)	1489.85	29621.02

5. Based on the above capital expenditure, the petitioner has claimed the revised transmission charges for the years 2007-08 and 2008-09 as under:

(Rs.in lakh)

	2007-08	2008-09
Depreciation	751.97	771.44
.Interest on Loan	1672.01	1659.90
Return on Equity	768.96	800.24
Advance against Depreciation	6.66	298.89
Interest on Working Capital	91.33	99.10
O & M Expenses	251.26	261.62
Total	3542.19	3891.19

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

(Rs. in lakh)

	2007-08	2008-09
Maintenance Spares	279.73	296.52
O & M expenses	20.94	21.80
Receivables	590.37	648.53
Total	891.04	966.85
Rate of Interest	10.25%	10.25%
Interest	91.33	99.10

7. None of the respondents has filed any reply .

CAPITAL COST

8. The details submitted by the petitioner in support of its claim for additional capital expenditure are given hereunder:

Year	Amount (Rs. in lakh)	Nature and details of expenditure
2007-08	Colony and office building = Rs. 23.99 lakh Transmission line = Rs. 1386.66 lakh Sub-station = Rs. 78.96 lakh PLCC = Rs. 0.24 lakh	Retention and balance payments

	Total	= Rs 1489.85 lakh	
--	--------------	--------------------------	--

9. It is found that the additional capital expenditure claimed is in respect of committed liabilities. These are part of the deferred liabilities relating to works/services which have since materialised, and are within the original scope of work. Therefore, the additional expenditure sought to be capitalised is allowed under clauses (1) and (2) of Regulation 53 of the 2004 regulations.

TOTAL CAPITAL COST

10. Based on the above, capital cost for the purpose of tariff for transmission line as on 31.3.2008 works out as under:

(Rs. in lakh)				
Capital expenditure up to 1.11.2006	Additional Capitalization during 2006-07	Capital expenditure as on 1.4.2007	Additional Capitalization during 2007-08	Capital expenditure as on 1.4.2008
27291.04	840.13	28131.17	1489.85	29621.02

DEBT- EQUITY RATIO

11. The petitioner has considered the amount of additional capitalization in the debt-equity ratio of 70:30. This has been found to be in order. Accordingly, for the purpose of tariff, equity considered for the transmission line is as under:

(Rs. in lakh)						
Equity as on 1.11.2006 (As per order 1.12.2008)	Notional additional equity during 2006-07	Equity as on 1.4.2007	Notional additional equity during 2007-08	Average equity for 2007-08	Equity as on 1.4.2008	
5017.04	252.04	5269.08	446.96	5492.56	5716.03	

RETURN ON EQUITY

12. As per clause (iii) of Regulation 56 of the 2004 regulations, return on equity shall be computed on the equity base determined in accordance with regulation 54 @ 14% per annum. Equity invested in foreign currency is to be allowed a return in the same currency and the payment on this account is made in Indian Rupees based on the exchange rate prevailing on the due date of billing.

13. Equity as given the table under para 11 above has been considered. The tariff for the years 2007-08 has been allowed on average equity. Accordingly, revised return on equity allowed each year is given as under:

Return on equity	
2007-08	2008-09
768.96	800.24

(Rs. in lakh)

INTEREST ON LOAN

14. Clause (1) of regulation 56 of the 2004 regulations *inter alia* provides that,-

(a) Interest on loan capital shall be computed loan wise on the loans arrived at in the manner indicated in regulation 54.

(b) The loan outstanding as on 1.4.2004 shall be worked out as the gross loan in accordance with Regulation 54 minus cumulative repayment as admitted by the Commission or any other authority having power to do so, up to 31.3.2004. The repayment for the period 2004-09 shall be worked out on a normative basis.

(c) The transmission licensee shall make every effort to re-finance the loan as long as it results in net benefit to the beneficiaries. The costs associated with such re-financing shall be borne by the beneficiaries.

(d) The changes to the loan terms and conditions shall be reflected from the date of such re-financing and benefit passed on to the beneficiaries.

(e) In case of dispute, any of the parties may approach the Commission with proper application. However, the beneficiaries shall not withhold any payment ordered by the Commission to the transmission licensee during pendency of any dispute relating to re-financing of loan;

(f) In case any moratorium period is availed of by the transmission licensee, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.

(g) The transmission licensee shall not make any profit on account of re-financing of loan and interest on loan;

(h) The transmission licensee may, at its discretion, swap loans having floating rate of interest with loans having fixed rate of interest, or vice versa, at its own cost and gains or losses as a result of such swapping shall accrue to the transmission licensee:

Provided that the beneficiaries shall be liable to pay interest for the loans initially contracted, whether on floating or fixed rate of interest.”

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

(a) Gross amount of loan, repayment of instalments and rate of interest as per the loan reconciliation statement submitted by the petitioner have been used to work out weighted average rate of interest on actual.

(b) The loans are on-going loans as claimed the in Petition No. 138/2007 except for Bond-XXVII which have been raised for the purpose of additional capital expenditure for the year 2007.

(c) On the basis of actual rate of interest on actual average loan, the weighted average rate of interest on loan has been worked out for various years.

(d) Tariff has been worked out considering normative loan and normative repayments. Once the normative loan is arrived at, it is considered for all purposes in the tariff. Normative repayments are worked out by the following formula:

$$\frac{\text{Actual repayment of actual loan during the year}}{\text{Opening balance of actual loan during the year}} \times \text{Opening balance of normative loan during the year}$$

(e) In case the normative repayment of loan during the year is less than the depreciation including Advance Against Deprecation during the year, it has been considered as depreciation including Advance Against Deprecation during the year has been deemed as normative repayment of loan during the year.

16. Based on above, revised year-wise interest on loan has been worked out as under:

(Rs. in lakh)		
Details	2007-08	2008-09
Gross Normative Loan-Opening	22862.09	23904.99
Cumulative Repayment up to Previous Year/date of commercial operation	510.18	1268.80
Net Loan-Opening	22351.91	22636.19
Addition due to Additional Capitalisation	1042.90	0.00
Repayment during the year	758.62	1070.32
Net Loan-Closing	22636.19	21565.87
Average Loan	22494.05	22101.03
Weighted Average Rate of Interest on Loan	7.43%	7.51%
Interest	1672.02	1659.90

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

DEPRECIATION

18. Sub-clause (a) of clause (ii) of Regulation 56 of the 2004 regulations provides for computation of depreciation in the following manner, namely:

(a) The value base for the purpose of depreciation shall be the historical cost of the asset.

(b) Depreciation shall be calculated annually based on straight line method over the useful life of the asset and at the rates prescribed in Appendix II to these regulations. The residual value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the historical cost of the asset. The historical capital cost of the asset shall include additional capitalisation on account of Foreign Exchange Rate Variation up to 31.3.2004 already allowed by the Central Government/Commission.

(c) On repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.

(d) Depreciation shall be chargeable from the first year of operation. In case of operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

19. Depreciation allowed has been worked out as below:

	(Rs. in lakh)	
	2007-08	2008-09
Gross block as on 1 st April of the year	28131.17	29621.02
Addition due to Additional Capitalisation	1489.85	0.00
Gross Block	29621.02	29621.02
Rate of Depreciation	2.6041%	2.6044%
Depreciable Value	25431.41	26101.85
Balance Useful life of the asset	-	-
Remaining Depreciable Value	25130.98	25042.80
Depreciation	751.97	771.44

ADVANCE AGAINST DEPRECIATION

20. As per sub-clause (b) of clause (ii) of Regulation 56 of the 2004 regulations, in addition to allowable depreciation, the transmission licensee is entitled to Advance Against Depreciation, computed in the manner given hereunder:

AAD = Loan repayment amount as per regulation 56 (i) subject to a ceiling of 1/10th of loan amount as per regulation 54 minus depreciation as per schedule

21. It is provided that Advance Against Depreciation shall be permitted only if the cumulative repayment up to a particular year exceeds the cumulative depreciation up to that year. It is further provided that Advance Against Depreciation in a year shall be restricted to the extent of difference between cumulative repayment and cumulative depreciation up to that year.

22. The petitioner has claimed advance Against depreciation in the following manner:

- (i) 1/10th of gross loan considered for tariff calculations
- (ii) Cumulative loan as well as repayment of notional loan considered during the year.
- (ii) Depreciation as claimed in the petition.

23. In our calculation Advance Against Depreciation has been worked as under:

- (i) 1/10th of gross loan has been worked out from the gross notional loan as per para 16 above.
- (ii) Repayment of notional loan during the year has been considered as per para 16 above.
- (iii) Depreciation as worked out as per para 19 above has been taken into account.

24. The details of Advance Against Depreciation allowed is given hereunder:

(Rs. in lakh)

	2007-08	2008-09
1/10th of Gross Loan(s)	2286.21	2390.50
Repayment of the Loan	758.62	1070.32
Minimum of the above	758.62	1070.32
Depreciation during the year	751.97	771.44
(A) Difference	6.64	298.88
Cumulative Repayment of the Loan	1268.80	2339.12
Cumulative Depreciation/ Advance against Depreciation	1052.40	1830.48
(B) Difference	216.39	508.63
Advance against Depreciation Minimum of (A) and (B)	6.64	298.88

OPERATION & MAINTENANCE EXPENSES

25. In accordance with clause (iv) of Regulation 56 the 2004 regulations, the following norms are prescribed for O & M expenses:

	Year				
	2004-05	2005-06	2006-07	2007-08	2008-09
O&M expenses (Rs in lakh per ckt-km)	0.227	0.236	0.246	0.255	0.266
O&M expenses (Rs in lakh per bay)	28.12	29.25	30.42	31.63	32.90

26. O&M expenses as taken for the tariff calculations as per order dated 1.12.2008 in Petition No. 138/2007 have been considered, since line length and number of bays remain unchanged.

INTEREST ON WORKING CAPITAL

27. The components of the working capital and the interest thereon are discussed hereunder:

(i) Maintenance spares

Regulation 56(v) (1) (b) of the 2004 regulations provides for maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation. The petitioner has claimed maintenance spares after accounting for additional capital expenditure. For the purpose of computation of maintenance spares, the historical cost is being taken as the cost on the date of commercial operation. Maintenance spares on additional capital expenditure are not being considered for the present. Therefore, the petitioner's claim in this regard is not being allowed. Accordingly, maintenance spares have been worked out on the historical cost and providing escalation from the date of commercial operation.

(ii) O & M expenses

Regulation 56(v)(1)(a) of the 2004 regulations provides for operation and maintenance expenses for one month as a component of working capital. O&M expenses as considered in the order dated 1.12.2008 in Petition No. 138/2007 have been considered.

(iii) Receivables

As per Regulation 56(v)(1)(c) of the 2004 regulations, receivables will be equivalent to two months average billing calculated on target

availability level. Accordingly, in the tariff being allowed, receivables have been worked out on the basis 2 months' transmission charges.

(iv) Rate of interest on working capital

As per Regulation 56(v) (2) of the 2004 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 1.4.2004 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 @ 10.25% based on SBI PLR as on 1.4.2006, which is in accordance with the 2004 regulations and has been allowed.

28. The necessary computations in support of revised interest on working capital, as revised, are appended herein below:

(Rs. in lakh)

	2007-08	2008-09
Maintenance Spares	279.73	296.52
O & M expenses	20.94	21.80
Receivables	590.36	648.53
Total	891.03	966.85
Rate of interest	10.25%	10.25%
Interest	91.33	99.10

TRANSMISSION CHARGES

29. The revised transmission charges being allowed for the transmission line for the years 2007-08 and 2008-09 are summarised below:

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(Rs. in lakh)

	Details of Loan	2006-07	2007-08	2008-09
1	BOND X			
	Gross Loan opening	43.00	43.00	43.00
	Cumulative Repayment upto DOCO/previous year	10.75	10.75	14.33
	Net Loan-Opening	32.25	32.25	28.67
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	3.58	3.58
	Net Loan-Closing	32.25	28.67	25.09
	Average Loan	32.25	30.46	26.88
	Rate of Interest	10.90%	10.90%	10.90%
	Interest	3.52	3.32	2.93
	Repayment Schedule	12 Annual instalments from 21.06.2004		
2	BOND XI - option- I			
	Gross Loan opening	46.00	46.00	46.00
	Cumulative Repayment upto DOCO/previous year	3.83	7.66	11.49
	Net Loan-Opening	42.17	38.34	34.51
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	3.83	3.83	3.83
	Net Loan-Closing	38.34	34.51	30.68
	Average Loan	40.26	36.43	32.60
	Rate of Interest	9.80%	9.80%	9.80%
	Interest	3.94	3.57	3.19
	Repayment Schedule	12 Annual instalments from 07.12.2005		
3	BOND XII			
	Gross Loan opening	3.00	3.00	3.00
	Cumulative Repayment upto DOCO/previous year	0.25	0.50	0.75
	Net Loan-Opening	2.75	2.50	2.25
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.25	0.25	0.25
	Net Loan-Closing	2.50	2.25	2.00
	Average Loan	2.63	2.38	2.13
	Rate of Interest	9.70%	9.70%	9.70%
	Interest	0.25	0.23	0.21
	Repayment Schedule	12 Annual instalments from 28.03.2006		
4	BOND XIII - option- I			
	Gross Loan opening	2247.00	2247.00	2247.00
	Cumulative Repayment upto DOCO/previous year	187.25	187.25	374.50
	Net Loan-Opening	2059.75	2059.75	1872.50
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	187.25	187.25
	Net Loan-Closing	2059.75	1872.50	1685.25
	Average Loan	2059.75	1966.13	1778.88
	Rate of Interest	8.63%	8.63%	8.63%

	Interest	177.76	169.68	153.52
	Repayment Schedule	12 Annual instalments from 31.07.2006		
5	BOND XV			
	Gross Loan opening	6700.00	6700.00	6700.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	558.33
	Net Loan-Opening	6700.00	6700.00	6141.67
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	558.33	558.33
	Net Loan-Closing	6700.00	6141.67	5583.34
	Average Loan	6700.00	6420.84	5862.51
	Rate of Interest	6.68%	6.68%	6.68%
	Interest	447.56	428.91	391.62
	Repayment Schedule	12 Annual instalments from 23-02-2008		
6	BOND XVI			
	Gross Loan opening	3323.00	3323.00	3323.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	3323.00	3323.00	3323.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	332.30
	Net Loan-Closing	3323.00	3323.00	2990.70
	Average Loan	3323.00	3323.00	3156.85
	Rate of Interest	7.10%	7.10%	7.10%
	Interest	235.93	235.93	224.14
	Repayment Schedule	10 Annual instalments from 18-02-2009		
7	BOND XVII			
	Gross Loan opening	7326.00	7326.00	7326.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	7326.00	7326.00	7326.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	7326.00	7326.00	7326.00
	Average Loan	7326.00	7326.00	7326.00
	Rate of Interest	7.39%	7.39%	7.39%
	Interest	541.39	541.39	541.39
	Repayment Schedule	10 Annual Instalments from 22.09.2009		
8	BOND XVIII			
	Gross Loan opening	2540.00	2540.00	2540.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	2540.00	2540.00	2540.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	2540.00	2540.00	2540.00
	Average Loan	2540.00	2540.00	2540.00
	Rate of Interest	8.15%	8.15%	8.15%
	Interest	207.01	207.01	207.01

	Repayment Schedule	12 annual instalments from 09-03-2010		
9	OBC			
	Gross Loan opening	21.00	21.00	21.00
	Cumulative Repayment upto DOCO/previous year	3.50	5.25	7.00
	Net Loan-Opening	17.50	15.75	14.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	1.75	1.75	1.75
	Net Loan-Closing	15.75	14.00	12.25
	Average Loan	16.63	14.88	13.13
	Rate of Interest	9.10%	9.10%	9.10%
	Interest	1.51	1.35	1.19
	Repayment Schedule	12 Annual instalments from 22-03-2005		
10	PNB - II			
	Gross Loan opening	25.00	25.00	25.00
	Cumulative Repayment upto DOCO/previous year	4.17	6.25	8.33
	Net Loan-Opening	20.83	18.75	16.67
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	2.08	2.08	2.08
	Net Loan-Closing	18.75	16.67	14.59
	Average Loan	19.79	17.71	15.63
	Rate of Interest	9.35%	9.35%	9.35%
	Interest	1.85	1.66	1.46
	Repayment Schedule	12 Annual instalments from 08-03-2005		
11	BOND XXII (ADDCAP FOR 2006-07)			
	Gross Loan opening	0.00	250.00	250.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	250.00	250.00
	Additions during the year	250.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	250.00	250.00	250.00
	Average Loan	125.00	250.00	250.00
	Rate of Interest	8.68%	8.68%	8.68%
	Interest	10.85	21.70	21.70
	Repayment Schedule	12 Annual Instalments from 24.7.2010		
12	BOND XXVII (ADDCAP FOR 2007-08)			
	Gross Loan opening	0.00	0.00	1489.85
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.00	1489.85
	Additions during the year	0.00	1489.85	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	0.00	1489.85	1489.85
	Average Loan	0.00	744.93	1489.85
	Rate of Interest	9.47%	9.47%	9.47%
	Interest	0.00	70.54	141.09
	Repayment Schedule	12 Annual Instalments from 31.3.2012		
	Gross Loan opening	22274.00	22524.00	24013.85

	Cumulative Repayment upto DOCO/previous year	209.75	217.66	974.73
	Net Loan-Opening	22064.25	22306.34	23039.12
	Additions during the year	250.00	1489.85	0.00
	Repayment during the year	7.91	757.07	1089.37
	Net Loan-Closing	22306.34	23039.12	21949.75
	Average Loan	22185.30	22672.73	22494.44
	Rate of Interest	7.3543%	7.4331%	7.5105%
	Interest	1631.58	1685.30	1689.44
