# CENTRAL ELECTRICITY REGULATORY COMMISSION NEW DELHI

#### CORAM:

- 1. Shri Ashok Basu, Chairman,
- 2. Shri K.N. Sinha, Member
- 3. Shri Bhanu Bhushan, Member

#### **Petition No.122/2002**

#### In the matter of

Approval of transmission tariff for (A) Talcher-Kolar HVDC line (Pole-I), (B) LILO of 400 kV S/C Cuddapah-Banglore S/C line and common facilities at Kolar, (C) 400 kV S/C Kolar-Madras line, (D) 400 kV S/C Hossur-Salem line, 315 MVA Auto Transformer-I at Hossur, alongwith 220 kV switchyard (E) 315 MVA Auto Transformer-2 at Hossur, (F) 500 MVA Auto-transformer (comprising of 4x167 MVA single phase units) at Kolar alongwith 220 kV switchyard, and (G) 400 kV D/C Kolar-Hoody line, under Transmission System associated with Talcher-II Project for the period 1.12.2002 to 31.3.2004.

#### And in the matter of

Power Grid Corporation of India Ltd.

... Petitioner

Vs

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

## Respondents

#### The following were present:

- 1. Shri U.C. Misra, Director (Pers), PGCIL
- 2. Shri Umesh Chandra, ED (Comml), PGCIL
- 3. Shri J. Sridharan, ED (Fin), PGCIL
- 4. Shri D.D. Dhayaseelan, DGM, PGCIL
- 5. Shri P.C. Pankaj, AGM (Comml), PGCIL
- 6. Shri U.K. Tyagi, DGM, PGCIL
- 7. Shri C. Kannan, CM (Fin), PGCIL
- 8. Shri B.S. Chandrashekar, KPTCL
- 9. Shri S. Sowmyanarayanan, TNEB

# ORDER (DATE OF HEARING: 15.4.2004)

The petitioner has filed the present petition for approval of tariff of transmission tariff for [A] Talcher-Kolar HVDC line (Pole-I), including the bipole line, HVDC terminal

station (Pole-I) at Talcher and Kolar, and the Earth electrode lines, [B] LILO of 400 kV S/C Cuddapah-Bangalore line at Kolar, including associated bays and common facilities at Kolar, [C] 400 kV S/C Kolar-Madras line, with associated bays, [D] 400 kV S/C Hossur-Salem line, 315 MVA 400/220 kV Auto-transformer-I at Hossur, associated bays, and 220 kV switchyard at Hossur, [E] 315 MVA 400/220 Auto-transformer-2 at Hossur, with associated bays, [F] 500 MVA 400/220 kV Auto-transformer (comprising of 4x167 MVA single-phase units) associated bays and 220 kV switchyard at Kolar, and [G] 400 kV D/C Kolar-Hoody line along with associated bays under transmission system associated with Talcher-II Project for the period 1.12.2002 to 31.3.2004. The tariff is to be regulated based on the terms and conditions for determination of tariff contained in the Commission's notification dated 26.3.2001 (hereinafter referred to as "the notification dated 26.3.2001").

2. The investment approval for construction of the above-noted transmission system (total) was accorded by the Central Government in Ministry of Power as per letter dated 9.2.2000 at an estimated cost of Rs.386561.00 lakh (2<sup>nd</sup> quarter 1998 price level), including IDC of Rs. 39107.00 lakh. The scope of work included:

#### **Transmission Lines**

- (i) Talcher-Kolar ± 500 kV, 2000 MW HVDC bi-pole,
- (ii) Kolar-Hoody 400 kV D/C with Quad. Bersimis conductor,
- (iii) Kolar-Madras 400 kV S/C line,
- (iv) Kolar-Hossur-Salem 400 kV S/C line,
- (v) Salem-Udumalpet 400 kV S/C line, and
- (vi) LILO of Cuddapah Somanahalli 400 kV S/C at Kolar.

#### **Sub-stations**

- (i) Talcher Converter Station (New),
- (ii) Kolar Converter Station (New),
- (iii) Extension of existing 400/200 kV Hoody sub-station of Karnataka

Power Transmission Corporation Ltd,

- (iv) Hossur 400/220 kV substation with 2x315 MVA transformer (new),
- (v) Extension of existing 400/220 kV Salem sub-station of POWERGRID,
- (vi) Extension of existing 400/220 kV Udumalpet sub-station of POWERGRID, and
- vii) Extension of existing 400 kV Madras sub-station of POWERGRID.
- 3. The apportioned approved cost for the different assets covered in the present petition as indicated by the petitioner are as under:

Particulars	Apportioned Approved cost (Rs in lakh)
Talcher-Kolar HVDC line (Pole-I), including the bipole line, HVDC terminal station (Pole-I) at Talcher and Kolar and the Earth electrode lines	266879.00
LILO of 400 kV S/C Cuddapah-Bangalore line at Kolar, including associated bays and common facilities at Kolar and 400 kV S/C Kolar-Madras line, with associated bays	14150.00
400 kV S/C Hossur-Salem line, 315 MVA 400/220 kV Auto-transformer-I at Hossur, associated bays, and 220 kV switchyard at Hossur 315 MVA 400/220 Auto-transformer-2 at Hossur, with associated bays	10165.00
500 MVA 400/220 kV Auto-transformer (comprising of 4x167 MVA single phase units) associated bays and 220 kV switchyard at Kolar, and 400 kV D/C Kolar-Hoody line along with associated bays.	12110.00

4. The dates of commercial operation of different assets as given by the petitioner are as hereunder:

Talcher-Kolar HVDC line (Pole-I), including the bipole line, HVDC terminal station (Pole-I) at Talcher and Kolar and the Earth electrode lines	1.12. 2002
LILO of 400 kV S/C Cuddapah-Bangalore line at Kolar, including associated bays and common facilities at Kolar and 400 kV S/C Kolar-Madras line, with associated bays	1.12.2002
400 kV S/C Hossur-Salem line, 315 MVA 400/220 kV Auto-transformer-I at Hossur, associated bays, and 220 kV switchyard at Hossur	1.12. 2002
315 MVA 400/220 Auto-transformer-2 at Hossur, with associated bays	1. 2.2003
500 MVA 400/220 kV Auto-transformer (comprising of 4x167 MVA single	1. 2.2003
phase units) associated bays and 220 kV switchyard at Kolar, and 400 kV	
D/C Kolar-Hoody line along with associated bays.	

5. The petitioner, in the present petition, has sought approval for transmission charges from the date of commercial operation of the respective transmission asset to 31.3.2004 as under:

(Rs. in lakh)

	the bipole terminal sta	), including line, HVDC ation (Pole- er and Kolar e Earth	LILO of 400 kV S/C Cuddapah-Bangalore line at Kolar, including associated bays and common facilities at Kolar and 400 kV S/C Kolar-Madras line, with associated bays		400 kV S/0 Salem line, 400/220 k transformer Hossur, a bays, and switchyard	315 MVA kV Auto- -I at associated 220 kV	315 MVA Auto-transi at Hossi associated	ur, with	500 MVA 4 Auto-transfo (comprising MVA singl units) assoc and 220 kV at Kolar, ar D/C Kolar-l along with a	of 4x167 e phase iated bays switchyard d 400 kV doody line
	2002- 2003 (Part of the year)	2003- 2004	2002- 2003 (Part of the year)	2003-2004	2002- 2003 (Part of the year)	2003- 2004	2002- 2003 (Part of the year)	2003- 2004	2002- 2003 (Part of the year)	2003- 2004
Interest on Loan	3753.66	11352.09	304.44	922.26	183.31	561.53	8.55	52.76	112.08	693.83
Interest on Working Capital	178.97	563.31	15.76	49.73	9.08	30.00	1.15	7.20	5.96	37.65
Depreciation	1900.29	5878.70	108.85	344.61	67.95	226.28	4.29	25.88	40.06	250.03
Advance Against Depreciation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Return on Equity	1927.63	6116.19	119.36	393.79	65.30	249.80	3.80	22.81	32.44	220.31
O & M Expenses	753.82	2397.13	71.08	226.05	36.77	116.93	25.19	160.19	41.18	261.91
Total	8514.37	26307.43	619.49	1936.44	362.41	1184.54	42.98	268.85	231.72	1463.73

6. In support of its claim for interest on working capital the petitioner has submitted the following details:

(Rs. in lakh)

	Talcher-Ko	olar	LILO of 40	0 kV S/C	400 k	V S/C	315 MVA	400/220	500 MVA 4	400/220 kV	
	HVDC line	e (Pole-I),	Cuddapah-		Hossur-Sa	alem line,	Auto-trans	sformer-2	Auto-transfe	Auto-transformer	
	including	the bipole	Bangalore	line at	315 MVA	400/220	at Hoss	ur, with	(comprising	of 4x167	
	line, HVD0	C terminal	Kolar,	including	kV	Auto-	associate	d bays	MVA single phase		
	station (F	Pole-I) at	associated	bays and	transform	transformer-I at		•	units) asso	ciated bays	
	Talcher a	ınd Kolar	common fa	cilities at	Hossur,					switchyard	
	and the	e Earth	Kolar and	400 kV	associated bays,				at Kolar. a	nd 400 kV	
	electrode I	ines	S/C Kola	r-Madras		20 kV			,	Hoody line	
			line, with a	ssociated	switchyard	d at			along with	associated	
			bays		Hossur				bays		
	2002-	2003-	2002-	2003-	2002-	2003-	2002-	2003-	2002-	2003-	
	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004	
Spares	435.31	536.70	102.21	110.50	57.15	65.59	7.15	7.26	72.88	76.53	
O & M	188.45	199.76	17.77	18.84	9.19	9.74	12.59	13.35	20.59	21.83	
expenses											
Receivables	4257.18	4384.57	309.74	322.74	181.20	197.42	42.98	44.81	231.72	243.95	
Total	4880.95	5121.03	429.73	452.08	247.55	272.76	62.72	65.42	325.19	342.31	
Rate of	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	
Interest											
Interest	536.90	563.31	47.27	49.73	27.23	30.00	6.90	7.20	35.77	37.65	

Pro	rata	178.97	15.	76	9.08	1.15	5.96	
interes	st							

7. In addition, the petitioner has prayed for approval of other charges like Income Tax, incentive, Development Surcharge, late payment surcharge, other statutory taxes, levies, cess, filing fee, etc in terms of the notification.

#### **CAPITAL COST**

8. As laid down in the notification dated 26.3.2001, the project cost as approved by CEA or an appropriate independent agency, other than Board of Directors of the generating company, as the case may be, shall be the basis for computation of tariff. The capital cost shall include capitalised initial spares for the first 5 years of operation. The notification dated 26.3.2001 further provides that the actual capital expenditure incurred on completion of the project shall be the criterion for fixation of tariff. Where the actual expenditure exceeds the approved project cost, the excesses as approved by the Authority or an appropriate independent agency, as the case may be, shall be deemed to be the actual capital expenditure for the purpose of determining the tariff, provided that excess expenditure is not attributable to the petitioner or its suppliers or contractors. This is subject to the condition that where a transmission services agreement entered into between the Transmission Utility and the beneficiary provides a ceiling on capital expenditure; the capital expenditure shall not exceed such ceiling.

9. As per the auditor's certificates furnished by the petitioner on 7.12.2004 the cost details of 400 kV S/C Hossur-Salem line and 2x315 MVA autotransformers were indicated separately. However, the petitioner has filed an affidavit to clarify that the cost details of one of the autotransformers commissioned on 1.12.2002 are included in the cost details for 400 kV S/C Hossur-Salem line and the cost details of one autotransformers commissioned on 1.2.2003 are given separately. Based on these details, the actual completion cost of the transmission assets is worked out as under:

				(Rs in lakh)	
	Talcher-Kolar HVDC line (Pole- I), including the bipole line, HVDC terminal station (Pole-I) at Talcher and Kolar and the Earth electrode lines	LILO of 400 kV S/C Cuddapah-Bangalore line at Kolar, including associated bays and common facilities at Kolar and 400 kV S/C Kolar-Madras line with associated bays	400 kV S/C Hossur-Salem line, 315 MVA 400/220 kV Auto- transformer-I at Hossur, associated bays, and 220 kV switchyard at Hossur	315 MVA 400/220 Auto- transformer- 2 at Hossur, with associated bays	500 MVA 400/220 kV Auto-transformer (comprising of 4x167 MVA single phase units) associated bays and 220 kV switchyard at Kolar, and 400 kV D/C Kolar-Hoody line along with associated bays.
Expenditure up to the date of commercial operation	184528.27	11285.96	6848.47	714.58	8096.77
Gross block on date of commercial operation	184528.27	11285.96	6848.47	714.58	8096.77
Expenditure from date of commercial operation to 31.3.2003	3953.83	396.15	635.87	0.00	303.74
Gross block as on 31.3.2003	188482.10	11682.11	7484.34	714.58	8400.51
Expenditure from 1.4.2003 to 31.3.2004	1533.54	191.95	193.19	8.92	113.79
Gross block as on 31.3.2004	190015.64	11874.06	7677.53	723.50	8514.30
Balance anticipated expenditure	820.31	7.65	136.00	0.0	6.15
Total estimated completion cost	190835.95	11881.71	7813.53	723.50	8520.45
Initial spares included up to the date of commercial operation	7148.70	63.13	72.55	-	48.03

10. For the purpose of computation of tariff, the gross block as on the respective date of commercial operation as per the auditor's certificate submitted by the petitioner has been considered.

### **ADDITIONAL CAPITALISATION**

- 11. The notification dated 26.3.2001 provides that tariff revisions during the tariff period on account of capital expenditure within the approved project cost incurred during the tariff period may be entertained by the Commission if such expenditure exceeds 20% of the approved cost. In all cases, where such expenditure is less than 20%, tariff revision shall be considered in the next tariff period.
- 12. The petitioner has claimed additional capital expenditure for the period on or after the date of commercial operation in the present petition as per para 9 above. This additional expenditure is less than 20% of the apportioned approved cost. Accordingly, the additional capitalisation has not been considered in the present petition.

#### **SOURCES OF FINANCING: DEBT – EQUITY RATIO**

13. As per clause 4.3 of the notification dated 26.3.2001, capital expenditure of the transmission system shall be financed as per approved financial package set out in the techno-economic clearance of CEA or as approved by an appropriate independent agency, as the case may be. Ministry of Power while according the administrative approval had not specified the debt-equity ratio for financing the project. The petitioner has claimed tariff by taking actual debt and equity ratio. This is not opposed by the respondents as it is beneficial to them. Therefore, the same debt-equity ratio has been considered for determination of tariff in the present petition. The necessary details of debt-equity ratio, amounts of loan and equity considered for determination of tariff are extracted below:

(Rs in lakh)

		(17	(S III lakii)		
	Debt:	Equity	Debt	Equity	Total
	Ratio				
Talcher-Kolar line (Pole-I), including the bipole	81.48:18.5	52	150362.04	34166.23	184528.26
line, HVDC terminal station (Pole-I) at Talcher					
and Kolar and the Earth electrode lines					

LILO of 400 kV S/C Cuddapah-Bangalore line at Kolar, including associated bays and common facilities at Kolar, and 400 kV S/C Kolar-Madras line, with associated bays	81.92:18.08	9246.00	2039.96	11285.96
400 kV S/C Hossur-Salem line, 315 MVA 400/220 kV Auto-transformer-I at Hossur, associated bays, and 220 kV switchyard at Hossur	86.76:13.24	5942.00	906.47	6848.47
315 MVA 400/220 Auto-transformer-2 at Hossur, with associated bays	80.05:19.95	572.00	142.58	714.58
500 MVA 400/220 kV Auto-transformer (comprising of 4x167 MVA single phase units) associated bays and 220 kV switchyard at Kolar, and 400 kV D/C Kolar-Hoody line along with associated bays.	86.85:13.15	7032.00	1064.77	8096.77

#### **INTEREST ON LOAN**

- 14. As per clause 4.4(a) of the notification dated 26.3.2001, interest on loan capital shall be computed on the outstanding loans, duly taking into account the schedule of repayment, as per the financial package approved by CEA or any independent agency.
- 15. In the calculation, the interest on loan has been worked by considering the gross amount of loan, repayment for the years 2002-03 and 2003-04 and rate of interest etc. as per the loan details for the assets commissioned after 31.3.2001 as submitted by the petitioner vide affidavit dated 16.2.2005.
- 16. In the loan allocation details submitted by the petitioner loan instalments to KFW loan was worked out by including CHF of 48.13 lakh on account of conversion of interest for 2002-03 into loan although the same was not included in the loan as per audited accounts for the year 2002-03. Therefore, instalments of loan in the loan allocation statement is worked out on the basis of the loan as per audited accounts and has been considered for computation of tariff. This has resulted in the instalments of KFW loan considered for calculation of interest. The necessary details are given hereunder:

(Rs. in lakh)

	KFW-Heri	mis	KFW-Commercia		
	Fixed	Floating	Fixed	Floating	
As per petition	69.3604	11.5656	13.3001	3.5411	
As per loan allocation submitted	69.3604	16.3592	13.8923	3.5411	
vide affidavit dated 16.2.2005					

As	considered	in	tariff	69.3604	18.0123	13.8923	4.1442	
calc	ulations							

17. The detailed calculations in support of interest on loan allowed in tariff are appended below:

(Rs. in lakh)

	line including t line, HVD0	(Pole-I), he bipole C terminal Pole-I) at nd Kolar E Earth nes	Cuddapah- Bangalore Kolar, associated and facilities and 400 Kolar-Madr	line at including bays common at Kolar kV S/C	associated	C Hossur- ne, 315 /220 kV former-I Hossur, bays,	Auto-trans	former- sur, with	kV Au transfo (compris 4x167 MV. phase u associate and 22 switchya Kolar, and D/C Kolar line alon associate	orto- rmer sing of A single units) d bays 0 kV ard at 400 kV -Hoody g with d bays
Details of Loan	2002-03	2003-04	2002-03	2003-04	2002-03	2003-04	2002-03	2003-04	2002-03	2003-04
No. of days in the Year	365	366	365	366	365	366	365	366	365	366
KFW (Hermis Loan)-Fixed Rate	45247.00	45047.00								
Gross Loan -Opening Cumulative Repayment upto	45347.80 0.00	45347.80 0.00								
Previous Year	0.00	0.00								
Net Loan-Opening	45347.80	45347.80								
Repayment during the year-30th September	0.00	0.00								
	45347.80	45347.80								
Repayment during the year- 31st March	0.00	2267.39								
Net Loan-Closing	45347.80	43080.40								
Rate of Interest	3.9145%	3.9145%								
Interest	588.47	1774.90								
Repayment Schedule	20 Equal Ha instalments 31.3.2004									
KFW (Hermis Loan)-Floating										
Rate										
Gross Loan -Opening	7561.58	7561.58								
Cumulative Repayment upto Previous Year	0.00	0.00								
Net Loan-Opening	7561.58	7561.58								
Repayment during the year-30th September	0.00	0.00								
Repayment during the year- 31st March	7561.58 0.00	7561.58 588.82								
Net Loan-Closing	7561.58	6972.75								
Rate of Interest	1.1725%	1.1725%								
Interest	29.39	88.64								
Repayment Schedule	20 Equal Ha instalments t 31.32004									
KFW (Commercial Loan)-Fixed Rate										
Gross Loan -Opening	8695.55	8695.55								
Cumulative Repayment upto Previous Year	0.00	0.00								
Net Loan-Opening	8695.55	8695.55								
			1	l	1		1	1	l	

Repayment during the year-30th September	0.00	0.00								
	8695.55	8695.55								
Repayment during the year- 31st March	0.00	454.14								
Net Loan-Closing	8695.55	8241.41								
Rate of Interest	5.54029%	5.54029%								
Interest	159.71	481.69								
Repayment Schedule	20 Equal Hainstalments 31.3.2004									
KFW (Commercial Loan)- Floating Rate										
Gross Loan -Opening	2315.12	2315.12								
Cumulative Repayment upto Previous Year	0.00	0.00								
Net Loan-Opening	2315.12	2315.12								
Repayment during the year-30th September	0.00	0.00								
	2315.12	2315.12				·				-
Repayment during the year- 31st March	0.00	135.47								
Net Loan-Closing	2315.12	2179.65								
Rate of Interest	2.0125%	2.0125%								
Interest Cabadala	15.45	46.58								
Repayment Schedule	20 Equal Hainstalments 31.3.2004									
Bond-X										
Gross Loan -Opening	29621.00	29621.00	2098.00	2098.00	785.00	785.00	68.00	68.00	890.00	890.00
Cumulative Repayment upto	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00
Previous Year										
Net Loan-Opening	29621.00	29621.00	2098.00	2098.00	785.00	785.00		68.00	890.00	890.00
Repayment during the year	0.00	0.00				0.00		0.00		0.00
Net Loan-Closing	29621.00	29621.00				785.00		68.00	890.00	890.00
Rate of Interest	10.90%	10.90%		10.90%	10.90%	10.90%			10.90%	10.90%
Intoract	1070 33	3338 60	75 91	228 68	29 27	95 57	1 20	7 /1	15 69	07.01
Interest Repayment Schedule	1070.33 12 Annual Ir from 21.6.20		75.81 12 Annual Ir from 21.6.20	nstalments	28.37 12 Annual Ir from 21.6.20		12 Annual Instalments	7.41 from	15.68 12 Annual Instalments 21.6.2004	97.01 from
	12 Annual Ir	stalments	12 Annual Ir	nstalments	12 Annual Ir	stalments	12 Annual		12 Annual	
	12 Annual Ir from 21.6.20	nstalments 004	12 Annual Ir from 21.6.20	nstalments 004	12 Annual Ir from 21.6.20	stalments	12 Annual Instalments		12 Annual Instalments	
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan -Opening	12 Annual Ir from 21.6.20 g of SBI-II fro 50.00	om Bond XII	12 Annual Ir from 21.6.20 I- Option-II ( 1200.00	nstalments 004 on 31.10.20 1200.00	12 Annual Ir from 21.6.20 002) 3700.00	astalments 004 3700.00	12 Annual Instalments 21.6.2004	from 375.00	12 Annual Instalments	
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan -Opening Cumulative Repayment upto Previous Year	12 Annual Ir from 21.6.20 g of SBI-II fro 50.00 0.00	om Bond XII 50.00 0.00	12 Annual Ir from 21.6.20 II- Option-II ( 1200.00 0.00	nstalments 004 on 31.10.20 1200.00 0.00	12 Annual Ir from 21.6.20 002) 3700.00 0.00	3700.00 0.00	12 Annual Instalments 21.6.2004 375.00 0.00	375.00 0.00	12 Annual Instalments 21.6.2004	
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan - Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year	12 Annual Ir from 21.6.20 g of SBI-II from 50.00 0.00 50.00 0.00	50.00 50.00 50.00 8.33	12 Annual Ir from 21.6.20 II- Option-II ( 1200.00 0.00 1200.00 0.00	nstalments 004 on 31.10.20 1200.00 0.00 1200.00 0.00	12 Annual Ir from 21.6.20  002)  3700.00  3700.00  0.00	3700.00 0.00 3700.00 0.00	12 Annual Instalments 21.6.2004 375.00 0.00 375.00 0.00	375.00 0.00 375.00 0.00	12 Annual Instalments 21.6.2004	
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing	12 Annual Ir from 21.6.20 g of SBI-II from 50.00 0.00 50.00 50.00	50.00 50.00 50.00 50.00 8.33 41.67	12 Annual Ir from 21.6.20 II- Option-II ( 1200.00 0.00 1200.00 1200.00	nstalments 004 on 31.10.20 1200.00 0.00 1200.00 1200.00	12 Annual Ir from 21.6.20  102)  3700.00  3700.00  0.00  3700.00  3700.00	3700.00 0.00 3700.00 0.00 3700.00 3700.00	12 Annual Instalments 21.6.2004 375.00 0.00 375.00 0.00 375.00	375.00 0.00 375.00 0.00 375.00 375.00	12 Annual Instalments 21.6.2004	
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan - Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest - Bond XIII	12 Annual Ir from 21.6.20 g of SBI-II from 50.00 0.00 50.00 0.00	50.00 50.00 50.00 8.33	12 Annual Ir from 21.6.20 II- Option-II ( 1200.00 0.00 1200.00 1200.00	nstalments 004 on 31.10.20 1200.00 0.00 1200.00 1200.00	12 Annual Ir from 21.6.20  102)  3700.00  3700.00  0.00  3700.00  3700.00	3700.00 0.00 3700.00 0.00	12 Annual Instalments 21.6.2004 375.00 0.00 375.00 0.00 375.00	375.00 0.00 375.00 0.00	12 Annual Instalments 21.6.2004	
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest - Bond XIII -Option-II	12 Annual Ir from 21.6.20 g of SBI-II from 50.00 0.00 50.00 50.00 7.85%	50.00 50.00 50.00 50.00 8.33 41.67 7.85%	12 Annual Ir from 21.6.20 I- Option-II ( 1200.00 0.00 1200.00 1200.00 8.63%	nstalments 004 on 31.10.20 1200.00 0.00 1200.00 0.00 1200.00 8.63%	12 Annual Ir from 21.6.20 102) 3700.00 0.00 3700.00 0.00 3700.00 8.63%	3700.00 0.00 3700.00 0.00 3700.00 3700.00 8.63%	12 Annual Instalments 21.6.2004 375.00 0.00 375.00 0.00 375.00 8.63%	375.00 0.00 375.00 0.00 375.00 8.63%	12 Annual Instalments 21.6.2004	
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan - Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest - Bond XIII	12 Annual Ir from 21.6.20 g of SBI-II from 50.00 0.00 50.00 50.00	50.00 50.00 50.00 50.00 50.00 8.33 41.67 7.85% 3.49	12 Annual Ir from 21.6.20 II- Option-II ( 1200.00 0.00 1200.00 1200.00 8.63%	1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 8.63%	12 Annual Ir from 21.6.20 102) 3700.00 0.00 3700.00 0.00 3700.00 8.63%	3700.00 0.00 3700.00 0.00 3700.00 3700.00 8.63% 319.31	12 Annual Instalments 21.6.2004 375.00 0.00 375.00 0.00 375.00 8.63%	375.00 0.00 375.00 0.00 375.00 8.63% 32.36	12 Annual Instalments 21.6.2004	
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan - Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest - Bond XIII -Option-II Interest Repayment Schedule	12 Annual Ir from 21.6.20 g of SBI-II from 50.00 0.00 50.00 7.85% 1.30 6 Annual Ins	50.00 50.00 50.00 50.00 50.00 8.33 41.67 7.85% 3.49	12 Annual Ir from 21.6.20 I- Option-II ( 1200.00 0.00 1200.00 8.63% 34.33 12 Annual Ir	1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 8.63%	12 Annual Ir from 21.6.20  102)  3700.00  3700.00  3700.00  3700.00  8.63%  105.85  12 Annual Ir	3700.00 0.00 3700.00 0.00 3700.00 3700.00 8.63% 319.31	12 Annual Instalments 21.6.2004 375.00 0.00 375.00 8.63% 5.23 12 Annual Instalments	375.00 0.00 375.00 0.00 375.00 8.63% 32.36	12 Annual Instalments 21.6.2004	
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan - Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest - Bond XIII -Option-II Interest Repayment Schedule  Bond-IX	12 Annual Ir from 21.6.20 g of SBI-II from 50.00 0.00 50.00 7.85% 1.30 6 Annual Ins	50.00 50.00 8.33 41.67 7.85% 3.49 stalments	12 Annual Ir from 21.6.20 1200.00 0.00 1200.00 1200.00 8.63% 34.33 12 Annual Ir from 31.7.20	1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 8.63% 103.56 estalments	12 Annual Ir from 21.6.20  3700.00  3700.00  3700.00  3700.00  8.63%  105.85  12 Annual Ir from 31.7.20	3700.00	12 Annual Instalments 21.6.2004 375.00 0.00 375.00 8.63% 5.23 12 Annual Instalments 31.7.2006	375.00 0.00 375.00 0.00 375.00 8.63% 32.36	12 Annual Instalments 21.6.2004	from
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan - Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest - Bond XIII - Option-II Interest Repayment Schedule  Bond-IX Gross Loan - Opening	12 Annual Ir from 21.6.20 g of SBI-II from 50.00 0.00 50.00 7.85% 1.30 6 Annual Ins from 31.7.20	50.00 50.00 50.00 8.33 41.67 7.85% 3.49 stalments	12 Annual Ir from 21.6.20 II- Option-II ( 1200.00 0.00 1200.00 1200.00 8.63% 34.33 12 Annual Ir from 31.7.20	103.56 1103.00	12 Annual Ir from 21.6.20  3700.00  3700.00  3700.00  3700.00  8.63%  105.85  12 Annual Ir from 31.7.20	3700.00 3700.00 3700.00 3700.00 3700.00 3700.00 319.31 astalments 006	12 Annual Instalments 21.6.2004 375.00 0.00 375.00 8.63% 5.23 12 Annual Instalments 31.7.2006 37.00	375.00 0.00 375.00 0.00 375.00 8.63% 32.36 from	12 Annual Instalments 21.6.2004	from 468.00
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest - Bond XIII -Option-II Interest Repayment Schedule  Bond-IX Gross Loan -Opening Cumulative Repayment upto Previous Year	12 Annual Ir from 21.6.20 g of SBI-II from 50.00 0.00 50.00 7.85% 1.30 6 Annual Ins from 31.7.20	50.00 50.00 8.33 41.67 7.85% 3.49 stalments 03	12 Annual Ir from 21.6.20 1- Option-II ( 1200.00 0.00 1200.00 8.63% 34.33 12 Annual Ir from 31.7.20 1103.00 0.00	nstalments 004 1200.00 1200.00 1200.00 1200.00 1200.00 8.63% 103.56 nstalments 006	12 Annual Ir from 21.6.20  3700.00  3700.00  3700.00  3700.00  8.63%  105.85  12 Annual Ir from 31.7.20  412.00  0.00	3700.00 0.00 3700.00 0.00 3700.00 3700.00 8.63% 319.31 stalments 006 412.00 0.00	12 Annual Instalments 21.6.2004 375.00 0.00 375.00 8.63% 5.23 12 Annual Instalments 31.7.2006 37.00 0.00	375.00 0.00 375.00 0.00 375.00 8.63% 32.36 from	12 Annual Instalments 21.6.2004 468.00 0.00	468.00 0.00
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest - Bond XIII -Option-II Interest Repayment Schedule  Bond-IX Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening	12 Annual Ir from 21.6.20 g of SBI-II from 50.00 0.00 50.00 7.85% 1.30 6 Annual Ins from 31.7.20	50.00 50.00 50.00 8.33 41.67 7.85% 3.49 stalments	12 Annual Ir from 21.6.20  I- Option-II (	1103.00 1034 1103.00 1103.00	12 Annual Ir from 21.6.20  3700.00  3700.00  3700.00  3700.00  8.63%  105.85  12 Annual Ir from 31.7.20  412.00  0.00  412.00	3700.00 3700.00 3700.00 3700.00 3700.00 3700.00 319.31 astalments 006	12 Annual Instalments 21.6.2004 375.00 0.00 375.00 8.63% 5.23 12 Annual Instalments 31.7.2006 37.00 0.00 37.00 37.00 0.00	375.00 0.00 375.00 0.00 375.00 8.63% 32.36 from	12 Annual Instalments 21.6.2004	from 468.00
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest - Bond XIII -Option-II Interest Repayment Schedule  Bond-IX Gross Loan -Opening Cumulative Repayment upto Previous Year	12 Annual Ir from 21.6.20 g of SBI-II from 50.00 0.00 50.00 7.85% 1.30 6 Annual Ins from 31.7.20 14517.00 0.00	50.00 50.00 50.00 8.33 41.67 7.85% 3.49 stalments 003	12 Annual Ir from 21.6.20  I- Option-II (	nstalments 004 201 1200.00 1200.00 1200.00 1200.00 1200.00 8.63% 103.56 nstalments 006 1103.00 1103.00 1103.00 992.70	12 Annual Ir from 21.6.20  3700.00  3700.00  3700.00  3700.00  8.63%  105.85  12 Annual Ir from 31.7.20  412.00  0.00  412.00  0.00	3700.00 0.00 3700.00 0.00 3700.00 3700.00 8.63% 319.31 stalments 006 412.00 0.00	12 Annual Instalments 21.6.2004 375.00 0.00 375.00 8.63% 5.23 12 Annual Instalments 31.7.2006 37.00 0.00 37.00 0.00 0.00 0.00	375.00 0.00 375.00 0.00 375.00 8.63% 32.36 from 37.00 0.00 37.00	12 Annual Instalments 21.6.2004	468.00 0.00 468.00
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest - Bond XIII -Option-II Interest Repayment Schedule  Bond-IX Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year	12 Annual Ir from 21.6.20 g of SBI-II from 50.00 0.00 50.00 7.85% 1.30 6 Annual Ins from 31.7.20 14517.00 0.00	stalments 004  50.00 50.00 8.33 41.67 7.85% 3.49 stalments 003  14517.00 14517.00 1451.70	12 Annual Ir from 21.6.20  I- Option-II (	nstalments 004 201 1200.00 1200.00 1200.00 1200.00 1200.00 8.63% 103.56 nstalments 006 1103.00 1103.00 1103.00 992.70	12 Annual Ir from 21.6.20  102)  3700.00  0.00  3700.00  3700.00  8.63%  105.85  12 Annual Ir from 31.7.20  412.00  0.00  412.00  0.00  412.00  412.00	3700.00 0.00 3700.00 0.00 3700.00 8.63% 319.31 stalments 06  412.00 0.00 412.00 41.20	12 Annual Instalments 21.6.2004 375.00 0.00 375.00 8.63% 5.23 12 Annual Instalments 31.7.2006 37.00 0.00 37.00 0.00 37.00 0.00 37.00 0.00 37.00	375.00 0.00 375.00 375.00 8.63% 32.36 from 37.00 0.00 37.00 3.700 33.30	12 Annual Instalments 21.6.2004	468.00 0.00 468.00 46.80
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest - Bond XIII -Option-II Interest Repayment Schedule  Bond-IX Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest Interest	12 Annual Ir from 21.6.20 g of SBI-II from 50.00 0.00 50.00 7.85% 1.30 6 Annual Ins from 31.7.20 14517.00 0.00 14517.00 12.25% 589.53	50.00 50.00 50.00 8.33 41.67 7.85% 3.49 stalments 003  14517.00 1451.70 13065.30 12.25% 1669.98	12 Annual Ir from 21.6.20  I- Option-II (	1103.00 110.30 110.30 12.25% 126.88	12 Annual Ir from 21.6.20  3700.00  0.00  3700.00  3700.00  3700.00  8.63%  105.85  12 Annual Ir from 31.7.20  412.00  0.00  412.00  0.00  412.00  12.25%  16.73	3700.00 0.00 3700.00 3700.00 3700.00 3700.00 412.00 412.00 412.00 370.80 12.25% 47.39	12 Annual Instalments 21.6.2004 375.00 0.00 375.00 8.63% 5.23 12 Annual Instalments 31.7.2006 37.00 0.00 37.00 0.00 37.00 0.00 37.00 0.00 12.25% 0.73	375.00 0.00 375.00 375.00 8.63% 32.36 from 37.00 0.00 37.00 3.700 33.30	12 Annual Instalments 21.6.2004  468.00 0.00 468.00 0.00 468.00 12.25% 9.27	468.00 0.00 468.00 421.20
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest - Bond XIII -Option-II Interest Repayment Schedule  Bond-IX Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest	12 Annual Ir from 21.6.20 g of SBI-II from 50.00 0.00 50.00 7.85% 1.30 6 Annual Ins from 31.7.20 14517.00 0.00 14517.00 12.25%	50.00 50.00 50.00 8.33 41.67 7.85% 3.49 stalments 003  14517.00 0.00 1451.70 13065.30 12.25% 1669.98	12 Annual Ir from 21.6.20  I- Option-II (	1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00	12 Annual Ir from 21.6.20  3700.00  3700.00  3700.00  3700.00  3700.00  8.63%  105.85  12 Annual Ir from 31.7.20  412.00  0.00  412.00  0.00  412.00  12.25%	3700.00 0.00 3700.00 3700.00 3700.00 3700.00 8.63% 319.31 stalments 006 412.00 0.00 412.00 41.20 370.80 12.25% 47.39 stalments	12 Annual Instalments 21.6.2004  375.00 0.00 375.00 375.00 8.63% 5.23 12 Annual Instalments 31.7.2006  37.00 0.00 37.00 0.00 37.00 12.25%	375.00 0.00 375.00 0.00 375.00 8.63% 32.36 from 37.00 0.00 37.00 33.30 12.25% 4.26	12 Annual Instalments 21.6.2004 468.00 0.00 468.00 12.25%	468.00 0.00 468.00 421.20 12.25% 53.84
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan - Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest - Bond XIII - Option-II Interest Repayment Schedule  Bond-IX Gross Loan - Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest Interest Repayment Schedule	12 Annual Ir from 21.6.20  g of SBI-II from 50.00 0.00 50.00 7.85% 1.30 6 Annual Ins from 31.7.20 14517.00 0.00 14517.00 12.25% 589.53	50.00 50.00 50.00 8.33 41.67 7.85% 3.49 stalments 003  14517.00 0.00 1451.70 13065.30 12.25% 1669.98	12 Annual Ir from 21.6.20  I- Option-II of 1200.00 0.00 1200.00 1200.00 8.63% 34.33 12 Annual Ir from 31.7.20 1103.00 0.00 1103.00 1103.00 12.25% 44.79 10 Annual Ir	1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00	12 Annual Ir from 21.6.20  3700.00  0.00  3700.00  3700.00  3700.00  8.63%  105.85  12 Annual Ir from 31.7.20  412.00  0.00  412.00  12.25%  16.73  10 Annual Ir	3700.00 0.00 3700.00 3700.00 3700.00 3700.00 8.63% 319.31 stalments 006 412.00 0.00 412.00 41.20 370.80 12.25% 47.39 stalments	12 Annual Instalments 21.6.2004 375.00 0.00 375.00 8.63% 5.23 12 Annual Instalments 31.7.2006 37.00 0.00 37.00 0.00 12.25% 0.73 10 Annual Instalments	375.00 0.00 375.00 0.00 375.00 8.63% 32.36 from 37.00 0.00 37.00 33.30 12.25% 4.26	12 Annual Instalments 21.6.2004 468.00 0.00 468.00 12.25% 9.27 10 Annual Instalments	468.00 0.00 468.00 421.20 12.25% 53.84
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan - Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest - Bond XIII - Option-II Interest Repayment Schedule  Bond-IX Gross Loan - Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest Interest Repayment Schedule  Bond-XI Option I	12 Annual Ir from 21.6.20  g of SBI-II from 50.00 0.00 50.00 7.85% 1.30 6 Annual Ins from 31.7.20 14517.00 0.00 14517.00 12.25% 589.53 10 Annual Ir from 22.8.20	stalments 004  50.00 50.00 0.00 50.00 8.33 41.67 7.85% 3.49 stalments 003  14517.00 0.00 1451.70 13065.30 12.25% 1669.98 stalments	12 Annual Ir from 21.6.20  1- Option-II ( 1200.00 0.00 1200.00 8.63% 34.33 12 Annual Ir from 31.7.20  1103.00 0.00 1103.00 12.25% 44.79 10 Annual Ir from 22.8.20	1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1103.56 1103.00 1103.00 1103.00 110.30 992.70 12.25% 126.88 1stalments	12 Annual Ir from 21.6.20  3700.00 0.00 3700.00 3700.00 8.63% 105.85 12 Annual Ir from 31.7.20  412.00 0.00 412.00 0.00 412.00 12.25% 16.73 10 Annual Ir from 22.8.20	3700.00	12 Annual Instalments 21.6.2004  375.00 0.00 375.00 0.00 375.00 8.63% 5.23 12 Annual Instalments 31.7.2006  37.00 0.00 37.00 0.00 12.25% 0.73 10 Annual Instalments 22.8.2003	375.00 0.00 375.00 0.00 375.00 8.63% 32.36 from  37.00 0.00 37.00 3.70 33.30 12.25% 4.26 from	12 Annual Instalments 21.6.2004  468.00 0.00 468.00 12.25% 9.27 10 Annual Instalments 22.8.2003	468.00 0.00 468.00 421.20 12.25% 53.84
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan - Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest - Bond XIII - Option-II Interest Repayment Schedule  Bond-IX Gross Loan - Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest Interest Repayment Schedule  Bond-XI Option I Gross Loan - Opening	12 Annual Ir from 21.6.20  g of SBI-II from 50.00	stalments 004  50.00 50.00 0.00 50.00 8.33 41.67 7.85% 3.49 stalments 003  14517.00 14517.00 1451.70 13065.30 12.25% 1669.98 stalments 003	12 Annual Ir from 21.6.20  I- Option-II a 1200.00 0.00 1200.00 1200.00 8.63% 34.33 12 Annual Ir from 31.7.20 1103.00 0.00 1103.00 1103.00 12.25% 44.79 10 Annual Ir from 22.8.20	1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1300.00 1103.56 1103.00 1103.00 1103.00 1200.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00	12 Annual Ir from 21.6.20  3700.00 0.00 3700.00 3700.00 8.63% 105.85 12 Annual Ir from 31.7.20  412.00 0.00 412.00 0.00 412.00 12.25% 16.73 10 Annual Ir from 22.8.20	3700.00 3700.00 0.00 3700.00 3700.00 3700.00 8.63% 319.31 stalments 006 412.00 41.20 370.80 12.25% 47.39 stalments	12 Annual Instalments 21.6.2004  375.00 0.00 375.00 0.00 375.00 8.63% 5.23 12 Annual Instalments 31.7.2006  37.00 0.00 37.00 0.00 37.00 12.25% 0.73 10 Annual Instalments 22.8.2003	375.00 0.00 375.00 0.00 375.00 8.63% 32.36 from 37.00 0.00 3.70 33.30 12.25% 4.26 from	12 Annual Instalments 21.6.2004  468.00 0.00 468.00 0.00 468.00 12.25% 9.27 10 Annual Instalments 22.8.2003	468.00 0.00 468.00 421.20 12.25% 53.84 from
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest - Bond XIII -Option-II Interest Repayment Schedule  Bond-IX Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest Interest Repayment Schedule  Bond-XI Option I Gross Loan -Opening Cumulative Repayment upto Previous Year	12 Annual Ir from 21.6.20  g of SBI-II from 50.00 0.00 50.00 7.85% 1.30 6 Annual Ins from 31.7.20 14517.00 0.00 14517.00 12.25% 589.53 10 Annual Ir from 22.8.20	stalments 004  50.00 50.00 0.00 50.00 8.33 41.67 7.85% 3.49 stalments 003  14517.00 0.00 1451.70 13065.30 12.25% 1669.98 stalments	12 Annual Ir from 21.6.20  1- Option-II ( 1200.00 0.00 1200.00 8.63% 34.33 12 Annual Ir from 31.7.20  1103.00 0.00 1103.00 12.25% 44.79 10 Annual Ir from 22.8.20	1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1300.00 1103.56 1103.00 1103.00 1103.00 1200.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00 1103.00	12 Annual Ir from 21.6.20  3700.00 0.00 3700.00 3700.00 8.63% 105.85 12 Annual Ir from 31.7.20  412.00 0.00 412.00 0.00 412.00 12.25% 16.73 10 Annual Ir from 22.8.20	3700.00	12 Annual Instalments 21.6.2004  375.00 0.00 375.00 0.00 375.00 8.63% 5.23 12 Annual Instalments 31.7.2006  37.00 0.00 37.00 0.00 12.25% 0.73 10 Annual Instalments 22.8.2003	375.00 0.00 375.00 0.00 375.00 8.63% 32.36 from  37.00 0.00 37.00 3.70 33.30 12.25% 4.26 from	12 Annual Instalments 21.6.2004  468.00 0.00 468.00 0.00 468.00 12.25% 9.27 10 Annual Instalments 22.8.2003	468.00 0.00 468.00 421.20 12.25% 53.84
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest - Bond XIII -Option-II Interest Repayment Schedule  Bond-IX Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest Interest Repayment Schedule  Bond-XI Option I Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment Schedule	12 Annual Ir from 21.6.20  g of SBI-II from 50.00 0.00 50.00 7.85%  1.30 6 Annual Irs from 31.7.20  14517.00 0.00 14517.00 12.25% 589.53 10 Annual Ir from 22.8.20  20165.00 0.00	stalments 004  Description Bond XII	12 Annual Ir from 21.6.20  I- Option-II (	1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1200.00 1300.00 1103.00 1200.00 1103.00 1200.00 1103.00 1200.00 1532.00 0.00	12 Annual Ir from 21.6.20  3700.00  0.00  3700.00  3700.00  3700.00  8.63%  105.85  12 Annual Ir from 31.7.20  412.00  0.00  412.00  12.25%  16.73  10 Annual Ir from 22.8.20  573.00  0.00  573.00	3700.00	12 Annual Instalments 21.6.2004  375.00 0.00 375.00 375.00 8.63% 5.23 12 Annual Instalments 31.7.2006  37.00 0.00 37.00 0.00 37.00 12.25% 0.73 10 Annual Instalments 22.8.2003  50.00 50.00	375.00 0.00 375.00 0.00 375.00 8.63% 32.36 from 37.00 0.00 37.00 3.70 33.30 12.25% 4.26 from 50.00 50.00	12 Annual Instalments 21.6.2004  468.00 0.00 468.00 0.00 468.00 12.25% 9.27 10 Annual Instalments 22.8.2003  650.00 0.00	468.00 0.00 468.00 421.20 12.25% 53.84 from
Repayment Schedule  Bond XIII (Option-II) (Refinancing Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest - Bond XIII -Option-II Interest Repayment Schedule  Bond-IX Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing Rate of Interest Interest Repayment Schedule  Bond-XI Option I Gross Loan -Opening Cumulative Repayment upto Previous Year Repayment Schedule	12 Annual Ir from 21.6.20  g of SBI-II from 50.00	Stalments   Stal	12 Annual Ir from 21.6.20  I- Option-II of 1200.00 0.00 1200.00 1200.00 8.63% 34.33 12 Annual Ir from 31.7.20 1103.00 0.00 1103.00 1103.00 12.25% 44.79 10 Annual Ir from 22.8.20 1532.00 0.00 1532.00 0.00	1103.00 1103.00	12 Annual Ir from 21.6.20  3700.00  0.00  3700.00  3700.00  3700.00  8.63%  105.85  12 Annual Ir from 31.7.20  412.00  0.00  412.00  10.25%  16.73  10 Annual Ir from 22.8.20  573.00  0.00  573.00  0.00	3700.00	12 Annual Instalments 21.6.2004  375.00 0.00 375.00 8.63% 5.23 12 Annual Instalments 31.7.2006  37.00 0.00 37.00 0.00 37.00 12.25% 0.73 10 Annual Instalments 22.8.2003  50.00 0.00	375.00 0.00 375.00 0.00 375.00 8.63% 32.36 from 37.00 0.00 37.00 4.26 from 50.00 0.00	12 Annual Instalments 21.6.2004  468.00 0.00 468.00 12.25% 9.27 10 Annual Instalments 22.8.2003  650.00 0.00	468.00 0.00 46.80 421.20 12.25% 53.84 from

Rate of Interest	9.80%	9.80%	9.80%	9.80%	9.80%	9.80%	9.80%	9.80%	9.80%	9.80%		
Interest	655.11	1976.17	49.77	150.14	18.62	56.15	0.79	4.90	10.30	63.70		
Repayment Schedule	12 Annual Ir from 7.12.20							from	12 Annual Instalments from 7.12.2005			
							7.12.2005					
Oriental Bank of Commerce												
Gross Loan -Opening	9283.00	9283.00	705.00	705.00	264.00	264.00	23.00	23.00	299.00	299.00		
Cumulative Repayment upto Previous Year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Net Loan-Opening	9283.00	9283.00	705.00	705.00	264.00	264.00	23.00	23.00	299.00	299.00		
Repayment during the year	0.00	0.00	0.00	0.00		0.00			0.00	0.00		
Net Loan-Closing	9283.00	9283.00	705.00	705.00		264.00			299.00	299.00		
Rate of Interest	8.60%	8.60%	8.60%	8.60%		8.60%		8.60%	8.60%	8.60%		
Interest	264.65	798.34	20.10	60.63		22.70		1.98	4.16	25.71		
Repayment Schedule	12 Annual Ir		12 Annual Ir	stalments	12 Annual Ir		12 Annual		12 Annual	-		
	from 22.3.20		from 22.3.20		from 22.3.20		Instalments 22.3.2005	from	Instalments 22.3.2005	from		
PNB-II												
Gross Loan -Opening	11141.00	11141.00	1500.00	1500.00	168.00	168.00	15.00	15.00	1025.00	1025.00		
Cumulative Repayment upto	0.00	0.00		0.00		0.00			0.00	0.00		
Previous Year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Net Loan-Opening	11141.00	11141.00	1500.00	1500.00	168.00	168.00	15.00	15.00	1025.00	1025.00		
Repayment during the year	0.00	0.00	0.00	0.00	0.00	0.00			0.00	0.00		
Net Loan-Closing	11141.00	11141.00	1500.00	1500.00	168.00	168.00			1025.00	1025.00		
Rate of Interest	8.85%	8.85%	8.85%	8.85%	8.85%	8.85%		8.85%	8.85%	8.85%		
Interest	326.86	985.98	44.01	132.75		14.87		1.33	14.66	90.71		
Repayment Schedule	12 Annual Ir		12 Annual Ir		12 Annual Ir		12 Annual	1.00	12 Annual	00.7 1		
	from 08.3.20		from 08.3.20		from 08.3.20			nstalments from Insta				from
David VII												
Bond-XII	4005.00	1005.00	4400.00	4400.00	40.00	40.00	4.00	4.00	0700.00	0700.00		
Gross Loan -Opening	1665.00	1665.00	1108.00	1108.00	40.00	40.00		4.00	3700.00	3700.00		
Cumulative Repayment upto	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Previous Year Net Loan-Opening	1665.00	1665.00	1108.00	1108.00	40.00	40.00	4.00	4.00	3700.00	3700.00		
Repayment during the year	0.00	0.00		0.00	0.00	0.00		0.00	0.00	0.00		
Net Loan-Closing	1665.00	1665.00		1108.00	40.00	40.00			3700.00	3700.00		
Rate of Interest	9.70%	9.70%	9.70%	9.70%	9.70%	9.70%		9.70%	9.70%	9.70%		
Interest	53.54	161.51	35.63	107.48		3.88			58.01	358.90		
Repayment Schedule	12 Annual Ir	stalments	12 Annual Ir	stalments	12 Annual Ir	stalments	12 Annual		12 Annual			
	from 28.3.20	28.3.2006 from 28.3.2006 from 28.3.2006 Instalments from 28.3.2006		from 28.3.20	006		from	Instalments 28.3.2006	from			
Total Loan												
	150362 04	150362 04	9246 00	9246 00	5042 00	5942 00	572 00	572 00	7032.00	7032.00		
Gross Loan -Opening	150362.04	150362.04	9246.00	9246.00	5942.00	5942.00		572.00	7032.00	7032.00		
	150362.04	150362.04 0.00		9246.00		0.00	0.00	572.00 0.00	7032.00 0.00	7032.00		
Gross Loan -Opening Cumulative Repayment upto		0.00			0.00		0.00					
Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year	0.00 150362.04 0.00	0.00 150362.04 4905.86	9246.00 0.00	9246.00 110.30	0.00 5942.00 0.00	0.00 5942.00 41.20	0.00 572.00 0.00	0.00 572.00 3.70	7032.00 0.00	7032.00 46.80		
Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing	0.00 150362.04 0.00 150362.04	0.00 150362.04 4905.86 145456.18	0.00 9246.00 0.00 9246.00	0.00 9246.00 110.30 9135.70	0.00 5942.00 0.00 5942.00	0.00 5942.00 41.20 5900.80	0.00 572.00 0.00 572.00	0.00 572.00 3.70 568.30	7032.00 0.00 7032.00	0.00 7032.00 46.80 6985.20		
Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year	0.00 150362.04 0.00 150362.04 3754.34	0.00 150362.04 4905.86 145456.18 11215.96	0.00 9246.00 0.00 9246.00 304.44	9246.00 110.30 9135.70 910.12	0.00 5942.00 0.00 5942.00 183.31	0.00 5942.00 41.20 5900.80 549.88	0.00 572.00 0.00 572.00 8.55	0.00 572.00 3.70 568.30 52.62	7032.00 0.00 7032.00 112.08	0.00 7032.00 46.80 6985.20 689.87		
Gross Loan -Opening Cumulative Repayment upto Previous Year Net Loan-Opening Repayment during the year Net Loan-Closing	0.00 150362.04 0.00 150362.04	0.00 150362.04 4905.86 145456.18	0.00 9246.00 0.00 9246.00	0.00 9246.00 110.30 9135.70	0.00 5942.00 0.00 5942.00	0.00 5942.00 41.20 5900.80	0.00 572.00 0.00 572.00	0.00 572.00 3.70 568.30	7032.00 0.00 7032.00	0.00 7032.00 46.80 6985.20		

18. PNB-II, Oriental Bank of Commerce and parts of KFW Hermis and KFW commercial loans carry floating rate of interest. The interest rates as submitted by the petitioner, stated to be prevailing on the respective date of commercial operation have been considered for computation of interest of loan component of tariff. Any changes required in tariff by virtue of changes in interest rates during he tariff period shall be

mutually settled by the petitioner with the respondents in case of their inability to do so, any one of them may approach the Commission for appropriate relief.

#### **DEPRECIATION**

- 19. With regard to depreciation, para 4(b) of the notification dated 26.3.2001 provides:
  - (i) The value base for the purpose of depreciation shall be the historical cost of the asset.
  - (ii) Depreciation shall be calculated annually as per straight-line method at the rate of depreciation as prescribed in the Schedule attached to the notification.

Provided that the total depreciation during the life of the project shall not exceed 90% of the approved Original Cost. The approved original cost shall include additional capitalisation on account of foreign exchange rate variation also.

- (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.
- (v) Depreciation against assets relating to environmental protection shall be allowed on case-to-case basis at the time of fixation of tariff subject to the condition that the environmental standards as prescribed have been complied with during the previous tariff period.
- 20. The petitioner has claimed the depreciation based on the capital expenditure considered by it in accordance with above principles.

21. Based on the provisions of the notification dated 26.3.2001, the depreciation for individual items of capital expenditure considered for computation of tariff has been calculated on the capital cost for each of the asset as on the respective date of commercial operation as indicated in the table at para 13 above at the rates as prescribed in the notification. While approving depreciation component of tariff, the weighted average depreciation rate has been worked out. The break up of the capital cost has been considered as per the details furnished by the petitioner.

# 22. The calculations in support of depreciation allowed are appended herein below:

(Rs. in lakh)

Name of the Asset	Year	Rate of	Depreciable	Remainin	Depre-
		Depre-	Value (90%	g Depre-	ciation
		ciation	of Gross	ciable	
			Block)	Value	
Talcher-Kolar line (Pole-I), including the bipole line,	2002-03	3.06%	166075.44	166075.44	1879.13
HVDC terminal station (Pole-I) at Talcher and Kolar	(Part of				
and the Earth electrode lines	the year)				
	2003-04			164196.32	5637.38
LILO of 400 kV S/C Cuddapah-Bangalore line at	2002-03	2.83%	10157.36	10157.36	106.60
Kolar, including associated bays and common	(Part of				
facilities at Kolar, and 400 kV S/C Kolar-Madras line,	the year)				
with associated bays	2003-04			10050.77	319.79
400 kV S/C Hossur-Salem line, 315 MVA 400/220 kV	2002-03	2.81%	6163.62	6163.62	64.25
Auto-transformer-I at Hossur, associated bays, and	(Part of				
220 kV switchyard at Hossur	the year)				
	2003-04			6099.38	192.74
0.45 10.44 100.4000 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0000 00	0.000/	0.40.40	0.40.40	4.00
315 MVA 400/220 Auto-transformer-2 at Hossur, with	2002-03	3.60%	643.12	643.12	4.29
associated bays	(Part of				
	the year)			200.04	05.70
	2003-04	0.000/		638.84	25.72
500 MVA 400/220 kV Auto-transformer (comprising	2002-03	2.90%	7287.09	7287.09	39.15
of 4x167 MVA single phase units) associated bays	(Part of				
and 220 kV switchyard at Kolar, and 400 kV D/C	the year)				
Kolar-Hoody line along with associated bays.	2003-04			7247.95	234.87

- 23. It is observed that there are some differences between depreciation allowed and that claimed. These differences are due to -
  - (a) Not considering the depreciation on the capital expenditure subsequent 31.3.2002 in the tariff allowed.
  - (b) Allocation of FERV to transmission line, sub-station and PLCC (as the case may be) only in the petition against allocation to all the heads of gross block in proportion to their ratio to the total gross block in the tariff being approved

### **ADVANCE AGAINST DEPRECIATION**

24. In addition to allowable depreciation, the petitioner becomes entitled to Advance Against Depreciation when originally scheduled loan repayment exceeds the depreciation allowable as per schedule to the notification dated 26.3.2001. Advance Against Depreciation is computed in accordance with the following formula:

AAD = Originally scheduled loan repayment amount subject to a ceiling of 1/12<sup>th</sup> of original loan amount minus depreciation as per schedule.

- 25. The petitioner has not claimed Advance Against Depreciation.
- 26. For working out Advance Against Depreciation, 1/12<sup>th</sup> of the notional loan has been considered while repayment of loan as worked out above has been taken as repayment of the loan during the year. Similarly, depreciation allowed as per para 22 above has been considered. The petitioner is not entitled to Advance Against Depreciation as calculated below:

(Rs. in lakh)

	line including line, HVD station (I		S/C Cu Bangalor Kolar, associate and	dras with	ah- Hossur-Salem Ine, 315 MVA 2 Ing 400/220 kV Autotransformer-I at Hossur, associated bays, and 220 kV switchyard at Hossur		315 MVA Auto-tran 2 at Hos associate	sformer- sur, with	500 MVA 400/220 kV Auto-transformer (comprising of 4x167 MVA single phase units) associated bays and 220 kV switchyard at Kolar, and 400 kV D/C Kolar-Hoody line along with associated bays.	
	2002-03	2003-04	2002- 03	2003- 04	2002- 03	2003- 04	2002- 03	2003- 04	2002- 03	2003-04
1/12th of Gross Loan(s)	12530.17	12530.17	770.50	770.50	495.17	495.17	47.67	47.67	586.00	586.00
Scheduled Repayment of				110.30	0.00	41.20	0.00	3.70	0.00	46.80
the Loan(s)	0.00	4905.86	0.00							
Minimum of the above	0.00	4905.86	0.00	110.30	0.00	41.20	0.00	3.70	0.00	46.80
Depreciation during the				319.79	64.25	192.74	4.29	25.72	39.15	234.87
year	1879.13	5637.38	106.60							
Advance Against Depreciation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

#### **OPERATION & MAINTENANCE EXPENSES**

- 27. In accordance with the notification dated 26.3.2001, Operation and Maintenance expenses, including expenses on insurance, if any, are to be calculated as under:
  - (i) Where O&M expenses, excluding abnormal O&M expenses, if any, on substation (OMS) and line (OML) are separately available for each region, these shall be normalised by dividing them by number of bays and line length respectively. Where data as aforesaid is not available, O&M expenses in the region are to be apportioned to the sub-station and lines on the basis of 30:70 ratio and these are to be normalised as below:

O&M expenses per Unit of the line length in Kms (OMLL) = Expenses for lines (OML)/Average line length in Kms (LL)

O&M expenses for sub-stations (OMBN) = O&M expenses for substations (OMB)/Average number of bays (BN)]

(ii) The five years average of the normalised O&M expenses for lines and for bays for the period 1995-96 to 1999-2000 is to be escalated at 10% per annum for

two years (1998-99 and 1999-2000) to arrive at normative O&M expenses per unit of line length and per bay for 1999-2000.

- (iii) The normative O&M per unit length and normative O&M per bay for the year 1999-2000 for the region derived in the preceding paragraph is to be escalated @ 6% per annum to obtain normative values of O&M expenses per unit per line length and per bay in the relevant year. These normative values are to be multiplied by line length and number of bays (as the case may be) in a given system in that year to compute permissible O&M expenses for the system.
- (iv) The escalation factor of 6% per annum is to be used to revise normative base figure of O&M expenses. Any deviation of the escalation factor computed from the actual inflation data that lies within 20% of the notified escalation factor of 6% shall be absorbed by utilities/beneficiaries.
- 28. The assets forming part of Talchar-Kolar HVDC Pole-I are inter-regional assets, being common to Eastern and Southern Regions. However, the benefits out of these assets are drawn by states in Southern Region. Accordingly, O&M expenses for these assets have been calculated with reference to O&M charges applicable to Southern Region. The other assets are exclusive to Southern Region. Therefore, O&M charges as applicable to Southern Region have been considered for these assets.
- 29. Based on the methodology for computation of O&M expenses specified in the notification dated 26.3.2001, the Commission has computed O&M charges per ckt km (NOMLL) and per bay (NOMB) for Southern Region in number of other petitions. These are extracted below:

### NORMALIZED O&M EXPENSES FOR SOUTHERN REGION

( Rs. in lakh)

									( K2. III I				
S. NO.	Items	1995-96	199	6-97	1997-98	1998-99	1999-2000	Total for five years 1995-1996 to 1999- 00		2000-01	2001-02	2002-03	2003-04
1	Total O&M expenses (Rs. lakhs)	2129.83	2220.2	5	3330.40	3724.36	4701.71						
2	Abnormal O&M expenses	0.00	0.00		0.00	0.00	0.00						
3	Normal O&M expenses (S.No. 1 -S.NO. 2)	2129.83	2220.2	5	3330.40	3724.36	4701.71						
4	<b>OML</b> (O&M for lines)= 0.7 X S. NO.3	1490.88	1554.1	7	2331.28	2607.05	3291.20	11274.58					
5	<b>OMS</b> (O&M for substation) = 0.3XS.NO.3	638.95	666.07	'	999.12	1117.31	1410.51	4831.96					
6	Line length at beginning of the year in Kms.	5578.74	5839.7	1	5839.71	6034.71	6190.71						
7	Line length added in the year in Kms.		0.00		195.00	156.00	656.33						
8	Line length at end of the year in Kms.	5839.71	5839.7	1	6034.71	6190.71	6847.04						
9	LL (Average line length in the Region)		5839.7	1	5937.21	6112.71	6518.88	30117.74					
10	NO. of bays at beginning of the year		71		74	76	80						
11	NO. of bays added in the year		3		2	4	26						
12	NO. of bays at the end of the year		74		76	80	106						
	BN (Average number of bays in the Region)		72.5		75.0	78.0	93.0	387.00					
14	AVOMLL(OML/LL)	0.26	0.27		0.39	0.43	0.50	1.851					
15	AVOMBN(OMS/BN)	9.33	9.19		13.32	14.32	15.17	61.328					
16	NOMLL(Allowable O&M	per unit o	f line le	ngth)	0.3703	0.4073	0.4480		0.4480	0.4749	0.5034	0.5336	0.5656
17	NOMBN(Allowable O&N	l per bay)			12.2656	13.4921	14.8413		14.8413	15.7318	16.6757	17.6763	18.7368
	NOMLL(As calculated b	y petitione	r)		0.4200				0.51	0.54	0.57	0.60	0.64
	NOMBN(As calculated b	y petitione	er)		13.9100				16.83	17.84	18.91	20.04	21.24

- 31. The differences in NOMLL and NOMBN as calculated by the petitioner and as allowed are mainly on account of certain expenses disallowed by the Commission as explained in the respective orders for computation of normative values.
- 32. In the calculations the escalation factor of 6% per annum has been used. In accordance with the notification dated 26.3.2001, if the escalation factor computed from the observed data lies in the range of 4.8% to 7.2%, this variation shall be absorbed by the petitioner. In case of deviation beyond this limit, adjustment shall be made on by applying actual escalation factor arrived at on the basis of weighted price index of CPI for industrial workers (CPI\_IW) and index of selected component of WPI (WPI\_TR).

### 33. The details of O&M expenses allowed are given hereunder:

	2002-03	(Part of t	he year)	2003-04			
	Line length	No. of	M&O	Line length	No. of	O&M	
	in Ckm	bays	expenses (Rs. in lakh)	in Ckm	bays	expenses (Rs. in lakh)	
Talcher-Kolar line (Pole-I), including the bipole line, HVDC terminal station (Pole-I) at Talcher and Kolar and the Earth electrode lines		35	704.86	2803.43	35	2241.41	
LILO of 400 kV S/C Cuddapah-Bangalore line at Kolar, including associated bays and common facilities at Kolar, and 400 kV S/C Kolar-Madras line, with associated bays		4	66.47	241.21	4	211.38	
400 kV S/C Hossur-Salem line, 315 MVA 400/220 kV Auto-transformer-I at Hossur, associated bays, and 220 kV switchyard at Hossur		2	34.38	127.06	2	109.34	
315 MVA 400/220 Auto-transformer-2 at Hossur, with associated bays	0	8	23.57	0	8	149.89	
500 MVA 400/220 kV Auto-transformer (comprising of 4x167 MVA single phase units) associated bays and 220 kV switchyard at Kolar, and 400 kV D/C Kolar-Hoody line along with associated bays.		10	38.52	101.92	10	245.02	

#### **RETURN ON EQUITY**

34. In accordance with the notification dated 26.3.2001, the petitioner is entitled to return on equity at the rate of 16% per annum. For the purpose of tariff, equity as on the date of commercial operation as given in the table under para 13 above, has been considered. On the above basis, the petitioner shall be entitled to return on equity each year during the tariff period as under:

	(Rs in lakh)								
Year	Talcher-Kolar HVDC line (Pole-I), including the bipole line, HVDC terminal station (Pole-I) at Talcher and Kolar and the Earth electrode lines	LILO of 400 kV S/C Cuddapah-Bangalore line at Kolar, including associated bays and common facilities at Kolar and 400 kV S/C Kolar-Madras line, with associated bays	400 kV S/C Hossur-Salem line, 315 MVA 400/220 kV Auto- transformer-I at Hossur, associated bays, and 220 kV switchyard at Hossur	315 MVA 400/220 Auto- transformer-2 at Hossur, with associated bays	500 MVA 400/220 kV Auto-transformer (comprising of 4x167 MVA single phase units) associated bays and 220 kV switchyard at Kolar, and 400 kV D/C Kolar-Hoody line along with associated bays.				
2002-03 (Part of the year)	1822.20	108.80	48.35	23.57	28.39				
2003-04	5466.60	326.39	145.04	149.89	170.36				

#### **INTEREST ON WORKING CAPITAL**

- 35. As provided in the notification dated 26.3.2001, the interest on working capital shall cover:
  - (a) Operation and maintenance expenses (cash) for one month;
  - (b) Maintenance spares at a normative rate of 1% of the capital cost less 1/5<sup>th</sup> of the initial capitalised spares. Cost of maintenance spares for each subsequent year shall be revised at the rate applicable for revision of expenditure on O & M of the transmission system; and
  - (c) Receivables equivalent to two months' average billing calculated on normative availability level, which is 98%.

36. In keeping with the methodology prescribed in the notification dated 26.3.2001, working capital has been worked out. In the calculation, maintenance spares for the years 2001-02 to 2003-04 have been worked out on the basis of capital expenditure up to 31.1.2002, and after deduction of 1/5<sup>th</sup> of the initial capitalised spares therefrom. This has been escalated @ 6% per annum for the tariff period 2001-02 to 2003-04. The petitioner has claimed interest on working capital at the rate of 11.5%, based on annual SBI PLR for the year 2001-2002, which has been allowed separately by the Commission in certain other petitions and, therefore, the same has been allowed here also. The detailed calculations in support of interest on Working Capital are as under:

# **Interest on Working Capital**

	(Rs. In lakh)									
	Talcher-K	olar	LILO of	400 kV	400 k\	/ S/C	315	MVA	500 MVA	400/220
	HVDC lin	e (Pole-	S/C C	uddapah-	Hossur-Salem		400/220 Auto-		kV Auto-	
	I), includ	ling the	Bangalore	e line at	line, 315	5 MVA	transforn	ner-2 at	transform	er
	bipole line	e, HVDC	Kolar,	including	400/220 k	κV Auto-	Hossur,	with	(comprisi	ng of
	terminal	station	associate	d bays	transform	er-I at	associate	ed bays	4x167	MVA
	(Pole-I) at Talcher		and	common	Hossur,			-	single	phase
	and Kolar	and the	facilities	at Kolar	associate	d bays,			units) as	sociated
Earth electrode		electrode	and 400	kV S/C	and 22				bays and	l 220 kV
lines		Kolar-Ma	dras line,	switchyard	d at			switchyar		
			ssociated	Hossur				Kolar, and		
			bays						D/C Kola	
									line along with	
									associated bays.	
	2002-	2003-	2002- 2003-		2002- 2003-		2002- 2003-		2002-	2003-
	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004
Maintenance Spares	1845.28		112.86		68.48		7.15		80.97	
Less	1429.74		12.63		14.51		0.00		9.61	
Capitalised										
Initial spares										
	415.54	423.85	100.23	102.24	53.97	55.05	7.15	7.22	71.36	72.08
O & M expenses	176.22	186.78	16.62	17.62	8.60	9.11	11.79	12.49	19.26	20.42
Receivables	4165.50	4179.38	300.63	302.18	169.29	170.37	41.29	42.96	223.77	229.12
Total	4,757.26	4,790.02	417.48	422.0	231.86	234.53	60.22	62.6	314.39	321.61
				3				7		
Rate of Interest	10.75%	10.75%	10.75%	10.75%	10.75%	10.75%	10.75%	10.75%	10.75%	10.75%
Interest	170.47 (Part of the year)	514.93	14.96 (Part of the year)	45.3 7	8.31 (Part of the year)	25.21	1.08 (Part of the year)	6.74	5.63 (Part of the year)	34.57

#### TRANSMISSION CHARGES

37. In the light of above discussion, we approve the transmission charges as given in the Table below:

**TABLE** 

(Rs. in lakh)

		Talcher-Ko line (Pole-	-	Common f Kolar,	line and acilities at	Salem MVA transform	nd 220 kV	315 M\ transform Hossur	/A Auto- ner-2 at	transforme (comprisin 4x167 M' phase	g of VA single units) at g with 220 ard,
		2002-	2003-	2002-	2003-	2002-	2003-	2002-	2003-	2002-	2003-
		2003	2004	2003	2004	2003	2004	2003	2004	2003	2004
Interest Loan	on	3754.34	11215.96	304.44	910.12	183.31	549.88	8.55	52.62	112.08	689.87
Interest	on	17	514.	1	4		25				3
Working Capital		0.47	93	4.96	5.37	8.31	.21	1.08	6.74	5.63	4.57
Depreciat	ion	1879.13	5637.38	106.60	319.79	64.25	192.74	4.29	25.72	39.15	234.87
Advance Against Depreciat	ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Return Equity	on	1822.20	5466.60	108.80	326.39	48.35	145.04	3.80	22.81	28.39	170.36
O & Expenses	М	704.86	2241.41	66.47	211.38	34.38	109.34	23.57	149.89	38.52	245.02
Total		8331.00	25076.27	601.26	1813.05	338.59	1022.20	41.29	257.78	223.77	1374.70

- 38. The difference between the petitioner's claim on account of transmission charges and that allowed by us is primarily on account of difference in gross block considered for the purposes of tariff.
- 39. 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 notification dated 26.3.2001, subject to directions, if any, of the superior courts. The petitioner shall also be entitled to recovery of filing fee of Rs 2 lakh, which shall be recovered from the respondents in five monthly installments of Rupees forty thousand each and shall be shared by the respondents in the same ratio as other transmission charges. This is subject to confirmation that the amount is not already included in the O&M charges.

- 40. The petitioner has already billed the respondents on provisional basis in accordance with the Commission's interim orders. The provisional billing of tariff shall be adjusted in the light of final tariff now approved by us.
- 41. The transmission charges approved by us shall be included in the regional transmission tariff for Southern Region and shall be shared by the regional constituents in accordance with the notification dated 26.3.2001.
- 42. This order disposes of Petition No.122/2002.

Sd/-(BHANU BHUSHAN) MEMBER Sd/-(K.N. SINHA) MEMBER Sd/-(A.K.BASU) CHAIRMAN

New Delhi dated the 10<sup>th</sup> May, 2005