

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram:

- 1. Dr. Pramod Deo, Chairperson**
- 2. Shri. Bhanu Bhushan, Member**
- 3. Shri R.Krishnamoorthy, Member**
- 4. Shri R.Jayaraman, Member**

**Petition No. 94/2008
With I.A.No. 20/2008**

In the matter of

Determination of final transmission tariff for LILO of both circuits of 400 kV D/C Guzuwaka-Vijaywada transmission line at Vemagiri (APTRANSCO) and extension of 400/220 kV Sub-station at Vijayawada (Power Grid) under "system strengthening-VI of Southern Region Grid" from date of commercial operation to 31.3.2009.

And in the matter of

Power Grid Corporation of India Limited

..Petitioner

Vs

1. Karnataka Power Transmission Corporation Ltd., Bangalore
 2. Transmission Corporation of Andhra Pradesh Ltd., Hyderabad
 3. Kerala State Electricity Board, Thiruvananthapuram
 4. Tamil Nadu Electricity Board, Chennai
 5. Electricity Department, Govt. of Pondicherry, Pondicherry
-Respondents**

The following were present:

1. Shri V.V.Sharma PGCIL
2. Shri U.K. Tyagi, PGCIL
3. Shri M.M.Mondal, PGCIL
4. Shri S.S.Raju, PGCIL
5. Shri A.K.Nagpal, PGCIL
6. Shri C.Kannan, PGCIL
7. Shri R.Krishnaswami, TNEB

ORDER

(DATE OF HEARING: 16.12.2008)

This petition has been filed for approval of tariff for LILO of two circuits of 400 kV D/C Guzuwaka-Vijaywada transmission line at Vemagiri (APTRANSCO) and extension of 400/220 kV sub-station at Vijayawada (Power Grid) under the System Strengthening Scheme-VI of Southern Region Grid (the scheme) from 1.4.2008 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 the reimbursement of expenditure from the beneficiaries incurred towards publishing notices in newspapers and the petition filing fee.

2. The administrative approval and expenditure sanction for the scheme was accorded by Board of Directors of the petitioner company vide Memorandum dated 30.3.2005, read with corrigendum dated 21.4.2005 at an estimated cost of Rs. 11373 lakh, which includes IDC of Rs. 520 lakh. Subsequently, the Board of Directors accorded approval for revised cost estimate of Rs. 12684 lakh vide Memorandum dated 20.10.2008. The scheme has been declared under commercial operation w.e.f.1.4.2008.

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

(Rs. in lakh)	
	2008-09
Depreciation	319.08
Interest on Loan	774.49
Return on Equity	494.65
Advance against Depreciation	0.00
Interest on Working Capital	51.18
O & M Expenses	107.21
Total	1746.61

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

(Rs. in lakh)	
	2008-09
Maintenance Spares	117.79
O & M expenses	8.93
Receivables	291.10
Total	417.83
Rate of Interest	12.25%
Interest	51.18

5. The reply to the petition has been filed by Tamil Nadu Electricity Board. 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 (1) of Regulation 52 of the 2004 regulations, subject to prudence check, the actual expenditure incurred on completion of the project shall form the basis for determination of final tariff. The final tariff shall be determined based on the admitted capital expenditure actually incurred up to the date of commercial operation of the transmission system and shall include capitalised initial spares subject to a ceiling norm as 1.5% of original project cost. The regulation is applicable in case of the transmission system declared under commercial operation on or after 1.4.2004.

7. The petitioner has claimed tariff based on capital expenditure of Rs. 11779.23 lakh as on the date of commercial operation. The petitioner has claimed additional capitalization of Rs. 732.49 lakh after the date of commercial operation. The additional capitalization has not been considered for the purpose of tariff because this is based only on estimated expenditure in sub-station. However, the petitioner is granted liberty to file separate petition for approval of capital expenditure after actual capital expenditure is made. The petitioner has not claimed any expenditure on account of FERV. Accordingly, gross block of Rs. 11779.23 lakh as claimed has been considered for the purpose of tariff.

Time over-run

8. As per the original approval, the scheme was scheduled to be commissioned by December 2007. However, the scheme was commissioned on 1.4.2008, that is, after 3 months of the scheduled date. The petitioner has submitted that LILO works of both the circuits were completed by it on 30.12.2007 and this was communicated to the second respondent on the same

day. However, the scheme could not be commissioned before 1.4.2008 as the second respondent was not ready due to non-completion of bay works at the Vemagiri 400 kV sub-station. Subsequently, on completion of bay works by the second respondent, as confirmed vide its letter dated 7.3.2008, and after availing shut down LILo portion was commissioned on 26.3.2008. The petitioner has further submitted that 315 MVA transformer along with associated bays and equipment at Vijayawada line at Vemagiri (APTRANSCO) and extension of 400/220 kV sub-station at Vijayawada (Power Grid) under the scheme has been declared under commercial operation w.e.f. 1.4.2008.

9. We have considered the matter very carefully. There is satisfactory explanation from the petitioner for the delay in completion of the transmission line. The delay was unintentional and beyond the control of the petitioner and the petitioner cannot be blamed for the delay in any manner. Therefore, the delay in commissioning of line is condoned.

DEBT- EQUITY RATIO

10. Clause (2) of Regulation 54 of the 2004 regulations *inter alia* provides that,-

“(2) In case of the transmission system for which investment approval was accorded prior to 1.4.2004 and which are likely to be declared under commercial operation during the period 1.4.2004 to 31.3.2009, debt and equity in the ratio of 70:30 shall be considered:

Provided that where equity actually employed to finance the project is less than 30%, the actual debt and equity shall be considered for determination of tariff:

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

11. Note 1 below Regulation 53 lays down that any expenditure on account of committed liabilities within the original scope of work is to be serviced in the normative debt-equity ratio specified in Regulation 54.

12. The petitioner has considered debt-equity ratio of 70:30 as actually deployed on the date of commercial operation. Accordingly, for the purpose of tariff, an amount of Rs. 3533.77 lakh has been considered as equity as on 1.4.2008 and for the subsequent periods.

RETURN ON EQUITY

13. 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.

14. The petitioner has claimed return on equity of Rs.3577.23 lakh, which has been considered. Accordingly, the petitioner shall be entitled to return on equity of Rs. 494.73 lakh during 2008-09.

INTEREST ON LOAN

15. 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 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.”

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

(i) Actual loan as on date of commercial operation as notional gross loan.

(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 the year 2008-09.

17. The petitioner has also submitted the repayment details for Bond XXVII.

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

(i) Gross amount of loan, repayment of instalments and rate of interest submitted by the petitioner has been used to work out weighted average rate of interest on actual loan. The gross loan has been considered as on date of commercial operation.

- (ii) Tariff has been worked out considering normative loan and normative repayments. Once the normative loan has been arrived at, it has been considered for all purposes in the tariff.
- (iii) Moratorium in repayment of loan has been considered with reference to normative loan and if the normative repayment of loan during the year is less than the depreciation during the year, it has been considered as moratorium and depreciation during the year has been deemed as normative repayment of loan during the year.
- (iv) Weighted average rate of interest on actual loan worked out as per (i) above has been applied on the average loan during the year to arrive at the interest on loan.

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

(Rs. in lakh)

Details of loan	2008-09
Interest on Loan	
Opening Gross Loan	8245.4 6
Cumulative Repayment up to date of commercial operation/previous year	0.00
Net Loan-Opening	8245.4 6
Additions due to Additional Capitalisation	0.00
Repayment during the year	319.08
Net Loan-Closing	7926.3 8
Average Loan	8085.9 2
Weighted Average Rate of Interest on Loan	9.5776 %
Interest	774.44

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

DEPRECIATION

21. 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.

22. Depreciation allowed has been worked out as calculated below:

(Rs. in lakh)

Details of Depreciation	2008-09
Gross block on the date of commercial operation	11779.23
Additional Capitalisation during the period	0.00
Gross Block at the end	11779.23
Rate of Depreciation	2.7088%
Depreciable Value (90%)	10601.31
Balance Useful life of the asset	-
Remaining Depreciable Value	10601.31
Depreciation	319.08

ADVANCE AGAINST DEPRECIATION

23. 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

24. 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.

25. The petitioner has not claimed Advance Against Depreciation and accordingly, Advance Against Depreciation has not been considered.

OPERATION & MAINTENANCE EXPENSES

26. 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

27. The petitioner has claimed O & M expenses for 155.67 ckt km and 2 bays which have been allowed. Accordingly, the petitioner's entitlement to O & M expenses has been worked out as given hereunder:

(Rs. in lakh)

	Year
	2008-09
O&M expenses for 155.67 ckt kms line length	41.41
O&M expenses for 2 bays	65.80
Total	107.21

28. The petitioner has submitted that the wage revision of its employees is due with effect from 1.1.2007. Therefore, 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

29. 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, the capital expenditure on the date of commercial operation is Rs.11772.23 lakh, which has been considered as the historical cost for the purpose of the present petition and maintenance spares have been worked out accordingly by escalating 1% of the historical cost @ 6% per annum. In this manner, the value of maintenance spares works out to Rs. 117.79 lakh as on 1. .4.2008

(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 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.

(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 @ 12.25% based on SBI PLR as on 1.4.2008, which is in accordance with the 2004 regulations and has been allowed.

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

(Rs. in lakh)	
	2008-09
Maintenance Spares	117.79
O & M expenses	8.93
Receivables	291.11
Total	417.83
Rate of Interest	12.25%
Interest	51.18

TRANSMISSION CHARGES

31. The transmission charges being allowed for the scheme are summarised below:

(Rs. in lakh)	
	2008-09
Depreciation	319.08
Interest on Loan	774.44
Return on Equity	494.73
Advance against Depreciation	0.00
Interest on Working Capital	51.18
O & M Expenses	107.21
Total	1746.64

32. 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. .

33. The petitioner filed I.A. (I.A..No. 20/2008) for ad interim ex parte order to charge the provisional transmission tariff on monthly basis from the date of commercial operation, subject to adjustment based on approval of final tariff after disposal of the main petition. As we have allowed final transmission tariff, the IA has become infructuous and accordingly stands disposed of.

34. The petitioner has sought approval for the reimbursement of expenditure of Rs.1,24,180/- incurred on publication of notices in the newspapers. The petitioner shall claim reimbursement of the said expenditure directly from the respondent in one installment. The petitioner has also sought reimbursement of filing fee of Rs.5 lakh paid. The Commission by its separate general order dated 11.9.2008 in Petition No. 129/2005 (suo motu) has decided that the petitioner shall not be allowed reimbursement of the petition filing fee.

35. This order disposes of Petition No.94/2008 along with I.A. No. 20/2008.

Sd/- **sd/-** **sd/-** **sd/-**
(S.JAYARAMAN) (R.KRISHNAMOORTHY) (BHANU BHUSHAN) (DR. PRAMOD DEO)
MEMBER MEMBER MEMBER CHAIRPERSON
New Delhi dated the 22nd January 2009

Annexure

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(Rs. in lakh)

Details of Loan	2008-09
Bond-XX	
Gross Loan opening	700.00
Cumulative Repayment upto DOCO/previous year	0.00
Net Loan-Opening	700.00
Additions during the year	0.00
Repayment during the year	0.00
Net Loan-Closing	700.00
Average Loan	700.00
Rate of Interest	8.93%
Interest	62.51
Repayment Schedule	12 Annual instalments from 7. 9.2010
Bond- XXI	
Gross Loan opening	636.00
Cumulative Repayment upto DOCO/previous year	0.00
Net Loan-Opening	636.00
Additions during the year	0.00
Repayment during the year	0.00
Net Loan-Closing	636.00
Average Loan	636.00
Rate of Interest	8.73%
Interest	55.52
Repayment Schedule	12 Annual Instalments from 11.10.2010
Bond- XXII	
Gross Loan opening	661.00
Cumulative Repayment upto DOCO/previous year	0.00
Net Loan-Opening	661.00
Additions during the year	0.00
Repayment during the year	0.00
Net Loan-Closing	661.00
Average Loan	661.00
Rate of Interest	8.68%
Interest	57.37
Repayment Schedule	12 annual inatalments from 7.12.2010
Bond- XXIV	
Gross Loan opening	2144.00
Cumulative Repayment upto DOCO/previous year	0.00

Net Loan-Opening	2144.00
Additions during the year	0.00
Repayment during the year	0.00
Net Loan-Closing	2144.00
Average Loan	2144.00
Rate of Interest	9.95%
Interest	213.33
Repayment Schedule	12 annual inatalments from 26. 3.2011
Bond- XXV	
Gross Loan opening	2290.00
Cumulative Repayment upto DOCO/previous year	0.00
Net Loan-Opening	2290.00
Additions during the year	0.00
Repayment during the year	0.00
Net Loan-Closing	2290.00
Average Loan	2290.00
Rate of Interest	10.10%
Interest	231.29
Repayment Schedule	12 annual inatalments from 12. 6.2011
Bond- XXVI	
Gross Loan opening	1258.00
Cumulative Repayment upto DOCO/previous year	0.00
Net Loan-Opening	1258.00
Additions during the year	0.00
Repayment during the year	0.00
Net Loan-Closing	1258.00
Average Loan	1258.00
Rate of Interest	9.30%
Interest	116.99
Repayment Schedule	12 annual inatalments from 7. 3.2012
Bond- XXVII	
Gross Loan opening	557.00
Cumulative Repayment upto DOCO/previous year	0.00
Net Loan-Opening	557.00
Additions during the year	0.00
Repayment during the year	0.00
Net Loan-Closing	557.00
Average Loan	557.00
Rate of Interest	9.47%
Interest	52.75
Repayment Schedule	12 annual inatalments from 31.3.2012
Total Loan	
Gross Loan opening	8246.00
Cumulative Repayment upto DOCO/previous year	0.00
Net Loan-Opening	8246.00
Additions during the year	0.00
Repayment during the year	0.00
Net Loan-Closing	8246.00
Average Loan	8246.00
Rate of Interest	9.5776%
Interest	789.77