

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram:

1. **Shri K.N.Sinha. Member**
2. **Shri Bhanu Bhushan, Member**
3. **Shri A.H. Jung, Member**
4. **Shri Rakesh Nath, Member (EO)**

Petition No.133/2005

In the matter of

Approval of transmission charges for strengthening of 220 kV transmission system under System Improvement Scheme in Uttar Pradesh in Northern Region for the period from 1.4.2004 to 31.3.2009.

And in the matter of

Power Grid Corporation of India Limited

Vs

Uttar Pradesh Power Corporation Limited, Lucknow

..Petitioner

Respondent

The following were present:

1. Shri U.K. Tyagi, PGCIL
2. Shri C. Kannan, PGCIL
3. Shri. M.M. Mondal, PGCIL
4. Shri. S. Singh PGCIL
5. Shri. S. P. Srivastav UPPCL

**ORDER
(DATE OF HEARING: 21.3.2006)**

The petition has been filed for approval of transmission charges for strengthening of 220 kV transmission system under System Improvement Scheme in Uttar Pradesh (the scheme) in Northern Region for the period from 1.4.2004 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 in its affidavit dated 3.2.2006 has prayed for reimbursement Rs. 56,297/- from the beneficiary for the expenditure on account of publishing of notices in newspapers.

2. Investment approval for the scheme was accorded by the Board of Directors of the petitioner company vide Memo dated 14.1.2002 at an estimated cost of Rs. 2257 lakh including IDC of Rs. 107 lakh. Date of commercial operation of the assets covered in the instant petition and the line length are as under:

Asset	Date of Commercial Operation	Line Length Ckt kms (For O&M)
220 kV Allahabad-Rewa Road D/C transmission line Ckt- I	1.1.2003	2.96
220 kV Allahabad-Rewa Road D/C transmission line Ckt- II	1.8.2003	2.96
LILO of 220 kV Modipuram-Nara transmission line	1.4.2003	4.83
LILO of 220 kV Modipuram-Simbholi transmission line	1.7.2003	18.72
Total		29.47

3. The annual transmission charges for the period up to 31.3.2004 in respect of the above mentioned assets was approved by the Commission in its order dated 2.9.2005 in Petition No.193/2004. Gross block on the date of commercial operation of the respective asset as approved by the Commission in the above order is as under:

Asset	Gross Block on date of commercial operation (Rs in lakh)
220 kV Allahabad-Rewa Road D/C transmission line Ckt- I	110.07
220 kV Allahabad-Rewa Road D/C transmission line Ckt- II	49.65
LILO of 220 kV Modipuram-Nara transmission line	100.31
LILO of 220 kV Modipuram-Simbholi transmission line	264.53
Total	524.56

4. The transmission charges claimed by the petitioner under various heads are given in Annexure I of this order. The summary of these transmission charges claimed is given hereunder:

(Rs.in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
220 kV Allahabad-Rewa Road D/C transmission line Ckt- I	15.08	14.99	14.60	15.67	17.64
220 kV Allahabad-Rewa Road D/C transmission line Ckt- II	7.34	7.47	7.32	7.72	8.49
LILO of 220 kV Modipuram-Nara transmission line	15.52	15.49	15.07	17.53	17.60
LILO of 220 kV Modipuram-Simbholi transmission line	43.16	42.86	43.22	49.47	48.15
Total	81.10	80.81	80.21	90.39	91.88

5. The details submitted by the petitioner in support of its claim for interest on working capital are given in Annexure II to this order. The summary of the information is given hereunder:

	(Rs.in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
220 kV Allahabad-Rewa Road D/C transmission line Ckt- I	0.38	0.39	0.39	0.42	0.46
220 kV Allahabad-Rewa Road D/C transmission line Ckt- II	0.18	0.19	0.19	0.20	0.22
LILO of 220 kV Modipuram-Nara transmission line	0.39	0.40	0.40	0.45	0.46
LILO of 220 kV Modipuram-Simbholi transmission line	1.08	1.09	1.12	1.25	1.25
Total	2.03	2.07	2.1	2.32	2.39

6. The respondent, viz. UPPCL has filed reply to the petition. In response to the public notices published by the petitioner in accordance with the procedure specified by the Commission, no comments or objections have been received from the general public.

CAPITAL COST

7. As per clause (2) of Regulation 52 of the 2004 regulations in case of the projects existing as on 31.3.2004, the project cost admitted by the Commission for

determination of tariff prior to 1.4.2004 shall form the basis for determination of tariff.

8. The petitioner has claimed the capital expenditure admitted by the Commission in the order dated 2.9.2005 ibid together with expenditure incurred on some of the elements after the date of commercial operation up to 31.3.2004. The petitioner has not claimed additional capitalization on account of FERV as there are no foreign loans. Accordingly, the capital expenditure claimed by the petitioner for tariff purpose are given hereunder:

Name of the Element	(Rs. in lakh)			Total
	Admitted capital cost as per CERC order dated 2.9.2005 for block 2001-04	Additional Capital Expenditure upto 31.3.2004	Additional Capital Expenditure from 1.4.2004 to 31.3.2005	
220 kV Allahabad-Rewa Road D/C transmission line Ckt- I	110.07	0.00	0.00	110.07
220 kV Allahabad-Rewa Road D/C transmission line Ckt- II	49.65	0.00	0.81	50.46
LILO of 220 kV Modipuram-Nara transmission line	100.31	5.75	1.07	107.13
LILO of 220 kV Modipuram-Simbholi transmission line	264.53	18.03	1.05	283.61
Total	524.56	23.78	2.93	551.27

9. The petitioner has submitted that the additional capital expenditure incurred as indicated at para 8 above is in respect of the works which are within the scope of approved capital cost and has further submitted that the additional capital expenditure incurred up to 2004-05 may be admitted/approved. The petitioner has prayed that the tariff for the asset may be allowed after adding additional capital expenditure to the gross block as on the date of commercial operation as already admitted by the Commission, so as to arrive at the gross block as on 1.4.2004 and 1.4.2005.

10. The additional capital expenditure claimed is within the scope of approved project cost and hence found to be admissible. However, additional capital expenditure incurred after 31.3.2004 is not being included in the gross block for 2004-09 because the petitioner has not submitted the loan reconciliation statement for the year 2004-05. The petitioner is at liberty to seek revision of tariff after finalization of loan reconciliation statement for 2004-05. Accordingly, gross block as summarised hereunder has been considered for the purpose of tariff for each of the element:

(Rs in lakh)

Name of the Element	Total
220 kV Allahabad-Rewa Road D/C transmission line Ckt- I	110.07
220 kV Allahabad-Rewa Road D/C transmission line Ckt- II	49.65
LILO of 220 kV Modipuram-Nara transmission line	106.06
LILO of 220 kV Modipuram-Simholi transmission line	282.56
Total	548.34

DEBT- EQUITY RATIO

11. Regulation 54 of the 2004 regulations *inter alia* provides that,-

- (1) In case of the existing project, debt-equity ratio Considered by the Commission for fixation of tariff for the period ending 31.3.2004 shall be considered for determination of tariff.
- (2) In case of the transmission system for which investment approval was accorded prior to 1.4.2004 and which is likely to be declared under commercial operation during the period 1.4.2004 to 31.3.2009, debt-equity in the ratio of 70:30 shall be considered:

Provided that where deployment of equity is less than 30%, the actual equity deployed shall be considered for the purpose of determination of tariff.

Provided further that the Commission may in appropriate case consider equity higher than 30% for the purpose of determination of tariff, where the transmission licensee is able to establish to the satisfaction of the Commission that deployment of equity more than 30% was in the interest of general public;

- (3) In case of the transmission system for which investment approval is accorded on or after 1.4.2004, debt-equity in the ratio of 70:30 shall be considered for the purpose of determination of tariff:

Provided that where deployment of equity is less than 30%, the actual equity deployed shall be considered for the purpose of determination of tariff.

- (4) The debt and equity amount arrived at in accordance with above sub-clause (1), (2) or (3), as the case may be, shall be used for calculation of interest on loan, return on equity, advance against depreciation and foreign exchange rate variation.”

12. The petitioner has claimed tariff based on debt-equity ratio as considered by the Commission in its order dated 2.9.2005 *ibid* and the entire additional capital expenditure has been considered to have been financed out of equity. Debt-equity ratio based on expenditure as per order dated 2.9.2005 and debt-equity ratio on additional capital expenditure claimed by the petitioner for different

elements for the purpose of determination of tariff in the present petition is indicated below:

Name of the Element	On actual expenditure upto Date of commercial operation as per previous Tariff setting	On Additional Capital expenditure now being claimed
220 kV Allahabad-Rewa Road D/C transmission line Ckt- I	76.32:23.68	0.00:100.00
220 kV Allahabad-Rewa Road D/C transmission line Ckt- II	70.49:29.51	0.00:100.00
LILO of 220 kV Modipuram-Nara transmission line	75.77:24.23	0.00:100.00
LILO of 220 kV Modipuram-Simbholi transmission line	73.72:26.28	0.00:100.00

13. In the instant case, debt and equity allowed to finance the capital expenditure in previous tariff order has been considered in the calculation. ACE in respect of the elements comprising LILO of 220 kV Modipuram-Nara transmission line and LILO of 220 kV Modipuram-Simbholi transmission line for the year 2003-04 have been segregated in such a way, so as to make overall debt-equity ratio close to approved debt-equity ratio of 70:30. The adjusted debt-equity ratio after suitably segregating the additional capital expenditure and quantum of equity in respect of each of the elements is given hereunder:

(Rs. In lakh)

Name of the Element	Debt-Equity Ratio as per previous Tariff setting	Adjusted overall Debt-Equity Ratio	Total Notional Equity
220 kV Allahabad-Rewa Road D/C transmission line Ckt- I	76.32:23.68	76.32:23.68	26.07
220 kV Allahabad-Rewa Road D/C transmission line Ckt- II	70.49:29.51	70.49:29.51	14.65
LILO of 220 kV Modipuram-Nara transmission line	75.77:24.23	71.66:28.34	30.06
LILO of 220 kV Modipuram-Simbholi transmission line	73.72:2.23	70.00:30.00	84.77
Total			155.55

RETURN ON EQUITY

14. 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.

15. The petitioner's entitlement to return on equity has been worked out as hereunder:

Name of the element	Equity	Return on equity
220 kV Allahabad-Rewa Road D/C transmission line Ckt- I	26.07	3.65
220 kV Allahabad-Rewa Road D/C transmission line Ckt- II	14.65	2.05
LILO of 220 kV Modipuram-Nara transmission line	30.06	4.21
LILO of 220 kV Modipuram-Simbholi transmission line	84.77	11.87
Total	155.55	21.78

INTEREST ON LOAN

16. Clause (i) 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 as per regulation 54 minus cumulative repayment as admitted by the Commission for the period up to 31.3.2004. The repayment for the period 2004-09 shall be worked out accordingly on normative basis.

(c) The transmission licensee shall make every effort to swap the loan as long as it results in net benefit to the long-term transmission customers. The costs associated with such swapping shall be borne by the long-term transmission customers.

(d) The changes to the loan terms and conditions shall be reflected from the date of such swapping and benefits passed on to the beneficiaries.

(e) In case of any dispute, any of the parties may approach the Commission with proper application. However, long term transmission customers shall not withhold any payment as ordered by the Commission to the transmission licensee during pendency of any dispute relating to swapping 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 swapping of loan and interest on loan.

17. The petitioner has claimed interest on loan in the following manner:

(i) Gross loans, cumulative loan repayment upto previous year as admitted by the Commission in order dated 2.9.2005 have been taken as the opening balance as on 1.4.2004.

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

(iii) Gross loans as admitted by the Commission in the order dated 2.9.2005 has been considered as notional loan and the weighted average rate of interest on loan for respective years as per above has been multiplied to arrive at interest on loan.

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

(i) Details of net outstanding loan as on 31.3.2004, repayment schedule for the period 2004-09, rate of interest as on 1.4.2004, exchange rate as on 31.3.2004 etc. have been taken from the loan allocation statement submitted by the petitioner for working out weighted average rate of interest.

(ii) Gross notional loan and cumulative repayment up to 31.3.2004 have been taken from the order dated 2.9.2005.

(iii) Notional loan arising out of additional capitalization during the years 2001-04 has been considered as per para 15 above.

(iv) Tariff is 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 repayment is worked out by the following formula:

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

(v) Moratorium in repayment of loan is considered with reference to normative loan and if the normative repayment of loan during the year is less than the depreciation including AAD during the year,

then depreciation including AAD during the year is deemed as normative repayment of loan during the year.

- (vi) Weighted average rate of interest on actual loan worked out as above is applied on the notional average loan during the year to arrive at the interest on loan.
- (vii) Loans from OBC and Punjab National Bank – II carry the floating rates of interest and rates of interest as applicable as on 1.4.2004 have been considered in the calculation, subject to mutual settlement between the parties in case of any change/resetting of the interest rate during the tariff period.

19. Based on the above, the year-wise details of interest worked out in respect of the four elements is given in Annexure III of this order. A summary of the details is given hereunder:

	(Rs. In lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
220 kV Allahabad-Rewa Road D/C transmission line Ckt- I	7.42	7.16	6.72	6.12	5.51
220 kV Allahabad-Rewa Road D/C transmission line Ckt- II	3.08	2.96	2.78	0.80	2.28
LILO of 220 kV Modipuram-Nara transmission line	6.89	6.60	6.15	5.58	5.01
LILO of 220 kV Modipuram-Simbholi transmission line	18.19	17.32	16.04	14.55	13.05
Total	35.58	34.04	31.69	27.05	25.85

DEPRECIATION

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

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

(ii) 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.

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

(iv) 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.

21. The calculations in support of depreciation allowed are appended as per Annexure IV to the order. The summary as under:

	2004-05	2005-06	2006-07	2007-08	(Rs. in lakh) 2008-09
220 kV Allahabad-Rewa Road D/C transmission line Ckt- I	2.83	2.83	2.83	2.83	2.83
220 kV Allahabad-Rewa Road D/C transmission line Ckt- II	1.28	1.28	1.28	1.28	1.28
LILO of 220 kV Modipuram-Nara transmission line	2.73	2.73	2.73	2.73	2.73
LILO of 220 kV Modipuram-Simholi transmission line	7.26	7.26	7.26	7.26	7.26
Total	14.10	14.10	14.10	14.10	14.10

ADVANCE AGAINST DEPRECIATION

22. 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

23. 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.

24. In addition to Cumulative depreciation up to 2003-04 (excluding Advance Against Depreciation) as per last tariff setting, depreciation on FERV for the period 2001-04 has been added to arrive at total cumulative depreciation amount as on 31.3.2004.

25. In our calculation, the Advance Against Depreciation has been worked out as under:

- (i) 1/10th of gross loan is worked out from the gross notional loan.
- (ii) Repayment of notional loan during the year has been considered.
- (iii) Depreciation as worked out above.
- (iv) Cumulative depreciation upto 31.3.2004 has been worked out considering cumulative depreciation/AAD upto 2003-04 as per the order dated 2.9.2005.

- (v) Cumulative depreciation/Advance Against Depreciation upto preceding year along with the depreciation of the current year has been considered for working out the AAD.

26. The details of Advance Against Depreciation considered for each element are given in Annexure V to this order. The summary of the details is hereunder:

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
220 kV Allahabad-Rewa Road D/C transmission line Ckt- I	0.00	0.00	0.36	3.90	3.90
220 kV Allahabad-Rewa Road D/C transmission line Ckt- II	0.00	0.00	0.65	1.50	1.50
LILO of 220 kV Modipuram-Nara transmission line	0.00	0.00	1.51	3.42	3.42
LILO of 220 kV Modipuram-Simbholi transmission line	0.00	0.00	7.17	8.72	8.72
Total	0.0	0.0	9.69	17.54	17.54

OPERATION & MAINTENANCE EXPENSES

27. 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

28. The elements being considered do not involve any bay. Accordingly, the O & M expenses for the four elements in the instant petition are as under:

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
220 kV Allahabad-Rewa Road D/C transmission line Ckt- I					
Allowable O&M for 2.96 Ckt Km line length	0.67	0.70	0.73	0.75	0.79
220 kV Allahabad-Rewa Road D/C transmission line Ckt- II					
Allowable O&M for 2.96 Ckt Km line length	0.67	0.70	0.73	0.75	0.79

LILO of 220 kV Modipuram-Nara transmission line					
Allowable O&M for 4.82 Ckt Km line length	1.10	1.14	1.19	1.23	1.29
LILO of 220 kV Modipuram-Simbholi transmission line					
Allowable O&M for 18.72 Ckt Km line length	4.25	4.42	4.60	4.77	4.98
Total	6.69	6.96	7.25	7.50	7.85

29. The petitioner has submitted that the wage revision of its employees is due with effect from 1.1.2007. Therefore, according to the petitioner, O & M expenses should be subject to revision on account of revision of employee cost from that date. In the alternative, it has been prayed that the increase in employee cost due to wage revision be allowed as per actuals for extra cost to be incurred consequent to wage revision. We are not expressing any view, as this issue does not arise for consideration at this stage. The petitioner may approach for a relief in this regard at an appropriate stage in accordance with law.

INTEREST ON WORKING CAPITAL

30. 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. In the present case, element wise capital expenditure on the date of commercial operation has been considered as the historical cost and maintenance spares have been worked out accordingly by escalating 1% of the historical cost @ 6% per annum.

(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. 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.

(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. The petitioner has claimed the receivables on the basis of 2 months' transmission charges claimed in the petition. In the tariff being allowed, receivables have been worked out on the basis of 2 months' transmission charges.

(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 1.4.2004, which is in accordance with the 2004 regulations and has been allowed.

31. The necessary computations in support of interest on working capital are appended as annexure VI to this order. Summary of the details is given herein below.

	(Rs. in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
220 kV Allahabad-Rewa Road D/C transmission line Ckt- I	0.38	0.39	0.39	0.45	0.45
220 kV Allahabad-Rewa Road D/C transmission line Ckt- II	0.18	0.18	0.20	0.18	0.21
LILO of 220 kV Modipuram-Nara transmission line	0.38	0.38	0.41	0.44	0.44
LILO of 220 kV Modipuram-Simbholi transmission line	1.05	1.05	1.18	1.20	1.20
Total	1.99	2.0	2.18	2.27	2.30

TRANSMISSION CHARGES

32. Summary sheets showing basic details of capital cost and other related aspects in respect of the four elements under consideration in this petition are annexed to this order. The transmission charges being allowed in respect of the four elements are summarised below:

	(Rs. in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	14.10	14.10	14.10	14.10	14.10
Interest on Loan	35.58	34.04	31.69	27.05	25.85
Return on Equity	21.78	21.78	21.78	21.78	21.78
Advance Against Depreciation	0.00	0.00	9.69	17.54	17.54
Interest on Working Capital	1.99	2.00	2.18	2.27	2.30
O&M Expenses	6.69	6.96	7.25	7.50	7.85
Total	80.14	78.88	86.69	90.24	89.42

33. 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 2004 regulations.

34. The petitioner by an affidavit dated 13.2.2006 has sought approval for the reimbursement of expenditure of Rs. 56,297/- incurred on publication of notices in

the newspapers. The petitioner shall claim reimbursement of the said expenditure directly from the respondents in one instalment in the ratio applicable for sharing of transmission charges. A final view on reimbursement of filing fee is yet to be taken by the Commission for which views of the stakeholder have been called for. The view taken on consideration of the comments received shall apply in the present case as regards reimbursement of filing fee.

Impact of additional capitalization for the years 2001-04

35. In the petitions filed by NTPC for approval of revised fixed charges for additional capitalization for the period 1.4.2001 to 31.3.2004, the Commission has decided that additional capital expenditure be added to the gross block as on 1.4.2001 to arrive at gross block as on 1.4.2004 for the purpose of fixation of tariff for the period 2004-05 to 2008-09. The Commission has further ordered that NTPC would be entitled to earn return on equity @ 16% on equity portion of additional capitalization approved and interest on loan at the rate as applicable during 2001-02 to 2003-04. The return on equity and interest on loan are payable on additional capitalization from 1st April of the financial year following the financial year to which additional capital expenditure relates. Though the entire amount of additional capitalization of Rs. 156.12 lakh allowed for the year 2003-04 has been considered as equity, this does not have any impact on the return on equity for that year.

36. This order disposes of Petition No.133/2005.

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**(RAKESH NATH)
MEMBER**

**(A.H. JUNG)
MEMBER**

**(BHANU BHUSHAN)
MEMBER**

**(K.N.SINHA)
MEMBER**

New Delhi dated the 9th May 2006

Summary Sheet			
Name of the Company:		PGCIL	
Name of the Element:		220 kV Allahabad-Rewa Road D/C transmission line Ckt- I	
Effective DOCO:		1.1.2003	
Petition No.:		133/2005	
Tarrif setting Period:		2004-09	
(Rs.in lakh)			
1	Capital Cost of the Project		110.07
2	Admitted Capital Cost as on 1.4.2004 for Calculation of Debt and Equity		110.07
3	Additional Capitalisation(works)		0.00
	2002-03		0.00
	2003-04		0.00
	Total		0.00
4	Additional Capitalisation(FERV)		0.00
	2001-02		
	2002-03		0.00
	2003-04		0.00
	Total		0.00
5	Total Capital Cost as on 1.4.2004(2+3+4)		110.07
6	Means of Finance¹ :		
	Debt	76.32%	84.00
	Equity	23.68%	26.07
	Total	100.00%	110.07
7	Gross Loan as on 1.4.2004		84.00
8	Cumulative Repayment upto 31.3.2009 :		25.84
	Repaid upto 31.3.2004		0.00
	1.4.2004 to 31.3.2009		25.84
	Total		25.84
9	Balance Loan to be repaid beyond 31.3.2009 :		58.16
10	Depreciation recovered upto 31.3.2009 :		25.84
		Dep	AAD
	Recovered upto 31.3.2004	3.54	0.00
	1.4.2004 to 31.3.2009	14.14	8.16
	Total		25.84
11	Balance Depreciation to be recovered beyond 31.3.2009 :		73.22
	Capital cost for the purpose of Depreciation		110.07
	ACE + FERV		0.00
	Capital cost as 1.4.2004		110.07
	Less: Land Cost		0.00
			110.07
	90% of Capital Cost as above		99.06
	Cum. Depreciation to be recovered upto 31.3.2009		25.84
	Balance Depreciation to be recovered beyond 31.3.2009		73.22

Summary Sheet			
Name of the Company:		PGCIL	
Name of the Element:		220 kV Allahabad-Rewa Road D/C transmission line Ckt- I I	
Effective DOCO:		1.8.2003	
Petition No.:		133/2005	
Tarrif setting Period:		2004-09	
(Rs.in lakh)			
1	Capital Cost of the Project		49.65
2	Admitted Capital Cost as on 1.4.2004 for Calculation of Debt and Equity		49.65
3	Additional Capitalisation(works)		0.00
	2003-04		0.00
	Total		0.00
4	Additional Capitalisation(FERV)		0.00
	2003-04		0.00
	Total		0.00
5	Total Capital Cost as on 1.4.2004(2+3+4)		49.65
6	Means of Finance¹ :		
	Debt	70.49%	35.00
	Equity	29.51%	14.65
	Total	100.00%	49.65
7	Gross Loan as on 1.4.2004		35.00
8	Cumulative Repayment upto 31.3.2009 :		10.88
	Repaid upto 31.3.2004		0.00
	From 1.4.2004 to 31.3.2009		10.88
	Total		10.88
9	Balance Loan to be repaid beyond 31.3.2009 :		24.12
10	Depreciation recovered upto 31.03.2009 :		10.88
		Dep	AAD
	Recovered upto 31.3.2004	0.85	0.00
	1.4.2004 to 31.3.2009	6.38	3.65
	Total		10.88
11	Balance Depreciation to be recovered beyond 31.3.2009 :		33.80
	Capital cost for the purpose of Depreciation		49.65
	ACE + FERV		0.00
	Capital cost as 1.4.2004		49.65
	Less: Land Cost		0.00
			49.65
	90% of Capital Cost as above		44.69
	Cum. Depreciation to be recovered upto 31.3.2009		10.88
	Balance Depreciation to be recovered beyond 31.3.2009		33.80

Summary Sheet			
Name of the Company:		PGCIL	
Name of the Element:		LILO of 220 kV Modipuram-Nara transmission line	
Effective DOCO:		1.4.2003	
Petition No.:		133/2005	
Tarrif setting Period:		2004-09	
(Rs.in lakh)			
1	Capital Cost of the Project		100.31
2	Admitted Capital Cost as on 1.4.2004 for Calculation of Debt and Equity		100.31
3	Additional Capitalisation(works)		5.75
	2003-04		5.75
	Total		5.75
4	Additional Capitalisation(FERV)		0.00
	2003-04		0.00
	Total		0.00
5	Total Capital Cost as on 1.4.2004(2+3+4)		106.06
6	Means of Finance¹ :		
	Debt	71.66%	76.00
	Equity	28.34%	30.06
	Total	100.00%	106.06
7	Gross Loan as on 1.4.2004		76.00
8	Cumulative Repayment upto 31.3.2009 :		24.56
	Repaid upto 31.03.2004		0.00
	1.4.2004 to 31.3.2009		24.56
	Total		24.56
9	Balance Loan to be repaid beyond 31.3.2009 :		51.44
10	Depreciation recovered upto 31.3.2009 :		24.56
		Dep	AAD
	Recovered upto 31.3.2004	2.58	0.00
	1.4.2004 to 31.3.2009	13.63	8.35
	Total		24.56
11	Balance Depreciation to be recovered beyond 31.03.2009 :		70.89
	Capital cost for the purpose of Depreciation		100.31
	ACE + FERV		5.75
	Capital cost as 1.4.2004		106.06
	Less: Land Cost		0.00
			106.06
	90% of Capital Cost as above		95.45
	Cum. Depreciation to be recovered upto 31.3.2009		24.56
	Balance Depreciation to be recovered beyond 31.3.2009		70.89

Summary Sheet			
Name of the Company:	PGCIL		
Name of the Element:	LILO of 220 kV Modipuram-Simbholi transmission line		
Effective DOCO:	1.7.2003		
Petition No.:	133/2005		
Tarrif setting Period:	2004-09		
			(Rs.in lakh)
1 Capital Cost of the Project			264.53
2 Admitted Capital Cost as on 01.04.2004 for Calculation of Debt and Equity			264.53
3 Additional Capitalisation(works)			18.03
2003-04			18.03
Total			18.03
4 Additional Capitalisation(FERV)			0.00
For the year 2001-02			
For the year 2002-03			
For the year 2003-04			0.00
Total			0.00
5 Total Capital Cost as on 1.4.2004(2+3+4)			282.56
6 Means of Finance¹ :			
Debt	70.00%		197.79
Equity	30.00%		84.77
Total	100.00%		282.56
7 Gross Loan as on 1.4.2004			197.79
8 Cumulative Repayment upto 31.3.2009 :			66.02
Repaid upto 31.03.2004			0.00
1.4.2004 to 31.03.2009			66.02
Total			66.02
9 Balance Loan to be repaid beyond 31.3.2009 :			131.77
10 Depreciation recovered upto 31.03.2009 :			66.02
	Dep	AAD	Total
Recovered upto 31.3.2004	5.10	0.00	5.10
1.4.2004 to 31.3.2009	36.31	24.61	60.92
Total			66.02
11 Balance Depreciation to be recovered beyond 31.3.2009 :			188.29
Capital cost for the purpose of Depreciation			264.53
ACE + FERV			18.03
Capital cost as 1.4.2004			282.56
Less: Land Cost			0.00
			282.56
90% of Capital Cost as above			254.30
Cum. Depreciation to be recovered upto 31.3.2009			66.02
Balance Depreciation to be recovered beyond 31.3.2009			188.29

Transmission charges claimed by the petitioner

Annexure I

220 kV Allahabad-Rewa Road D/C transmission line Ckt- I					
	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	2.83	2.83	2.83	2.83	2.83
Interest on Loan	7.54	7.42	7.00	6.37	5.74
Return on Equity	3.65	3.65	3.65	3.65	3.65
Advance against Depreciation	0.00	0.00	0.00	1.64	4.17
Interest on Working Capital	0.38	0.39	0.39	0.42	0.46
O & M Expenses	0.67	0.70	0.73	0.75	0.79
Total	15.08	14.99	14.60	15.67	17.64
220 kV Allahabad-Rewa Road D/C transmission line Ckt- II					
	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	1.30	1.32	1.32	1.32	1.32
Interest on Loan	3.08	3.09	2.91	2.65	2.40
Return on Equity	2.11	2.16	2.16	2.16	2.16
Advance against Depreciation	0.00	0.00	0.00	0.63	1.59
Interest on Working Capital	0.18	0.19	0.19	0.20	0.22
O & M Expenses	0.67	0.70	0.73	0.75	0.79
Total	7.34	7.47	7.32	7.72	8.49
LILO of 220 kV Modipuram-Nara transmission line					
	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	2.76	2.79	2.79	2.79	2.79
Interest on Loan	6.99	6.80	6.34	5.74	5.16
Return on Equity	4.28	4.36	4.36	4.36	4.36
Advance against Depreciation	0.00	0.00	0.00	2.96	3.54
Interest on Working Capital	0.39	0.40	0.40	0.45	0.46
O & M Expenses	1.10	1.14	1.19	1.23	1.29
Total	15.52	15.49	15.07	17.53	17.60
LILO of 220 kV Modipuram-Simbholi transmission line					
	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	7.29	7.32	7.32	7.32	7.32
Interest on Loan	18.21	17.62	16.31	14.79	13.27
Return on Equity	12.33	12.41	12.41	12.41	12.41
Advance against Depreciation	0.00	0.00	1.46	8.93	8.93
Interest on Working Capital	1.08	1.09	1.12	1.25	1.25
O & M Expenses	4.25	4.42	4.60	4.77	4.98
Total	43.16	42.86	43.22	49.47	48.15

Details of interest on working capital claimed by the petitioner

Annexure II

220 kV Allahabad-Rewa Road D/C transmission line Ckt- I					
	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance Spares	1.18	1.26	1.33	1.41	1.50
O & M expenses	0.06	0.06	0.06	0.06	0.07
Receivables	2.51	2.50	2.43	2.61	2.94
Total	3.75	3.81	3.82	4.08	4.50
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	0.38	0.39	0.39	0.42	0.46
220 kV Allahabad-Rewa Road D/C transmission line Ckt- II					
	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance Spares	0.52	0.56	0.59	0.62	0.66
O & M expenses	0.06	0.06	0.06	0.06	0.07
Receivables	1.22	1.24	1.22	1.29	1.41
Total	1.80	1.86	1.87	1.97	2.14
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	0.18	0.19	0.19	0.20	0.22
LILO of 220 kV Modipuram-Nara transmission line					
	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance Spares	1.13	1.20	1.27	1.35	1.13
O & M expenses	0.09	0.10	0.10	0.10	0.09
Receivables	2.59	2.58	2.51	2.92	2.59
Total	3.81	3.88	3.88	4.37	3.81
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	0.39	0.40	0.40	0.45	0.46
LILO of 220 kV Modipuram-Simbholi transmission line					
	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance Spares	2.96	3.14	3.33	3.53	3.74
O & M expenses	0.35	0.37	0.38	0.40	0.41
Receivables	7.19	7.14	7.20	8.24	8.03
Total	10.50	10.65	10.91	12.17	12.18
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	1.08	1.09	1.12	1.25	1.25

Details of Interest on Loan

Annexure III

220 kV Allahabad-Rewa Road D/C transmission line Ckt- I						
		2004-05	2005-06	2006-07	2007-08	2008-09
Gross Loan as per last Order	84.00					
Addition due to Additional Capitalisation	0.00					
Addition due to FERV	0.00					
Gross Normative Loan	84.00	84.00	84.00	84.00	84.00	84.00
Cumulative Repayment upto Previous Year		0.00	2.83	5.66	12.39	19.12
Net Loan-Opening		84.00	81.17	78.34	71.61	64.88
Repayment during the year		2.83	2.83	6.73	6.73	6.73
Net Loan-Closing		81.17	78.34	71.61	64.88	58.16
Average Loan		82.59	79.76	74.98	68.25	61.52
Weighted Average Rate of Interest on Loan		8.9883%	8.9774%	8.9659%	8.9637%	8.9609%
Interest		7.42	7.16	6.72	6.12	5.51
220 kV Allahabad-Rewa Road D/C transmission line Ckt- II						
		2004-05	2005-06	2006-07	2007-08	2008-09
Gross Loan as per last Order	35.00					
Addition due to Additional Capitalisation	0.00					
Addition due to FERV	0.00					
Gross Normative Loan	35.00	35.00	35.00	35.00	35.00	35.00
Cumulative Repayment upto Previous Year		0.00	1.28	2.55	5.33	8.11
Net Loan-Opening		35.00	33.72	32.45	29.67	26.89
Repayment during the year		1.28	1.28	2.78	2.78	2.78
Net Loan-Closing		33.72	32.45	29.67	26.89	24.12
Average Loan		34.36	33.09	31.06	28.28	25.51
Weighted Average Rate of Interest on Loan		8.9663%	8.9566%	8.9457%	2.8433%	8.9412%
Interest		3.08	2.96	2.78	0.80	2.28
LILO of 220 kV Modipuram-Nara transmission line						
		2004-05	2005-06	2006-07	2007-08	2008-09
Gross Loan as per last Order	76.00					
Addition due to Additional Capitalisation	0.00					
Addition due to FERV	0.00					
Gross Normative Loan	76.00	76.00	76.00	76.00	76.00	76.00
Cumulative Repayment upto Previous Year		0.00	2.73	6.12	12.27	18.42
Net Loan-Opening		76.00	73.27	69.88	63.73	57.58
Repayment during the year		2.73	3.40	6.15	6.15	6.15
Net Loan-Closing		73.27	69.88	63.73	57.58	51.44
Average Loan		74.64	71.58	66.80	60.66	54.51
Weighted Average Rate of Interest on Loan		9.2275%	9.2142%	9.2008%	9.1979%	9.1943%
Interest		6.89	6.60	6.15	5.58	5.01
LILO of 220 kV Modipuram-Simbholi transmission line						
		2004-05	2005-06	2006-07	2007-08	2008-09
Gross Loan as per last Order	195.00					
Addition due to Additional Capitalisation	2.79					
Addition due to FERV	0.00					
Gross Normative Loan	197.79	197.79	197.79	197.79	197.79	197.79
Cumulative Repayment upto Previous Year		0.00	7.26	18.08	34.06	50.04
Net Loan-Opening		197.79	190.53	179.71	163.73	147.75
Repayment during the year		7.26	10.82	15.98	15.98	15.98
Net Loan-Closing		190.53	179.71	163.73	147.75	131.77
Average Loan		194.16	185.12	171.72	155.74	139.76
Weighted Average Rate of Interest on Loan		9.3672%	9.3553%	9.3432%	9.3406%	9.3374%
Interest		18.19	17.32	16.04	14.55	13.05

Details of depreciation

Annexure IV

220 kV Allahabad-Rewa Road D/C transmission line Ckt- I							
			2004-05	2005-06	2006-07	2007-08	2008-09
As per Order dated 2.9.2005		110.07					
Addition during 2001-04 due to Additional Capitalisation		0.00					
Addition during 2001-04 due to FERV		0.00					
Gross Block as on 31.3.2004		110.07	110.07	110.07	110.07	110.07	110.07
Rate of Depreciation	2.5700%						
Depreciable Value	90%		99.06	99.06	99.06	99.06	99.06
Balance Useful life of the asset			-	-	-	-	-
Remaining Depreciable Value			95.53	92.70	89.87	86.68	79.95
Depreciation			2.83	2.83	2.83	2.83	2.83
220 kV Allahabad-Rewa Road D/C transmission line Ckt- II							
			2004-05	2005-06	2006-07	2007-08	2008-09
As per Order dated 2.9.2005		49.65					
Addition during 2001-04 due to Additional Capitalisation		0.00					
Addition during 2001-04 due to FERV		0.00					
Gross Block as on 31.3.2004		49.65	49.65	49.65	49.65	49.65	49.65
Rate of Depreciation	2.5700%						
Depreciable Value	90%		44.69	44.69	44.69	44.69	44.69
Balance Useful life of the asset			-	-	-	-	-
Remaining Depreciable Value			43.83	42.56	41.28	39.36	36.58
Depreciation			1.28	1.28	1.28	1.28	1.28
LILO of 220 kV Modipuram-Nara transmission line							
			2004-05	2005-06	2006-07	2007-08	2008-09
As per Order dated 2.9.2005		100.31					
Addition during 2001-04 due to Additional Capitalisation		5.75					
Addition during 2001-04 due to FERV		0.00					
Gross Block as on 31.3.2004		106.06	106.06	106.06	106.06	106.06	106.06
Rate of Depreciation	2.5700%						
Depreciable Value	90%		95.45	95.45	95.45	95.45	95.45
Balance Useful life of the asset			-	-	-	-	-
Remaining Depreciable Value			92.87	90.15	87.42	83.18	77.04
Depreciation			2.73	2.73	2.73	2.73	2.73
LILO of 220 kV Modipuram-Simbholi transmission line							
			2004-05	2005-06	2006-07	2007-08	2008-09
As per Order dated 2.9.2005		264.53					
Addition during 2001-04 due to Additional Capitalisation		18.03					
Addition during 2001-04 due to FERV		0.00					
Gross Block as on 31.3.2004		282.56	282.56	282.56	282.56	282.56	282.56
Rate of Depreciation	2.5700%						
Depreciable Value	90%		254.30	254.30	254.30	254.30	254.30
Balance Useful life of the asset			-	-	-	-	-
Remaining Depreciable Value			249.20	241.94	234.68	220.25	204.27
Depreciation			7.26	7.26	7.26	7.26	7.26

Details of Advance Against Depreciation

220 kV Allahabad-Rewa Road D/C transmission line Ckt- I					
	2004-05	2005-06	2006-07	2007-08	2008-09
1/10th of Gross Loan(s)	8.40	8.40	8.40	8.40	8.40
Repayment of the Loan	2.83	2.83	6.73	6.73	6.73
Minimum of the above	2.83	2.83	6.73	6.73	6.73
Depreciation during the year	2.83	2.83	2.83	2.83	2.83
(A) Difference	0.00	0.00	3.90	3.90	3.90
Cumulative Repayment of the Loan	2.83	5.66	12.39	19.12	25.84
Cumulative Depreciation/ Advance against Depreciation	6.37	9.20	12.02	15.22	21.94
(B) Difference	-3.54	-3.54	0.36	3.90	3.90
Advance against Depreciation Minimum of (A) and (B)	0.00	0.00	0.36	3.90	3.90
220 kV Allahabad-Rewa Road D/C transmission line Ckt- II					
	2004-05	2005-06	2006-07	2007-08	2008-09
1/10th of Gross Loan(s)	3.50	3.50	3.50	3.50	3.50
Repayment of the Loan	1.28	1.28	2.78	2.78	2.78
Minimum of the above	1.28	1.28	2.78	2.78	2.78
Depreciation during the year	1.28	1.28	1.28	1.28	1.28
(A) Difference	0.00	0.00	1.50	1.50	1.50
Cumulative Repayment of the Loan	1.28	2.55	5.33	8.11	10.88
Cumulative Depreciation/ Advance against Depreciation	2.13	3.40	4.68	6.60	9.38
(B) Difference	-0.85	-0.85	0.65	1.50	1.50
Advance against Depreciation Minimum of (A) and (B)	0.00	0.00	0.65	1.50	1.50
LILO of 220 kV Modipuram-Nara transmission line					
	2004-05	2005-06	2006-07	2007-08	2008-09
1/10th of Gross Loan(s)	7.60	7.60	7.60	7.60	7.60
Repayment of the Loan	2.73	3.40	6.15	6.15	6.15
Minimum of the above	2.73	3.40	6.15	6.15	6.15
Depreciation during the year	2.73	2.73	2.73	2.73	2.73
(A) Difference	0.00	0.67	3.42	3.42	3.42
Cumulative Repayment of the Loan	2.73	6.12	12.27	18.42	24.56
Cumulative Depreciation/ Advance against Depreciation	5.31	8.03	10.76	14.99	21.14
(B) Difference	-2.58	-1.91	1.51	3.42	3.42
Advance against Depreciation Minimum of (A) and (B)	0.00	0.00	1.51	3.42	3.42
LILO of 220 kV Modipuram-Simbholi transmission line					
	2004-05	2005-06	2006-07	2007-08	2008-09
1/10th of Gross Loan(s)	19.78	19.78	19.78	19.78	19.78
Repayment of the Loan	7.26	10.82	15.98	15.98	15.98
Minimum of the above	7.26	10.82	15.98	15.98	15.98
Depreciation during the year	7.26	7.26	7.26	7.26	7.26
(A) Difference	0.00	3.56	8.72	8.72	8.72
Cumulative Repayment of the Loan	7.26	18.08	34.06	50.04	66.02
Cumulative Depreciation/ Advance against Depreciation	12.36	19.62	26.89	41.32	57.30
(B) Difference	-5.10	-1.54	7.17	8.72	8.72
Advance against Depreciation Minimum of (A) and (B)	0.00	0.00	7.17	8.72	8.72

Details of interest on working capital allowed

Annexure VI

220 kV Allahabad-Rewa Road D/C transmission line Ckt- I					
	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance Spares	1.18	1.26	1.33	1.41	1.50
O & M expenses	0.06	0.06	0.06	0.06	0.07
Receivables	2.49	2.45	2.45	2.95	2.86
Total	3.73	3.77	3.84	4.42	4.42
Interest	0.38	0.39	0.39	0.45	0.45
220 kV Allahabad-Rewa Road D/C transmission line Ckt- II					
	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance Spares	0.52	0.55	0.58	0.61	0.65
O & M expenses	0.06	0.06	0.06	0.06	0.07
Receivables	1.21	1.20	1.28	1.09	1.35
Total	1.78	1.80	1.92	1.77	2.07
Interest	0.18	0.18	0.20	0.18	0.21
LILO of 220 kV Modipuram-Nara transmission line					
	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance Spares	1.06	1.13	1.19	1.27	1.34
O & M expenses	0.09	0.10	0.10	0.10	0.11
Receivables	2.55	2.51	2.70	2.93	2.85
Total	3.71	3.73	3.99	4.30	4.30
Interest	0.38	0.38	0.41	0.44	0.44
LILO of 220 kV Modipuram-Simbholi transmission line					
	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance Spares	2.76	2.93	3.11	3.29	3.49
O & M expenses	0.35	0.37	0.38	0.40	0.42
Receivables	7.10	6.99	8.02	8.06	7.85
Total	10.22	10.29	11.51	11.75	11.75
Interest	1.05	1.05	1.18	1.20	1.20