

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 6/2010**

**Coram:**

- 1. Dr. Pramod Deo, Chairperson**
- 2. Shri S.Jayaraman, Member**

**DATE OF HEARING: 23.3.2010**

**DATE OF ORDER 10.5.2010**

**In the matter of**

Revision of transmission tariff due to additional capital expenditure incurred during 2008-09 for LILO of 1st Ckt of Patratu-Hatia-Chandil 220 kV D/C transmission line at Ranchi sub-station and LILO of 2nd Ckt of Patratu-Hatia-Chandil 220 kV D/C transmission line at Ranchi sub-station for the period from 1.9.2007 to 31.3.2009 associated with 220 kV Interconnection with Jharkhand State Electricity Board system at Ranchi sub-station in Eastern Region.

**And in the matter of**

Power Grid Corporation of India Limited, Gurgaon

**..Petitioner**

Vs

Jharkhand State Electricity Board, Ranchi

**..... Respondent**

**The following were present:**

1. Shri U.K.Tyagi, PGCIL
2. Shri Rakesh Prasad, PGCIL
3. Shri M.M.Mondal, PGCIL

**ORDER**

This petition has been filed for revision of transmission tariff due to additional capital expenditure incurred in respect of (a) LILO of 1st Ckt of Patratu-Hatia-Chandil 220 kV D/C transmission line at Ranchi sub-station (Asset-I), and LILO of 2nd Ckt of Patratu-Hatia-Chandil 220 kV D/C transmission line at Ranchi sub-station (Asset-II) (collectively referred to as the transmission assets) associated with 220 kV Interconnection with Jharkhand

State Electricity Board (JSEB) transmission system at Ranchi sub-station in Eastern Region during the period 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 reimbursement of the petition filing fee, licence fee and other expenditure in connection with the filing of the petition

2. The investment approval for execution of the transmission assets was accorded by the Board of Directors of the petitioner company vide memorandum dated 9.2.2007 at an estimated cost of Rs. 1248 lakh, which included IDC of Rs. 0.16 lakh. Asset-I and Asset-II were declared under commercial operation on 1.6.2007 and 1.9.2007, respectively.

3. The transmission charges for the assets were approved by the Commission vide its order dated 6.5.2009 in Petition No. 4/2009. The summary of the transmission charges approved by the said order dated 6.5.2009 is extracted hereunder:

(Rs. in lakh)

	Asset-I		Asset-II	
	2007-08 (Pro rata)	2008-09	2007-08 (Pro rata)	2008-09
Depreciation	8.80	11.26	6.73	12.45
Interest on Loan	22.28	27.57	16.69	30.23
Return on Equity	14.35	18.35	10.75	19.49
Advance against Depreciation	0.00	0.00	0.00	0.00
Interest on Working Capital	1.45	1.83	1.08	1.95
O & M Expenses	3.43	4.29	2.06	3.68
<b>Total</b>	<b>50.31</b>	<b>63.30</b>	<b>37.31</b>	<b>67.80</b>

4. The relevant details of the capital expenditure of the transmission assets claimed by the petitioner are as under:

(Rs. in lakh)

2.	4	5	6	7	9
Name of Asset	Apportioned approved cost	Expenditure up to the date of commercial operation	Expenditure up to the date of commercial operation to 31.3.2008	Expenditure from 1.4.2008 to 31.3.2009	Total Estimated expenditure
Asset-I	624.00	400.99	54.00	45.00	499.99
Asset-II	624.00	413.16	51.00	45.00	509.16

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

(Rs. in lakh)

	Asset-I	Asset-II
	2008-09	2008-09
Depreciation	12.72	13.50
Interest on Loan	30.07	31.70
Return on Equity	20.01	20.44
Advance against Depreciation	0.00	0.00
Interest on Working Capital	1.97	2.02
O & M Expenses	4.29	3.68
Total	<b>69.06</b>	<b>71.34</b>

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

(Rs. in lakh)

	Asset- I	Asset-II
	2008-09	2008-09
Maintenance Spares	4.21	4.28
O & M expenses	0.36	0.31
Receivables	11.51	11.89
Total	16.08	16.48
Rate of Interest	12.25%	12.25%
Interest	<b>1.97</b>	<b>2.02</b>

7. No reply has been filed by the respondent.

## CAPITAL COST

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

(Rs. in lakh)

Asset-I			Asset-II		
Year	Amount (Rs. in lakh)	Nature and details of expenditure	Year	Amount (Rs. in lakh)	Nature and details of expenditure
2008-09	Transmission line and PLCC = Rs. 45.00 lakh	Retention and final payments	2008-09	Transmission line and PLCC= Rs. 316.76 lakh	Balance payments
<b>Total</b>	<b>Rs. 45.00 lakh</b>			<b>Rs. 45.00 lakh</b>	

9. The petitioner has submitted audited capital cost up to 31.3.2009 duly certified by Chartered Accountant. The additional capital expenditure claimed is within the original scope of work and on account of retention/balance payments. The additional expenditure sought to be capitalised is allowed under Regulation 53 of the 2004 regulations.

### Initial spares

10. Clause (1) of the Regulation 52 of the 2004 regulations *inter alia* provides that,-

“(1) Subject to prudence check by the Commission, 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 capitalized initial spares subject to a ceiling norm as 1.5% of original project cost”.

11. Initial spares included in the capital cost of the transmission asset has been restricted to 1.5% of actual capital expenditures incurred up to the cut-off date as per Regulation 52 read along with Regulations 49 (xiv) of the 2004 regulations. In the present case, the date of commercial operation is 1.6.2007 and 1.9.2009 for Asset-I and Asset-II respectively and the cut-off date as per the 2004 regulations is

31.3.2009. Therefore, for the purpose of computation of initial spares, capital cost is found within the ceiling of 1.5% as per the 2004 regulations. As such, the initial spares have been restricted to Rs. 15.01 lakh. The detailed calculations of initial spares are as under:

S. No.	Particulars	The date of commercial of the Assets	Expenditure as on cut off date
1	Asset-1	1.6.2007	499.99
2	Asset-2	1.9.2007	509.16
	TOTAL		1009.15
	Total Expenditure without initial spares		985.57
	Value of Initial Spares included in both the Assets (Initial Spares in respect of Asset-II not indicated in CA Certificate and hence has been considered as nil.		23.58
	Initial spares @1.5% of all the 2 Assets as on cut off date (985.57 * 1.5/98.5)		15.01

12. The cost of initial spares has been restricted to Rs. 15.01 lakh. As the maximum cost of the initial spares were meant for transmission line, the difference of Rs. 8.57 lakh has been adjusted under the head transmission line of Asset-I. The Transmission Line equipment cost has been considered as Rs. 392.42 lakh as on the date of commercial operation.

### **TOTAL CAPITAL COST**

13. Based on the above, capital cost for the purpose of tariff in respect of the transmission assets as on 31.3.2009 works out as under:

	Capital cost as on 1.4.2008	Additional Capital Expenditure during 2008-09	(Rs. in lakh) Capital cost as on 1.4.2009
Asset-I	446.42	45.00	491.92
Asset-II	464..16	45.00	509.16

### **DEBT- EQUITY RATIO**

14. The petitioner has considered the amount of additional capital expenditure 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 assets is as under:

	Equity as on 1.4.2008	Notional additional equity during 2008-09	Total equity considered as on 31.3.2009	(Rs. in lakh) Average equity for 2008-09
Asset-I	133.63	13.50	147.13	140.38
Asset-II	139.25	13.50	152.75	146.00

### **RETURN ON EQUITY**

15. 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.

16. Equity as given in the table under para 14 above has been considered. However, tariff for 2008-09 has been allowed on average equity. Accordingly, return on equity allowed for the year 2008-09 is given as under:

Name of the asset	(Rs. in lakh)
	2008-09
Asset-I	19.65
Asset-II	20.44

### **INTEREST ON LOAN**

17. 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.”

18. 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 and weighted average rate of interest on actual loan have been considered as per the petition.

(b) Notional loan arising out of additional capital expenditure for the year 2008-09 has been added to the loan amount as on the date of commercial operation to arrive at total notional loans. This adjusted gross loan has been considered as normative loans for tariff calculations.

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

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

(d) 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 is considered as moratorium and depreciation during the year is deemed as normative repayment of loan during the year.



(e) Weighted average rate of interest on actual loan worked out as per (a) above has been applied on the notional average loan during the year to arrive at the interest on loan.

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

Details	(Rs. in lakh)	
	Asset- I 2008-09	Asset-III 2008-09
Gross Normative Loan	312.79	324.91
Cumulative Repayment up to Previous Year/date of commercial operation	8.98	6.73
Net Loan-Opening	303.81	318.18
Addition due to Additional Capitalisation	31.50	31.50
Repayment during the year	12.50	13.50
Net Loan-Closing	322.81	336.19
Average Loan	313.31	327.18
Weighted Average Rate of Interest on Loan	9.43%	9.69%
Interest (Pro rata)	29.54	31.70

20. The detailed calculations in support of the weighted average rate of interest for two assets are contained in Annexure-I and Annexure-II, respectively 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 below:

Details	(Rs. in lakh)	
	Asset- I 2008-09	Asset- II 2008-09
Gross block as on the date of commercial operation	446.42	464.16
Additional Capitalisation during 2008-09	45.00	45.00
Gross Block at the end of the year	491.42	509.16
Rate of Depreciation	2.6651%	2.7731%
Depreciable Value	422.03	437.99
Balance Useful life of the asset	-	-
Remaining Depreciable Value	413.05	431.26
Depreciation	12.50	13.50

### **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. 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. O&M expenses as taken for the tariff calculations as per order dated 6.5.2009 in Petition No. 4/2009 has been considered, since line length and number of bays remain unchanged.

### **INTEREST ON WORKING CAPITAL**

28. 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. Accordingly, maintenance spares have been worked out on the historical cost and by 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 6.5.2009 in Petition No. 4/2009 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 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 whether or not the transmission licensee has 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 for Asset-I and @ 12.25% based on SBI PLR as on 1.4.2007, which is in accordance with the 2004 regulations and has been allowed.

29. The necessary computations in support of interest on working capital are appended herein below:

(Rs. in lakh)

	<b>Asset- I</b>	<b>Asset-II</b>
	2008-09	2008-09
Maintenance Spares	4.12	4.28
O & M expenses	0.36	0.31
Receivables	11.32	11.89
Total	15.80	16.47
Rate of Interest	12.25%	12.25%
Interest	<b>1.94</b>	<b>2.02</b>

### **TRANSMISSION CHARGES**

30. The transmission charges being allowed for the three transmission assets are summarised below:

(Rs. in lakh)

	<b>Asset- I</b>	<b>Asset-II</b>
	2008-09	2008-09
Depreciation	12.50	13.50
Interest on Loan	29.54	31.70
Return on Equity	19.65	20.44
Advance against Depreciation	0.00	0.00
Interest on Working Capital	1.94	2.02
O & M Expenses	4.29	3.68
Total	<b>67.91</b>	<b>71.34</b>

31. The petitioner shall recover from the beneficiary the additional transmission charges in one instalment and these charges shall be shared in accordance with the 2004 regulations.

32. The petitioner has also sought reimbursement of filing fee 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. The decision on reimbursement of the licence fee shall be communicated separately.

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. This order disposes of Petition No. 6/2010.

SD/-  
**(S.JAYARAMAN)**  
MEMBER

SD/-  
**(Dr. PRAMOD DEO)**  
CHAIRPERSON

## Asset-I

## CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(Rs. in lakh)

	Details of Loan	2008-09
<b>1</b>	<b>Bond-XVIII</b>	
	Gross Loan opening	97.00
	Cumulative Repayment up to the date of commercial operation/previous year	0.00
	Net Loan-Opening	97.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	97.00
	Average Loan	97.00
	Rate of Interest	8.15%
	Interest	7.91
	Repayment Schedule	12 equal Annual instalments from 9.3.2010
<b>2</b>	<b>Bond-XXV</b>	
	Gross Loan opening	184.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	184.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	184.00
	Average Loan	184.00
	Rate of Interest	10.10%
	Interest	18.58
	Repayment Schedule	12 equal Annual instalments from 12.6.2011
	<b>Total Loan</b>	
	Gross Loan opening	281.00
	Cumulative Repayment up to the date of commercial operation	0.00
	Net Loan-Opening	281.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	281.00
	Average Loan	281.00
	Rate of Interest	9.43%
	<b>Interest</b>	<b>26.49</b>

## Asset-II

		(Rs. in lakh)
Details of Loan		2008-09
<b>1</b>	<b>Bond-XVIII</b>	
	Gross Loan opening	11.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	11.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	11.00
	Average Loan	11.00
	Rate of Interest	8.15%
	Interest	0.90
	Repayment Schedule	12 equal Annual instalments from 9.3.2010
<b>2</b>	<b>Bond-XX</b>	
	Gross Loan opening	9.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	9.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	9.00
	Average Loan	9.00
	Rate of Interest	8.93%
	Interest	0.80
	Repayment Schedule	12 equal Annual instalments from 7.9.2010
<b>3</b>	<b>Bond-XXII</b>	
	Gross Loan opening	2.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	2.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	2.00
	Average Loan	2.00
	Rate of Interest	8.68%
	Interest	0.17
	Repayment Schedule	12 equal Annual instalments from 7.12.2010
<b>4</b>	<b>Bond-XXIV</b>	
	Gross Loan opening	200.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	200.00



	Additions during the year		0.00
	Repayment during the year		0.00
	Net Loan-Closing		200.00
	Average Loan		200.00
	Rate of Interest		9.95%
	Interest		19.90
	Repayment Schedule	12 Annual instalments from 26.3.2011	
5	<b>Bond-XXVI @ 9.30% w.e.f. 7.3.2008 ( Replaced ICICI short Term Bridge Loan @ 8.00% w.e.f. 01.09.2007 to 06.03.2008</b>		
	Gross Loan opening		67.00
	Cumulative Repayment up to the date of commercial operation /previous year		0.00
	Net Loan-Opening		67.00
	Additions during the year		0.00
	Repayment during the year		0.00
	Net Loan-Closing		67.00
	Average Loan		67.00
	Rate of Interest		9.30%
	Interest		6.23
	Repayment Schedule	12 equal Annual instalments from 7.3.2012	
	<b>Total Loan</b>		
	Gross Loan opening		289.00
	Cumulative Repayment up to the date of commercial operation /previous year		0.00
	Net Loan-Opening		289.00
	Additions during the year		0.00
	Repayment during the year		0.00
	Net Loan-Closing		289.00
	Average Loan		289.00
	Rate of Interest		9.69%
	<b>Interest</b>		28.00